



UNIVERSITY OF SOUTH ALABAMA  
COLLEGE OF MEDICINE

ANNUAL REPORT

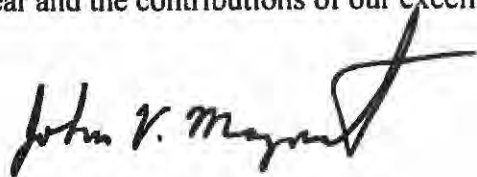
*October 1, 2016-September 30, 2017*





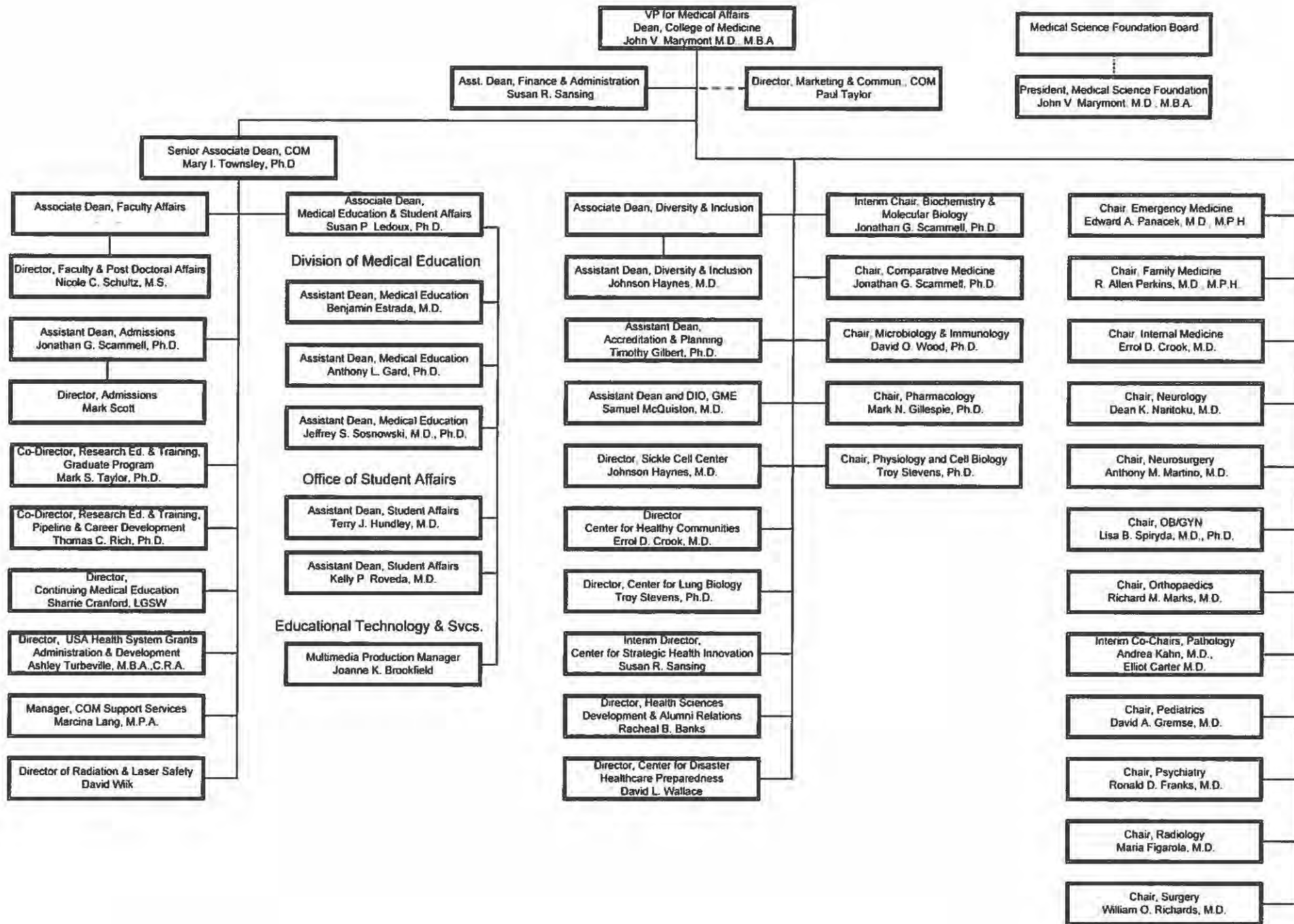
## FOREWORD

This Annual Report of the College of Medicine catalogues accomplishments of our faculty, students, residents, fellows and staff in teaching, research, scholarly and community service during the 2016-2017 academic year. Our medical students continue to perform above the national average on National Board Step 1 and Step 2 exams and receive excellent residency positions in a variety of clinical disciplines. Other progress in the College of Medicine is summarized below. Several leadership changes occurred in this past year, including appointment of a Senior Associate Dean (Dr. Mary Townsley), an Assistant Dean for Accreditation and Planning (Dr. Timothy Gilbert), and new chairs in the Departments of Obstetrics & Gynecology (Dr. Lisa Spiryda) and Orthopaedic Surgery (Dr. Richard Marks). Searches are underway for new Chairs in Biochemistry and Pathology, as well as an Associate Dean for Diversity and Inclusion. A Dean's Cabinet was established and the Executive Council meeting mechanism reformatted. New initiatives around medical education include the hiring of a Health and Wellness Counselor (Dr. XX), development of a wellness program, and development of new elements in the curriculum including medical ethics and a new transition to residency course for fourth year medical students. With respect to our graduate program, we have developed a new Office for Research Education and Training (Drs. Mark Taylor and Tom Rich are co-directors) to provide additional support for a pipeline through undergraduate research to the PhD program, as well as for career development opportunities for our graduate students and postdoctoral fellows. New initiatives for basic science faculty include a stop the clock tenure policy, a research incentive plan, and an intramural grants program. The College contracted with a medical writer as a faculty resource around scholarship. Other completed or ongoing projects include renovations for administrative offices in the MSB and CSAB, as well as an upgrade for the HVAC system in the Gross Anatomy Lab. Given our progress in this past year and the contributions of our excellent faculty and staff, we are excited about our future.



John V. Marymont, MD, MBA  
Dean, USA College of Medicine

**USA College of Medicine  
Organizational Chart  
October, 2017**



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**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Biochemistry & Molecular Biology**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Al Abdallah Q, Norton TS, Hill AM, LeClaire LL, Fortwendel JR. A fungus-specific protein domain is essential for RasA-mediated morphogenetic signaling in *Aspergillus fumigatus*. mSphere. 2016 Nov 30;1(6):e00234-16. Available from: <http://msphere.asm.org/content/msph/1/6/e00234-16.full.pdf>

Balczon R, Morrow KA, Zhou C, Edmonds B, Alexeyev M, Pittet JF, Wagener BM, Moser S, Leavesley S, Zha X, Frank DW, Stevens T. *Pseudomonas aeruginosa* infection liberates transmissible, cytotoxic prion amyloids. FASEB J. 2017 Jul;31(7):2785-96.

Michard C, LeClaire LL, Doublet P. ARP2/3 phosphorylation assay in the presence of recombinant bacterial effectors. Bio-protocol. 2017 Apr 5;7(7):e2208. Available from: <http://www.bio-protocol.org/e2208>

Morrow KA, Frank DW, Balczon R, Stevens T. The *Pseudomonas aeruginosa* exoenzyme Y: a promiscuous nucleotidyl cyclase edema factor and virulence determinant. Handb Exp Pharmacol. 2017;238:67-85.

Swingle M, Volmar CH, Saldanha SA, Chase P, Eberhart C, Salter EA, D'Arcy B, Schroeder CE, Golden JE, Wierzbicki A, Hodder P, Honkanen RE. An ultra-high-throughput screen for catalytic inhibitors of serine/threonine protein phosphatases types 1 and 5 (PP1C and PP5C). SLAS Discov. 2017 Jan;22(1):21-31.

**II. PUBLISHED ABSTRACTS**

Boyd A, Baskar G, Petty T, Keeton A, Piazza G, Richter W. cAMP-phosphodiesterase PDE4D as a target for colon cancer therapy. FASEB J. 2017;31:671.11.

Francis CM, Morrow KA, Renema P, Teague DA, Agwaramgbo E, Langham G, Stevens TC, Williams CC, Alvarez DF, Audia JP, Balczon RD, Stevens T. An automated, label-free method for quantifying intercellular gap formation in images of cell monolayers. FASEB J. 2017;31:837.11.

Kim J, Park H, Kong H, Murphy JM, Schlaepfer DD, Ahn E, Lim S. Role of focal adhesion kinase in vascular smooth muscle cell migration, proliferation, and intimal hyperplasia. Mol Biol Cell. 2016 Dec 15;27(25):P657.

LeClaire LL, Fortwendel JR. The actin cytoskeleton of the filamentous fungi *Aspergillus fumigatus* is resistant to F-actin stabilizing compounds. Mol Biol Cell. 2016 Dec 15;(27)25:P1723.

Lin MT, Balczon R, Morrow KA, Wagener BM, Pittet JF, Stevens T. *Pseudomonas aeruginosa*-induced pulmonary endothelial amyloid proteins impair long-term plasticity. FASEB J. 2017;31:861.3.

Morrow KA, Stevens TC, Agwaramgbo E, Langham G, Francis F, Balczon R, Stevens T. Studies on the physical properties of the *Pseudomonas aeruginosa*-induced endothelial prion amyloid cyto toxin(s). FASEB J. 2017;31:1074.1.

Murphy J, Lim S. Focal adhesion kinase inhibition disrupts nuclear factor- $\kappa$ B signaling and alleviates atherogenesis. Arterioscler Thromb Vasc Biol. 2017 May;37(Suppl 1):A420.

Murphy JM, Kim J, Ahn E, Lim S. Focal adhesion kinase promotes pro-inflammatory molecule expression and atherosclerosis via NF- $\kappa$ B activation. Mol Biol Cell. 2016 Dec 15;27(25):P1404.

Ramelli SC, McLendon J, Ferretti A, Sparks J, Matar M, Barrington R, Gerthoffer W. Oligonucleotide therapy reduces lung inflammation in HDM-sensitized mice. Am J Respir Crit Care Med. 2017;195:A7044. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrcmconference.2017.195.1\\_MeetingAbstracts.A7044](http://www.atsjournals.org/doi/pdf/10.1164/ajrcmconference.2017.195.1_MeetingAbstracts.A7044)

Vissers LELM, Kim JH, Shinde DN, Reijnders MRF, Hauser NS, Belmonte RL, Wilson GR, Bosch DGM, Bubulya PA, Shashi V, Petrovski S, Stone JK, Park EY, Veltman JA, Sinnema M, Stumpel CTRM, Draaisma JM, Nicolai J, Yntema HG, Lindstrom KL, de Vries BBA, Jewett T, Santoro SL, Vogt J, Bachman KK, Seeley AH, Krokosky A, Turner C, Rohena L, Tang S, El-Khechem D, Cho MT, McWalter K, Douglas G, Baskin B, Begtrup A, Funari T, Schoch K, Stegmann AP, Stevens SJC, Zhang DE, Traver D, Yao X, MacArthur DG, Brunner HG, Mancini GM, Myers RM, Strom TM, Wiczorek D, Hempel M, Kortuem F, Laconne F, Owen LB, Lim ST, Stachura DL, Ahn EYE. *De novo* loss-of-function mutations in SON disrupt RNA-splicing of genes essential for brain development and metabolism, causing an intellectual disability syndrome. American Society of Human Genetics 2016 Annual Meeting; 2016 Oct 18-22; Vancouver, British Columbia, Canada. p. 116. Abstract no. 231.

### III. PUBLISHED BOOKS

### IV. INVITED PRESENTATIONS

Gerthoffer WT. Invited speaker. Delivery of antisense oligonucleotides for therapy of lung diseases. Albany Medical College; 2017 Sep 20; Albany, NY.

Honkanen RE. Invited speaker. Ser/Thr phosphatase inhibitors and what is needed for high throughput drug screens. Protein Phosphatase 2 Regulator 5 Isoforms D Workshop; 2017 Mar 25; Scottsdale, AZ.

### V. NATIONAL PROFESSIONAL RECOGNITION

Ron Balczon: Reviewer: Florida Department of Health Grant Reviewer 2007-present; Journal peer review: Cell Motility and the Cytoskeleton, Molecular Biology of the Cell, Virology.

Donna Cioffi: Reviewer: American Heart Association / Reviewer (Lung); NIH / Reviewer (Special Emphasis Panel); Journal Peer Review: Antioxidants and Redox Signaling; Frontiers in Physiology: Vascular Physiology/Editorial Board Member.

William Gerthoffer: Editorial board member: Amer. J. Physiology, Lung Cell and Molecular, Cell Health and Cytoskeleton, Frontiers in Pharmacology; Associate Editor: Comprehensive Physiology, Respiratory Physiology; Review editor: Frontiers in Physiology. NIH Special Emphasis Panels, Respiratory Sciences, chair.

Richard Honkanen: Review Group Panel Member, NIH ZRG1 BST-J51, NIH Roadmap Initiative (Assay Development for High Throughput Molecular Screening); NIH ZDK1GRB-7 Ad Hoc Review group member for R13 grant applications; Editorial Boards: The Open Enzyme Inhibition Journal, JBC, JCB, Nature, PNAS.

Steve Lim: Reviewer: American Heart Association Grant, Vascular Endothelial Biology Clinical Study Section; American Heart Association Grant reviewer-Innovative research grant vascular sciences study section; Associate Editor: World Research Journal of Cell Biology; Editorial Board: Journal of Cytology and Molecular Biology; Ad hoc reviewer: PLoS One, Journal of Histochemistry & Cytology, Cell Research, Journal of Cellular Biochemistry.

Wito Richter: Grant Reviewer: Cystic Fibrosis Research Incorporation Postdoctoral Fellowships, American Heart Association: Molecular Signaling Panel, National Science Foundation: Graduate Research Fellowship Program: Cell Biology Panel; Journal review: Biochemical Pharmacology, Cardiovascular Research, Journal of Medicinal Chemistry, Biochemical Journal, Cellular Signaling, Journal of Enzyme Inhibition and Medicinal Chemistry.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The department is a research intensive academic unit that contributes to undergraduate medical education, graduate science education and the service mission of the College of Medicine. The faculty contribute significant effort to the systems-based medical curriculum. They deliver case-based lectures, self-directed learning lessons and team-based learning lessons, many of which are novel constructs created by the faculty. The content provided focuses mainly on biochemistry and molecular biology as the scientific basis of modern molecular pathology and therapeutics. This scientific expertise is critical for the initial basic science module in year one (Foundations of Human Health), as well as gastrointestinal, musculoskeletal, endocrine and cardiovascular modules. All faculty members also contribute to multiple graduate science courses in Lung Biology and Cell and Molecular Biology tracks of the Biomedical Sciences Ph.D. program. Six graduate

students enrolled in the Lung Biology and the Cell and Molecular Biology tracks of the graduate program were trained in department labs. Ms Sabrina Ramelli, GSV, received an abstract travel award from the American Thoracic Society. James Murphy, Biomedical Sciences graduate student, received an abstract travel award from the American Society for Cell Biology (ASCB) to present his research at the 2016 ASCB Annual Meeting in San Francisco, CA. Abigail Boyd, a Master's student from the Environmental Toxicology program at USA was also trained in the department and finished her Master's thesis in May 2017. Abby received a travel award from the American Society for Pharmacology and Experimental Therapeutics (ASPET) to present her findings in a talk at the Experimental Biology 2017 conference in Chicago, IL. She also won the 3-min thesis competition for USA Master's students. Each summer, the department also hosts a number of rising freshman and rising sophomore medical students as well as undergraduate researchers who conduct research in faculty labs.

Department research groups study cancer cell biology, cardiovascular diseases and lung diseases. Dr. Donna Cioffi is funded by NIH to study calcium signaling in pulmonary vascular endothelium. Dr. Steve Lim received a new NIH grant to investigate novel nuclear functions of focal adhesion kinase in vascular wall remodeling. Wito Richter is funded by awards from the Cystic Fibrosis Foundation, the American Heart Association and the USA Research and Scholarship Development Program to investigate phosphodiesterases as potential therapeutic targets for lung diseases, cardiovascular diseases and cancer. Six of the faculty, D. Cioffi (chaperone regulation of calcium channels) R. Honkanen (Protein phosphatase-5, cholesterol metabolism), W. Gerthoffer (miRNAs as therapeutic targets in asthma, biomarkers of atherosclerosis), W. Richter (phosphodiesterases), R. Balczon (tauopathies), and S. Lim (vascular remodeling) are supported by NIH grants. Drs. Gerthoffer and Honkanen have developed ties with the biotechnology and pharmaceutical industries for translation of their basic science discoveries to new drugs. The research initiatives have led to novel projects in vascular remodeling, therapy of severe asthma, novel targets for antifungal drugs, novel approaches to treating cystic fibrosis, studies of a newly described neurological disorder with a genetic defect in protein phosphatase expression and new insights into the function and pathology of protein chaperones and protein misfolding. While the research activity of the department is strong, the restrictive funding environment has strained both early-stage and well established research programs. This has had a negative effect on publication rates by shifting effort to grant applications and away from reports of original research. In spite of the challenges in obtaining funding the faculty remain active, productive scientists who are influential in their chosen specialties.

The faculty make important contributions to regional and national peer review, serving on peer review committees for AHA, the NIH and the American Cancer Society as well as ad hoc service for international granting agencies from the UK and the European Union. Several faculty members serve on journal editorial boards, and all members contribute regularly as journal reviewers. In addition to professional service the faculty contribute significant time and expertise to College of Medicine and University governance.



**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Comparative Medicine**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Ballard ST, Evans JW, Drag HS, Schuler M. Pathophysiologic evaluation of the transgenic CFTR “gut-corrected” porcine model of cystic fibrosis. *Am J Physiol Lung Cell Mol Physiol*. 2016 Oct 10;311(4):L779-87.

**II. PUBLISHED ABSTRACTS**

Ballard ST, Walker J, Drag H, Schuler M, Scammell J. Pathophysiology of the CFTR gut-corrected cystic fibrosis pigs. *Pediatr Pulmonol*. 2016 Oct;51(S45):233. Abstract no. 109.

Ramirez-Alcantara V, Zhu B, Chen X, Savai R, Subbarayal P, Schuler MA, Lee KJ, Lindsey AS, Berry KL, Otali D, Canzoneri J, Valiyaveetil J, Keeton A, Coward L, Gorman G, Grizzle W, Boyd M, Piazza GA. Characterization of a novel PDE10 inhibitor in lung tumor cells and an orthotopic mouse model of lung cancer. *American Association for Cancer Research Annual Meeting 2017*; 2017 Apr 1-5; Washington, DC. p. 293. Abstract no. 1140.

**III. PUBLISHED BOOKS**

**IV. INVITED PRESENTATIONS**

**V. NATIONAL PROFESSIONAL RECOGNITION**

Dr. Jonathan G. Scammell: Editorial Advisory Board, *Journal of Pharmacology and Experimental Therapeutics*; Reviewer, *Bioessays*, *Macedonian Veterinary Review*, *Tissues and Cells*. Board Member, Alabama Board of Medical Scholarships.

**VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The faculty and staff of the Department of Comparative Medicine participate in service, education, and research in the university’s animal care and use program. The department continues to upgrade equipment and maximize the use of facilities with the goal of enhancing research and teaching capabilities for the benefit of investigators throughout the university. The department supports the activities of the Vevo high resolution ultrasound imaging system from VisualSonics, the hypoxia core for the development of pulmonary hypertensive rodents, the *Pseudomonas* delivery core, Kimtron, Inc. IC-320 irradiator, IVIS Spectrum Imaging System, the OEC-Diasonics C-Arm Fluoroscopic Imaging System, and histology services.

The University Biological Resources, including the ABSL-3 suite at the Laboratory of Infectious Diseases, are accredited by AAALAC International. The facility also underwent

a favorable inspection by the United States Department of Agriculture with no items of non-compliance noted. The program will undergo evaluation by AAALAC later in 2017.

The faculty continued formal and informal educational commitments within the department to technical staff, supervisors, and colleagues and outside the department to graduate students, postdoctoral fellows, and faculty. Dr. Schuler's commitment to collaboration and education reaches broadly within the university with formal participation with research groups in the Dauphin Island Sea Lab, the Mitchell Cancer Institute, the Colleges of Arts and Sciences and Engineering, and every department within the College of Medicine. Dr. Schuler holds a joint appointment at the Associate Professor level in the Department of Microbiology and Immunology. Dr. Scammell continues his collaboration with Dr. Donna Cioffi in the Department of Biochemistry and Molecular Biology to study the role of the immunophilin protein FKBP51 in endothelial cell function. Members of the department play significant roles in other aspects of college and university life as well. Dr. Schuler serves as a standing member of Institutional Animal Care and Use and Biosafety Committees. Dr. Scammell serves as Assistant Dean for Admissions, member of the Endocrinology and Reproduction Module and Clinical Pharmacology teaching staff, and chairs the MD with Research Honors Committee. Outside of the college, Dr. Scammell serves on the University's Committee on Standards in the Conduct of Research, the Scholarship and Financial Aid Committee, the University Committee on Diversity and Inclusion, an ad hoc Committee on Pre-Health Advising, and the USA Health Branding Advisory Team.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Emergency Medicine**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Hou PC, Filbin MR, Wang H, Ngo L, Huang DT, Aird WC, Yealy DM, Angus DC, Kellum JA, Shapiro NI, ProCESS Investigators (Panacek EA, collaborator). Endothelial permeability and hemostasis in septic shock: results from the ProCESS trial. *Chest*. 2017 Jul;152(1):22-31.

Kellum JA, Pike F, Yealy, DM, Huang DT, Shapiro NI, Angus DC, Protocol-based Care for Early Septic Shock Investigators (ProCESS) Investigators (Panacek EA, collaborator). Relationship between alternative resuscitation strategies, host response and injury biomarkers, and outcome in septic shock: analysis of the protocol-based care for early septic shock study. *Crit Care Med*. 2017 Mar;45(3):438-45.

PRISM investigators, (Panacek EA, collaborator), Rowan KM, Angus DC, Bailey M, Barnato AE, Bellomo R, Canter RR, Coats TJ, Delaney A, Gimbel E, Grieve RD, Harrison DA, Higgins AM, Howe B, Huang DT, Kellum JA, Mouncey PR, Music E, Peake SL, Pike F, Reade MC, Sadique MZ, Singer M, Yealy DM . Early, goal-directed therapy for septic shock: a patient-level meta-analysis. *N Engl J Med*. 2017 Jun 8;376(23):2223-34.

Richards JR, Laurin EG, Bretz SW, Traylor BR, Panacek EA. Treatment of ethanol poisoning and associated hypoventilation with doxapram. *Am J Emerg Med*. 2016 Nov;34(11):2253.e1-2.

Sternberg ML, Gunter ML. Syringomyelia. *J Emerg Med*. 2017 Aug;53(2):e31-2.

Sternberg ML, Sexton JA. Osteochondroma. *J Emerg Med*. 2016 Dec;51(6):e145-6.

**II. PUBLISHED ABSTRACTS**

Sternberg ML, Duncan KJ, Carey DW. A consequence of etiquette: case of Lady Windermere syndrome. American College of Emergency Physicians Southeastern Chapters Educational Conference; 2017 Jun 5-8; Destin, FL.

Sternberg ML, Ferree DS, Brown, AT. My head hurts: case of mitochondrial encephalopathy with lactic acidosis. American College of Emergency Physicians Southeastern Chapters Educational Conference; 2017 Jun 5-8; Destin, FL.

Sternberg ML, Saunders T, Van Wagner G, Gaines CB. A hazy puff of smoke: case of Moya Moya syndrome. American College of Emergency Physicians Southeastern Chapters Educational Conference; 2017 Jun 5-8; Destin, FL.

Sternberg ML, Wilson SC, Goldbach TJ. My fung eye hurts: case of chronic rhinosinusitis with *Aspergillus*. American College of Emergency Physicians Southeastern Chapters Educational Conference; 2017 Jun 5-8; Destin, FL.

Sternberg ML, Gaines CB. Epigastric discomfort, not always benign: case of gallbladder carcinoma. University of South Alabama College of Medicine Case Report Symposium; 2017 Jun 9; Mobile, AL.

### **III. PUBLISHED BOOKS**

### **IV. INVITED PRESENTATIONS**

Panacek EA. Invited speaker. I'm an emergency physician and I play one on TV. University of South Alabama Med School Café; 2016 Nov 4; Mobile, AL.

Panacek EA. Invited speaker. Pretest/introduction to workshop. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Process of research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Research questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Research hypotheses, objectives. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Research terminology. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Introduction to study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Practicum: your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Discuss your questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. True experimental design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Quasi-experimental designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Case control and other designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Recognizing design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Research design practice. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Survey research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Qualitative studies. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Practicum: selecting your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Elements of a study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 9; Dallas, TX.

Panacek EA. Invited speaker. Practice discussion. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 9; Dallas, TX.

Panacek EA. Invited speaker. Sample size calculations. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 9; Dallas, TX.



Panacek EA. Invited speaker. Elements of a study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 9; Dallas, TX.

Panacek EA. Invited speaker. Instructions for between-session requirements. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 9; Dallas, TX.

Panacek EA. Invited speaker. Practicum: developing your study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2016 Nov 9; Dallas, TX.

Panacek EA. Invited speaker. Review of Session 1 and overview of Session II/pretest. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 2; Dallas, TX.

Panacek EA. Invited speaker. Review of study design and statistics. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 2; Dallas, TX.

Panacek EA. Invited speaker. Epidemiology 1: basic principles. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 2; Dallas, TX.

Panacek EA. Invited speaker. Epidemiology 2: diagnostic tests. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 2; Dallas, TX.

Panacek EA. Invited speaker. Epidemiology 3: OR, RR. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 2; Dallas, TX.

Panacek EA. Invited speaker. Research grant presentations. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 2; Dallas, TX.

Panacek EA. Invited speaker. Research associates program. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 2; Dallas, TX.

Panacek EA. Invited speaker. Epidemiology 4: LR, ROC curve. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 4; Dallas, TX.

Panacek EA. Invited speaker. Manuscript review. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 4; Dallas, TX.

Panacek EA. Invited speaker. Precepting others. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 4; Dallas, TX.

Panacek EA. Invited speaker. Feedback on grant proposals. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Apr 4; Dallas, TX.

Panacek EA. Invited speaker. A lasting legacy: class giving scholarships. 2017 University of South Alabama Medical Alumni Association Reunion Weekend; 2017 Jun 10; Pensacola Beach, FL.

Panacek EA. Invited speaker. Sepsis in the time of CMS. University of South Alabama Medical Alumni Association Reunion Weekend; 2017 Jun 11; Pensacola Beach, FL.

Sternberg ML. Invited speaker. Snakes. Boy Scouts of America Troop 85; 2017 Jan 16; Mobile, AL.

Sternberg ML. Invited speaker. Snakebite management. 8<sup>th</sup> Annual Gulf Coast Acute Care Surgery Symposium; 2017 Apr 6; Mobile, AL.

Sternberg ML. Invited speaker. Reflections of an emergency medical physician. Alpha Omega Alpha, Beta Chapter; 2017 Apr 13; Mobile, AL.

## **V. NATIONAL PROFESSIONAL RECOGNITION**

Panacek EA. ACEP Lifetime Achievement Award in Education; Director, EMF Emergency Medicine Basic Research Skills Course (EMBRs); Moderator, Research Forum Research Abstract (ACEP); Moderator, Research Forum Research Abstract (SAEM); Senior Oral Examiner and Oral Case Reviewer, American Board of Emergency Medicine; Editorial Board member, Western Journal of Emergency Medicine; Editorial Board member, International Journal of Emergency Medicine; Peer Reviewer for 8 different journals; Technical Advisor, writer and actor, “Untold Stories from the ER” (TLC, cable)

Sternberg ML. Red Sash Award, COM, University of South Alabama; Faculty AOA Inductee; Board of Directors Mobile Medical Museum; Board of Directors Alabama ACEP; Delegate to Medical Association State of Alabama; Volunteer Animal Rescue Foundation

Bowden SE. Invited speaker. Moderated Panel for Trauma Symposium. 2017 Apr 6; Mobile, AL.

Ambrose MR. ATLS Course Instructor. 2017 Apr 5; Mobile, AL.

Rivers TN. ATLS Course Instructor. 2017 Apr 5; Mobile, AL.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

During this past academic year, the Department of Emergency Medicine was focused on the following priorities:

- Stabilizing and improving faculty attending staffing in the ED.
- Improving clinical performance metrics (CMS and others)
- Enhancing and growing educational programs.
- Increasing engagement with the local and regional EM communities.
- Marshalling funds and support for a major ED remodel.
- Transitioning the evaluation center at CWH into a true pediatric emergency department.
- Increasing scholarly activities and productivity.

Achievements, per area, during the past year are outlined below.

### Clinical operations:

- Major improvements were achieved in a number of clinical performance metrics. These include ED through-put, as well as other CMS parameters.
- Significant remodel and enhancement of the physician work room in the ED, in preparations for CERNER roll-out, as well as, expanded educational programs.
- Expansion and refocus of a nurse practitioner role in the ED.
- Successful attracting of initial funding for an ED remodel and drafting of initial plans. Ongoing strong and successful collaborations with the trauma service, STEMI program and acute stroke team. Outstanding metrics achieved in each of those areas as a result of these collaborations.
- Increase collaboration with pediatric acute care at CWH with development of a road map for improved care and a focused pediatric ED.

### Education:

- Medical student ED rotations further refined with improved educational resources and a testing process incorporated.
- New MS3 ED selective successfully developed for the next academic year.
- Further coordination and improvement in educational experiences for NP and PA students.
- Further coordination and enhanced educational experiences for rotating interns and residents.
- Dr. Michael Sternberg is the clerkship director and educational coordinator for all students for the Department of Emergency Medicine. Dr. Seaman has taken on a coordination role with all rotating interns and residents.
- A new EM residency program at USAHS was proposed to the College of Medicine and Health System leadership and received full support. There was also a proposal

presented to the GMEC, receiving a unanimous endorsement to go ahead. EM core faculty recruitment is continuing to support a successful application. Meantime, that application is being drafted and anticipated to be submitted within 6 months.

Scholarship:

- With the retirement of Dr. Pettyjohn, a few clinical trials were ended or transitioned to other departments, as not directly relevant to emergency medicine.
- EM faculty engagement in scholarship has been expanded with Dr. Sternberg focusing some time on scholarship with medical students that has resulted in increased publications. Three other faculty have also begun some engagement with scholarly activities. Dr. Panacek has been able to devote more time to his own scholarship, with increased productivity.

Service, administration and outreach:

- EM faculty have increased their visibility at in participation committee and other service activities with the College of Medicine. This is primarily through the work of Dr. Sternberg.
- EM faculty have also increased their participation in administrative and service activities with the health system. This is largely by Dr. Panacek, but with some other faculty also becoming increasing involved.
- The DEM now includes on its faculty both the Medical Directors for Mobile County EMS (Dr. Bowden) and Mobile Fire and Rescue EMS (Dr. McMahon). This has resulted in a substantial increase in community EMS outreach and coordination of care and other activities. Our relationships with those EMS agencies have substantially improved.
- Expanded role for a part-time faculty (Dr. Maggio) and a new hire (Dr. McMahon) have further improved in stabilized attending coverage in the ED and decreased the need for “moonlighting” part-time physicians.
- At CWH, transition of the EC to a pediatric ED made substantial progress. This required great coordination with the Department of OB-GYN and greater collaboration between USAMC and CWH. There is a roadmap and it is on track to be completed during the next academic year.

Goals for the next year:

- Further EM faculty recruitment (goal of 2-3 new hires).
- Further improvements in the medical student educational experiences, particularly with the new third year selective.
- Completion and submission of an Emergency Medicine Residency application to the ACGME.
- Further improvements to the ED clinical operations and performance metrics.
- Increase in the involvement in the scholarly activity and resultant publication productivity by several faculty in the department.
- Formal development of a focused pediatric ED at CWH and enhanced integration of that service into the department of emergency medicine.
- Successful implementation and roll-out of the CERNER electronic health record in the ED.

- Increased EM faculty involvement in both intramural and extramural service activities to the institution and to the specialty.



**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Family Medicine**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Butts-Wilkerson A, Linder M, Gray C, Prylinski N, Islam B. In men with varicocele, does surgery improve fertility? Evidenced-Based Practice. 2017 Aug; 20(8):10-1. Available from: <https://mospace.umsystem.edu/xmlui/bitstream/handle/10355/61604/EBP2017-08p10b-11apdf?sequence=1&isAllowed=y>

Duffy R, Alian M, Patel U, Webb Y, Yarbrough D, Motley C. Does bicycling, in otherwise healthy men, increase the risk of erectile dysfunction? Evidence-Based Practice. 2016 Oct;19(10):6-7. Available from: <https://mospace.umsystem.edu/xmlui/bitstream/handle/10355/59495/EBP-October-2016-08.pdf?sequence=1&isAllowed=y>

Liu G, Slater N, Perkins A. Epilepsy: treatment options. Am Fam Physician. 2017 Jul 15;96(2):87-96.

Perkins A. Marine poisonings, envenomations, and trauma. In: Bope ET, Kellerman RD, editors. Conn's Current Therapy 2017. Philadelphia: Elsevier Press; 2017. Section 20. p. 2114-18.

Perkins A, Trimmier M. Recreational waterborne illnesses: recognition, treatment, and prevention. Am Fam Physician. 2017 May 1; 95(9):554-60.

**II. PUBLISHED ABSTRACTS**

Motley C, Risling de Jong R, Perkins A, Styron J. Collaborating with a wellness homeless center to develop a multidisciplinary educational experience. Society of Teachers of Family Medicine 2017 Annual Spring Conference; 2017 May 5-9; San Diego, CA. p. 35. Abstract no. PO46.

**III. PUBLISHED BOOKS**

**IV. INVITED PRESENTATIONS**

Linder MM. Update in sports medicine, Alabama Academy of Family Physicians 2017 Annual Meeting and Scientific Symposium; 2017 Jun 23; Destin, FL.

Perkins RA. Invited speaker. The healthcare mess or how we got here & Medicare's role in the healthcare mess. 2017 Legacy Leadership Institute; 2017 Mar 30; Mobile, AL.

## **V. NATIONAL PROFESSIONAL RECOGNITION**

Michael M. Linder: Invited Participant, American Board of Family Medicine - Standard Setting for the CAQ in Sports Medicine.

Ehab A. Molokhia: Member, United States Medical Licensing Examination (USMLE) Step 2 Clinical Skills (CS) Test Material Development Committee (TMDC).

R. Allen Perkins: Chairman, Advisory Committee on Training in Primary Care Medicine and Dentistry; Member, Alabama Rural Health Association; Member, Alabama Academic Family Medicine Council; Board Member, Alabama Academy of Family Physicians; Board Member, Association of Departments of Family Medicine.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

Dr. Jamie McKinley joined the faculty in September. He received his doctorate from the University of Alabama School of Medicine in 2008. He also holds an MBA from the University of Alabama, Tuscaloosa. Most recently Dr. McKinley has been serving as Chief Physician/Chief Medical Officer for the Poarch Band of Creek Indians. Dr. McKinley has assumed the role of Assistant Professor and Medical Director for Family Medicine.

Dr. Allen Perkins was awarded a year-long opioid treatment training grant that supplements the five year Health Resources and Services Administration grant he was awarded last year. USA's AltaPointe Health Systems will serve as the site where residents and medical students will receive clinical experience around medically assisted identification and treatment for opioid misuse and addiction.

Dr. Ehab Molokhia and Dr. Carol Motley organized a record number of 17 students and 4 residents attendance at the annual AAFP National Conference of Family Medicine Residents & Medical Students held in Kansas City, MO this July. The three day conference offered a wide range of clinical and procedural skills courses as well as leadership development seminars.

Dr. Allen Perkins initiated several interdisciplinary patient care activities to reduce costs associated with complex patients who are cared for within our system. These consultative care delivery methods incorporate behavioral health students, pharmacy students, medical students, family medicine residents, and social work students to provide appropriate resources to meet complex patients' medical and non-medical needs.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Internal Medicine**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Arrieta MI, Fisher L, Shaw T, Bryan V, Hudson A, Hansberry S, Eastburn S, Freed CR, Shellye-Tremblay S, Hanks RS, Washington-Lewis C, Roussel L, Dagenais PA, Icenogle M, Slagle ML, Parker LL, Crook E. Consolidating the academic end of a community-based participatory research venture to address health disparities. *J High Educ Outreach Engagem.* 2017;21(3):113-34.

Brenner DM, Stern E, Cash BD. Opioid-related constipation in patients with non-cancer pain syndromes: a review of evidence-based therapies and justification for a change in nomenclature. *Curr Gastroenterol Rep.* 2017 Mar;19(3):12.

Cash BD, Lacy BE, Schoenfeld PS, Dove LS, Covington PS. Safety of eluxadoline in patients with irritable bowel syndrome with diarrhea. *Am J Gastroenterol.* 2017 Feb;112(2):365-74.

Cash BD, Pimentel M, Rao SSC, Weinstock K, Chang L, Heimanson Z, Lembo A. Repeat treatment with rifaximin improves irritable bowel syndrome-related quality of life: a secondary analysis of a randomized, double-blind, placebo-controlled trial. *Therap Adv Gastroenterol.* 2017 Sep;10(9):689-99.

Downey JM, Cohen MV. Letter by Downey and Cohen regarding article, "Protective effects of ticagrelor on myocardial injury after infarction". *Circulation.* 2017 Apr 25;135(17):e1000-1.

Expert Panel on Gastrointestinal Imaging, Fowler KJ, Kaur H, Cash BD, Feig BW, Gage KL, Carcia EM, Hara AK, Herman JM, Kim DH, Lambert DL, Levy AD, Peterson CM, Scheirey CD, Small W Jr, Smith MP, Lalani T, Carucci LR. ACR Appropriateness Criteria<sup>®</sup> pretreatment staging of colorectal cancer. *J Am Coll Radiol.* 2017 May;14(5S):S234-44.

Expert Panel on Gastrointestinal Imaging, Kaur H, Hindman NM, Al-Refaie WB, Arif-Tiwari H, Cash BD, Chernyak V, Farrell J, Grajo JR, Horowitz JM, McNamara MM, Noto RB, Qayyum A, Lalani T, Kamel IR. ACR Appropriateness Criteria<sup>®</sup> suspected liver metastases. *J Am Coll Radiol.* 2017 May;14(5S):S-314-25.

Expert Panel on Interventional Radiology, Fidelman N, AbuRahma AF, Cash BD, Kapoor BS, Knuttinen MG, Minocha J, Rochon PJ, Shaw CM, Ray CE Jr, Lorenz JM. ACR Appropriateness Criteria<sup>®</sup> radiologic management of mesenteric ischemia. *J Am Coll Radiol.* 2017 May;14(5S):S266-71.

Expert Panels on Vascular Imaging and Interventional Radiology, Bhinder N, Kim DH, Holly BP, Johnson PT, Hanley M, Carucci LR, Cash BD, Chandra A, Gage KL, Lambert DL, Levy AD, Oliva IB, Peterson CM, Strax R, Rybicki FJ, Dill KE. ACR Appropriateness Criteria<sup>®</sup> nonvariceal upper gastrointestinal bleeding. *J Am Coll Radiol*. 2017 May;14(5S):S177-88.

Fant RV, Henningfield JE, Cash BD, Dove LS, Covington PS. Eluxadoline demonstrates a lack of abuse potential in phase 2 and 3 studies of patients with irritable bowel syndrome with diarrhea. *Clin Gastroenterol Hepatol*. 2017 Jul;15(7):1021-9.e6.

Icenogle M, Eastburn S, Arrieta M. Katrina's legacy: processes for patient disaster preparation have improved but important gaps remain. *Am J Med Sci*. 2016 Nov;352(5):455-65.

Knutson KL, Phelan J, Paskow MJ, Roach A, Whiton K, Langer G, Hillygus DS, Mokrzycki M, Broughton WA, Chokroverty S, Lichstein KL, Weaver TE, Hirshkowitz M. The National Sleep Foundation's Sleep Health Index. *Sleep Health*. 2017 Aug;3(4):234-40.

Kumar MJ, Cash BD. Screening and surveillance of colorectal cancer using CT colonography. *Curr Treat Options Gastroenterol*. 2017 Mar;15(1):168-83.

Lacy BE, Chey WD, Cash BD, Lembo AJ, Dove LS, Covington PS. Eluxadoline efficacy in IBS-D patients who report prior loperamide use. *Am J Gastroenterol*. 2017 Jun;112(6):924-32.

Lembo A, Pimentel M, Rao SS, Schoenfeld P, Cash B, Weinstock LB, Paterson C, Bortey E, Forbes WP. Repeat treatment with rifaximin is safe and effective in patients with diarrhea-predominant irritable bowel syndrome. *Gastroenterology*. 2016 Dec;151(6):1113-21.

Levio SL, Cash BD. The place of eluxadoline in the management of irritable bowel syndrome with diarrhea. *Therap Adv Gastroenterol*. 2017 Sep;10(9):715-25.

Mason MA, Cash BD. Quality colorectal cancer screening: endoscopic performance measures and beyond. *Curr Colorectal Cancer Rep*. 2017 Aug;13(4):310-5.

Pierre K, Gadde S, Omar B, Awan GM, Malozzi C. Thyrotoxic valvulopathy: case report and review of the literature. *Cardiol Res*. 2017;8(3):134-8.

Pimentel M, Cash BD, Lembo A, Wolf RA, Israel RJ, Schoenfeld P. Repeat rifaximin for irritable bowel syndrome: no clinically significant changes in stool microbial antibiotic sensitivity. *Dig Dis Sci*. 2017 Sep;62(9):2455-63.

Reich J, Guo L, Hall J, Tran A, Weinberg J, Groshek J, Rowell TE, DiPalma JA, Farraye FA. A survey of social media use and preference in patients with inflammatory bowel disease. *Inflamm Bowel Dis*. 2016 Nov;22(11):2678-87.

Shofu A, Awan GM, Omar B, Qureshi G. Late presentation of aortic aneurysm and dissection following cardiac catheterization. *Cardiol Res*. 2017;8(2):68-72.

Teplick R, Calderon E, Tyler SK, Vande Waa J. Principles of antimicrobial therapy. In: Longnecker DE, Newman MF, Zapol WM, Mackey SC, Sandberg WS, editors. *Anesthesiology*. 3<sup>rd</sup> ed. New York: McGraw-Hill Education; 2017. Chapter 16, p. 213-37.

Thota PN, Vennalaganti P, Vennelaganti S, Young P, Gaddam S, Gupta N, Lieberman D, Sampliner R, Falk GW, Mathur S, Kennedy K, Cash BD, Moawad F, Bonsal A, Spaander MC, Bruno MJ, Vargo J, Sharma P. Low risk of high-grade dysplasia or esophageal adenocarcinoma among patients with Barrett's esophagus less than 1 cm (irregular Z line) within 5 years of index endoscopy. *Gastroenterology*. 2017 Apr;152(5):987-92.

Troyanovsky B, Bitko V, Pastukh V, Fouty B, Solodushko V. The functionality of minimal piggyBac transposons in mammalian cells. *Mol Ther Nucleic Acids*. 2016 Oct;5(10):e369.

Ul Haq E, Shafiq A, Khan AA, Awan AA, Ezad S, Minter WJ, Omar B. "Spice" (synthetic marijuana) induced acute myocardial infarction: a case series. *Case Rep Cardiol*. 2017;2017:9252463.

## II. PUBLISHED ABSTRACTS

Arrieta MI, Parsons-Wells N, Hudson A, Van Buren K, Hudson M, Parker LL, Degen M, Crook E. Use of Sentinel Surveillance for primary data collection among health disparate populations: a practical approach to tracking the progression of health equity. American Public Health Association 2016 Annual Meeting and Expo; Oct 29-Nov 2; Denver, CO. Abstract no. 4383.2.

Berry AC, Berry B, Wang B, Mulekar M, Kanar O, Nakshabendi R, Berry N, Kichler K, Sharma V, Kishore V, Elden AC, Nafisi S, Nakshabandi A, Savani U, Pernenkil V, Rifai F, Sturdivant TL, Matese M, Sperling A, Haas CH, Harris C, Cutrell PK, Turner J, Gunn B, Cash BD. Evaluation of baseline health literacy for diagnostic and triage accuracy of online symptom checkers for gastrointestinal illnesses. *Am J Gastroenterol*. 2016 Oct;111 (Suppl 1):S435. Abstract no. 998.

Berry AC, Cash BD, Mulekar MS, Wang B, Melvin A. Berry BB. Symptom checkers vs. doctors, the ultimate test: a prospective study of patients presenting with abdominal pain. *Gastroenterology*. 2017 Apr;152(5 suppl 1):S852-3. Abstract no. Tu1077.

Berry AC, Hundley TJ Jr, Henderson P, DuPont B, Martin B, Berry B, Kanar O, Nakshabendi R, Myers TS, Schilthuis A. Documentation rates of non-alcoholic fatty liver



disease in an academic internal medicine clinic. *Am J Gastroenterol.* 2016 Oct;111(Suppl 1):S372. Abstract no. 847.

Berry AC, Mestas L, Duffy A, Anderson JA, Wang B, Mulekar MS, McClain EK, DiPalma JA. Assessment of inflammatory bowel disease knowledge across an academic nursing facility. *Am J Gastroenterol.* 2016 Oct;111(Suppl 1):S282-4. Abstract no. 615.

Berry AC, Richter J, Mulekar M, Wang B, Sharma V, Monardo A, Berry B, Nakshabandi A, Turner J, Gunn B, Looney ME, Turner H, Cash BD. From abstract to publication: factors associated with successful gastrointestinal conference journal publications. *Am J Gastroenterol.* 2016 Oct;111(Suppl 1):S434-5. Abstract no. 992.

Butler BR, Henderson PK. Acute hepatic sequestration in sickle cell disease. Alabama & Mississippi Chapters of the American College of Physicians Scientific Meeting; 2017 Jun 1-4; Point Clear, AL.

Cash BD, Epstein M, Shah SM. In patients with irritable bowel syndrome-mixed (IBS-M), a novel peppermint oil formulation designed for site specific targeting (PO-SST), in the small intestine, improves the 8 symptoms that comprise the total IBS symptoms score (TISS). *Gastroenterology.* 2017 Apr;152(5 Suppl 1):S914. Abstract no. Tu1601.

Cash BD, Konda VJ, Trindade A, Smith MS. Volumetric laser endomicroscopy enhances the confirmation of complete remission of intestinal metaplasia and dysplasia in patients undergoing Barrett's ablation. *Am J Gastroenterol.* 2016 Oct;111(Suppl 1):S208. Abstract no. 460.

Cash BD, Epstein ME, Shah SM. Patient responder analysis for a total IBS symptom score (TISS) and abdominal pain with a novel peppermint oil site specific targeting (PO-SST) formulation from the US-based IBSREST randomized controlled trial. *Gastroenterology.* 2017 Apr;152(5 Suppl 1):S913-4. Abstract no. Tu1600.

Cash BD, Heimanson Z, Chang L. Impact of rifaximin on health-related quality of life in patients with diarrhea-predominant irritable bowel syndrome. *Gastroenterology.* 2017 Apr;152(5 Suppl 1):S913. Abstract no. Tu1599.

Cohen M, Downey JM. To have clinical value, future cardioprotective interventions must provide additive protection to that from a P2Y12 receptor antagonist. *J Cardiovasc Pharmacol Ther.* 2016 Nov;21(6):576.

Chey WD, Lacy BE, Cash BD, Epstein M, Shah SM. Efficacy of caraway oil/l-menthol plus usual care vs placebo plus usual care, in functional dyspepsia patients with post-prandial distress (PDS) or epigastric pain (EPS) syndromes: results from a US RCT. *Gastroenterology.* 2017 Apr;152(5 Suppl 1):S307. Abstract no. Sal619.

Chey WD, Lacy BE, Cash BD, Epstein M, Shah SM. Randomized controlled trial to assess the efficacy & safety of caraway oil/l-menthol plus usual care polypharmacy vs. placebo

plus usual care polypharmacy for functional dyspepsia. *Gastroenterology*. 2017 Apr;152(5 Suppl 1):S306. Abstract no. Sa1618.

Desai M, Parasa S, Bansal A, Gupta N, Vennelaganti S, Vennelaganti P, Lieberman DA, Gaddam S, Young PE, Falk GW, Thota PN, Mathur S, Cash BD, Moawad FJ, Vargo JJ, Kennedy KF, Sampliner R, Sharma P. Increased recognition of HGD/EAC at index endoscopy over the past 2 decades: data from a multi-center U.S. consortium. *Gastroenterology*. 2017 Apr;152(5 Suppl 1):S34. Abstract no. 122.

Dullet S, Hundley T, Ballard H. Using modified team based learning to incorporate patient safety methods into morbidity and mortality conference. Alabama & Mississippi Chapters of the American College of Physicians Scientific Meeting; 2017 Jun 1-4; Point Clear, AL.

Gadde S, Aune C, Omar B, Burckhardt B. Success in failure: reduction in 30-day readmissions in primary and secondary heart failure. *Cir Cardiovasc Qual Outcomes*. 2017;10(Suppl 3):A106.

Glosemeyer K, Case B, Hundley TJ. A case of bacterial meningitis and CSF rhinorrhea. Alabama & Mississippi Chapters of the American College of Physicians Scientific Meeting; 2017 Jun 1-4; Point Clear, AL.

Hall N, Alcalá A, Burman M, Moawad F, Cash BD, Murray J, Porter C. A validation study on the diagnosis of celiac disease in military service members. *Am J Gastroenterol*. 2016 Oct;111(Suppl 1):S462. Abstract no. 1063.

Huettemann R, Martin J, Hundley TJ. Cutaneous leukocytoclastic vasculitis. University of South Alabama College of Medicine Clinical Case Symposium; 2017 Jun 9; Mobile, AL. Abstract no. 3.

Hughes J, Hundley TJ. A case of iatrogenic meningitis. University of South Alabama College of Medicine Clinical Case Symposium; 2017 Jun 9; Mobile, AL. Abstract no. 11.

Hundley TJ, Ballard H. The use of team-based learning on an internal medicine clerkship. Alliance of Academic Internal Medicine Skills Development Conference; 2016 Oct 20-22; National Harbor, MD. Abstract no. 30.

Knutson KL, Phelan J, Paskow M, Roach A, Whiton K, Langer G, Hillygus D, Broughton WA, Chokroverty S, Lichstein K, Weaver T, Hirshkowitz M. The National Sleep Foundation's Sleep Health Index. *Sleep*. 2017;39(Abtract suppl):A286. Abstract no. 0771.

Kolakalapudi P, Omar M, Omar B, Malozzi C. Comparison of gated SPECT, echocardiography and angiography ejection fractions. *Circ Cardiovasc Qual Outcomes*. 2017;10(Suppl 3):A119.

Konda VJ, Cash BD, Trindade A, Smith MS. Volumetric laser endomicroscopy complements white light endoscopy during surveillance for Barrett's esophagus. Am J Gastroenterol. 2016 Oct;111(Suppl 1):S231. Abstract no. 511.

Lacy BE, Chey WD, Cash BD, Lembo AJ, Dove LS, Covington PS. Efficacy and safety of eluxadoline in IBS-D patients who report prior inadequate symptom control with loperamide. Am J Gastroenterol. 2016 Oct;111(Suppl 1):S249-50. Abstract no. 547.

Lacy BE, Chey WD, Cash BD, Epstein M, Shan SM. A caraway oil/menthol combination improves functional dyspepsia (FD) symptoms within the first 24 hours: results of a randomized controlled trial, which allowed usual FD treatments. Gastroenterology. 2017Apr;152(5 Suppl):S307. Abstract no. Sa1620.

Lindsay L, Hundley TJ. Delay in diagnosis: caring for the adult cancer survivor. University of South Alabama College of Medicine Clinical Case Symposium; 2017 Jun 9; Mobile, AL. Abstract no. 9.

Liu K, Butler T, Ballard H. Rheumatoid meningitis as a paraneoplastic syndrome of diffuse large B cell lymphoma. Society of General Internal Medicine National Meeting; 2017 Apr 19-22; Washington, D.C.

Lubarda J, Wartens M, Chatterjee P, Cash BD, Chey WD. How is OIC diagnosed and managed? Insights from a virtual patient simulation. Gastroenterology. 2017 Apr;152(5 Suppl 1):S230. Abstract no. Sall31.

Ludvik N, Henderson PK, Almalouf P. A case of abdominal pain warranting a nephrology consultation. Alabama & Mississippi Chapters of the American College of Physicians Scientific Meeting; 2017 Jun 1-4; Point Clear, AL.

Lunsford T, Munderloh C, Hundley TJ. Utility of the CSF biofire in a case of cryptococcal meningitis. University of South Alabama College of Medicine Clinical Case Symposium; 2017 Jun 9; Mobile, AL. Abstract no. 10.

Mortimer J, DiPalma JA, Jahanzeb M, Schmid K, Ye Y. Characterization of neratinib-associated diarrhea in patients with early-stage HER2+ breast cancer: analyses from the phase III ExteNET trial. 2016 San Antonio Breast Cancer Symposium; 2016 Dec 6-10; San Antonio, TX. Abstract no. P4-21-10.

Owusu M, Case B, Ruffin A, Trammell R, Park C, Herring A, Dullet SW. A multidisciplinary approach to increasing hepatitis C screening at Stanton Road Clinic. University of South Alabama Resident and Fellow Exposition; 2017 May 23; Mobile, AL.

Parasa S, Bruno M, Vennelaganti S, Gaddam S, Young P, Gupta N, Thota P, Cash BD, Mathur S, Prashanth V, Spaander M, Sampliner R, Moawad F, Lieberman D, Bansal A, Kennedy K, Vargo J, Falk GW, Sharma P. Development and validation of a prediction model associated with neoplastic progression of Barrett's esophagus (BE): data from a

multi-center prospective cohort. Am J Gastroenterol. 2016 Oct;111(Suppl 1):S191-2. Abstract no. 426.

Pimentel M, Cash BD, Wolf R, Lembo AJ. Efficacy of rifaximin on bowel movement urgency in patients with diarrhea-predominant irritable bowel syndrome (IBS-D): a pooled analysis of 3 phase 3 trials. Am J Gastroenterol. 2016 Oct;111(Suppl 1):S253-4. Abstract no. 556.

Smith MS, Konda VJ, Trindade AJ, Cash BD. Volumetric laser endomicroscopy findings can risk stratify patients for recurrence following endoscopic treatment of Barrett's esophagus. Gastroenterology. 2017 Apr;152(5 Suppl 1):S458. Abstract no. Su1057.

Smith MS, Cash BD, Konda VJ, Trindade A, Chang KJ. Volumetric laser endomicroscopy facilitates identification and sampling of advanced esophageal histopathology: results from a multi-center registry. Am J Gastroenterol. 2016 Oct;111 (Suppl 1):S231-2. Abstract no. 512.

Smith MS, Konda VJ, Cash BD, Trindade AJ, Chang KJ. Absence of concerning findings on volumetric laser endomicroscopy predicts lower incidence of dysplasia during future endoscopies. Gastroenterology. 2017 Apr;152(5 Suppl 1):S841. Abstract no. Mo2071.

Vennelaganti S, Parasa S, Vennalaganti P, Gaddam S, Spaander M, van Olphen SH, Thota PN, Kennedy KF, Moawad FJ, Bruno MJ, Vargo JJ, Mathur S, Cash BD, Sampliner R, Gupta N, Falk GW, Bansal A, Young PE, Lieberman DA. Neoplastic progression in patients with short segment Barrett's esophagus: long-term follow-up of over a 1000 patients in a multi-center consortium. Gastroenterology. 2017 Apr;152(5 Suppl 1):S456. Abstract no. Su1053.

Wiles A, Hundley TJ. Carcinoid syndrome: a rare etiology of pellagra. University of South Alabama College of Medicine Clinical Case Symposium; 2017 Jun 9; Mobile, AL. Abstract no. 5.

Williams C, Fouty B, Fagan K. Money is the root of all evil-a case of constrictive bronchiolitis secondary to money exposure. Am J Respir Crit Care Med. 2017;195:A3851. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A3851](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A3851)

### **III. PUBLISHED BOOKS**

### **IV. INVITED PRESENTATIONS**

Cash B. Invited speaker. Medical foods for functional and GI motility disorders (enteragum, probiotics, prebiotics, peppermint oil, others). Digestive Disease Week; 2017 May 6; Chicago, IL.

DiPalma JA. Invited speaker. The disruptive colleague, the disruptive trainee. American College of Gastroenterology Train-The-Trainers Course; 2017 Jun 2; Washington, DC.

Dullet SW, Ballard H, Hundley TJ, Seaman RT. Invited speakers. Engaging residents in quality improvement. Society of General Internal Medicine 2017 Southern Regional Meeting; 2017 Feb 11; New Orleans, LA.

Haynes J. Invited speaker. To transfuse or not to transfuse in pregnancy. The 26<sup>th</sup> Annual University of South Alabama Obstetrics and Gynecology Conference; 2017 Apr 21; Daphne, AL.

Haynes J. Invited speaker. Pathophysiology and medical management of sickle cell disease. Sickle Cell Disease Association Educator Certification Program; 2016 Oct 10; Mobile, AL.

Herrera JL. Invited speaker. Controversies in clinical hepatology. Jacksonville Gut Club; 2017 May 25; Jacksonville, FL.

Omar B. Invited speaker. Anticoagulation in atrial fibrillation. American Heart Association Spotlight Series; 2017 Jan 26; St. Petersburg, FL.

Omar B. Invited speaker. Anticoagulation in atrial fibrillation. American Heart Association Spotlight Series; 2017 May 25; Carrolton, GA.

Omar B. Invited speaker. Anticoagulation in atrial fibrillation. American Heart Association Spotlight Series; 2017 Jun 28; Lebanon, TN.

Omar B. Invited speaker. Anticoagulation in atrial fibrillation. American Heart Association Spotlight Series; 2017 Jul 26; Columbia, TN.

## **V. NATIONAL PROFESSIONAL RECOGNITION**

Barbara Burckhardt. Heart failure team received 2017 American Heart Association Get with the Guidelines (GWTG) Heart Failure Gold Plus Quality Achievement Award.

Johnson Haynes Jr: Listed: *America's Top Doctors*; Voting Member, Association of American Medical Colleges (AAMC) - Group on Diversity and Inclusion (GDI); Data and Safety Monitoring Board (DSMB) for the Clinical Trials Consortium; American Society of Hematology Sickle Cell Disease Guideline Panel, Panel on Sickle Cell Disease – Related Cardiopulmonary and Kidney Disease; Sickle Cell Disease Council for Change, Pfizer Inc. Workshop.

Christopher Malozzi. District 1 Counselor, Alabama American College of Cardiology, Elected 2017.

Bassam Omar. The American College of Cardiology, Alabama Chapter, meeting planning and educational committee member.



Bassam Omar. The American College of Cardiology, Alabama Chapter, abstract grading committee member.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

### Education

The department has continued to receive excellent evaluations from medical students and residents for its educational activities. For 19 consecutive years the Internal Medicine Clerkship has been recognized as the best clerkship for third year medical students. The Class of 2017 again honored the department with this award. Several of the departmental faculty were recognized with the red sash award for their educational efforts and the graduating Class of 2017 again selected an Internal Medicine faculty member, Dr. Terry J. (“TJ”) Hundley as the best teachers in the clinical years. Department members continue to contribute significantly to the medical school curriculum over all four years. In addition to the 3<sup>rd</sup> year clerkship mentioned above several departmental members serve as clinical co-director for the modules for the first and second year COM classes. The Department’s courses for COM 4<sup>th</sup> year students remain popular with the Acting Internship in inpatient medicine and the MICU rotation receiving high praise.

Our faculty also make important contributions to the education of students in Allied Health and Nursing. For example, Dr. Shannon Tyler serves as the Medical Director for the Department of Physician Assistant Studies in the College of Allied Health Professions where she plays a large role in the education of the PA students. Several of the PA students take clinical rotations in general internal medicine and all of our subspecialty areas.

The department puts forth considerable effort educating its internal medicine residents, internal medicine – pediatric residents, and fellows in Gastrointestinal Diseases, Cardiovascular Disease, and Pulmonary Critical Care. Dr. Judy Blair came back to the fulltime faculty as Director of the Internal Medicine Residency Program and has been making innovative improvements to the way we do residency education. The Grand Rounds Series is well received and is an important educational tool for the community. Several members of the faculty have been recognized as educational leaders in their subspecialty area.

### Scholarly Efforts

The department has continued to be productive in scholarly achievements. The Divisions of Gastroenterology, Pulmonary and Critical Care, and Cardiology had particularly successful years in the arena. The residents have been active in scholarly activity and have made presentations at regional and national meetings.

There are several clinical trials led by department of medicine faculty. The Division of Gastroenterology continues to have a robust clinical studies portfolio that features studies in liver disease, advanced endoscopy, inflammatory bowel disease, and preparation for colonoscopy. GI continues to involve its fellows, internal medicine residents and medical students in its research efforts with several of these trainees presenting their work at regional and national meetings.

Cardiology has several multi-center trials underway and has partnered with Dr. William Gerthoffer, Chair Department of Biochemistry, in a translational project funded through the Center for Healthy Communities P-20 Grant. This unique award examines the role of a protein, HSP27, as a unique marker of atherosclerosis and its potential contribution to health disparities seen in cardiovascular disease in African-American populations. The Division of Pulmonary has continued its partnership with the Center for Lung Biology and has continued clinical, basic and translational studies in pulmonary hypertension. Infectious disease continues its efforts in care of the HIV patient through a grant funded by the Health Resources and Services Administration. Members of the Division of General Internal Medicine have taken a lead on patient safety and quality projects. Many of these projects are performed in partnership with the USA Medical Center.

### Service

The department continues to deliver excellent clinical service. The department has seen an increase in his clinical services at the USA Medical Center. The Division of Gastroenterology has continued to grow its services for advanced endoscopy procedures. These advancements have enhanced partnerships with the Mitchell Cancer Institute and the Division of Colorectal Surgery. The Division of Infectious Disease remains a leader in HIV care for the region in both the inpatient and ambulatory setting. The Division of General Internal Medicine has been able to have members who are focused on ambulatory medicine or inpatient medicine (hospitalist). This has enhanced delivery of services in both arenas. The ambulatory focused faculty have developed and grown a faculty based general internal medicine clinic and have built a robust curriculum for residents and students in primary care.

Departmental faculty continue to serve on editorial boards, as journal reviewers, on advisory boards, and on grant review panels. The faculty has contributed significantly to the University and the Greater Mobile Community.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Microbiology and Immunology**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Alvarez DF, Housley N, Koloteva A, Zhou C, O'Donnell K, Audia JP. Caspase-1 activation protects lung endothelial barrier function during infection-induced stress. *Am J Respir Cell Mol Biol*. 2016 Oct;55(4):500-10.

Aquino P, Honda B, Jaini S, Lyubetskaya A, Hosur K, Chiu JG, Ekladios I, Hu D, Jin L, Sayeg MK, Stettner AI, Wang J, Wong BG, Wong WS, Alexander SL, Ba C, Bensussen SI, Bernstein DB, Braff D, Cha S, Cheng DI, Cho JH, Chou K, Chuang J, Gastler DE, Grasso DJ, Greifenberger JS, Guo C, Hawes AK, Israni DV, Jain SR, Kim J, Lei J, Li H, Li D, Li Q, Mancuso CP, Mao N, Masud SF, Meisel CL, Mi J, Nykyforchyn CS, Park M, Peterson HM, Ramirez AK, Reynolds DS, Rim NG, Saffie JC, Su H, Su WR, Su Y, Sun M, Thommes MM, Tu T, Varongchayakul N, Wagner TE, Weinberg BH, Yang R, Yaroslavsky A, Yoon C, Zhao Y, Zollinger AJ, Stringer AM, Foster JW, Wade J, Raman S, Broude N, Wong WW, Galagan JE. Coordinated regulation of acid resistance in *Escherichia coli*. *BMC Syst Biol*. 2017 Jan 6;11(1):1.

Borlee GI, Plumley BA, Martin KH, Somprasong N, Mangalea MR, Islam MN, Burtneck MN, Brett PJ, Steinmetz I, AuCoin DP, Belisle JT, Crick DC, Schweizer HP, Borlee BR. Genome-scale analysis of the genes that contribute to *Burkholderia pseudomallei* biofilm formation identifies a crucial exopolysaccharide biosynthesis gene cluster. *PLoS Negl Trop Dis*. 2017 Jun 28;11(6):e0005689.

Brewer JW, Solodushko V, Aragon I, Barrington RA. Phosphatidylcholine as a metabolic cue for determining B cell fate and function. *Cell Immunol*. 2016 Dec; 310:78-88.

Chaichana P, Chantratita N, Brod F, Koosakulnirand S, Jenjaroen K, Chumseng S, Sumonwiriya M, Burtneck MN, Brett PJ, Teparrukkul P, Limmathurotsakul D, Day NPJ, Dunachie SJ, West TE. A nonsense mutation in TLR5 is associated with survival and reduced IL-10 and TNF- $\alpha$  levels in human melioidosis. *PLoS Negl Trop Dis*. 2017 May 5;11(5):e0005587.

Chua J, Senft JL, Lockett SJ, Brett PJ, Burtneck MN, DeShazer D, Friedlander AM. pH alkalization by chloroquine suppresses pathogenic *Burkholderia* type 6 secretion system 1 and multinucleated giant cells. *Infect Immun*. 2016 Dec 29;85(1):e00586-16.

Goebel S, Snyder B, Sellati T, Saeed M, Ptak R, Murray M, Bostwick R, Rayner J, Koide F, Kalkeri R. A sensitive virus yield assay for evaluation of antivirals against zika virus. *J Virol Methods*. 2016 Dec;238:13-20.

Gupta N, Noël R, Goudet A, Hinsinger K, Michau A, Pons V, Abdelkafi H, Secher T, Shima A, Shtanko O, Sakurai Y, Cojean S, Pomel S, Liévin-Le Moal V, Leignel V,

Herweg JA, Fischer A, Johannes L, Harrison K, Beard PM, Clayette P, Le Grand R, Rayner JO, Rudel T, Vacus J, Loiseau PM, Davey RA, Oswald E, Cintrat JC, Barbier J, Gillet D. Inhibitors of retrograde trafficking active against ricin and Shiga toxins also protect cells from several viruses, *Leishmania* and Chlamydiales. *Chem Biol Interact.* 2017 Apr 1;267:96-103.

Helgren TR, Chen C, Wangtrakuldee P, Edwards TE, Staker BL, Abendroth J, Sankaran B, Housley NA, Myler PJ, Audia JP, Horn JR, Hagen TJ. *Rickettsia prowazekii* methionine aminopeptidase as a promising target for the development of antibacterial agents. *Bioorg Med Chem.* 2017 Feb 1;25(3):813-24.

Koide F, Goebel S, Snyder B, Walters KB, Gast A, Hagelin K, Kalkeri R, Rayner J. Development of a zika virus infection model in cynomolgus macaques. *Front Microbiol.* 2016 Dec 19;7:2028.

McClure EE, Chávez ASO, Shaw DK, Carlyon JA, Ganta RR, Noh SM, Wood DO, Bavoil PM, Brayton KA, Martinez JJ, McBride JW, Valdivia RH, Munderloh UG, Pedra JHF. Engineering of obligate intracellular bacteria: progress, challenges and paradigms. *Nat Rev Microbiol.* 2017 Sep;15(9):544-58.

Nualnoi T, Kiro Singh A, Pandit SG, Thorkildson P, Brett PJ, Burtnick MN, AuCoin DP. In vivo distribution and clearance of purified capsular polysaccharide from *Burkholderia pseudomallei* in a murine model. *PLoS Negl Trop Dis.* 2016 Dec 12;10(12):e0005217.

Nualnoi T, Norris MH, Tuanyok A, Brett PJ, Burtnick MN, Keim PS, Settles EW, Allender CJ, AuCoin DP. Development of immunoassays for *Burkholderia pseudomallei* typical and atypical lipopolysaccharide strain typing. *Am J Trop Med Hyg.* 2017 Feb 8;96(2):358-67.

Plumley BA, Martin KH, Borlee GI, Marlenee NL, Burtnick MN, Brett PJ, AuCoin DP, Bowen RA, Schweizer HP, Borlee BR. Thermoregulation of biofilm formation in *Burkholderia pseudomallei* is disrupted by mutation of a putative diguanylate cyclase. *J Bacteriol.* 2017 Feb 14;199(5):e00780-16.

Pumpuang A, Dunachie SJ, Phokrai P, Jenjaroen K, Sintiprungrat K, Boonsilp S, Brett PJ, Burtnick MN, Chantratita N. Comparison of O-polysaccharide and hemolysin co-regulated protein as target antigens for serodiagnosis of melioidosis. *PLoS Negl Trop Dis.* 2017 Mar 30;11(3):e0005499.

Tamigney Kenfack M, Mazur M, Nualnoi T, Shaffer TL, Ngassimou A, Blériot Y, Marrot J, Marchetti R, Sintiprungrat K, Chantratita N, Silipo A, Molinaro A, AuCoin DP, Burtnick MN, Brett PJ, Gauthier C. Deciphering minimal antigenic epitopes associated with *Burkholderia pseudomallei* and *Burkholderia mallei* lipopolysaccharide O-antigens. *Nat Commun.* 2017 Jul 24;8(1):115.

## II. PUBLISHED ABSTRACTS

Audia JP, Renema P, Housley N, Alvarez DF. *Pseudomonas aeruginosa* ExoU activates an intracellular caspase-1 response in lung endothelial cells. Keystone Symposia on Molecular and Cellular Biology: Pattern Recognition Signaling: From Innate Immunity to Inflammatory Disease; 2017 Mar 19-23; Banff, Alberta, Canada. Abstract no. 1003.

Barrington RA, Malur A, Mohan A, Leffler N, Dobbs L, Wingard CJ, Barna B, Thomassen MJ. Increased Th1 cells and enhanced pulmonary fibrosis in macrophage-specific PPAR $\gamma$  KO mice instilled with multiwall carbon nanotubes and ESAT-6 mycobacterial antigen. Immunology 2017; 2017 May 12-16; Washington, D.C. Abstract no. 153.12.

Fitzpatrick SE, Lausch RN, Barrington RA. Subsets of immunoprotective  $\gamma\delta$  T cells in the cornea during early HSV-1 infection. Invest Ophthalmol Vis Sci. 2017;58(8):3617.

Koide F, Goebel S, Walters K, Snyder B, Lin S, Green B, Hagelin K, Kalkeri R, Rayner J. Natural history of zika virus isolates from Africa, Asia, and the America's in Rhesus macaques of Indian origin. First International Conference on Zika Virus; 2017 Feb 22-25; Washington, DC. Abstract no. 4.

Koide F, Goebel S, Snyder B, Walters K, Gast AK, Hagelin K, Kalkeri R, Rayner J. Development of a zika infection model in cynomolgus macaques. 2017 ASM Biothreats – Research, Response, Policy; 2017 Feb 6-8; Washington, DC. Abstract no. 11A.

Koosakulnirand S, Ekchariyawat P, Roberts RA, Burtnick MN, Brett PJ, Chantratita N. Human innate immune response to recombinant flagellin of *Burkholderia pseudomallei*. Newton Fund International Links Meeting; 2017 Feb 21-22. Bangkok, Thailand.

Malur A, Barrington RA, Mohan A, Leffler N, Dobbs L, Wingard CJ, Barna B, Thomassen MJ. Elevated pulmonary fibrosis and Th1 cells appear in macrophage-specific PPAR $\gamma$  KO mice instilled with multiwall carbon nanotubes (MWCNT) and ESAT-6 mycobacterial antigen. Keystone Symposia on Molecular and Cellular Biology: Injury, Inflammation and Fibrosis (C8); 2017 Mar 26-30; Snowbird, UT. Abstract no. 2028.

Malur A, Barrington R, Mohan A, McPeck M, Dobbs L, Wingard C, Barna BP, Thomassen MJ. Exposure to mycobacterial antigen, ESAT-6, increases granuloma formation and fibrosis in macrophage-specific PPAR $\gamma$  KO mice instilled with multiwall carbon nanotubes (MWCNT). Am J Respir Crit Care Med. 2017;195:A4298. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4298](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4298)

Ramelli SC, McLendon J, Ferretti A, Sparks J, Matar M, Barrington R, Gerthoffer W. Oligonucleotide therapy reduces lung inflammation in HDM-sensitized mice. Am J Respir Crit Care Med. 2017;195:A7044. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A7044](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A7044)

Renema P, Housley NA, Audia JP, Alvarez AF. *Pseudomonas aeruginosa* Exoenzyme U causes intracellular caspase-1 activation in pulmonary microvascular endothelial cells and elicits pyroptosis. Am J Respir Crit Care Med; 2017;195:A7430. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A7430](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A7430)

Renema P, Housley NA, Audia JP, Alvarez AF. Sepsis mediated cAMP signals increase caspase-1 activation in pulmonary microvascular endothelial cells during *Pseudomonas aeruginosa* infection. Am J Respir Crit Care Med. 2017;195:A7429. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A7429](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A7429)

Renema P, Housley N, Audia JP, Alvarez DF. cAMP signaling increases caspase-1 activation in lung endothelial cells during *Pseudomonas aeruginosa* infection. Keystone Symposia on Molecular and Cellular Biology: Pattern Recognition Signaling: From Innate Immunity to Inflammatory Disease; 2017 Mar 19-23; Banff, Alberta, Canada. Abstract no. 3011.

Teague DA, Francis M, Housley NA, Renema P, Alvarez DF, Audia JP. *Vibrio vulnificus* MARTX toxin causes endothelial barrier disruption and damage. American Society for Microbiology Microbe 2017; 2017 Jun 1-5; New Orleans, LA. Abstract no. 1004.

Teague DA, Francis M, Housley NA, Renema P, Alvarez DF, Audia JP. *Vibrio vulnificus* MARTX toxin causes heterogeneous barrier disruption in pulmonary endothelial cells. Am J Respir Crit Care Med. 2017; 195:A7431. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A7431](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A7431)

Walters KB, Snyder B, Williams PL, Richardson-Harman N, Rayner J, Koide F. Validation of a focus reduction neutralization test for the detection of neutralizing antibodies to zika virus. First International Conference on Zika Virus; 2017 Feb 22-25; Washington, DC. Abstract no. 20.

### **III. PUBLISHED BOOKS**

Slonczewski JL, Foster JW. Microbiology, an evolving science. 4<sup>th</sup> ed. New York: WW Norton Publishing; 2017. 1376 p.

### **IV. INVITED PRESENTATIONS**

Audia JP. Invited speaker. What you can learn about a heart attack from a microbiologist. University of South Alabama Distinguished Scientist Seminar Series; 2017 Mar 30; Mobile, AL.

Audia JP. Invited speaker. You only die twice: is the *Pseudomonas aeruginosa* ExoU phospholipase A2 a dual functional cytolysin and pyroptosis? Pathobiological Sciences

Guest Lecturer, Louisiana State University School of Veterinary Medicine; 2017 Sep 21; Baton Rouge, LA.

Barrington RA. Invited speaker. Imag(e)ining underlying mechanisms of autoimmunity in mice. East Carolina University Brody School of Medicine “Laser Tag” Group; 2017 Apr 5; Greenville, NC.

Barrington RA. Invited speaker. Autoimmune pulmonary alveolar proteinosis: bedside to bench...and back again? University of South Alabama Pulmonary Critical Care/ Center for Lung Biology Conference; 2017 Mar 17; Mobile, AL.

Brett PJ. Invited speaker. Identifying correlates of vaccine-induced immunity using murine models of acute melioidosis. Newton Fund Institutional Links Meeting. 2017 Feb 21; Bangkok, Thailand.

Burtnick MN. Invited speaker. Molecular aspects of *Burkholderia pseudomallei* pathogenesis. Newton Fund Institutional Links Meeting; 2017 Feb 20; Bangkok, Thailand.

## V. NATIONAL PROFESSIONAL RECOGNITION

Jonathon P. Audia: Grant Reviewer, Department of Defense Health Program: Emerging Infectious Diseases Pre-Application Panel, Vaccine Development for Infectious Diseases Pre-Application Panel, Department of Defense: Military Infectious Disease Panel. Review Editor, *Frontiers in Cellular and Infection Microbiology*. Ad hoc journal peer reviewer, *Clinica Chimica Acta*, *mSphere*, *Tick and Tick-borne Diseases*.

Robert A. Barrington: Grant reviewer, Study sections for American Heart Association Immunology 2Sc and 4Sc. Ad hoc reviewer, *American Journal of Physiology-Lung Cellular and Molecular Physiology*, *Cytometry*, *European Journal of Immunology*, *Journal of Immunology*, *Journal of DNA and Cell Biology*, *Journal of Experimental Medicine*, *The Ochsner Journal*, *Journal of Thoracic Diseases*. Review editor, *Frontiers in B Cell Biology*.

Paul J. Brett: International collaborator: Newton Fund Project–Thailand; Dissertation committee member: Laura Muruato - Department of Microbiology and Immunology, UTMB, Galveston, TX; Committee member: Steering Group on Melioidosis Vaccine Development (SGMVD); Editorial Board Member: *Infection and Immunity*; Ad hoc reviewer: *Carbohydrate Research*, *Clinical and Vaccine Immunology*, *Journal of Clinical Microbiology*, *Journal of Proteome Research*, *Nature Scientific Reports*, *PLoS Neglected Tropical Diseases*, *PLoS One*, *PLoS Pathogens*, *Vaccine*.

Mary N. Burtnick: International collaborator, Newton Fund Project – Thailand; Ad hoc reviewer: *Infection and Immunity*, *Journal of Proteome Research*, *PLoS Neglected Tropical Diseases*, *Scientific Reports*, *Vaccine*.

Jonathan O. Rayner: Peer review, *Science Translational Medicine, Emerging Infectious Diseases, The American Journal of Tropical Medicine and Hygiene.*

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

It was an exciting year of transition and growth for the Department. Two faculty members, Drs. Mary Burtnick and Paul Brett, accepted positions at the University of Nevada Reno and moved in May. In June, Dr. Jonathan Rayner joined the Department as an Associate Professor. Dr. Rayner is a virologist with extensive experience in models of infectious disease and in vaccine development. In addition to his faculty duties, Dr. Rayner will serve as Director of the Laboratory of Infectious Diseases (LID). Dr. Jin Kim, who arrived in September holds an assistant professor position and will work closely with Dr. Rayner to develop the LID as a state and national research center. Finally, after many years of dedicated service Dr. Foster retired October 1<sup>st</sup>. He will continue to support the Department's teaching efforts. Finally, as evidence of his outstanding abilities in teaching, research, and service, Dr. Jonathon Audia was awarded tenure.

Dr. Foster continued to apply his exceptional organizational skills to the Department's contribution to the FHH2 module as Module Director. Dr. Audia has volunteered to assume this role in the coming year. All departmental faculty contributed to the integrated curriculum and since the infectious disease thread winds its way through almost all the modules, Microbiology and Immunology faculty contributed throughout the medical school curriculum. Graduate student teaching was organized through the Infectious Diseases and Host Defense Track (IDHD) directed by Dr. Paul Brett. Our first student to enter the program, Tiffany Norton, who was mentored by former faculty member Dr. Jarrod Fortwendel, successfully defended her dissertation in the Fall and moved to a postdoctoral position at the Mitchell Cancer Institute. Andrew Ferretti, mentored by Dr. Barrington, also received his doctoral degree in the Lung Biology track and is currently a postdoctoral fellow at Beth Israel Deaconess Medical Center (Harvard Medical School). A departmental priority is to generate funds to support a critical mass of outstanding students within the Department. Currently, there are two students in the IDHD track, Steffani Fitzpatrick, mentored by Dr. Barrington, and Kierra Hardy, mentored by Dr. Audia. Ms. Fitzpatrick was awarded a travel award to the ARVO meeting held in Baltimore. Alex Teague joined the Department as a student in the Lung Biology track and is mentored by Dr. Audia. In addition to track-specific courses (Microbes and Host Defense, Microbial Pathogenesis, Advanced Immunology) the Department conducts a weekly Journal Club and Research Forum.

Additional teaching efforts were directed toward high school and undergraduate students. Dr. Audia conducted an outreach program with the St. Luke's Episcopal School. The goal of this program was to expose high school students to the basic principles of antimicrobial agents using bacteria as a model system. COM graduate students Phoibe Remena, Steffani Fitzpatrick and Sabrina Ramelli assisted Dr. Audia in this effort. The graduate students were involved in the development and execution of the laboratory exercise and were given the experience of grading high school student laboratory reports. The overarching future goal is to develop a graduate level course to give our students experience in preparing and delivering content as instructors. Both Dr. Audia and Dr. Barrington had high school



students and medical students working in the laboratory this summer. All presented posters at the Summer Medical Research Forum. Angela McGaugh, mentored by Dr. Wood, completed her honors thesis and is now a medical student at the University of Miami where she is also working toward a Masters of Public Health degree.

The Department continues to focus on filling faculty positions especially in the area of immunology. The Laboratory of Infectious Diseases (LID), which became fully operational in 2015, provides laboratories functioning at Biosafety Level 2 (BSL-2) and Biosafety Level 3 (BSL-3) containment and is available for new recruits. Drs. Audia, Brett, Burtnick (prior to their departure), and Wood conducted funded projects that require BSL-3 containment. We are also recruiting to available space in the Medical Sciences Building.

Departmental faculty members have sustained successful research programs and continue to pursue extramural funding. Dr. Audia and his collaborator, Dr. Alvarez in the Department of Physiology and Cell Biology, continued their NIH-funded research on “Caspase-1, the microvascular endothelium, and infection”. Dr. Barrington completed a second year of funding from the American Lung Association to support his studies on the first mouse model of autoimmune pulmonary alveolar proteinosis. Dr. Barrington also received support from the Lions Club for studies examining herpes eye infections and the associated immunological response that can result in blindness. This research is being conducted by his student, Steffani Fitzpatrick. The Lions Club is a long-time supporter of eye research at the University of South Alabama. Dr. Barrington is the current president of the USA Lions Club and was race director for another successful 5K fund-raiser for Lions Club Service projects. Drs. Brett and Burtnick were very productive and are making a recognized impact in the area of diagnostics for *Burkholderia* infections. They established a Glycobiology Resource Center at USA to provide rapid serodiagnostic assays.

The Department hosted Dr. Karla J.F. Satchell of the Department of Microbiology and Immunology, Northwestern University Feinberg School of Medicine, Chicago, Illinois as a Distinguished Scientist Speaker this year. She presented a seminar entitled Role of Large MARTX Toxins in *Vibrio* Pathogenesis.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Neurology**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Chen W, Chalhub EG. Inattention and poor eye contact is not all autism. Clin Pediatr (Phila). 2017 Aug;56(9):873-5.

Ochoa JG, Hentgarden D, Paulzak A, Ogden M, Pryson R, Lamle M, Rusyniak WG. Subtle pathological changes in neocortical temporal lobe epilepsy. Epilepsy Behav. 2017 Jun;71(Pt A):17-22.

Zak M, Ledbetter M, Maertens P. Infantile Lhermitte-Duclos disease treated successfully with rapamycin. J Child Neurol. 2017 Mar; 32(3):322-6.

**II. PUBLISHED ABSTRACTS**

Bhat J, Maertens P, Martinez J. Novel manifestation of 16p11.2 microdeletion syndrome with atypical breath holding spells in infancy. J Invest Med. 2017 Feb;65(2):509. Abstract no. 285.

Maertens P, Wafadari D, Zac M. Infantile Lhermitte-Duclos disease: neuroimaging evaluation of rapamycin therapy. J Neuroimaging. 2017 Mar/Apr;27(2):263-4. Abstract no. 11.

Maertens P, Wafadari D. The unique vascular pattern of alobar holoprosencephaly: a prospective Power Doppler study. J Neuroimaging. 2017 Mar/Apr;27(2):267. Abstract no. 30.

Maertens P. Infantile Lhermitte-Duclos syndrome treated successfully with rapamycin. Ann Neurol. 2016 Oct;80(s 20):S382-3. Abstract no. 157.

Ochoa JG, Singh A. Comparison of spike source localization versus ictal source as a reliable non-invasive method to identify epileptogenic focus. American Clinical Neurophysiology Society Annual Meeting and Courses; 2017 Feb 8-12; Phoenix, AZ. p. 5. Abstract no. F-15.

Rini J, Maertens P. Limbic encephalitis due to voltage-gated potassium channel antibodies (VGKC-AB) in a child. J Child Neurol. 2017 Aug;32(9):854.

Sabapathy A, Maertens P. Herpes simplex encephalitis (HSE) with cerebellar calcification - a first case report. J Investig Med. 2017 Feb;65(2):529-30. Abstract no. 336.

Wilaisakditipakorn T, Maertens P. Harlequin sign as a presenting sign of Horner syndrome in 2 pediatric cases. J Child Neurol. 2017 Aug;32(9):852.

Wilaisakditipakorn T, Willen B, Maertens P. Gratification phenomena in a child with Rett syndrome. J Child Neurol. 2017 Aug;32(9):855.

### **III. PUBLISHED BOOKS**

### **IV. INVITED PRESENTATIONS**

Bassam B. Invited speaker. Peripheral neuropathy evaluation, an algorithmic approach. Southern Clinical Neurological Society 44<sup>th</sup> Annual Meeting; 2017 Jan 19; Palm Beach, FL.

Bassam B. Invited speaker. Diagnosis of unusual neuropathies using EMG and NCV. University of South Alabama Neuroscience Symposium 2017; 2017 Apr 2; Orange Beach, AL.

Bassam B. Invited speaker. Nerve conduction pitfalls. 2017 American Association of Neuromuscular & Electrodiagnostic Medicine Annual Meeting Resident and Fellow Jump Start Workshop; 2017 Sep 13; Phoenix, AZ.

Bassam B. Invited speaker. Common nerve conduction pitfalls. 2017 American Association of Neuromuscular & Electrodiagnostic Medicine Annual Meeting; 2017 Sep 13; Phoenix, AZ.

Bassam B. Invited speaker. Autonomic nervous system functional anatomy. 2017 American Association of Neuromuscular & Electrodiagnostic Medicine Annual Meeting; 2017 Sep 14; Phoenix, AZ.

Bassam B. Invited speaker. Neuromuscular update course: autonomic neuropathy. 2017 American Association of Neuromuscular & Electrodiagnostic Medicine Annual Meeting; 2017 Sep 14; Phoenix, AZ.

Chalhub E. Invited speaker. Pediatric stroke: is it the time for the pediatric stroke code? University of South Alabama Neuroscience Symposium 2017; 2017 Apr 1; Orange Beach, AL.

Cordina S. Invited speaker. Management of cerebral aneurysms. Sacred Heart Stroke and Neuroscience Symposium; 2017 Feb 10; Pensacola, FL.

Cordina S. Invited speaker. How has interventional neurology changed the management of cerebral aneurysms? University of South Alabama Neuroscience Symposium 2017; 2017 Apr 2; Orange Beach, AL.

Cordina S. Invited speaker. Neurotrauma updates. 8<sup>th</sup> Annual Gulf Coast Acute Care Surgery Symposium; 2017 Apr 7, Mobile, AL.

Cordina S. Invited speaker. Neuro ICU nursing – cerebral herniation syndromes & management. Second Annual South Texas Comprehensive Stroke Care Symposium; 2017 May 6; South Padre Island, TX.

Cordina S. Invited speaker. Latest in stroke treatment. Alabama Academy of Neurology Annual Conference; 2017 Aug 12; Montgomery, AL.

Darbin O. Invited speaker. The basis and rationale for using non-linear signal analysis for brain function, Southern Epilepsy and EEG Society Annual Meeting; 2017 Feb 26; Mobile, AL.

Dees D. Invited speaker. Dystonia in children and adults: classification, evaluation and treatment. University of South Alabama Neuroscience Symposium 2017; 2017 Apr 2; Orange Beach, AL.

Dees D. Invited speaker. Movement disorders: screening and management. 2017 University of South Alabama Medical Alumni Association Reunion Weekend; 2017 Jun 10; Pensacola, FL.

Dees DD. Invited speaker. Movement disorders. Alabama Academy of Neurology Annual Conference; 2017 Aug 12; Montgomery, AL.

Maertens P. Invited speaker. Zika and other emerging encephalitides: what you need to know. University of South Alabama Neuroscience Symposium 2017; 2017 Apr 2; Orange Beach, AL.

Minto E. Invited speaker. Multiple sclerosis: where we've been and where we're going. Southern Clinical Neurological Society 44<sup>th</sup> Annual Meeting; 2017 Jan 19; Palm Beach, FL.

Minto E. Invited speaker. Aggressive treatment vs. conservative treatment. Living Well with MS Conference; 2017 Jan 28; Pensacola, FL.

Minto E. Invited speaker. Multiple sclerosis: when is it time to be aggressive? University of South Alabama Neuroscience Symposium 2017; 2017 Apr 1; Orange Beach, AL.

Minto E. Invited speaker. Disease modifying therapy: yay or nay? Balancing risk and efficiency in treating multiple sclerosis. National Multiple Sclerosis Society Alabama – Mississippi Chapter Symposium; 2017 May 19; Ocean Springs, MS.

Naritoku D. Invited speaker. Does rational polytherapy exist? Southern Epilepsy and EEG Society Annual Meeting; 2017 Feb 25; Mobile, AL.

Naritoku D. Invited speaker. Where is the field of Neurology heading? University of South Alabama Neuroscience Symposium 2017; 2017 Mar 31; Orange Beach, AL.

Naritoku D, Ochoa JA. Invited speakers. Status epilepticus: treatment, morbidity and mortality. University of South Alabama Neuroscience Symposium 2017; 2017 Apr 1; Orange Beach, AL.

Ochoa J. Invited speaker. Use of EEG for diagnosis and management of status epilepticus. American Clinical Neurophysiology Society Annual Meeting and Courses; 2017 Feb 11; Phoenix, AZ.

Ochoa J. Invited speaker. When is it safe to stop anticonvulsant medication in seizure disorders? University of South Alabama Neuroscience Symposium 2017; 2017 Apr 1; Orange Beach, AL.

## V. NATIONAL PROFESSIONAL RECOGNITION

Bassam A. Bassam: Member: American Academy of Neurology (AAN) Neuromuscular Section Subcommittee, American Academy of Neurology Practice Guidelines Subcommittee, American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM) Neuromuscular Update Committee, Supervisor: Examination Committee: American Board of Electrodiagnostic Medicine (ABEM), member: FDA Office of Orphan Products Development (OOPD) Grant Review Panel, Reviewer: *Journal of Clinical Neuromuscular Disease, Journal of Clinical Neurophysiology, Muscle and Nerve Journal, Touch Medical Media, Touch NEURO Journal.*

Steve M. Cordina: Member: Alabama Office of Emergency Medical Services Statewide Trauma and Health Systems Advisory Council Stroke Workgroup, American Academy of Neurology, American Heart Association, American Society of Neuroimaging, American Stroke Association, Medical Association of Malta, Neurocritical Care Society, Society of Neurointerventional Surgery, Board Member at Large: Society of Vascular and Interventional Neurology Board of Directors, Member: Society of Vascular and Interventional Neurology Stroke Life Support – Basic and Advanced Educational Initiative.

Oliver Darbin: Member: Editorial Board *Advances in Neuroscience*, Editorial Board *BioMed Research International*, Reviewer: *Brain Research, Experimental Neurology, International Journal of Neural Systems Clinical Neurophysiology, The Journal of Neuroscience*; Visiting Researcher: National Institute for Physiological Science.

Daniel Dees: Member: American Academy of Neurology, American Neurologic Association, International Parkinson's and Movement Disorder Society, Southern Pediatric Neurology Society.

Paul Maertens: Member: American Academy of Neurology, American Society of Neuroimaging Examination Committee, American Society of Neuroimaging Program Committee, *Journal of Neuroimaging* Editorial Board, Southern Pediatric Neurology Society.

Elizabeth Minto: Member: American Academy of Neurology, Medical Association of the State of Alabama: College of Counselors; Council for Medical Service; Membership Committee, Immediate Past-President: Medical Society of Mobile County, Southern Clinical Neurological Society.

Dean K. Naritoku: Fellow: American Academy of Neurology, Board Member: American Board of Clinical Pharmacology, Member: American Epilepsy Society, American Neurological Association, American Society for Clinical Pharmacology and Therapeutics, Mentor: American University Professors of Neurology 2017 Chair Mentoring Program, Member: Best Doctors in America, Board Member: J. Kiffin Penry Mini-Fellowship Program, President and Board Member: Southern Epilepsy and EEG Society; Member: Top Doctors in America

Juan G. Ochoa: Member: American Academy of Neurology, AAN Consortium of Neurology Program Directors, American Clinical Neurophysiology Society, Annual Course Committee member: American Epilepsy Society, Member: Southern Epilepsy and EEG Society.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The Department of Neurology continues its expansion of comprehensive services, including stroke, interventional neurology, epilepsy and epilepsy surgery, multiple sclerosis and neuroimmunologic disorders, muscle disease and movement disorders. Of note, the deep brain stimulation program for Parkinson disease and essential tremor was launched. We have had regular implantations performed and detailed neurophysiology with research protocols is also being performed. The department faculty has achieved two notable board certifications in epilepsy by Drs. Naritoku and Ochoa; this is a new certification in the area and recognizes expertise in epilepsy management. A new pediatric epilepsy program was implemented to extend comprehensive epilepsy care to pediatric population. For the second year in a row, USA Stroke Center has received the American Heart Association Gold Plus: target Stroke Honor Role Elite Plus Quality Achievement award. Dr. Minto was named 2016 MS Leadership Class valedictorian by the Alabama Mississippi Chapter of the National Multiple Sclerosis Society.

The Department of Neurology anticipates expansion of faculty in areas of neuroimmunology, interventional neurology, neuromuscular disease and pediatric epilepsy and has been actively recruiting in this area. The department will play a major role in the development of a comprehensive neuroscience center, which has been designated a center of excellence for the University of South Alabama.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Neurosurgery**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Ochoa JG, Rusyniak WG. Description of ictal HFO mapping in patients with both temporal and extratemporal seizure focus. *Neurol Res Int*. 2016;2016:5380907

Ochoa JG, Hentgarden D, Paulzak A, Ogden M, Pryson R, Lamle M, Rusyniak WG. Subtle pathological changes in neocortical temporal lobe epilepsy. *Epilepsy Behav*. 2017 June; 71 (Pt A):17-22.

Richardson BA, Rusyniak AM, Rusyniak WG Jr, Rodning CB. Neuroanatomical interpretation of the painting *Starry Night* by Vincent van Gogh. *Neurosurgery*. 2017 Sept 1;81(3):389-96.

**II. PUBLISHED ABSTRACTS**

Martino A, Marass A, Wilstrup. Concussion awareness program in high school football players and coaches. 69<sup>th</sup> Annual American Academy of Neurology Annual Meeting; 2017 April 22-28; Boston, MA. Abstract no. 211.

Martino A, Marass A, Wilstrup. Concussion awareness program in high school football players and coaches. American Academy of Neurology 2017 Sports Concussion Conference; 2017 July 14-16; Jacksonville Fla.

**III. PUBLISHED BOOKS**

**IV. INVITED PRESENTATIONS**

**V. NATIONAL PROFESSIONAL RECOGNITION**

**VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

This year our efforts are directed at maintaining the clinical practice and growing it, in anticipation for our new partner arriving next year. We are also expanding the epilepsy program to include Pediatrics and hope to get this off the ground. The DBS program is currently looking at expanding as well to encompass psychiatric pathologies i.e. obsessive compulsive disorder.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Obstetrics and Gynecology**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Brocato B, Lewis DF. Obstetric complications after in vitro fertilization. In: Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017. Chapter 64, p. 162-3.

Ellington JE, Rizk B, Criso S. Antenatal perineal massage improves women's experience of childbirth and postpartum recovery: a review to facilitate provider and patient education on the technique. J Womens Health Issues Care. 2017 Apr 29;6(2):1000266. Available from: <https://www.scitechnol.com/peer-review/antenatal-perineal-massage-improves-womens-experience-of-childbirth-and-postpartum-recovery-a-review-to-facilitate-provider-and-pa-o5ip.pdf>

Holliday CP, Paladugu R, Rizk B. Hysteroscopic myomectomy – impact of size of submucous myoma and MyoSure. In: Shawki O, Deshmukh S, Pacheco LA, editors. Mastering the techniques in hysteroscopy. New Delhi: Jaypee Brothers Medical Publishers; 2017. Chapter 32, p. 339-48.

Holliday N, Baker S. Intrasphincteric botulinum toxin injections to treat achalasia diagnosed in 615 pregnancy: a case report. J Reprod Med. 2016 Dec;61(6):615-7.

Jackson D, Brocato B, Lewis D. Obstetric complications of twin pregnancy following assisted reproductive technology. In: Rizk B, Gerris J, editors. Complications and outcomes of assisted reproduction. Cambridge, United Kingdom: Cambridge University Press; 2017. Chapter 6, p. 54-65.

Lewis DF, Brocato B. Twins pregnancy after ART. In: Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017. Chapter 65, p. 164-5.

Lotfy H, Bassily A, Mann L, Rizk B. Robotic assisted laparoscopic myomectomy. In: Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017. Chapter 46, p. 116-7.

Lotfy H, Turki R, Rizk B. Robotic assisted tubal anastomosis after tubal sterilization. In: Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017. Chapter 47, p. 118-9.

Mikhail MA, Antonious D, Holliday CP, Rizk B. Ovarian hyperstimulation syndrome. In: Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017. Chapter 58, p. 144-5.



Mikhail MA, Holliday CP, Rizk B. Adenomyosis: imaging and treatment. In: Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017. Chapter 69, p. 172-3.

Mikhail MA, Lively M, Holliday CP, Rizk B. Three-dimensional ultrasound and the diagnosis of uterine anomalies. In: Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017. Chapter 32, p. 80-1.

Mikhail MA, Salem W, Rizk B. Microdose GnRH agonist flare protocol. In: Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017. Chapter 55, p. 138-9.

Rizk B. Classification and pathophysiology of ovarian hyperstimulation syndrome. In: Rizk B, Gerris J, editors. Complications and outcomes of assisted reproduction. Cambridge, United Kingdom: Cambridge University Press; 2017. Chapter 11, p. 108-13.

Rizk B, Ahmad S, Turki R, Abuzenadah A. Genetics of ovarian hyperstimulation syndrome. In: Rizk B, Gerris J, editors. Complications and outcomes of assisted reproduction. Cambridge, United Kingdom: Cambridge University Press; 2017. Chapter 12, p. 114-23.

Rizk B, Holliday CP, Albasha SE, Antonious D. Treatment of ovarian hyperstimulation syndrome. In: Rizk B, Gerris J, editors. Complications and outcomes of assisted reproduction. Cambridge, United Kingdom: Cambridge University Press; 2017. Chapter 14, p. 141-8.

Salem W, Abu Zinadah OAH, Ekladios J, Rizk B. Tubal cannulation for proximal tubal disease. In: Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017. Chapter 45, p. 114-5.

## **II. PUBLISHED ABSTRACTS**

Rizk B. MyoSure reach tissue removal device for hysteroscopic myomectomy and adhesiolysis. J Minim Invasive Gynecol. 2016 Nov-Dec;23(7 Suppl):5158. Abstract no. 530.

## **III. PUBLISHED BOOKS**

Rizk B, Montag M, editors. Standard operational procedures in reproductive medicine: laboratory and clinical practice. Boca Raton, FL: CRC Press; 2017, 180 p.

Rizk B, Gerris J, editors. Complications and outcomes of assisted reproduction. Cambridge, United Kingdom: Cambridge University Press; 2017, 217 p.

#### IV. INVITED PRESENTATIONS

Baker S. Invited speaker. Multiple gestation pregnancy - a roadmap for management. The 26th University of South Alabama Obstetrics and Gynecology Conference; 2017 Apr 20; Daphne, AL.

Brocato B. Invited speaker. Tips for optimal obstetric ultrasonography and how to avoid common pitfalls. The 26th University of South Alabama Obstetrics and Gynecology Conference; 2017 Apr 21; Daphne, AL.

Holliday N. Invited speaker. A generalist's approach to the birth plan patient. The 26th University of South Alabama Obstetrics and Gynecology Conference; 2017 Apr 21; Daphne, AL.

Rizk B. Invited speaker. Ovarian hyperstimulation syndrome: prevention. 23rd Annual Scientific Meeting of the Middle East Fertility Society; 2016 Nov 5; Sharm El Sheikh, Egypt.

Rizk B. Invited speaker. Hysteroscopic surgery and ART outcome. 23rd Annual Scientific Meeting of the Middle East Fertility Society; 2016 Nov 4; Sharm El Sheikh, Egypt.

Rizk B. Invited speaker. How would uterine anomalies influence ART outcome? 23rd Annual Scientific Meeting of the Middle East Fertility Society; 2016 Nov 5; Sharm El Sheikh, Egypt.

Rizk B. Invited speaker. Ovulation induction protocols for ART: an evidence-based analysis and an academic view point. 2nd International Scientific Conference and Workshop on Advances in the Management of Infertility; 2016 Dec 22; Hurghada, Egypt.

Rizk B. Invited speaker. PCOS and female infertility. 2nd International Scientific Conference and Workshop on Advances in the Management of Infertility; 2016 Dec 23; Hurghada, Egypt.

Rizk B. Invited speaker. Fertility preservation and family choices. The 26th University of South Alabama Obstetrics and Gynecology Conference; 2017 Apr 20; Daphne, AL.

Scalici J. Invited speaker. HPV vaccine – a review and update. The 26th University of South Alabama Obstetrics and Gynecology Conference; 2017 Apr 21; Daphne, AL.

Varner S, Bradley K, Abdul-Rahim O. Invited speakers. Pelvic congestion syndrome. The 26th University of South Alabama Obstetrics and Gynecology Conference; 2017 Apr 21; Daphne, AL.

## V. NATIONAL PROFESSIONAL RECOGNITION

Botros Rizk: President of the Middle East Fertility Society, International Vice President of the Egyptian Society for Reproductive Medicine, Distinguished Adjunct Professor at King Abdulaziz University Jeddah, Kingdom of Saudi Arabia; Chairman of Post Graduate Course at the American Society of Reproductive Medicine, Chairman of scientific session at the 23rd Annual Scientific Meeting of the Middle East Fertility Society, Chairman at the 2nd International Scientific Conference and Workshop on “Advances in the management of infertility,” Session 2 and Moderator for Session 9; Member of the Scientific Advisory Committee of the Mediterranean Society for Reproductive Medicine. Journal Reviewer, Reproductive Biomedicine Online, Human Reproduction, Fertility and Sterility, Molecular Human Reproduction, Middle East Fertility Society, American Journal of Obstetrics and Gynecology, Egyptian Fertility Society.

## VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Rizk B, published two textbooks *Standard operational procedures in reproductive medicine: laboratory and clinical practice* and *Complications and outcomes of assisted reproduction*. Solidified the efforts initiated ten years ago by establishing a fellowship in reproductive medicine and continuing to develop it internationally and nationally. Focus the research projects of the fellows on a single topic and add the data of former fellows to the current ones. Develop state of the art of hysteroscopy.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Orthopaedic Surgery**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Bajwa N, Pearsall A. Physical exam of the shoulder. In: Eltoai AEM, Ebersson CP, Daniels AH, editors. Orthopedic surgery clerkship: a quick reference guide for senior medical students. Cham, Switzerland: Springer International Publishing; 2017. Chapter 7, p. 39-42.

Gillig J, Pearsall A. Meniscal tear. In: Eltoai AEM, Ebersson CP, Daniels AH, editors. Orthopedic surgery clerkship: a quick reference guide for senior medical students. Cham, Switzerland: Springer International Publishing; 2017. Chapter 67, p. 305-8.

Johnson A, Pearsall A. Proximal humerus fractures. In: Eltoai AEM, Ebersson CP, Daniels AH, editors. Orthopedic surgery clerkship: a quick reference guide for senior medical students. Cham, Switzerland: Springer International Publishing; 2017. Chapter 11, p. 55-60.

Kim DC, Pearsall A. Clavicle fractures. In: Eltoai AEM, Ebersson CP, Daniels AH, editors. Orthopedic surgery clerkship: a quick reference guide for senior medical students. Cham, Switzerland: Springer International Publishing; 2017. Chapter 12, p. 61-4.

Kim DC, Pearsall A. Rotator cuff pathology. In: Eltoai AEM, Ebersson CP, Daniels AH, editors. Orthopedic surgery clerkship: a quick reference guide for senior medical students. Cham, Switzerland: Springer International Publishing; 2017. Chapter 8, p. 43-6.

Scott B, Taylor B, Shung JR, Nimityongskul P. Bilateral femoral neck fractures associated with complex pelvic ring injuries in a pediatric patient: a case report. J Pediatr Orthop B. 2017 Jul;26(4):350-7.

White S, Pearsall A. Acromioclavicular joint separation. In: Eltoai AEM, Ebersson CP, Daniels AH, editors. Orthopedic surgery clerkship: a quick reference guide for senior medical students. Cham, Switzerland: Springer International Publishing; 2017. Chapter 13, p. 65-8.

White S, Stopka S, Nimityongskul P, Jorgensen D. Transgluteal approach for drainage of obturator internus abscess in pediatric patients. J Pediatr Orthop. 2017 Jan;37(1):e62-6.

**II. PUBLISHED ABSTRACTS**

Jones CM, Beason DP, Dugas JR. Comparison of cyclic fatigue mechanics between UCL repair with internal bracing and UCL reconstruction. American Orthopaedic Society for Sports Medicine Annual Meeting 2017; 2017 Jul 20-23; Toronto, ON, Canada. Abstract no. 110.

McDonnell A, Pearsall A. The diagnosis of native and periprosthetic joint infection using leukocyte esterase. Alabama & Mississippi Orthopaedic Societies 2017 Annual Meeting; 2017 May 4-6; Birmingham, AL. p. 25. Abstract no. 5.

Pearce S, Cutchen W, Honeycutt W, Nimityongskul P. Predicting remodeling in pediatric distal forearm fractures: does Friberg's equation really work? 13<sup>th</sup> Annual International Pediatric Orthopaedic Symposium (IPOS). 2016 December 6-10; Orlando, FL.

Pearce SS, Nimityongskul P, Honeycutt MW, Cutchen WA, Tillman M. Predicting pediatric distal forearm fracture remodeling: does Friberg's equation really work? Alabama & Mississippi Orthopaedic Societies 2017 Annual Meeting; 2017 May 4-6; Birmingham, AL. p. 37. Abstract no. 17.

Smith PJ, Pearsall A. The effect of cryopreservation and thawing upon platelet rich plasma growth factors: clinical implications. Orthopaedic Summit 2016: Evolving Techniques; 2016 Dec 7-10; Las Vegas, NV. p. 28. Abstract no. 11.

### **III. PUBLISHED BOOKS**

### **IV. INVITED PRESENTATIONS**

Jones CM. Invited speaker. In-season management of foot and ankle injuries in athletes: case examples. 28<sup>th</sup> Annual Southeastern Orthopaedic Foot Club Meeting; 2017 May 4; Birmingham, AL.

Xing Z. Invited speaker. Bone metastasis from breast cancer. Association of periOperative Registered Nurses Mobile Annual Meeting; 2016 Oct 1; Mobile, AL.

### **V. NATIONAL PROFESSIONAL RECOGNITION**

Christopher M. Jones, Beason DP, Dugas JR. Comparison of cyclic fatigue mechanics between UCL repair with internal bracing and UCL reconstruction. American Sport Medicine Fellowship Society 2016 Research Award Winner. Awarded July 2016.

Albert W. Pearsall: 2008-present Council Member, Tissue Advisory Council, LifeLink Foundation, Inc.; 2006-present Member, Surgical Services Division Committee, Mobile Infirmary Medical Center; 2003-present Publications committee, American Orthopaedic Society of Sports Medicine; Moderator, Shoulder Breakout Session, Mid-American Orthopaedic Association Annual Meeting, 2017 Apr 19-23, Amelia Island, FL.

Mark Perry: Chairman, 28<sup>th</sup> Annual Southeastern Orthopaedic Foot Club. 2017 May 4; Birmingham, AL; Editor, The foot eBook for medical students by the Codman Group, a not-for-profit working with the US Bone and Joint Initiative published by <https://forntlinehand.pressbooks.com/www.footEducation.com>.

Zhiqing Xing: Course instructor, AOTrauma Course – Basic Principles of Fracture Management, 2016 Sep 14-18, Orlando, FL; AO Faculty; Membership in AO Trauma North America; Membership in AAOS.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

Since the passing of Dr. Angus McBryde in October 2016, Dr. Marymont who also is the Dean of the COM and Vice President of Medical Affairs has served as our Interim Chairman until the present time.

Dr. Chris Jones joined us in August of 2016 has been very active and rapidly established his practice and has had outstanding productivity.

Since the passing of Dr. Frederick Meyer in November 2014, Dr. Jared Burkett has been helping us in the hand surgery section on a half-time faculty basis. We are thankful for his contribution.

Dr. Pat Daughtery maintained his orthopaedic office practice in our department and this has lessened the load and waiting time for unattached patients.

Dr. Jim West has decided to return to full-time practice and no longer holds a clinic with our department. However, he continues to educate our residents and allows the residents to scrub and learn spine surgery from his private practice. The department appreciates his effort and time.

Dr. Jeff Brewer has taken his oral board exam and is now a board certified diplomate of the American Board of Orthopaedic Surgery. The trauma section of our department is sound and highly regarded under the leadership of Dr. Jeff Brewer. Dr. Brewer's 6 a.m. trauma conference seems to have a significant impact on stimulating the residents to study and prepare for the in-training and board exam.

The Andrews Sports Medicine rotation is very popular with the residents and is ongoing.

Our three residents who graduated in June 2017 all went into fellowship training. Dr. Jess Mullens is doing a Foot and Ankle fellowship in Vail, CO; Dr. Brandon Scott took a Trauma fellowship at the University of Kentucky; Dr. Stephen White is in Charlotte, NC for a Foot and Ankle fellowship.

The results of our latest Board exam, 2 out of 3 graduating residents in 2016 passed the written exam of the American Board of Orthopaedic Surgery while one has to take it again this year. The oral board exam for the graduating residents for 2016 has a 100% passing rate.

The results of our last in-training exam is the same as the year before. Although the average score is somewhat lower than we anticipate, the PGY-5 did very well and scored in the upper one-third percentile of the Nation. We are striving to improve our in-training

orthopedic scores with the use of ortho bullet milestone exams and our revamped didactic lectures and curriculum with a substantial faculty presentations given on a weekly basis, this should reflect a substantial improvement in our in-training performance in the coming years.

The department now requires all of our resident PGY 2-5 to engage in an active research project and we anticipate them to present their research results at the local, regional, state or national level. Several residents have two to three ongoing research projects.

On a very high note, Dr. Richard Marks from Wisconsin has just accepted the full-time position of Professor and Chair of the Department of Orthopaedic Surgery effective November 1, 2017. Dr. Marks practices Foot and Ankle specialty and will bring with him lots of experience. We are anticipating a very fruitful leadership under his guidance.

Dr. Marymont continued to be our Interim Chair for the past year. Despite his enormous workload and commitment at all levels in our health care system, Dr. Marymont along with Dr. Tony Martino and the Search Committee, put in a great deal of effort to make this chair recruitment a success.

Beginning January of this year, we have now moved the department offices and all patient care and clinics to the new Strada Patient Care Center which is a positive in terms of location because it is only 1.5 miles from USA Medical Center and walking distance from Children's and Women's Hospital which greatly improves and facilitates our activities, patient care and surgery in practically one location.

The productivity and performance of other faculties in our department Dr. Albert Pearsall, Dr. Mark Perry, Dr. Zhiqing Xing and Dr. Prasit Nimityongskul continue to be very satisfactory.

The six weeks anatomic dissection and surgical approaches review in July and August of each academic year is unique in our residency program. It has been extremely helpful for the junior residents to refresh their anatomy knowledge. We thank the Anatomical Gifts Program for providing us this great "teacher/cadaver" every year.

Our Residency Program Coordinator, Rhonda Smith, has been a great help for our Residency Training Program. She puts things in proper order both from the academic and accreditation standpoints.

The department is still fully accredited by RRC. The next review is scheduled for 2025.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Pathology**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Ahmad A, Azim S, Zubair H, Khan MA, Singh S, Carter JE, Rocconi RP, Singh AP. Epigenetic basis of cancer health disparities: looking beyond genetic differences. *Biochim Biophys Acta*. 2017 Aug;1868(1):16-28.

Averett C, Bhardwaj A, Arora S, Srivastava SK, Khan MA, Ahmad A, Singh S, Carter JE, Khushman M, Singh AP. Honokiol suppresses pancreatic tumor growth, metastasis and desmoplasia by interfering with tumor-stromal cross-talk. *Carcinogenesis*. 2016 Nov 1;37(11):1052-61.

Bhardwaj A, Srivastava SK, Khan MA, Prajapati VK, Singh S, Carter JE, Singh AP. Racial disparities in prostate cancer: a molecular perspective. *Front Biosci (Landmark Ed)*. 2017 Jan 1;22:772-82.

Deshmukh SK, Srivastava SK, Tyagi N, Ahmad A, Singh AP, Ghadhban AAL, Dyess DL, Carter JE, Dugger K, Singh S. Emerging evidence for the role of differential tumor microenvironment in breast cancer racial disparity: a closer look at the surroundings. *Carcinogenesis*. 2017 Aug 1;38(8):757-65.

Deshmukh SK, Srivastava SK, Zubair H, Bhardwaj A, Tyagi N, Al-Ghadhban A, Singh AP, Dyess DL, Carter JE, Singh S. Resistin potentiates chemoresistance and stemness of breast cancer cells: implications for racially disparate therapeutic outcomes. *Cancer Lett*. 2017 Jun;396:21-9.

Khushman M, Bhardwaj A, Patel GK, Laurini JA, Roveda K, Tan MC, Patton MC, Singh S, Taylor W, Singh AP. Exosomal markers (CD63 and CD9) expression pattern using immunohistochemistry in resected malignant and nonmalignant pancreatic specimens. *Pancreas*. 2017 Jul;46(6):782-8.

Leavesley SJ, Walters M, Lopez C, Baker T, Favreau PF, Rich TC, Rider PF, Boudreaux CW. Hyperspectral imaging fluorescence excitation scanning for colon cancer detection. *J Biomed Opt*. 2016 Oct 1;21(10):104003.

Shi PA, Choi E, Chintagari NR, Nguyen J, Guo X, Yazdanbakhsh K, Mohandas N, Alayash AI, Manci EA, Belcher JD, Vercellotti GM. Sustained treatment of sickle cell mice with haptoglobin increases HO-1 and H-ferritin expression and decreases iron deposition in the kidney without improvement in kidney function. *Br J Haematol*. 2016 Nov;175(4):714-23.

Tyagi N, Srivastava SK, Arora S, Omar Y, Ijaz ZM, Al-Ghadhban A, Deshmukh SK, Carter JE, Singh AP, Singh S. Comparative analysis of the relative potential of silver, zinc-



oxide and titanium-dioxide nanoparticles against UVB-induced DNA damage for the prevention of skin carcinogenesis. *Cancer Lett.* 2016 Dec;383(1):53-61.

Zubair H, Azim S, Srivastava SK, Ahmad A, Bhardwaj A, Khan MA, Patel GK, Arora S, Carter JE, Singh S, Singh AP. Glucose metabolism reprogrammed by overexpression of IKKε promotes pancreatic tumor growth. *Cancer Res.* 2016 Dec;76(24):7254-64.

## **II. PUBLISHED ABSTRACTS**

Case B, Khushman M, Bhardwaj A, Patel G, Laurini J, Roveda K, Donnell R, Sherling K, Tan M, Thompson L, Nelson C, Wyatt M, Singh S, Taylor W, Singh A. The relationship between metastatic status and exosomal marker (CD63) expression using immunohistochemistry (IHC) in patients with pancreatic ductal adenocarcinoma (PDAC). *Ann Oncology.* 2017 Jun; 28(Suppl 3):P-203.

Maldonado L, Das A, Kahn AG, Howell D. Immunotactoid glomerulopathy in a patient with hepatitis C viral infection. *Ultrastruct Pathol.* 2017 Jan-Feb;41(1):98-99.

Haque M, Polski J. Immunohistochemistry in lymphomas with crush artifacts. *Lab Invest.* 2017 Feb;97(S1):529A. Abstract no. 2127.

Erwin M, Turner E, Newsom J, Baskovich B, Yazdani SK. Pathology of below-the-knee artery disease. *New Cardiovascular Horizons 18th Annual Conference*; 2017 May 31-Jun 2; Lafayette, LA. p. 21. Abstract no.14.

Khushman M, Bhardwaj A, Patel GK, Laurini J, Roveda K, Donnell R, Sherling K, Case B, Tan MCB, Thompson LW, Nelson C, Wyatt M, Singh S, Taylor WR, Singh A. The prognostic significance of exosomal marker (CD63) expression using immunohistochemistry (ICH) in patients with pancreatic ductal adenocarcinoma (PDAC). 2017 American Society of Clinical Oncology Annual Meeting; 2017 June 2-6; Chicago, IL. Abstract no. e15730. Available from: <http://meetinglibrary.asco.org/record/152992/abstract>

## **III. PUBLISHED BOOKS**

## **IV. INVITED PRESENTATIONS**

Baskovich B. Invited speaker. Her2 testing in breast and gastric cancers. *Tri-State Pathology Conference*; 2017 Apr 29; New Orleans, LA.

Baskovich B. Invited speaker. Molecular changes in genitourinary tumors. *Tri-State Pathology Conference*; 2017 Apr 30; New Orleans, LA.

## **V. NATIONAL PROFESSIONAL RECOGNITION**

Gary Carnahan: Inspector, College of American Pathologists

Andrea G. Kahn: Secretary-Treasurer, Executive Board, Alabama Association of Pathologists; Expert peer reviewer, PLoS ONE; Expert panel member, Quantitative Image Analysis guideline development, College of American Pathologists Pathology and Laboratory Quality Center; Member, Leadership Development & Diversity Committee, Association of Pathology Chairs: Panelist, Breast Specialty Conference, 106th Annual USCAP meeting

Javier Laurini: Member, Cancer Committee, College of American Pathologists

Elizabeth Mancini: Counselor, Medical Association of the State of Alabama, District One; Director, Centralized Pathology Unit for Study of Sickle Cell disease; Director, Alabama Placenta Registry

Kelly Roveda: Councilor, Alpha Omega Alpha Honor Society, Beta Chapter

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

During the month of October, 2016, the Cytopathology and Molecular Diagnostic Laboratories converted to the ThinPrep Pap Test with the addition of an automated screening step and expanded molecular testing options including HPV genotyping and molecular testing for Trichomonas. The process was completed under the supervision of Dr. Carole Boudreaux and Dr. Brett Baskovich. The Department of Pathology successfully relocated the administrative core of the department to the Moorer Building on the USAMC Campus in February, 2017. This newly renovated space includes offices for the pathology faculty and administrative staff, a conference room, and a resident suite that includes cubicles for residents and rotating medical students, a resident computer room and a resident sign out area equipped with multiheaded microscopes. In addition, a redesigned pathology library is located in the renovated space with audiovisual capabilities. The renovation of the Surgical Pathology Gross Room, overseen by Dr. Javier Laurini, was completed in July, 2017. This renovated space includes the addition of two state-of-the-art grossing stations that will help streamline the handling of the growing institutional surgical pathology specimen volume. The gross room renovation design specifically addressed the need for updated grossing capabilities, as well as specimen processing needs, specimen storage, and digital photography options to accommodate the current surgical pathology volume and allow for future outreach efforts. The Anatomic Pathology Laboratory upgraded its image analysis capabilities with a newer generation instrument that also has a slide scanning function. The instrument will be used not only for patient care related activities such as breast biomarker analysis, but also educational activities such as medical student instruction and multidisciplinary tumor boards. The project was supervised by Dr. Brett Baskovich and Dr. Andrea Kahn. Dr. Gary Carnahan and Dr. Elliot Carter supervised the implementation of the in-house nested PCR testing for infectious agents using FilmArray BioFire Molecular Diagnosis Instrumentation. Dr. Javier Laurini has been involved for the past 2 years in the implementation of the PathNET laboratory information system portion of the institutional migration to Cerner Millennium.

Four residents completed the residency program this year. Dr. Erin Carlquist has entered a dermatopathology fellowship at ProPath in Dallas, Texas. Dr. Valeria Dal Zotto has begun a surgical pathology fellowship at Mayo Clinic in Rochester, Minnesota, to be followed by a pediatric pathology fellowship at Ann and Robert Lurie Children's Hospital in Chicago, Illinois. Dr. Sounick Haldar, who elected to pursue a role as a primary care provider, has joined the primary care practice at Franklin Primary Health Center, Mobile, Alabama. Dr. Katrina Van Pelt has started a forensic pathology fellowship at West Tennessee Forensic Regional Center in Memphis, Tennessee.

The department enjoyed another extremely successful residency recruiting year with four new residents joining the department: Dr. Shalla Akbar from Rawalpindi Medical College, Pakistan, Dr. Sandhya Dasaraju from Government Medical College, India, Dr. Roshanak Derakhshandeh from Iran University of Medical Sciences, Iran, and Dr. Saadia Haleema from Khyber Medical College, Pakistan.

The Department of Pathology has developed a redesigned gross and microscopic learning activity for medical students. The activity, led by Dr. Brett Baskovich and Dr. Andrea Kahn, which includes digital technology and small group learning, will continue to be implemented in most of the systems-based learning modules during the first and second years of the College of Medicine curriculum. The first educational session was very well received by the students. The Pathology Medicine Interest group, coordinated by Dr. Kelly Roveda with pathology resident participation, continues to engage medical students in activities that promote the field of pathology.

Departmental research efforts have resulted in 10 scholarly peer-reviewed journal articles and 5 published abstracts. Two faculty members participated in funded grants across a spectrum of investigatory topics. Dr. Baskovich was an invited speaker at the Tri-State Pathology Conference and Dr. Kahn was invited to present as a panelist at the United States and Canadian Academy of Pathology annual meeting.

Dr. Elliot Carter and Dr. Andrea Kahn continue to serve as Interim Co-chairs of the department. Dr. Andrea Kahn continues to serve as Residency Program Director and Dr. Carole Boudreaux as Associate Program Director. Dr. Carole Boudreaux in her role as chair of the CCC and PEC led the program's ACGME Self-study which was completed in April, 2017. She also coordinated the program's participation in the voluntary ACGME Self-study Pilot Visit conducted in July, 2017. Dr. Kelly Roveda was selected as a recipient of the Red Sash award by the 2017 USA College of Medicine graduating class. The pathology residents selected Dr. Brett Baskovich as the 2017 Faculty Recognition Award recipient and Kathy Cannon, Pathology Residency Program Specialist, was chosen as the recipient of the 2017 Pathology Staff Recognition Award.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Pediatrics**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Ataga KI, Kutlar A, Kanter J, Liles D, Cancado R, Friedrisch J, Guthrie TH, Knight-Madden J, Alvarez OA, Gordeuk VR, Gualandro S, Colella MP, Smith WR, Rollins SA, Stocker JW, Rother RP, NCT01895361 SUSTAIN Study Investigators (Wilson F, collaborator). Crizanlizumab for the prevention of pain crises in sickle cell disease. *N Engl J Med*. 2017 Feb 2;376(5):429-39.

Bhat R, Kelleher J, Ambalavanan N, Chatburn RL, Mireles-Cabodevila E, Carlo WA. Feasibility of mid-frequency ventilation among infants with respiratory distress syndrome. *Respir Care*. 2017 Apr;62(4):481-8.

Dowd K, Mohiuddin S, Meller J, Tonk V, Turner CW. Acute myelogenous leukemia. *Consultant for Pediatricians*. 2016 Dec;15(12):624-5.

First LR, Gremse DA, St. Geme JW 3rd. Maintenance of certification—a prescription for improved child health. *JAMA Pediatr*. 2017 Apr 1;171(4):317-9.

Hall HR, Fruh S, Zlomke K, Swingle H. A qualitative analysis of the experiences of minority parents of children with autism spectrum disorder. *Adv Neurodev Disord*. 2017 Jun;1(2):79-88.

Klages KL, Berlin KS, Silverman AH, Mugie S, Di Lorenzo C, Nurko S, Ponnambalam A, Sanghavi R, Sood MR. Empirically derived patterns of pain, stooling, and incontinence and their relations to health-related quality of life among youth with chronic constipation. *J Pediatr Psychol*. 2017 Apr 1;42(3):325-34.

Klinger AP, Zayek MM. RE: Dry care versus antiseptics for umbilical cord care: a cluster randomized trial [letter]. *Pediatrics* [Internet]. 2017 Apr 29 [cited 2017 Sep 6]. Available from: <http://pediatrics.aappublications.org/content/139/1/e20161857.comments>

Li ST, Tancredi DJ, Schwartz A, Guillot AP, Burke AE, Trimm RF, Guralnick S, Mahan JD, Gifford KA, Association of Pediatric Program Directors (APPD) Longitudinal Educational Assessment Research Network (LEARN) Validity of Resident Self-Assessment Group. Competent for unsupervised practice: use of pediatric residency training milestones to assess readiness. *Acad Med*. 2017 Mar;92(3):385-93.

Spector ND, Trimm RF. Promoting professionalism: an overview for medical educators. In: Spector ND, Trimm RF, editors. *Teaching, promoting and assessing professionalism across the continuum: a medical educator's guide*. 2<sup>nd</sup> ed [Internet]. Chapel Hill, NC: The American Board of Pediatrics and the Association of Pediatric Program Directors; 2017.

Chapter 1. [cited 2017 Sep 20] Available from: <https://www.abp.org/sites/abp/files/pdf/professionalism.pdf>

## II. PUBLISHED ABSTRACTS

Aygun B, Mortier N, Rogers ZR, Owen W, Fuh B, George A, Kalfa TA, Kwiatkowski J, Lee M, Imran H, Miller ST, Wood JC, Cohen AR, Pressel SL, Ware RE. Iron unloading by therapeutic phlebotomy in previously transfused children with sickle cell anemia: the TWiTCH experience. *Blood*. 2016 Dec 2;128(22):1018.

Bhat J, Gulati R, Jha O, Bhat R, Peevy K, Zayek M. Quality improvement initiative to reduce sepsis evaluation and antibiotic utilization rates in healthy newborn infants. *J Investig Med*. 2017 Feb;65(2):455. Abstract no. 150.

Bhat J, Jha O. Paroxysmal episodes of generalized dystonia manifesting with recurrent episodes of severe apnea in a newborn infant with underlying neurological injury. *J Investig Med*. 2017 Feb;65(2):510. Abstract no. 286.

Bhat J, Maertens P, Martinez J. Novel manifestation of 16p11.2 microdeletion syndrome with atypical cyanotic breath holding spells in infancy. *J Investig Med*. 2017 Feb;65(2):509. Abstract no. 285.

Bhat R, Custodio H, McCurley C, Gulati R, Jha O, Bhat J, Estrada B, Ehlers S, Hill A, Eyal F, Zayek M, Whitehurst R. Guidance algorithm for management of suspected sepsis to decrease antibiotic utilization rate in preterm infants: a quality improvement project. The Eastern Society for Pediatric Research Meeting; 2017 Mar 24-26; Philadelphia, PA.

Bhat R, Custodio H, McCurley C, Gulati R, Jha O, Bhat J, Estrada B, Hill A, Eyal F, Zayek M, Whitehurst RM. Guidance algorithm for management of suspected sepsis to decrease antibiotic utilization rate in preterm infants: a quality improvement project. Pediatric Academic Societies Meeting; 2017 May 6-9; San Francisco, CA. Abstract no. 2707934.

Blatt D, Hedrick R, Estrada B, Custodio H. Seasonal variability of pediatric *Staphylococcus aureus* skin, soft tissue and bone infection. Southern Society for Pediatric Research Annual Meeting; 2017 Feb 11-13; New Orleans, LA. p. 108 Abstract no. 606.

Carpenter M, Willen BL, Merritt B. Intermittent maple syrup urine disease masquerading as new onset diabetes in the pediatric intensive care unit. *J Investig Med*. 2017 Feb;65(2):511. Abstract no. 289.

Chatmethakul T, Hidalgo N, Sanchez O. Corticosteroid adjunctive therapy in Guillain Barre Syndrome, a case report. *J Investig Med*. 2017 Feb;65(2):511. Abstract no. 290.

Chatmethakul T, Suntratonpipat S, Pirunnet T, Connelly R. Idiopathic ventricular tachycardia in term newborn. *J Investig Med*. 2017 Feb;65(2):512. Abstract no. 291.

Custodio H, McCurley C, Gulati R, Jha O, Whitehurst R, Zayek MM, Peevy K, Estrada B, Eyal FG, Ehlers S, Hill A, Kelly E, Bhat R. Engaging staff members to be antibiotic stewards in the NICU. 2017 Quality and Safety in Children's Health Conference; 2017 Mar 19-24; Orlando, FL. Abstract no. 21.

Gulati R, Bhat R, Eyal F, Zayek M. Comparison of electrocardiogram with pulse oximeter in neonatal resuscitation using a novel method of application of ECG electrodes. Pediatric Academic Societies Meeting; 2017 May 6-9; San Francisco, CA. Abstract no. 2698230.

Gulati R, Sabapathy A, Eyal F, Zayek M. Predicting 18 month mental impairment in extreme low birth weight infants at the time of discharge. Pediatric Academic Societies Meeting; 2017 May 6-9; San Francisco, CA. Abstract no. 2667767.

Jarasvaraparn C, Crissinger K, Rojas Gallegos MB. The endoscopic and histologic findings of infants who have experienced brief resolved unexplained events. J Investig Med. 2017 Feb;65(2):416. Abstract no. 52.

Jarasvaraparn C, Gremse D, Rojas Gallegos MB, Custodio H. *Clostridium difficile* complicating Kawasaki Disease in children: two case reports. World Congress of Pediatric Gastroenterology, Hepatology and Nutrition; 2016 Oct 5-8; Montreal, Canada. p. S-15. Abstract no. 846.

Jarasvaraparn C, Imran H, Siddiqui A, Wilson F, Gremse D. Association of autoimmune hepatitis type 1 in a child with Evans Syndrome. J Investig Med. 2017 Feb;65(2):519. Abstract no. 311.

Jarasvaraparn C, Rojas Gallegos MB, Crissinger K. The characteristics of esophageal multichannel intraluminal impedance-pH measurements in infants experiencing brief resolved unexplained events. J Investig Med. 2017 Feb;65(2):417. Abstract no. 53.

Klinger A, Zayek M, Bhat R. Early postnatal malnutrition and risk for spontaneous intestinal perforation in extremely low birth weight infants. J Investig Med. 2017 Feb;65(2):543. Abstract no. 368.

Nasomyont N, Martinez J. Novel mutation detected by whole exome sequencing in a patient with SATB2-associated syndrome. J Investig Med. 2017 Feb;65(2):524. Abstract no. 323.

Nasomyont N, Wang B, Preud'Homme D. Infantile weight-for-age predicting early childhood overweight and obesity. 99<sup>th</sup> Annual Meeting of the Endocrine Society; 2017 Apr 1-4; Orlando, FL. Abstract no. SUN 031.

Pace B, Stone B, Ameri A, Fuh B, Black V, Majumdar S, Wilson F, Lane P, Kutlar A, Bronte L. Utilization of telemedicine to improve access to care for individuals living with sickle cell disease in southeast region rural communities. Foundation for Sickle Cell Disease Research 11<sup>th</sup> Annual Symposium; 2017 Apr 28-30; Fort Lauderdale, FL.

Sadeghlan R, Gooch R, Sanchez O, Merritt B, Falkos S, Custodio H, Jackson A Jr. Importance of cultural competency in diagnosing rare medical events. J Investig Med; 2017 Feb;65(2):530. Abstract no. 337.

Sadeghian R, Gooch R, Preud'Homme D, Phelps L. The feasibility of using telemedicine to provide tertiary pediatric obesity care. J Investig Med. 2017 Feb;65(2):462. Abstract no. 166.

Sabapathy A, Sanchez O. A rare case report of cyanosis in a 6 week old infant. J Investig Med; 2017 Feb;65(2):404. Abstract no. 22.

Sabapathy A, Zayek M. Predicting mental impairment at 18 months of age in extreme low birth weight infants (ELBWI) at the time of discharge from NICU. J Investig Med. 2017 Feb;65(2):549. Abstract no. 382.

Strickland Y, Todd A, Estrada B, Custodio H. Group A streptococcal infection associated with cutaneous polyarteritis nodosa. University of South Alabama College of Medicine Case Report Symposium; 2017 Jun 9; Mobile, AL. Abstract no. 28.

Vasquez Diaz S, Sadeghian R, Lockwood B, Wilson F, Petty M, Kulkarni T. Precursor B lymphoblastic lymphoma: presentation of chest pain. J Investig Med. 2017 Feb;65(2):485. Abstract no. 224.

Wafadari D, Estrada B, Custodio H. Children with intracranial and extracranial complications of sinusitis. J Investig Med. 2017 Feb;65(2):415. Abstract no. 48.

Ware RE, Lane A, Schultz WH, Imran H, Lee MT, Heeney MM, Brown C, Luchtman-Jones L, Webb J, Jackson S, Aygun B, Miller ST, Rothman JA, Thompson AA, Luden J, Davis BR, Adams RJ. Variation in serial TCD velocity measurements in the TCD with Transfusions Changing to Hydroxyurea (TWITCH) trial. Blood. 2016 Dec 2;128(22):1019.

Whitehurst RM Jr, Thompson C, Zayek M, Bhat R, Brocato B. Impact of a prenatal parent education program for families at risk for Neonatal Abstinence Syndrome (NAS). Pediatric Academic Societies Meeting; 2017 May 6-9; San Francisco, CA. Abstract no. 2703574.

### **III. PUBLISHED BOOKS**

Spector ND, Trimm RF. Teaching, promoting and assessing professionalism across the continuum: a medical educator's guide. 2<sup>nd</sup> ed [Internet]. Chapel Hill, NC: The American Board of Pediatrics and the Association of Pediatric Program Directors; 2017 [cited 2017 Sep 20]. Available from: <https://www.abp.org/sites/abp/files/pdf/professionalism.pdf>

### **IV. INVITED PRESENTATIONS**

Bhowmick S. Invited speaker. Nonautoimmune thyroiditis in children. Southern Pediatric Endocrine Society Meeting; 2016 Oct 29. Biloxi, MS.

Bhowmick S. Invited speaker. Endocrine dysfunction in childhood obesity. Southern Pediatric Endocrine Society Meeting; 2016 Oct 29. Biloxi, MS.

Bilbao N Invited speaker. Vitamin D toxicity in breastfed infants – report of 2 cases. Southern Pediatric Endocrine Society; 2016 Oct 29; Biloxi, MS.

Crews L Invited speaker. Preventing cancer: primary use of quality improvement to increase HPV vaccinations. American Academy of Pediatrics, Alabama Chapter Spring Meeting & Pediatric Update; 2017 May 6; Miramar Beach, FL.

Custodio H. Invited speaker. Rashes you can catch: viral exanthems in children. American Academy of Pediatrics, Alabama Chapter Spring Meeting & Pediatric Update; 2017 May 6; Miramar Beach, FL.

Custodio H. Invited speaker. Differentiating mucocutaneous symptom complexes. American Academy of Pediatrics, Alabama Chapter Spring Meeting & Pediatric Update; 2017 May 6; Miramar Beach, FL.

Estrada B. Invited speaker. Zika virus-an update. The Twenty-Sixth University of South Alabama Obstetrics and Gynecology Conference; 2017 Apr 20; Daphne, AL.

Falkos SA. Invited speaker. The critically abused child. 16<sup>th</sup> Annual Mississippi Coastal Trauma Care Region Symposium; 2017 May 3; Biloxi, MS.

Gremse D. Invited speaker. Highlights and take home points: small group sessions on the American Board of Pediatrics. Association of Medical School Pediatric Department Chairs Annual Meeting; 2017 Mar 4; Tempe, AZ.

Gremse D. Invited speaker. Maintenance of certification update. American Academy of Pediatrics National Conference and Exhibition Pre-conference Session; 2017 Sep 15; Chicago, IL.

Imran H. Invited speaker. Management of sickle cell disease. Sickle Cell Disease Educator/Counselor Certification Program; 2016 Oct 10; Mobile, AL.

Preud'Homme D. Invited speaker. GER/GERD: can I help? American Academy of Pediatrics 2017 Practical Pediatrics CME Course; 2017 Apr 21; New Orleans, LA.

Preud'Homme D. Invited speaker. Pre-Diabetes: ins and outs of insulin resistance. American Academy of Pediatrics 2017 Practical Pediatrics CME Course; 2017 Apr 21; New Orleans, LA.

Preud'Homme D. Invited speaker. Pre-Diabetes: ins and outs of insulin resistance. American Academy of Pediatrics 2017 Practical Pediatrics CME Course; 2017 Apr 22; New Orleans, LA.



Preud'Homme D. Invited speaker. Pre-Diabetes: ins and outs of insulin resistance. American Academy of Pediatrics 2017 Practical Pediatrics CME Course; 2017 Apr 23; New Orleans, LA.

Preud'Homme D. Invited speaker. The liver: mystery solved! American Academy of Pediatrics 2017 Practical Pediatrics CME Course; 2017 Apr 22; New Orleans, LA.

Preud'Homme D. Invited speaker. Celiac disease and gluten associated GI symptoms. American Academy of Pediatrics 2017 Practical Pediatrics CME Course; 2017 Apr 23; New Orleans, LA.

Trimm F. Invited speaker. Turning vision into reality: building GME leadership. New York Presbyterian Graduate Medical Education Program Director Retreat; 2017 April 24; New York, NY.

Trimm F. Invited speaker. Temperament: leading from your strengths. New York Presbyterian Graduate Medical Education Program Director Retreat; 2017 Apr 24; New York, NY.

Wilson F. Invited speaker. Break the barriers: simplifying administration of chronic transfusional iron overload therapy. Phoebe Putney Health System; 2016 Oct 10; Albany, GA.

Wilson F. Invited speaker. Managing patients with sickle cell disease and the impact of chronic iron overload. Mobile County Health Care Providers; 2016 Oct 18; Mobile, AL.

Wilson F. Invited speaker. Be sickle smart: understanding sickle cell disease and planning for the future. Sickle Cell Association of Fort Myers; 2016 Dec 17; Fort Myers, FL.

Wilson F. Invited speaker. Sickle cell disease and other hemoglobinopathies: newborn screening. Alabama Department of Public Health; 2017 Mar 24; Montgomery, AL.

## **V. NATIONAL PROFESSIONAL RECOGNITION**

Stephanie Anderson: Member, American Academy of Pediatrics, Council on Children with Disabilities & Section on Developmental and Behavioral Pediatrics; Member, Society for Developmental and Behavioral Pediatrics, Advocacy Committee; Member, Human Rights Committee, Volunteers of America, Southeast.

Lynn Batten: Fellow, Section on Cardiology, American Academy of Pediatrics; Member, Council on Cardiovascular Disease in the Young, American Heart Association; Member, Adult Congenital and Pediatric Cardiology Section, American College of Cardiology; Member, Council on Medical Student Education in Pediatrics (COMSEP); Annual Survey and Meeting Workshop Committees, COMSEP.

Ramachandra Bhat: Member, American Academy of Pediatrics; Member, Southern Society of Pediatric Research. Reviewer: *Pediatrics*.

Samar Bhowmick: Fellow of the American Academy of Pediatrics; Member, American Association of Clinical Endocrinologists; Fellow of the American College of Endocrinology; Member, American Diabetes Association; Member, The Endocrine Society; Member, The Lawson Wilkins Pediatric Endocrine Society. Reviewer: *Pediatrics*, *Clinical Pediatrics*, *Journal of Southern Medical Association*, *Asian Journal of Andrology*.

Nordie Bilbao: Member, American Academy of Pediatrics; Member, The Endocrine Society; Member, Pediatric Endocrine Society. *Abstract Reviewer for 2017 10<sup>th</sup> International Meeting of Pediatric Endocrinology*.

Kari Bradham: Member, Educational Scholars Program, Academic Pediatric Association; Fellow, American Academy of Pediatrics; Fellow, Alabama Early Hearing Detection; Fellow, Intervention Champion. Review: *MedEd Portal*.

Rosina Connelly: Fellow of the American Academy of Pediatrics; Member, Academic Pediatric Association Health Literacy SIG; Member Representative, South Alabama, Health Literacy Partnership of Alabama. Reviewer: *American Academy of Pediatrics*, *Medical Education Online*, *Children and Youth Services Review*.

LaDonna Crews: Member, Academy of Breastfeeding Medicine; Member, Academic Pediatric Association; Physician Liaison for Adolescent Health for the Alabama Department of Public Health; Member, Alabama Breastfeeding Coalition; Fellow of the American Academy of Pediatrics; Board, American Academy of Pediatrics, Alabama Chapter; Member, American Medical Association; Member, Medical Association of the State of Alabama; Member, Mobile Pediatric Society; Member, Regional Perinatal Advisory Committee; Member, Society for Adolescent Medicine.

Karen Crissinger: Member, American Gastroenterological Association; Member, North American Society for Pediatric Gastroenterology, Hepatology, & Nutrition; Member, Society for Pediatric Research; Member, Southern Society for Pediatric Research. Reviewer: *Journal of Pediatric Gastroenterology & Nutrition*.

Haidee Custodio: Member, American Academy of Pediatrics; Member, Pediatric Infectious Disease Content Development Team, American Board of Pediatrics (ABP); Member, Subspecialty Advisor Panel for Reshaping the MOC Part 3 Exam, American Board of Pediatrics; Member, Advisory Panel for Panel for Reshaping the MOC Part 3 Exam, American Board of Pediatrics; Member, Infectious Diseases Society of America; Member, Pediatric Infectious Diseases Society. Reviewer: *Clinical Pediatrics*; *MedEd Portal*; *Abstract Reviewer for Pediatric Academics Societies Meeting 2017*; *Abstract Reviewer for 2017 AAMC Medical Education Meeting*; *Oral and Poster Presentation Reviewer for AAMC 2017 SGEA Meeting*.

Benjamin Estrada: Member, Alpha Omega Alpha Medical Honor Society; Fellow of the

American Academy of Pediatrics (AAP); Member, Association of American Medical Colleges (AAMC); Institutional Representative, COMSEP task force on curriculum development; Member, Council on Medical Student Education in Pediatrics (COMSEP); Member, Gold Humanism Honor Society; Member, Infectious Diseases Society of America (IDSA); Fellow of the Pediatric Infectious Diseases Society (PIDS); Member, Society for Healthcare Epidemiology of America (SHEA); Institutional Representative, Southern Society for Pediatric Research (SSPR); Member, Team-Based Learning Collaborative. Reviewer: *Infectious Diseases in Clinical Practice*.

Fabien Eyal: Member, Alabama Committee on the Fetus and Newborn; Member, Alabama Society of Neonatology; Member, Alpha Omega Alpha Medical Honor Society; Member, American Academy of Pediatrics, Member, American Medical Association; Clinical Champion, Coordinator of Neonatal Monitoring, Office of Rural Health; Member, Southern Society for Pediatric Research; Member, Southeastern Association of Neonatologists; Member, Vermont Oxford National Data Base.

Sheryl Falkos: Member, Advisory Board, Penelope House Domestic Violence Shelter; Member, American Academy of Pediatrics; Member, Society of Critical Care Medicine.

Cristina Gavrilita: Member, Alabama Baby Coalition; Fellow of the American Academy of Pediatrics; Member, Board of Directors, Ronald McDonald House; Member, Society of Critical Care Medicine.

Sophia Goslings: Member American Academy of Pediatrics, AAP Section on Hospital Medicine; Member, Association of Pediatric Program Directors; Member, Mobile Pediatric Society; Workshop Co-Leader: Beyond Tell Me About Yourself – Using Multiple Mini Interviews to Overcome Interview and Selection Challenges; ACGME Annual Education Conference; Workshop Co-Leader: Changing Resident Assessment Experiences Implementing the Pediatric Milestones Assessment Collaborative, 2017 Association of Pediatric Program Directors Spring Meeting.

David Gremse: Member, CME Chair, American Academy of Pediatrics, Alabama Chapter; Member, American Academy of Pediatrics, Subcommittee on Apparent Life Threatening Event; Member, Chair Elect, Board of Directors, American Board of Pediatrics (ABP); Member, ABP General Pediatrics Examination Committee Group B; Director, American Board of Pediatrics and the American Board of Pediatrics Foundation; Medical Editor, ABP Subboard of Pediatric Gastroenterology Exam Committee; Member, ABP Executive Committee; Chair, ABP Finance Committee; Secretary-Treasurer; ABP Long-Term Investment Committee; Fellow of the American College of Gastroenterology; Member, Pediatric Gastroenterology Committee; Member, American Gastroenterological Association; Member, American Medical Association; Member, American Pediatric Society; Member, Association of Medical School Pediatric Department Chairs (AMSPDC); Executive Council, Association of Medical School Pediatric Department Chairs; Vice President, Gulf Coast Regional Care Organization, Region E; Member, Mobile Pediatric Society; Member, Finance Committee, North American Society of Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN); Member, Society

for Pediatric Research; Member, The Gold Humanism Honor Society. Reviewer: *Pediatric Drugs; Digestive Diseases and Sciences; Pediatrics; Digestive Diseases and Sciences*.

Rashmi Gulati: Member, American Academy of Pediatrics; Member, American Medical Association; Member, Indian Academy of Pediatrics; Member, Vermont Oxford National Data Base.

Hamayun Imran: Member, American Academy of Pediatrics; Member, American Society of Hematology; Member, American Society of Pediatric Hematology-Oncology; Member, Children's Oncology Group; Member, Advisory Board, Kedrion Pharmaceutical; Speakers Bureau, NovoNorDisk Pharmaceuticals.

Om Jha: Fellow, American Academy of Pediatrics; Member, American Medical Association; Member, Indian Academy of Pediatrics; Member, Vermont Oxford National Data Base.

Anne-Marie Kaufers: Fellow of the American Academy of Pediatrics; Member, American Diabetes Association; Member, The Endocrine Society; Member, The Medical Association of the State of Alabama; Member, The Lawson Wilkins Pediatric Endocrine Society; Board, Southeastern Diabetes Education Services (SDES). Reviewer: *Clinical Pediatrics*.

Jose Martinez: Fellow of the American Academy of Pediatrics; Fellow of the American College of Medical Genetics; Fellow of the American Society of Human Genetics.

Paola Maurtua-Neumann: Member: American Academy of Pediatrics.

Brandy Merritt: Member, American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Society of Critical Care Medicine.

Keith Peevy: Member, Alabama Baby Coalition Task Force; Member; Member, American Academy of Pediatrics Subspecialty Section on Neonatal-Perinatal Medicine; Member, Alabama Society of Neonatology; Member, Alabama State Medical Society; Member, Alpha Omega Alpha Medical Honor Society; Member, American Medical Association; Affiliate Member, European Society for Pediatric Research; Member, Medical Society of Mobile County; Member, Medical Association of the State of Alabama (MASA); Member, Southern Society for Pediatric Research; Member, Southeastern Association of Neonatologists, Inc.; Member, Southern District of Alabama Human Trafficking Task Force Committee.

Melody Petty: Member, American Academy of Pediatrics.

Anand Ponnambalam: Fellow of the American Academy of Pediatrics (FAAP); Member, American College of Gastroenterology (ACG); Member, American Gastroenterological Association (AGA); Member, North American Society for Pediatric Gastroenterology Hepatology and Nutrition (NASPGHAN). Reviewer: *Journal of Pediatric*

*Gastroenterology Hepatology and Nutrition.*

Daniel Preud'Homme: Member, Quality Improvement Coach and Faculty, Alabama Child Health Initiative Alliance; Fellow of the American Academy of Pediatrics; Member, American Heart Association; Executive Board, Bay Area Food Bank; Member, Cardiovascular Disease in the Young Council; Member, Council on Children with Disabilities; Member, Council on School Health; Member, National Lipid Association; Member, Nutrition/Metabolic Council. Reviewer: *Clinical Pediatrics*.

Renee Roca-Garcia: Member, American Academy of Pediatrics, Pediatrics Section on Hospital Medicine; Member, College of Surgeons and Physicians of Guatemala; Member, Mobile Pediatric Society.

Omar Sanchez: Member, American Academy of Pediatrics, AAP Section on Critical Care; Member, College of Surgeons and Physicians of Guatemala; Member, Mobile Medical Society; Member, Pediatric Society of Critical Care Medicine; Member, Society of Critical Care Medicine.

Kamal Sharma: Member, American Academy of Pediatrics, Society of Critical Care Medicine, Permanent member Nepal Medical Association.

Hafeez Siddiqui: Member, American Academy of Pediatrics; Member, American Society of Hematology; Member, American Society of Pediatric Hematology and Oncology; Member, Children's Oncology Group. Reviewer: *World Journal of Hematology; Ophthalmic Plastic and Reconstructive Surgery*.

Hanes Swingle: Member, American Academy of Pediatrics; Member, Alabama Chapter of American Academy of Pediatrics; Member, Executive Committee, Alabama Interagency Autism Coordinating Council (AIACC); Chair, Diagnostic Clinics Workgroup of the AIACC Standards of Practice Committee; Member, American Public Health Association; Board, Autism Society of Alabama; Board, Glenwood Autism and Behavioral Health Center; Member, Governor's Working Group on Children with Autism; Advisory Board, Learning Tree, Inc.; Member, Society for Developmental Behavioral Pediatrics. Reviewer: *Maternal and Child Health Journal; Journal of Developmental Behavioral Pediatrics*.

Supatida Tengsupakul: Member, American Academy of Pediatrics.

Katrina Roberson-Trammell: Fellow of the American Academy of Pediatrics; Board, Gulf Regional Early Childhood Services (GRECS); Member, Medicaid Quality Assurance Committee; Member, Medical Association of State of Alabama; Member, Mobile Bay Area Medical Association; Member, Mobile Medical Society; Member, Mobile Pediatric Society; Member, Pediatric and Adult Workgroup, Regional Care Organization-Region E.

Franklin Trimm: Member, Academic Pediatric Association; Workshop Co-Leader: Beyond Tell Me About Yourself – Using Multiple Mini Interviews to Overcome Interview and

Selection Challenges, Accreditation Council for Graduate Medical Education (ACGME) Conference; Member, Alpha Omega Alpha; Fellow of the American Academy of Pediatrics; Member, American Board of Pediatrics Education and Training Committee; Co-Editor, Teaching, Promoting and Assessing Professionalism Across the Continuum: A Medical Educator's Guide, American Board of Pediatrics and Association of Pediatric Program Directors; Member, American Pediatric Society; Member, Association of Combined Med/Peds Program Directors; President, Association of Pediatric Program Directors (APPD); Platform Presenter: Pediatric Resident Minimum Milestone Expectations by Level of Training, 2016 Association of Pediatric Program Directors Spring Meeting; Workshop Co-Leader: Changing Resident Assessment Experiences Implementing the Pediatric Milestones Assessment Collaborative, 2016 Association of Pediatric Program Directors (APPD) Spring Meeting; Member, Early Childhood Endowment Fund Advisory Panel, Community Foundation South Alabama; Board, Secretary-Treasurer, Federation of Pediatric Organizations (FOPO); Member, Gold Humanism Honor Society; Member, Society for Developmental and Behavioral Pediatrics; Advisory Board, South Alabama CARES; Member, Southern Society for Pediatric Research. Reviewer: *Journal of Graduate Medical Education; Academic Medicine; Journal of Developmental and Behavioral Pediatrics, Pediatrics.*

Rosa Vidal: Member, American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Society of Critical Care Medicine.

Richard Whitehurst: Member, Alabama Physicians Wellness Committee; Member, Alabama Society of Neonatology; Member, American Academy of Pediatrics; Member, American Medical Association; Member, Medical Association of the State of Alabama (MASA); Member, Medical Society of Mobile County; Member, Southeastern Association of Neonatologists, Inc.; Member, Southern Society for Pediatric Research.

Felicia Wilson: Member, Prevention, Early Detection Subcommittee, Alabama Comprehensive Cancer Control Coalition; Fellow of the American Academy of Pediatrics; Member, American Society of Hematology; Board Member, Camp Rap-A-Hope; Member, Medical Association of the State of Alabama; President, Mobile Pediatric Society; Speaker's Bureau, Novartis Pharmaceuticals Corporation; Laboratory Medical Director, Sickle Cell Disease Association of America, Mobile Chapter; Member, Southern Society for Pediatric Research; Member, State of Alabama Hemophilia Advisory Committee; Co-Chair, Hemoglobinopathy Subcommittee, State of Alabama Newborn Screening Advisory Committee.

Michael Zayek: Member, Alabama Society of Neonatology; Member, American Academy of Pediatrics (AAP); Member, Southeastern Association of Neonatologists, Inc.; Member, Southern Society for Pediatric Research (SSPR).

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The Department of Pediatrics was delighted to welcome new faculty members. Dr. Kamal Sharma joined the University of South Alabama College of Medicine as Assistant

Professor of Pediatrics in the Division of Pediatric Critical Care. Prior to joining USA, Dr. Sharma served as a Pediatric Intensivist at Edinburg Children's Hospital in Edinburg, Texas. He earned his medical degree from the Koirala Institute of Health Science in Dharan, Nepal. Following residency training at The Brooklyn Hospital Center in Brooklyn, NY, he completed a fellowship in Pediatric Critical Care at Miami Children's Hospital in Miami, Fla. Dr. Supatida Tengsupakul joined the faculty as Assistant Professor of Pediatrics in the Divisions of Pediatric Infectious Disease and Pediatric Hospital Medicine. Prior to moving to Mobile, Dr. Tengsupakul served as a Pediatric Hospitalist at Rio Grand Regional Hospital in McAllen, Texas. She earned her medical degree from the Mahidol University in Bangkok, Thailand. Following residency training at The Brooklyn Hospital Center in Brooklyn, NY, she completed a fellowship in Pediatric Infectious Disease at the University of Minnesota in Minneapolis, MN. Dr. Anna Foust returns to USA with a joint appointment at the rank of Assistant Professor in the Departments of Internal Medicine and Pediatrics. Within the Department of Pediatrics, she will serve in the Division of Pediatric Hospital Medicine. Dr. Foust is a member of the USACOM Class of 2013. She completed her Med-Peds residency at Geisinger Medical Center in Danville, PA.

Drs. Benjamin Estrada, Anne-Marie Kaulfers, Melody Petty and Daniel Preud'Homme were recognized by the USACOM Class of 2017 as Distinguished Faculty at the Honors Convocation. The twenty-first recipient of the Hollis J. Wiseman Award for Excellence in Pediatrics during the Pediatric Clerkship for the Class of 2017 was Hannah Kinard. Thirteen of the graduating medical students in the USACOM Class of 2017 chose residencies in Pediatrics or combined Medicine-Pediatrics. Of the pediatric housestaff completing residency training in 2017, three entered private practice, seven entered into fellowship training, and two remained in the department as Pediatric Chief Residents. The two graduating Medicine-Pediatrics residents entered private practice. Twelve new first year residents entered the pediatric residency program, and two first-year residents entered the combined Medicine-Pediatrics Residency Program. Dr. Maha Al-Ghafry completed her term as Pediatric Chief Resident in 2017, and Drs. Bryce Willen and Charlotte MacDonell took over duties as the Pediatric Chief Residents for the 2017-2018 academic year.

The scholarly activities by the faculty of the Department of Pediatrics this year included 11 original articles and 30 published abstracts. Departmental faculty were active in mentoring pediatric residents in clinical research. There were 24 abstracts presented at regional and national meetings by pediatric residents who were the first authors with senior authorship by members of the pediatric faculty.

Quality improvement efforts to advance patient care for the 2016-17 academic year included participation in the Alabama Child Health Improvement Alliance HPV Vaccine QI Collaborative. are led by Natalie Fox Natalie Fox led an effort to gain NCQA recognition as a multispecialty Patient Centered Medical Home, making USACOM one of only a few medical schools in the country to achieve a multidisciplinary PCMH designation.

Faculty development activities were highlighted by hosting of a Pediatric Leadership Alliance workshop at the Strada Patient Care Center on June 16-17, 2017. More than 55

pediatric health care staff attended the event, with leadership and participation by the American Academy of Pediatrics.

Social media outreach campaigns included Dr. Fun's Dance Party USA on YouTube created by Dr. Lynn Batten, Director of the Division of Pediatric Cardiology, and the "Raise Your Hair Up" challenge by Dr. Om Jha of the Division of Neonatology. Dr. Batten's idea came from a 5-year-old patient with a single ventricle on the heart transplant list at Children's of Alabama. The patient's mother said that her daughter needed something to make her smile. Dr. Batten pledged that along with her staff, she would film a dance video of her favorite song. Since that first video, teams from our NICU, PICU, and residents have added additional dance videos to the YouTube channel. Dr. Jha's inspiration came from the awareness that premature infants in the Hollis J. Wiseman Neonatal Intensive Care Unit are defying the odds by their rates of survival, which are among the top 10<sup>th</sup> percentile of neonatal intensive care units in the country. The "Raise Your Hair Up" fundraiser challenges donors to post a photo with their hair "raised up" defying gravity as our critically ill babies overcome the odds to survive. "Hair Raising Challenge" was featured in national level news media both print, online and network news channel like AL.com, Southern Living, Beckers Hospital, FOX 10, etc..



**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Pharmacology**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Bailey SW, Ayling JE. Natural folate in human skin: a new approach to UV damage protection. *Cosmetics & Toiletries*. 2017 Jul/Aug;132(7):34-49.

Blair LA, Haven AK, Bauer NN. Circulating microparticles in severe pulmonary arterial hypertension increase intercellular adhesion molecule-1 expression selectively in pulmonary artery endothelium. *Respir Res*. 2016 Oct 20;17(1):133.

Gupta N, Rashid J, Nozik-Grayck E, McMurtry IF, Stenmark KR, Ahsan F. Cocktail of superoxide dismutase and fasudil encapsulated in targeted liposomes slows PAH progression at a reduced dosing frequency. *Mol Pharm*. 2017 Mar 6;14(3):830-41.

Hashimoto R, Joshi SR, Jiang H, Capdevila JH, McMurtry IF, Laniado Schwartzman M, Gupte SA. Cyp2c44 gene disruption is associated with increased hematopoietic stem cells: implication in chronic hypoxia-induced pulmonary hypertension. *Am J Physiol Heart Circ Physiol*. 2017 Aug 1;313(2):H293-303.

Leavesley SJ, Walters M, Lopez C, Baker T, Favreau PF, Rich TC, Rider PF, Boudreaux CW. Hyperspectral imaging fluorescence excitation scanning for colon cancer detection. *J Biomed Opt*. 2016 Oct 1;21(10):104003.

Lee YL, Obiako B, Gorodnya OM, Ruchko MV, Kuck JL, Pastukh VM, Wilson GL, Simmons JD, Gillespie MN. Mitochondrial DNA damage initiates acute lung injury and multi-organ system failure evoked in rats by intra-tracheal *Pseudomonas aeruginosa*. *Shock*. 2017 Jul;48(1):54-60.

Oka M, McMurtry IF, Oshima K. How does pulmonary endarterectomy cure CTEPH: a clue to cure PAH? *Am J Physiol Lung Cell Mol Physiol*. 2016 Oct 10;311(4):L766-9.

Rashid J, Patel B, Nozik-Grayck E, McMurtry IF, Stenmark KR, Ahsan F. Inhaled sildenafil as an alternative to oral sildenafil in the treatment of pulmonary arterial hypertension (PAH). *J Control Release*. 2017 Mar 28;250:96-106.

Simmons JD, Freno DR, Muscat CA, Obiako B, Lee YL, Pastukh VM, Brevard SB, Gillespie MN. Mitochondrial DNA damage associated molecular patterns in ventilator-associated pneumonia: prevention and reversal by intratracheal DNase 1. *J Trauma Acute Care Surg*. 2017 Jan;82(1):120-5.

Simmons JD, Lee YL, Pastukh VM, Capley G, Muscat CA, Muscat DC, Marshall ML, Brevard SB, Gillespie MN. Potential contribution of mitochondrial DNA damage associated molecular patterns in transfusion products to the development of acute

respiratory distress syndrome after multiple transfusions. *J Trauma Acute Care Surg.* 2017 Jun;82(6):1023-9.

Singh SP, Chand HS, Langley RJ, Mishra N, Barrett T, Rudolph K, Tellez C, Filipczak PT, Belinsky S, Saeed AI, Sheybani A, Exil V, Agarwal H, Sidhaye VK, Sussan T, Biswal S, Sopori M. Gestational exposure to sidestream (secondhand) cigarette smoke promotes transgenerational epigenetic transmission of exacerbated allergic asthma and bronchopulmonary dysplasia. *J Immunol.* 2017 May 15;198(10):3815-22.

Troyanovsky B, Bitko V, Pastukh V, Fouty B, Solodushko V. The functionality of minimal piggyBac transposons in mammalian cells. *Mol Ther Nucleic Acids.* 2016 Oct 4;5(10):e369.

Wagner WW Jr, Weir EK. The pulmonary circulation and gas exchange (Press release). *PVRInstitute.org.* 2017 Feb 7. Available from: <https://pvrinstitute.org/en/professionals/learning/2017/2/7/the-pulmonary-circulation-and-gas-exchange/>

Wang L, Ko ER, Gilchrist JJ, Pittman KJ, Rautanen A, Pirinen M, Thompson JW, Dubois LG, Langley RJ, Jaslow SL, Salinas RE, Rouse DC, Moseley MA, Mwarumba S, Njuguna P, Mturi N; Wellcome Trust Case Control Consortium 2; Kenyan Bacteraemia Study Group, Williams TN, Scott JA, Hill AV, Woods CW, Ginsburg GS, Tsalik EL, Ko DC. Human genetic and metabolite variation reveals that methylthioadenosine is a prognostic biomarker and an inflammatory regulator in sepsis. *Sci Adv.* 2017 Mar 8;3(3):e1602096.

## II. PUBLISHED ABSTRACTS

Browning CM, Mayes SA, Rich TC, Leavesley SJ. Design of a modified endoscope illuminator for spectral imaging of colorectal tissues. *Proc SPIE, 10060, Optical Biopsy XV: Toward Real-Time Spectroscopic Imaging and Diagnosis.* 2017 Feb 17;1006015. doi:10.1117/12.2252420 (Subscription required).

Gillespie MN, Pastukh VM, Langley RJ, Roveda D, King V, Roberts J, Johnsten T, Benton R, Daly G, Wang B, Vera D, Bass H. Mutational artifacts are introduced in DNA regulatory regions by oxidative base damage associated with hypoxic signaling: implications for accurate identification of sequence variants. *Am J Respir Crit Care Med.* 2017;195:A2493. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A2493](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A2493)

Klomkaew P, Mayes SA, Rich TC, Leavesley SJ. Testing a high-power LED based light source for hyperspectral imaging microscopy. *Proc SPIE, 10068, Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues XV.* 2017 Feb 16;100681V. doi: 10.1117/12.2252460 (Subscription required).

Lammi MR, Okpechi S, Wyczechowska D, Saketkoo LA, Bauer N, Pyakurel K, Tarhuni A, deBoisblanc B, Boulares AH. Microparticles from systemic sclerosis patients may

affect vascular inflammation of endothelial cells *in vitro*. *Circulation*. 2016 Nov 11;134(Suppl 1):A20249.

Langley RJ, Sweeney TE, Perumal T, Henao R, Wong HR, Tang B, Khatri P, Tsalik E, Mangravite L. Federated gene expression analysis of mortality prediction in sepsis. *Am J Respir Crit Care Med*. 2017;195:A2494. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A2494](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A2494)

Mayes SA, Klomkaew P, Leavesley SJ, Rich TC. Optimization and applications of an excitation-scanning hyperspectral imaging system. *Proc SPIE*, 10076, High-Speed Biomedical Imaging and Spectroscopy: Toward Big Data Instrumentation and Management II. 2017 Feb 22;1007609. doi:10.1117/12.2252409 (Subscription required).

Okpechi SC, Wyczzechowska D, deBoisblanc BP, Johnson J, Ghonim MA, Bauer N, Boulares AH, Lammi MR. Endothelial microparticles during exercise in COPD patients: influence of inhaled iloprost. *Am J Respir Crit Care Med*. 2017;195:A2279. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A2279](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A2279)

Rich TC, Annamdevula NS, Deal J, Britain AL, Trinh K, Hoffman C, Sayner SL, Leavesley SJ. Mapping the spatial distributions of barrier protective and disruptive cAMP signals in pulmonary endothelial cells. *Am J Respir Crit Care Med*. 2017;195:A4363. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4363](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4363)

Rich TC, Annamdevula NS, West S, Deal J, Britain AL, Trinh K, Griswold JR, Leavesley SJ. Simultaneous measurement of cAMP signals and resultant changes in the balance between PKA and phosphatase activities in single cells. *Am J Respir Crit Care Med*. 2017;195:A4364. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4364](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4364)

Ruchko MV, Pastukh VM, Sukhanov S, Gorodnya OM, Danchuk SD, Gillespie MN. Circulating mitochondrial (mt) DNA fragments as precursors of inflammation in early stages of atherogenesis. *FASEB J*. 2017;31:677.10.

Scruggs AK, Leavesley SJ, Annamdevula NS, Rich TC, Bauer NN. Microparticle delivery of cyclic AMP to pulmonary microvascular endothelial cells. *FASEB J*. 2017;31:689.17.

Scruggs AK, Rich TC, Bauer NN. Microparticle uptake by pulmonary microvascular endothelial cells. *FASEB J*. 2017;31:689.7.

Tan YB, Obiako BO, Pastukh VM, Capley GC, Simmons JD, Gillespie MN. A novel strategy for increasing the pool of donor lungs available for transplant. *Am J Respir Crit Care Med*. 2017;195:A3253. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A3253](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A3253)

Yuzefovych LV, Pastukh V, Ruchko M, Prutzman K, Simmons JD, Gillespie MN, Richards WO, Rachek LI. Extracellular circulation mitochondrial DNA (ec-mtDNA) is elevated in obese type 2 diabetes patients and positively correlates with insulin resistance. The Obesity Society Annual Meeting, ObesityWeek<sup>SM</sup> 2016; 2016 Oct 31-Nov 4; New Orleans, LA. p. 18. Abstract no. T-OR-2025.

### **III. PUBLISHED BOOKS**

### **IV. INVITED PRESENTATIONS**

Ayling JE, Bailey SW. Invited speakers. Advanced formulations for skin care products beyond and complementary to sunscreens: a new concept for UV protection by enhancing the powerful natural quenching mechanisms of the endogenous skin folates. International Federation of Societies of Cosmetic Chemists 29<sup>th</sup> Congress; 2016 Nov 1; Orlando, FL.

Ayling JE, Bailey SW. Invited speakers. Enhancing skin UV protection using the unique photochemical properties of the endogenous natural folates. Sun Protection Conference; 2017 Jun 7; London, United Kingdom.

Bauer, N. Invited speaker. Extracellular vesicles: harbingers of injury. University of South Alabama Biochemistry and Molecular Biology Lecture Series. 2017 Apr 26; Mobile, AL.

Gillespie MN. Invited speaker. Oxidant-DNA interactions in the life and death of cells: destruction, transcription, and mutation. HudsonAlpha Research Seminars; 2017 Mar 29; Huntsville, AL.

Gillespie MN. Invited speaker. Oxidant interactions with the two genomes: destruction, transcription, and mutation. Penn Center for Pulmonary Biology Seminar; 2016 Oct 27; Philadelphia, PA.

Gillespie MN. Invited speaker. Oxygen radical interactions with the two genomes: destruction, transcription, and mutation. University of Pittsburgh Basic and Translational Research in Lung Diseases Conference; 2016 Nov 8; Pittsburgh, PA.

Langley RJ. Invited speaker. Mortality prediction in sepsis via gene expression analysis: a community approach. University of South Alabama Biochemistry and Molecular Biology Lecture Series; 2017 Feb 8; Mobile, AL.

McMurtry IF. Invited speaker. Vasoconstriction and pressure in pathogenesis of PAH. University of South Alabama Center for Lung Biology/Pulmonary Division Seminar. 2017 Apr 14. Mobile, AL.

Rich TC. Invited speaker. State of the art imaging approaches for airway biology. 10th Annual Young Investigator's Meeting on Smooth Muscle in Airways & Vascular Disease; 2017 May 18; Philadelphia, PA.

Wagner W. Participant in video interview. Living history of physiology. Produced by American Physiological Society Living History Project. 2016. Available from: <http://www.the-aps.org/mm/Membership/Living-History/Wiltz-Wagner>

## V. NATIONAL PROFESSIONAL RECOGNITION

Abu-Bakr Al-Mehdi: Writer and Reviewer, NBME Basic Science Task Force for USMLE Step 1 and Pharmacology Board Exams. Journal Reviewer, *American Journal of Respiratory Cell and Molecular Biology*, *American Journal of Respiratory and Critical Care Medicine*, *Journal of Applied Physiology*, *Free Radical Biology & Medicine*, *Circulation Research*, *Cancer Letters*, *Microvascular Research*, *American Journal of Physiology: Gastrointestinal and Liver Physiology*, *PLoS ONE*.

June E. Ayling: Journal Reviewer, *American Journal of Clinical Nutrition*, *PLoS ONE*, *Journal of Nutrition*, *Royal Society Open Science*.

Natalie N. Bauer: Grant Reviewer, Research Grant Review Committee C for the American Lung Association, RFA-HL-16-010 Limited Competition: Small Grant Program for NHLBI K01/K08/K23 Recipients (R03), American Heart Association, SURF Study Section, Dutch Heart Association. Journal Reviewer, *Science Translational Medicine*, *Circulation Research*, *The Journal of Extracellular Vesicles*, *Pulmonary Circulation*, *Journal of Cell Communication and Signaling*, *American Journal of Physiology: Lung Cellular and Molecular Physiology*, *Physiological Reviews*, *PLoS ONE*, *Respiratory Research*, *Arteriosclerosis, Thrombosis, and Vascular Biology*, *Pulmonary Pharmacology and Therapeutics*, *The FASEB Journal*, *Hypertension*.

Raymond J. Langley: Grant Reviewer and Referee, 2017 Large-Scale Applied Research Project competition in Genomics and Precision Health. Journal Reviewer, *PLOS ONE*, *Scientific Reports*, *The Journal of the American Medical Association*, *Science Translational Medicine*, *Intensive Care Medicine Experimental*.

Ivan F. McMurtry: Editorial Board Member, *American Journal of Physiology: Lung Cellular and Molecular Physiology*, *Pulmonary Circulation*.

Lyudmila I. Rachek: Grant Reviewer, Diabetes United Kingdom. Editorial Board Member, *Open Endocrinology Journal*, *New Journal of Science*, *Journal of Pharmaceutical Sciences and Experimental Pharmacology*. Journal Reviewer, *Food and Function*, *Molecules*, *Journal of the Neurological Sciences*, *Toxicology Research*, *Nutrients*, *Journal of Cancer Research and Clinical Oncology*, *Biomedicine & Pharmacology*, *Metabolites*.

Thomas C. Rich: Grant Reviewer, National Institutes of Health ZRG1 CB-N 30, American Heart Association Signaling II, National Science Foundation Review Panel, French National Research Agency CE13 Cell Biology, Developmental Biology. Journal Reviewer, *British Journal of Pharmacology*, *PLoS ONE*.

Mykhaylo Ruchko: Ad Hoc Journal Reviewer, *JSciMed Central*. Remote Referee and Grant Reviewer, European Research Council.

Victor Solodushko: Journal Reviewer, *BioMed Central Research Notes*, *BioMed Central Microbiology*, *Molecular Pharmaceutics*.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The Department has made significant advances in our effort to diversify our resources and to reach out for collaboration in various areas including:

- Genomics Initiative, a dynamic collaboration responsible for submission of two applications to NIH that involves faculty from Medicine, Biological Sciences, and Computer and Information Sciences;
- Trauma Research Initiative, a collaboration between Surgery/Trauma faculty and basic sciences resulting in a funded K08 Award, two submitted KL2 applications, two submitted postdoctoral Fellowship applications and NIH and DoD applications to develop novel technology for predicting burn outcome;
- Clinical and Translational Sciences Award, a collaborative grant with UAB and 9 other institutions whose mission is to enhance translational research across the region. This award funds the “Translational Research Services Core” at the USA Medical Center;
- Biomedical Engineering Collaboration, consisting of four faculty with primary appointments in Engineering and research interests in bioengineering spanning advanced imaging to cell mechanics. These individuals have joint appointments, office, and shared laboratory space in Pharmacology;
- Cancer Biology/DNA Repair Collaboration, this is a functional collaboration involving multiple faculty with appointments in the MCI, most of whom have joint appointments in Pharmacology. Two areas of particular strength are in drug design and DNA repair pathways. Early-stage efforts to develop a multi-project grant on DNA repair-environment interactions in carcinogenesis are underway.

The Department also has made substantive efforts to diversify its funding portfolio into the area of "entrepreneurial science" by submitting 2 STTR/SBIR grants to NIH for commercialization of intellectual property.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Physiology & Cell Biology**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Alvarez DF, Housley N, Koloteva A, Zhou C, O'Donnell K, Audia JP. Caspase-1 activation protects lung endothelial barrier function during infection-induced stress. *Am J Respir Cell Mol Biol*. 2016 Oct;55(4):500-10.

Balczon R, Morrow KA, Zhou C, Edmonds B, Alexeyev M, Pittet JF, Wagener BM, Moser SA, Leavesley S, Zha X, Frank DW, Stevens T. *Pseudomonas aeruginosa* infection liberates transmissible, cytotoxic prion amyloids. *FASEB J*. 2017 Jul;31(7):2785-96.

Bosetti F, Galis ZS, Bynoe MS, Charette M, Cipolla MJ, Del Zoppo GJ, Gould D, Hatsukami TS, Jones TL, Koenig JI, Luty GA, Maric-Bilkan C, Stevens T, Tolunay HE, Koroshetz W, "Small Blood Vessels: Big Health Problems" Workshop participants. "Small blood vessels: big health problems?" Scientific recommendations of the National Institutes of Health Workshop. *J Am Heart Assoc*. 2016 Nov;5(11):e004389.

Deal J, Favreau PF, Lopez C, Lall M, Weber DS, Rich TC, Leavesley SJ. Excitation-scanning hyperspectral imaging as a means to discriminate various tissue types. *Proc SPIE*, 10068, Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues XV. 2017 Feb 16;1006816. doi: 10.1117/12.2251682. (Subscription required).

Downey JM, Cohen MV. Letter by Downey and Cohen regarding article, "protective effects of ticagrelor on myocardial injury after infarction". *Circulation*. 2017 Apr 25;135(17):e1000-1.

Morrow KA, Frank DW, Balczon R, Stevens T. The *Pseudomonas aeruginosa* exoenzyme Y: a promiscuous nucleotidyl cyclase edema factor and virulence determinant. In: Seifert R, editor. *Non-canonical cyclic nucleotides*. New York: Springer International Publishing; 2017. Chapter 4, p. 67-85. (Handbook of Experimental Pharmacology; Vol. 238).

Jiang N, Wu J, Leng T, Yang T, Zhou Y, Jiang Q, Wang B, Hu Y, Ji YH, Simon RP, Chu XP, Xiong ZG, Zha XM. Region specific contribution of ASIC2 to acidosis- and ischemia-induced neuronal injury. *J Cereb Blood Flow Metab*. 2017 Feb;37(2):528-40.

Kozhukhar N, Spadafora D, Fayzulin R, Shokolenko IN, Alexeyev M. The efficiency of the translesion synthesis across abasic sites by mitochondrial DNA polymerase is low in mitochondria of 3T3 cells. *Mitochondrial DNA A DNA Mapp Seq Anal*. 2016 Nov;27(6):4390-6.

Shokolenko IN, Alexeyev MF. Mitochondrial transcription in mammalian cells. *Front Biosci (Landmark Ed)*. 2017 Jan 1;22:835-53.

Taylor MS, Choi CS, Bayazid L, Glosemeyer KE, Baker CCP, Weber DS. Changes in vascular reactivity and endothelial Ca<sup>2+</sup> dynamics with chronic low flow. *Microcirculation*. 2017 Apr;24(3):e12354.

## II. PUBLISHED ABSTRACTS

Anjum N, Wagener BM, Morgan CJ, Christiaans S, Banks ME, Stevens T, Pittet JF. Importance of the type III secretion system toxin ExoY in the severity of *Pseudomonas aeruginosa* pneumonia in mechanically ventilated intensive care unit patients. *Am J Respir Crit Care Med*. 2017;195:A4038. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4038](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4038)

Audia J, Renema P, Housley N, Alvarez DF. *Pseudomonas aeruginosa* ExoU activates an intracellular caspase-1 response in lung endothelial cells. Keystone Symposia on Molecular and Cellular Biology: Pattern Recognition Signaling: From Innate Immunity to Inflammatory Disease. 2017 Mar 19-23; Banff, Alberta, Canada. Abstract no. 1003.

Blum-Johnston CM, Romero MM, Wee C, Blood Q, Wilson RH, Blood AB, Francis M, Taylor MS, Longo LD, Wilson SM. Chronic hypoxia uncouples Ca<sup>2+</sup> and eNOS in bradykinin-induced relaxation of ovine pulmonary arteries. *FASEB J*. 2017;31:1073.1.

Cohen M, Downey JM. To have clinical value, future cardioprotective interventions must provide additive protection to that from a P2Y<sub>12</sub> receptor antagonist. *J Cardiovasc Pharmacol Ther*. 2016 Nov;21(6):576.

Francis CM, Morrow KA, Renema P, Teague DA, Agwaramgbo E, Langham G, Stevens TC, Williams CC, Alvarez DF, Audia JP, Balczon R, Stevens T. An automated, label-free method for quantifying intercellular gap formation in images of cell monolayers. *FASEB J*. 2017;31:837.11.

Francis CM, Oshima K, Baghaei N, Jeon D, Labat S, Oka M, Stevens T. Three-dimensional characterization of occlusive lesions in pulmonary arterial hypertension. *FASEB J*. 2017;31:1016.3.

Lee JY, McMurtry S, Stevens T. Single cell clonogenic assays reveal heterogeneity among the parent cell population, and enable isolation of highly representative cells with parental characteristics. *Am J Respir Crit Care Med*. 2017;195:A4653. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4653](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4653)

Lee JY, Stevens T. Carbonic anhydrase IX (CAIX) is a critical determinant of pulmonary microvascular endothelial cell (PMVEC) survival. *Am J Respir Crit Care Med*. 2017;195:A2268. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A2268](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A2268)



Lin MT, Balczon R, Morrow KA, Wagener BM, Pittet JF, Stevens T. *Pseudomonas aeruginosa*-induced pulmonary endothelial amyloid proteins impair long-term plasticity. FASEB J. 2017;31:861.3.

Lin MT, Choi CS, Zha X, Yap FC. Oxygen glucose deprivation modulates endothelial Ca<sup>2+</sup> signal mediated by TRPV4-K<sub>Ca</sub> channels. FASEB J. 2017;31:705.2.

Morrow KA, Stevens TC, Agwaramgbo E, Langham G, Francis CM, Balczon R, Stevens T. Studies on the physical properties of the *Pseudomonas aeruginosa*-induced endothelial prion amyloid cytotoxin(s). FASEB J. 2017;31:1074.1.

Pitts W, Choi CS, KC Ramila, Sayner SL. Elevated AC10 expression in pulmonary microvascular endothelial cells increases permeability and decreases proliferation. Am J Respir Crit Care Med. 2017;195:A4371. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4371](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4371)

Renema P, Housley N, Audia JP, Alvarez DF. cAMP signaling increases caspase-1 activation in lung endothelial cells during *Pseudomonas aeruginosa* infection. Keystone Symposia on Molecular and Cellular Biology, Pattern Recognition Signaling: From Innate Immunity to Inflammatory Disease. 2017 Mar 19-23; Banff, Alberta, Canada. Abstract no. 3011.

Renema P, Housley NA, Audia JP, Alvarez DF. Sepsis mediated cAMP signals increase caspase-1 activation in pulmonary microvascular endothelial cells during *Pseudomonas aeruginosa* infection. Am J Respir Crit Care Med. 2017;195:A7429. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A7429](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A7429)

Renema P, Housley NA, Audia JP, Alvarez DF. *Pseudomonas aeruginosa* exoenzyme U causes intracellular caspase-1 activation in pulmonary microvascular endothelial cells and elicits pyroptosis. Am J Respir Crit Care Med. 2017;195:A7430. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A7430](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A7430)

Rich TC, Annamdevula NS, Deal J, Britain AL, Trinh K, Hoffman C, Sayner S, Leavesley S. Mapping the spatial distributions of barrier protective and disruptive cAMP signals in pulmonary endothelial cells. Am J Respir Crit Care Med. 2017;195:A4363. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4363](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4363)

Sayner SL, Choi CS. Barrier disruptive versus barrier protective agonists alter sodium bicarbonate cotransporter phosphorylation in pulmonary microvascular endothelial cells. Am J Respir Crit Care Med. 2017;195:A4372. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4372](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4372)

Stevens T, McMurtry IF, Zhou C. Studies on the functional status of the hypertensive pulmonary circulation: insights gained through retroperfusion. *Am J Respir Crit Care Med*. 2017;195:A4207. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4207](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4207)

Teague DA, Francis M, Housley NA, Renema P, Alvarez DF, Audia JP. *Vibrio vulnificus* MARTX toxin causes heterogenous barrier disruption in pulmonary endothelial cells. *Am J Respir Crit Care Med*. 2017;195:A7431. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A7431](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A7431)

Weber D, Choi CS, Glosemeyer K, Bayazid L, Taylor MS. Chronic low-flow results in altered  $Ca^{2+}$  dynamics, vascular function and neointima formation. *J Vasc Res*. 2016;53(Suppl 1):58.

Williams CC, Morrow K, Stevens T, Francis M, Balczon R, Stevens T. Effect of phenol on prion endothelial cytotoxin secondary to *Pseudomonas*. *Am J Respir Crit Care Med*. 2017;195:A4375. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4375](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4375)

Xu N, Buford A, Ayers L, Stevens T. TRPC4 senses endoplasmic reticulum calcium depletion and contributes to store operated calcium entry. *Am J Respir Crit Care Med*. 2017;195:A4359. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4359](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4359)

Xu N, Stevens T. Salt-inducible kinase activity does not affect pulmonary endothelial cell proliferation. *Am J Respir Crit Care Med*. 2017;195:A4373. Available from: [http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1\\_MeetingAbstracts.A4373](http://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2017.195.1_MeetingAbstracts.A4373)

Xu Y, Jiang YQ, Wu J, He M, Hu Y, Xu J, Rusyniak WG, Lin M, Zha XM. Human acid-sensing ion channel 1a (ASIC1a) exhibits higher levels of surface trafficking than mouse ASIC1a. *Neuroscience* 2016; 2016 Nov 12-16; San Diego, CA. Abstract no. 517.15/EE9.

Zhen Z, Chen H, Zhou C, Liu B, King JA, Alexeyev MF, Wu S.  $\alpha_{1G}$  T-type  $Ca^{2+}$  channel contributes to the angiogenic capacity of pulmonary microvascular endothelial cells. *FASEB J*. 2017;31:1074.7.

### **III. PUBLISHED BOOKS**

### **IV. INVITED PRESENTATIONS**

Alvarez D. Invited speaker. The exposome: a model where environment, obesity, and inflammation interact to determine health outcomes. Emerging Scholars Environmental Sciences Academy, Gulf Region Health Outreach Program; 2016 Oct 10; Mobile, AL.

Stevens T. Invited speaker. Infectious proteinopathy: a lung-brain axis? Department of Neurology, Harvard Medical School, Massachusetts General Hospital; 2016 Dec 8; Boston, MA.

Stevens T. Invited speaker. Infectious proteinopathy: a lung-brain axis? Critical Care Grand Rounds, University of Alabama Birmingham School of Medicine; 2017 Feb 22; Birmingham, AL.

Stevens T. Invited speaker. Essential role of TRPC4 in pulmonary arterial hypertension. Department of Pharmacology, Center for Translational Medicine, Temple University; 2017 Apr 4; Philadelphia, PA.

Stevens, T. Invited speaker. The endothelium is not key to pulmonary hypertension. American Thoracic Society ATS 2017; 2017 May 22; Washington, DC.

Stevens T. Invited speaker. How to start your own independent research laboratory: challenges and opportunities at large versus small universities. Career Development Workshop, American Thoracic Society ATS 2017; 2017 May 23; Washington, DC.

Weber D. Invited speaker. Chronic low-flow results in altered Ca<sup>2+</sup> dynamics, vascular function and neointima function. 12<sup>th</sup> International Symposium for Mechanisms of Vasodilation; 2016 Nov 7; Rochester, MN.

Zha XM. Invited speaker. Region-specific contribution of ASIC2 to neuronal injury. Wuhan Science and Technology University School of Medicine; 2016 Dec 21; Wuhan, China.

## V. NATIONAL PROFESSIONAL RECOGNITION

Mikhail F. Alexeyev: Recipient of the Blue Flame Award from Addgene; Member, *Clinical Science*, *PLoS One*, *International Journal of Molecular Sciences*, *International Journal of Biochemistry and Cell Biology*, *Genes*, *Inside the Cell*, *Oncotarget*, *World Journal of Experimental Medicine*. Associate Editor, *Mitochondrial DNA*, *World Journal of Gastroenterology*. Managing Editor, *Frontiers in Bioscience*. Reviewer, *Biochimica et Biophysica Acta*, *International Journal of Biochemistry and Cell Biology*, *PLoS One*, *Mitochondrion*, NIH Study Section ZRG1 BBBP-T (57) R, NIH Study Section ZRG1 GGG-B 50 Special Emphasis, NIH ZGM1 RCB-4 (S2) Special Emphasis, Department of Defense Peer Reviewed Medical Research Program, Italian Ministry of Health.

Diego F. Alvarez: Editorial Board, *Pulmonary Circulation* and *Frontiers in Respiratory Physiology*. Reviewer, *American Journal of Physiology*, *Microvascular Research*, *Translational Research*, *American Journal of Respiratory Cell and Molecular Biology*, *American Journal of Respiratory and Critical Care Medicine*, *Pulmonary Circulation*, *Journal of Applied Physiology*.

Michael V. Cohen: Editorial Board, *Basic Research in Cardiology*. Member, American Heart Association, *New England Journal of Medicine*, International Society for Heart Research (ISHR); Reviewer, *Basic Research in Cardiology*, *Cardiovascular Research*, *Cardiovascular Drugs and Therapy*, *American Journal of Physiology*, *Journal of the American College of Cardiology*, *Circulation*, *Journal of Applied Physiology*, *Journal of Cardiovascular Pharmacology and Therapeutics*, *British Journal of Pharmacology*, *European Journal of Pharmacology*, *Critical Care Medicine*, *Journal of Clinical Medicine*.

Michael Francis: Reviewer, *PLoS*, *JoVe*. Certificate of Appreciation, Southmed Prep Scholars Summer Research Program 2017.

Mike Lin: Member, American Physiological Society, Society of Neuroscience. Reviewer, *Journal of Molecular and Cellular Cardiology*, *AHA International Stroke Conference*. Editorial Board, *Neuroscience Scientific Report*.

Sarah Sayner: Reviewer, *American Heart Association*, *American Journal of Physiology Lung Cell and Molecular Physiology*, *PLoS One*, *Experimental Eye Research*, *European Respiratory Journal*, *Toxins*, *Microvascular Research*, *Biochimica et Biophysica Acta - BBA Molecular Basis of Disease*.

Troy Stevens: Session Chair, Pulmonary Hypertension, North American Vascular Biology Organization (NAVBO) 2016; Chair, American Thoracic Society Pulmonary Circulation Assembly 2016. Member, American Thoracic Society Board of Directors; Editorial Board Member, *American Journal of Physiology Lung Cellular and Molecular Physiology*, *Pulmonary Circulation*. NIH Special Emphasis Panel Review – Ad hoc.

Mark S. Taylor: Wiederhielm Award from the Microcirculatory Society. Member, Gulf Coast Physiological Society, American Heart Association, American Physiological Society. Co-Chair, American Heart Association Study Section. Reviewer, *American Journal of Physiology*, *Circulation Research*, *Journal of Basic and Clinical Physiology and Pharmacology*, *Microcirculation*, *PLoS One*.

David S. Weber: Abstract Reviewer, American Heart Association Scientific Sessions 2016. Ad hoc reviewer, *American Journal of Physiology*, *Journal of the American Heart Association*, *Circulation Research*, *Microvascular Research*, *PLoS One*, *Journal of Cardiovascular Pharmacology*. Grant Reviewer, NIH Vascular Cell and Molecular Biology, AHA Vascular Biology and Blood Pressure Regulation.

Xiangming Zha: Reviewer, American Heart Association Study Section Brain Stroke II. Editorial Board, *PLoS One*, *Molecular Brain*, *Frontiers in Cellular Biochemistry*. Reviewer, *AHA Scientific Reports*, *Aging*, *Acta Pharmacologica Sinica*. Abstract reviewer, International Stroke Conference 2017 and BRAIN 2017.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The department of Physiology & Cell Biology continually strives to contribute to the College of Medicine's mission of research, teaching and service. The faculty actively submit and receive grants at a nationally competitive level. Dr. Alexeyev has been awarded an equipment supplement to his current NIH R01 grant to purchase equipment for the arraying and liquid nitrogen storage of clones with mutations in mtDNA. Dr. Stevens has been awarded an NIH R01 grant to study endothelial cell injury and lung fluid accumulation. Dr. Zha also received a new NIH R01 grant to study the neuroprotective role of OGR1 in brain ischemia.

We are pleased to announce the addition of Dr. Michael Francis as a new assistant professor in the department. Dr. Francis has also been awarded an NIH five-year grant to study the function of blood vessels.

The department faculty continue to contribute to medical education. Several faculty members serve as module/course directors, lecturers, facilitators of active learning sessions and mentors. The faculty significantly contributed to the Cardiovascular and Urinary modules for M1 as well as Respiratory, Digestive, Endocrine/Reproductive, Musculoskeletal and Neuroscience/Behavior modules for M2. Many of the faculty served as mentors for the Medical Student Summer Research program. Megan Zak, a fourth year medical student has successfully completed her MD Honors Project in Dr. Taylor's laboratory.

In addition to medical school teaching activities, the faculty also actively taught in the Basic Medical Sciences Graduate Program. Drs. Stevens and Sayner were course directors for IDL 630 Lung Biology. Also, Drs. Alexeyev, Lin, Taylor, Weber and Zha taught extensively in various graduate courses. Mohammed Berrou, a third year pulmonary fellow training in Dr. Stevens lab, had an abstract competitively selected for presentation at the 13<sup>th</sup> Annual Respiratory Disease Young Investigators Forum in Denver, CO.

Dr. Mark Taylor has been appointed as co-director of the new Office for Research Education and Training. This office will develop an integrated undergraduate summer research program for the College of Medicine, offer new Dean's fellowships for first- and second-year pre-doctoral students and provide career development courses and workshops.

We also continue to add innovative new programs. We are in the process of developing a data archiving repository for translational research as well as a biorepository for animal and human resources. The department has continued to be productive in scholarly achievements. The faculty contributed ten articles to peer-reviewed journals as well as twenty-five abstracts and one book chapter. Dr. Mark Taylor received the "Wiedherhielm Award" from the Microcirculatory Society for the most cited Microcirculation publication over the previous five year period. Dr. Alexeyev's lab received the Blue Flame award from Addgene. This award is issued to a lab when one of the deposited DNA molecules (plasmids) is distributed to at least 100 labs nationally and internationally.

Several faculty delivered lectures to professional societies and international meetings this year. Dr. Stevens gave a seminar entitled “Infectious proteinopathy: a lung-brain axis?” at Harvard Medical School, Massachusetts General Hospital in Boston, MA. Dr. Alvarez presented at the Keystone Symposia on Molecular and Cell Biology in Banff, Alberta, Canada. He also participated in the 2016 Gulf Region Health Outreach Program presented by the Emerging Scholars Environmental Sciences Academy. Dr. Zha gave a seminar entitled “Region-specific contribution of ASIC2 to neuronal injury” at the Wuhan Science and Technology University School of Medicine, Wuhan, China in December 2016.

The department of Physiology & Cell Biology continues to recruit new faculty and strives to contribute to the College of Medicine’s mission of research, teaching and service.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Psychiatry**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Currier JM, Smith PN, Kuhlman S. Assessing the unique role of religious coping in suicidal behavior among U.S. Iraq and Afghanistan veterans. *Psycholog Relig Spiritual*. 2017 Feb;9(1):118–23.

Currier JM, Stefurak T, Carroll TD, Shatto EH. Applying trauma-informed care to community-based mental health services for military veterans. *Best Pract Ment Health*. 2017 Jan;13(1):47-65.

Griffeth B, Brooks W, Foster A. A psychiatric-specific entrustable professional activity for the evaluation of prospective psychiatric residents: towards a national standard. *MedEdPORTAL*. 2017 May 23;13:10584. Available from: <https://www.mededportal.org/publication/10584/esr/>

Jeter K, Zlomke K, Shawler P, Sullivan M. Comprehensive psychometric analysis of the Eyberg Child Behavior Inventory in children with autism spectrum disorder. *J Autism Dev Disord*. 2017 May;47(5):1354–68.

Johnson RB, Onwuegbuzie AJ, de Waal C, Stefurak T, Hildebrand D. Unpacking pragmatism for mixed methods research: the philosophies of Peirce, James, Dewey, and Rorty. In: Wyse D, Selwyn N, Smith E, Suter L, editors. *The BERA/SAGE handbook of educational research*. London: Sage Publications; 2017. Chapter 12, p. 259-79.

Langhinrichsen-Rohling J, Thompson K, Selwyn C, Finnegan H, Misra T. Maladaptive schemas mediate poor parental attachment and suicidality in college students. *Death Stud*. 2017 Jul;41(6):337–44.

Rohling ML, Axelrod BN, Langhinrichsen-Rohling J. Fundamental forensic statistics: statistics every forensic neuropsychologist must know. In: Bush SS, Demakis GJ, Rohling ML, editors. *APA handbook of forensic neuropsychology*. Washington, D.C.: American Psychological Association; 2017. Chapter 1, p. 3–22.

Rohling ML, Langhinrichsen-Rohling J, Axelrod BN. Mild traumatic brain injury. In: Bush SS, Demakis GJ, Rohling ML, editors. *APA handbook of forensic neuropsychology*. Washington, D.C.: American Psychological Association; 2017. Chapter 7, p. 147–200.

Rohling JL, Ponquinette D. Improving health in an integrated health care system: empowering pharmacists to function as key agents of change. *SOJ Pharm Pharm Sci*. 2016 Oct 19;3(2):1–4.

Smith PN, Kuhlman S, Wolford-Clevenger C, Faulk R, D'Amato D, Granato S. Interpersonal trauma, posttraumatic stress disorder symptoms, and the interpersonal theory of suicide in women seeking shelter from intimate partner violence. *J Aggress Maltreat Trauma*. 2016;25(8):812–30.

Smith PN, Stanley IH, Joiner TE Jr, Sachs-Ericsson NJ, Orden KA. An aspect of the capability for suicide—fearlessness of the pain involved in dying--amplifies the association between suicide ideation and attempts. *Arch Suicide Res*. 2016 Oct-Dec;20(4):650–62.

Varner S, Langhinrichsen-Rohling J, Bell TR. Persisting generalized anxiety disorder and physical health symptoms 18 months after the Deepwater Horizon oil spill: a community sample. *J Community Psychol*. 2016 Nov;44(8):1011–26.

Williams SG, Turner-Henson A, Langhinrichsen-Rohling J, Azuero A. Depressive symptoms in 9th graders: stress and physiological contributors. *Appl Nurs Res*. 2017 Apr;34:24–8.

Wolford-Clevenger C, Brem MJ, Elmquist J, Florimbio AR, Smith PN, Stuart GL. A test of the interpersonal-psychological theory of suicide among arrested domestic violence offenders. *Psychiatry Res*. 2017 Mar;249:195-9.

Wolford-Clevenger C, Smith PN. The conditional indirect effects of suicide attempt history and psychiatric symptoms on the association between intimate partner violence and suicide ideation. *Pers Individ Dif*. 2017 Feb 1;106:46–51.

Zlomke KR, Jeter K, Murphy J. Open-trial pilot of parent-child interaction therapy for children with autism spectrum disorder. *Behav Ther*. 2017 Feb;39(1):1–18.

## **II. PUBLISHED ABSTRACTS**

Anderson CE, Jackson S, Langhinrichsen-Rohling J. Screening for resilience in primary care: a strategy for the future? 50<sup>th</sup> Annual Convention of the Association for Behavioral and Cognitive Therapies; 2016 Oct 27-30; New York, NY. Abstract no. PS2-#B43.

Jackson T, Kilgo W, Stewart L, Parker S. Autoimmune limbic encephalitis: finding out that zebras live in our neighborhood. Alabama Psychiatric Physicians Association Spring Conference; 2017 Apr 21-22; Montgomery, AL. Abstract 17-1-06.

Richard MM, Schneider M, Langhinrichsen-Rohling J. Losing one's virginity and being dumped: predicting stalking post breakup. 50<sup>th</sup> Annual Convention of the Association for Behavioral and Cognitive Therapies; 2016 Oct 27-30; New York, NY. Abstract no. PS2-#B34.

Rizk D, Marmalich D, Brooks WB. Tardive dyskinesia: management options. Alabama Psychiatric Physicians Association Fall Conference; 2016 Oct 8; Tuscaloosa, AL. Abstract no. 16-2-04.



Rizk D, Sullivan A, Marmalich D, Brooks WB. The ethical use of placebos. Alabama Psychiatric Physicians Association Spring Conference; 2017 Apr 21-22; Montgomery, AL. Abstract no. 17-1-07.

Schneider M, Boone S, Langhinrichsen-Rohling J. Unwanted pursuit behavior perpetration: wanting to feel desirable again. 50<sup>th</sup> Annual Convention of the Association for Behavioral and Cognitive Therapies; 2016 Oct 27-30; New York, NY. Abstract no. PS4-#B35.

Smith KN, Schneider M, Langhinrichsen-Rohling J. Love styles: factors for initiating unwanted contact with an ex-partner. 50<sup>th</sup> Annual Convention of the Association for Behavioral and Cognitive Therapies; 2016 Oct 27-30; New York, NY. Abstract no. PS9-#A13.

### **III. PUBLISHED BOOKS**

### **IV. INVITED PRESENTATIONS**

Brooks WB. Invited speaker. Treatment of agitation in dementia. Fourth Annual University of South Alabama Neuroscience Symposium; 2017 Apr 2; Orange Beach, AL.

Brooks WB. Invited speaker. Treatment of agitation in the patient with dementia. Alabama Psychiatric Physicians Association Fall Conference; 2016 Oct 8; Tuscaloosa, AL.

Crapanzano K, Engeriser JL, Batsel-Thomas S. Invited speakers. Assessment in the age of milestones: improving and refining your resident assessment program. 46<sup>th</sup> American Association of Directors of Psychiatric Residency Training Annual Meeting; 2017 Mar 10; San Francisco, CA.

Engeriser JL. Invited speaker. Combat trauma and PTSD. State of Alabama Disability Determination Services Lunch and Learn; 2017 Aug 15; Mobile, AL.

Engeriser JL. Invited speaker. Misuse of benzodiazepines. Intensive Course in Prescribing of Controlled Drugs and Controversies of Pharmacology Prescribing; 2017 Jul 8; Point Clear, AL.

Engeriser JL. Invited speaker. Overview of mental health and treatment options. Viva Medicare Café Mobile Ask the Expert; 2017 Jun 15; Mobile, AL.

Finnegan HA, Selwyn C, Langhinrichsen-Rohling J, Wornell C. Invited speakers. Deepwater Horizon oil spill: a very different disaster. Mississippi-Alabama Bays and Bayous Symposium 2016; 2016 Nov 30; Biloxi, MS.

Friend J, Langhinrichsen-Rohling J, Brazeal M, Rehner T, Hansel T Speier A, Osofsky H, Osofsky J, Rohrer G. Invited speakers. Developing community resilience through mental

and behavioral health service delivery in integrated settings. 2017 Gulf of Mexico Oil Spill & Ecosystem Science Conference (GoMOSES); 2017 Feb 8; New Orleans, LA.

Langhinrichsen-Rohling J. Invited speaker. Stressor sensitive services: successful integrated behavioral health services for disaster-vulnerable populations. Mississippi-Alabama Bays and Bayous Symposium 2016; 2016 Nov 30; Biloxi, MS.

Langhinrichsen-Rohling J. Invited speaker. Improving population health post-disaster. Mississippi-Alabama Bays and Bayous Symposium 2016; 2016 Nov 30; Biloxi, MS.

Selwyn C, Langhinrichsen-Rohling J, Wornell C, Finnegan H. Invited speakers. Fostering a resilient community: utilizing community training to restore and strengthen disaster-prone areas. 2017 Gulf of Mexico Oil Spill and Ecosystem Science Conference; 2017 Feb 8; New Orleans, LA.

Wilkins K, Wagenaar D, Brooks W. What's trending in medical education: implications for geriatric psychiatry. American Association for Geriatric Psychiatry Annual Meeting; 2017 Mar 24; Dallas, TX.

## V. NATIONAL PROFESSIONAL RECOGNITION

Luke Engeriser. President-Elect of the Alabama Psychiatric Physician Association.

Ronald Franks: Finished a term as Immediate Past President of the Alabama Medical Association and later Secretary-Treasurer. He has also concluded serving as Chair of the Governor's Task Force to Improve the Health of Alabama.

Jennifer Langhinrichsen-Rohling: Moderator, The Future is integrated care: mental and behavioral health service delivery in primary care settings. 50th Annual Convention of the Association for Behavioral and Cognitive Therapies; 2016 Oct 30; New York, NY.

Sandra Parker: Dr. Parker has completed her term as President of the Alabama Psychiatric Physician Association.

## VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

### **Departmental Educational Accomplishments:**

Named the Highest Ranked Senior Elective by the Class of 2016

Achieved the highest NBME subject exam scores for junior clerkship students

Achieved maximum years of accreditation for both General Psychiatry Residency and for Child and Adolescent Psychiatry Fellowship

### **Clinical Programs:**

Initiated psychiatry service at Student Health, offering psychiatric evaluation and treatment to USA students.

## **Education**

The Department continues to have a strong medical student educational program. The third year students on Psychiatry have continued to achieve the highest NBME subject exam scores of all the junior clerkships. Further, the graduating students have continued to exceed the national percentage (4.1%) of medical students going into psychiatry by two to three fold over each of the last several years, with ~10% choosing psychiatry in the 2017 match. This success is reflective of the behavioral science instruction offered during the neuroscience block in the first two years, coupled with a junior clerkship routinely rated as the second highest by the students. Clearly, the faculty's commitment to the students' education, combined with their mentoring of the students, and their serving as effective role models for the students, largely explains this percentage going in to psychiatry.

For graduate medical education, both the residency and child fellowship continue to meet or exceed expectations. Each received the maximum length of time awarded for their accreditation by the ACGME, ten years.

## **Clinical Activity**

Our unique model of an academic department of psychiatry integrated within a regional community mental health center (AltaPointe) has continued to effectively serve the region with comprehensive, state-of-the-art mental health services to all populations. The association with the COM has ensured a wealth of teaching patients for the students, residents, and fellows, while also enhancing the recruitment of high quality clinical faculty. AltaPointe has continued to expand its reach to include other mental health centers in Alabama, thereby bringing comprehensive mental health services to more communities throughout the state. Also expanded, the psychiatry residents, under faculty supervision by the Chair, are now providing psychiatric services to all USA students through the Student Health Center on two afternoons per week from just one.

## **Research**

The department continues to expand its scholarly activities through published manuscripts as well as regional and national presentations. A promising, interdisciplinary research project looking at mitochondrial DNA under conditions of induced stress links the Departments of Pharmacology and Psychology, the College of Nursing, together with the Department of Psychiatry is now approved by the IRB and beginning to test subjects. Grant funding will be sought if preliminary results are significant. Dr. Billett is serving as principal investigator of that project.

## **Leadership**

Dr. Parker has completed her term as President of the Alabama Psychiatric Physician Association with Dr. Engeriser now serving as President-Elect. The Chair has finished his term as Immediate Past President of the Alabama Medical Association and later Secretary-Treasurer. He has also concluded serving as Chair of the Governor's Task Force to Improve the Health of Alabama. Psychiatry residents have held national offices in both the AMA and APA. A junior faculty member serves as the representative to the Board of the Medical Association of the Young Physicians Section. He also holds a national office at the American Psychiatric Association.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Radiology**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Abdul-Rahim O, Weinstein J, Brady P. Comments on: inferior vena cava filters in pregnancy: a systematic review. J Vasc Interv Radiol. 2016 Nov;27(11):1774-6.

Ingram W, Chaudry S, Chouhdry F, Gupta SK. Hydatid cyst of the liver in a 57 year old veteran. American College of Radiology Case in Point. 2017 Mar 10. Available from: <https://3s.acr.org/CiP/Pages/CaseView?CaseId=T8y6Wjt8Npl%3d&Preview=true> (Subscription required).

Ochoa JG, Hentgarden D, Paulzak A, Ogden M, Pryson R, Lamle M, Rusyniak WG. Subtle pathological changes in neocortical temporal lobe epilepsy. Epilepsy Behav. 2017 Jun;71(Pt A):17-22.

**II. PUBLISHED ABSTRACTS**

Lammle M, Reddy K, Anand D, Cordina S. CT angiography of the head and the neck using digital subtraction: pearls and pitfalls. American Society of Neuroradiology 55<sup>th</sup> Annual Meeting; 2017 Apr 24-27; Long Beach, CA. Abstract no. eEdE-88. Available from: <https://ww4.aievolution.com/asn1701/index.cfm?do=abs.viewAbs&abs=2702>

Reddy K, Lammle M. Post-traumatic pseudomeningocele: four cases and a review of the literature. American Society of Neuroradiology 55<sup>th</sup> Annual Meeting; 2017 Apr 24-27; Long Beach, CA. Abstract no. Ede-80. Available from: <https://ww4.aievolution.com/asn1701/index.cfm?do=abs.viewAbs&abs=2695>

**III. PUBLISHED BOOKS**

**IV. INVITED PRESENTATIONS**

Abdul-Rahim O. Invited speaker. The interventional radiologist's toolbox to liver directed therapy. Oncology Outlook 2017; 2017 Apr 1; Pensacola, FL.

Lammle M. Invited speaker. Advanced neuroimaging and clinical applications. Alabama Advanced Imaging Consortium 2017; 2017 Jul 22; Birmingham, AL.

Varner S, Bradley K, Abdul-Rahim O. Invited speakers. Pelvic congestion syndrome. The 26<sup>th</sup> University of South Alabama Obstetrics and Gynecology Conference; 2017 April 21; Daphne, AL.

## V. NATIONAL PROFESSIONAL RECOGNITION

Oganes Ashikyan. Reviewer, *Skeletal Radiology*.

Markus Lammler: Moderator and Presenter, *Neuroanatomical Correlation Conference*. Senior Member, *American Society of Neuroradiology*. Faculty Member, *Alabama Advanced Imaging Consortium*.

Maria S. Figarola: Southern Radiological Conference, Executive Committee (2011-present).

## VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Dr. Osama Abdul Rahim is chief of interventional radiology and has been indispensable to the health system in providing trauma level one interventional service at a time when the Department of Radiology lost 1.5 FTE in his section. Dr. Abdul-Rahim has been the consummate professional and the epitome of dedication when it has come to covering the 24/7 clinical demands of a growing IR section with only periodic coverage by Locum Tenens. He has played an important advisory role in the department's efforts to gain Early Specialization in Interventional Radiology accreditation.

Dr. Oganes Ashikyan continued to play a critical role in both service and resident education for the musculoskeletal radiology section as division chief. He served on the hospital stroke committee and has provided leadership as the MRI safety medical director and quality improvement representative. He developed multiple MRI safety protocols and also helped to organize and implement ongoing radiology resident QI projects.

Dr. Shikha Gupta is chief of the nuclear medicine section, and has excelled in providing unique clinical services in advanced imaging including high-quality PET-CT interpretations as well as expertise in cross sectional imaging of liver and colorectal cancer. These skills and expertise allow her to work closely with the MCI oncologists, hepatologists and surgeons to provide a team approach to oncology diagnosis and treatment. She is co-director for the radiology rotation for M4 medical students.

Dr. Markus Lammler, chief of neuroradiology, has provided leadership in service, education and research for his section of the department. His service to the department includes updated safety and scan protocols with advanced neuroimaging techniques in support of neurology and neurosurgery. These include the addition of Diffusion Tensor Imaging, functional MRI and advanced epilepsy imaging. Dr. Lammler chairs our radiology M&M committee, is on the COM CME committee, and is the radiology representative to the trauma peer review and stroke committees. Nationally, he is a member of Alabama Advanced Imaging Consortium and a senior member of the American Society of Neuroradiology.

Dr. Joel Lightner, chief of the breast imaging section, continues to play a key role in our department's clinical imaging services and resident education. He has been a lead advisor

on the breast program leadership committee which is responsible for obtaining national accreditation of our breast imaging center from the NAPBC. This has been a lengthy and time intensive process involving a broad interdisciplinary team. In addition, Dr. Lightner regularly meets with USA surgeons and oncologists to develop treatment plans for breast cancer patients. He has earned regional recognition as an expert in his field and was most recently an invited lecturer for a USA sponsored annual mammography conference for technologists. Dr. Lightner was voted Teacher of the Year by the graduating senior radiology residents. He is also assuming the role of assistant program director.

Dr. Ian Malcolm remains section chief of chest radiology, a subspecialty area required for ACGME residency training and accreditation. He continues to give regular bimonthly lectures in cardiothoracic radiology. His evaluations by the residents remain above average. Dr. Malcolm also has one of the highest productivity rankings of all our faculty.

Dr. Sam McQuiston provides an invaluable contribution to the education, service and leadership in the department of radiology in addition to his service and leadership to the College of Medicine as the assistant dean of GME. As program director for the department of radiology, Dr. McQuiston ensures that the residency program meets all of the standards required for ACGME accreditation. He is also very active in mentoring medical students and has developed courses for the M2 clinic experience and M3 selective in radiology. Dr. McQuiston coordinated efforts to gain ACGME accreditation for an Early Specialization in Interventional Radiology program. He is a member of numerous College of Medicine and departmental committees including the USA Health System P.I. Council.

Dr. Margaret Mowry remains a great asset to the department. In particular, she provides expertise in interpreting studies and teaching in many areas where we have a faculty shortfall including Mammography, body imaging, and PET CT. As our only body fellowship trained radiologist, she provides resident lectures in this area. She also continues to provide contributions to MRI teaching and supervision.

Dr. Elizabeth Park has been a part-time .5 FTE breast imager in our department. She was instrumental in providing support during the move to the Strada outpatient women's imaging center. She also provided expertise to the breast program leadership committee, responsible for obtaining national accreditation for a breast imaging center from the NAPBC. Dr. Park is part of the interdisciplinary team of USA surgeons and oncologists who develop treatment plans for breast cancer patients.

Dr. Todd Standley is an outstanding fellowship trained pediatric radiologist with an added Certificate of Additional Qualification. His contributions to the pediatric radiology department at Children's and Women's hospital have been vital in clinical service and resident education. As one of the few subspecialty certified pediatric radiologists in the region, Dr. Standley provides higher level interpretations on all pediatric imaging studies performed in the USA Health System. Dr. Standley is the pediatric radiology faculty advisor at the monthly Pediatric Tumor Board and Children with Special Needs conferences. He is the director for the pediatric radiology rotation for the M4 medical

students. He is also a member of and advisor for the Quality Improvement Committee for the radiology department.

Dr. Brad Steffler continues to provide excellent service to the radiology department as the current chief of the body imaging section. He also provides expertise in basic interventional radiology procedures. Dr. Steffler is a co-investigator with Dr. Cash Brooks in the TOPAZ study, an interdepartmental collaboration evaluating the use of the pill-cam versus CT colonography with optical colonography control. He has also become the radiology representative on the Emergency Department committee.

Our residents continue to excel with 100% pass rate on the last annual ABR core exam. All of our senior residents matched in prestigious fellowship programs at institutions such as University of Alabama in Birmingham, University of Colorado, Georgetown University, Washington DC, University of North Carolina at Chapel Hill, and University of California at San Diego. In addition, many of our residents who have found employment locally have been willing to provide PRN services to our department.

Overall, the Department of Radiology has had significant growth in numbers of exams, particularly in IR, CT, and MRI. The new shared Phillips bi-plane unit has become operational as well as an additional 1.5 Tesla Phillips MRI at the Medical Center and a Hologic 3D tomosynthesis unit at the new Strada Women's Imaging Center. We continue to have collaborative efforts across multiple departments, including an NIH grant proposal for a MRI cardiac study with Dr. Julia Kar in the Mechanical Engineering department. We look forward to a busy year of recruiting additional premier radiologists to fulfill our growing clinical service, teaching and research missions.

**2016-2017**  
**Summary of Scholarly Activities**  
**Department of Surgery**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Abraham G, Rider PR, Grimm LM. An educational and instructional video for a laparoscopic left hemicolectomy [video]. In: SCORE Portal [database online]. Charlottesville, VA: Silverchair Information/Systems [2017 Mar: cited 2017 Sep 26]. Available from: <http://www.surgicalcore.org/videos> (Subscription required).

Blair SG, Quang CY, McKee KC, Simmons JD, Brevard SB. Misplaced central venous catheter or persistent left superior vena cava? *Am Surg*. 2017 Mar 1;83(3): 76-7. (Subscription required).

Brooks R, Nguyen J, Chowdhry S, Tutela JP, Kelishadi S, Yonick D, Cho J, Wilhelmi BJ. Champagne groove lipectomy: a safe technique to contour the upper abdomen in abdominoplasty. *Eplasty* 2017 Mar 6;17:e9. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5344986/pdf/eplasty17e09.pdf>

Cloyd JM, Tran Cao HS, Petzel MQ, Denbo JW, Parker NH, Nogueras-González GM, Liles JS, Kim MP, Lee JE, Vauthey JN, Aloia TA, Fleming JB, Katz MH. Impact of pancreatectomy on long-term patient-reported symptoms and quality of life in recurrence-free survivors of pancreatic and periampullary neoplasms. *J Surg Oncol*. 2017 Feb;115(2):144-50.

Cohen AL, Ray A, Van Brocklin M, Burnett DM, Bowen RC, Dyess DL, Butler TW, Dumlao T, Khong HT. A phase I trial of azacitidine and nanoparticle albumin bound paclitaxel in patients with advanced or metastatic solid tumors. *Oncotarget*. 2016 Dec 26; 8(32):52413-9.

Deshmukh SK, Srivastava SK, Zubair H, Bhardwaj A, Tyagi N, Al-Ghadhban A, Singh AP, Dyess DL, Carter JE, Singh S. Resistin potentiates chemoresistance and stemness of breast cancer cells: implications for racially disparate therapeutic outcomes. *Cancer Lett*. 2017 Jun 28;396:21-9.

Deshmukh SK, Srivastava SK, Tyagi N, Ahmad A, Singh AP, Ghadhban AAL, Dyess DL, Carter JE, Dugger K, Singh S. Emerging evidence for the role of differential tumor microenvironment in breast cancer racial disparity: a closer look at the surroundings. *Carcinogenesis*. 2017 Aug 1;38(8):757-65.

Freno D, Cason B, Hunter J, Rider P, Grimm L. Surgical treatment of fistula-in-ano [video]. In SCORE Portal [database online]. Charlottesville, VA: Silverchair Information Systems [2017 May:cited 2017 Sep 26]. Available from: <http://www.surgicalcore.org/videos> (Subscription required).



Glasser JG. Pediatric omphalocele and gastroschisis. Medscape [Internet]. [2017 Mar:cited 2017 Oct 12]. Available from: <http://emedicine.medscape.com/article/975583-overview>

Lee YL, Obiako B, Gorodnya OM, Ruchko MV, Kuck JL, Pastukh VM, Wilson GL, Simmons JD, Gillespie MN. Mitochondrial DNA damage initiates acute lung injury and multi-organ system failure evoked in rats by intra-tracheal *Pseudomonas aeruginosa*. Shock. 2017 Jul;48(1):54-60.

Lee YL, Sims KD, Butts CC, Frotan MA, Kahn S, Brevard SB, Simmons JD. The combination of SAT and SBT protocols may help reduce the incidence of ventilator-associated pneumonia in the burn intensive care unit. J Burn Care Res. 2017 Mar/Apr;38(2):e574-9.

Means O, Prevost M, Seay R, Brooks RM. Suppurative flexor tenosynovitis secondary to hematogenous seeding. Eplasty. 2017 Jun 1;17:ic12. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5466145/pdf/eplasty17ic12.pdf>

Patterson SB, Beckett AR, Lintner A, Leahey C, Greer A, Brevard SB, Simmons JD, Kahn SA. A novel classification system for injuries after electronic cigarette explosions. J Burn Care Res. 2017 Jan/Feb;38(1):e95-100.

Payne I, Grimm LM Jr. Functional disorders of constipation: paradoxical puborectalis contraction and increased perineal descent. Clin Colon Rectal Surg. 2017 Feb;30(1):22-9.

Payne I, Grimm L, Rider P. Closed lateral internal sphincterotomy. [video] In: SCORE Portal [database online]. Charlottesville, VA: Silverchair Information/Systems. [2016 Oct: cited 2017 Sep 26]. Available from: <http://www.surgicalcore.org/videos> (Subscription required).

Quang CY, Blair SG, Watson R, Brevard SB, Simmons JD, Tan MCB. Postoperative central anticholinergic syndrome: is it really that rare? Am Surg. 2017 Mar 1;83(3):104-5. (Subscription required).

Quang C, Hill S, Blair S, Dyess DL, Liles JS. Patient and tumor disparities in breast cancer based on insurance status. Am Surg. 2017 Aug 1;83(8):875-80.

Rea J, Grimm L. The preoperative staging of rectal cancer. American Society of Colon and Rectal Surgeons (ASCRS) ColoRectal Educational System Template (CREST) [Internet]. [2017 Jan: cited 2017 Sep 26]. Available from: <https://www.fascrs.org/news/2017/01/09/crestr-core-subject-preoperative-staging-rectal-cancer> (Subscription required).

Rostas JW, Lively TB, Brevard SB, Simmons JD, Frotan MA, Gonzalez RP. Rib fractures and their association with solid organ injury: higher rib fractures have greater significance for solid organ injury screening. Am J Surg. 2017 Apr;213(4):791-7.

Simmons JD, Freno DR, Muscat CA, Obiako B, Lee YL, Pastukh VM, Brevard SB, Gillespie MN. Mitochondrial DNA damage associated molecular patterns in ventilator-associated pneumonia: prevention and reversal by intratracheal DNase I. *J Trauma Acute Care Surg.* 2017 Jan;82(1):120-5.

Simmons JD, Lee YL, Pastukh VM, Capley G, Muscat CA, Muscat DC, Marshall ML, Brevard SB, Gillespie MN. Potential contribution of mitochondrial DNA damage associated molecular patterns in transfusion products to the development of acute respiratory distress syndrome after multiple transfusions. *J Trauma Acute Care Surg.* 2017 Jun;82(6):1023-9.

Sims K, Tan MCB. How to prepare for your next distal pancreatectomy. [video] In: SCORE portal [database online]. Charlottesville, VA: Silverchair Information Systems [2017; cited 2017 Sep 26]. Available from: <http://www.surgicalcore.org/videos> (Subscription required).

Young JB, Gondek SP, Kahn SA, May AK. Challenging IV access in the patient with septic shock. In: Diaz JJ, Efron DT, editors. *Complications in acute care surgery: the management of difficult clinical scenarios*. Switzerland: Springer International Publishing; 2017. Chapter 1, p. 1-13.

Zak M, Means O, Cason B, Brooks R. Management of severe burn microstomia. *Eplasty.* 2016 Nov 22;16:ic45. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5120371/pdf/eplasty16ic45.pdf>

## II. PUBLISHED ABSTRACTS

Abraham GS, Sobrino J, Richards WO. Highly selective vagotomy and pyloroplasty: an educational video. Society of American Gastrointestinal and Endoscopic Surgeons Scientific Session & Postgraduate Courses; 2017 Annual Meeting; 2017 Mar 22-25; Houston, TX. p. 37. Abstract no. VO11.

Bardia N, Sobrino J, Ricks W, Richards WO. Vitamin C deficiency in the hernia population. Southeastern Surgical Congress 2017 Annual Scientific Meeting; 2017 Feb 25-28; Nashville, TN. p. 195. Abstract no. 190.

Bierman T, Tan M. Superficial inguinal lymph node dissection. American College of Surgeons Clinical Congress 2016;2016 Oct 16; Washington DC.

Chesney J, Awasthi S, Curti B, Hutchins L, Linette G, Triozzi P, Tan M, Brown R, Nemunaitis J, Whitman E, Windham C, Lutzky J, Downey G, Batty N, Amatruda T. Safety results from an expanded access protocol of talimogene laherparepvec for patients with unresected, stage IIIB-IVM1c melanoma in the United States. HemOnc TODAY Melanoma and Cutaneous Malignancies Meeting, 2017 Mar 24-25; New York, NY.

Daniel CL, Gassman NR, Fernandez AM, Tan MCB. Tanning behaviors of participants in a female national college scholarship program in the U.S. American Society of Preventive Oncology 41<sup>st</sup> Annual Conference; 2017 Mar 11-14; Seattle, WA. p. 40. Abstract no. 8.

Fernandez AM, Tan MC, Gassman NR, Bae S, Daniel CL. Intentional tanning behaviors of male tanners at a southeastern U.S. university. American Society of Preventive Oncology 41<sup>st</sup> Annual Conference; 2017 Mar 11-14; Seattle, WA. p. 43. Abstract no. 13.

Kummerow-Broman K, Phillips SE, Faqih A, Kaiser J, Pierce RA, Poulouse BK, Richards WO, Sharp KW, Holzman MD. Heller myotomy versus Heller myotomy with Dor fundoplication for achalasia: long-term symptomatic follow up of a prospective randomized controlled trial. Society of American Gastrointestinal and Endoscopic Surgeons 2017 Scientific Session & Postgraduate Courses; 2017 Mar 22-25; Houston, TX. p. 77. Abstract no. SO96.

Lasecki, CH, Williams AY, Mujica FC, Stutsman S, Simmons JD, Ding L, Brevard SB. Geospatial mapping can be used to identify geographic areas and social factors associated with intentional injury as targets for prevention efforts distinct to a given community. 47<sup>th</sup> Annual Western Trauma Association Meeting; 2017 Mar 5-10; Snowbird, UT. p. 145. Abstract no. 42.

Long E, Chen J, Mansour T, Richards WO. Early follow up of the LINX reflux management system for GERD patients. Southeastern Surgical Congress 2017 Annual Scientific Meeting; 2017 Feb 25-28; Nashville, TN. p. 180. Abstract no. 48.

Long E, Chen J, Richards W. Lessons learned from patients presenting for reflux surgery. Society of American Gastrointestinal and Endoscopic Surgeons 2017 Scientific Session & Postgraduate Courses; 2017 Mar 22-25; Houston, TX. p. 155. Abstract no. P381.

Quang C, Liles JS. Impact of insurance status on breast cancer disparities. Southeastern Surgical Congress 2017 Annual Scientific Meeting; 2017 Feb 25-28. Nashville, TN. p. 34. Abstract no. R6.

Reed H, Blount J, Grimm L. Familial adenomatous polyposis (FAP). University of South Alabama College of Medicine Case Report Symposium; 2017 Jun 9; Mobile, AL. Abstract no. 22.

Sims KD, Rider PF, Hunter J, Grimm L. Pelvic MRI imaging paramount in preoperative planning of previously drained presacral cystic neoplasm. American Society of Colon and Rectal Surgeons 2017 Annual Scientific and Tripartite Meeting; 2017 Jun 10-14; Seattle, WA. p. 116. Abstract no. P114.

Tan M, Gassman NR, Fernandez A, Bae S, Daniel CL. High prevalence of combination tanning among undergraduates: survey of a southeastern U.S. university. 38th Annual Meeting and Scientific Sessions of the Society of Behavioral Medicine; 2017 Mar 29-Apr 1; San Diego, CA. Abstract no. B046.

Yuzefovych L, Pastukh V, Ruchko M, Prutzman K, Simmons J, Gillespie M, Richards W, Rachek L. Extracellular circulation mitochondrial DNA is elevated in obese type 2 diabetes patients and positively correlates with insulin resistance. The Obesity Society Annual Meeting at Obesity Week 2016; 2016 Oct 31-Nov 4; New Orleans, LA. p. 18. Abstract no. T-OR-2025.

### **III. PUBLISHED BOOKS**

### **IV. INVITED PRESENTATIONS**

Butts C, Biermann T, Lintner A, Simmons JD, Brevard SB, Kahn SA. Invited speakers. Care for vesicant injuries-not just historic footnotes. 29<sup>th</sup> Annual Southern Region Burn Conference; 2016 Nov 5; Atlanta, GA.

Dyess DL. Invited speaker. Abnormal breast update. 13th Annual Alabama Department of Public Health Nurse Practitioner Conference; 2017 Apr 27; Prattville, AL.

Dyess L. Invited speaker. Advances in breast cancer treatment. 2017 University of South Alabama Medical Alumni Association Reunion Weekend; 2017 Jun 10; Pensacola Beach, FL.

Grimm L. Invited speaker. Compassionate care in the medical field. University of South Alabama College of Medicine Gold Humanism in Medicine Honor Society; 2017 Mar 9; Mobile, AL.

Grimm L. Invited speaker. Rwanda – compassionate care in the medical field. University of South Alabama College of Medicine Alpha Omega Alpha Honor Medical Society; 2017 Apr 13; Mobile, AL.

Hartin C. Invited speaker. Pigeon chest and caved-in chest. University of South Alabama Med School Café; 2017 Aug 11; Mobile, AL.

Hunter JL, Patterson SB, Simmons JD, Kahn SA. Invited speakers. Prison napalm: chemical warfare in modern day prisons. 29<sup>th</sup> Annual Southern Region Burn Conference; 2016 Nov 4; Atlanta GA.

Kahn SA. Invited speaker. Fish-tank methamphetamine lab explosions: exploring a new injury pattern. 29<sup>th</sup> Annual Southern Region Burn Conference; 2016 Nov 6; Atlanta GA.

Kahn SA, Lintner A, Patterson SB. Invited speakers. Six months experience with the use of hyaluronic acid based dressings in the reconstruction of full-thickness burns and wounds. 29<sup>th</sup> Annual Southern Region Burn Conference; 2016 Nov 4; Atlanta GA.

Kahn SA, Mosier M. Invited speakers. Regional disparities in the National Burn Repository. American Burn Association 49<sup>th</sup> Annual Meeting; 2017 Mar 23; Boston, MA.

Kahn SA, Lee YH, Boatwright R, Flamm T, Woods J. Invited speakers. A pilot survey of southeastern firefighters regarding safety practices, use of protective gear, and associated injury patterns. American Burn Association 49<sup>th</sup> Annual Meeting; 2017 Mar 23; Boston, MA.

Kahn SA. Invited speaker. Managing burn injury: past, present, and future. University of South Alabama Med School Café; 2017 Jul 28; Mobile, AL.

Liles JS. Invited speaker. Assessing resectable status and its effect on outcomes in pancreatic cancer. Oncology Outlook 2017; Pensacola Beach, FL. 2017 Apr 1.

Liles JS. Invited speaker. Controversies in surgical oncology: surgical margins for breast cancer. American College of Surgeons Alabama and Mississippi Chapters 2017 Annual Conference; 2017 Jun 9; Point Clear, AL.

McGinn K, Kahn SA. Invited speakers. Use of nebulized heparin in the treatment of inhalation injury. 29<sup>th</sup> Annual Southern Region Burn Meeting; 2016 Nov 4; Atlanta, GA.

Rider P. Invited speaker. Anal fistulae/abscesses. American College of Surgeons Alabama and Mississippi Chapters 2017 Annual Conference; 2017 Jun 9; Point Clear, AL.

Scott G, Lintner A, Patterson S, Kahn SA. Invited speakers. Use of an adjusted ideal body weight index formula with FFP rescue for the resuscitation of critically ill burn patients. American Burn Association 49<sup>th</sup> Annual Meeting; 2017 Mar 24; Boston, MA.

Simmons J. Invited speaker. MtDNA DAMPs as propagators of distant organ failure. American College of Surgeons Clinical Congress; 2016 Oct 16; Washington, D.C.

Simmons J. Invited speaker. Blood banking. American College of Surgeons Alabama and Mississippi Chapters 2017 Annual Conference; 2017 Jun 10; Point Clear, AL.

Simmons J. Invited speaker. Fresh frozen plasma in trauma resuscitations. 8<sup>th</sup> Annual Greater Gulf Coast Trauma and Acute Care Surgery Symposium; 2017 Apr 7; Mobile, AL.

Sims K, Rider P, Grimm L, Richards W. Invited speakers. Over-the-scope clip closure of enterocutaneous fistula: a novel approach. American College of Surgeons Clinical Congress 2016; 2016 Oct 18; Washington, DC.

Tan M. Invited speaker. Biobank and use of biospecimens. University of South Alabama Clinical Research Fundamentals Training; 2017 May 23; Mobile, AL.

Tan M. Invited speaker. Assessing resectable status and its effect on outcomes in pancreatic cancer. University of South Alabama Mitchell Cancer Institute Oncology Outlook 2017; 2017 Apr 1; Pensacola Beach, FL.

Tan M. Invited speaker. Controversies in surgical oncology: surgical margins for breast

cancer. American College of Surgeons Alabama and Mississippi Chapters 2017 Annual Conference; 2017 Jun 9; Point Clear, AL.

Tan M. Invited speaker. Hepatocellular carcinoma: an interdisciplinary approach to management. University of South Alabama Mitchell Cancer Institute Oncology Outlook 2017; 2017 Apr 1; Pensacola Beach, FL.

## **V. NATIONAL PROFESSIONAL RECOGNITION**

D. Lynn Dyess: Alabama Chapter American College of Surgeons (ACS) – Governor

Lee Grimm: Invited Manuscript Reviewer for Annals of Surgery; Member, Alpha Omega Alpha Honor Medical Society (AOA); Member, Beta Chapter. Voted into membership as faculty - Spring 2017; Invited Member, American Society of Colon and Rectal Surgeons CREST (ColoRectal Educational System Template) Committee - 2015-present; Invited Member, American Society of Colon and Rectal Surgeons Young Physicians Committee – 2016-present; Invited Examiner, Mock Oral Boards and More Symposium and Workshop. 2017 American Society of Colon and Rectal Surgeons Annual Scientific Meeting. Seattle, WA. June 10, 2017; Invited Discussant, Surgical Education II. Abstract: Utility of a Standardized Fourth Year Medical Student Surgical Preparatory Curriculum: Program Director Perceptions. Owen H Wangenstein Scientific Forum. American College of Surgeons 2016 Annual Clinical Congress. Washington, DC. October 19, 2016; Invited Mock Interviewer. 2016 American College of Surgeons Medical Student Program. Washington, DC. October 18, 2016.

Steven Kahn: International Association of Firefighters, Medical Advisor; International Association of Firefighters Burn Injury Awareness Taskforce; Advanced Burn Life Support, National Faculty; National Burn Repository Advisory Committee, American Burn Association Advisor/Consultant, Medline Inc.

William Richards: Editorial Board J of Laparoendoscopic and Advanced Surgical Techniques Editorial Board Surgical Endoscopy; Ad hoc reviewer for Annals of Surgery, Surgical Endoscopy, Digestive Diseases and Sciences, Journal of Surgical Research, Surgery; Coordinating officer and Moderator for the video based education “Icons in Surgery” presented at the American College of Surgeons Clinical Congress October 5-6, Chicago, Illinois; External Associate of the Vanderbilt Institute for Integrative Biosystems Research and Education; Annual Best Doctors in America Database, Best Doctors, Inc.; U.S. News and World Report Top Doctors 2016; Past President Alabama Chapter American College of Surgeons; Board member Alabama Chapter American College of Surgeons; Member of the Mobile Health Department Board of Trust; Member of the Mobile Medical Society Board of Censors; Director of the Foregut Sessions at the Minimally Invasive Surgery Symposium, March 1-2, 2017, Las Vegas, Nevada

Paul Rider: Alabama State Chair, Commission on Cancer, American College of Surgeons June 2015-present; Member, Self-Assessment Committee, American Society of Colon and Rectal Surgeons – 2015-2017; Member, Alabama District #2 Committee on Applicants, American College of Surgeons – 2016-2017

Jon Simmons: Publications Committee, American Association for the Surgery of Trauma. 2016-present; State Emergency Medical Control Committee for Alabama. 2016-present; ACS Committee on Trauma. 2016- present; ATV Injury Prevention Committee. Eastern Association for the Surgery of Trauma. 2016-present.

Jon Simmons: Publications Committee – Association for Academic Surgery, Journal of Surgical Research. 2014-2016.

Jon Simmons: Clowes Award Presentation. 201; Peter C. Canizaro Award Presentataion 2016

Marcus Tan: Editorial board, Case Studies in Surgery (CSS); Invited reviewer, World Journal of Surgical Oncology, World Journal of Surgery, Cancer Science and Research, Journal of the Pancreas; Session Moderator. Controversies in surgical oncology. American College of Surgeons Alabama and Mississippi chapter meeting. 2017 Jun; Point Clear, AL.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

Medical Student Education: The Department of Surgery continues to have a leadership role in all aspects of student education. Sidney Brevard M.D., F.A.C.S., Lee Grimm, M.D., Paul F. Rider, M.D., F.A.C.S., Charles B. Rodning, M.D., F.A.C.S., Jon D. Simmons, M.D., F.A.C.S. and Marcus Tan, M.D., F.A.C.S. were awarded the red sash award by the senior medical students for their contributions to education. In addition, many faculty including Drs. Brevard, Grimm, Tan, Richards, and Rider participated in the active learning sessions for the first and second year students under the new system based curriculum.

Lee Grimm, M.D. reorganized the entire 3<sup>rd</sup> year student clerkship into an active learning experience with emphasis on student education in the core subjects of surgical sciences. The redesign of the entire curriculum was very successful and demonstrated a significant increase in the national board scores. From 2008-2015 the medical students performed on below the mean compared to the nation on the Surgery NBME exam (40%ile) while students who graduated in 2016 were exposed to an all newly designed Team-based learning modules designed by the faculty of the DOS. The students improved their NBME scores by 54.9% now performing at the 62%ile which is better than average compared to national performance. Average MCAT scores of the students entering USA COM prior to implementation of the TBL modules was no different than the 2016 students who performed so much better in the Surgery NBME which suggests that the difference in performance is related to the curriculum and teaching redesign implemented by Dr. Grimm and the faculty of the DOS.

General Surgery Residency Training: Dr. Simmons in his third year as Program Director along with associate program director Dr. Rider has provided outstanding leadership for resident education. Many of the advances in academics, ABSITE performance, and educational activities of the Department of Surgery can be attributed to Drs. Simmons and Rider. The program continues to make progress in first time pass rates for the written and oral boards in surgery. The 5 year first time pass rate for the written exam is 95% much better than the national average of 88%. All of the graduating residents for the last 3 years

have passed their written boards on the first time. The graduating residents continue to match into competitive fellowship programs or to successfully transition to private practice in general surgery.

Recruitment: The Department was able to recruit 4 outstanding surgeons to continue the clinical, academic, and educational missions of the Department who all started in the summer of 2016. Chip Hartin, M.D., F.A.C.S. provided great leadership and clinical care in Pediatric surgery, while Linda Ding, M.D. and Scott Patterson, M.D. provided much needed clinical care to Trauma/critical care/burn surgery. John Hunter was recruited to Colorectal Surgery and quickly proved to be a valuable addition to colorectal specialty care and to resident education in learning endoscopy.

Division of Traumatology/Surgical Critical Care: Sidney B. Brevard, M.D., F.A.C.S., is in his third year as director of the Division and program director of the surgical critical care fellowship program. Scott Patterson, M.D. successfully finished the critical care fellowship and was recruited to join the USA faculty as an attending trauma/burn/critical care surgeon. Steven Kahn, M.D. took over direction of the Burn unit completely transforming the unit in its clinical activities.

Dr. Brevard directed multiple courses of Advanced Trauma Life Support Training, and hosted the regional competition the Alabama Chapter of the American College of Surgeons Committee on trauma resident paper competition. He has been very active in conducting clinical trials of medications to improve outcomes in patients who have suffered from severe traumatic brain injuries. Measurement of quality has been an ongoing project for the department and in the trauma services our observed to expected mortality has improved to better than average when compared to other university hospital systems. The recent quarter Trauma O/E mortality is 0.84 ranking USA 69 out of 124 university hospitals. Of note nearly all the top 10 Vizient hospitals with low O/E mortality are not level 1 trauma centers and their case volume is much lower than our volume (80 cases v. 1,112 USA cases). Despite the fact that the Vizient data compares low volume level 2 trauma centers to our high volume level 1 center these reports suggest that our trauma service is performing at a good level of quality care as evidenced by our low observed to expected mortality ratio of 0.84.

Dr. Steve Kahn took over leadership of the Arnold Luterman regional burn unit and re-engineered the care delivered. Quality as measured by the observed to expected mortality (O/E ratio) has improved dramatically under Dr. Kahn's leadership and has been outstanding as evidenced by the substantially better than average O/E mortality last year of 0.84 which places USA burn unit in the top 10 Mortality O/E ratio in the Vizient Clinical outcomes report. During the second quarter of 2017 the Arnold Luterman Regional Burn unit was the #1 in the nation for the observed to expected mortality ratio of 0.00. Moreover USA had substantially more cases than 8 of the top 10 burn units while length of stay O/E (0.84) went down while serving more patients than in the year prior which is a tribute to all of the burn surgeons, critical care faculty, residents, nurse practitioners, physician assistants and staff who worked in the burn unit. Burn research and presentations to regional and national meetings were much increased from the previous year. Dr. Kahn



traveled to multiple hospitals in the region to perform outreach activities and develop relationships and referrals from the emergency rooms in order to improve burn care.

**Pediatric Surgery:** The Division was able to recruit Chip Hartin, M.D. FACS, a USA COM graduate to take over the responsibilities as Chief of the Division in July 2016. Dr Hartin was able to recruit Dr John Gosche into practice and invigorated the pediatric surgery program into a higher functioning unit. Vizient clinical outcomes reports show that USA Childrens' service has an exemplary O/E mortality of 0.00 for 340 cases this past year. Dr Hartin has also added additional clinical teaching of medical students on the service which appears to be very popular.

**Colorectal Surgery:** Dr. Rider in his third year as the Chief of the Division of Colorectal Surgery and a separate service with a chief resident in General Surgery serving on the service continued the development of the colorectal surgery division. Drs. Grimm and Rider developed the multidisciplinary Colorectal cancer multidisciplinary tumor conference in collaboration with radiation and medical oncologists in order to provide improved cancer care in the region. Since establishment of the colorectal cancer MDT in October 2015, 204 patients have been treated by this multi-disciplinary team. More than ½ of the patients came to USA from outside Mobile to obtain expert care for their colorectal cancer. With the recruitment of the third colorectal surgeon Dr. John Hunter the USA Department of Surgery is increasingly recognized for its clinical expertise in colorectal and gastro-intestinal surgery. Much of the credit for the general surgery improvement in observed to expected mortality in 2016/2017 is related to the superior care the colorectal service delivers while performing major small and large bowel flexible endoscopy training needed to graduate from general surgical residency programs by passing the Fundamental of Endoscopy course work and exam.

**General Surgery:** The Charles and Mary Rodning endowment for the educational activities of our residents has proved to be instrumental in funding travel for surgical residents to present their scientific work at regional and national meetings. Dr. Rodning has retired from active practice but continues to coordinate the Departments' conferences, and academic activities. One of the major changes was creation of a Chief Resident Clinic which is run by the PGY 5 Chief Resident with close attending supervision. There has been substantial improvement in quality of general surgical services which includes our Gastrointestinal, colorectal, and oncologic surgery divisions as measured by the University Hospital Consortium observed to expected mortality for (0.40) that was substantially better than expected and ranked 17 out of 135 University hospitals. This better than average performance has been consistent for the entire last 4 quarters and is an accomplishment made possible through excellence in provision of patients care by all the surgeons, residents, and clinical staff of the DOS. There has been a continual increase in patients' referrals to the surgical service from the community recognizing the improvement in surgical expertise and care of colorectal, cancer, gastrointestinal, and bariatric patients. The increase in the number and complexity of the patients being referred to the USA surgical service has led to improvements in education for the students, and residents.

Breast and Endocrine: Spencer Liles, M.D. completed his second year providing surgical oncology expertise in breast, melanoma and endocrine cancer. Over the course of the past year he has passed his boards in Complex General Surgical Oncology and has expanded the faculty expertise in oncology with special emphasis on Breast/endocrine and Melanoma. He was awarded a USA Faculty Development Award to pursue a novel study “Investigation of DNA repair mechanisms in Invasive Melanoma” and as the Director of the USA-MCI biobank has redone the entire IRB protocol in order to improve the storage techniques, protocols, enrollment and matching clinical data for this essential translational research infrastructure project. Dr Liles serves as the co-director of the Breast cancer multidisciplinary conference with Lynn Dyess M.D., F.A.C.S. . Both Dr Liles and Dyess have moved to the Strada Patient care center where they have increased their clinical load substantially. Nurse practitioner clinics were added so that they can provide long term care for breast cancer patients as well as starting a new thyroid clinic for evaluation and treatment of thyroid lesions. Additionally Dr Dyess serves as the Governor representing the State of Alabama Chapter of the American College of Surgeons to the National ACS Organization.

Plastic and Reconstructive Surgery: Ron Brooks, M.D. in his second year as faculty member established himself as an expert plastic and reconstructive surgeon who was able to collaborate with many of our faculty in the care of trauma, cancer, and infectious wounds. He has added very valuable expertise in the reconstruction after breast cancer, melanoma, and rectal cancer surgery.

Gastrointestinal and Bariatric surgery: The Bariatric surgery program continues to increase the number of operative cases and has less than 0.1% operative mortality rate, while continuing to operate on patients who have a host of co-morbidities. A new surgical procedure was performed for the first time in the upper Gulf coast and Dr. Richards is one of only 245 surgeons who have been trained to perform the procedure in the US. The LINX procedure treats severe GERD through laparoscopic implantation of custom fitted magnetic beads to augment the Lower Esophageal Sphincter. This procedure is part of the Digestive Health Center collaborative treatment of GERD and Barrett’s esophagus with Brooks Cash, M.D. in Gastroenterology. The initiation of this innovative surgical procedure continues the tradition of collaboration, and multidisciplinary care between the Department of Surgery (Dr. Richards) and the Department of Medicine (Dr. Cash) to improve the care of patients with esophageal disorders.

Surgical Oncology: Marcus Tan, M.D., F.A.C.S. has developed a research program in oncology and has organized the G.I. working group incorporating radiation, and medical oncologists with colorectal and G.I. specialist to provide multidisciplinary care for cancer patients. Dr. Tan has also provided exceptional educational expertise coordinating the USAMC multispecialty tumor conference. Spencer Liles, MD is in his second year as a faculty member has increased the number of breast, melanoma, and endocrine cancer patients seen in his clinic. Both Drs. Tan and Liles are boarded in Complex General Surgical Oncology and provide specialized surgical oncology care. Dr Liles is the director of the USA Biobank a repository of biologic specimens with matched clinical records collected from USA patients with their written permission. During the past year Dr. Liles

has re-written the consent process and increased enrollment in the program, and improved the storage techniques and protocols.

**Humanitarian Efforts:** Drs. Simmons and Grimm led a group of USA surgery residents and USA medical students to Rwanda in 2016 and 2017 on mission trips to provide medical care. Dr Lynn Dyess went on a medical mission trip to central America in 2017 and later was called up to deploy to Puerto Rico in September 2017 by the National Disaster Medical System after Hurricane Irma destroyed much of the medical infrastructure on the island and left most of the population without medical resources. Lee Grimm, MD was inducted into the Gold Humanism in Medicine Honor Society and gave an invited talk entitled “Compassionate Care in the Medical Field” to first and second year medical students.

**Research:** The research collaboration between Jon Simmons, MD and the Chair of Pharmacology Mark Gillespie, PhD. has been very fruitful. Dr. Jon Simmons is in the second year of a 4 year K08 Mentored Clinical Scientist Award from the NIH directed at a surgeon in the early stages of their career who shows promising development as a surgeon scientist. The grant entitled “mtDNA DAMPS: A Pharmacologic Target in Multi-Organ System Failure” aims to explore a potential pharmacologic treatment that addresses the underlying etiology of remote organ failure in trauma and sepsis. Dr Simmons has received numerous awards including the prestigious Peter C. Canizaro Award for the best manuscript and presentation at the 2016 American Association for the Surgery of Trauma for his paper entitled “Potential contribution of mitochondrial (mt)DNA damage associated molecular patterns (DAMPs) in transfusion products to development of the acute respiratory distress syndrome (ARDS) after multiple transfusions.” Amazing science is coming from this collaborative effort which is also incorporating surgical residents such as Dr. Andy Tan a PGY2 resident in surgery is taking time off from clinical training to work in Dr. Simmons’ lab.

Patricia Connor a medical student working during the summer research program under the mentorship of Sid Brevard, MD, Ashley Williams, MD, and Noelle Davis, CRNP was the winner of 2017 Clyde Huggins Award for the COM Summer Medical Student Research Program for their poster “Trauma patients have improved access to post-discharge resources through the Affordable Care Act”.

Collaboration between Luda Rachek, PhD in Department of Pharmacology and William Richards, M.D., F.A.C.S. was very fruitful and resulted in submission of NIH grants to investigate the link between insulin resistance and Mitochondrial DNA DAMPs. The grant submission is being reviewed by the study section.

Paul Rider, M.D., F.A.C.S. Dr. Rider was also able to execute several clinical studies investigating “The Efficacy of Post-OP Pain Management: Does the addition of Long Acting TAP Block Decrease Hospital Stay?”. Dr. Rider also served as co-investigator on the MCI research “Molecular predictors and Prognosticators of Response to Neoadjuvant Therapy for Rectal Cancer”. This very important study will help physicians who treat rectal cancer determine the best neoadjuvant therapies for treatment of rectal cancer.

Lee Grimm, M.D., FACS involved a medical student during the summer research program to study the impact of the surgery curriculum changes had on NBME and Step 2 CK on student performance. This research also helps to identify the best practices for education and to improve the educational experience and outcomes for the medical students. The improvement in NBME Surgery Shelf exams and in Step II scores are impressive and attributable in large part to Dr Grimm's and Surgical faculty efforts and total redesign of the 3year surgical clerkship.

Marcus Tan, M.D., F.A.C.S. has served as the Local Principal Investigator for the SWOG 1505 study that investigates combination chemotherapy before surgery in treating patients with pancreatic cancer that can be removed with surgery and also as co-investigator in several clinical trials of chemoembolization or chemotherapy for treatment of melanoma and pancreatic cancers.

Spencer Liles, M.D. has developed collaborations within MCI, and COM basic scientist to study genetic defects in melanoma and has been awarded a USA Faculty Development Award titled "Investigation of DNA repair Mechanisms in Invasive Melanoma". This avenue of research is an exciting collaboration between Dr. Liles and Mark Gillespie Ph.D. Chair of Pharmacology. Additionally Dr Liles rewrote the IRB proposal for biobank repository for storage of biologic specimens for the USA health system and the Mitchell Cancer Institute. He has revamped all of the processes regarding the collection, storage, protocols, and updating the matched clinical data to improve the ability to perform clinical translational cancer research. These collaborative efforts in oncologic surgical research with colleagues at the MCI show the expanding clinical translational research that is going on within our surgical oncology division and within the Department of Surgery.

William Richards, M.D., F.A.C.S. has started several clinical trials investigating the outcomes after LINX or magnetic sphincter augmentation. The ROARS study is a multi-institutional registry of patients undergoing LINX procedures while the Caliber study randomizes patients with GERD to increased amounts of PPI use or the LINX procedure. The preliminary results suggest that the LINX procedure has all the benefits of the Nissen fundoplication without the negative side-effects such as bloating and dysphagia seen long term after Nissen fundoplication.

In summary the Department of Surgery faculty are collaborating with basic scientists at the MCI, the University and with the College of Medicine basic science departments in a wide range of research activities. Multiple grant proposals have been submitted which has resulted in funding for several projects and with many promising reviews. These research projects which are primarily clinical translational research demonstrate the wide range of clinical expertise in critical care, shock, gastrointestinal physiology, cancer, and wound healing have been developed by the faculty in the Department. Increasingly the Department of Surgery is recognized for our expertise in the care of trauma, burns, colorectal cancer, hepatic-pancreatic-biliary cancer, breast cancer, melanoma, and esophageal disorders.

**2016-2017**  
**Summary of Scholarly Activities**  
**Biomedical Library**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Li J, Lemley T. Impact of full-text electronic resources on interlibrary loan. Doody's Core Titles. 2017 Jan. Available from: <http://www.doody.com/dct/PublicFeaturedArticle.asp?SiteContentID=224&SID=%7B0C2B452D-C4E0-4C26-AB7A-288B70D77C2F%7D>

Fenske RF. University of South Alabama Biomedical Library receives NN/LM Technology Improvement Award. Southern Expressions. 2017;33(2):3.

Moore-Nadler M, Clanton C. Homeless. Lippincott Advisor Cultural Perspectives [online database]. 2<sup>nd</sup> ed. Wolters Kluwer Health; 2017. <http://lippincottolutions.com/solutions/advisor> (Subscription required).

Wright AL. REDCap: a tool for the electronic capture of research data. Journal of Electronic Resources in Medical Libraries. 2016;13(4):197-201.

**II. PUBLISHED ABSTRACTS**

Brennan E, Bickett S, Pomputius A, Leonard K, Azadbakht E, Wright A. Revitalizing the social media presence of the Southern Chapter of the Medical Library Association (SC/MLA). 2016 Southern Chapter/Medical Library Association Annual Conference; 2016 Oct 2-6; Greenville, SC. Abstract no. 8.

Lemley T, Sullivan M, Cadden A, Fenske R. Culinary medicine: health professionals collaborating to bring health and nutrition to the community. Medical Library Association 2017 Annual Meeting; 2017 May 26-30; Seattle, WA. Available from: [https://www.eventscribe.com/2017/MLA/assets/mla17\\_poster\\_abstracts\\_3\\_30\\_17.pdf](https://www.eventscribe.com/2017/MLA/assets/mla17_poster_abstracts_3_30_17.pdf)

Lemley T. A program description to assess information literacy initiatives by librarians in the online, embedded role. Medical Library Association 2017 Annual Meeting; 2017 May 26-30; Seattle, WA. Available from: [https://www.eventscribe.com/2017/MLA/assets/mla17\\_program\\_abstracts\\_3\\_30\\_17.pdf](https://www.eventscribe.com/2017/MLA/assets/mla17_program_abstracts_3_30_17.pdf)

Li J, Staggs G. e-Book package subscription model: benefits for the library or the publishing industry? Medical Library Association 2017 Annual Meeting; 2017 May 26-30; Seattle, WA. Abstract no. 8. Available from: [https://www.eventscribe.com/2017/MLA/assets/mla17\\_poster\\_abstracts\\_3\\_30\\_17.pdf](https://www.eventscribe.com/2017/MLA/assets/mla17_poster_abstracts_3_30_17.pdf)

Moore-Nadler M, Bydalek K, Clanton C, Cranford SD, Meyer MW, Nolen A, Pettway KW, Butler C, Presnall M. USA interprofessional service learning with community partners and the homeless population. University of South Alabama Center for Healthy

Communities 2<sup>nd</sup> Forum on Community Engaged Scholarship; 2017 Jan 13; Mobile, AL. p. 21. <https://s3.amazonaws.com/online.fliphtml5.com/jmyt/qjqy/index.html#p=23>

### III. PUBLISHED BOOKS

### IV. INVITED PRESENTATIONS

Nadler MM, Bydalek K, Meyer MW, Clanton C, Johnson P, Cranford S, Crittenden W, Butler C. Invited speakers. USA faculty, staff, and students serving the community through Project Homeless Connect. Produced by USA Center for Healthy Communities Health Disparities Research Group; 2016 Oct 21; Mobile, AL. Available from: <https://centerforhealthycommunitiesadvocate.wordpress.com/2016/11/08/october-hdrg-recap-usa-faculty-staff-and-students-serving-the-community-through-project-homeless-connect/>

### V. NATIONAL PROFESSIONAL RECOGNITION

Clista Clanton: Founding member, Gulf States Health Policy Center Coalition.

Rachel Fenske: Member, Mobile United Health Task Force.

Trey Lemley: Member, Medical Library Association Garfield Research Fellowship Jury; Southern Chapter Medical Library Association Nominee for the MLA Nominating Committee 2017; Member, Executive Committee, Southern Chapter Medical Library Association; President, Alabama Health Libraries Association 2017; Vice President/President Elect Alabama Health Libraries Association 2016. Editorial Review Group Chair in Speech, Language & Hearing, (2016- ) Doody's Enterprises. Distinguished Member, Academy of Health Information Professionals (AHIP).

Jie Li: Member, Information Technology Standing Committee, The International Federation of Library Associations and Institutions; Chair, Committee on Health Sciences Library Partnership, Representative to the Taiwan Medical Library Association, Medical Library Association (MLA); Chair, Committee on Health Sciences Library Partnership, International Cooperation Section of Medical Library Association (MLA/ICS); Chair, Emergency Preparedness Committee, Alabama Health Libraries Association (ALHeLA).

Justin Robertson: Chair, Honors & Awards Committee, Southern Chapter Medical Library Association; Editor, peer-reviewed *Journal of Electronic Resources in Medical Libraries*.

Geneva Staggs: Member, Bylaws Committee, Consortium of Southern Biomedical Libraries; Moderator, Southern Chapter Medical Library Association paper session; Research Judge, paper presentations, Southern Chapter Medical Library Association annual meeting; Member, Joint Ad Hoc Legislative Committee, Association of Academic Health Science Libraries and Medical Libraries Association. Abstract Reviewer, for MLA '17, Medical Library Association Annual Meeting; Distinguished Member, Academy of Health Information Professionals.

Andrea Wright: Member, Regional Advisory Committee for Technology of the National Network of Libraries of Medicine (NN/LM) Southeastern/Atlantic (SE/A) Region; Web Co-Coordinator, Alabama Health Libraries Association; Chair, Oral History Committee, Medical Library Association; eTechnology Column Editor, Journal of Electronic Resources in Medical Libraries: Provisional Member, Academy of Health Information Professionals.

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

**Facilities:** Study space was increased by approximately 400 sq. ft. on the first floor of the library in a space with lots of natural light. This was accomplished by moving the circulating monograph collection into shelves down a hall. Other facilities related projects this year were the replacement of the carpet in the reception area with LVT and the painting of all interior walls of the library. Investigation of the inside of the exterior walls showed that removal of the wallpaper and mold and mildew abatement would need to be undertaken before they can be painted. Studies on what is under the 25 year old carpet in most areas of the library revealed that asbestos would need to be abated when the carpet is replaced. Thus these two projects are on hold.

**Outreach:** Justin Robertson continues weekly classes at the Children's and Women's NICU, educating parents about health information literacy and safely searching the internet. Trey Lemley and Rachel Fenske are involved with a Culinary Medicine project with faculty and students from COM, CAH, CON, and personnel from MCI. Clista Clanton is a member of the Gulf States Health Policy Coalition, Faculty Advisor and USA Student Run Free Clinic Advisory Board member. She is also Co-Chair, Administrative Services (Performance Improvement, Research & Data Management) for Project Homeless Connect Health & Wellness Clinic, as well as Chair, Data Management for Project Homeless Connect Health & Wellness Clinic. Rachel Fenske continues to conduct one-on-one sessions once a week to the patients and parents at the USS HOPE unit at Children's & Women's Hospital instructing them in the use of MedlinePlus, X-Plain videos and other genetic databases available from the National Library of Medicine. These resources are available on Android tablets purchased with the NNLN SE/A grant received in November 2016. In addition, she initiated weekly sessions in late August at the Ronald McDonald Family Room on the 3rd floor for the parents of children hospitalized making them aware of these resources as the Android tablets are also available on all floors of the Children's wing of the hospital.

**Resources:** In order to keep library collections relevant to our user's needs, each year they are reviewed for usage. Resources that are not used, or used very little (resulting in a high cost per use), are not renewed so that resources requested by faculty can be added. This year VisualDX, CaseFiles, and three JoVE journals (Biology, Immunology and Infection, and Medicine) were added. The library also has a one year trial to AccessPediatrics. This is proving to be an exceptional tool for the pediatrics segment of our population (faculty, students and residents). We anticipate being able to add it when the resource assessment is completed at the end of the year.

**2016-2017**  
**Summary of Activities**  
**USA Center for Lung Biology**

General Operations

The CLB's mission is to provide state-of-the-art scientific development in lung biology that advances the understanding of human health and disease, to improve patient care, and to serve as the foundation for outstanding graduate, post-graduate, and fellowship training. More than 40 faculty members and 25 graduate students, postdoctoral fellows and pulmonary fellows from various departments within the College of Medicine are actively participating in a strong collaborative research environment, a research seminar series and journal club, and graduate, postdoctoral and fellowship training.

We have continued to update our CLB website along with the College of Medicine. Our administrative offices are located in the Medical Sciences Building in Rooms 3340 on the main University campus. Ms. Jennifer Collins serve as support staff for the CLB and are responsible for clerical duties for the administrative office and research laboratories.

Detailed information about the CLB is available with a click on our homepage (<http://www.usouthal.edu/clb>). The web page is interactive and contains a variety of information including faculty and student bibliographies, recent publications, and information regarding scientific and training programs. Our annual report is available through Ms. Jennifer Collins (460-7086) at the CLB office.

Research Activities

The CLB was well represented at national and international scientific meetings with a number of faculty, postdoctoral fellows, and graduate students presenting their work at multiple forums, including the American Heart Association, Federation of American Societies for Experimental Biology, XXIX Congress of the International Society for Advancement of Cytometry, American Physiological Society, Southern Biomedical Engineering Conference, Gordon Conference, and the International American Thoracic Society.

Our Critical Care Conference series in conjunction with the Pulmonary Division hosted eight speakers. This conference focuses on translational research and acute lung injury, and is held monthly on Fridays at 2:00 pm. CLB faculty members presented most of this year's series with one outside speaker. Dr. James Downey, Professor Emeritus, Department of Physiology and Cell Biology, presented *Platelet inhibitors, Postconditioning and Pyroptosis in Acute Myocardial Infarction*; Dr. Donna Cioffi, Associate Professor, Department of Biochemistry, presented *A Role for Immunophilins in Endothelial Barrier Function*; Dr. Silas Leavesley, Associate Professor, Department of Chemical and Biomolecular Engineering, presented *Approaches for Molecular Analysis of Cells and Tissues Using Spectral Imaging*; Dr. Mary Townsley, Dr. Mary Townsley, Senior Associate Dean, College of Medicine, Professor, Department of Physiology and Cell Biology, presented *Pulmonary Fluid Balance and the*



*Starling Equation: An Historical Perspective*; Dr. Richard Honkanen, Professor, Department of Biochemistry, presented *Ser/threonine Protein Phosphatase Type 5 (PP5/PPP5C) a Stealth Regulator of Health?*; Dr. Robert Barrington, Associate Professor, Department of Microbiology, presented *Autoimmune Pulmonary Alveolar Proteinosis: Bedside to Bench...and Back Again?*; Dr. Ivan McMurtry, Professor, Department of Pharmacology, presented *Vasoconstriction & Hemodynamic Stress in The Pathogenesis of PAH*; Dr. Mark Gillespie, Professor and Chair, Department of Pharmacology, presented *Oxidant-DNA Interactions: A Tale of Two Genomes*.

### Extramural Funding

In the past year, CLB principal investigators submitted 35 grant applications to the American Heart Association (AHA), National Institutes of Health (NIH), and other foundations/industries. To date, five applications from the previous fiscal year were awarded generating over \$4.5 million in new revenue over the next five years. Dr. Mikhail Alexeyev, Professor, Department of Physiology and Cell Biology, received an equipment supplement for an NIH R01 entitled *Mouse models for mitochondrial disorders caused by mutations in mtDNA*. Drs. Diego Alvarez, Department of Physiology and Cell Biology and Jonathan Audia, Department of Microbiology and Immunology, received a Diversity Supplement for an NIH R01 entitled *Caspase-1, the Microvascular Endothelium, and Infection*. Dr. Michael Francis, Assistant Professor, Department of Physiology and Cell Biology received an NIH K25 entitled *TRPC4-mediated calcium signals accelerate vascular remodeling in pulmonary arterial hypertension*. Dr. Troy Stevens, Professor and Chair, Department of Physiology and Cell Biology, Director, Center for Lung Biology received an NIH R01 entitled *Soluble adenylyl cyclases and lung endothelial permeability*. Dr. Natalie Bauer, Assistant Professor, Department of Pharmacology, received an NIH R01 entitled *Circulating microparticle effects on phenotypically distinct pulmonary endothelium*.

### Education

The CLB's NIH-funded T32 training grant on *Cell Signaling and Lung Pathobiology*, directed by Drs. Thomas Rich and Troy Stevens, is currently in its 14<sup>th</sup> year of funding. This T32 supports 6 pre-doctoral trainees in the Lung Biology track per year, along with 4 short-term summer research trainees.

During this academic year, 18 predoctoral fellows trained in the laboratories of CLB faculty and affiliated with the Lung Biology track in the Basic Medical Sciences Doctoral Program. Several Lung Biology trainees completed requirements for the Ph.D. within this academic year (Hamilton, Renema, Scruggs, and Ramelli).

**2016-17**  
**Summary of Scholarly Activities**  
**Center for Healthy Communities**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

Arrieta M, Fisher L, Shaw T, Bryan V, Hudson A, Hansberry S, Eastburn S, Freed CR, Shelley-Tremblay S, Hanks RS, Washington-Lewis C, Roussel L, Dagenais P, Icenogle M, Slagle, ML, Parker, LL, Crook E. Consolidating the academic end of a community-based participatory research venture to address health disparities. *J High Educ Outreach Engagem.* 2017 Sep;21(3):113-34.

Icenogle M, Eastburn S, Arrieta M. Katrina's legacy: processes for patient disaster preparation have improved but important gaps remain. *Am JMed Sci.* 2016 Nov;352(5):455-65.

Li M, Li Y, Weeks O, Mijatovic V, Teumer A, Huffman JE, Tromp G, Fuchsberger C, Gorski M, Lyytikäinen L, Nutile T, Sedaghat S, Sorice R, Tin A, Yang Q, Ahluwalia TS, Arking DE, Bihlmeyer N, Böger C, Carroll RJ, Chasman DI, Cornelis M, Dehghan A, Faul J, Feitosa MF, Gambaro G, Gasparini P, Giulianini F, Heid I, Huang J, Imboden M, Jackson AU, Jeff J, Jhun MA, Katz R, Kifley A, Kilpeläinen TO, Kumar A, Laakso M, Li-Gao R, Lohman K, Lu Y, Mägi R, Malerba G, Mihailov E, Mohlke K, Mook-Kanamori D, Robino A, Ruderfer D, Salvi E, Schick U, Schulz C, Smith A, Smith JA, Traglia M, Yerges-Armstrong L, Zhao W, Goodarzi M, Kraja A, Liu C, Wessel J, Boerwinkle E, Borecki IB, Bork-Jensen J, Bottinger E, Braga D, Brandslund I, Brody J, Campbell A, Carey DJ, Christensen C, Coresh J, Crook E, Curhan G, Cusi D, de Boer IH, de Vries AP, Denny JC, Devuyst O, Dreisbach AW, Endlich K, Esko T, Franco O, Fulop T, Gerhard GS, Glümer C, Gottesman O, Grarup N, Gudnason V, Hansen T, Harris TB, Hayward C, Hocking L, Hofman A, Hu FB, Husemoen LL, Jackson RD, Jørgensen T, Jørgensen ME, Kähönen M, Kardina SL, König W, Kooperberg C, Kriebel J, Launer LJ, Lauritzen T, Lehtimäki T, Levy D, Linksted P, Linneberg A, Liu Y, Loos RJ, Lupo A, Meisinger C, Melander O, Metspalu A, Mitchell P, Nauck M, Nürnberg P, Orholm-Melander M, Parsa A, Pedersen O, Peters A, Peters U, Polasek O, Porteous D, Probst-Hensch N, Psaty B, Qi L, Raitakari O, Reiner A, Rettig R, Ridker PM, Rivadeneira F, Rossouw JE, Schmidt F, Siscovick D, Soranzo N, Strauch K, Toniolo D, Turner ST, Uitterlinden A, Ulivi S, Velayutham D, Völker U, Völzke H, Waldenberger M, Wang J, Weir DR, Witte D, Kuivaniemi H, Fox C, Franceschini N, Goessling W, Köttgen A, Chu A. SOS2 and ACP1 Loci identified through large-scale exome chip analysis regulate kidney development and function. *J Am Soc Nephrol.* 2017 March;28(3):981-994.

Smith DA, Akira A, Hudson K, Hudson A, Hudson M, Mitchell M, Crook E. The effect of health insurance coverage and the doctor-patient relationship on health care utilization in high poverty neighborhoods. *Prev Med Rep.* 2017 Jun15;7:158-61.

**II. PUBLISHED ABSTRACTS**

Arrieta M. Research apprenticeship and its potential as a distinct model of peer research practice. University of South Alabama Strengthening the Community Engaged Research and Scholarship Tool Box Forum; 2017 Jan 13. Mobile, AL. p.15.

Hanks, R, Wraight, S, Patterson, C. Will they stay or will they go? A qualitative investigation of motivation, commitment and self-efficacy in a community health advocacy program. University of South Alabama Strengthening the Community Engaged Research and Scholarship Tool Box Forum; 2017 Jan 13. Mobile, AL. p. 16.

Hudson, M. A personal experience with the research apprenticeship program. University of South Alabama Strengthening the Community Engaged Research and Scholarship Tool Box Forum; 2017 Jan 13. Mobile, AL. p.14.

Osteen, F, Hodnett, B, Patterson, C, Hanks, R. Community health advocates servicing the community by increasing nutritional awareness and by providing means to nutritional resources. University of South Alabama Strengthening the Community Engaged Research and Scholarship Tool Box Forum; 2017 Jan 13. Mobile, AL. p.11.

Parker, L, Well, N, Hudson, M. From data collection to community-engaged dissemination: preliminary dissemination planning. University of South Alabama Strengthening the Community Engaged Research and Scholarship Tool Box Forum; 2017 Jan 13. Mobile, AL. p.13.

### **III. PUBLISHED BOOKS**

### **IV. INVITED PRESENTATIONS**

Arrieta M. Invited speaker. Community based participatory research: is there any value for translational researchers? University of Alabama at Birmingham Clinical and Translational Science Training Program; 2017 May 3; Birmingham, AL.

Arrieta M. Paper Presentation. Research apprenticeship and its potential as a peer research model. Engagement Scholarship Consortium 2017 Annual Meeting, This is engagement; best practices in community engaged scholarship; 2017 Sept 27; Birmingham, AL.

Crook E. Invited speaker. The social determinants of health: a focus on poverty"; Hiram W. Mendenhall, MD Memorial Resident Research Day USA College of Medicine Dept. of OB-GYN. 2017 May 5; Mobile, AL.

Crook E. Invited speaker. The social determinants of health: A focus on poverty. Southern Illinois University Internal Medicine Grand Rounds; 2017 May 9; Carbondale, IL.

Shelley-Tremblay S. Invited Speaker. Poverty in our community. Leadership Mobile 2017 Class Community Day; 2017 May 12; Mobile, AL.

Arrieta M. Invited speaker. Community based participatory research: is there any value for translational researchers? University of Alabama at Birmingham Clinical and Translational Science Training Program; 2017 May 3; Birmingham, AL.

## **V. NATIONAL PROFESSIONAL RECOGNITION**

## **VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The University of South Alabama Center for Healthy Communities had a productive year. The Center is in the fifth year of its second 5 year cycle of the P-20 grant funding from NIH's National Institute for Minority Health and Health Disparities. The Center is a NIH Designated Center of Excellence in Health Disparities. Dr. Errol D. Crook continues as the Center Director and the PI of the P-20 Grant. The Center's efforts are focused research and community engagement. We continue to use the principle of Community Based Participatory Research as our guide, and, as such, we work extremely hard to establish and maintain quality relationships with our community partners. We have continued membership in a consortium of similar academic centers in Alabama, Mississippi, and Louisiana organized under the UAB CTSA. The center has taken a leadership role as a partner of the CTSA community engagement efforts. A brief summary of our research and community engagement efforts are outlined below.

### Research:

Dr. Martha Arrieta continues to lead the research core. The core oversees 3 primary projects funded by our P-20 grant and works with several other partners in smaller, but important projects. The 3 research projects funded by the P-20 grant are making great progress, and are as follows:

- 1) Plasma HSP27 and HSP27 Phosphorylation, a Potential Biomarker of Atherosclerosis in Patients with Cardiovascular Disease. PI: William Gerthoffer, PhD. Dr. Gerthoffer completed his project on September 30, 2017, when he retired from USA.
- 2) The Impact of Labor Force-Labor Market Status on Family Access to Health Care. PI: C. Ken Hudson, PhD.
- 3) Sentinel Surveillance to Monitor Progress Towards Health Equity. PI: Martha Arrieta, PhD.

All of the above projects have been recognized with acceptance of material for presentation at prestigious scientific meetings. Additionally, each of the projects has submitted articles for publication this year. Those that were published prior to September 30, 2017 are included detailed above.

In addition to supporting the research projects, CHC continues to sponsor the Health Disparities Research Group (HDRG). This year HDRG has hosted monthly meetings, collaborative initiatives, and a regional forum focused on expanding health disparities research and community based participatory approaches.

On January 13, 2017, the Center sponsored a regional meeting entitled “Strengthening the Community Engaged Research & Scholarship Toolbox.” The meeting included national, regional, and local experts, along with 29 poster presentations.

#### Community Engagement:

The Community Engagement Core is directed by Roma Hanks, PhD. In March 2017, Hattie Myles, PhD, who was the founding co-director of the Core, retired. The two (2) main components of this core are The Community Health Advocate (CHA) Program and The Pipeline Program. Our CHA program continues to thrive and has been recognized for the long-term retention (up to 10 years) of many of our CHA group. Understanding the factors that promote their retention and continued efforts to promote great health within our community has been an academic focus over the last year. We hope to share those factors with other agencies relying on volunteerism and a dedication to community well-being. On September 26<sup>th</sup> Dr. Hanks and staff members and CHAs presented a poster at the National

The Pipeline component focuses its efforts on high school students from underserved communities. It aims to reinforce the STEM courses, expose students to the health professions, and influence their choice of a health professions career. This is done through two components: S.T.A.R.S. (Student Training for Academic Reinforcement in the Sciences) and S.T.R.I.P.E.S. (Special Training to Raise Interest and Prepare for Entry into the Sciences) Programs. These programs actively engage participants in advanced high school curricula, library research, reading and test-taking skills. These programs engage rising high school juniors and seniors. Both programs were successful again this year and are coveted opportunities for students at our target schools.

#### Research Training and Mentoring:

Dr. Crook continues as Director of this core. We have been successful in continuing the pipeline from our high school programs, mentioned above, to undergraduate studies and research efforts. Students who have demonstrated great promise in our high school programs have worked during the summers in research projects of the Center. In addition we offer opportunities to medical students and additional undergraduate students with an interest in health disparities. During the summer of 2017 seven students participated in the summer research program. Each student presented their work in poster presentation at the College of Medicine Research Day on July 28, 2017.

**2016-2017**  
**Summary of Scholarly Activities**  
**Center for Strategic Health Innovation**

- I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**
- II. PUBLISHED ABSTRACTS**
- III. PUBLISHED BOOKS**
- IV. INVITED PRESENTATIONS**
- V. NATIONAL PROFESSIONAL RECOGNITION**
- VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The Center for Strategic Health Innovation (CSHI) continues to serve as a leader in innovative healthcare technology applications and solutions. CSHI continues; 1) our long partnership with innovative programs with the Alabama Medicaid Agency, 2) health technology development and application, 3) applied informatics and healthcare analytics services, 3) technical assistance for meeting Meaningful Use requirements, 4) innovation programs with Medicare for value based payment programs. Susan Sansing, Assistant Dean of the College of Medicine Finance and Administration for the University of South Alabama serves as CSHI's acting Director. CSHI actively promotes collaboration on projects with the USA School of Computing, USA Department of Family Practice, the USA College of Nursing, the USA Department of OB/GYN, the University of Alabama at Birmingham, the Mobile County Health Department, and other Regional Extension Centers (REC's) in the southeast US. CSHI is in our 4<sup>th</sup> year of collaboration with the USA Department of OB/GYN and just successfully completed our initiative on the awarded CMS Strong Start for Mothers and Newborns Initiative Grant.

Medical Informatics and Healthcare Technology: RMEDE<sup>TM</sup>, our in house developed Realtime Medical Electronic Data Exchange, continues as our platform from which to develop diverse projects tailored to our client's individual needs. CSHI utilizes innovative health technologies to improve the care, quality, cost and access to healthcare throughout Alabama. RMEDE<sup>TM</sup> is a secure web-based life-state management system that supports our Medicaid programs: 1) in-home monitoring of patients with chronic disease; 2) Health Homes case management program; 3) data and an interventional informatics reporting system for the maternity program, and 4) a Primary Medical Provider (PMP) Portal. We have continued our partnership with Alabama Medicaid to support the now statewide Health Home Case Management Program (which began as the Patient Care Networks of Alabama (PCNA)). This is a primary care case management program which establishes regional networks of care in Alabama designed to improve the delivery of health care services to Medicaid recipients, with complex chronic medical conditions. RMEDE<sup>TM</sup> serves as the framework used for data management, patient risk stratification, patient case management, aggregation of Medicaid medical and pharmacy claims data, and program

reporting needs. CSHI currently manages over 2 million Medicaid patient records. There are currently over 1,000 active Medicaid Pt 1<sup>st</sup> patients participating in our in-home biomonitoring project. This program is a unique partnership between Medicaid, The Alabama Department of Public Health (ADPH) and USA's CSHI. Patient referrals are received from their primary medical provider (PMP) with the chronic disease diagnoses of hypertension, diabetes and congestive heart failure for in home monitoring. Patients are monitored for significant changes by using an innovative Interactive Voice Response (IVR) system. Patients are instructed to dial-in their key physiologic parameters, and an ADPH Biomonitoring Nurse is assigned to monitor the results and submit reports to the patient's provider. An ROI on 2015 data showed a decrease in Emergency Department visits and hospitalizations as compared with pre program data. Pharmacy use increased as well as provider office visits. CSHI is a valuable partner with the Medicaid Maternity Program in their quest for Better Birth Outcomes and lower Infant Mortality rates. RMEDE<sup>TM</sup> is the platform for the data collection system with reporting capabilities utilizing recipient information gathered from enrollment activities to evaluate compliance with accepted national standards of practice. RMEDE<sup>TM</sup> provides Medicaid and their contractors the ability to enter and view the data online. Data is utilized by Medicaid to determine benchmarks for compliance and comparisons. CSHI developed and maintains a Primary Medical Provider (PMP) Portal as a web based health information system developed to support Alabama Medicaid's Patient 1st Primary Medical Providers (PMPs). Using the system, PMPs are able to track their patient's progress by examining reports created from claims data. The PMPs can use these reports to make decisions regarding improving the quality of care of patients while reducing the cost of care. This year the analytics team worked with the Mobile County Health Department (MCHD) to complete a patient diagnosis analysis for the past 10 years for the Eight Mile Clinic.

The Alabama Regional Extension Center (ALREC) continues to operate within the Center for Strategic Health Innovations at the University of South Alabama (USA). Since the ONC grant has ended, as part of its sustainability model, ALREC continues to offer its fee for service line providing assistance to Providers throughout the multiple stages of Meaning Use and MIPS attestations. ALREC is currently consulting with over 70 medical practices throughout Alabama working directly with 283 physicians, nurse practitioners, and physician assistants. Over \$216,000 was received in revenue from ALREC's membership service line. Throughout the year, ALREC published quarterly newsletters and hosted webinars to discuss MIPS, Chronic Care management, and other relevant healthcare topics. Since entering into a partnership with Chronic Care IQ (CCIQ), a software company who developed a remote patient monitoring (RPM) application which allows physicians to track the amount of time a provider remotely monitors a chronically ill patient, ALREC has recruited 8 Practices. A full time Sales Representative was hired to actively promote CCIQ and ALREC memberships, not only in Alabama, but expand our presence along the gulf coast in Mississippi and Florida. The Center also entered into a strategic partnership with Mingle Analytics, a software company who developed a Medicare quality report tool, that will assist ALREC members more accurately report their MIPS quality measures. ALREC is able to offer this tool to its members at a discounted rate. ALREC continues to look at ways to formalize a Value Base Purchasing service line to offer its members discounts on supplies and other medical purchasing needs.

**2016-2017**  
**Summary of Scholarly Activities**  
**Center for Disaster Healthcare Preparedness**

- I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**
- II. PUBLISHED ABSTRACTS**
- III. PUBLISHED BOOKS**
- IV. INVITED PRESENTATIONS**

Wallace DL, Williams E. Invited speakers. Emergency preparedness 101 for healthcare facilities. Association of Healthcare Emergency Preparedness Professionals Annual Conference; 2016 Oct 4; Las Vegas, NV.

- V. NATIONAL PROFESSIONAL RECOGNITION**
- VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The Center for Disaster Healthcare Preparedness (CDHP), since 2004, continues to serve as a leader in healthcare disaster preparedness and response training. David Wallace, DVM, serves as the Director, Preparedness Training. CDHP manages the Alabama Incident Management System (AIMS) and the CDHP Training programs through a cooperative agreement with the Center for Emergency Preparedness (CEP), Alabama Department of Public Health from the Department of Health and Human Services, Assistant Secretary for Preparedness.

**ALABAMA INCIDENT MANAGEMENT SYSTEM (AIMS):**

AIMS is the information management web-based tool designed by CDHP for the State of Alabama to capture healthcare system situational awareness on both a daily basis and during disasters. Critical data such as available beds, supplies, staffing, equipment, patient tracking and resource requests are entered into a database at each participating healthcare facility and then displayed in a dashboard view for all to see--both healthcare facilities and local or regional Emergency Operations Centers (EOC). The information entered into AIMS is utilized to make emergent decisions regarding information and resource coordination for healthcare organizations throughout the state during an event. Revisions and upgrades to enhance AIMS have been completed. AIMS serves as the primary situational awareness, communication and information tool for the 11 Healthcare Coalitions established in each of the Public Health areas. At the end of the 2017 grant year there were 1,046 AIMS users. The largest Healthcare Coalition User type is Hospital (644 users), followed by Nursing Homes (125 users) and then EMA (64 users). ADPH State users, ADPH Area users, Community Health Centers, EMS, Medical Needs Shelters and Other represent the additional AIMS users. The "Other" user type was added to AIMS to capture Healthcare Coalition members (both in and out of state) who do not have a data entry field; but because they are members of the HCC, they have an AIMS



account for situational awareness to include viewing of coalition data, sending and receiving notifications as well as messaging. Compatibility with the federal HAvBED system was maintained and kept up to date. AIMS testing was conducted for ASPR/ADPH (Office of the Assistant Secretary for Preparedness and Response/ Alabama Department of Public Health) compliance requirements, numerous AIMS exercises were conducted by the Healthcare Coalitions as a part of their ongoing preparedness activities. AIMS was activated for three real world events and 39 exercise/training events.

This year, the Florida Department of Health (DOH) began to customize AIMS for their use as Florida's situational awareness tool. Revisions to the AIMS code is underway and their goal is to have the Florida version of AIMS operational by hurricane season 2017. Florida DOH has been complimentary of the AIMS system that CDHP and ADPH have developed over the past 13 years.

#### ADVANCED REGIONAL RESPONSE TRAINING CENTER (ARRTC):

Now in its 14th year, ARRTC is a regional response training center designed to teach effective collaborative healthcare community response to all disasters, natural or man-made. This program is made possible by a grant from the Alabama Department of Public Health, Center for Emergency Preparedness through a cooperative agreement from ASPR. The total number of students attending ARRTC training between 2005 and 2017 is 16,593. This year, CDHP offered training on-site in Mobile (Basic Course, Simulation Course and Healthcare Emergency Preparedness Professional Certificate Course) and throughout the State at requested healthcare facilities (Road Show Courses).

ARRTC Basic is a two-day course designed to provide core disaster response training. Twelve sessions were scheduled this year, and, as a subset of the Basic Course, one session was provided for ADPH Center for Emergency Preparedness (Administrative staff and Emergency Preparedness Teams) and one Administrative session was presented. The Administrative session targets Chief and Administrator level personnel charged with emergency response leadership for their organizations. This course featured nationally recognized speakers who shared their experience and expertise on disaster medicine and hurricane Katrina, support and treatment of mental health issues during disasters, crisis standards of care development, readiness for mass casualty events, regulatory compliance and effective communication during disasters, improving healthcare delivery today by planning for crisis care, the future of healthcare coalitions, and leadership and decision making for dealing with highly infectious diseases. Attendance for the Basic courses totaled 676 students during 2016-2017.

Ten Disaster Preparedness Clinical Simulation Courses were offered, each consisting of a one-day interactive training session in the form of simulated clinical scenarios for clinicians charged with disaster response in their organizations. Class size is limited due to the hands-on nature of the course and this year, 159 students participated.

Thirty Road Show Courses were conducted, each consisting of a one-day session which takes healthcare preparedness training to healthcare facilities across the state. Road Show courses allow greater participation of staff, and participation of regional

neighbors/response partners for the purpose of establishing and enhancing a common knowledge of the basics of disaster response for healthcare facilities. Road Show course content was designed by each facility from a menu of topics to reflect the specific needs of each facility/area. Road Show enrollment included 976 students during 2016-2017.

The Healthcare Emergency Preparedness Professional Certificate Course (HEPP) completed its third program year, with nine students receiving certificates of completion. The HEPP course is designed to provide students the opportunity to gain the knowledge, skills and capability to prepare and manage a healthcare facility's Emergency Management Program. In July 2017, the fourth HEPP course began with 15 students enrolled representing hospitals, nursing homes, EMS, Higher Education and State government. The HEPP program is an online course consisting of more than 250 hours of instructional material and interactive assignments. HEPP is one of only a few advanced educational programs available throughout the country that is focused on developing Healthcare Emergency Preparedness Professionals.

CDHP is collaborating with the national Association of Healthcare Emergency Preparedness Professionals (AHEEP) to establish an Alabama Chapter of AHEEP. Discussion is ongoing to recruit healthcare preparedness professionals from across Alabama to join as charter members, and develop the by-laws and chapter documentation to create the first state chapter in the United States.

**2016-2017**  
**Summary of Scholarly Activities**  
**Comprehensive Sickle Cell Center**

**I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**

**II. PUBLISHED ABSTRACTS**

**III. PUBLISHED BOOKS**

**IV. INVITED PRESENTATIONS**

Haynes, J. Invited speaker. To transfuse or not to transfuse in pregnancy. Twenty-sixth University of South Alabama Obstetrics and Gynecology Conference; 2017 Apr 21; Daphne, AL.

Haynes, J. Invited speaker. Pathophysiology and medical management of sickle cell disease. Sickle Cell Disease Educator/Counselor Certification Program; 2016 Oct 10; Mobile, AL.

**V. NATIONAL PROFESSIONAL RECOGNITION**

Johnson Haynes Jr: Listed: *America's Top Doctors*; Voting Member, Association of American Medical Colleges (AAMC) - Group on Diversity and Inclusion (GDI); Data and Safety Monitoring Board (DSMB) for the Clinical Trials Consortium; American Society of Hematology Sickle Cell Disease Guideline Panel, Panel on Sickle Cell Disease – Related Cardiopulmonary and Kidney Disease; Sickle Cell Disease Council for Change, Pfizer Inc. Workshop.

**VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

General Operations: Dr. Johnson Haynes, Jr. continues as Director of the USA Comprehensive Sickle Cell Center. The USA Comprehensive Sickle Cell Center continues to improve the delivery of clinical and educational services to individuals affected with sickle cell disease, family members of affected individuals, and health care providers.

Research: The Center has been selected as a site for a pharmaceutical sponsored research trial, “A Phase 3, Double-blind, Randomized, Placebo-controlled, Multicenter Study of GBT440 Administered Orally to Patients With Sickle Cell Disease.” (Pending)

Clinical Operations: The 2016-2017 academic year marks the close of the 18<sup>th</sup> year that the Adult Sickle Cell Clinic has operated as a subspecialty clinic. This clinic now serves over 200 clients. The pediatric clinic provides services to over 150 clients. The primary objectives of these clinics are 1) to serve as a positive educational experience for primary care residents in the Departments of Medicine, Family Medicine, and Pediatric Medicine at the University of South Alabama; and 2) to be a resource for practicing physicians in the

University and private community. The adult clinic is staffed by Dr. Johnson Haynes Jr.; Ms. Ardie Pack-Mabien, Nurse Practitioner; Ms. Jessica King, Nurse Practitioner; Ms. T'Shemika Perryman, RN and Ms. Aisha Davis, Case Manager. The pediatric clinic is staffed by Drs. Felicia Wilson, Hamayun Imran, Ms. Ardie Pack-Mabien, Nurse Practitioner, and Ms. Aisha Davis, Case Manager. Internal Medicine, Pediatric, and Family Medicine residents rotate on a monthly basis through the Sickle Cell Clinics.

Ms. Pack-Mabien, Ms. Perryman and Ms. Davis continue to support the pediatric outpatient clinical operations and serve as liaisons when transitioning patients from pediatric to the adult services. The Pediatric to Adult Care Transition Program (PACT) is now in its sixth year. In the PACT Program, a Learning Resource and Development Center (LRDC) is in development and will service clients 13-19 years old. The LRDC space has been renovated in the Moorer Clinical Sciences Building in room 1515.

An adult hematologist and urologist to support the adult operations remain lacking and there is no proposed solution to this deficit of overall clinical operations in sight.

Education: The Center faculty continues to provide a broad series of lectures throughout the academic and private medical community and continues to support the Counselor /Educator Certification Program, which takes place at the Sickle Cell Disease Association of America, Mobile Chapter and provides lectures on sickle cell disease for Pediatric, Medicine and Family Medicine residents. The USA Comprehensive Sickle Cell Center has sponsored a clinical based conference on practical issues involving sickle hemoglobinopathies for the last 15 years.

The *Dr. Cecil L. Parker, Jr. Sickle Cell Disease Distinguished Lectureship Endowment* is now in its 10<sup>th</sup> year of operation and continues to provide funding to support the educational agenda in perpetuity of the USA Comprehensive Sickle Cell Center. Going forward, we will continue the clinical operations with the same ambition and sincerity as we have previously. We continue to seek the necessary grant support to sustain all clinical and research activities as well as continue requesting the necessary financial support currently made available by the University of South Alabama, College of Medicine.

Other Activities: Dr. Haynes continues to serve as Vice President of the Alabama Sickle Cell Oversight Regulatory Commissioner. The Center's newsletter, "Sickle Cell Today" is distributed across the State of Alabama to clients, client's families, administrators, community sickle cell foundations, physicians and legislators in April and September of each year. Dr. Haynes is now in his sixth year as Assistant Dean of Diversity and Inclusion in the USA College of Medicine. The Center is now in its 11<sup>th</sup> year as a collaborator with Alpha Phi Alpha Fraternity, Franklin Primary Health Center, Inc., and the Sickle Cell Disease Association of America, Mobile Chapter in the annual blood drive, which is in September of each year.

The community-based, Sickle Cell Center Development Council established in 2016 continues to grow. The current Chair is Cheryl Franklin, D.N.S. Other members include: Kerry Cohen, Chris Cox, M.D.; Karlos Finley, J.D.; Father John George, Cynthia Tucker

Haynes, Jessica Knight, Art May, Becky Tate, Primus Ridgeway, Cheryl Ridgeway, and Dinish Simpson. This council facilitates the sickle cell center community education and outreach, public relations, event planning and fundraising.

**Office of Medical Alumni Relations**  
**Annual Report**  
**2016-2017**

Representing 41 graduating classes (1976-2017), the total number of M.D. graduates of the USA College of Medicine is 2,617 (not including former USAMC housestaff or graduates of the Ph.D. program).

**2016-2017 Medical Alumni Association Board of Directors**

**Officers**

- Dr. William E. Blaylock '89, *President*
- Dr. John Todd '88, *Vice President*
- Dr. Christopher Semple '85, *Secretary/Treasurer*
- Dr. Brandi Trammell, '02, *Chair, Alumni and Student Services Committee*
- Dr. Kit Outlaw '92, *Immediate Past President*

**Directors**

- Dr. Oscar Almeida, Jr. '85
- Dr. Lamar Duffy '84
- Dr. Matthew Cepeda, '03
- Dr. Diana Hashimi '90
- Dr. Johnson Haynes '80
- Dr. Grace Hundley, '04
- Dr. Russell Hudgens '87
- Dr. Wanda Kirkpatrick '78
- Dr. Matthew McIntyre, '06
- Dr. Amy Morris '92
- Dr. Ed Panacek, '81
- Dr. Maryella Sirmon '78
- Dr. Brandi Trammell, '02
- Dr. Juan Ronderos, '85

During the 2017 Annual Meeting of the Board of Directors, 3 new members were appointed to the Board of Directors and will begin their term with the 2017-2018 year:

- Dr. Romsel Ang, '01
- Dr. Jason Dyken, '91
- Dr. Wes Pickard, '88

Additionally, the following 3 members of the Board ended their terms; the Association recognized these members for their support and involvement over their tenure:

- Dr. Russell Hudgens '87
- Dr. Diana Hashimi '90
- Dr. Johnson Haynes '80

**Scholarship Recipients for the 2016-2017 Academic Year**

<b>Student Name</b>	<b>Scholarship Received</b>	<b>Amount of Scholarship</b>
William Nicholson	2017 Medical Alumni Association Scholar	\$10,000
Whitney Smith	2017 Medical Alumni Association Scholar	\$10,000
Justin Beasley	2017 Medical Alumni Association Scholar	\$5,000
Michael Steadman	2017 Medical Alumni Association Scholar	\$5,000
Bliss Wright	Les Sockwell Memorial Award	\$1,000
Umair Savani	Christian Grinaker Award	\$1,000
Allen Lockhart	Sid Huggins Family Practice Award	\$1,000
Kristin Sheehan	Class of 1981 Scholarship	\$5,000
Brian McGrath	2017 Medical Alumni Leadership Award	\$500
		<b>\$38,500</b>

**2017 Medical Alumni Reunion Weekend**

The 2017 Medical Alumni Reunion Weekend was celebrated June 9-11, 2017 at the Hilton Pensacola Beach Resort in Pensacola, Florida. The classes of 1977, 1982, 1987 1992, 1997, 2002, 2007, and 2012 were honored.

Each year, the Medical Alumni Association selects an outstanding USA College of Medicine leader who embodies professionalism, compassion, and integrity. The MAA was proud to recognize Dr. Michael Culpepper M.D., Professor in the Department of Nephrology with the 2017 Distinguished Service Award.

As part of the Medical Alumni Reunion Weekend, Continuing Medical Education (CME) courses are offered for those attendees who are interested in earning credits while attending the Reunion. This year, 9 Continuing Medical Education credits were available for attendees to earn and included the following topics:

- **Tim Moore, M.D., '96, '02:** *Advances in Drug Discovery and Development*
- **Michael Goodlett, M.D. '82:** *Sports Medicine Topics*
- **Gene Lammers, M.D.'82:** *Safe(r)Medication Management for Older Adults*
- **Michael Finan, M.D.:** *Targeted Cancer Therapy*
- **Ed Panacek, M.D., M.P.H. '81:** *Sepsis in the Time of CMS*
- **Jason Dyken, M.D., '91:** *The Five Most Important Financial Concepts Doctors Get Wrong*

- **William Richards, M.D.:** *Dramatic Improvements in Minimally Invasive Treatment of GERD, Hiatal Hernia and Barrett’s Esophagus*
- **Lynn Dyess, M.D., ’82:** *Advances in Breast Cancer Treatment*
- **Andrea Joyner, M.D. ’07** *Centered Care: Focusing on the Patient for Better Outcomes*
- **Daniel Dees, M.D. ’07:** *Movement Disorders: Screening and Management*
- **Sid Brevard, M.D. ’87:** *Inside Charity Hospital During Hurricane Katrina*
- **Kevin Michaels, M.D. ’92:** *Why Occupational Medicine and What Do We Do?*

**Student Events Sponsored**

The Medical Alumni Association contributed funds to the following student events and activities:

- Class of 2020 Freshman Orientation lunch
- Class of 2019 White Coat Ceremony
- 2016 Review of Systems
- 2016 Match Day
- Dawg Day (co-hosted with the Basic Medical Science Student Organization)
- Asclepian Ball
- Class of 2017 Skit Night

**2016-2017 Annual Fund and Membership Drive Results**

Annual Fund Contributions	\$38,170
Amount Raised via Memberships	\$19,500
<b>Total Amount Raised</b>	<b>\$57,670</b>



**2016-2017**  
**Division of Medical Education and Student Affairs**

The Division of Medical Education and Student Affairs is responsible for all undergraduate education programs in the College of Medicine. Activities in the Division of Medical Education and Student Affairs are accomplished through offices in the Medical Sciences Building and Mastin Building.

Student Affairs

The Medical Association of the State of Alabama, Medical Society of Mobile County and University of South Alabama Medical Alumni Association sponsored Match Day festivities which were held at the Mobile Convention Center in downtown Mobile on March 17, 2017. The Match results were impressive with all students matching including two students who matched in Ophthalmology at the University of Iowa and the University of Mississippi. Fifteen students matched in Internal Medicine including one student who matched at the Mayo Clinic in Rochester, Minnesota, and one who matched at the Mayo Clinic in Jacksonville, Florida. Eleven students matched in General Surgery and ten in Family Medicine. Students matched in 22 different states and will be going to programs such as Baylor Scott-White, Columbia, Wake Forest, Emory, Tulane, University of Florida, University of Utah, and University of Colorado. Thirty-one percent of the students will remain in Alabama and 12 students matched here at USA.

Honors Convocation for the College of Medicine was held Friday evening, May 5, 2017, in the Mitchell Center on the USA campus. Dr. T. J. Hundley, Associate Professor in the Department of Internal Medicine and Assistant Dean for Medical Education and Student Affairs, was selected as the faculty speaker by the Class of 2017 and Bradley Scott Edmonds was selected to be the class speaker. Awards for academic achievement and community service were announced and the Hippocratic Oath was administered. Graduation was held at 10 a.m. on May 6, 2017.

The number of visiting medical students who participated in senior elective courses at USACOM is outlined below:

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Total Visitors	33	28	21	26	27
From LCME Schools	17	12	6	14	10
From Osteopathic Schools	6	7	15	11	17
From Foreign Schools	10	9	0*	0*	0*
Completed Paperwork, but Cancelled Visit					
From LCME Schools	5	3	4	3	6
From Osteopathic Schools	4	3	2	5	12
From Foreign Schools	4	3	0*	0*	0*
Disciplines in which Electives were taken					
Anesthesiology	0	0	0	0	0
Clinical Pharmacology	0	0	0	0	0
Emergency Medicine	0	1	0	0	0
Family Medicine	2	3	0	0	1
Internal Medicine	5	0	4	3	8
Medical Genetics	0	0	0	0	0
Neurology	0	0	0	0	0
Neurological Surgery	0	0	0	0	0
Obstetrics/Gynecology	1	1	5	2	2
Ophthalmology	0	0	0	0	0
Orthopedics	15	12	4	5	6
Pathology	0	1	1	1	0
Pediatrics	4	10	4	8	6
Psychiatry	0	1	0	1	0
Radiology	5	0	1	3	2
Surgery	6	1	2	3	2

\*We joined the AAMC VSAS in 2014 and no longer rotate foreign students

Months Electives Taken

	2013-2014		2014-2015		2015-2016		2016-2017	
	American	Foreign	American	Foreign	American	Foreign	American	Foreign*
January	0	0	2	0	1	0	0	0
February	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0
July	2	1	1	0	1	0	3	0
August	5	1	5	0	3	0	5	0
September	5	3	4	0	8	0	7	0
October	4	1	3	0	6	0	10	0
November	1	3	3	0	7	0	2	0
December	2	2	3	0	0	0	0	0

\*We joined the AAMC VSAS in 2014 and no longer rotate foreign students

Letters of evaluation (Dean’s Letters) were written for each of the 70 seniors who graduated in May, 2017. Students applied to 2863 residency programs through the AAMC Electronic Residency Application Service (ERAS).

Seventy (70) students matched for residency positions. Sixty-eight (68) of the May graduates used the NRMP as their primary means of obtaining residency and two (2) graduates participated in a specialty match.

	Number of Graduates	Match Utilized	
		NRMP	Non-NRMP
2013	73	68	5
2014	63	60	3
2015	74	71	3
2016	73	67	6
2017	70	68	2

University of South Alabama Seniors  
Residencies Received by Discipline

	Class of 2013		Class of 2014		Class of 2015		Class of 2016		Class of 2017	
<b>PRIMARY CARE:</b>	34	47%	22	35%	31	42%	28	38%	31	44%
Internal Medicine	21	29%	12	19%	19	26%	9	12%	15	21%
Family Medicine	7	10%	4	6%	3	4%	8	11%	10	14%
Pediatrics	3	4%	3	5%	6	8%	10	14%	3	4%
Med/Peds	3	4%	3	5%	3	4%	1	1%	3	4%
Anesthesiology	1		0		3		3		0	
Child Neurology	1		0		0		0		0	
Dermatology	0		0		0		1		0	
Emergency Medicine	1		4		6		2		7	
Int. Med./Dermatology	0		0		0		0		0	
Int. Med/Emer. Med.	0		1		1		0		1	
Neurology	6		1		1		2		1	
Neurological Surgery	0		3		2		1		0	
OB/Gyn	4		4		1		2		7	
Ophthalmology	3		1		1		3		2	
Orthopedic Surgery	4		3		2		4		1	
Otolaryngology (ENT)	1		1		0		0		0	
Pathology	1		2		4		0		0	
Physical Medicine & Rehabilitation	1		0		0		1		0	
Psychiatry	3		5		10		6		6	
Radiation Oncology	1		0		0		1		0	
Radiology	1		6		1		8		2	
Surgery – General	4		6		8		7		11	
Surgery - Plastics	0		1		1		0		0	
Surgery – Preliminary	3		2		2		4		0	
Surgery – Thoracic	0		0		0		0		0	
Transitional	0		1		0		0		1	
Urology	2		0		0		0		0	
<b>TOTAL Graduating Seniors</b>	<b>71</b>		<b>63</b>		<b>74</b>		<b>73</b>		<b>70</b>	

University of South Alabama Seniors  
Residencies Received by State

	Alabama		USA Hospitals (Mobile)	Out-of-State		Number of Different States
2013	28	38%	14	43	59%	25
2014	12	19%	8	51	81%	20
2015	29	39%	17	45	61%	18
2016	20	27%	14	53	73%	18
2017	22	31%	12	48	69	22

Seventy seniors received the Doctor of Medicine degree at Commencement on May 6, 2017. On the evening of May 5, the College held its forty-second Honors Convocation, which took place in the Mitchell Center. Dr. T. J. Hundley addressed the class and Bradley Scott Edmonds responded for the graduates. Prior to hooding the graduates, the following awards were presented:

Dean's Award	Susan Ansley Smith Grillott
Merck Award	Sean Michael Carter Ankur Kumar Singh
Glasgow Award	Susan Ansley Smith Grillott
Glasgow-Rubin Achievement Citations	Susan Ansley Smith Grillott Caroline Weathers Wilson
Dr. Robert A. Kreisberg Endowed Award of Excellence	Brian Patrick McGrath
Leonard Tow Humanism in Medicine Award	Corwin Glenn McGee Philip Almalouf, M.D.
Medical Alumni Leadership Award	Brian Patrick McGrath
Proassurance Award	William Andrew Ricks
Community Service Award	Brian Patrick McGrath Meagan Renea Thomas
SNMA Leadership Award	Dominique' Juanita Crain
Outstanding Student in the Pre-clerkship Curriculum	Caroline Weathers Wilson
Award for Excellence in the Interprofessional Education and Collaborative Practice	Sara Beth Shields Tarwater
Award for Excellence in Teaching Clinical Skills	Candice P. Holliday
Award for Excellence in Educational Design & Curriculum Development in Clinical Skills	Reema Bonnie Klinger
Pharmacology & Therapeutics Award	Brenden Scott Ingraham
Hollis J. Wiseman Award for Excellence in Pediatrics	Hannah Lynn Kinard
Samuel Eichold Award	Brenden Scott Ingraham
The Orthopaedic Excellence Award	Scott Richard Glenzer
John W. Donald Memorial Award in Surgery	Brenden Scott Ingraham
H. C. Mullins, M.D. Award	Dominique' Juanita Crain Abby Nelle Rowland

Obstetrics/Gynecology Award  
 Excellence in Emergency Medicine Award  
 Society for Academic Emergency Medicine (SAEM) Award  
 Excellence in Psychiatry Award

Emily Elizabeth Spurlin  
 Jacob Allen Sexton  
 Kiyoshi Christopher Scisum  
 Maridith Jean Hollis

Grade Distribution 2016 - 2017 Academic Year

Freshman Courses

	H	P	F
Foundations of Human Health I	9	61	3
Foundations of Human Health II	10	61	2
Cardiovascular	10	58	2
Basic Concept Human Structure	8	60	5
Urinary	8	60	2
OSCE M1 – Fall	10	62	0
OSCE M1 - Spring	14	52	0

Sophomore Courses

	H	P	F
Digestive	9	66	0
Endocrine & Reproductive	13	61	1
Ear, Nose, Throat	36	39	0
Neuroscience & Behavior	8	66	0
Respiratory	11	63	0
OSCE M2 – Fall	9	66	0
OSCE M2 - Spring	13	61	0

Junior Clerkships

	H	P	F	Out of sequence
Family Medicine	9	71	1	3
Internal Medicine	14	62	0	1
Neurology	9	69	0	0
OB/GYN	17	61	0	3
Pediatrics	13	61	1	1
Psychiatry	20	56	0	0
General Surgery	16	61	0	0

Academic Progress of Medical Students  
Source: Part II of LCME Annual Medical School Questionnaire

	2013	2014	2015	2016	2017
Initial Students in Class	75	77	75	75	74
Graduates	73	63	71	69	70
True Attrition (will not receive M.D. in any year)	0	5	4	3	1

	2012-13	2013-14	2014-15	2015-16	2016-17
Dismissed					
Freshmen	0	0	0	0	0
Sophomores	0	0	0	0	0
Juniors	0	0	1	0	0
Seniors	0	0	1	0	0
Placed on Leaves of Absence					
Freshmen	1	1	1	1	5
Sophomores	0	1	1	1	1
Juniors	9	12	5	4	8
Transferred to Another Medical School	0	0	0	1	0
Withdrew	3	1	3	1	3
Admitted with Advanced Standing or Re-entered from Graduate School	0	1	0	0	0
Deceased	1	0	0	0	0
Repeated All or Part of the Year	5	3	3	1	6
Enrolled on a Decelerated Schedule	0	0	0	0	0

Minority Students (Black, Native American, Hispanic)	2012-13	2013-14	2014-15	2015-16	2016-17
Total	17	19	22	28	35
Freshmen	4	7	7	9	10
All Other Classes	13	12	15	19	25

United States Medical Licensure Examination (USMLE) Step 1  
First Time Takers

	2012	2013	2014	2015	2016
Number of Students	69	74	72	73	78
National Overall Mean	227	228	229	229	228
USACOM Overall Mean	226	224	230	229	228
Failure Rate – National	5%	4%	4%	5%	5%
Failures at USA	3%	7%	3%	4%	2%

Minimum passing score = 176 in 1997; 179 in 1998-2000; 182 beginning in 2001; 185 in 2007; 188 in 2010; 192 in 2014

United States Medical Licensure Exam (USMLE) Step 2  
First Time Takers

	2013	2014	2015	2016	2017
Number of Students	73	65	76	71	70
National Overall Mean	238	240	240	241	242
USACOM Overall Mean	233	242	242	246	247
Failure Rate – National	2%	3%	5%	4%	2%
Failures at USA	5%	3%	4%	3%	0%

Minimum passing score = 170 for Class of 1997-2000; 174 beginning with the Class of 2001; 182 beginning with the Class of 2004; 184 beginning with the Class of 2008; 189 beginning with the Class of 2011; 209 beginning with the Class of 2014

United States Medical Licensure Examination (USMLE) Step 3

	Class of 2010	Class of 2011	Class of 2012	Class of 2013	Class of 2014
National Percentage Passing	97	97	97	98	98
USA Percentage Passing	92	96	93	97	98
USA Number of Students	65 (a)	68 (b)	67	66	62

(a) 65/66 students had taken Step 3 as of 6/14

(b) 68/69 students had taken Step 3 as of 6/14



Evaluation of Student Performance  
in the First Postgraduate Year\*

The questionnaire adopted by the Curriculum Committee in 1990-91 for assessment of graduates of the College of Medicine was sent to the Directors of the PGY-1 programs of our 2015 graduates. A total of 29 responses were received out of 74 requests. Below is a summary of the responses to the four major areas that were assessed.

	Class of 2013	Class of 2014	Class of 2015	Class of 2016
<b>Medical Knowledge</b>				
Top Fifth	13%	36%	21%	19.2%
Upper Middle Fifth	35%	38%	54%	48.1%
Middle Fifth	40%	18%	23%	21.2%
Lower Middle Fifth	10%	8%	2%	8.6%
Bottom Fifth	2%	0%	0%	3.7%
<b>Data Collection</b>				
Top Fifth	13%	39%	14%	22.2%
Upper Middle Fifth	48%	34%	63%	40.7%
Middle Fifth	35%	23%	21%	24%
Lower Middle Fifth	2%	2%	2%	13%
Bottom Fifth	2%	2%	0%	0%
<b>Clinical Judgment and Skills</b>				
Top Fifth	15%	39%	16%	19.5%
Upper Middle Fifth	40%	31%	63%	33.8%
Middle Fifth	38%	20%	19%	36.4%
Lower Middle Fifth	5%	8%	2%	13.7%
Bottom Fifth	2%	2%	0%	3.7%
<b>Professional Attitudes</b>				
Top Fifth	43%	46%	28%	35.5%
Upper Middle Fifth	27%	39%	60%	29.8%
Middle Fifth	23%	10%	7%	23.4%
Lower Middle Fifth	5%	5%	5%	10.3%
Bottom Fifth	2%	0%	0%	0%

\*Evaluated by Residency Program Director and/or Faculty

## Curriculum Committee

The Curriculum Committee met the first and third Wednesdays of the month. Meeting agendas alternated between subcommittee reports with recommendations for action and informational sessions updating committee members on national trends in medical education and changing expectations in the accreditation requirements for the undergraduate medical education (UME) program.

The Committee is charged with oversight of the UME curriculum in accordance with LCME standards. This encompasses the establishment of policies and practices for design, delivery, monitoring, mapping and assessment of educational content, and assuring that curricular problems are effectively addressed. The Committee was chaired by Tony Gard, PhD., Assistant Dean for Medical Education.

Seven subcommittees met monthly or quarterly to perform the major workload of the parent committee in 2016-2017. The subcommittees and their chairs included:

Assessment and Evaluation (Tony Gard, PhD)  
Clerkship Directors (TJ Hundley, MD)  
Clinical Skills (Christen Altermatt, MD)  
Curriculum Integration (Jeff Sosnowski, MD, PhD)  
Faculty Development (Benjamin Estrada, MD)  
Clinical Pathways (Benjamin Estrada, MD)  
Module Directors (Abu Al-Mehdi, MD, PhD)  
Student (Seth Hill, M2)

A summary of Curriculum Committee activities and action for 2016-2017 follows:

### Institutional and Module Objectives Review

The committee completed its most recent review and revision of the institutional competency-based, learning objectives for the UME program during the summer and fall months of 2016. Learning objectives for each of the pre-clerkship modules were in turn revised and remapped to AAMC Medbiquitous standards and the new institutional set of objectives. This work has resulted in an improved, data-driven process by which student attainment of learning objectives is effectively assessed.

### System and Process for Centralized Monitoring of Clinical Encounters

The committee approved adoption of the One45 online platform for electronic case logging of required clinical encounters during the AY2017-2018 clerkship year. To launch the process, a consolidated list of clinical conditions and skills required for M3 students across the junior year was developed by the Clerkship Directors Subcommittee. The new system will be expanded to accommodate learner entry of real, simulated and virtual encounters into a student portfolio that will be extended to include the pre-clerkship CLINIC course, although initial emphasis is on the clerkship year. Using One45, a students' clinical experience across the M3 year will be monitored locally by individual clerkships and centrally by the Clerkship Directors' Subcommittee.

### Outcome Measures Review

Standardized test scores reviewed by the committee during 2016-2017 continued their pattern of upward trending by meeting and exceeding national norms. Mean scores on NBME shelf exams for all seven clerkships exceeded national norms for the year. Final STEP1 scores released for USA students in March for June 2016 takers showed USA matched the national average of 228. The interim score for summer USA takers of STEP1 in 2017 increased sharply to 236, with additional data to be released in October. On STEP2CS, the Class of 2017 matched the national pass rate of 98%. On STEP2CK the Class of 2017 averaged 248, up from 246 in the preceding year, compared to the national average of 242.

To monitor the preparation of curricular content toward subdomains scored on STEP1 and STEP2CK, the Committee approved a dashboarding process to be conducted annually by the Assessment and Evaluation Subcommittee in addition to conducting its annual performance reviews of module and clerkships.

### Residents as Educators

As part of its annual review of the AAMC-Graduate Questionnaire, the Committee recognized the college's need to enhance the training requirements of house staff as educators of medical students. To provide assurance of training, the Committee approved the Teaching Expectations for Residents (TEACHER) signature form to be submitted annually by all house staff for each clerkship/residency program. A resident's signature on this form certifies that he or she understands the institutional mission statement, anti-discrimination policy and student mistreatment policy of the USACOM, the institutional and clerkship learning objectives established for medical students in training, and the specific educational and assessment methods utilized for students in training on clerkship related to the signee's program.

### Selectives Offered in the M3 Curriculum

To broaden the career perspective of students considering residencies in fields popular with our graduates in recent years, the committee approved the inclusion of a four-week selective course in the M3 rotation sequence. Students can opt to register for Emergency Medicine, Orthopedic Surgery, Pathology, Radiology, or Neurosurgery as their junior year selective. All students are required to take the seven core clerkships (Family Medicine, Internal Medicine, Pediatrics, Obstetrics-Gynecology, Surgery, Psychiatry, Neurology). Students opting to take a selective in the junior year will take their Neurology clerkship as seniors.

### Clinical Pathways Subcommittee

To reflect its emphasis on vertically integrated program development across the UME continuum, with an emphasis on transition to residency, the 4<sup>th</sup> Year Subcommittee was renamed "Clinical Pathways." One of many projects completed by the subcommittee was the development of a universal student evaluation for senior electives, which will be delivered on the Oasis platform.

### New Senior Electives

Developed through the Clinical Pathways subcommittee, the Curriculum Committee approved the objectives and design of three new senior electives. Sponsored by the Department of Family Medicine, the Population Medicine elective examines and compares health outcomes in different societal populations. Developed by the Department of Emergency Medicine, the 911 Pre-Hospital Emergency elective exposes students to the experience of the ambulance and EMT. Transition to

Residency familiarizes the senior student with medical socioeconomic and business aspects of the profession, and will be a required course in AY2017-2018.

#### Student Evaluations of Pre-clerkship Modules

During AY2016-2017, the Student Subcommittee solidified its role of authoring independent evaluations of pre-clerkship modules for consideration during the annual performance review of courses conducted by the Assessment and Evaluation Subcommittee. These evaluations are customized to the specific experience of students having completed a module and thus complement the information obtained through standardized evaluations delivered through the College's E\*Value system.

#### Bioethics Thread

The inclusion of educational content on the topic of medical bioethics is an essential element of the UME curriculum. The Committee approved the integration of a bioethics thread across the pre-clerkship module sequence for launching in AY2017-2018. Thread objectives and content were developed and will be taught by Dr. Anne Jeffrey, Assistant Professor of Philosophy, who specializes in the field of medical ethics and holds a joint appointment in the COM.

#### Clinically Integrated Introductory Course (CLINIC)

At the beginning of AY2016-2017, the Curriculum Committee approved the restructuring of the pre-clerkship clinical skills curriculum through the joint initiative of the Clinical Skills and Clinical Pathways Subcommittees. The program consolidates clinical skills training across modules during the M1 and M2 years into a single longitudinal CLINIC course, while preserving the sequence of pre-clerkship gateway OSCEs. The CLINIC course also preserves the basic features of the former Longitudinal Experience in Ambulatory Practice (LEAP) program for M1 students which exposes them to educational experiences in the ambulatory clinics throughout the greater Mobile area. For M2 students, CLINIC places them in two USACOM clerkship disciplines of their choice, one each semester. Early experience on clerkship offers M2 students a better and earlier perspective of career choices to consider for residency and eases the transition into the M3 year.

## Executive Committee of Student Assembly

Meetings were held on the second Wednesday of each month beginning in August and ending in May. Location: Mastin #209 at 4:15 p.m.

As set forth in the Student Handbook, the Student Assembly addressed issues affecting student life. The officers for 2016-2017 were:

President – Alex Wiles

Vice President – David Rizk

Secretary/Treasurer – Daniel Johnson

SGA Liaison: Chandler Van Dyke

Faculty Advisors: Dr. Susan LeDoux, Dr. Kelly Roveda, and Dr. Haley Ballard.

1. Events funded by Student Assembly:
  - a. Halloween Party: October 28, 2016 at Alchemy Tavern  
Student Assembly approved \$200 for the event.
  - b. AMA Conference: November 12, 2016 in Orlando, Florida  
Student Assembly approved \$970 for the event.  
Twelve students attended the conference, eight presented research
  - c. Christmas Party: December 2, 2016 at O'Dalys Irish Pub  
Student Assembly approved \$400 for the event.
  - d. Gold Humanism Honor Society (GHHS) Solidarity Week: February 13-17, 2017  
Student Assembly approved \$350 for the event.
  - e. Match Day 2017: Friday, March 17, 2017 at Mobile Convention Center  
Student Assembly approved \$500 for photo booth rental.
  - f. Asclepian Ball: Friday, March 31, 2017 at the Athelstan Club  
Student Assembly approved \$500 for the event.
  - g. The Gumbo Chili Showdown: Saturday, April 8, 2016 at Ladd Peebles Stadium during the Spring football game.  
Student Assembly approved \$2,000 which provided funds for COM students to enter teams for free (\$75 entry fee waived for COM students).  
GCS raised over \$8,000 for the Regan Robinson Young Scholarship.
  - h. Senior Skit Night: Friday, April 21, 2017 at the Battle House Ballroom  
Student Assembly approved \$3,000 for the event.
  - i. USA COM Case Report Symposium: June 9, 2017  
Student Assembly approved \$500 to cover refreshments.
2. Dates of Special Events were as follows:
  - a. White Coat Ceremony for the Class of 2018 was held on Sunday, June 19, 2016, at the Mitchell Center.
  - b. Honors Convocation was held on May 5, 2017, and Graduation on May 6, 2017, both at the Mitchell Center.
3. USA COM Case Report Symposium: Friday, June 9, 2017, 2-4 p.m. at the Strada Patient Care Center.
  - a. Organized by Student Assembly officers (David Rizk, Chandler Van Dyke, and Alex

Wiles).

- b. M3 students present an interesting, unique, or personally meaningful case from one of their clerkships in the form of a poster presentation to an audience of peers and faculty.
4. The student subcommittee of Student Affairs for student wellness, led by M3, Beth Terry, and advised by Drs. LeDoux and T. J. Hundley, spoke at several meetings to develop plans for a new mentoring program for the 2017-2018 school year. The plan includes a team-based mentoring model in which new students are placed on teams with students from each class.
5. Volunteer opportunities for M1s-M4s at the University of South Alabama Student-Run Free Clinic were discussed and contact information about how to get involved was distributed. Due to the closing of 15 Place, the Student-Run Free Clinic is now located at the Salvation Army and operated on Friday afternoons.
6. Emphasis was placed on improving communication between USA COM Student Assembly and the USA Student Government Association. The role of SGA Liaison was appointed by the Student Assembly President. Both College of Medicine seats in SGA were filled by M2s, Hala Al-Safarjalani and William Nicholson and meetings were attended regularly. The role of the newly appointed SGA Liaison is as follows:
  - a. The Liaison should contact the SGA President and/or Vice President to open a line of communication to the COM and serve as a contact for SGA should they need to communicate with Student Assembly.
  - b. The Liaison should coordinate a Student Assembly meeting for the SGA President (or other officer) to attend early in the school year to allow the President to meet and speak with COM Student Assembly.
  - c. The Liaison should either serve as a senator on USA SGA (weekly Monday night meetings) or identify two underclassmen interested in filling the roles and ensure that the roles of senator are being fulfilled.
  - d. The Liaison should provide assistance as needed to the Gumbo Chili Showdown chairmen in the appropriations process for funding of Gumbo Chili Showdown.
7. New Student Assembly officers were elected in April, 2017, for 2017-2018. The transitional meeting took place in May, 2017.
  - a. President: Audrey Murphy
  - b. Vice President: Kristen Smith
  - c. Treasurer: Matthew Robson
  - d. SGA Liaison: Ashleigh Tomkovich

No meetings were held December, 2016; June, 2017; and July, 2017.

Financial Aid

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Total Financial Aid	\$10,740,663	\$10,141,055	\$10,600,638	\$10,189,089	\$10,749,914
Students on Aid	252	248	270	263	272
<b>Loans</b>					
Perkins	627,811	558,000	642,000	557,500	423,000
Direct Subsidized	0	0	0	0	0
Direct Unsubsidized	8,572,896	7,628,762	7,878,086	7,172,789	7,828,125
Direct Grad Plus	328,446	533,211	590,126	555,483	783,639
Outside Private Loans	0	0	6,898	14,983	0
Total Loans	\$9,529,153	\$8,719,973	\$9,117,110	\$8,300,755	\$9,034,764
<b>Scholarships</b>					
University Sponsored	690,012	749,146	801,174	968,916	900,064
Outside Sponsored	162,989	169,613	150,146	185,549	138,201
Military – Army	13,044	27,168	28,256	86,551	153,282
Military – Navy	129,130	189,810	140,785	229,467	206,468
Military - Air Force	144,010	191,971	226,259	201,106	88,791
Alabama Medical Board Scholarship	0	0	0	0	0
Alabama VA Benefits	25,471	26,616	83,046	86,703	94,840
Post 9-11 GI Bill	19,641	0	0	0	0
Faculty Staff Reimbursement	27,213	66,758	53,862	130,042	133,504
Total Scholarships	\$1,211,510	\$1,421,082	\$1,483,528	\$1,888,334	\$1,715,150
<b>Average Indebtedness of a Graduating Senior</b>					
	\$141,760	\$149,655	\$154,938	\$155,019	\$156,242

An Emergency Loan Fund is available to medical students. Loans of up to \$500 may be obtained by students through a fund administered by the Office of Student Affairs and Medical Education for a period of up to 60 days for the purpose of alleviating an unanticipated financial need. There is no interest charged. During the period August 1, 2016, through July 31, 2017, two (2) emergency loans were approved for a total amount of \$3,250.00. During that period, one (1) payment totaling \$500.00 was paid back into the loan account.

Educational Enrichment

*Diversity, Recruitment, and Enrichment for Admission into Medicine (DREAM)*

The summer of 2017 marked the 31<sup>st</sup> year of the BEAR/DREAM Pipeline Program. It was also the third summer of the new focus of DREAM on preparing students for the reformed MCAT (2015). Four students entered Phase II of DREAM which began in June and concluded seven weeks later in July 2017.

Per guidance from the Association of American Medical Colleges, the MCAT study curriculum covered the four broad areas which assess competency in 10 Fundamental Concepts that all entering medical students are expected to possess.

The program utilized the Khan Academy MCAT preparation website with 900 short videos (YouTube viewer compatible) and over 400 scientific or clinical passage questions organized around the Fundamental Concepts. Instructors made liberal use of this resource in training the DREAM students along with the latest edition of the Exam Crackers-MCAT Complete Preparation Package.

Three rising COM II students, one USA faculty, and one Springhill College faculty were responsible for DREAM instruction. COM faculty facilitated clinical case studies of health and socio-cultural issues prevalent in minority populations. On Friday afternoons, a medical seminar or adviser session was presented to the DREAM students.

Two of the four students in Phase II successfully completed the program and will matriculate into USA COM in 2018. One additional student from the previous year of DREAM will also matriculate into USA COM in 2018.

PHASE II

The composition of the 2017 Phase II class of DREAM students that will matriculate into USA COM were three students; one female and two males representing two colleges and universities:

Spring Hill College.....1  
Univ. of South Alabama.....2

These participants were natives of Alabama.

The entering Grade Point Averages of these Phase II participants ranged from 3.44 to 3.5 and ACT scores ranged from 21 to 27.



## **2016-2017 Office of Admissions**

### Applicant Pool and Acceptance Data

The University of South Alabama College of Medicine participates in the American Medical College Application Service (AMCAS). The period for receiving applications to the College of Medicine for the class entering August 7, 2017, opened June 1 and closed November 15, 2016.

The matriculating Class of 2017 represents nineteen (19) colleges and universities from the United States. Seventy-one percent (71%) of this year's class, however, come from the four (4) largest universities in the state. Additional details of the 2016-2017 admissions cycle are shown in Table 1.

### Recruitment and Retention Efforts

1. Undergraduate campus recruiting visits and sophomore interviews were implemented by "teams" of faculty and administration. The USACOM recruiting teams counseled over 300 premedical students at 8 colleges and universities.
2. The Director of Admissions served as the admissions counselor and advised prospective students on a daily basis. In addition, selected faculty members advised prospective applicants periodically.
3. Premedical visitation day programs were organized and conducted to provide prospective applicants with an opportunity to tour the College of Medicine facilities, review the application process, meet with medical students and faculty, and obtain information on financial aid, housing, and the community.
4. Informative health career-related programs were organized and conducted upon request for high school students, community organizations, and premedical special interest groups.
5. The following publications were produced and were distributed by the Office of Admissions: Policies and Procedure Manual, and The USA COM FYI.
6. Special admissions reports and correspondence were produced and distributed annually to in-state premedical advisors and selected out-of-state advisors.
7. A total of sixteen (16) Applicant Interview Day programs were conducted from September until mid-March. The interviewers, primarily College of Medicine basic science and clinical faculty, serve as members of the Committee on Admissions and/or ad hoc members. These members interviewed two hundred eleven (211) candidates; each interviewee was interviewed by three committee members, giving a total of six hundred three-three (633) interviews.
8. The following Admissions Committee subcommittees were active in 2016-2017: Scholarship Subcommittee; Alternate List Subcommittee; Early Acceptance Program Subcommittee

### Early Acceptance Program

In 1990, the College of Medicine and the University's Health Pre-Professions Program established an Early Acceptance Program for qualified high school graduates interested in a career in medicine. Candidates selected for this program must have a minimum high school GPA of 3.5 and an ACT score of 27 (or comparable SAT). Candidates selected for this program receive early acceptance from the University of South Alabama College of Medicine. The students enter the Health Pre-Professions Program at the University of South Alabama, and their curriculum includes the core requirements for their selected baccalaureate program and prerequisites for entering medical school.

Students in this program must maintain a specific grade point average during college and take the MCAT, a minimum score of 504 being required. EAP participants must also meet all other requirements for entering medical school. Students participate in a variety of activities on an individual basis to provide a broad exposure to medical education. Students participating in the program are expected to enter the College of Medicine following completion of the baccalaureate degree.

This year, seventy-six (76) applications were received from students wishing to enter this program. After a screening process, fifty (50) of the applicants were selected for interviews and eighteen (18) were offered admission to the program.

Table 1. University of South Alabama College of Medicine Admissions Report

	2014	2015	2016	2017
<b><u>Total Applicants (Completed Secondary Applications)</u></b>	1316 (657)	1491 (699)	1525 (719)	1521 (740)
Residence: Alabama	421 (369)	435 (362)	472 (404)	467 (407)
Out-of-State (OOS)	895 (260)	1008 (305)	994 (284)	1003 (301)
Service Areas (FL & MS)	43 (25)	48 (31)	59 (31)	51 (32)
Rural	66 (58)	60 (60)	82 (82)	63 (63)
Alabama Female	191 (152)	198 (153)	205 (173)	209 (183)
Alabama Black	52 (39)	56 (40)	59 (52)	55 (51)
Out-of-State Black	144 (21)	83 (34)	90 (33)	83 (46)
Alabama Other Underrepresented Minorities*	15 (11)	19 (16)	27 (17)	30 (27)
Out-of-State Other Underrepresented Minorities	113 (39)	147 (44)	150 (42)	157 (62)
<b><u>Total Applicants Interviewed</u></b>	222	197	215	211
Residence: Alabama	211	183	201	196
Out-of-State	5	2	4	6
Service Areas (FL & MS)	6	12	10	9
Rural	33	32	40	33
Female	86	79	92	89
Black (excludes DREAM)	13	17	18	19
Other Underrepresented Minorities	4	10	12	10
<b><u>Total Applicants Accepted</u></b>	159	147	155	143
Residence: Alabama	149	136	144	132
Out-of-State	5	4	4	5
Service Areas (FL & MS)	5	7	7	6
Rural	22	26	32	21
Female	64	71	72	66
Black	16	16	17	15
Black Regular Admissions	11	12	13	14
DREAM Program	5	4	4	1
Other Underrepresented Minorities	3	9	10	6
<b><u>Total Matriculants</u></b>	76	75	74	72
Average MCAT	30	30	507	508
Average GPA	3.7	3.8	3.75	3.77
Early Decision Program	15	7	11	4
Residence:				
Alabama	71	66	69	67
Out-of-State	3	5	2	2
Service Areas (FL & MS)	2	4	3	3
Rural	10	13	18	12
Female	33	28	31	32
Total Black	8	8	9	8
Black Regular Admissions	5	5	5	7
DREAM Program	3	3	4	1
Other Underrepresented Minorities	2	3	2	2

\*Other Underrepresented Minority: Hispanic ethnicity, American Indian, Gulf Coast Asian

## **2016-2017 Office of Continuing Medical Education**

The Office of Continuing Medical Education has provided numerous activities that addressed the continual practice gaps of all healthcare providers. We continue to be accredited *with Commendation* through the Accreditation Council of Continuing Medical Education.

The Office of Continuing Medical Education collaborated with the College of Allied Health, United Way, Housing First, and many other outside agencies during 2016 in an effort to address the needs of our homeless population. Project Homeless Connect coordinated over 400 volunteers, most from the University of South Alabama Colleges of Medicine, Allied Health, and Arts & Sciences (Social Work). Volunteers addressed the medical needs through assessment and referrals.

During 2016-2017, the Office of Continuing Medical Education coordinated CME activities provided by the clinical departments and outside agencies. There were approximately 1,354 regularly scheduled series (Grand Rounds) activities and 139 conferences, all combining for 4,965.55 CME credits. In total, 12,036 physicians and 13,482 non-physician's credits were awarded. Additionally, 139 jointly provided activities with the following outside agencies (Providence Hospital, Providence Foundation, Springhill Medical Center, Gulf Coast Patient Care Network, Alabama Academy of Radiology, Coastal Trauma Care Region, and the Veterans Administration) were supported by the Office of CME.

### **Significant CME Achievements**

- Sharrie Cranford named editor for Society for Academic Continuing Medical Education tri-annual newsletter INTERCOM

### **CME Plans for 2017-2018**

- Integrate ACCME new accreditation criteria
- Revise mission statement
- Create a five-year strategic plan

**2016-2017**  
**Summary of Scholarly Activities**  
**Office of Graduate Medical Education**

**I. Organizational Structure**

Dr. Samuel A. McQuiston, Associate Professor of Radiology at the University of South Alabama, serves as Assistant Dean for Graduate Medical Education (GME), Designated Institutional Official (DIO), and chair of the Graduate Medical Education Committee (GMEC). Dr. McQuiston and the GME Office staff oversee all residency and fellowship training programs at the institution accredited by the Accreditation Council for Graduate Medical Education (ACGME). The GME Office implements policies of the GMEC. The ACGME charges the GMEC with monitoring and advising on all aspects of residency education including compliance with ACGME requirements and creating a strong and supportive learning environment for the trainees. The GMEC is composed of program directors, teaching faculty, peer-selected residents and designated representatives of the major teaching hospitals. The GMEC is responsible for reviewing current issues facing residency and fellowship programs as well as for developing institutional policies and procedures to ensure quality of education and of the clinical learning environment. GMEC activities are reported by the Assistant Dean to the Vice President for Medical Affairs/Dean of the College of Medicine.

**II. Overview of GME Programs and Accreditation**

As detailed below, University of South Alabama Health sponsors 11 residency and 7 fellowship programs with a combined total of 258 training positions. During the 2016 – 2017 academic year, all residency positions were filled through the Nation Residency Matching Program (NRMP) with 251 physicians completing training during the 2016 – 2017 academic year. With the addition of the Sports Medicine fellowship to the Family Medicine program, the USA Sports Medicine fellowship was voluntarily withdrawn.

Residency Programs

<b>Program Name</b>	<b>Program Director</b>	<b>Program Coordinator</b>
Family Medicine	Ehab Molohkia, M.D.	Stacey Hartman
Internal Medicine	Errol Crook, M.D.	Jessica McDonnel
Internal Medicine/Pediatrics	Grace Hundely, M.D.	Rita Harper
Neurology	Juan Ochoa, M.D.	Caroline Kuehling
Obstetrics & Gynecology	Craig Sherman, M.D.	Carol Johns
Orthopedic Surgery	Prasit Nimityongskul, M.D.	Rhonda Smith
Pathology	Andrea Kahn, M.D.	Kathy Cannon
Pediatrics	Franklin Trimm, M.D.	Rita Harper
Psychiatry	Luke Engeriser, M.D.	Bayleigh Andrews
Radiology	Samuel McQuiston, M.D.	Shunda Fakaha
Surgery	Jon Simmons, M.D.	Dorothy Dickenson

Fellowship Programs

<b>Program Name</b>	<b>Program Director</b>	<b>Program Coordinator</b>
Children’s & Adolescent Psychiatry	Ed Finn, M.D.	Bayleigh Andrews
Cardiovascular Disease	Bassam Omar, M.D.	Kimberly Wilson
Clinical Neurophysiology	Juan Ochoa, M.D.	Caroline Kuehling
Gastroenterology	Jack Di Palma, M.D.	Tonya Beachum
Pulmonary Disease & Critical Care Medicine	Brian Fouty, M.D.	Ruth Hart
Sports Medicine (FM) - Andrews	Josh Hackel, M.D.	Leah Johnsey
Surgery Critical Care	Sidney Brevard, M.D.	Dorothy Dickenson

ACGME Accreditation

USA Health has maintained full accreditation as a sponsoring institution by the ACGME with its most recent renewal of accreditation on October 17, 2012, and institutional self-study due on approximately October 1, 2026.

No ACGME accreditation site visits occurred during the 2016 – 2017 academic year. All programs are fully accredited by the ACGME. The Internal Medicine Residency Program and its associated fellowships in Cardiovascular Disease, Gastroenterology, and Pulmonary Disease & Critical Care completed their self-study with the anticipation of an ACGME site visit in mid-2017; the site visit for these programs will occur in the 2017-2018 academic year.

The annual ACGME online survey was completed by 91% of residents and fellows and 81% of faculty. Results on all ACGME Resident and Faculty Surveys consistently placed GME training programs at or above the national averages in compliance.

Residency Programs

<b>Program Name</b>	<b>Training Positions</b>	<b>Trained Residents</b>	<b>Accreditation Status</b>	<b>Self-Study Date</b>
Family Medicine	18	19	Continued Accreditation	11/01/2018
Internal Medicine	48	43	Continued Accreditation	05/01/2016
Internal Medicine/Pediatrics	11	8	Continued Accreditation	10/01/2022
Neurology	12	10	Continued Accreditation	08/01/2023
Obstetrics & Gynecology	16	16	Continued Accreditation	06/01/2018
Orthopedic Surgery	15	15	Continued Accreditation	01/01/2025
Pathology	15	13	Continued Accreditation	04/01/2017
Pediatrics	36	38	Continued Accreditation	10/01/2022
Psychiatry	16	9	Continued Accreditation	10/01/2021
Radiology	20	20	Continued Accreditation	04/01/2022
Surgery	29	30	Continued Accreditation	02/01/2019

## Fellowship Programs

<b>Program Name</b>	<b>Training Positions</b>	<b>Trained Fellows</b>	<b>Accreditation Status</b>	<b>Self-Study Date</b>
Children's & Adolescent Psychiatry	4	3	Continued Accreditation	10/01/2015
Cardiovascular Disease	6	7	Continued Accreditation	05/01/2016
Clinical Neurophysiology	1	1	Continued Accreditation	08/01/2023
Gastroenterology	6	6	Continued Accreditation	05/01/2016
Pulmonary Disease & Critical Care Medicine	6	9	Continued Accreditation	05/01/2016
Sports Medicine (FM) - Andrews	1	1	Continued Accreditation	11/ 01/2018
Surgery Critical Care	1	1	Continued Accreditation	11/01/2015

### **III. Summary of GME Activities**

The Assistant Dean and GME Office communicate with each of the GME programs to maintain awareness of the requirements for the ACGME accreditation and the Clinical Learning Environment Review (CLER).

#### Clinical Learning Environment Review (CLER)

The second Clinical Learning Environment Review (CLER) site visit at USA was completed in August 2016 at the University of South Alabama Medical Center campus, and included Stanton Road Clinics and the Mastin Clinics. The final report from the CLER site visit was received in September 2016. The report reflected awareness throughout the USA Medical Center of the CLER program foci and acknowledged programs that are in place throughout the USA Health System to support these foci. The CLER program foci are as follows:

- Patient Safety
- Health Care Quality
- Care Transitions
- Supervision
- Duty Hours/Fatigue Management and Mitigation (Physician Well Being)
- Professionalism

#### Patient Safety & Quality Improvement Programs

USA Health uses the framework of the Institute for Healthcare Improvement (IHI) for quality and performance projects. Education in patient safety and quality improvement science is provided through the IHI modules, modules from the GME Competency Education Program, team-based learning activities and other educational resources. At orientation 86 new housestaff were introduced to patient safety and quality improvement programs within USA Hospitals and

associated healthcare settings. Residents gain experience in promoting patient safety and quality improvement by engaging in projects guided by their GME programs.

Engaging Residents in Quality Improvement, a project developed after the Teaching for Quality Workshop (Te4Q) on September 11 – 12, 2015, was completed and reported to the GMEC at the May 23, 2017 meeting. Developed through a joint venture of the USA Department of Internal Medicine, the Quality Assurance staff from the USA Medical Center and the USA Children's and Women's Hospital, and the USA Graduate Medical Education Office, the project sought to facilitate the education of housestaff on quality improvement science and application and resulted in development of a curriculum and an interdisciplinary approach with the USA Medical Center and USA Children's and Women's Hospital. Upon presentation of the completed project, the GMEC voted to extend the program as an institutional initiative throughout all GME programs at USA.

### Resident and Fellow Physician Well Being

In recognition of the importance of compliance with ACGME requirements, each program is charged with establishing a clinical learning environment that fosters compliance with the ACGME requirements. The GMEC assumes responsibility for the wellbeing of housestaff at USA and supports all GME program efforts toward this purpose. Each program and the institution have developed policies and procedures governing the clinical experience and education.

Residents log duty hours into New Innovations, and the GME Office oversees duty hour logging compliance, while the GMEC oversees duty hour rule compliance. During the 2016 – 2017 academic year duty hour disparities represented less than 0.07% of over 80,000 workdays and 660,000 work hours by residents and fellows.

The GMEC determined to establish a permanent subcommittee to promote resident and fellows wellbeing. The GMEC works with the USA Housestaff Council and the USA Housestaff Association to this end.

The USA Housestaff Council, composed of the chief residents from the 11 residencies and senior fellows, provides a platform for housestaff to address clinical and work-related concerns with USA Health administrators, including patient care issues, improving efficiency in clinical workflow, workplace safety, and the safety of residents and fellows.

The USA Housestaff Association intends:

- To build a community of emotional, physical, and social support amongst the collective housestaff members and their families from different disciplines within the USA Health System and the Greater Mobile area,
- To create a protected environment where ideas and opinions are voiced openly, and
- To encourage camaraderie and open communication between housestaff across specialties and subspecialties.



## Faculty and Resident Professional Development

During the 2016 – 2017 academic year, the USA Office of Graduate Medical Education develop the GME Speakers List. The list includes 36 workshops by USA faculty and staff who can provide faculty and staff development in the following categories:

- Education, Teaching, and Curriculum
- Educational Technologies
- Human Dynamics in Medical Education
- Mentoring, Supervision, Assessment, and Feedback
- Patient Safety, Education, and Advocacy
- Quality Improvement Science
- Personal Health and Wellness

The GME Office facilitated faculty and resident development through several methods, including workshops on Team-based Learning in Patient Safety, Innovation in Learning Center workshops for clinical faculty, and providing online resources through several SAKAI project sites. These programs provided over 480 developmental hours to faculty, fellows and residents.

## GME Competency Education Program (GCEP)

During the 2016 – 2017 academic year, the *GME Competency Education Program (GCEP)*, a set of web-based modules from the AMA, was introduced to meet the training needs of housestaff, including patient safety, quality improvement, transitions in care, cultural competence, residents as teachers, and professionalism. All residents and fellows were required to complete the modules on “Sleep Deprivation: Your Life and Your Work”, “Residents as Teachers” and “Cultural Competence in Healthcare”.

## Program Coordinators’ Professional Development

With the dynamics in GME at USA and across the country, the monthly GME Program Coordinators’ meeting has become vital for the program coordinators in maintaining awareness of changes in the USA Health System, accreditation requirements, the NRMP, and New Innovations to address the other changes. To assist the program coordinators in meeting the changing needs of their programs, the GME Office incorporates staff/professional development into the monthly program coordinators’ meeting, including the topics of CMS Reimbursement as it relates to Program Letters of Agreement and Non-Hospital Setting Agreements, the use of the Program Director's Work Station (PDWS) for the NRMP Match, the use of New Innovations to meet documentation requirements for ACGME accreditation, Program Coordinators as Leaders and Motivators in Medical Education, conflict resolution skills, using office products to create infographics, record retention for trainees.

**2016-2017**  
**Summary of Activities**  
**Medical Student Summer Research Program**

The Forty Fourth Annual Medical Student Research Day was held on Friday, July 28, 2017 hosting over 100 attendees in the Medical Sciences Building for both oral and poster presentations. Forty-nine first and second-year medical students participated in research projects with basic science and clinical faculty in the College of Medicine during the summer. A weekly seminar series introduced students to important research related topics. The program aims to highlight the relation between scientific discoveries and their application in clinical medicine.

Dr. Betty Diamond, M.D., Professor & Head, Center for Autoimmune and Musculoskeletal Diseases, The Feinstein Institute for Medical Research, and Professor of Molecular Medicine, Hofstra Northwell School of Medicine was the keynote speaker. Dr. Diamond's seminar was entitled, "*Antibodies and the brain: an expanding universe*".

Culmination of the summer's work was the presentation of eight oral and forty-one poster presentations at the Annual Medical Student Research Day. Student presentations and their faculty sponsors were as follows:

**ORAL PRESENTATIONS**

Arslan Arshad, Incoming Freshman. Randomized Trial Comparing Ultrasound Guided and Laparoscopic Transversus Abdominis Plane Blocks: A Pilot Study. Sponsored by Paul F. Rider, M.D., Department of Colon and Rectal Surgery.

Hayden Hamby, Rising Sophomore. Are Online Symptom Checkers Accurate for the Diabetic Patient Population?: A Real-Life Emergency Room Experience. Sponsor: Andrew C. Berry, DO, Department of Medicine.

Caleb Judge, Rising Sophomore. Role of Angiotensin Converting Enzyme Inhibitors/Angiotensin Receptor Blockers for Protein-Wasting Nephropathy in Sickle Cell Disease. Sponsored by Ardie Pack-Mabien, Errol Crook, M.D., Johnson Haynes, M.D. University of South Alabama Comprehensive Sickle Cell Center.

Aliyah Kennedy, Incoming Freshman. Novel SNORAS Contributors to Malignancy. Sponsored by Glen Borchert, Ph.D., Department of Biology.

G. Reid McClenny, Incoming Freshman. Loss of Xrcc1 Provides Increased Cancer Cell Sensitivity to Chemotherapeutics & Radiation. Sponsored by Jennifer Clark, Ph.D., Peter Sykora, Ph.D., Joel Andrews, Ph.D., And Robert W. Sobol, Ph.D, Department of Oncologic Sciences.

Stuart McFarland, Incoming Freshman. Role of Endothelial TRPV4 Channels in Carotid Artery Function and Low-Flow Remodeling. Sponsored by Mark S. Taylor, Ph.D. and David Weber, Ph.D., Department of Physiology and Cell Biology.

Destini Smith, Rising Sophomore. Access to Employer Provided Health Insurance in Low Income Communities. Sponsored by Kenneth Hudson, Ph.D., Department of Sociology, Anthropology, and Social Work, and Errol Crook, M.D., Abraham A. Mitchell Professor and Chair, Department of Medicine.

Supraja “Sippy” Sridhar, Rising Sophomore. Hyperspectral Imaging of Insulin-Secreting Ins-1e Cells. Sponsored by Thomas Rich, Ph.D., Department of Pharmacology, and Silas Leavesley, Ph.D., Department of Chemical Engineering, Center for Lung Biology.

### **POSTER PRESENTATIONS**

Galen Garriga, Incoming Freshman. Depletion of Mitochondrial DNA: Impact on Bioenergetics and Ca<sup>2+</sup> Signaling In Lung Microvascular Endothelium. Sponsored by Mikhail Alexeyev, Ph.D. and Mary Townsley, Ph.D., Department of Physiology and Cell Biology.

Jack Friend, Rising Sophomore. T Cells as a Potential Vaccine Target for Intracorneal Hsv-1. Sponsored by Robert Barrington, Ph.D., and Robert Lausch, Ph.D., Department of Microbiology and Immunology.

Travis B. Goodloe, III, Rising Sophomore. Validation of the Detection of BRAF, KRAS, NRAS, & EGFR Mutations in Melanoma, Colorectal, and Lung Cancers Using a Real-Time PCR Assay. Sponsored by Brett Baskovich, M.D., Department of Pathology.

Sara Anne Stringfellow, Rising Sophomore. Not All Colloids Are Created Equal: Plasma Rescue Decreases Fluid Creep During Burn Resuscitation Compared to Albumin. Sponsored by Steven Kahn, M.D., and Sidney Brevard, M.D., Department of Surgery.

Hannah Ficarino, Rising Sophomore. Comparison of Tidal Volumes of Mechanically Ventilated Trauma Patients Before and After the Implementation of the Mechanical Ventilation Protocol. Sponsored by Sidney Brevard, MD, Department of Surgery.

Aaron Dinerman, Rising Sophomore. Investigation of the Significance of Son Isoform mRNA Expression In Patients With Blood Cytopenias With/Without Evidence of Myeloid Neoplasia. Sponsored by Thomas Butler, M.D., Department of Medical Oncology and Erin Ahn, Ph.D., Department of Oncologic Sciences and Department of Biochemistry and Molecular Biology.

Patricia Connor, Rising Sophomore. Trauma Patients Have Improved Access to Post-Discharge Resources Through the Affordable Care Act. Sponsored by Sidney Brevard, MD; Ashley Williams, MD; S. Noelle Davis, CRNP, Department of Surgery.

Verlisa Kennedy, Incoming Freshman. Treatment of Hepatitis C Infection in HIV Infected Patients in Inner City Clinics. Sponsored by Eduardo Calderon, M.D., Department of Medicine.

Natalie Hargrave, Rising Sophomore. Highway-Rail Crossing Injuries in Alabama: Gates are Not Enough. Sponsored by Jon Simmons MD; Steve Kahn, MD; Sid Brevard, MD MPH; Linda Ding, MD, Department of Surgery.

Frank Foley, Rising Sophomore. Does Completion of a Fourth-Year Internal Medicine Sub-I Predict Success as a General Surgery Intern? Sponsored by Linda Ding, M.D., Jon D. Simmons, M.D., F.A.C.S. Department of Surgery.

Kristin Sheehan, Rising Sophomore. Establishment of a Lymphedema Registry for the University of South Alabama. Sponsored by Donna Lynn Dyess, M.D., J. Spencer Liles, M.D., Department of Surgery.

William Wiggins, Rising Sophomore. Nuclear Localization of Pol  $\Lambda$ : A Role for Cotransport. Sponsored by Natalie R Gassman, Ph.D. Department of Oncologic Sciences.

Patrick Steadman, Rising Sophomore. The Significant Impact of a Dedicated TBL Curriculum on a Surgery Clerkship. Sponsored by Lee Grimm, Jr., M.D., FACS, FASCRS, Department of Surgery.

Anna Stevens, Rising Sophomore. Health Insurance Disparities in Colon, Rectal, and Anal Cancer Patients. Sponsored by Leander Grimm, MD, Department of Surgery.

Ryan Miller, Rising Sophomore. Sedation in the Burn Intensive Care Unit: A Comparison of Protocols Over Time. Sponsored by Kaitlin McGinn, PharmD, Steven Kahn, MD, Sidney Brevard, MD, Linda Ding, MD, Jon Simmons, MD., Department of Surgery.

Kelsea Wright, Rising Sophomore. Herpes Simplex Virus in Burn Patients. Sponsored by Steven Kahn, MD and Kaitlin McGinn, PharmD, Department of Surgery.

Aubrey Young, Rising Sophomore. Parenting Interactions During Play Between Mothers and Children in the Gulf Coast Region of the Us To Support Positive Developmental Outcomes. Sponsored by Elizabeth Kennedy, PT, PhD, PSC, And Stephanie Anderson, MD, Department of Pediatrics.

Murphy Mostellar, Incoming Freshman. Is Uric Acid an Oxygen Free Radical Scavenger? A Potential Determinant of the Innate Immune Response in Sepsis. Sponsored by Raymond Langley, PhD., Department of Pharmacology.

Will Martin, Rising Sophomore. Colorectal Cancer Detection by Excitation-Scanning Hyperspectral Imaging. Sponsored by Silas Leavesley, Ph.D., Departments of Chemical and Biomolecular Engineering and Pharmacology, Center for Lung Biology.

Daniel Ziemann, Rising Sophomore. Control of Breast Cancer Cell Migration by Protein Kinases. Sponsored by Lawrence LeClaire, Ph.D., Department of Biochemistry and Molecular Biology.

Grady Edge, Rising Sophomore. The Significance of a “B Bump” on M-Mode Echocardiography and Its relationship to Systolic or Diastolic Heart Failure and Natriuretic Peptide Levels. Sponsored by Christopher Malozzi, D.O. and Bassam Omar, Ph.D., Department of Medicine.

Ellen Zhou, Rising Sophomore. How Does Vitamin B3 Supplementation Effect Fructose Metabolism in Hepatocytes? Sponsored by Marie Migaud, Ph.D., Department of Oncologic Sciences.

William Nicolson, Rising Sophomore. RAD18 and its Crucial Role in DNA Damage Repair After Glioblastoma Cell Treatment with Temozolomide. Sponsored by Dr. Komaraiah Palle, Ph.D., Department of Oncologic Sciences, Mitchell Cancer Institute.

Davis Diamond, Rising Sophomore. Sensitivity of Melanoma Cells to a Novel Class of RAS Inhibitors. Sponsored by Gary Piazza, Ph.D., Drug Discovery Research Center.

Malik J. McMullin, Rising Sophomore. A Population Health Study: Evaluating Quality of Life in Type-II Diabetic Patients Sponsored by Barry E. Porter, Ph.D., Carol P. Motley, MD, Department of Family Medicine.

Chase Diard, Incoming Freshman and Brandon D’Arcy Cloning. Expression, and Purification of UBE3B for Downstream Crystallization. Sponsored by Robert W. Sobol, Aishwarya Prakash, Department of Oncological Sciences.

Hunter Childers, Rising Sophomore. The Correlation Between Serum Magnesium Level and Troponin I Level Elevation in Patients Admitted with Acute Coronary Syndrome. Sponsored by Bassam Omar, M.D., Ph.D., Department of Medicine.

Benjamin Gibson, Rising Sophomore. Analysis of Matrix Metalloproteinases Expression in Mouse Mammary Tumors with Improved Mitochondrial DNA Repair. Sponsored by Lyudmila Rachek, Ph.D., and Larysa Yuzefovych, Mita Patel, and Viktor Pastukh. Department of Pharmacology.

Carly McRae, Rising Sophomore. Comparative Analysis of Nissen Fundoplication and Magnetic Sphincter Augmentation for the Treatment of Medically Refractory GERD. Sponsored by William Richards, MD., Department of Surgery.

Dylan Adams, Rising Sophomore. Recovery from Acidification in Pulmonary Artery and Pulmonary Microvascular Endothelial Cells Reveals the Activity of an Amiloride-Insensitive Sodium Dependent Transporter. Sponsored by Sarah Sayner, Ph.D., Department of Physiology and Cell Biology, Center for Lung Biology.

Justin Beasley, Rising Sophomore. Overutilization of Helicopter EMS in the Central Gulf Coast Region: A Single Center Retrospective Cohort Study. Sponsored by Jon D. Simmons MD, Department of Surgery.

Taylor Young, Rising Sophomore. Tumor Intrinsic B7-H3 (CD276) Modulates Tumorigenic Properties of Ovarian Cancer Cells. Sponsored by Alla Musyienko, Holly Taylor, Elaine Gavin, Ileana Aragon, Jennifer Scalici, Rodney Rocconi, Luciana Madeira Da Silva. Department of Gynecologic Oncology.

Joseph Cortopassi, Rising Sophomore. Clinical Significance of Inflammatory Cytokines in Pancreatic Cancer. Sponsored by Seema Singh, Ph.D and Moh'd Khushman, MD, Department of Oncological Sciences.

Tanner McGill, Rising Sophomore. Loss of Parp1 Involved in the DNA Damage Response (DDR) Provides Increased Cancer Cell Sensitivity to Chemotherapeutics and Radiation. Sponsored by Jennifer Clark, Ph.D., Peter Sykora, Ph.D., Joel Andrews, Ph.D., and Robert Sobol, Ph.D., Department of Oncological Sciences.

Matthew Kassels, Rising Sophomore. Cancer Mutations of the DNA Repair Gene DNA Polymerase Beta Impact Protein Stability. Sponsored by Qingming Fang and Robert W. Sobol Molecular and Metabolic Oncology Program.

Cade Loftin, Rising Sophomore. Is Lack of Eye Gaze Towards a Camera Associated with Attention Deficit/Hyperactivity Disorder (ADHD), Anxiety, Cognitive or Language Delays, and/or Severity of Social Deficits in Children with Autism Spectrum Disorder (ASD)? Sponsored by Stephanie Anderson, MD, Kim Zlomke, Ph.D., and Hanes Swingle, MD, MPH. Department of Pediatrics.

Samanta Mukkamala, Rising Sophomore. MIR4728-Mediated NF-KB Signaling Activation via TRAF6 in Breast Cancer Cells. Sponsored by Ming Tan, M.D., Ph.D., Department of Oncological Sciences.

Erin S. Bouska, Rising Sophomore. Development and Characterization of Novel PPP-Family Inhibitors to Aid Our Understanding of the Role Played by Serine/Threonine Phosphatase 5 (Pp5c/Ppp5c) in Glucocorticoid Signaling. Sponsored by Richard Honkanen, Ph.D., Department of Biochemistry and Molecular Biology.

Tyler Harvell, Rising Sophomore. Bicarbonate is Required for Proliferation of Pulmonary Endothelial Cells. Sponsored by Sarah Sayner, Ph.D., Department of Physiology and Cell Biology, Center for Lung Biology.

Michael Marfice, Rising Sophomore. Determination of the Endocytic Mechanisms of Microparticle Uptake in Pulmonary Endothelium. Sponsored by Natalie Bauer, Ph.D., Department of Pharmacology, Center for Lung Biology.

Jorden Smith, Rising Sophomore. Assessing the Impact of NeoIntimal Lesions on Pulmonary Vascular Compliance and Resistance. Sponsored by Chun Zhou, M.D., Ph.D., Michael Francis, Ph.D., and Troy Stevens, Ph.D., Department of Physiology and Cell Biology, Center for Lung Biology.

The Clyde G. “Sid” Huggins Medical Student Research Awards were presented. For best oral presentation the award was presented to Mr. Stuart McFarland, freshman medical student, entitled, “*Role of Endothelial TRPV4 Channels In Carotid Artery Function And Low-Flow Remodeling*”. He was sponsored by Mark S. Taylor, Ph.D. and David Weber, Ph.D., Department of Physiology and Cell Biology. Ms. Patricia Connor, sophomore medical student, was presented best poster presentation entitled, “*Trauma Patients Have Improved Access To Post-Discharge Resources Through The Affordable Care Act*”. She was sponsored by Sidney Brevard, MD; Ashley Williams, MD; S. Noelle Davis, CRNP, Department of Surgery. Each winner was presented with a plaque of recognition and cash award.

**2016-2017  
Summary of Activities  
Graduate Program in Basic Medical Sciences**

**Administration**

Dr. Mark Taylor is currently serving as Director of the Basic Medical Sciences Graduate Program..

**Admissions**

The BMS Graduate Program Office processes and reviews prospective students' applications, as they are forwarded from the Office of Admissions and the International Student Services Office. Interviews with eligible students are hosted by the BMS Graduate Office.

The Basic Medical Sciences Graduate Program interviewed applicants for the 2017 Fall Class in January, April, May, and July. A total of 10 students were interviewed (US=6; International=4). A summary is provided below.

**Admissions--BMS Graduate Program**

		Class of 2017
Inquiries	US	49
	International	37
Applications	US	16
	International	3
Acceptances	US	7
	International	3
Matriculants	US	4
	International	4
	Average GRE	V=151; Q=155
	Av. UG GPA	3.47
	Av. GR GPA	2.96

**Recruitment Activities**

1. BMS Graduate Program representatives participated in the Alabama Connection Graduate Recruitment Expo, as well as other College Expos during the 2016-17 academic year.
2. Dr. Taylor and other BMS Graduate Faculty gave talks to USA's Premedical Honors Society, as well as freshman Biomedical Science students and Engineering students.

**Curriculum**

1. The tenth annual COM Research Forum was held on November 4, 2016. Abstracts and poster have been requested and additional planning is underway for the eleventh annual



- COM Research Forum to be held on November 17, 2017.
2. The BMS Graduate Program celebrated its tenth year of presenting the Edwin R. Hughes Memorial Award to honor the outstanding student in the IDL Core Class award in August 2017. Dr. Townsley, Senior Associate Dean for the College of Medicine, presented the tenth annual award to the 2016-17 recipient, Lina Abou Saleh on August 16, 2017.

### **New Programs/Policies/Requirements**

Attention was directed at: adopting enforcement of documentation of progress between regular committee meetings, adopting language in strong support of first-year core students completing three rotations to ensure a diversified compliance with current program policy; approval of additional language was adopted to allow students who wish to forgo a portion of their rotations in order to expedite movement into their respective laboratory research to be able to do so, providing the student receives written approval from their intended mentor and the Chair/Director of their program or track. This policy has been updated in the BMS Graduate Student Handbook.

### **BMSSO-Basic Medical Sciences Student Organization**

BMSSO hosted the annual Charles Baugh Dawg Day during Spring Semester, 2017, and a Faculty Appreciation Gathering in August, 2017. In addition to meetings to hold elections and discuss academic policy and procedure, the BMSSO officers and members also organized and hosted a Welcome reception for new students at Dr. Townsley's home during the 2017 Fall Class orientation.

### **Financial Support for Graduate Training**

1. The NIH Pre-doctoral Institutional Training Grant on "Cell Signaling and Lung Pathobiology" provides support for six Basic Medical Sciences graduate students.
2. BMS Graduate Program students received extramural grant awards through EPSCOR during the 2016-2017 academic year.
3. Dr. Strada, Senior Associate Dean for the College of Medicine through October 2016, awarded two SJS Career Enhancement Travel Awards in early fall 2016 for students to travel to professional conferences in 2017. The recipients of the awards were Caleb Hamilton (Biochemistry/Lung Biology) and Phoibe Renema (Physiology & Cell Biology/Lung Biology).
4. A new COM Dean's Predoctoral Fellowship Program has been established. The program will provide up to three one-year \$30,000 fellowships through an annual competition for predoctoral fellow training with faculty in COM basic science departments. The first applications have been solicited for a November, 2017 deadline.

### **Graduates**

Four students officially completed all requirements during the academic year (September 2016-August 2017):

#### **Brandon Marshall D'Arcy**

DISSERTATION TITLE: "Enabling Cholesterol Catabolism in Human Cells"  
MAJOR PROFESSOR: Richard E. Honkanen, Ph.D.  
DEPARTMENT/TRACK: Biochemistry and Molecular Biology/Cell Biology  
CURRENT POSITION: Postdoctoral Fellow; Mitchell Cancer Institute, Mobile, Alabama

**Andrew Paul Ferretti**

DISSERTATION TITLE: “Mechanistic Insights into Autoantibody-Mediated Pulmonary Alveolar Proteinosis in RASGRP1-Deficient Mice”  
MAJOR PROFESSOR: Robert A. Barrington, Ph.D.  
DEPARTMENT/TRACK: Microbiology and Immunology-Infectious Disease & Host Defenses  
CURRENT POSITION: Postdoctoral Research Fellow; Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts

**Tiffany Scobey Norton**

DISSERTATION TITLE: “Prenylation Pathways Mediate Growth, Development, Thermotolerance, and Virulence in *Aspergillus fumigatus*”  
MAJOR PROFESSOR: Jarrod R. Fortwendel, Ph.D.  
DEPARTMENT/TRACK: Microbiology and Immunology-Infectious Disease & Host Defenses  
CURRENT POSITION: Postdoctoral Fellow; Mitchell Cancer Institute, Mobile, Alabama

**Joseph John Otto**

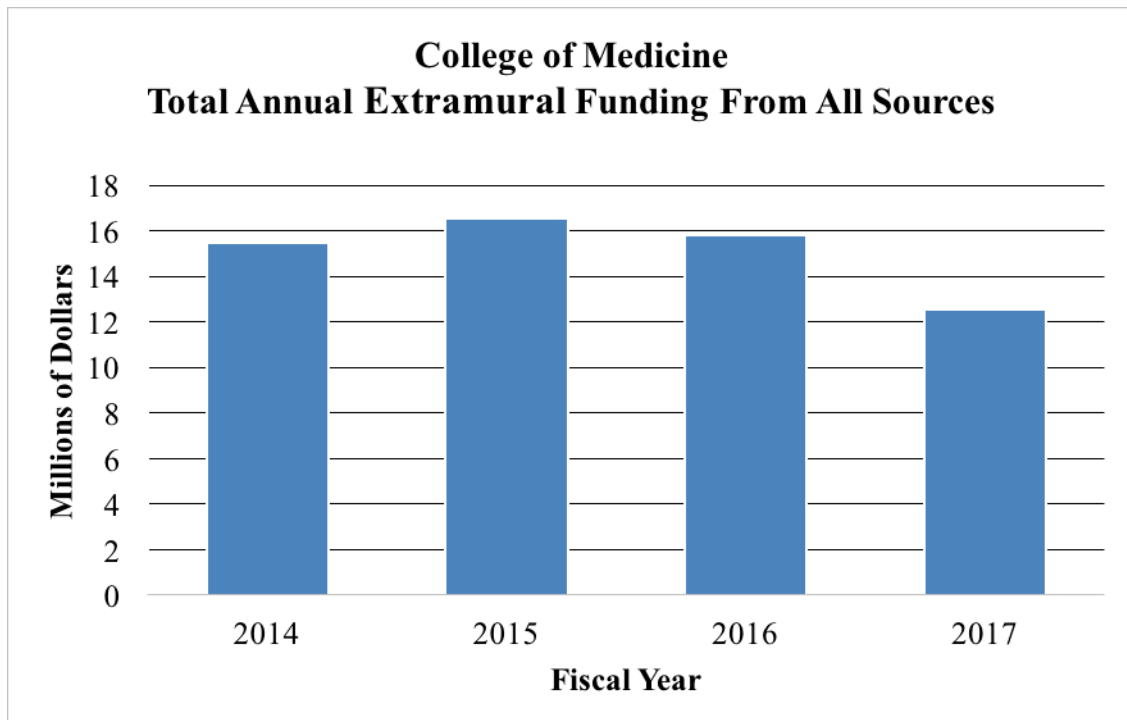
DISSERTATION TITLE: “Immunoglobulin Alpha as a Means of Biomarker Discovery in Pancreatic Ductal Adenocarcinoma”  
MAJOR PROFESSOR: Lewis K. Pannell, Ph.D.  
DEPARTMENT/TRACK: Cancer Biology  
CURRENT POSITION: Postdoctoral Fellow; Mitchell Cancer Institute, Mobile, Alabama

## Summary of Extramural Support

Funding for the 2016-2017 academic year includes \$9,240,155 and \$3,312,702 in awards and revenue administered through the Office of Sponsored Programs and the South Alabama Medical Science Foundation, respectively.

### Extramural Funds Totals for Last 4 Years

<b>2014</b>	<b>\$15,457,365</b>
<b>2015</b>	<b>\$16,546,756</b>
<b>2016</b>	<b>\$15,832,783</b>
<b>2017</b>	<b>\$12,552,857</b>



**EXTRAMURAL FUNDING  
(OCTOBER 1, 2016 – SEPTEMBER 30, 2017)**

**BIOCHEMISTRY & MOLECULAR BIOLOGY**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>William Gerthoffer</b>	AMGEN INC 2016662627	Production of hTERT-BSM Cell Lines	\$70,184
<b>William Gerthoffer</b>	NIH 5 R21 AI16985-02	MicroRNA Regulation of Airway Remodeling and Repair in Asthma	\$227,250
<b>Richard Honkanen</b>	JGA 4837-7566-2919.2	Understanding the Scope and Consequences of PPP2R5D Variants in Biology - A First Step in the Quest for a Cure	\$113,105
<b>Steve Lim</b>	AHA 16GRNT30960007	FAK Regulation of Vascular Smooth Muscle Cell Plasticity via Epigenetic Control	\$77,000
<b>Steve Lim</b>	NIH 1R01HL136432-01	Role of FAK in Vascular Inflammation	\$378,750
<b>Wito Richter</b>	CFF RICHTE16GO-2	Targeting cAMP Signaling and Phosphodiesterase in Cystic Fibrosis	\$108,000
<b>Wito Richter</b>	16IRG26430061-02	Regulation of PDE4 in Heart Failure	\$75,000
		<b>Total</b>	<b>\$1,049,289</b>

**BIOMEDICAL LIBRARY**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Rachel Fenske</b>	NIH PO# SR00004494	PATHS (Patient/Parent Access to Health Sources) Leading to Improved Health Outcomes	\$5,000
		<b>Total</b>	<b>\$5,000</b>

**CENTER FOR DISASTER HEALTHCARE PREPAREDNESS**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>David Wallace</b>	ADPH C70115205 (GC-17-347)	Center for Disaster Healthcare Preparedness - CDHP AIMS 2018	\$227,225

<b>David Wallace</b>	ADPH C70115206 (GC-17-348)	Center for Disaster Healthcare Preparedness - CDHP Training 2018	\$966,088
<b>Total</b>			<b>\$1,193,313</b>

**CENTER FOR STRATEGIC HEALTH INNOVATIONS**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Barbara Oliver</b>	CMMS C60629437	Alabama Medicaid Maternity Contract	\$20,000
<b>Barbara Oliver</b>	CMMS 11-152-C70629438	Alabama Medicaid PCNA/PMP Contract	\$700,000
<b>Total</b>			<b>\$720,000</b>

**EMERGENCY MEDICINE**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Frank Pettyjohn</b>	BI 63779	A Randomized, Double-Blind, Placebo-Controlled, Parallel Group, Efficacy and Safety Study of Empagliflozin (10mg, 25mg) Administered Orally, Once Daily over 24 Weeks in Hypertensive Black/African American Patients With Type 2 Diabetes Mellitus	\$6,709
<b>Total</b>			<b>\$6,709</b>

**FAMILY MEDICINE**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Allen Perkins</b>	HRSA 5 T0BHP30027-02-00	Caring for the Complex Patient in the PCMH	\$482,915
<b>Allen Perkins</b>	HRSA 5 T0BHP30027-02-00 SUPPLEMENT	Opioid Training Supplement for the Primary Care and Training Enhancement Grant	\$79,738
<b>Allen Perkins</b>	British Petroleum MOU 2015-09-19-A1	MOU Between GC Behavioral Health and Resiliency Center and USA Family Medicine	\$72,547

<b>Allen Perkins</b>	AFPRHB 170030	A Resident Curriculum in Rural Family Medicine at the USA Family Medicine Residency Program	\$30,000
<b>Allen Perkins</b>	AFPRHB 170029	Student Preceptorship	\$20,000
<b>Total</b>			<b>\$685,200</b>

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**GRADUATE PROGRAM IN BIOMEDICAL SCIENCES**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Silas Leavesley</b>	AHA 16PRE27130004-02	The Spatial Distribution of PDE4 Isoforms Regulates the Compartmentalized cAMP Signals in PMVECs	\$26,000
<b>Saami Yazdani</b>	AHA 16PRE2735003-02	Keratose as a Novel Drug Carrier for Coated Balloons	\$26,000
<b>Total</b>			<b>\$52,000</b>

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**INTERNAL MEDICINE**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Ghulam Maustafa Awan</b>	PS# 107223-04	Cardiovascular Inflammation Reduction Trial (CIRT)	\$2,500
<b>Ghulam Maustafa Awan</b>	HQF 63804	Utilization of Ticagrelor in the Upstream Setting for NSTEMI Acute Coronary Syndrome ("UPSTREAM")	\$4,450
<b>Brooks Cash</b>	Prometheus 63741	The Development and Validation of a Blood Test to Identify IBS: DEFINE (Diagnostic Evaluation of Functional GI and IBS Networks)	\$3,861
<b>Brooks Cash</b>	Prometheus 63769	Procurement of Blood and Stool from Subjects with Symptoms of Chronic Diarrhea for Use in the Development of a Gastrointestinal Disease Test	\$5,460
<b>Brooks Cash</b>	Medtronic 63784	Multicenter, Prospective, Randomized Study Comparing the Diagnostic Yield of Colon Capsule Endoscopy Versus Computed Tomographic Colonography in a Screening Population (the TOPAZ study)	\$13,764
<b>Errol Crook</b>	MP2016-08-08	Alabama Precision Medicine Initiative	\$425,000

<b>Michael Cohen</b>	Boehringer-Ingelheim Pharmaceuticals 63697	Gloria-AF: Global Registry on Long-term Oral Anti-thrombotic Treatment in Patients with Atrial Fibrillation	\$5,308
<b>Michael Culpepper</b>	Otsuka Pharmaceuticals 63728	A Phase 3b, Multi-Center, Randomized-Withdrawal, Placebo-Controlled, Double-Blind, Parallel-Group Trial to Compare the Efficacy and Safety of Tolvaptan (45 to 120mg/day, Split-Dose) in Subjects with Chronic Kidney Disease Between Late Stage 2 to Early Stage 4 Due to Autosomal Polycystic Kidney Disease	\$5,740
<b>Michael Culpepper</b>	Otsuka Pharmaceuticals 63730	A Phase 3b, Multi-Center, Open-Label Trial to Evaluate the Long Term Safety of Titrated Immediate-Release Tolvaptan (OPC 41061, 30 mg to 120 mg/day, Split Dose) in Subjects with Autosomal Dominant Polycystic Kidney Disease	\$16,194
<b>Jack DiPalma</b>	Takeda 63786	Entyvio (Vedolizumab) Long-Term Safety Study	\$8,177
<b>Karen Fagan</b>	Actelion 63829	Upravi (Selexipag): tHe usErs dRug rEgistry	\$6,500
<b>Christopher Malozzi</b>	Sanofi US Service Inc 63680	A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate the Effect of SAR236553/REGN727 on the Occurrence of Cardiovascular Events in Patients Who Have Recently Experienced an Acute Coronary Syndrome	\$16,180
<b>Christopher Malozzi</b>	Novartis Pharmaceuticals 63825	A 52 Week, Open Label Evaluation on the Effects of Sacubitril/Valsartan (LCZ696) Therapy on Biomarkers, Myocardial Remodeling and Patient Reported Outcomes in Heart Failure with Reduced Left Ventricular Ejection Fraction	\$9,500
<b>Bassam Omar</b>	DalCor Pharma UK Ltd 63792	A Phase III, Double-Blind, Randomized Placebo-Controlled Study to Evaluate the Effects of Dalcetrapib on Cardiovascular (CV) Risk in a Genetically Defined Population with a Recent Acute Coronary Syndrome (ACS): The dal-GenE Trial	\$2,415
<b>Bassam Omar</b>	Esperion Therapeutics 63817	A Randomized, Double-Blind, Placebo-Controlled, Study to Assess the Effects of Bempedoic Acid (ETC-1002) on the Occurrence of Major Cardiovascular Events in Patients with, or at High Risk for Cardiovascular Disease who are Statin Intolerant	\$5,777

<b>John Vande Waa</b>	HRSA 5 H12 HA24771-06-00	USA Family Specialty Clinic	\$381,260
<b>John Vande Waa</b>	HRSA RW-USAF-1718	USA Family Specialty Clinic	\$139,310
		<b>Total</b>	<b>1,051,396</b>

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**MICROBIOLOGY & IMMUNOLOGY**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Paul Brett</b>	DOD HDTRA1-14-C-0023-P0005	Antigenically Defined Vaccines for Immunization Against Melioidosis and Glanders	\$150,000
<b>Paul Brett</b>	DOD HDTRA1-14-C-0023-P0006 Supplement	Antigenically Defined Vaccines for Immunization Against Melioidosis and Glanders	\$150,000
<b>Mary Burtnick</b>	SUB 3341	Immune Correlates of Protection for <i>Burkholderia Pseudomallei</i> in a Healthy American Population	\$159,617
		<b>Total</b>	<b>\$459,617</b>

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**MITCHELL CANCER INSTITUTE (SAMSF Projects Only)**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>David Clarkson</b>	Bristol Myers Squibb 63685	A Phase 3, Randomized, Open Label Trial of Lenalidomide/Dexamethasone with or without Elotuzumab in Subjects with Previously Untreated Multiple Myeloma	\$6,102
<b>David Clarkson</b>	SOTIO 63715	A Randomized, Double-Blind, Multicenter, Parallel-Group, Phase III Study to Evaluate Efficacy and Safety of DCV AC/Pca versus Placebo in Men with Metastatic Castration Resistant Prostate Cancer Eligible for 1 st Line Chemotherapy	\$11,824
<b>David Clarkson</b>	Celgene Corp 63745	A Phase 3, Double-Blind, Randomized Study to Compare the Efficacy and Safety of Rituximab Plus Lenalidomide (CC-5013) Versus Rituximab Plus Placebo in Subjects with Relapse/Refractory Indolent Lymphoma	\$11,118



<b>Moh'd Khushman</b>	Eli Lilly 63787	Safety and Effectiveness of Ramucirumab in Patients with Advanced Gastric Cancer in the European Union and North America: A Prospective Observational Registry (I4T-MC-JVDD)	\$4,852
<b>Carole Norden</b>	Genetech 63701	An Observational Cohort Study of Treatment Patterns and Outcomes in Patients with HER2 Positive (HER2+) Metastatic Breast Cancer	\$10,069
<b>Carole Norden</b>	Genetech Inc 63721	A Multicenter, Multinational, Phase II Study to Evaluate Pertuzumab in Combination with Trastuzumab and Standard Neoadjuvant Anthracycline-Based Chemotherapy in Patients with HER2-Positive, Locally Advanced, Inflammatory, or Early-Stage Breast Cancer	\$19,187
<b>Carole Norden</b>	Alliance Foundation/Pfizer 63799	A Randomized Phase III Trial of Palbociclib with Standard Adjuvant Endocrine Therapy Versus Standard Adjuvant Endocrine Therapy Alone for Hormone Receptor Positive (HR+)/Human Epidermal Growth Factor Receptor 2 (HER2)-Negative Early Breast Cancer	\$21,910
<b>Carole Norden</b>	Cascadian Therapeutics 63800	Phase 2 Randomized, Double-Blinded, Controlled Study of ONT-380 vs. Placebo in Combination with Capecitabine and Trastuzumab in Patients with Pretreated Unresectable Locally Advanced or Metastatic HER2+ Breast Carcinoma	\$9,600
<b>Rodney Rocconi</b>	Gradalis, Inc 63752	Double-Blind, Placebo Controlled Phase III Trial of Maintenance FANG (bi-shRNA and GMCSF Augmented Autologous Tumor Immunotherapy) for High Risk Stage III/IV Ovarian Cancer	\$57,285
<b>Jennifer Scalici</b>	AbbVie Inc 63761	A Phase 3 Placebo-Controlled Study of Carboplatin/Paclitaxel With or Without Concurrent and Continuation Maintenance Veliparib (PARP Inhibitor) in Subjects With Previously Untreated Stages III or IV High Grade Serious Epithelial Ovarian, Fallopian Tube, or Primary Peritoneal Cancer	\$22,293
<b>Jennifer Scalici</b>	Advaxis/GOG Foundation 63801	Phase 3 Trial of ADXS11-001 Administered Following Chemoradiation as Adjuvant Treatment for High Risk Locally Advanced Cervical Cancer: AIM2CERV	\$18,650

<b>Jennifer Scalici</b>	Merck/UVA 63805	A Randomized Phase II Study of Chemoradiation and Pembrolizumab for Locally Advanced Cervical Cancer, UVA-LACC-PD201	\$8,250
<b>William Taylor</b>	Genentech 63682	STEAM (Sequencing Triplet with Avastin and Maintenance): FOLFOXIRI/Bevacizumab Regimens (Concurrent and Sequential) vs. FOLFOX/Bevacizumab in First-Line Metastatic Colorectal Cancer	\$9,362
<b>William Taylor</b>	Halozyme, Inc63742	A Phase 2, Randomized, Multicenter Study of PEGPH20 (PEGylated Recombinant Human Hyaluronidase) Combined with nab-Paclitaxel Plus Gemcitabine Compared with nab-Paclitaxel Plus Gemcitabine in Subjects with Stage IV Previously Untreated Pancreatic Cancer	\$70,674
<b>Total</b>			<b>\$281,176</b>

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### NEUROLOGY

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Steve Cordina</b>	Daiichi Sankyo 63814	A Phase 1B/2, Multi-Center, Double-Blind (Principal Investigators and Study Subjects Blinded, Sponsor Unblinded), Placebo-Controlled, Randomized Single-Ascending Dose Study to Assess the Safety, Pharmacokinetics, and Pharmacodynamics of DS-1040B in Subjects with Acute Ischemic Stroke	\$6,700
<b>Elizabeth Minto</b>	Sanofi 63830	A Two Year, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel Group Trial to Evaluate Efficacy, Safety, Tolerability, and Pharmacokinetics of Teriflunomide Administered Orally Once Daily in Pediatric Patients with Relapsing Forms of Multiple Sclerosis	\$5,500
<b>Elizabeth Minto</b>	Novartis 63785	Long-Term, Prospective, Multinational, Parallel-Cohort Study Monitoring Safety in Patients with MS Newly Started with Fingolimod Once Daily or Treated with Another Approved Disease-Modifying Therapy	\$20,284
<b>Total</b>			<b>\$32,484</b>

**OBSTETRICS & GYNECOLOGY**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Susan Baker</b>	ADPH HRSA C70115109 (GC-17-163)	Regional Perinatal Coordinator Grant	\$11,500
<b>Susan Baker</b>	Sequenom 63719	SQNM-T21-107 - Collection of Whole Blood Speciment from Pregnant Women at Increased Risk for Fetal Chromosomal Abnormality for Use in Development of a Noninvasive Prenatal Test in the Detection of the Relative Quantity of Chromosomal Material in Circulating Cell-Free DNA Extracted from Maternal Plasma	\$24,688
<b>Susan Baker</b>	March of Dimes 170432	USA Children's and Women's Hospital Presents a Premature Birth Colloquium	\$2,000
<b>Brian Brocato</b>	Velo Bio 63813	A Multi-Center, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study of the Efficacy and Safety of Digifab in Antepartum Subjects with Severe Preeclampsia	\$7,000
<b>Botros Rizk</b>	AbbVie 63790	A Phase 3 Study to Evaluate the Efficacy and Safety of Elagolix in Combination with Estradiol/Norethindrone Acetate for the Management of Heavy Menstrual Bleeding Associated with Uterine Fibroids in Premenopausal Women	\$70,097
<b>Botros Rizk</b>	AbbVie 63819	Extension Study to Evaluate the Efficacy and Safety of Elagolix in Premenopausal Women with Heavy Menstrual Bleeding Associated with Uterine Fibroids	\$8,935
<b>Botros Rizk</b>	AbbVie 63826	A Phase 3 Study to Evaluate the Safety and Efficacy of Elagolix in Combination with Estradiol/Norethindrone Acetate in Subjects with Moderate to Severe Endometriosis-Associated Pain	\$11,000
<b>Total</b>			<b>\$135,220</b>

**PEDIATRICS**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Karen Crissinger</b>	Emory University	Gene Discoveries in Subjects with Crohn's Disease of African Decent	\$660

<b>Karen Crissinger</b>	Centocor, Inc. 62926	A Multi-Center, Prospective, Long-term, Observational Registry of Pediatric Patients with Inflammatory Bowel Disease	\$13,198
<b>Haidee Custodio</b>	Allegan Sales, LLC 63822	A Phase 3, Multicenter, Open-Label, Randomized, Comparator Controlled Trial of the Safety and Efficacy of Dalbavancin Versus Active Comparator in Pediatric Subjects with Acute Bacterial Skin and Skin Structure Infections	\$6,750
<b>Fabien Eyal</b>	ONY, Inc 63828	Aerosol Delivery of Infasurf (Calfactant): AERO-01	\$11,500
<b>Fabien Eyal</b>	Shire Human Genetic Therapies 63789	Long-Term Outcome of Children Enrolled in Study ROPP-2008-01 Treated with rhIGF-1/rhIGFBP-3 for the Prevention of Retinopathy of Prematurity (ROP) or Who Received Standard Neonatal Care	\$5,990
<b>Hamayun Imran</b>	Pfizer 63748	A Phase 3, Multicenter, Randomized, Double-Blind Placebo-Controlled, Parallel-Group Study to Evaluate the Efficacy and Safety of Rivipansel (GMI-1070) in the Treatment of Vaso-Occlusive Crisis in Hospitalized Subjects with Sickle Cell Disease	\$69,309
<b>Hamayun Imran</b>	Novo Nordisk Inc 63811	A Multicentre Non-interventional Study of Safety and Efficacy of Turoctocog Alfa (rFVIII) During Long-Term Treatment of Severe and Moderately Severe Haemophilia A (FVIII less than or equal to 2%)	\$3,000
<b>Anna-Marie Kaulfers</b>	GC-17-187 C70115118 ADPH	Endocrinology Clinic for State Newborn Screening	\$22,000
<b>A Ponnamballam</b>	Sucampo Pharma Americas, LLC 62762	A Multicentre, Long-term Safety, Efficacy, and Pharmacokinetics Study of Lubiprostone in Paediatric Subjects Aged Greater than or Equal to 6 Years to Less than 18 Years with Functional Constipation	\$2,064
<b>A Ponnamballam</b>	Braintree Labs 63810	A Safety and Efficacy Study of a Bowel Cleansing Preparation (BLI800) in Pediatric Subjects Undergoing Colonoscopy	\$4,957
<b>Abdul Siddiqui</b>	Bayer HealthCare Pharmaceuticals 63777	Trends in Emergency Room Management of Patients with Hemophilia	\$7,875

<b>Abdul Siddiqui</b>	Bayer HealthCare Pharmaceuticals 63802	TAURUS: A Multinational Phase IV Study Evaluating Real World Treatment Patterns in Moderate to Severe Hemophilia A Patients Receiving Kovaltry for Routine Prophylaxis	\$4,750
<b>Hanes Swingle</b>	Alabama Department of Mental Health/Mental	Regional Autism Center	\$75,000
<b>Felicia Wilson</b>	NIH 9500080215-12C-03 Childrens Hospital of Philadelphia	Children's Hospital Philadelphia, Non Industry Funding Per Case Reimbursement: NIH COG Chair Grant	\$20,300
<b>Felicia Wilson</b>	NIH 9500100715-XX-03 Childrens Hospital of Philadelphia	Master Subaward Agreement for NON-Industry Funding Per Case Reimbursement COG NCORP	\$375
<b>Felicia Wilson</b>	COG AAML 1031(BAYER)-02 Childrens Hospital of Philadelphia	AAML 1031 Bayer Healthcare Pharmaceuticals (CHOP) Work Order to the Master Subaward Agreement Industry Funding	\$2,000
<b>Felicia Wilson</b>	COG 9400120212-03 Childrens Hospital of Philadelphia	Childrens Oncology Group Grant – Non-Industry Funded Work Order	\$10,400
<b>Felicia Wilson</b>	NIH 950008020216-13C-2 Childrens Hospital of Philadelphia	CHOP Workload Intensity NIH National Clinical Trials Network Grant (U10CA180886) Successor to NIH COG Chair Grant	\$5,000
<b>Felicia Wilson</b>	C70115031 (GC-17-0-41) Alabama Department of Public Health	Comprehensive Sickle Cell Center for the State Newborn Screening Program	\$22,000
<b>Felicia Wilson</b>	NIH MUSC 17-057-8C868 Medical University of South Carolina	DISPLACE Dissemination and Implementation of Stroke Prevention Looking at the Care	\$20,000
<b>Total</b>			<b>\$307,128</b>

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#### PHARMACOLOGY

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Natalie Bauer</b>	NIH 1 R01 HL133066-01A1	Circulating Microparticle Effects on Phenotypically Distinct Pulmonary Endothelium	\$378,750

<b>Mark Gillespie,</b>	NIH 160273 Exscien Corporation	Mitochondrial DNA Repairs Agents for Acute Lung Injury	\$198,114
<b>Mark Gillespie</b>	NIH 5 R01 HL058234-16	DNA Lesions & Gene Expression in Hypoxic Lung Disease	\$378,750
<b>Mark Gillespie</b>	NIH 17-335 Univ of AL- Birmingham Ctr for Clin & Translat Science	UAB CCTS Fee for Service Agreement to Fund Voucher Awards	\$15,000
<b>Mark Gillespie</b>	NIH 000508606-008-A02 Univ of AL- Birmingham	USA Translational Research Service Center	\$120,506
<b>Lyudmila Rachek</b>	AHA 16 GRNT29150012-1	Defining Role of Mitochondrial DNA Damage and Repair in the Obesity and Insulin Resistance	\$77,000
<b>Thomas Rich</b>	NIH 5 T32 HL076125-14	Training in Cell Signaling and Lung Pathobiology	\$16,037
<b>Thomas Rich</b>	NIH 080-18007-S11202	G Protein-Coupled Receptor Regulation in Airway Myocytes	\$32,410
<b>Total</b>			<b>\$1,216,567</b>

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**PHYSIOLOGY & CELL BIOLOGY**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Mikhail Alexeyev</b>	NIH 5 R01 OD010944-06	Mouse Models of Mitochondrial Disorders Caused by mtDNA Mutations	\$286,425
<b>Mikhail Alexeyev</b>	NIH 3 R01 OD010944-06S1	Mouse Models of Mitochondrial Disorders Caused by mtDNA Mutations 201	\$75,000
<b>Diego Alvarez</b>	NIH 5 RO1 HL118334-03	Caspase-1, the Microvascular Endothelium and Infection	\$378,750
<b>Diego Alvarez</b>	NIH 3 R01 HL118334-03S1	Caspase-1, the Microvascular Endothelium and Infection	\$40,905
<b>Michael Francis</b>	NIH MP2016-05-14	TRPC4-Meditated Calcium Signals Accelerate Vascular Remodeling In Pulmonary Arterial Hypertension	\$159,548
<b>Sarah Sayner</b>	NIH 5 R01 HL121513-03	Bicarbonate Regulation of the Pulmonary Endothelial Barrier	\$200,000
<b>Troy Stevens</b>	NIH 5 R37 HL060024-20	Store Operated Ca <sup>2+</sup> Entry: Lung Endothelial Permeability	\$412,459

<b>Troy Stevens</b>	NIH 1 R01 HL135003-01	Soluble Adenylyl Cyclases and Lung Endothelial Permeability	\$378,750
<b>Xiangming Zha</b>	NIH 1 R01 NS102495-01A1	Neuroprotective Role of OGR1 in Brain Ischemia	\$374,622
<b>Total</b>			<b>\$2,306,459</b>

**SURGERY**

<b>Principal Investigator</b>	<b>Agency</b>	<b>Project Title</b>	<b>Fiscal Year Funding</b>
<b>Steven Kahn</b>	Mediound 63732	A Multicenter, Multinational, Randomized, Controlled, Blinded Study, Performed in Subjects with Thermal Burns, to Evaluate the Efficacy and Safety of NexoBrid as Compared to Standard of Care (SOC) Treatment	\$17,789
<b>William Richards</b>	Torax Medical 63763	A Multi-Site, Post -Market Approval Clinical Trial to Assess the Effectiveness of the Sponsor's LINX Implantable Device (the "Device") as Compared to Proton-Pump Inhibitors (PPIs) According to the Clinical Protocol	\$70,726
<b>Paul Rider</b>	Lakeside Life Sciences, LLC 63794	Material Transfer Agreement: Plasma and Serum from Patients Diagnosed by Means of Biopsy, with Non-Alcoholic Fatty Liver Disease	\$5,500
<b>Paul Rider</b>	Trevena, Inc 63806	A Phase 3, Open-Label Study to Evaluate the Safety of Oliceridine (TRV130) in Patients with Acute Pain for Which Parental Opioid Therapy is Warranted	\$105,152
<b>Paul Rider</b>	Cohera Medical 63829	A Pilot, Prospective, Randomized, Controlled, Multicenter Technical Feasibility Clinical Study Comparing Standard Anastomosis Closure Technique (Control) to Standard Closure Techniques Plus Syllys Surgical Sealant (Test)	\$9,400
<b>Jon Simmons</b>	NIH 1 K08 GM109113-02	mtDNA DAMPS: A Pharmacologic Target in Multi-Organ System Failure	\$189,000
<b>Jon Simmons</b>	American College of Surgeons 17-480	Mitochondrial DNA DAMP's, A Pharmacological Target in Multiple Organ Dysfunction Syndrome	\$45,000
<b>Total</b>			<b>\$442,567</b>