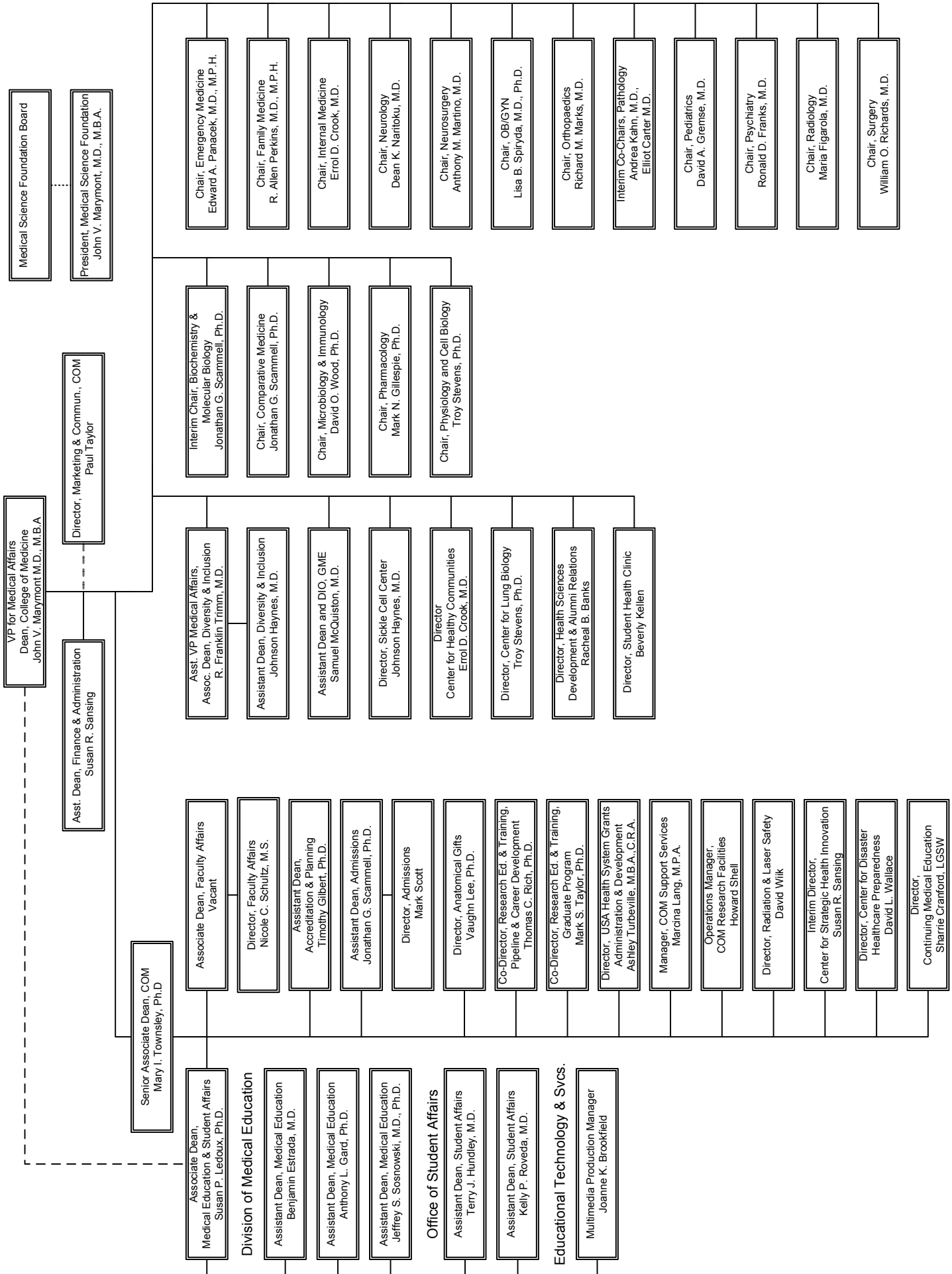


USA College of Medicine Organizational Chart April, 2018

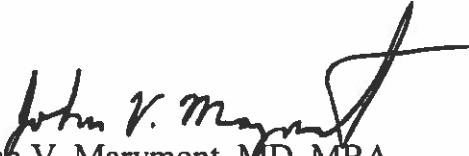


ANNUAL REPORT
UNIVERSITY OF SOUTH ALABAMA
COLLEGE OF MEDICINE

October 1, 2017 through September 30, 2018

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 2017-2018 fiscal year. We have had a busy and productive year. Our medical students continue to perform above the national average on Step exams and are competitive for excellent residency programs. The College of Medicine collaborated with the Mitchell College of Business and the College of Education and Professional Studies to develop masters programs tailored for healthcare professionals. In tandem, we developed an educational loan program to facilitate COM faculty participation in these masters programs. Several leadership changes occurred in this past year. The search for an Associate Dean for Diversity and Inclusion was concluded with the appointment of Dr. Franklin Trimm. Nearly 30 new faculty were recruited during this year, including a new chair for the Department of Orthopaedic Surgery, Dr. Richard Marks. This expansion of our basic science, medical education and clinical faculty significantly bolsters our ability to deliver on our mission to "educate, discover and serve". One major initiative this year was the completion of our LCME accreditation self-study for the MD program, which led to a number of new initiatives including the development of a COM strategic plan, development of a formal Office for Accreditation and Planning, appointment of a Continuous Quality Improvement Committee, identification of new scholarship funds for medical students, and new intramural grants programs for faculty and doctoral students. The College contracted with a medical writer as a faculty resource around scholarship. The COM research portfolio has expanded significantly, as detailed in the Extramural Funding Report at the end of this Annual Report. Completed infrastructure projects include renovations for administrative offices in the CSAB and the upgrade for the HVAC system in the Gross Anatomy Lab. My thanks to our excellent faculty, students and staff for their efforts in helping to make this a successful year.



John V. Marymont, MD, MBA
VP, Medical Affairs and Dean, College of Medicine

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2017-2018
Summary of Scholarly Activities
Department of Biochemistry & Molecular Biology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Balczon R, Francis M, Leavesley S, Stevens T. Methods for detecting cytotoxic amyloids following infection of pulmonary endothelial cells by *Pseudomonas aeruginosa*. J Vis Exp. 2018 Jul 12;(137):e574447. Available from: <https://www.jove.com/pdf/57447/jove-protocol-57447-methods-for-detecting-cytotoxic-amyloids-following-infection>

Choy MS, Swingle M, D'Arcy B, Abney K, Rusin SF, Kettenbach AN, Page R, Honkanen RE, Peti W. PP1: tautomycetin complex reveals a path toward the development of PP1-specific inhibitors. J Am Chem Soc. 2017 Dec 13;139(49):17703-17706.

Hamilton CL, Abney KA, Vasauskas AA, Alexeyev M, Ni L, Honkanen RE, Scammell JG, Cioffi DL. Serine/threonine phosphatase 5 (PP5C/PPP5C) regulates the ISOC channel through a PP5C-FKBP51 axis. Pulm Circ. 2018 Jan-Mar;8(1):2045893217753156. Available from: <http://journals.sagepub.com/doi/pdf/10.1177/2045893217753156>

Hamilton CL, Kadeba PI, Vasauskas AA, Solodushko V, McClinton AK, Alexeyev M, Scammell JG, Cioffi DL. Protective role of FKBP51 in calcium entry-induced endothelial barrier disruption. Pulm Circ. 2018 Jan-Mar;8(1):2045893217749987. Available from: <http://journals.sagepub.com/doi/pdf/10.1177/2045893217749987>

II. PUBLISHED ABSTRACTS

Abney K, Grankvist N, Nilsson R, Swingle MR, D'Arcy B, Papke CM, Rusin SF, Kettenbach A, Honkanen RE. CRISPR-Cas9 mediated disruption of *PPP5C* expression in human cells enabled the identification of novel roles for PP5C in metabolism and provide molecular insights to help explain why *PPP5C*^{-/-} mice exhibit reduced fasting glycaemia and resistance to high fat diet-induced weight gain. FASEB 2018 Science Research Conferences: Protein Phosphatases; 2018 Jul 15-20; Snowmass, CO. Abstract no. P32.

Berrou M, Stevens R, Voth SB, Caesar Williams CD, Balczon R, Stevens T. *Pseudomonas aeruginosa* induced lung endothelial amyloid proteinopathy: characteristics and inhibitors. Am J Respir Crit Care Med. 2018;197:A5724. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5724

Haldar B, Hamilton CH, Solodushko V, Scammell JG, Cioffi DL. The role of S100A6 in the PP5C-FKBP51-mediated inhibition of endothelial Isoc. FASEB J. 2018;32:917.1.

Kim JH, Stone JK, Li J, Richard A, Vukadin L, Gillespie GY, Sobol RW, Lim ST, Ahn EYE. SON controls the oncogenic alternative splicing program in glioblastoma by regulating PTBP1/2 switch and RBFOX2 activity. American Association for Cancer Research 2018 Annual Meeting; 2018 Apr 14-18; Chicago, IL. Abstract no. 10408.

Lee J, Voth S, Balczon R, Stevens T. Cytotoxic amyloids inhibit carbonic anhydrase IX (CA IX) in pulmonary microvascular endothelial cells (PMVECs): a potential mechanism of acid dysregulation and cell death during infection. *Am J Respir Crit Care Med*. 2018;197:A5728. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5728

Lee J, White R, Voth S, Balczon R, Stevens T. A dual effect of acidosis on pulmonary microvascular endothelial cell (PMVEC) survival during infection: acidic postconditioning for pneumonia? *Am J Respir Crit Care Med*. 2018;197:A5727. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5727

Voth S, Balczon R, Francis CM, Audia J, Stevens T. Lung infection elicits endothelial amyloids with distinguishable antimicrobial and cytotoxic properties. *Am J Respir Crit Care Med*. 2018;197:A7616. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A7616

Voth S, Balczon R, Audia J, Stevens T. Endothelial amyloids: functional or pathologic? *Biology of Acute Respiratory Infection 2018 - Gordon Research Conference*; 2018 Mar 18-23; Ventura, CA.

Voth S, Balczon R, Francis M, Stevens T. *Pseudomonas aeruginosa's* exoenzyme Y intoxication reversibly converts antimicrobial endothelial amyloids into amyloid prions. *Am J Respir Crit Care Med*. 2018;197:A5725. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5725

Voth S, Lin M, Balczon R, Francis M, Stevens T. Nosocomial lung infection induces a pulmonogenic prionopathy that disrupts the endothelial barrier of the brain. *Am J Respir Crit Care Med*. 2018;197:A7615. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A7615

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Honkanen R. Invited speaker. CRISPR-Cas9 mediated disruption of *PPP5C* expression in human cells enabled the identification of novel roles for PP5C in metabolism and provide molecular insights to help explain why *PPP5C^{-/-}* mice exhibit reduced fasting glycaemia and resistance to high fat diet-induced weigh gain. *FASEB 2018 Science Research Conferences: Protein Phosphatases*; 2018 Jul 20; Snowmass, CO.

Honkanen R. Invited speaker. Development and characterization of PPP2R5D variant cell lines. *Jordan's Guardian Angels Workshop*; 2018 July 13; Denver, CO.

Honkanen R. Invited speaker. Cholesterol catabolism in human cells: for everything there is a first time. *Undoing Aging 2018*; 2018 Mar 15; Berlin, Germany.

Honkanen R. Invited speaker. Converting human monocytes into cholesterol degrading macrophages. Louisiana State University Health; 2018 Feb 15; Shreveport, LA.

Honkanen R. Invited speaker. Deciphering PPP2R5D mediated signaling pathways. 2017 Jordan's Guardian Angels Symposium; 2017 Dec 6; New York, NY.

Lim S. Invited speaker. New roles of FAK in vascular inflammation and remodeling. Department of Pathology, University of Alabama at Birmingham; 2017 Oct 6; Birmingham, AL.

Lim S. Invited speaker. New roles of FAK in vascular inflammation and remodeling. Department of Physiology, University of Oklahoma Health Sciences Center; 2017 Dec 14; Oklahoma City, OK.

V. NATIONAL PROFESSIONAL RECOGNITION

Ron Balczon: Question writer: NBME histology exam review.

Donna Cioffi: Journal Peer Review: Antioxidants and Redox Signaling; Co-Chair, Nomination Committee, American Physiological Society, Respiration Section; Steering Committee, American Physiological Society, Respiration Section.

Richard Honkanen: Grant Review: Vice Chair, NIH Study Section (NIH ZRG1 BST-J51) review group; panel member NIH (NIDDK) ZDK1 GRB-7 R13 Special Emphasis Panel; BSF. United States-Israel Binational Science Foundation; Flanders (FWO) Research Organization.

Lawrence LeClaire: Ad hoc Journal Review: Scientific Reports.

Steve Lim: Grant Review: American Heart Association Grant - Basic Vascular Wall Biology 2 Study Section; British Medical Research Council (MRC); British Lung Foundation Grant. Editorial Board: World Research Journal of Cell Biology; Journal of Cytology and Molecular Biology; Journal of Biochemistry and Physiology; Journal of Clinical Trials in Oncology. Ad hoc Journal Review: Journal of Histochemistry & Cytology; International Journal of Cancer and Cell Research; Journal of Cellular Biochemistry; PLoS One; Oncotarget; Omics Journals; Journal of Cell Science; Molecules and Cells; Frontiers in Biology; Cellular Signaling; Oncology letters; Molecular and Clinical Oncology; Journal of Biochemistry and Physiology.

Wito Richter: Ad hoc Grant Review: AHA-Molecular Signaling-Predo/PostDoc; NSF-Graduate Research Fellowships: Biochemistry, Biophysics and Structural Biology; NHLBI - RIBT; NHLBI panel on Cardiovascular and Pulmonary Research on E-Cigarettes. Ad hoc Journal Review: Biochemical Pharmacology, Cellular Signaling, Cardiovascular Research.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Dr. William Gerthoffer retired on October 1, 2017 having served as Chair of the Department for more than ten years. Bill was (and still is at Nevada Reno) the consummate team-leader, directing the department in research, education and service. He was an outstanding teacher at both the medical and graduate level, an ardent graduate student advocate, and a strong promoter of the research mission and accomplishments of his department. During this year, as a nationwide search for a new chair has been underway, Dr. Jonathan Scammell has served as interim chair of the department.

The summary of our activities and progress this year is opened with the PhD students who completed their dissertations. Caleb Hamilton, who is now a Lecturer at Troy University in Troy Alabama, studied how “Protein Phosphatase 5 (PP5C) Regulates the ISOC Calcium Channel and Subsequent Endothelial Barrier Function through a PP5C-FKBP51 Axis”. His advisor was Dr. Donna Cioffi. Dr. Sabrina Ramelli, who studied with Dr. Gerthoffer, completed her dissertation “Oligonucleotide Therapy of Asthma to Reduce Inflammation and Remodeling” before starting a post-doctoral fellowship at the National Institutes of Health in Bethesda Maryland. Kendall Walton, now a postdoctoral fellow at the University of Alabama Birmingham, studied “The Role of NCK-Interacting Kinase (NIK) in Cancer Cell Migration and Metastasis” with Dr. Lawrence LeClaire. And James Murphy just completed his dissertation “Role of FAK in Vascular Inflammation” with Dr. Steve Lim and will remain in Dr. Lim’s laboratory for a year of postdoctoral study. These students should be congratulated for their hard work and we wish them much success in the future.

All of the faculty in their own way contributed to our enterprise of research, teaching and service. Dr. Steve Lim has an ongoing NIH grant, while Dr. Wito Richter received a new grant from the NIH. Dr. Ron Balczon receives NIH funding for his work through the Center for Lung Biology. Dr. Rich Honkanen receives funding through the Jordan’s Guardian Angels program. Drs. LeClaire and Cioffi received intramural research funding from the College of Medicine. The faculty are cognizant of the difficult funding climate and are active in submitting additional projects for research support. At the same time, all of the faculty teach in medical and/or graduate level courses and several (e.g. Drs. LeClaire, Balczon) share time-consuming leadership roles in the medical school curriculum. Additionally, there are many contributions to committees in the College of Medicine and beyond [e.g. Dr. Lim - IACUC (Vice Chair), Dr. Richter - Summer Research (Chair), Dr. Cioffi - Research Forum (Chair)] as the faculty round out their academic influence.

2017-2018
Summary of Scholarly Activities
Department of Comparative Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Hamilton CL, Abney KA, Vasauskas AA, Alexeyev M, Li N, Honkanen RE, Scammell JG, Cioffi DL. Serine/threonine phosphatase 5 (PP5C/PPP5C) regulates the *I_{soc}* channel through a PP5C-FKBP51 axis. *Pulm Circ*. 2018 Jan-Mar;8(1):2014893217753156.

Hamilton CL, Kadeba PI, Vasauskas AA, Solodushko V, McClinton AK, Alexeyev M, Scammell JG, Cioffi DL. Protective role of FKBP51 in calcium entry-induced endothelial barrier disruption. *Pulm Circ*. 2018 Jan-Mar;8(1):2045893217749987.

Thomas CM, Repass JF, Scammell JG, Adams PW, Hubler TR. Differential expression of the stress-associated proteins FKBP51 and FKBP52 in human and New World primate cells. *J Ala Acad Sci*. 2017 Nov;88(2):144-154.

II. PUBLISHED ABSTRACTS

Haldar B, Hamilton CL, Solodushko V, Scammell JG, Cioffi DL. The role of S100A6 in the PP5-FKBP51-mediated inhibition of endothelial *I_{soc}*. *FASEB J*. 2018;32:917.1.

Yuzefovych L, Schuler M, Noh HN, Suk S, Kim JK, Rachek L. DNA repair enzyme Ogg1 regulates hepatic insulin resistance in high-fat diet-fed obese mice. *American Diabetes Association 78th Scientific Sessions*; 2018 June 22-26; Orlando, FL. Abstract no. 235-LB. Available from: https://plan.core-apps.com/tristar_ada18/abstract/5188446740e191fd289345d56a774085

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

Dr. Jonathan G. Scammell: Editorial Advisory Board, *Journal of Pharmacology and Experimental Therapeutics*; Reviewer, *Oncotarget*, *American Biology Teacher*, *PLOS ONE*. Board Member, Alabama Board of Medical Scholarships.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The highlight of the year was the successful site visit and reaccreditation of the University Biological Resources program by AAALAC International. The site visitors reviewed both the vivarium in the Medical Sciences Building and the ABSL-3 suite at the Laboratory of Infectious Disease and found no items for mandatory improvement. Much credit goes to Director Dr. Michele Schuler, Licensed Veterinary Technician Leigh Ann Wiggins,

Supervisors Mr. Ben Gumbs and Craig Youngman, Maintenance Coordinator Mr. Gavin Guy, Technicians Ms. Melanie Wiggins, Francelina Nores, Kitty Leaird, Carmen Thomas, and office staff Sheila Pierce and Kenyetta Grissom for their work in preparing the facility and supporting documents for the inspection. We thank President Tony Waldrop and his wife Julee for hosting a lunch at their home for the faculty and staff in the department in recognition of their efforts. The program will be reviewed in three years.

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, the behavior core, the Kimtron, Inc. IC-320 irradiator, IVIS Spectrum Imaging System, the OEC-Diasonics C-Arm Fluoroscopic Imaging System, clinical skills activities of the Departments of Surgery and Obstetrics and Gynecology, and histology services.

The faculty continue 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, who served as Interim Chair of the Department of Biochemistry and Molecular Biology, continues his collaboration with Dr. Donna Cioffi in the same department to study the role of the immunophilin 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 and is a member of the Safety and Environmental Compliance Committee. 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, the Committee on Prehealth Advising, and the USA Health Branding Advisory Team.

2017-2018
Summary of Scholarly Activities
Department of Emergency Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Green W, Panacek EA. Sexual assault forensic medical glossary terms and definitions. Sacramento: California Clinical Forensic Medical Training Center, California District Attorneys Association; 2017, 29 p.

II. PUBLISHED ABSTRACTS

Sternberg ML, Grammer J, Watkins H. Aortoenteric fistula. American College of Emergency Physicians Southeastern Chapters Educational Conference; 2018 Jun 4-7; Destin, FL.

Sternberg ML, Musselwhite C, Kimbrell C. Systemic lupus erythematosus. American College of Emergency Physicians Southeastern Chapters Educational Conference; 2018 Jun 4-7; Destin, FL.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Panacek EA. Invited speaker. Highlights of the EMF grant projects. American College of Emergency Physicians Annual Scientific Assembly; 2017 Oct 30; Washington, DC.

Panacek EA. Invited speaker. Pretest/introduction to workshop. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Process of research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Research questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Research hypotheses, objectives. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Research terminology. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Introduction to study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Practicum: your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Discuss your questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. True experimental design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Quasi-experimental designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Case control and other designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Recognizing design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Research design practice. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Survey research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Qualitative studies. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Practicum: selecting your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Elements of a study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Practice discussion. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Sample size calculations. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Elements of a study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Instructions for between-session requirements. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 8; Dallas, TX.

Panacek EA. Invited speaker. Practicum: developing your study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2017 Nov 8; Dallas, TX.

McMahon J. Invited speaker. Mobile EMS experience with Mardi Gras injuries & emergency calls. 9th Annual Gulf Coast Acute Care Surgery Symposium; 22 Mar 2018; Mobile, AL.

Mellick L. Invited speaker. Videos and other innovations in training emergency practitioners. 9th Annual Gulf Coast Acute Care Surgery Symposium; 22 Mar 2018; Mobile, AL.

Mellick L. Invited speaker. Testicular torsion: castration through procrastination? 9th Annual Gulf Coast Acute Care Surgery Symposium; 22 Mar 2018; Mobile, AL.

Panacek EA. Invited speaker. Cricothyrotomy-Rare, but lifesaving: comparison of techniques. 9th Annual Gulf Coast Acute Care Surgery Symposium; 2018 Mar 22, Mobile, AL.

Panacek EA. Invited speaker. A lasting legacy: class giving and scholarships. 2018 University of South Alabama Medical Alumni Association Reunion Weekend; 2018 Jun 10; Pensacola, FL.

V. NATIONAL PROFESSIONAL RECOGNITION

Panacek EA. 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; Editorial panel member “StatPearls”

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

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Departmental goals - list key goals accomplished and/or innovative programs initiated by the department during the report year in education, research/scholarship and/or service:

- Drafted full application for new Emergency Medicine Program, and submitted to ACGME.
- Took over administrative responsibility for the Evaluation Center at Children’s and Women’s Hospital. Restructured that unit and rededicated to a pure pediatric emergency department.
- Further expanded and refined the role of APP’s in the USAMC Emergency Department.
- Established a new 4th year medical student elective in the department. (EMM411)
- Achieved relatively successful role out implementation of the CERNER electronic health record in the emergency department. That process was substantially smoother and more successful in the ED than in nearly any other clinical area.
- Continued and expanded faculty involvement in scholarship.
- Recruited a new “Research Director” EM faculty.

Summarize student feedback on faculty teaching during this report year. What steps are you taking and/or what faculty development strategies are you using to address any weaknesses?

- We currently do have a process to collect student feedback on the faculty or quality of teaching in the emergency department. That will be initiated next year.

List specific departmental goals for the next academic year

- Continue quality faculty recruitment at both hospitals (USAMC & C&WH) for the emergency departments, with focus on specific academic needs.
- Achieve successful initial (provisional) accreditation of the emergency medicine residency program and enroll first class of interns.
- Further improve and refine educational processes for all student learners rotating through the emergency departments.
- Initiate a clinical research program in emergency medicine have (not had an EM specific research program in the history of the department). Increase faculty participation in scholarship.
- Break ground on a new emergency department at USAMC.
- Secure additional funding for redevelopment of a new pediatric emergency department.
- Further refine and improve efficiency of the CERNER electronic health record in both ED’s.
- Increase EM faculty involvement in service and administration within the USAHS.
- Obtain EDAP certification for the Pediatric Emergency Department at CWH.

2017-2018
Summary of Scholarly Activities
Department of Family Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Langhinrichsen-Rohling J, Selwyn C, Jackson S, Johns K, Wornell C, Finnegan H, Smith-West M. The prevalence of mental and physical health correlates of posttraumatic stress disorder symptoms in vulnerable and underresourced primary care patients referred to a behavioral health provider. *J Public Health Manag Pract*. 2017 Nov/Dec;23(suppl 6):S32-S39.

Perkins A, Marine poisonings, envenomations, and trauma. In: Kellerman RD, Bope ET, editors. *Conn's current therapy 2018*. Philadelphia: Elsevier Press; 2018. p. 1243-1247.

II. PUBLISHED ABSTRACTS

Aggen A, Smith-West M, Bush K, Schottgen S, North J. Creating a patient advisory board for clinic policy. *Institute for Healthcare Improvement National Forum on Quality Improvement in Health Care*; 2017 Dec 10-13; Orlando, FL.

Smith-West M. Academic practice transformation: a needs assessment for behavioral science curriculum development in a family medicine residency with a new integrated behavioral health program. *Society of Teachers of Family Medicine Annual Spring Conference*; 2018 May 5-9; Washington, D.C.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Molokhia E. Invited speaker. Meeting the needs of complex patients through physician-pharmacist collaborative practice's. *Dubai International Pharmaceutical & Technology Conference and Exhibition*; 2018 Mar 1; Dubai, UAE.

Molokhia E. Invited speaker. Innovations & new approaches in primary healthcare. 5th *International Family Medicine Conference and Exhibition*; 2018 Feb 27; Dubai, UAE.

Molokhia E, Perkins A, Smith-West M, Bush K, Porter B. Invited speakers. Educating residents on an interdisciplinary approach to complex populations. *Society of Teachers of Family Medicine Annual Conference on Practice Improvement*; 2017 Dec 1; Louisville, KY.

V. NATIONAL PROFESSIONAL RECOGNITION

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

R. Allen Perkins: 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.

Ashley Butts-Wilkerson: Representative, MASA Task Force on Rural Medicine

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Dr. Rebecca Sollie joined the faculty in July. She received her doctorate from the University of Alabama School of Medicine in 2015. Dr. Sollie has assumed the role of Assistant Professor for Family Medicine as well as assistant clerkship director.

Dr. James Toldi joined the faculty in September. He received his doctorate from the LEOCOM in 2012. He is a graduate of the Florida State University Family Medicine residency program and completed his Primary Care Sports Medicine Fellowship at the University of New Mexico. He is Board Certified in Family Medicine and has a Certificate of Added Qualification in Sports Medicine. He will provide instruction in sports medicine as well as clinical coverage.

Dr. Anthony Todd joined the department as the inaugural population health pharmacy fellow. Dr. Todd will explore the role of the pharmacist in the provision of clinical care to various population cared for by the Family Medicine department. In addition, he will provide direct clinical care. This position is funded through HRSA PTCE grant funds.

Dr. Marirose Trimmier assumed the role of clerkship director following the retirement of Dr. Carol Motley. In addition to the clerkship duties, she organized 15 students to attend the annual AAFP National Conference of Family Medicine Residents & Medical Students held in Kansas City, MO this July. Of these, 2 received national scholarships and 4 received state scholarships to attend. The three day conference offered a wide range of clinical and procedural skills courses as well as leadership development seminars.

Dr. Carol Motley was selected by the COM medical students as the Recipient of the Gold Humanism Award.

2017-2018
Summary of Scholarly Activities
Department of Internal Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Awan MU, Omar B, Qureshi G, Awan GM. Successful treatment of iatrogenic external iliac artery perforation with covered stent: case report and review of the literature. *Cardiol Res.* 2017 Oct;8(5):246-253.

Fagan KA. Pulmonary hypertension – is it the same disease in young versus older patients? [editorial]. *Am J Med Sci.* 2018 Jan;355(1):1-2.

Fruh SM, Mulekar MS, Crook E, Hall H, Adams J, Lemley T. The family meal challenge: a faith-based intervention to empower families. *Christian Nurs.* 2018 Jul/Sep;35(3):191-197.

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Moses A, Nguyen L, Omar B, Qureshi G, Awan GM. Variations in lipid parameters by race in a cardiology clinic. 2018 Alabama Chapter of the American College of Cardiology Winter Conference; 2018 Jan 13; Birmingham, AL.

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Nguyen L, Omar M, Omar BA, Awan GM, Malozzi C. Lipid management challenges in different clinical settings. *Circulation*. 2018 Mar 20;137(Suppl 1):AP158.

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Omar M, Shofu A, Omar BA, Malozzi C, Awan GM. Improving LDL documentation and control in coronary artery disease patients. *Circulation*. 2018 May 20;137(Suppl 1):AP192.

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Pimentel M, Cash BD, Lacy BE, Heimanson Z, Lembo AJ. Assessing the efficacy of rifaximin in diarrhea-predominant irritable syndrome (IBS-D): a post hoc analysis of 2 phase 3, randomized, placebo-controlled trials. *Am J Gastroenterol*. 2017 Oct;112(Suppl 1):S254. Abstract no. 482.

Sachdev S, Omar BA, Malozzi C, Awan GM. Blood pressure and lipid control variation in faculty versus trainee clinics. *Circulation*. 2018 Mar 20;137(Suppl 1):AP154.

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Siddiqui W, Sutherland E, Bell J, Audia J, Fouty B, Alvarez DF. Dynamics between IL-10 and pro-inflammatory cytokines in critical care patients with sepsis. *Am J Respir Crit Care Med*. 2018;197:A5736. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5736

Sonnier WP, Niland BR, Henderson PK, Cash BD. An unusual case of hematemesis. *Am J Gastroenterol*. 2017 Oct;112(Suppl 1):S1039-S1040. Abstract no. 1886.

Tahir H, Malozzi C, Omar B. Age, gender and race variations in QRS duration in patients with atrial fibrillation. 2018 Alabama Chapter of the American College of Cardiology Winter Conference; 2018 Jan 13; Birmingham, AL.

Tahir H, Omar M, Omar BA, Awan GM, Malozzi C. Prevalence of left ventricular hypertrophy versus atrial fibrillation on electrocardiogram in stroke patients. *Circulation*.

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Viswanathan L, Hamade N, Kennedy K, Gupta N, Thota PN, Vargo J, Cash BD, Sharma P. Use of Prague classification as a quality measure in the management of Barrett's esophagus. Am J Gastroenterol. 2017 Oct;112(Suppl 1):643. Abstract no. 1170.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Almalouf P. Invited speaker. I'm short of breath – let's talk about asthma. University of South Alabama Med School Café; 2017 Oct 20; Mobile, AL.

Broughton W. Invited speaker. Sleepwalking through the ages: medicine, art, law and culture. Southern Sleep Society 40th Annual Meeting; 2018 Mar 23; Hilton Head, SC.

Broughton W. Invited speaker. Sleep medicine: with a focus on sickle cell disease. Sickle Cell Disease Practical Issues XVI; 2018 Apr 14; Mobile, AL.

Crook E. Invited speaker. Community and academics at the altar: community-academic in partnership to achieve health equity. University of Alabama at Birmingham Center for Clinical and Translational Sciences, Community Engagement Institute; 2017 Oct 6; Birmingham, AL.

Crook E. Invited speaker. Achieving health equity by addressing the social determinants of health. 2017 Student National Medical Association Regional Medical Education Conference. 2017 Oct 14, Mobile, AL.

DiPalma J. Invited speaker. Fecal microbiota transplantation in clinical practice. Semana Digestiva 2018; 2018 Jun 21; Oporto, Portugal.

DiPalma J. Invited speaker. Is the perfect bowel prep coming to town? Semana Digestiva 2018; 2018 Jun 22; Oporto, Portugal.

DiPalma J. Invited speaker. The disruptive colleague, the disruptive trainee. World Gastroenterology Organisation Train the Trainers Advanced Workshop: Leadership & Management 11; 2018 Jun 25; Oporto, Portugal.

DiPalma J. Invited speaker. Optimal bowel preparations. Digestive Disease Week 2018; 2018 Jun 3; Washington, DC.

Fagan K. Invited speaker. Novel pathways for treating pulmonary hypertension. Pulmonary Hypertension Professional Network Symposium; 2017 Oct 7; Washington, DC.

Fagan K. Invited speaker. You are the “I” in team. Pulmonary Hypertension Association 2018 International Pulmonary Hypertension Conference and Scientific Sessions; 2018 Jun 28; Orlando, FL.

Fagan K. Invited speaker. How passion drives me. Pulmonary Hypertension Association 2018 International Pulmonary Hypertension Conference and Scientific Sessions; 2018 Jun 29; Orlando, FL.

Fagan K. Invited speaker. PHA as a catalyst for a cure. Pulmonary Hypertension Association 2018 International Pulmonary Hypertension Conference and Scientific Sessions; 2018 Jul 1; Orlando, FL.

Malozzi C. Invited speaker. Understanding a woman’s heart. University of South Alabama Med School Café. 2018 Feb 26; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Broughton W. Chairman, Southern Sleep Society Foundation. Program planning committee for Southern Sleep Society.

Jack DiPalma. Editorial Board, BMJ Gastroenterology Online, 2014-Present; Editorial board, Practical Gastroenterology, 2014-Present; Editorial Advisory Board, Gastroenterology and Hepatology, 2015-Present; reviewer, global faculty, *gastroHep.com*, 2000-Present; Reviewer, Southern Medical Journal, 1998-Present; Foundation Board Member, World Gastroenterology Organization, 2008-Present; world Gastroenterology Organization, Secretary-Treasurer 2017-Present; World Gastroenterology Organization, Train-the-Trainer Faculty and Program Committee, 2007-Present; World gastroenterology Organization, Finance Committee Member, 2015-Present.

Karen Fagan. NIH/NHLBI Special Emphasis Panel, Opportunities for Collaborative Research at the NIH Clinical Center, Chair; Editorial board; Medical Editor, Pathlights Magazine, Pulmonary Hypertension Association, 2014-Present; American Thoracic Society, Planning and Evaluation Committee Vice Chair, 2017; Board of Directors Member 2017-Present; Pulmonary Circulation Assembly, Chair, 2017-Present, Facilitator/moderator – Intern. Conference, 2000-Present; Pulmonary Hypertension association, Chair, PH Board of Trustees, 2018-2020, Scientific Leadership Committee immediate past-chair, 2016-2018; best doctors recognition 2004-2018; Top Doctors, Castle Connolly, 2016-2018; Exceptional Women in Medicine, Castle Connolly 2017-2018.

Christopher Malozzi. Division 1 Counselor, Alabama American College of Cardiology, 2017-Present.

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 had been recognized as the best clerkship for third year medical students. The Class of 2018 recognized the Department for its efforts as runner-up to Surgery for the best clerkship. We look forward to starting another 19 year streak next year.

Several of the department's faculty were recognized with the red sash award for their educational efforts and the graduating Class of 2018 again selected an Internal Medicine faculty member, Dr. Terry J. ("TJ") Hundley as the best teacher in the clinical years. Dr. T. J. Hundley, who is also our Clerkship Director, has been recognized with this honor for 3 consecutive years. Department members continue to contribute significantly to the medical school curriculum over all four years. In addition to the third year clerkship mentioned above several departmental members serve as co-directors for the modules for the first and second year COM classes. The Department's courses for COM 4th 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. Students pursuing the Nurse Practitioner degree often spend time with members of the department on their clinical rotations.

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, Director of the Internal Medicine Residency Program, continues to make 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. 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.

The Division of Pulmonary – Critical Care 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 led patient safety and quality projects. Many of these projects are performed in partnership with the USA Medical Center. The Divisions of Cardiology and Nephrology have maintained active clinical trials portfolios.

Service

The department continues to deliver excellent clinical service. The department has seen an increase in his clinical services at the USA Medical Center and in our ambulatory practices. The Division of Gastroenterology has continued to grow its services for advanced endoscopy procedures. A fellowship in Advanced Endoscopy in Gastroenterology has been started and the first fellowship match for this program was conducted this year. These advancements have enhanced partnerships with the Mitchell Cancer Institute and the Division of Colorectal Surgery.

Departmental faculty continue to serve on editorial boards, as journal reviewers, on advisory boards, and on grant review panels. Department of Medicine faculty are on key committees within USA Health. Of note, Dr. Sabrina Bessette, Division Chief of Nephrology, continues as President of USA Health University Hospital Medical Executive Committee. In addition, our faculty has contributed significantly to the University and the Greater Mobile Community.

2017-2018
Summary of Scholarly Activities
Department of Microbiology and Immunology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Hua B, Wang Y, Park S, Han KY, Singh D, Kim JH, Cheng W, Ha T. The single-molecule centroid localization algorithm improves the accuracy of fluorescence binding assays. *Biochemistry*. 2018 Mar 13;57(10):1572-1576.

Rayner JO, Kalkeri R, Goebel S, Cai Z, Green B, Lin S, Snyder B, Hagelin K, Walters KB, Koide F. Comparative pathogenesis of Asian and African-lineage Zika virus in Indian rhesus macaque's and development of a non-human primate model suitable for the evaluation of new drugs and vaccines. *Viruses*. 2018 May;10(5):E229. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5977222/pdf/viruses-10-00229.pdf>

Yang XM, Downey JM, Cohen MV, Housley NA, Alvarez DF, Audia JP. The highly selective caspase-1 inhibitor VX-765 provides additive protection against myocardial infarction in rat hearts when combined with a platelet inhibitor. *J Cardiovasc Pharmacol Ther*. 2017 Nov;22(6):574-578.

II. PUBLISHED ABSTRACTS

Alvarez DF, Renema P, Bell J, Housley N, Francis C, Balczon R, Sutherland E, Siddiqui W, Eslaamizaad Y, Fouty B, Hardy K, Audia JP. Caspase-1 decreases amyloid species-induced cytotoxicity in lung endothelial cells during *Pseudomonas aeruginosa* infection. *Biology of Acute Respiratory Infection 2018 - Gordon Research Conference*; 2018 Mar 18-23; Ventura, CA.

Cohen MV, Audia JP, Yang X, Crockett ES, Housley N, O'Donnell K, Ul Haq E, Downey JM, Alvarez DF. Blocking caspase-1 at reperfusion adds to cardioprotection from platelet P2Y₁₂ receptor antagonists. *Circulation*. 2017 Nov 14;136(Suppl 1):A15139.

Eslaamizaad Y, Sutherland E, Bell J, Ayers L, Renema P, Jackson M, Audia J, Fouty BW, Alvarez DF. Caspase-1 downregulates circulating amyloid-related danger molecules in critically ill patients. *Am J Respir Crit Care Med*. 2018;197:A2890. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A2890

Eslaamizaad Y, Sutherland E, Bell J, Renema P, Barrington R, Audia J, Fouty BW, Alvarez DF. Interleukin signature in pulmonary septic patients. *Am J Respir Crit Care Med*. 2018;197:A5735. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5735

Fitzpatrick SE, Lausch R, Barrington RA. Immunoprotective $\gamma\delta$ T cell subsets in the cornea during early HSV-1 infection. *J Immunol*. 2018 May 1;200(1 Suppl):126.2. Abstract no. VIR 1329.

Gerthoffer WT, Ramelli SC, Bell J, Barrington R, Sparks J, Matar M. Novel oligonucleotide therapy alters the lung transcriptome in a house dust mite (HDM), cyclic DiGMP mouse model of severe, corticosteroid-resistant asthma. *Am J Respir Crit Care Med*. 2018;197:A7414. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A7414

Hardy KS, Housley NA, Alvarez DF, Audia JP. Increasing intracellular cAMP levels in lung endothelial cells potentiate *Pseudomonas aeruginosa* ExoU PLA₂ activity. *Biology of Acute Respiratory Infection 2018 - Gordon Research Seminar*; 2018 Mar 17-18; Ventura, CA.

Hardy KS, Housley NA, Alvarez DF, Audia JP. Increasing intracellular cAMP levels in lung endothelial cells potentiate *Pseudomonas aeruginosa* ExoU PLA₂ activity. *Biology of Acute Respiratory Infection 2018 - Gordon Research Conference*; 2018 Mar 18-23; Ventura, CA.

Malur A, Leffler N, Vargas D, Mohan A, Barrington R, Kew K, Muller-Borer B, Murray G, Barna BP, Thomassen MJ. Murine model of MWCNT-elicited granulomatous disease combined with a mycobacterial antigen exhibits lymphadenopathy and increased Th1 cells similar to sarcoidosis. *Am J Respir Crit Care Med* 2018;197:A4817. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A4817

Mohan A, Sanderford V, Barrington RA, Malur A, Leffler N, Barna BP, Thomassen MJ. PPAR γ deficiency promotes a T cell response to ESAT-6 in a murine model of chronic granulomatous disease. *American Association of Sarcoidosis and other Granulomatous Disorders*; 2018 Apr 13-14; Chicago, IL.

Renema P, Jackson ML, Audia J, Stevens T, Alvarez DF. Caspase-1 protects against amyloid-induced pulmonary microvascular endothelial cell monolayer damage. *Am J Respir Crit Care Med*. 2018;197:A3732. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A3732

Siddiqui W, Sutherland E, Bell J, Audia J, Fouty BW, Alvarez DF. Dynamics between IL-10 and pro-inflammatory cytokines in critical care patients with sepsis. *Am J Respir Crit Care Med*. 2018;197:A5736. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5736

Teague D, Housley N, Taylor M, Alvarez D, Audia J. *Vibrio vulnificus* infection results in production of toxic supernatant from endothelial cells. *American Society for Microbiology Conference on Vibrio2017: The Biology of Vibrios*; 2017 Nov 12-15; Chicago, IL.

Voth SB, Balczon R, Francis CM, Audia J, Stevens T. Lung infection elicits endothelial amyloids with distinguishable antimicrobial and cytotoxic properties. *Am J Respir Crit Care Med*. 2018;197:A7616. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A7616

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Barrington RA. Invited speaker. Herpes virus infection of the eye. Gulf Shores Lions Club of District 34C Meeting; 2017 Nov 8; Gulf Shores, AL.

Barrington RA. Invited speaker. Twenty-eight years of success in eye research forged by University of South Alabama scientists and Lions Clubs International. Lions Eye Research Foundation; 2018 Jan 25; Mobile, AL.

Barrington RA. Invited speaker. Return on investment: impact of LERI-sponsored eye research at the University of South Alabama. Lions Eye Research Foundation Board Meeting; 2018 Feb 7; Mobile, AL.

Barrington RA. Invited speaker. Visualizing herpes virus infections of the eye. Saraland Lions Club Meeting; 2018 Feb 20; Saraland, AL.

Rayner JO. Invited speaker. Animal models for emerging infectious diseases: lessons learned from Zika virus. International Conference on Mitigation Strategies for Emerging Infectious Diseases – Unleashing Innovation; 2017 Oct 25; Cali, Columbia, South America.

V. NATIONAL PROFESSIONAL RECOGNITION

Jonathon P. Audia: Study sections for grant review: National Institutes of Health/National Institute of Allergy and Infectious Diseases R21/R03 - Topics in Bacterial Pathogenesis IDM-B(80) Study Section; U.S. Army Medical Research and Materiel Command (USAMRMC) - Military Infectious Diseases Research Program (MIDRP) - Joint Program Committee - 2 (JPC-2) FY19, Rickettsial Diseases Panel; National Institutes of Health/National Institute of Allergy and Infectious Diseases R13/ U13 Study Section ZAI1 AZ-M (J1) 1 NIH Support for Conferences and Scientific Meetings; Department of Defense Health Program - Congressionally Directed Medical Research Programs - United States Army Medical Research and Materiel Command - Peer Reviewed Medical Research Program - Emerging Infectious Diseases Pre-Application Panel; Department of Defense Health Program - Congressionally Directed Medical Research Programs - United States Army Medical Research and Materiel Command - Peer Reviewed Medical Research Program - Vaccine Development for Infectious Diseases Pre-Application 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: Study sections for grant review; American Heart Association (Immunology, BSc 2/4), Agence Nationale De La Recherche; Ad hoc reviewer, *Cytometry*, *European Journal of Immunology*, *Journal of Immunology*, *Journal of DNA and Cell Biology*; Review editor, *Frontiers in B Cell Biology*.

Jonathan O. Rayner: Study sections for grant review: Congressionally Directed Medical Research. Journal peer review, *Nature Communications*, *Emerging Infectious Diseases*, *The American Journal of Tropical Medicine and Hygiene*; Professional society committees; American Committee on Arthropod-borne Viruses; Member: Alphavirus Advisory Team, Animal Models and Assays Working Groups, Defense Threat Reduction Agency & Joint Vaccines Acquisition Program.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The 2017-2018 academic year was notable for the Department as it entered a period of major transition. Key changes included reduced faculty numbers, the impact of new faculty members on the Department, the transitioning of leadership responsibilities to younger faculty, and the search for a new chair. Two new faculty members, Dr. Jonathan Rayner and Dr. Jin Kim, who arrived in June and September 2017, respectively, began the process of starting their research programs. Dr. Rayner, Associate Professor, who serves as Director of the Laboratory of Infectious Diseases (LID) and Responsible Official (RO) for the Select Agent Program, successfully guided the program through the Centers for Disease Control (CDC) on-site inspection in March. The research programs conducted at the LID were again granted a three-year renewal of the Select Agent License by the CDC Division of Select Agents and Toxins (DSAT).

Dr. Jonathon Audia took over the duties of Module Director for the Foundations of Human Health 2 (FHH2) course from Dr. John Foster. Dr. Foster, who retired October 1st after 30 years of service, was awarded emeritus status and continued to participate as a lecturer in several of the modules. He also served as an information resource for the new module director. Under Dr. Audia's leadership the course was well-received by the medical students and his efforts were commended by the course review committee. Graduate student teaching was organized through the Infectious Diseases and Host Defense Track (IDHD). Currently two students are in this program; Steffani Fitzpatrick, mentored by Dr. Barrington, and Kierra Hardy, mentored by Dr. Audia. An abstract submitted by Ms. Fitzpatrick entitled "Immunoprotective $\gamma\delta$ T cell subsets in the cornea during early HSV-1 infection" was selected for an oral presentation at the American Association for Immunology meeting held in May. Ms. Hardy presented a poster entitled "Increasing intracellular cAMP levels in lung endothelial cells potentiate *Pseudomonas aeruginosa* ExoU PLA₂ activity" at the Gordon Research Seminar – Biology of Acute Respiratory Infection 2018 meeting, held in March. She is now supported by an NIH supplement awarded to Dr. Audia's grant entitled, "Caspase-1, the microvascular endothelium, and infection". Drs. Audia, Barrington, and Rayner hosted medical students Jordan Smith, Eric Midenberg, and Erin Schmale for research this summer. All presented their research at the Summer Medical Student Research Forum. The quality of the students' efforts was exemplified by Ms. Jordan Smith who was awarded the Clyde Huggins Oral Presentation

Award. Additional teaching efforts were directed toward high school students. Dr. Audia continued an outreach program with St. Luke's Episcopal School. The goal of this program is to expose high school students to the basic principles of antimicrobial agents using bacteria as a model system. The goal continues to be the development of a graduate level course to give our students experience in preparing and delivering content as instructors.

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 & Cell Biology, continued their NIH-funded research on Caspase-1, the microvascular endothelium, and infection. Dr. Barrington received support from the Lions Club for studies examining herpes eye infections and the associated immunological response that can result in blindness. 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 local USA Lions Club and successfully organized another 5K Lions Club fund-raiser. Dr. Barrington was also awarded a Faculty Intramural grant to support his studies on the first mouse model of autoimmune pulmonary alveolar proteinosis. Dr. Rayner has established crucial connections with local and state public health officials and successfully competed for funds to establish high-throughput screening for mosquito and tick-borne pathogens. In addition, he is establishing research capabilities for the LID that are advancing interdepartmental collaborations as well as interactions with investigators at other university and government laboratories. Dr. Kim has submitted a grant proposal to develop a more effective influenza vaccine and is assisting Dr. Rayner's efforts to develop virologic research capabilities at the LID. All the Microbiology and Immunology investigators are highly collaborative and participate on a variety of extramural and intramural projects.

The Department hosted Dr. Ian York as a Distinguished Scientist Speaker this year in May. He presented a seminar entitled "Antibody Repertoire and Influenza Immunity".

Dr. Wood announced his retirement for the end of 2018. The search for a new Chair is currently underway.

2017-2018
Summary of Scholarly Activities
Department of Neurology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Andres DS, Darbin O. Complex dynamics in the basal ganglia: health and disease beyond the motor system. *J Neuropsychiatry Clin Neurosci*. 2018 Spring;30(2):101-114.

Fell DW, Steffler B, Bassam BA, Denny WB, Jefferson JR, Mullins JB. Diagnostic testing in neurology: lab tests, imaging, and nerve/muscle studies with implications for therapists. In: Fell DW, Lunnen KY, Rauk RP, editors. *Lifespan neurorehabilitation: a patient-centered approach from examination to interventions and outcomes*. Philadelphia: E. A. Davis Company; 2018. Chapter 12, p. 366-411.

Xu Y, Jiang YQ, Li C, He M, Rusyniak WG, Annamdevula N, Ochoa J, Leavesley SJ, Xu J, Rich TC, Lin MT, Zha XM. Human ASIC1a mediates stronger acid-induced responses as compared with mouse ASIC1a. *FASEB J*. 2018 Jul;32(7):3832-3843.

II. PUBLISHED ABSTRACTS

Bhat J, Maertens P. An unreported clinical feature of classic Menkes disease: natural killer cell dysfunction. *J Invest Med*. 2018 Feb;66(2):477. Abstract no. 311.

Chatmethakul T, Maertens P. Neurosonographic diagnosis of Lückenschädel and lemon sign in neonates. *J Neuroimaging*. 2018 Mar/Apr;28(2):226. Abstract no. 6.

Cummock J, Maertens P. Another case of Smith-Kingsmore Syndrome. *J Child Neurol*. 2018 Aug;33(9):623.

Luckett P, Pavelescu E, McDonald T, Hively L, Ochoa J. Predicting state transitions in brain dynamic through spectral distance of phase-space graphs. *IEEE J*. 2018.

Murphy A, Naritoku D. Progressive multifocal leukoencephalopathy. University of South Alabama College of Medicine M3 Case Symposium; 2018 Jul 7; Mobile, AL.

Obih C, Maertens P. HHV-6 encephalitis in a 1-month-old infant with lenticulostriatal vasculopathy and seizure activity. *J Child Neurol*. 2018 Aug;33(9):622.

Rini J, Ochoa JG. Mapping musical automatism: further insights from epileptic high-frequency oscillations analysis. 29th Annual Meeting of the American Neuropsychiatric Association; 2018 March 21-24; Boston, MA.

Sanchez O, Maertens P. SMART syndrome 2 years post medulloblastoma treatment. *J Child Neurol*. 2018 Aug;33(9):627.

Wilaisakditipakorn TJ, Maertens P. Neurofibromatosis type 1 with vanishing white matter. J Invest Med. 2018 Feb;66(2):507. Abstract no. 384.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Bassam BA. Invited speaker. ALS treatment journey. Southern Clinical Neurological Society 45th Annual Meeting; 2018 Jan 17; Naples, FL.

Bassam BA. Invited speaker. The sounds of muscle: when muscle physiology explains the weakness. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 8; Orange Beach, AL.

Chalhub EG. Invited speaker. Sports traumatic brain injuries. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 7; Orange Beach, AL.

Cordina S. Invited speaker. Endovascular management of ruptured aneurysms. Sacred Heart Hospital Annual Stroke and Neuroscience Symposium; 2018 Feb 23; Pensacola, FL.

Cordina S. Invited speaker. When TIA requires intervention. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 8; Orange Beach, AL.

Cordina S. Invited speaker. Cryptogenic stroke. Sixth Annual Singing River Health System Stroke Care Symposium; 2018 Apr 13; Biloxi, MS.

Dees DD. Invited speaker. New treatment for the tardive dyskinesia, a case based approach. American Psychiatric Nurses Association 31st Annual Conference; 2017 Oct 18; Phoenix, AZ.

Dees DD, Fernandez HH. Invited speakers. Deep brain stimulation for movement disorders. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 7; Orange Beach, AL.

Dees DD. Invited speaker. The nonmotor symptoms in Parkinson's disease. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 7; Orange Beach, AL.

Dees DD. Invited speaker. Parkinson's disease public awareness. Parkinson's Moving Day South Alabama; 2018 Apr 21; Mobile, AL.

Dees DD. Invited speaker. Parkinson's disease public awareness of motor and nonmotor symptoms. Parkinson's Disease Symposium; 2018 Apr 30; Jonesboro, AR.

Kilgo WA. Invited speaker. The importance of specialized care for patients with multiple sclerosis. University of South Alabama Med School Café; 2018 Aug 17; Mobile, AL.

Lopez JJ. Invited speaker. Management of medication overuse in headaches. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 8; Orange Beach, AL.

Lopez JJ. Invited speaker. Diagnosis and treatment modalities of migraine. Eglin Air Force Base; 2018 May 30; Fort Walton Beach, FL.

Lopez JJ. Invited speaker. Acute stroke therapy. University of South Alabama Med School Café; 2018 Jul 20; Mobile, AL.

Maertens P. Invited speaker. “Earn your spurs” in vascular developmental defects. 41st Annual Meeting of the American Society of Neuroimaging; 2018 Feb 6; Austin, TX.

Maertens P. Invited speaker. Neurological manifestations of malignancies. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 7; Orange Beach, AL.

Minto E. Invited speaker. Overview of migraines and MS. Alabama Chapter of National Association of Disability Representatives; 2017 Nov 29; Mobile, AL.

Minto E. Invited speaker. Overview of the diagnosis and treatment of multiple sclerosis. Eglin Airforce Base; 2017 Dec 13; Fort Walton Beach, FL.

Minto E. Invited speaker. To diagnosis MS or not: updated 2017 McDonald criteria. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 8; Orange Beach, AL.

Minto E. Invited speaker. Impacting MS: overview of treatment, factors that influence disease course. MS Views and News Symposium; 2018 Jun 21; Pensacola, FL.

Minto E. Invited speaker. Impacting MS: environmental, genetic, and lifestyle factors that influence disease pathogenesis and progression. Alabama Academy of Neurology Annual Meeting; 2018 Aug 18; Birmingham, AL.

Naritoku D. Invited speaker. The art of AED management. Wake Forest University School of Medicine Epilepsy MiniFellow Network; 2018 Jan 29; Winston-Salem, NC.

Naritoku D. Invited speaker. Autoimmune epilepsies. Wake Forest University School of Medicine Residents Epilepsy Program; 2018 May 17; Winston-Salem, NC.

Naritoku D. Invited speaker. Clinical use of AEDs. Wake Forest University School of Medicine Residents Epilepsy Program; 2018 May 17; Winston-Salem, NC.

Naritoku D. Invited speaker. Diagnosing the patient with epilepsy. Wake Forest University School of Medicine Residents Epilepsy Program; 2018 May 16; Winston-Salem, NC.

Naritoku D. Invited speaker. Emerging AEDs. Wake Forest University School of Medicine Residents Epilepsy Program; 2018 May 18; Winston-Salem, NC.

Naritoku D. Invited speaker. Epilepsy in the multiply handicapped. Wake Forest University School of Medicine Epilepsy MiniFellow Network; 2018 Jan 30; Winston-Salem, NC.

Naritoku D. Invited speaker. Experimental models of epilepsy. Wake Forest University School of Medicine Epilepsy MiniFellow Network; 2018 Jan 28; Winston-Salem, NC.

Naritoku D. Invited speaker. Identification and management of non-epileptic seizures. Wake Forest University School of Medicine Residents Epilepsy Program; 2018 May 16; Winston-Salem, NC.

Naritoku D. Invited speaker. Mechanisms of seizures. Wake Forest University School of Medicine Epilepsy MiniFellow Network; 2018 Jan 28; Winston-Salem, NC.

Naritoku D. Invited speaker. Optional EEG workshop: fundamentals. Wake Forest University School of Medicine Residents Epilepsy Program; 2018 May 16; Winston-Salem, NC.

Naritoku D. Invited speaker. Pharmacokinetics and interactions of AEDs. Wake Forest University School of Medicine Epilepsy MiniFellow Network; 2018 Jan 28; Winston-Salem, NC.

Naritoku D. Invited speaker. Recently approved AEDs I. Wake Forest University School of Medicine Epilepsy MiniFellow Network; 2018 Jan 29; Winston-Salem, NC.

Naritoku D. Invited speaker. Seizure mechanisms and experimental models. Wake Forest University School of Medicine Residents Epilepsy Program; 2018 May 16; Winston-Salem, NC.

Naritoku D. Invited speaker. Seizures and loss of consciousness. Eglin Air Force Base; 2017 Oct 11; Fort Walton Beach, FL.

Naritoku DK. Invited speaker. When medications fail to control seizures. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 7; Orange Beach, AL.

Ochoa J. Invited speaker. Back to the future. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 6; Orange Beach, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Bassam A. Bassam: Journal Reviewer, *Muscle & Nerve*, *Journal of Clinical Neurophysiology*, *Journal of Clinical Neuromuscular Disease*, *US Neurology*, *Journal of Pediatric Neurology*. Member, American Academy of Neurology Neuromuscular Section Subcommittee, American Academy of Neurology Practice Guidelines Subcommittee Reviewer, American Board of Electrodiagnostic Medicine Board Examination Committee, American Board of Electrodiagnostic Medicine Neuromuscular Update Committee,

Southern Clinical Neurological Society Scientific Program Committee. Question Writer, American Board of Neuromuscular and Electrodiagnostic Medicine. Session Chair, Southern Clinical Neurological Society 44th Annual Meeting.

Steve M. Cordina: Journal Reviewer, *Clinical Case Reports*, *Interventional Neurology*, *Journal of Neuroimaging*, *Journal of NeuroInterventional Surgery*, *Neurocritical Care*, *Stroke*. 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, Society of Neurointerventional Surgery, Society of Vascular and Interventional Neurology, Stroke System Representative for State Trauma and Health System Advisory Council.

Olivier Darbin: Journal Reviewer, *Brain Research*, *Clinical Neurophysiology*, *Frontier Human Neuroscience*, *Frontier Neurology*, *Frontier Physiology*, *International Journal Neural System*.

Daniel D. Dees: Journal Reviewer, *Frontiers in Neurology*, *Parkinsonism and Related Disorders*. Member, Movement Disorders Society Young Members Committee.

J. Ivan Lopez: Journal Reviewer, *American Academy of Neurology*.

Paul M. Maertens: Board Member, Mulherin Home. Journal Editor, *Journal of Neuroimaging*. Journal Reviewer, *Journal of Neuroimaging*. Member, American Society of Neuroimaging. Question writer, Examination Committee for American Society of Neuroimaging.

Elizabeth H. Minto: Member, American Academy of Neurology, Medical Association of the State of Alabama, Medical Society of Mobile, Southern Clinical Neurological Society.

Dean K. Naritoku: Board Member, American Board of Clinical Pharmacology, J. Kiffin Penry Mini Fellowship Program. Fellow, American Academy of Neurology, American Epilepsy Society (Received 2017). Journal Reviewer, *Clinical Care Reviews*, *Epilepsia*. Member, American Society of Clinical Pharmacology and Therapeutics, American University of Professors of Neurology. President and board member, Southern Epilepsy and EEG Society.

Juan Ochoa: Reviewer, *Journal of Clinical Neurophysiology*, *Epilepsy and Behavior*.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

1. Summary of departmental outcomes

Manuscripts published (total number)	3
Book chapters/books published (total number)	2
Conference abstracts published (total number)	10

Aggregate extramural funding (total dollars/number of awards):	\$160,541/2
NIH	\$26,438
Other federal government (HRSA, DOD, etc.)	
Foundation	
Clinical trials	\$134,103
Other revenue (total dollars/source)	

2. Individual goals - list key goals you've accomplished during the report year:

My individual goals largely aligned with instituting major changes in faculty policies and activities in the Department of Neurology, and consolidating and improving operations of the Clinical Neurosciences. My personal goals were limited; some notable personal achievements included:

1. Awarded fellow status in American Epilepsy Society and served on its Annual Course Committee, with an invitation to present on the Annual Course in September
2. Mentored students for research symposium at USA
3. Recruited new clinical trial for antiepileptic drug
4. Served on important national boards, including the American Board of Clinical Pharmacology, Southern Epilepsy and EEG Society, J. Kiffin Penry Minifellowship.

3. Departmental goals - list key goals accomplished and/or innovative programs initiated by the department during the report year in education, research/scholarship and/or service:

1. Defining work time allocations for faculty in the Department of Neurology. This has resulted in a robust policy document that both recognizes the "many hats" faculty wear and accountability for clinical productivity within inpatient and outpatient settings
2. Increased physician effort to outpatient clinics
3. Increased productivity in multidisciplinary neuroscience programs resulting in increases in specialized neurosurgical procedures performed, including deep brain stimulation, epilepsy surgery
4. Recruitment of new key faculty in neuroimmunology (William Kilgo, M.D.) and neuromuscular disorders (Robert Kobelja, M.D.)
5. Increased prominence of the department specialties, through our Annual Neuroscience Symposium
6. Improved student experience in the third year clerkship for Neurology with a major restructuring of the clinic rotation
7. Established standard work policies and expectations for faculties
8. Promoted faculty (Juan Ochoa, M.D.) to full professor
9. Successfully recruited a neuro-interventionalist (Rebecca Sugg, M.D.) who will start in January, 2019, which will allow USA to become the first designated comprehensive stroke center in the tri-state Gulf region.
10. Established an endowed research fund for the Department of Neurology (Herbert P. and Ashley Jones Research Endowment)
11. Initiated new clinical multidisciplinary procedures (multiple subpial transections for epilepsy)

4. Summarize student feedback on faculty teaching during this report year. What steps are you taking and/or what faculty development strategies are you using to address any weaknesses?

1. Student feedback has been excellent this year. We have redesigned the clerkship to provide more patient exposure, and more flexible access to some of our premiere programs (interventional stroke, epilepsy surgery and deep brain stimulation)
 2. We have had increasing numbers of student in the second year who have chosen to take their clinical experience in neurology
 3. Several faculty have taken additional training in TBL, to address negative comments about TBL in 2016.
5. List specific departmental goals for the next academic year
1. Establish high profile program in neuro-immunology
 2. Establish high profile program in muscle disease (Muscular Dystrophy, ALS)
 3. Further merge outpatient operations of Neurology, Pediatric Neurology and Neurosurgery into a cohesive program
 4. Increase clinic volume by 25%; increase reach and number of referrals from the tri-state Gulf region
 5. Continue to bring new advanced multidisciplinary therapies to USA, including
 - a. Deep brain stimulation for epilepsy
 - b. Clinical trials for drug therapies in MS, epilepsy and stroke
 6. Prepare for certification as comprehensive stroke center
 7. Recruit additional key faculty in:
 - a. Pediatric neurology
 - b. Movement disorders
 - c. Cognitive disorders
 8. Increase research and publications

2017-2018
Summary of Scholarly Activities
Department of Neurosurgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Darbin O, Dees D, Lammle M, Naritoku D, Herman-Torres T, Martino A. Computed tomographic method to quantify electrode lead deformation and subdural gap after lead implantation for deep brain stimulation. J Neurosci Method. 2018 Aug 29;309:55-59.

Richardson B, Paulzak A, Rusyniak WG, Martino A. Anterior lumbar corpectomy with expandable titanium cage reconstruction: a case series of 42 patients. World Neurosurg. 2017 Dec;108:317-324.

Xu Y, Jiang YQ, Li C, He M, Rusyniak WG, Annamdevula N, Ochoa J, Leavesley SJ, Xu J, Rich TC, Lin MT, Zha XM. Human ASIC1a mediates stronger acid-induced responses as compared with mouse ASIC1a. FASEB J. 2018 Jul;32(7):3832-3843.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Martino A. Invited speaker. Concussion Awareness Program: putting a CAP on concussions. University of South Alabama Med School Café; 2018 May 11; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The Clinical Practice remains busy servicing the Neurosurgical needs at USA University Hospital and Children's and Women's Hospital and The Mitchell Cancer Institute. Our clinical offices have successfully transitioned to the Strada Patient Care Center.

This past year we saw continued growth of the Deep Brain Stimulation program. We focused predominantly on the treatment of tremor from Parkinson's disease and Essential Tremor. We have begun to look at other diseases that may benefit from Neuromodulation, ie Dystonia.

Teaching activities continue in the second year Neuroscience module and Clinical electives in the IIIrd and IVth year.

We now have four Mid-Level providers assisting in the hospital and providing same day office consults if needed. Our Concussion Awareness program continues for the Mobile Public Schools, other regional high schools and USA athletes. We provide 24 hour support

for athletes sustaining concussions. The department of Neurology is also participating in this effort.

We have successfully recruited two additional faculty, one who will start July 2018 and another in September 2019.

2017-2018
Summary of Scholarly Activities
Department of Obstetrics and Gynecology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Montoya-Williams D, Lemas DJ, Spiryda L, Patel K, Carney OO, Neu J, Carson TL. The neonatal microbiome and its partial role in mediating the association between birth by cesarean section and adverse pediatric outcomes. *Neonatology*. 2018;114(2):103-111.

Montoya-Williams D, Lemas DJ, Spiryda L, Patel K, Neu J, Carson TL. What are optimal caesarean section rates in the U.S. and how do we get there? A review of evidence-based recommendations and interventions. *J Womens Health (Larchmt)*. 2017 Dec;26(12):1285-1291.

II. PUBLISHED ABSTRACTS

Abuzeid O, Pacheco A, Farhan D. J, Hebert J, Rizk B, Abuzeid MI, Corrado J. Does placing a suture on the anterior lip of the cervix on the day of oocyte retrieval facilitate embryo transfer? 73rd American Society for Reproductive Medicine Scientific Congress & Expo; 2017 Oct 30-Nov 1; San Antonio, TX. p. 223-224. Abstract no. P-340.

Alsina L, Placencia E, Spiryda LB. Atypical glandular cells on Pap tests and non-gynecologic malignancies. *J Low Genit Tract Dis*. 2018 Apr;22(2S):S33-S34.

Formoso A, Lipori G, Spiryda L. Breastfeeding in a baby friendly hospital: initial findings. 2018 Celebration of Research; 2018 Feb 19-20; Gainesville, FL. p. 41. Abstract no. 361.

Formoso AM, Lipori G, Spiryda LB. Breastfeeding in a baby friendly hospital: preliminary findings. *Obstet Gynecol*. 2018 May;131(Suppl 1):111S-112S. Abstract no. 14J.

Hsaio C, Dumeny L, Holliday CP, Spiryda L. Abnormal menstrual bleeding. In: *Scientific American Obstetrics and Gynecology*. Toronto: Deckerx; 2018. Available from: <https://www.deckerip.com/products/scientific-american-obstetrics-and-gynecology/table-of-contents> [Subscription required].

McDilda KG, Egerman R, Gabrolovich S, Lipori G, Spiryda LB. Epidemiology of hepatitis C in pregnancy in north central Florida: a reassessment of risks. *Obstet Gynecol*. 2018 May;131(Suppl 1):100S. Abstract no. 10I.

McDilda KG, Walker E, Spiryda L. Epidemiology of Hepatitis C in pregnancy in central Florida. 2018 Celebration of Research; 2018 Feb 19-20; Gainesville, FL. p. 41. Abstract no. 362.

O'Connor S, Carty K, Salmeron D, Andreoni M, Quintana J, Spiryda L. Community women and contraception: enhancing reproductive care in a low-resource, student run free

clinic network. 2018 Celebration of Research; 2018 Feb 19-20; Gainesville, FL. p. 41. Abstract no. 363.

Spiryda L, Baker K. Factors contributing to non-adherence of follow-up in patients attending colposcopy and LEEP clinic. J Low Genit Tract Dis. 2018 Apr;22(2S):S17-S18. Abstract no. 025.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Brocato B. Invited speaker. Aneurysm, arteriovenous malformation and sinus thrombosis in pregnancy. 6th Annual Stroke Care Symposium; 2018 Apr 13; Biloxi, MS.

Rimawi B. Invited speaker. Caring for pregnant women exposed to zika virus. 27th Annual University of South Alabama Obstetrics and Gynecology Conference; 2018 Sep 27; Mobile, AL.

Rimawi B. Invited speaker. Diagnosis and management of HIV in pregnancy. 27th Annual University of South Alabama Obstetrics and Gynecology Conference; 2018 Sep 28; Mobile, AL.

Rimawi B. Invited speaker. Substance abuse during pregnancy. Women's and Children's Conference 2018; 2018 Apr 11; Mobile, AL

Rizk B. Invited speaker. Luteal-phase support in reproduction: why, when, what, and how? American Society for Reproductive Medicine 2017 Scientific Congress & Expo 50th Annual Pre-Congress Courses; 2017 Oct 29; San Antonio, TX.

Rizk B. Invited speaker. How can we measure safety and efficiency in an in vitro fertilization program? American Society for Reproductive Medicine 2017 Scientific Congress & Expo 50th Annual Pre-Congress Courses; 2017 Oct 29; San Antonio, TX.

Rizk B. Invited speaker. Preservation of fertility. XII. Turkish German Gynecologic Congress; 2018 Apr 30; Kyrenia, Turkish Republic of Northern Cyprus.

Rizk B. Invited speaker. Ovarian stimulation for PCOS. XII. Turkish German Gynecologic Congress; 2018 April 30; Kyrenia, Turkish Republic of Northern Cyprus

Spiryda L. Invited speaker. Pap tests, HPV and cervical cancer screening: are the current recommendations being dictated by insurance companies or evidence-based medicine? University of South Alabama Med School Café; 2017 Nov 17; Mobile, AL.

Spiryda L. Invited speaker. Pap tests, HPV and cervical cancer screening: are the current recommendations being dictated by insurance companies or evidence-based medicine?

2018 University of South Alabama Medical Alumni Association Reunion Weekend; 2018 Jun 9; Pensacola Beach, FL.

Spiryda L. Invited speaker. Pap tests, HPV and cervical cancer screening: what is dictating screening guidelines – insurance companies or evidence based medicine? 27th Annual University of South Alabama Obstetrics and Gynecology Conference; 2018 Sep 27; Mobile, AL.

Spiryda L. Invited speaker. 2018 Updates from ASCCP: screening in special populations and introduction of colposcopy standards. 27th Annual University of South Alabama Obstetrics and Gynecology Conference; 2018 Sep 28; Mobile, AL.

Varner S. Invited speaker. A real pain in the @\$#!: vulvodynia update. 27th Annual University of South Alabama Obstetrics and Gynecology Conference; 2018 Sep 27; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Rizk B. Session Chairman. PC19 Brave New In Vitro Fertilization World: safety and efficiency is all that matters. American Society for Reproductive Medicine 2017 MEFS Exchange Course and Symposium; 2017 Oct 29; San Antonio, TX; Session Five Chairman. Optimising IVF outcomes. ISMAAR 2018 The Ninth World Congress on Mild Approaches in Assisted Reproduction, 2018 Apr 13, London, England; Session Chairman. Fertility preservation. XII. Turkish German Gynecologic Congress. 2018 Apr 30; Turkish Republic of Northern Cyprus.

Spiryda, L. Appointed member, American Society for Colposcopy and Cervical Pathology Committee on Immunocompromised Women and Cervical Cancer Screening and Image Archive Committee.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

- This year the Department of Obstetrics and Gynecology welcomed several new faculty members including: Amelia Hewes, MD and Eva Alnajjar, MD OB/GYN generalist, Charles Hanes MD, specializing in Uro-gynecology and Bassam Rimawi, MD, Maternal Fetal Medicine
- We welcomed a new Director of Operations, Stacy Wagner. She comes to us from Mobile Infirmary with outstanding experience to help improve overall operations and efficiencies and quality at our outpatient clinics
- Nicolette Holliday, MD has been appointed as the Clerkship director as well as CME director. Amelia Hewes, MD will serve as the Associate Clerkship Director
- Our Obstetric and Gynecology Conference will be held this year at the Battle House Hotel on Sept 27 and 28. This year's program features a wide spectrum of topics

including: Strategies for decreasing Maternal Morbidity and Mortality, Adolescent Gynecology, Outcomes of Centering pregnancy program, Bridge program, HPV vaccination, management of abnormal Pap as well as CME credit satisfying the Alabama Medical Board requirement for Opioid prescribing, management and Abuse

- We are implementing Centering Pregnancy Program for our patients. This program utilizes patient centered group prenatal model to foster education among the participants and obstetric provider; Centering has been shown to improve pregnancy outcomes (maternal and neonate) and increase breastfeeding rates. This program is supported for three years through a grant administered by the Alabama Department of health
- We have strengthened and developed several specialty clinics: Center for Colposcopy and Abnormal Pap tests (Spiryda), Center for Vulva Disease (Varner), Infectious Disease during pregnancy (Rimawi), and Bridge Program. We are starting several others in the coming year (Adolescent gynecology)
- The MOM Care program for pregnant women continues to strengthen with the hiring of Chelsea McCormick as the Social worker lead. This program provides and coordinates social services, nutritional support and care to pregnant women of Mobile County.
- Telehealth project targeting rural areas of Alabama is being developed to coordinate High Risk Obstetric Care and improve maternal morbidity and mortality in Alabama
- Gynecological Surgical Services have continued to increase with advanced laparoscopy and robotic surgery.
- We continue to provide outreach and prenatal and gynecological care at several outlying clinics including Mostellar Clinic, Mobile County Health Department and Franklin Health Center
- Our department is continuing to develop and expand physician wellness programs, mentorship programs, and faculty development
- Stephen Varner, MD was awarded the 2018 APGO Excellence in Teaching Award and Bassam Rimawi, MD was awarded the 2018 National Faculty Award for Excellence in Resident Education
- We welcomed four new residents this year from all over the country: Lauren Cooper, MD, Meharry Medical College, Nashville, TN, Ashley Easterwood, MD Texas Tech University Health Sciences Center School of Medicine, Chelsea Nelson, MD University of Texas School of Medicine San Antonio, San Antonio,

TX and Taylor Twiggs, MD Indiana University School of Medicine, Indianapolis, IN

- Megan Missanelli, MD was selected to be the Administrative Chief and Katherine Grette, MD was named our Education Resident this academic year.
- Residents and Faculty are continuing to develop research projects leading to national presentations and publications

2017-2018
Summary of Scholarly Activities
Department of Orthopaedic Surgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Jones CM, Beason DP, Dugas JR. Ulnar collateral ligament reconstruction versus repair with internal bracing comparison of cyclic fatigue mechanics. Orthop J Sports Med. 2018 Feb16;6(2):2325967118755991.

II. PUBLISHED ABSTRACTS

Fritz JM, Canseco K, Konop KA, Toburen B, Kruger KM, Marks RM, Harris GF. CT evaluation of calcaneal width and calcaneo-cuboid joint: implications for pes planovalgus surgery. Orthopaedics Research Society 2018 Annual Meeting; 2018 Mar 10-13; New Orleans, LA. p. 99. Abstract no. 1972.

Johnson A, Pearce S, Nimityongskul P. Transadductor approach for drainage of peripelvic musculature in the pediatric population. 14th Annual International Pediatric Orthopaedic Symposium; 2017 Nov. 28 - Dec 2; Orlando, FL.

Marks RM. Gait analysis after open reduction and internal fixation of calcaneal fractures. Orthopaedics Research Society 2018 Annual Meeting; 2018 Mar 10-13; New Orleans, LA. p. 53. Abstract no. 1089.

Marks RM. Ambulatory kinematics from a multi-segmental foot model following open reduction and internal fixation (ORIF) of calcaneus fractures. Gait and Clinical Movement Analysis Society Annual Meeting 2018; 2018 May 22-25; Indianapolis, IN. p. 222-223.

Prevost M, Cutchen W, Barousse P, Young P, Brewer J. Infection rates in open tibia fractures with the use of intraoperative topical vancomycin/tobramycin powder. Alabama Orthopaedic Society and Mississippi Orthopaedic Society 2018 Annual Meeting; 2018 May 17-19; Point Clear, AL. p. 35. Abstract no. 13.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Brewer J. Invited speaker. External fixation as a tool for limb salvage. 9th Annual Gulf Coast Acute Care Surgery Symposium and 11th Annual William A.L. Mitchell Endowed Lecture; 2018 Mar 23; Mobile, AL.

Marks RM. Invited speaker. Mid-term prospective clinical radiographic outcomes of a modern fixed-bearing total ankle arthroplasty. Alabama Orthopaedic Society and Mississippi Orthopaedic Society 2018 Annual Meeting; 2018 May 18; Point Clear, AL.

Marks RM. Invited speaker. Updated treatment options for 1st MTP arthritis. 29th Annual Southeastern Orthopaedic Foot Club Meeting; 2018 May 17; Point Clear, AL.

Marks RM. Invited speaker. Ankle fusion: still a viable alternative(?) 29th Annual Southeastern Orthopaedic Foot Club Meeting; 2018 May 17; Point Clear, AL.

Nimityongskul P. Invited speaker. Pediatric orthopaedics: interesting case discussion and update from University of South Alabama. Department of Orthopaedics, Queen Sirikit Children's Hospital; 2017 Dec 7; Bangkok, Thailand.

Perry MD. Invited speaker. Nonweightbearing after surgery. 29th Annual Southeastern Orthopaedic Foot Club Meeting; 2018 May 17; Point Clear, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Christopher Jones: Committee member, *American Orthopaedic Society for Sports Medicine* Self-Assessment Committee. Medical Committee member, *Reese's Senior Bowl*.

Richard M. Marks: Associate Editor, *Clinical Orthopaedic & Related Research*. Editorial Board/Reviewer, *Techniques in Foot and Ankle Surgery*. Consultant Reviewer, *Journal of the American Association of Orthopaedic Surgeons*. Board of Directors and Member-at-Large 2018-2020, *The Alabama Orthopaedic Society*.

Albert Pearsall. Invited Moderator, *Shoulder Breakout Session*, Mid-American Orthopaedic Association Annual Meeting. Editorial Board Member, *JSES/AJSM*. National clinical guidelines development for: *ABOS, JSES, AJSM, AOA and AANA*. Oral examiner: *American Board of Orthopaedic Surgery (ABOS)*.

Mark Perry: Organizer, 29th Annual Southeastern Orthopaedic Foot Club Conference. Online Editor for www.footeducation.com. Reviewer, *Foot & Ankle International*. Moderator, *2018 AOFAS Annual Meeting*. Oral examiner, *American Board of Orthopaedic Surgery (ABOS) Boards*.

Zhiqing Xing: National clinical guidelines development for: *Journal of Orthopaedic Trauma, AAOS, Orthopaedic Knowledge Online and UNMORJ*.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Brewer, Jeffrey: In 2017-2018, Dr. Brewer participated in the ongoing development and refinement of the trauma curriculum. Dr. Brewer continues to maintain the orthopaedic trauma database. Dr. Brewer is a key participant in the development of residents and the monitoring of their education and progress. Dr. Brewer delivered numerous lectures at Grand Rounds and for Resident Conferences on tibia shaft, pelvic ring, femur neck, ankle, femoral, tibial plateau, and acetabular fractures. Additionally, Dr. Brewer completed development of the University of South Alabama Medical Center Open Fracture Protocol.

Jones, Christopher: In 2017-2018, Dr. Jones continues to provide health care through community outreach to inner-city and high school athletic programs. Dr. Jones was awarded a position on the AOSSM advisory committee where he plans to continue to promote USA Sports Medicine Program at the national level.

Marks, Richard: In 2017-2018, Dr. Marks continued his service on numerous University and College of Medicine Committees including, Graduate Medical Education, Surgical Services, Medical Executive, Curriculum Competency and Program Evaluation Committees. Dr. Marks updated the foot and ankle curriculum for resident rotation; established a library of foot and ankle articles; established patient care protocols for office visits; established nursing responsibility protocol for foot and ankle division; developed institutional materials for patient education; collaborated with anesthesia and nursing to establish regional block program and pre-admission testing services. Dr. Marks updated resident curriculum subspecialties to establish a 2-year rolling schedule; modified resident rotations to allow for earlier exposure to each subspecialty; established medical student participation in summer research; facilitated modification of physician schedules to provide more efficient patient care while decreasing delays; created M.D. clinic protocols to assist in standardization of clinic practices, and establish metrics for evaluation of clinic staff; developed a partnership with Daphne High School as their Sports Medicine Consultants and engaged with J3Personica to assist with Leadership Development.

Nimityongskul, Prasit: In 2017-2018, Dr. Nimityongskul participated in grand rounds by presenting selected x-ray presentations and lectures. He selected journal articles for review and served as Physician-Host for the Resident's Journal Club twice. Dr. Nimityongskul conducted research on the evaluation and treatment of clavicle fractures in adolescents.

Pearsall, Albert: In 2017-2018, Dr. Pearsall continued to participate in academic research and developed technical skillsets in surgical knot tying. Dr. Pearsall was a continued participant and leader in the development of Sports Medicine in the lower Alabama area and nation-wide through his participation in numerous national orthopaedic societies and conferences. Dr. Pearsall continues to participate in the continual revision and refining of the orthopaedic curriculum.

Perry, Mark: In 2017-2018 Dr. Perry coordinated and hosted the Southeastern Orthopaedic Foot Club Conference. Dr. Perry developed an invention and has submitted a patent for reaction torque reporting apparatus. He participated as moderator at the 2018 AOFAS Annual Meeting and published a case report on unusual foot dislocation. Dr. Perry is a reviewer for Foot & Ankle International.

Xing, Zhiqing: In 2017-2018, Dr. Xing has continued his participation in the orthopaedic Residency Program by offering education and clinical rotation for orthopaedic oncology. He has plans to work on the development of orthopaedic oncology curriculum for the residency program.

2017-2018
Summary of Scholarly Activities
Department of Pathology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Deal J, Harris B, Martin W, Malvika L, Lopez C, Rider P, Boudreaux C, Rich T, Leavesley S. Demystifying autofluorescence with excitation scanning hyperspectral imaging, Proc SPIE 10497, Imaging, Manipulation, and Analysis of Biomolecules, Cells and Tissues XVI. 2018 Feb 20;1049715. doi:10.1117/12.2290818. [Subscription required].

Haque M, Hameed N, Perry CT, Carter E, Mneimneh WS. Malignant peritoneal mesothelioma in the setting of a ventriculo-peritoneal shunt: a novel clinical presentation. Clin Med Insights Oncol. 2018 Jun 5;12:1179554918779583.

Leavesley S, Deal J, Hill S, Martin WA, Lall M, Lopez C, Rider PF, Rich TC, Boudreaux CW. Colorectal cancer detection by hyperspectral imaging using fluorescence excitation scanning. Proc SPIE 10489, Optial Biopsy XVI: Toward Real-Time Spectroscopic Imaging and Diagnosis. 2018 Feb 19;104890K. doi:10.1117/12.2290696. [Subscription required].

Slamecka J, McClellan S, Wilk A, Laurini J, Manci E, Hoerstrup SP, Weber B, Owen L. Induced pluripotent stem cells derived from human amnion in chemically defined conditions. Cell Cycle 2018;17(3):330-347.

Tyagi N, Deshmukh SK, Srivastava SK, Azim S, Ahmad A, Al-Ghadhban A, Singh AP, Carter JE, Wang B, Singh S. ETV4 facilitates cell-cycle progression in pancreatic cells through transcriptional regulation of Cyclin D1. Mol Cancer Res. 2018 Feb;16(2):187-196.

II. PUBLISHED ABSTRACTS

Haque M, Hameed N, Mneimneh W. Ovarian Sertoli-Leydig cell tumor presenting with non-specific symptoms in an elderly patient with family history of gastrointestinal stomal tumor. Am J Clin Pathol. 2018 Jan 11;149(suppl 1):S107-S108. Abstract no. 253.

Hameed N, Haque M, Baskovich B. A unique presentation of fibrosarcomatous dermatofibrosarcoma protuberans presenting as a breast mass. Am J Clin Pathol. 2018 Jan 11;149(suppl 1):S105. Abstract no. 247.

Xu B, Mneimneh WS, Torrence D, Ghossein R, Katbai N. Misdiagnosed myoepithelial carcinoma of salivary gland: a challenging and potentially significant pitfall. Mod Pathol. 2018 Mar;31(suppl 2):491. Abstract no. 1381. Available from: <https://www.nature.com/articles/modpathol201812.pdf>

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

Gary Carnahan: Inspector, College of American Pathologists

Elliot Carter: Inspector, College of American Pathologists

Andrea G. Kahn: President Elect, Alabama Association of Pathologists; Member, Leadership Development & Diversity Committee, Association of Pathology Chairs

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

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Three residents completed the residency program this year. Dr. Christopher Perry has entered a forensic fellowship at the Office of the Chief Medical Examiner in Boston, Massachusetts. Dr. Susan Harley has begun a hematopathology fellowship at Virginia Commonwealth University in Richmond, Virginia, to be followed by a molecular genetics fellowship at the University of Minnesota in Minneapolis, Minnesota. Dr. Ourania Kampagianni has started a surgical pathology fellowship at Baylor College of Medicine in Houston, Texas. Dr. Roshanak Derakhshandeh, PGY1, transferred to the pathology residency program at Georgetown University in Washington, D.C.

Once again, the department had a successful residency recruiting year with four residents joining the department: Dr. Sara Avalos from Universidad Nacional Autonoma de Honduras Facultad de Ciencias Medicas, Honduras, Dr. Shawn Liu from Peking Union Medical University, China, Dr. Jordan Lowery from the University of South Alabama College of Medicine, and Dr. Sameeta from Peoples University of Medical and Health Sciences for Women, Pakistan.

The Department of Pathology held a dedication ceremony on March 5, 2018, to name two areas of the department in honor and memory of former chairs of the department Dr. William A. Gardner and Dr. Joseph Allan Tucker, Jr. The William A. Gardner, Jr. Pathology Library and the Joseph Allan Tucker, Jr. Resident Office Suite are located in the newly renovated Pathology Department in the USA Moorer Clinical Sciences Building. USA President Dr. Tony Waldrop and Vice President for Medical Affairs and Dean of the USA College of Medicine Dr. John Marymont were guest speakers. Family members for both Dr. Gardner and Dr. Tucker were present for the recognition and dedication of these departmental areas.

The Department of Pathology welcomed two new faculty members. Dr. Valeria Dal Zotto completed medical school at Universidad de Buenos Aires, Argentina and a surgical pathology fellowship at Mayo Clinic, Rochester, Minnesota. Dr. Osama Elkadi completed medical school at Cairo University, Egypt, and a cytopathology fellowship at

Drexel University, Philadelphia, Pennsylvania, and a neuropathology fellowship at Oregon Health and Science University, Portland, Oregon.

Olivette Fluker and Elizabeth McGinley have joined the Department of Pathology as Pathologist Assistants assisting with specimen handling, grossing, and prosection.

The Department of Pathology purchased new multiheaded microscopes with cameras, to be used not only for patient care activity, but also for resident and medical student education. New technological advancement in the form of the Aperio Imaging System for breast biomarker analysis and the Ventana INFORM Her 2 ISH DNA Probe Cocktail Assay for the determination of Her2 gene status were implemented in the anatomic pathology laboratory, providing state-of -the art diagnostic modalities and treatment options for regional patients.

The pathology residents selected Dr. Wadad Mneimneh as the 2018 Faculty Recognition Award recipient and Mary Lasecki, MT (ASCP) cytotechnologist, as the recipient of the 2018 Pathology Staff Recognition Award for excellence in and dedication to teaching. The Pathology faculty and house staff published four peer-reviewed journal articles in the medical literature, and the Pathology faculty participated as co-investigators in four NIH-funded grants.

2017-2018
Summary of Scholarly Activities
Department of Pediatrics

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Bilbao NA, Kaulfers AD, Bhowmick SK. Association of rhabdomyolysis with uncontrolled autoimmune thyroid disease in adolescents. *AACE Clin Case Rep*. 2018 Jul/Aug;4(4):e334-e337.

Bhat R, Custodio H, McCurley C, Whitehurst R, Gulati R, Jha OP, Bhat J, Estrada B, Hill A, Eyal F, Zayek M. Reducing antibiotic utilization rate in preterm infants: a quality improvement initiative. *J Perinatol*. 2018 Apr;38(4):421-429.

Bhat R, Dolma K, Zayek M, Batten L, Peevy K, Eyal F. Nonsurgical management of persistent and hemodynamically significant patent ductus arteriosus among extremely low birth weight infants: a propensity score matched analysis. *Am J Perinatol*. 2018 Jul; 35(8):729-736.

Chatmethakul T, Bhat J, Zayek M, Glasser JG, Bhat R. A rare occurrence of infantile hypertrophic pyloric stenosis following a primary surgical closure of gastroschisis in a neonate [letter]. *J Neonatal Surg*. 2017; 6(4):84. Available from: <http://www.jneonatalurg.com/ojs/index.php/jns/article/view/571/pdf>

Custodio H. Trichinosis. In: Kline MW, Blaney SM, Giardino AP, Orange JS, Penny DJ, Schutze GE, Shekerdhamian LS, editors. *Rudolph's Pediatrics*, 23rd ed. Vol. 1. New York: McGraw-Hill; 2018. Chapter 327, p. 1438-1440.

Custodio H. Amebiasis. In: Kline MW, Blaney SM, Giardino AP, Orange JS, Penny DJ, Schutze GE, Shekerdhamian LS, editors. *Rudolph's Pediatrics*, 23rd ed. Vol. 1. New York: McGraw-Hill, 2018. Chapter 336, p. 1459-1461.

Custodio H. Cryptosporidiosis. In: Kline MW, Blaney SM, Giardino AP, Orange JS, Penny DJ, Schutze GE, Shekerdhamian LS, editors. *Rudolph's Pediatrics*, 23rd ed. Vol. 1. New York: McGraw-Hill, 2018. Chapter 340, p. 1465-1468.

Custodio H. Giardiasis. In: Kline MW, Blaney SM, Giardino AP, Orange JS, Penny DJ, Schutze GE, Shekerdhamian LS, editors. *Rudolph's Pediatrics*, 23rd ed. Vol. 1. New York: McGraw-Hill, 2018. Chapter 344, p. 1474-1475.

Gallegos MBR, Jarasvaraparn C, Batten L, Custodio H, Gremse DA. *Clostridium difficile* colitis complicating Kawasaki disease in children: two case reports. *SAGE Open Medical Case Reports*. 2018;6:1-4. Available from: <http://journals.sagepub.com/doi/pdf/10.1177/2050313X18781742>

Gold BD, Pilmer B, Kierkuś J, Hunt B, Perez MC, Gremse D. Dexamprazole and heartburn relief in adolescents with symptomatic, nonerosive gastro-esophageal reflux disease. *Dig Dis Sci*. 2017 Nov;62(11):3059-3068.

Gulati R, Jha OM, Zayek MM. Concurrent hirschsprung disease and esophageal atresia with tracheoesophageal fistula in a preterm neonate. *J Pediatr Surg Case Rep*. 2018 Aug; 35:29-31.

Gulati R, Zayek M, Eyal F. Presetting ECG electrodes for earlier heart rate detection in the delivery room. *Resuscitation*. 2018 Jul;128:83-87.

Haftel HM, Swan R, Anderson MS, Caputo GL, Frohna JG, Li ST, Shugerman RP, Trimm E, Vinci RJ, Waggoner-Fountatin LA, Bostwick SB. Fostering the career development of future educational leaders: the success of the association of pediatric program directors leadership in educational academic development program. *J Pediatr*. 2018 Mar;194:5-6.e1.

Harmon CM, McGonigal S, Larkin J. Impairment of trophoblast survival and differentiation by LXR ligands is prevented by cholesterol but not ABCA1 silencing. *Placenta*. 2018 Sep;69:50-56.

Jarasvaraparn C, Gallegos MBR, Mulekar MS, Bin Wang, Gremse DA, Crissinger KD. The endoscopic and histologic findings of infants who have experienced brief resolved unexplained events. *Eur J Gastroenterol Hepatol*. 2018 Feb;30(2):195-200.

Jarasvaraparn C, Gremse DA. Commentary: association of autoimmune hepatitis and Evans syndrome in children. *J Pediatr Pediatr Med*. 2017;1(1):17-19. Available from: <http://www.pediatricsresearchjournal.com/articles/commentary-association-of-autoimmune-hepatitis-and-evans-syndrome-in-children.pdf>

Li ST, Tancredi DJ, Schwartz A, Guillot A, Burke A, Trimm RE, Guralnick S, Mahan JD, Gifford KA; Association of Pediatric Program Directors (APPD), Longitudinal Educational Assessment Research Network (LEARN), Validity of Resident Self-Assessment Group. Identifying gaps in the performance of pediatric trainees who receive marginal/unsatisfactory ratings. *Acad Med*. 2018 Jan;93(1):119-129.

Li ST, Tancredi DJ, Schwartz A, Guillot AE, Burke AE, Trimm RE, Guralnick S, Mahan JD, Gifford K. Pediatric program director minimum milestone expectations before allowing supervision of others and unsupervised practice. *Acad Pediatr*. 2018 Sep-Oct;18(7):828-836.

Sadeghian R, Gooch RA, Phelps LA, Preudhomme D. The feasibility and satisfaction of using telemedicine to provide tertiary pediatric obesity care. *Journal of the International Society for Telemedicine and eHealth*. 2018;6:e16. Available from: <https://journals.ukzn.ac.za/index.php/JISfTeH/article/view/598/1135>

Prachuapthunyachart S, Jarasvaraparn C, Gremse DA. Correlation of gastroesophageal reflux disease assessment symptom questionnaire to impedance-pH measurements in children. SAGE Open Med. 2017 Dec 12;5: 205031117745221. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5734562/pdf/10.1177_2050312117745221.pdf

Rahbar MH, Swingle HM, Christian MA, Hessabi M, Lee M, Pitcher MR, Campbell S, Mitchell A, Krone R, Loveland KA, Patterson DG Jr. Environmental exposure to dioxins, dibenzofurans, bisphenol A, and phthalates in children with and without autism spectrum disorder living near the Gulf of Mexico. Int J Environ Res Public Health. 2017 Nov 11;14(11):E1425.

Zayek MM, Eyal FG, Smith RC. Comparison of the pharmacoeconomics of calfactant and poractant alfa in surfactant replacement therapy. J Pediatr Pharmacol Ther. 2018 Mar-Apr;23(2):146-151.

II. PUBLISHED ABSTRACTS

Ali Ibrahim A, Nelson L, Preudhomme D. Are we missing celiac disease? J Investig Med. 2018;66(suppl 2):571. Abstract no. 538.

Bhat J, Kaulfers A, Zayek M, Bhat R, Eyal F. Short-term efficacy and safety profiles of intravenous continuous glucagon infusion for the management of refractory neonatal hypoglycemia. J Investig Med. 2018;66(suppl 2):398-399. Abstract no. 111.

Bhat J, Peevy K, Bhat R, Jha OP, Gulati R, Zayek M. Quality improvement initiative to reduce sepsis evaluation and antibiotic utilization rates in well-baby nursery. Pediatric Academic Societies Meeting; 2018 May 4-8; Toronto, Canada. Abstract no. 4475.1.

Bhat R, Zayek M, Eyal F. Impact of single dose indomethacin prophylaxis on short-term neonatal outcomes in extremely low birth weight infants. Pediatric Academic Societies Meeting; 2018 May 4-8; Toronto, Canada. Abstract no. 1501.834.

Chatmethakul T, Hameed N, Chalam J, Merritt B, Custodio H. Cutaneous polyarteritis nodosa associated with *streptococcus pyogenes* infection. J Investig Med. 2018;66(2):481. Abstract no. 321.

Choe M, Chatmethakul T, Merritt B, Imran H. Massive congenital intracranial teratoma, a rare cause of bulging fontanelle and macrocephaly in term infant. J Investig Med. 2018;66(2):481. Abstract no. 320.

Gavan B, Chatmethakul T, Martinez J, Eyal F. A rare case of combined genetic syndromes Mowat Wilson and MBD5 neurodevelopmental disorder. J Investig Med. 2018;66(2):362. Abstract no. 22.

Jarasvaraparn C, Gallegos MBR, Mulekar MS, Wang B, Gremse DA, Crissinger KD. The endoscopic and histologic findings of infants who have experienced brief resolved unexplained events. J Pediatr Gastroenterol Nutr. 2017 Nov;65(suppl 2):S6-S7. Abstract no. 14.

Jarasvaraparn C, Gallegos MBR, Mulekar MS, Wang B, Gremse DA, Crissinger KD. The characteristics of esophageal multichannel intraluminal impedance pH measurements in infants experiencing brief resolved unexplained events. J Pediatr Gastroenterol Nutr. 2017 Nov;65(suppl 2):S16-S17. Abstract no. 37.

Jarasvaraparn C, Gallegos MBR, Mulekar MS, Wang B, Gremse DA, Crissinger KD. The characteristics of esophageal multichannel intraluminal impedance-pH measurements in infants experiencing brief resolved unexplained events. University of South Alabama College of Medicine Resident and Fellow Scholarship Exposition; 2018 May 22; Mobile, AL.

Jarasvaraparn C, Wang B, Gremse DA. The relationship between sleep disturbances, quality of life, and symptom severity in pediatric patients with inflammatory bowel disease. J Investig Med. 2018;66(2):572. Abstract no. 539.

Jones JD, Merritt B, Rendon Bernot M, Perez Garcia EM. Invasive haemophilus influenza type A disease in a child with a complement deficiency. J Investig Med. 2018;66(2):492. Abstract no. 345.

McCurley C, Hill A, Bhat R, Zayek M, Jha O, Gulati R, Custodio H. Decreasing the antibiotic utilization rate by preventing late onset sepsis in neonatal intensive care unit: a quality improvement initiative. Vermont Oxford Network Annual Quality Congress; 2017 Oct 28-29; Chicago, IL. Abstract no. 20170169.

Perez Garcia EM, Kaulfers A. Hypoglycemic events in pump versus injection users in insulin dependent diabetics at diabetes camp. J Investig Med. 2018;66(2):613. Abstract no. 642.

Vazquez Diaz S, Bilbao N. Characteristics of patients with established type 1 diabetes mellitus admitted to the pediatric intensive care unit for diabetic ketoacidosis from 2012 to 2016. J Investig Med. 2018;66(2):407. Abstract no. 134.

Wilaisakditipakorn TJ, Anderson S. Modified checklist for autism in toddlers, revised, with follow-up (MCHAT-R/F) and language development in extremely preterm children. 2017 Annual Meeting of the Society for Developmental and Behavioral Pediatrics; 2017 Oct 13-16; Cleveland, OH.

Wilaisakditipakorn TJ, Anderson S. Modified checklist for autism in toddlers, revised, with follow-up (MCHAT-R/F) and language development in extremely preterm children. J Investig Med. 2018;66(2):605. Abstract no. 620.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Trimm F. Invited speaker. Educating tomorrow's pediatricians: entrusting independent practice. Pediatric Grand Rounds, University of Massachusetts Baystate Children's Hospital; 2018 May 15; Springfield, MA.

Trimm F. Invited speaker. Educating tomorrow's pediatricians: are they prepared for evolving child health needs? University of Massachusetts Baystate Children's Hospital; 2018 May 15; Springfield, MA.

Trimm F. Invited speaker. Educating tomorrow's pediatricians: entrusting independent practice. Pediatric Grand Rounds, University of Arkansas for Medical Sciences/Arkansas Children's Hospital; 2018 May 22; Little Rock, AR.

Trimm F. Invited speaker. Multiple paths, one destination: building a career in academic pediatrics. Fellows' Research Day, University of Arkansas for Medical Sciences/Arkansas Children's Hospital; 2018 May 22; Little Rock, AR.

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.

Roger Berkow: Member, American Academy of Pediatrics. American Pediatric Society, American Society of Pediatric Hematology/Oncology, Association of Pediatric Program Directors, Children's Oncology Group, Editor-in-Chief: AAP PREP-SA, Alabama task force on Pediatric Palliative and End of Life Care, Reviewer: Pediatrics, Pediatrics in Review, Pediatric Blood and Cancer

Ramachandra Bhat: Member, American Academy of Pediatrics; Member, Southern Society of Pediatric Research; Member, American Medical Association. Reviewer: *Pediatrics*, *Journal of Perinatology*, *American Journal of Perinatology*, *Pediatric Quality and Safety*.

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 10th 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*.

LaDonna Crews: Member, Academy of Breastfeeding Medicine; Member, Academic Pediatric Association; Fellow, 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 Academy of Pediatrics; 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: Board Member, American Academy of Pediatrics, Alabama Chapter; Member, American Academy of Pediatrics, Subcommittee on Apparent Life Threatening Event; Member, Immediate Past Chair, 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: Fellow, American Academy of Pediatrics; Member, American Medical Association; Member, Indian Academy of Pediatrics; Member, Vermont Oxford National Data Base; Member, Society for Pediatric Research. Reviewer: *Journal of Neonatology and Clinical Pediatrics*.

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*.

Myria Mack-Williams: Fellow, American Academy of Pediatrics Member, Mobile Pediatric Society.

Preethi Marri: Fellow, American Academy of Pediatrics; Member, American Society of Pediatric Hematology-Oncology; Member, American Society of Clinical Oncology.

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.

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; Member, Pediatric Infectious Diseases Society.

Katrina Roberson-Trammell: Fellow, 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. Association of Pediatric Program Directors, President 2016-2018; Immediate Past President 2018-2020. American Board of Pediatrics Education and Training Committee, Chair 2017-2019. Federation of Pediatric Organizations, Secretary-Treasurer 2017-2019. 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, 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. Berkow joined the faculty as Pediatric Residency Program Director in July 2018 after serving as Chair of the Nemours Children's Specialty Care in Pensacola, FL. Dr. Berkow received his M.D. degree from the Loyola University Stritch School of Medicine and completed his pediatric residency at Wyler's Children's Hospital of the University of Chicago. After residency training, he began his fellowship training in Pediatric Hematology/Oncology at Indiana University. Dr. Berkow has an outstanding career in academic medicine. For many years he served on the faculty in the UAB Department of Pediatrics, where he was a

leader in pediatric education, serving as the Pediatric Clerkship Director, Program Director of the Pediatric Hematology-Oncology fellowship, and Associate Dean for Undergraduate Medical Education. He received numerous teaching awards, including the Argus Society Award for Best Pediatric Faculty numerous times, the UAB Presidential Award for Excellence in Education, and the Most Outstanding Clinical Professor. UAB recognized him by naming an award in his honor, the Roger Berkow Award for Leadership, given to a senior medical student with outstanding leadership skills. Achievements during his career are signified by his selection to receive the Wallace Clyde Award for lifetime achievement by the UAB Department of Pediatrics and the Edith Levitt Award from the National Board of Medical Examiners. Dr. Myria Mack-Williams joined the faculty as Assistant Professor of Pediatrics in the Division of General Pediatrics. Prior to moving to Mobile, Dr. Mack-Williams served as a Pediatrician at the Northlake Pediatrics location of the Children's Hospital New Orleans system. She earned her medical degree from the Medical College of Pennsylvania in Philadelphia, Pennsylvania. Following residency training at the Thomas Jefferson University Hospital of the A.I. DuPont Hospital for Children in Philadelphia, Pennsylvania. Dr. Miles Harmon joined the faculty as Assistant Professor of Pediatrics in the Division of Neonatology after serving as Clinical Instructor in Neonatology at the University of Pittsburgh Medical Center. He earned his medical degree from the University of North Carolina in Chapel Hill, North Carolina. Following residency training at the Children's of Alabama/University of Alabama-Birmingham, he completed his neonatology fellowship at the University of Pittsburgh Medical Center. Dr. Preethi Marri joined the faculty as Assistant Professor of Pediatrics in the Division of Hematology/Oncology after working locally as a Pediatric Hospitalist at Providence Hospital. She earned her medical degree from Andhra Pradesh in India. After completing her Pediatric Internship at William Beaumont Hospitals in Michigan, she continued her pediatric residency training in the Texas A&M Hospital at Scott & White in Temple, Texas. She received her fellowship training in Pediatric Hematology/Oncology at the Mayo Clinic in Rochester, Minnesota.

Drs. Lynn Batten, Benjamin Estrada, Anne-Marie Kaulfers, Melody Petty, Daniel Preud'Homme, and Dr. Franklin Trimm were recognized by the USACOM Class of 2018 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 2018 was Laura Nelson. Thirteen of the graduating medical students in the USACOM Class of 2018 chose residencies in Pediatrics or combined Medicine-Pediatrics. Of the pediatric housestaff completing residency training in 2018, two entered private practice, seven entered into fellowship training, and two remained in the department as Pediatric Chief Resident. The two of the three graduating Medicine-Pediatrics residents entered private practice and the third entered into fellowship training. Twelve new first year residents entered the pediatric residency program, and three first-year residents entered the combined Medicine-Pediatrics Residency Program. Drs. Charlotte MacDonnell and Bryce Willen completed their terms as Pediatric Chief Resident in 2018, and Drs. Awab Ibrahim Ali Ibrahim and Brian Gavan took over duties as the Pediatric Chief Residents for the 2018-2019 academic year.

The scholarly activities by the faculty of the Department of Pediatrics this year included 15 original articles and 19 published abstracts. Departmental faculty were active in mentoring pediatric residents in clinical research. There were 14 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 2017-18 academic year included approval of the Department of Pediatrics as a Portfolio Sponsor of Quality Improvement Activities by the American Board of Pediatrics. This authorizes the Department of Pediatrics to award credit for Part 4 Maintenance of Certification Quality Improvement activities to participating faculty. This recognition makes the University of South Alabama the only medical school in the State of Alabama to achieve this designation by the ABP. Dr. Daniel Preud'Homme, who Chairs the Quality Improvement Team Leadership Committee, deserves credit for leading the effort for the successful application. New clinical services provided by the Department of Pediatrics include the opening of the General Pediatrics Extended Hours Clinic in September 2018. Under the leadership of Dr. Curtis Turner, Medical Director and Bradley Cross, Director of Operations, this new clinic offering increases the access to care for our patients.

Dr. Lynn Batten created the first Telemedicine Clinic at USA outside of the Mitchell Cancer Institute in collaboration with Dr. Mark Cribbs, who is an Adult Congenital Heart Disease specialist at UAB. This clinic offers adults with congenital heart disease local access as the only site in Southern Alabama for care in this specialty.

Dr. LaDonna Crews is active in the Children with Medical Complexity Collaborative Improvement and Innovation Network (COIIN) that is a 10 state collaboration for the care of children with special healthcare needs. Grant funding for this project is administered through a center in Boston as a pilot project. The State of Alabama is one of the 10 states. Dr. Crews practice was identified as a model practice for the state, with the largest concentration of medically complex children of any clinic in Alabama. The COIIN network funding offers the opportunity to support the care of these patients.

Dr. Miles Harmon is Medical Director of the BRIDGE program that provides medical care, counseling, and a network to support families with high risk/complicated pregnancies or deliveries to assist these families as their infants transition from inpatient care to coordinate their care in the outpatient setting.

Social media outreach campaigns included ongoing creation of Dr. Fun's Dance Party USA on YouTube created by Dr. Lynn Batten, Director of the Division of Pediatric Cardiology, and the Baby With '2 Percent Chance' to Live Graduates NICU in Cap and Gown video that went viral. In this video, parents of an extremely low birth weight infant at 22 weeks gestation were turned away from 16 hospitals before calling USA Children's and Women's Hospital where they delivered and their child survived under the excellent care provided by our staff.

2017-2018
Summary of Scholarly Activities
Department of Pharmacology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Bailey SW, Ayling JE. The pharmacokinetic advantage of 5-methyltetrahydrofolate for minimization of the risk for birth defects. *Sci Rep*. 2018 Mar 6;8(1):4096.

Black GE, Sokol KK, Moe DM, Simmons J, Muscat D, Pastukh V, Capley G, Gorodnya O, Ruchko M, Roth MB, Gillespie M, Martin MJ. Impact of a novel phosphoinositol-3 kinase inhibitor in preventing mitochondrial DNA damage and damage-associated molecular pattern accumulation: results from the Biochronicity Project. *J Trauma Acute Care Surg*. 2017 Oct;83(4):683-689.

Bradley JM, Li Z, Organ CL, Polhemus DJ, Otsuka H, Islam KN, Bhushan S, Gorodnya OM, Ruchko MV, Gillespie MN, Wilson GL, Lefer DJ. A novel mtDNA repair fusion protein attenuates maladaptive remodeling and preserves cardiac function in heart failure. *Am J Physiol Heart Circ Physiol*. 2018 Feb 1;314(2): H311-H321.

Browning CM, Mayes S, Rich TC, Leavesley SJ. Endoscopic hyperspectral imaging: light guide optimization for spectral light source. *Proc SPIE 10487, Multimodal Biomedical Imaging XIII*. 2018 Feb 3;10487OH. doi: 10.1117/12.2290615. [Subscription required].

Deal J, Harris B, Martin W, Lall M, Lopez C, Rider P, Boudreaux C, Rich T, Leavesley SJ. Demystifying autofluorescence with excitation scanning hyperspectral imaging. *Proc SPIE 10497, Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues XVI*. 2018 Feb 20;1049715. doi: 10.1117/12.2290818. [Subscription required].

Hill NS, Gillespie MN, McMurtry IF. Fifty years of monocrotaline-induced pulmonary hypertension: what has it meant to the field? *Chest*. 2017 Dec;152(6):1106-1108.

Langley RJ, Wong HR. Early diagnosis of sepsis: is an integrated omics approach the way forward? *Mol Diagn Ther*. 2017 Oct;21(5):525-537.

Leavesley SJ, Deal J, Hill S, Martin WA, Lall M, Lopez C, Rider PF, Rich TC, Boudreaux CW. Colorectal cancer detection by hyperspectral imaging using fluorescence excitation scanning. *Proc SPIE 10489, Optical Biopsy XVI: Toward Real-Time Spectroscopic Imaging and Diagnosis*. 2018 Feb 19;10489OK. doi: 10.1117/12.2290696. [Subscription required].

Leavesley SJ, Sweat B, Abbott C, Favreau P, Rich TC. A theoretical-experimental methodology for assessing the sensitivity of biomedical spectral imaging platforms, assays, and analysis methods. *J Biophotonics*. 2018 Jan;11(1).

Mayes SA, Moore K, Browning C, Klomkaew P, Rich TC, Leavesley SJ. Applications and assessment of an excitation-scanning hyperspectral imaging system. Proc SPIE 10497, Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues XVI. 2018 Feb 20;1049706. doi: 10.1117/12.2290120. [Subscription required].

Scheffler K, Rachek L, You P, Rowe AD, Wang W, Kuśnierczyk A, Kittelsen L, Bjørås M, Eide L. 8-oxoguanine DNA glycosylase (Ogg1) controls hepatic gluconeogenesis. DNA Repair (Amst). 2018 Jan;61:56-62.

Simmons JD, Kahn SA, Vickers AL, Crockett ES, Whitehead JD, Kreckler AK, Lee YL, Miller AN, Patterson SB, Richards WO, Wagner WW Jr. Early assessment of burn depth with far infrared time-lapse thermography. J Am Coll Surg. 2018 Apr;226(4):687-693.

Sweeney TE, Azad TD, Donato M, Haynes WA, Perumal TM, Henao R, Bermejo-Martin JF, Almansa R, Tamayo E, Howrylak JA, Choi A, Parnell GP, Tang B, Nichols M, Woods CW, Ginsburg GS, Kingsmore SF, Omberg L, Mangravite LM, Wong HR, Tsalik EL, Langley RJ, Khatri P. Unsupervised analysis of transcriptomics in bacterial sepsis across multiple datasets reveals three robust clusters. Crit Care Med. 2018 Jun;46(6):915-925.

Sweeney TE, Perumal TM, Henao R, Nichols M, Howrylak JA, Choi AM, Bermejo-Martin JF, Almansa R, Tamayo E, Davenport EE, Burnham KL, Hinds CJ, Knight JC, Woods CW, Kingsmore SF, Ginsburg GS, Wong HR, Parnell GP, Tang B, Moldawer LL, Moore FE, Omberg L, Khatri P, Tsalik EL, Mangravite LM, Langley RJ. A community approach to mortality prediction in sepsis via gene expression analysis. Nat Commun. 2018 Feb 15;9(1):694.

Tan YB, Mulekar S, Gorodnya O, Weyant MJ, Zamora MR, Simmons JD, Machuka T, Gillespie MN. Pharmacologic protection of mitochondrial DNA integrity may afford a new strategy for suppressing lung ischemia-reperfusion injury. Ann Am Thorac Soc. 2017 Sep;14(Supplement_3):S210-S215.

Xu Y, Jiang YQ, Li C, He M, Rusyniak WG, Annamdevula N, Ochoa J, Leavesley SJ, Xu J, Rich TC, Lin MT, Zha XM. Human ASIC1a mediates stronger acid-induced responses as compared with mouse ASIC1a. FASEB J. 2018 Jul;32(7):3832-3843.

II. PUBLISHED ABSTRACTS

Aggarwal S, Ahmad I, Lam A, Paiste H, Gillespie MN, Matalon S. Role of mitochondrial DNA damage in aberrant airway remodeling and repair post inhalation lung injury. Am J Respir Crit Care Med. 2018;197:A7598. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A7598

Borchert G, King V, Francis CM, Langley RJ, Daly G, Pastukh V, Gillespie MN. Novel hypoxia regulated long noncoding RNAs. Am J Respir Crit Care Med. 2018;197:A2289.

Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A2289

Chen Y, Yousaf MN, Shadel G, Rachek L, Mehal WZ. Oxidized mtDNA induced steatohepatitis through cGAS signaling pathway. *Hepatology*. 2017 Oct;66(Suppl 1):1098A. Abstract no. 2081.

Chen Y, Rachek L, Shadel G, Mehal WZ. Oxidized mitochondrial DNA induces steatohepatitis through cGAS signaling pathway. *Gastroenterology*. 2018 May;154(6 Suppl 1):S-1096. Abstract no. 515.

Deal J, Griswold J, Annandevula N, Rich T, Leavesley S. Effects of spectral bandwidth on spectral imaging FRET measurements. *Cyto* 2018; 2018 Apr 28-May 2; Prague, Czech Republic. p. 84. Abstract no. B186 453.

Deal J, Harris B, Martin W, Lall M, Lopez C, Rider P, Boudreaux C, Rich T, Leavesley SJ. Excitation scanning hyperspectral imaging as a means of colon cancer detection. *NanoBio Summit 2017*; 2017 Nov 9-10; Atmore, AL. Abstract no. GP07.

Francis CM, Langley RJ, Daly G, Pastukh VM, Wang B, Absher D, King VM, Borchert GM, Gillespie MN. Genome-wide analysis reveal oxidative DNA damage as a transcriptional regulator of hypoxia. *Am J Respir Crit Care Med*. 2018;197:A2266. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A2266

Hall DJ, Machuka TN, Holden D, Tan YB, Simmons JD, Pastukh VM, Gorodnya OM, Gillespie MN. Pharmacologically enhanced mitochondrial DNA repair improves performance of ex vivo perfused lungs from brain-dead pigs. *Am J Respir Crit Care Med*. 2018;197:A2669. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A2669

Langley RJ, Hussain SS, Baumlin N, Nair M, Salathe MA, Chand HS. Transcriptomic analysis of early airway epithelial inflammatory responses. *Am J Respir Crit Care Med*. 2018;197:A1334. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A1334

Langley RJ, Pastukh V, Francis CM, Tan Y, Dinwiddie DJ, Simmons JD, Gillespie MN. Quantification of mitochondrial DNA in cell-free plasma isolated from massively transfused trauma patients. *Am J Respir Crit Care Med*. 2018;197:A4722. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A4722

Rich TC, Annandevula N, Britain A, Westbrook A, Deshpande DA, Penn RB, Leavesley SJ. Mapping spatial distributions of cAMP signals in human airway smooth muscle cells. *Am J Respir Crit Care Med*. 2018;197:A7173. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A7173

Rich TC, Stone N, Shettlesworth S, Phan A. Mathematical modeling of the spatial spread of cAMP signals within and between pulmonary endothelial cells. *Am J Respir Crit Care Med.* 2018;197:A5723. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5723

Sayner SL, Maulucci M, Scruggs A, Zhou C, Bauer N. Extracellular vesicles: an additional compartment for the second messenger, cyclic Adenosine Monophosphate (cAMP). *FASEB J.* 2018 Apr;32(1 Suppl). Abstract 746.1.

Simmons JD, Vickers AL, Crockett ES, Whitehead JD, Kreckler AK, Lee YL, Patterson SB, Kahn SA, Richards WO, Wagner WW Jr. Early assessment of burn severity with far infrared time-lapse thermography. 129th Annual Meeting of the Southern Surgical Association; 2017 Dec 3-6; Hot Springs, VA. p. 82-83. Abstract no. 35.

Tan Y, Pastukh V, Gorodnya O, Simmons J, Gillespie M. Impact of a mitochondria-targeted DNA repair glycosylase on pulmonary vascular endothelial barrier function in rodent model of lung donation after circulatory determination of death. *Am J Respir Crit Care Med.* 2018;197:A7250. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A7250

Yuzefovych L, Pastukh VM, Rachek L. Mitochondrial DNA DAMPs induce inflammation and insulin resistance. *Diabetes.* 2018 Jul;67(Suppl 1):A474. Abstract no. 1783P.

Yuzefovych L, Schuler M, Noh HL, Suk S, Kim JK, Rachek L. DNA repair enzyme Ogg1 regulates hepatic insulin resistance in high-fat diet-fed obese mice. *Diabetes.* 2018 Jul;67(Suppl 1):LB63. Abstract no. 235LB.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Gillespie MN. Invited speaker. MtDNA: a sentinel molecule linking oxidant stress to DAMP formation. American Thoracic Society International Conference ATS 2018. 2018 May 18; San Diego, CA.

Rich TC. Invited speaker. High speed measurement of agonist-induced cAMP signals in single cells. Gordon Research Conference – Phosphorylation and G-Protein Mediated Signaling Networks. 2018 Jun 5; Biddeford, ME.

Rich TC. Invited speaker. High fidelity hyperspectral measurements of FRET signals in single cells. NanoBio Summit. 2018 Jul 17; Montgomery, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Al-Mehdi A-B. Journal Reviewer, *American Journal of Physiology-Heart*, *American Journal of Physiology-Endocrinology*, *American Journal of Physiology-Lung*.

Bauer N. Grant Reviewer, NHLBI RIBT, AHA Career Development Award Standing Member, ORED internal grant review. Journal Reviewer, *American Journal of Physiology-Lung Cell and Molecular Biology*; *Science Translational Medicine*, *Respiratory Research*, *Oncotarget*, *American Journal of Physiology-Cell*, *Pulmonary Circulation*, *Circulation*.

Gillespie MN. Post Graduate Course Faculty. Mitochondrial motility as a determinant of mitochondrial function. American Thoracic Society International Conference ATS 2018. 2018 May 18; San Diego, CA. Grant Reviewer, National Institutes of Health PETAL Protocol Review Committee, National Institutes of Health RIBT Study Section, National Institutes of Health PPG Review. Associate Editor, *American Journal of Physiology-Lung Cell Molecular Physiology*. Journal Reviewer, *American Journal of Physiology-Lung*, *Science Signaling*, *Cell Metabolism*. Member, American Thoracic Society Awards Committee, Center for Translational Science Award Executive Committee.

Rachek L. Editorial Board Member, *Open Endocrinology Journal*, *New Journal of Science*, *Journal of Pharmaceutical Sciences and Experimental Pharmacology*. Journal Reviewer, *Molecular Genetics and Metabolism*, *International Journal of Molecular Sciences*, *Journal of Hematology & Oncology*, *Natural Product Research*, *Journal of Clinical Medicine*, *Nutrients*, *Biology*.

Rich TC. Grant Reviewer, National Institutes of Health ZRG1 CB-T(30), American Heart Association Signaling & Cell Tran 2, National Science Foundation. Journal Reviewer, *Biophysical Journal*, *Cellular Signaling*, *Brain Research*.

Ruchko M. Journal Reviewer, *Amino Acids*, *J Sci Med Central*, *The Open Clinical Biochemistry Journal*.

Solodushko V. Journal Reviewer, *BMC Research Notes*, *Molecular Pharmaceutics*.

Wagner WW. Journal Reviewer, *American Journal of Physiology*, *Journal of Applied Physiology*, *Microvascular Research*. Historian, Pulmonary Circulation, Assembly, American Thoracic Society. Member, Pulmonary Circulation Executive Committee, American Thoracic Society Assembly, American Thoracic Society Planning Committee

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

This has been a year of transformation for the Department of Pharmacology. We are excited to have recruited Dr. Glen Borchert to the rank of Associate Professor of Pharmacology. Dr. Borchert brings to the Department expertise in genome-wide analyses of regulatory RNA species. Over the last year, we also said goodbye to two of our colleagues, Drs. Ivan McMurtry and Michael Chinkers, both of whom retired after many years of dedicated service to the institution. Finally, as evidence of her outstanding dedication to teaching,

research, and service, we are happy to report that Natalie Bauer was promoted to Associate Professor and awarded tenure.

Dr. Abu-Bakr Al-Mehdi created new medical student evaluation forms for the Assessment & Evaluation subcommittee and performed student performance analysis for the continuous quality improvement in assessment standard setting with plans to submit for publishing in a Medical Education journal.

Dr. Natalie Bauer was awarded a four-year, \$1.5 million grant, her first RO1, from the National Institutes of Health to study how circulating factors contribute to pulmonary hypertension. Dr. Bauer also developed a new curriculum for the DIG module after losing more than 70% of our teaching from the 2017 course year.

Dr. Mark Gillespie competitively renewed his NIH RO1 grant to study involvement of mitochondrial DNA damage in acute lung injury. The current version of the project is translational; working with Jon Simmons, M.D., Associate Professor of Surgery and Pharmacology and Director of the Division of Trauma and Critical Care Surgery, the team seeks to understand how mitochondrial DNA fragments contribute to transfusion-related lung injury in severely injured patients. Dr. Gillespie also serves as Site Lead for the USA College of Medicine's partnership with UAB's Center for Clinical and Translational Sciences Award.

Dr. Ray Langley developed a scientific method class for medical students and is currently developing a course on bioinformatics.

Dr. Luda Rachek has established new collaboration studies with three groups outside of USA. Dr. Rachek also continues her collaboration with Dr. Bill Richards, USA Department of Surgery, to expand her translational research expertise in human obesity.

Dr. Tom Rich has received multiple scientific grant awards this past year including three from the National Institutes of Health and one from the National Science Foundation. Dr. Rich also received an award from the American Heart Association to fund an undergraduate summer research program at the USA College of Medicine. Dr. Rich's work with faculty across campus has resurrected our undergraduate pipeline to the BMS doctoral program through outreach to USA undergraduate students.

Dr. Victor Solodushko has developed a new model of DNA vaccine that can markedly increase the number of antigen presenting cells and improve cytotoxicity of any delivered antigen of interest. Dr. Solodushko also developed a universal mouse immunological assay model.

2017-2018
Summary of Scholarly Activities
Department of Physiology & Cell Biology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Dugger KJ, Chrisman T, Sayner SL, Chastain P, Watson K, Estes R. Beta-2 adrenergic receptors increase TREG cell suppression in an OVA-induced allergic asthma mouse model when mice are moderate aerobically exercised. *BMC Immunol*. 2018 Feb 17;19(1):9.

Hamilton CL, Abney KA, Vasauskas AA, Alexeyev M, Li N, Honkanen RE, Scammell JG, Cioffi DL. Serine/threonine phosphatase 5 (PP5C/PPP5C) regulates the ISOC channel through a PP5C-FKBP51 axis. *Pulm Circ*. 2018 Jan-Mar;8(1):2045893217753156.

Hamilton CL, Kadeba PI, Vasauskas AA, Solodushko V, McClinton AK, Alexeyev M, Scammell JG, Cioffi DL. Protective role of FKBP51 in calcium entry-induced endothelial barrier disruption. *Pulm Circ*. 2018 Jan-Mar;8(1):2045893217749987.

Jiang YQ, Zha XM. miR-149 reduces while let-7 elevates ASIC1a expression in vitro. *Int J Physiol Pathophysiol Pharmacol*. 2017 Nov;9(5):147-152.

Lee JY, Alexeyev M, Kozhukhar N, Pastukh V, White R, Stevens T. Carbonic anhydrase IX is a critical determinant of pulmonary microvascular endothelial cell pH regulation and angiogenesis during acidosis. *Am J Physiol Lung Cell Mol Physiol*. 2018 Jul 1;315(1):L41-L51.

Lee JY, McMurtry S, Stevens T. Single cell cloning generates lung endothelial colonies with conserved growth, angiogenic, and bioenergetic characteristics. *Pulm Circ*. 2017 Oct-Dec;7(4):777-792.

Shen CP, Romero M, Brunelle A, Wolfe C, Dobyns A, Francis M, Taylor MS, Puglisi JL, Longo LD, Wilson CG, Wilson SM. Long-term high-altitude hypoxia influences pulmonary arterial L-type calcium channel-mediated Ca²⁺ signals and contraction in fetal and adult sheep. *Am J Physiol Regul Integr Comp Physiol*. 2018 Mar 1;314(3):R433-R446.

Townsley MI. Permeability and calcium signaling in lung endothelium: unpack the box. *Pulm Circ*, 2018; 8(1): 1—8.

Xu Y, Jiang YQ, Li C, He M, Rusyniak WG, Annamdevula N, Ochoa J, Leavesley SJ, Xu J, Rich TC, Lin MT, Zha XM. Human ASIC1a mediates stronger acid-induced responses as compared with mouse ASIC1a. *FASEB J*. 2018 Jul;32(7):3832-3843.

Yang XM, Downey JM, Cohen MV, Housley NA, Alvarez DF, Audia JP. The highly selective caspase-1 inhibitor VX-765 provides additive protection against myocardial

infarction in rat hearts when combined with a platelet inhibitor. *J Cardiovasc Pharmacol Ther.* 2017 Nov;22(6):574-578.

Zhou C, Crockett ES, Batten L, McMurtry IF, Stevens T. Pulmonary vascular dysfunction secondary to pulmonary arterial hypertension: insights gained through retrograde perfusion. *Am J Physiol Lung Cell Mol Physiol.* 2018 May 1;314(5):L835-L845.

II. PUBLISHED ABSTRACTS

Alvarez DF, Renema P, Bell J, Housley N, Francis C, Balczon R, Sutherland E, Siddiqui W, Eslaamizaad Y, Fouty B, Hardy K, Jackson M, Audia JP. Caspase-1 decreases amyloid species-induced cytotoxicity in lung endothelial cells during *Pseudomonas aeruginosa* infection. *Biology of Acute Respiratory Infection 2018-Gordon Research Conference.* 2018 Mar 18-23; Ventura, CA. p. 70. Abstract no. 1003.

Berrou M, Stevens R, Voth SB, Caesar Williams CD, Balczon R, Stevens T. *Pseudomonas aeruginosa* induced lung endothelial amyloid proteinopathy: characteristics and inhibitors. *Am J Respir Crit Care Med.* 2018;197:A5724. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5724

Borchert G, King V, Francis CM, Langley RJ, Daly G, Pastukh V, Gillespie MN. Novel hypoxia regulated long noncoding RNAs. *Am J Respir Crit Care Med.* 2018;197:A2289. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A2289

Cohen MV, Audia JP, Yang XM, Crockett ES, Housley N, O'Donnell K, Ul Haq E, Downey JM, Alvarez DF. Blocking caspase-1 at reperfusion adds to cardioprotection from platelet P2Y₁₂ receptor antagonists. *Circulation.* 2017 Nov14;136(Suppl 1):A15139.

Eslaamizaad Y, Sutherland E, Bell J, Ayers L, Renema P, Jackson M, Audia J, Fouty BW, Alvarez DF. Caspase-1 downregulates circulating amyloid-related danger molecules in critically ill patients. *Am J Respir Crit Care Med.* 2018;197:A2890. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A2890

Eslaamizaad Y, Sutherland E, Bell J, Renema P, Barrington R, Audia J, Fouty BW, Alvarez DF. Interleukin signature in pulmonary septic patients. *Am J Respir Crit Care Med.* 2018;197:A5735. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5735

Francis CM, Knighten JM, Taylor MS. Inositol trisphosphate dynamics underlie physiological calcium signals within the coronary artery endothelium. *FASEB J.* 2018;32(Suppl 1):843.29.

Francis CM, Langley RJ, Daly G, Pastukh VM, Wang B, Absher D, King VM, Borchert GM, Gillespie MN. Genome-wide analysis reveals oxidative DNA damage as a

transcriptional regulator of hypoxia. *Am J Respir Crit Care Med.* 2018;197:A2266. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A2266

Hardy KS, Housley NA, Alvarez DF, Audia JP. Increasing intracellular cAMP levels in lung endothelial cells potentiate *Pseudomonas aeruginosa* ExoU PLA₂ activity. *Biology of Acute Respiratory Infection 2018-Gordon Research Seminar.* 2018 Mar 17-18; Ventura, CA. p. 75. Abstract no. 3011.

Langley RJ, Pastukh V, Francis CM, Tan Y, Dinwiddie DJ, Simmons JD, Gillespie MN. Quantification of mitochondrial DNA in cell-free plasma isolated from massively transfused trauma patients. *Am J Respir Crit Care Med.* 2018;197:A4722. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A4722

Lee JY, Voth S, Balzcon R, Stevens T. Cytotoxic amyloids inhibit carbonic anhydrase IX (CA IX) in pulmonary microvascular endothelial cells (PMVECs): a potential mechanism of acid dysregulation and cell death during infection. *Am J Respir Crit Care Med.* 2018;197:A5728. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5728

Lee JY, White R, Voth S, Balzcon R, Stevens T. Dual effect of acidosis on pulmonary microvascular endothelial cell (PMVEC) survival during infection: acidic postconditioning for pneumonia? *Am J Respir Crit Care Med.* 2018;197:A5727. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5727

McFarland SJ, Taylor MS, Weber DS. Knocking out endothelial TRPV4 channels enhances vasoconstriction and exacerbates endothelial dysfunction in low-flow vascular injury. *FASEB J.* 2018;32(Suppl 1):581.9.

Renema P, Jackson ML, Audia J, Stevens T, Alvarez DF. Caspase-1 protects against amyloid-induced pulmonary microvascular endothelial cell monolayer damage. *Am J Respir Crit Care Med.* 2018;197:A3732. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A3732

Sayner SL, Maulucci M, Harvell T. Bicarbonate is required for proliferation of pulmonary microvascular endothelial cells. *FASEB J.* 2018;32(Suppl 1):917.2.

Sayner SL, Maulucci M, Scruggs A, Zhou C, Bauer N. Extracellular vesicles: an additional compartment for the second messenger, cyclic adenosine monophosphate (cAMP). *FASEB J.* 2018;32(Suppl 1):746.1.

Siddiqui W, Sutherland E, Bell J, Audia J, Fouty BW, Alvarez DF. Dynamics between IL-10 and pro-inflammatory cytokines in critical care patients with sepsis. *Am J Respir Crit Care Med.* 2018;197:A5736. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5736

Voth SB, Balczon R, Francis CM, Audia J, Stevens T. Lung infection elicits endothelial amyloids with distinguishable antimicrobial and cytotoxic properties. *Am J Respir Crit Care Med*. 2018;197:A7616. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A7616

Voth SB, Balczon R, Francis CM, Stevens T. *Pseudomonas aeruginosa*'s exoenzyme Y intoxication reversibly converts antimicrobial endothelial amyloids into amyloid prions. *Am J Respir Crit Care Med*. 2018;197:A5725. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A5725

Voth SB, Lin M, Balczon R, Francis CM, Stevens T. Nosocomial lung infection induces a pulmonogenic prionopathy that disrupts the endothelial barrier of the brain. *Am J Respir Crit Care Med*. 2018;197:A7615. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A7615

Xu N, Francis CM, Lin MT, Stevens T. Knockout of TRPC4 reduces cytosolic Ca²⁺ transients and delays store-operated Ca²⁺ entry. *Am J Respir Crit Care Med*. 2018;197:A3736. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2018.197.1_MeetingAbstracts.A3736

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Alexeyev M. Invited speaker. The clandestine life of the “other” genome. Brigham Young University; 2017 Nov 2; Provo, UT.

Alexeyev M. Invited speaker. Mitochondrial DNA: facts and fiction. University of Alabama at Birmingham; 2018 May 4; Birmingham, AL.

Stevens T. Invited speaker. Infectious proteinopathy of the lung. University of Pittsburgh Basic and Translational Research in Lung Diseases Conference; 2017 Oct 16; Pittsburgh, PA.

Townsley MI. Invited speaker. TRPV4, endothelial permeability and specificity in calcium signaling. Cardiovascular Research Center, University of Virginia; 2017 Nov 9; Charlottesville, VA.

Zha XM. Invited speaker. Neuronal proton signaling and neuronal injury. Shanxi Normal University; 2017 Oct 20; Xi'an, China.

Zha XM. Invited speaker. Neuronal proton signaling and neuronal injury. Sixth Pangu Stroke Conference; 2017 Oct 21; Xi'an, China.

V. NATIONAL PROFESSIONAL RECOGNITION

Mikhail F. Alexeyev: 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*. Managing Editor, *Frontiers in Bioscience*; Associate Editor, *Mitochondrial DNA* and *World Journal of Experimental Medicine*. Reviewer, *International Journal of Molecular Sciences*, *Molecular Therapy and Mitochondrial DNA*. Grant Reviewer, NIH Study Section ZRG1 GGG-B 50 Special Emphasis, NIH ZGM1 RCB-4 (S2) Special Emphasis, NIH ZCA1 SRB-K (J1) Special Emphasis, French National Research Agency AGEsRESCUE, AFAR Glenn Postdoctoral Fellowship LOI Review Committee.

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*, and *Thorax*.

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 Drugs and Therapy*, *American Journal of Physiology*, *Circulation*, *European Journal of Pharmacology*, *Acta Physiologica*, *Cell Physiology & Biochemistry*, *Oxidative Medicine and Cellular Longevity*.

Michael Francis: Member, American Thoracic Society. Reviewer, *Journal of Visualized Experiments*. Awarded the American Physiological Society Respiration Section Poster Award 2017.

Ji Young Lee: Member, American Thoracic Society. Early Career Reviewer, *American Journal of Respiratory & Critical Care Medicine*. Awarded the American Heart Association Career Development Award.

Mike Lin: Member, American Physiological Society, Society of Neuroscience, *Neuroscience Scientific Report*. Reviewer, *Journal of Cerebral Blood Flow & Metabolism*, *AHA International Stroke Conference*. Editorial Board, *Neuroscience Scientific Report*.

Sarah Sayner: Member, American Thoracic Society. Reviewer, *American Heart Association*, *American Journal of Physiology Lung Cell and Molecular Physiology*, *Cell Signaling*, *American Journal of Pathology*.

Troy Stevens: Chair, American Thoracic Society Pulmonary Circulation Assembly 2015-2017, Pulmonary Circulation Nominating Committee 2017-2018. 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. Brown University COBRE External Advisor.

Mark S. Taylor: Member, Gulf Coast Physiological Society, American Heart Association, American Physiological Society. Reviewer, *American Journal of Physiology*, *Vascular Pharmacology*, *eNeuro*.

David S. Weber: Member, American Physiological Society, American Heart Association. Abstract Reviewer, American Heart Association Scientific Sessions. Reviewer, *Journal of the American Heart Association*, *Circulation Research*, *Hypertension*, *Journal of Molecular and Cellular Cardiology*, *Laboratory Investigation*, *Journal of Cerebral Blood Flow and Metabolism*, *Microcirculation*, *Asian Journal of Medicine and Health*, *International Journal of Molecular Sciences*.

Xiangming Zha: Member, Society of Neuroscience. Editorial Board, *PLoS One*, *Molecular Brain*, *Frontiers in Cellular Biochemistry*. Reviewer, *Neurobiology of Disease*, *Molecular Brain*, *Cell Transplantation*, International Stroke Conference Abstracts. Study Section Reviewer, American Heart Association Career Development Grants, Action on Hearing Loss International Project Grant.

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 education, research and service. The faculty actively submit and receive grants at a nationally competitive level. Dr. Stevens has received funding for two National Institutes of Health grants, a new R01 and a competitive renewal Program Project grant, respectively. The competitive renewal award of the PPG grant "Lung Endothelial Phenotypes" required Dr. Stevens to relinquish the new R01 since it represented Project 1 of the PPG grant. Dr. Mike Lin was also awarded an NIH R01 grant entitled "Nosocomial pneumonias impair cognitive function". Dr. Michael V. Cohen was awarded a subcontract with EVAS Therapeutics to study cardioprotection by inhibition of coagulation and inflammation in myocardial infarction. Dr. Xiangming Zha was also awarded a subcontract with Morehouse University to study ASIC1a in acidosis-mediated acute brain injury.

We are pleased to announce the addition of Dr. Ji Young Lee as a new assistant professor in the department. Dr. Lee will also serve as an assistant professor of internal medicine and as a pulmonary and critical care physician with USA Health. Dr. Lee is currently doing translational research on the effect of acidosis on pulmonary endothelial cells in the context of pathological conditions, such as infection and hypoxia.

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/Behaviors modules for M2. Stuart McFarland, a rising second year medical student, mentored by Drs. Taylor and Weber received the Clyde G. Huggins award and presented his research at the Experimental Biology meeting in San Diego, CA.

Drs. Lee, Lin and Stevens served as mentors for the South Med Prep Scholars who are sponsored by the Office of Diversity and Inclusion. Many of the faculty also served as mentors for the Medical Student Summer Research Program and the Center for Healthy Communities Undergraduate Research Program, respectively.

The faculty are actively involved in teaching within the Basic Medical Sciences Graduate Program. Dr. Francis, along with Dr. Langley from the department of Pharmacology have developed a new “Computational Genetics” special topics course for the Basic Medical Sciences graduate program. Dr. Lin was course director of IDL 581 “Fundamentals of Biomedical Science II” and Dr. Sayner was course director of IDL 650 “Skills in Lung Biology”. Many of the faculty taught extensively in various graduate courses. Phoibe Renema received her PhD this past fall and is currently a postdoctoral fellow in Dr. Stevens lab.

The department now has an active cell free organ scaffold lab. This system was built by Dr. Alvarez and is now integrated to our server. We can now examine endothelial cell specification, lung biomechanics, and progenitor cell efficacy in bioengineering organs for transplantation. Dr. Francis created and registered two intellectual properties this year (block chain for good laboratory practices and thermal imaging analysis for tissue viability). The department has continued to be productive in scholarly achievements as well. The faculty contributed ten articles to peer-reviewed journals as well as twenty-one abstracts.

Several faculty delivered lectures to professional societies and international meetings this year. Dr. Alexeyev gave a seminar entitled “The clandestine life of the “other” genome” at Brigham Young University. Dr. Alvarez presented his work at the Gordon Conference in Biology of Acute Respiratory Infection in Ventura, CA. Dr. Sayner gave a seminar entitled “Extracellular vesicles: an additional compartment for the second messenger, cyclic adenosine monophosphate (cAMP)” at Experimental Biology 2018. Dr. Stevens gave a seminar entitled “The role of endothelial leak in pulmonary arterial hypertension” at the Grover Conference on Pulmonary Circulation. Dr. Zha gave a seminar entitled “Neuronal proton signaling and neuronal injury” at the 6th Pangu Stroke Conference in Xi’an, China.

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

2017-2018
Summary of Scholarly Activities
Department of Psychiatry

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Lehmann SW, Brooks WB, Popeo D, Wilkins KM, Blazek MC. Development of geriatric mental health learning objectives for medical students: a response to the Institute of Medicine 2012 Report. *Am Geriatr Psychiatry*. 2017 Oct;25(10):1041-1047.

Wilkins KM, Wagenaar D, Brooks WB. Emerging trends in undergraduate medical education: implications for geriatric psychiatry. *Am J Geriatr Psychiatry*. 2018 May;26(5):610-613.

II. PUBLISHED ABSTRACTS

Blazek MC, Wilkins K, Wagenaar D, Brooks WB, Lehmann S, Popeo DM, Holland P. An on-line annotated bibliography of web-based resources for geriatric mental health education for medical students. Association of Directors of Medical Student Education in Psychiatry 44th Annual Meeting; 2018 Jun 14-16; Minneapolis, MN.

Dhawan A, Ghelani K, Franks R, Brooks B. A slice of spice: persistent delusions in two young men being treated for synthetic cannabinoid-induced psychosis. University of South Alabama College of Medicine M3 Case Report Symposium; 2018 Jun 7; Mobile, AL.

Trinh AT, Narahari P. Case report: can uncontrolled diabetes mellitus counteract antipsychotics in patients with schizophrenia? University of South Alabama College of Medicine M3 Case Report Symposium; 2018 Jun 7; Mobile, AL.

Williams AC, Jackson T, Engeriser JL. Morgellons or madness: unraveling the fact and fiction of parasitosis. Alabama Psychiatric Physicians Association 2018 Spring Conference; 2018 Apr 20-21; Birmingham, AL. Abstract no. 18-1-06.

Williams AC, Jackson T, Haygood M. Serotonin syndrome: common but easily overlooked. Alabama Psychiatric Physicians Association 2017 Fall Conference; 2017 Oct 27-28; Birmingham AL. Abstract no. 17-2-01.

Wilson WC, Nguyen J, Brooks WB. The interplay between depression and cosmetic surgery. Alabama Psychiatric Physicians Association 2017 Fall Conference; 2017 Oct 27-28; Birmingham, AL. Abstract no. 17-2-02.

III. PUBLISHED BOOK

IV. INVITED PRESENTATIONS

Lehmann SW, Blazek MC, Brooks WB, Popeo D. Invited speakers. Connecting millennial medical students and geriatric patients: how do we bridge the gap? American Psychiatric Association 2018 Annual Meeting; 2018 May 8; New York, NY.

Lehmann SW, Wilkins K, Brooks WB, Blazek MC. Invited speakers. “What a cute little old lady!”: tackling bias and ageism in medical education. American Association for Geriatric Psychiatry 2018 Annual Meeting; 2018 Mar 15; Honolulu, HI.

V. NATIONAL PROFESSIONAL RECOGNITION

Engeriser, L., M.D., President, Alabama Psychiatric Physician Association

Haygood, M. D.O., Vice-Speaker, General Assembly, American Psychiatric Association; Representative to the Board of the Alabama Medical Association, Young Physicians Section.

Parker S., M.D., Past President, Alabama Psychiatric Physician Association

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Departmental Educational Accomplishments: Achieved the 2nd highest NBME subject exam scores for junior clerkship students; achieved maximum years of accreditation (ten) for both General Psychiatry Residency and for Child and Adolescent Psychiatry Fellowship

Clinical Programs: Increased psychiatry service at Student Health, from one to two afternoons per week, 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 or second highest NBME subject exam scores of all the junior clerkships. Further, the graduating students have continued to exceed the national percentage of medical students going into psychiatry by two to three fold over each of the last several years, with ~10% choosing psychiatry in the 2018 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 and mentors for the students, largely explains this percentage going into psychiatry.

For graduate medical education, both the residency and child fellowship continue to meet or exceed national reaccreditation requirements. Each has 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 from children through geriatric. This integration has ensured a wealth of teaching patients for the students, residents, and fellows, while also enhancing the recruitment of high quality clinical faculty, especially from the residency and fellowship graduates. 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. The 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, increasing from just one. The residency and child fellowship were just approved to expand. One resident per year has been added to the residency changing the total to five per year. Likewise the fellowship has added one per year, bringing the total to three for each of the two years of the fellowship.

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. Preliminary results are encouraging. Grant funding will be sought. Dr. Billett, the newly appointed Director of Research for the department, is serving as principal investigator of that project.

Leadership

Dr. Ronald Franks, 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.

2017-2018
Summary of Scholarly Activities
Department of Radiology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Bhatia S, Sinha VK, Abdul-Rahim O, Harward S, Narayanan G. Rare prostatic artery origins and the importance of collateral circulation in prostate artery embolization: a pictorial essay. *Can Assoc Radiol J*. 2018 May;69(2):220-229.

Fell DW, Steffler B, Bassam BA, Denny WB, Jefferson JR, Mullins JB. Diagnostic testing in neurology: lab tests, imaging, and nerve/muscle studies with implications for therapists. In: Fell D, Lunnen KY, Rauk R, editors. *Lifespan neurorehabilitation: a patient-centered approach from examination to interventions and outcomes*. Philadelphia: E.A. Davis Company; 2018. Chapter 12, p. 366-412.

Kar J, Zhong X, Cohen MV, Cornejo DA, Yates-Judice A, Rel E, Figarola MS. Introduction to a mechanism for automated myocardium boundary detection with displacement encoding with stimulated echoes (DENSE). *Br J Radiol*. 2018 Jul;91(1087):20170841. Available from: <https://www.birpublications.org/doi/pdf/10.1259/bjr.20170841> [Subscription required].

II. PUBLISHED ABSTRACTS

Palmer T, Lammle M, Ro D, Cordina S. Radiologists' role in providing comprehensive analysis of CTA, MRI perfusion, CT perfusion for preparation for neurointerventional procedures. American Society of Neuroradiology 56th Annual Meeting & the Foundation of the American Society of Neuroradiology Symposium 2018; 2018 Jun 2-7; Vancouver, BC, Canada.

Long E, Abdul-Rahim O, Rider P, Richards WO. Gastric leaks arising after bariatric surgery and an innovative approach to closure. Society of American Gastrointestinal and Endoscopic Surgeons and Canadian Association of General Surgeons 16th World Congress of Endoscopic Surgery Scientific Session and Postgraduate Courses; 2018 Apr 11-14; Seattle WA. p. 165. Abstract no. P492.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Lammle M. Invited speaker. Fifty shades of gray: neuroradiology is not (always) black and white. Fifth Annual University of South Alabama Neuroscience Symposium; 2018 Apr 8; Orange Beach, AL.

McQuiston SA. Invited speaker. Up: maintaining a positive outlook in a negative world. University of South Alabama Program Coordinators Retreat; 2018 Mar 5; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Maria Figarola: Manuscript Reviewer, *American Journal of Radiology*; Member, Alpha Omega Alpha Honor Society.

Markus Lammle: Manuscript Reviewer, *American Journal of Neuroradiology*; Steering Committee Member, Alabama Advanced Imaging Consortium; Senior Member, American Society of Neuroradiology.

Samuel A. McQuiston: Question Writer, American College of Radiology In-training RadExam; Angoff Committee Member, American Board of Radiology.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Dr. Osama Abdul-Rahim remains the section chief of interventional radiology and is a member of the cancer committee for the Mitchell Cancer Institute. He received the 2018 Teacher of the Year award, given by the radiology residents. In addition to his regular teaching duties, Dr. Abdul Rahim has provided grand round lectures for multiple departments on the types of IR services he can provide. He is the lead interventional radiologist for our newly instituted ESIR teaching program (early specialization interventional radiology). Once again Dr. Abdul Rahim has provided trauma level one minimally invasive services nearly 24/7 as the sole full-time interventionalist over the last year. His leadership and help in recruitment have resulted in two new hires for his section and continued growth in this critical clinical service line.

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. Dr. Gupta chairs the Radiation Safety Committee, and serves as the radiology representative on the ED and COM Curriculum Committee. She is co-director for the radiology rotation for M3 and M4 medical students.

Dr. Markus Lammle continues to serve as the chief of neuroradiology for the radiology department. He is a member of the following committees, for the USA College of Medicine: Radiology M&M Committee (Radiology), Trauma Peer Review Committee (Surgery), and Stroke Committee (Neurology). He is also a part of the CME Committee for the USA Health System. Dr. Lammle is serving as a Co-Principle Investigator for the TERIKIDS grant project. He gives triannual grand rounds to the neurology department. He updated safety protocols and scan protocols to include post-processing all neuroradiology CT and MRI protocols and neuroradiology procedures, and providing QA in neuroimaging in patient safety and image quality. Dr. Lammle provided an introduction to an advanced neuroimaging techniques in support of neurology and neurosurgery departments with customized scan protocols and procedures. He is an advisor on an international trial, investigating a pharmaceutical used in treating pediatric patients with Multiple Sclerosis.

Dr. Joel Lightner served as the radiology residency program assistant director and was the chief of women's imaging for the department. He was an advisor to the Breast Program Leadership Committee, seeking accreditation from the National Accreditation Program for Breast Centers. He was a part of an interdepartmental team that develops treatment plans for breast cancer patients. Unfortunately, Dr. Lighter resigned in June, to join a private practice in Huntsville AL.

Dr. Ian Malcolm remains section chief of chest radiology, a subspecialty area required for ACGME residency training and accreditation. He gives regular resident lectures in cardiothoracic radiology. This year Dr. Malcolm has become the lead radiologist working with an interdisciplinary team at MCI to establish a high-resolution CT lung cancer screening program.

Dr. Samuel McQuiston serves as the Assistant Dean for Graduate Medical Education (GME) and the Radiology Residency Program Director. He is a faculty advisor to three medical students entering radiology, mentor to two radiology residents, and faculty advisor to the USA Housestaff Council and the USA Housestaff Association. Dr. McQuiston is serving as a Co-Principal Investigator of a pending NIH clinical trial, entitled Anthracycline Cardiotoxicity in Chemotherapy Patients. He received the Red Sash Award, as voted on by medical students. Dr. McQuiston chairs the GME Committee and the GMEC Subcommittee on Quality Improvement and Patient Safety. Also, he serves on the GMEC Subcommittee on Wellness and the GMEC Subcommittee on Simulation Education and Assessment as well as in the COM on the Curriculum Committee, Subcommittee on Assessment and Evaluation, Subcommittee on Clinical Pathways, Continuing Quality Improvement Committee, and Continuing Medical Education Committee; and in USA Health, on the USAMC Ethics Committee, USAMC Performance Improvement Council, and USACW Performance Improvement Council. Dr. McQuiston has been instrumental in obtaining accreditation for the Early Specialization in Intervention Radiology (ESIR) program. He also instituted plans for new mini-fellowships for our senior residents, in their 4th year.

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 is a fellowship trained breast imager, has played a key role in her contributions to the department and women's imaging center over the last year. Given Dr. Lightner's resignation, Dr. Park has increased her responsibilities and leadership role in managing the breast imaging section and staff. She has overseen the increase in services provided at our new Strada outpatient women's imaging center. She is an advisor to the breast program leadership committee seeking accreditation from the national accreditation program for breast centers. She is part of the inter-departmental team of USA surgeons and oncologists who develop treatment plans for breast cancer patients. She was instrumental in helping implement and integrate the special requirements needed for the breast image

reporting system (BIRADS) in the new Cerner EMR. She has also filled a vacated position on several intradepartmental residency program evaluation committees.

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 M3 and M4 medical students. He is also a member of and advisor for the Quality Improvement Committee for the radiology department.

Dr. Brad Steffler is the section chief of body imaging and serves on the ED and CME Committees for the USA Health System. Over the past year, he completed the TOPAZ Study, with the GI Department and is starting the BLINK Study, also with the GI Department. He has book chapter collaboration with the neurology department.

Diligent efforts at faculty recruitment have finally paid off for the Department of Radiology. We are excited to announce our new faculty members. Dr. Brett Martin joined the USA College of Medicine in July as an Assistant Professor of Radiology in the division of Neuroradiology. Prior to joining our department, Dr. Martin completed his radiology residency at USA and a subsequent fellowship year in neuroradiology at Georgetown University Medical Center in Washington DC. Dr. Zeiad Hussain will be joining our department as an Assistant Professor in the division of Interventional Radiology in the fall of 2018. He completed a 5 year diagnostic and interventional radiology residency program at Guys and Saint Thomas Hospitals in London, UK. Dr. Hussain is currently finishing an interventional radiology fellowship at the University of Miami Jackson Health System in Miami, Florida. In January 2019, the radiology department will be welcoming Dr. Gregg Delgado as an Assistant Professor in the division of Musculoskeletal Radiology. Dr. Delgado completed a radiology residency at Garden City Hospital, Garden City, MI as well as fellowships in neuroradiology at the University of Texas Health Science Center, San Antonio, TX and musculoskeletal radiology at Birmingham Radiological Group in Birmingham, Alabama. He was a former Assistant Professor at the University of Texas Health Science Center and has over a decade of experience in private practice. Finally, we will be welcoming Dr. Patrick Patten into our department as an Assistant Professor in the summer of 2019. Dr. Patten graduated from our USA radiology residency program this year and will complete a fellowship in interventional radiology at UAB in Birmingham, Alabama.

Our residents continue to excel on the annual ABR core exam. All of our senior residents matched in prestigious and highly competitive fellowship programs that include the University of Alabama in Birmingham, Mount Sinai Health System in New York, and MD Anderson in Houston, Texas. We have also had great success in our residency recruitment with four new residents joining us this July as follows: Dallas Blanco, William Carey

University; Anam Chouhdry, American University of the Caribbean; Elramah Mohamed, Alabama College of Osteopathic Medicine; Daniel McAndrews, Ross University.

Drs. Anam Chouhdry and Mohamed Elramah completed an internal medicine internship here at USA. Dr. Blanco completed a transitional year at Brookwood Baptist Health Hospitals in Birmingham, AL, and Dr. McAndrews completed a surgical preliminary year at Wellstar Atlanta Medical Center in Atlanta, GA.

We have also had many successes in the department overall this year. We have improved faculty scholarly activity since the previous academic year with multiple publications, funded research projects, as well as national and regional presentations. We have successfully completed all three levels of the Vizient project for practice transformation. The department is prepared to participate in the new at risk billing model. Radiology remains a leader in the Cerner implementation and ACR Clinical Decision Support thanks to the outstanding service of key people including Greg House our head of IT and technical directors Tessie Johnson, Eduardo Rel and Joey Baggett. Our DOO Ron Ori has provided outstanding support in recruitment and credentialing. Our Assistant Administrator Alice Johnson also greatly facilitated meeting the radiology departments' needs as we continue to grow, particularly in IR, as well as planning for a permanent MRI, and contributing to our recruitment process.

Innovative new and ongoing programs in our department include the final accreditation for our Early Specialization in Interventional Radiology training program; initiating a collaborative High Resolution CT Lung Cancer Screening program with MCI; working towards final accreditation by the National Accreditation Program for Breast Centers; opening the new outpatient Strada Women's Imaging Center and offering 3D mammography; and executing the space planning transformation of the radiology department at USA Children's and Women's hospital. We anticipate further growth in the coming year with our new faculty hires and look forward to new opportunities to advance our clinical service, teaching and research missions.

2017-2018
Summary of Scholarly Activities
Department of Surgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Afshari A, Nguyen L, Kahn SA, Montgomery AC, Shinha T, Stratton C, Summitt B. The effective duration of antimicrobial activity of mafenide acetate after reconstitution. *J Burn Care Res.* 2018 Sep/Oct;39(5):736-738.

Beckett A, Kahn SA, Seay R, Lintner A. Invasive *curvularia* infections in burn patients: a case series. *Surgical Infections Case Reports.* 2017;2(1):76-79.

Black GE, Sokol KK, Moe DM, Simmons JD, Muscat D, Pastukh V, Capley G, Gorodnya O, Ruchko M, Roth MB, Gillespie M, Martin MJ. Impact of a novel phosphoinositol-3 kinase inhibitor in preventing mitochondrial DNA damage and damage-associated molecular pattern accumulation: results from the Biochronicity Project. *J Trauma Acute Care Surg.* 2017 Oct;83(4):683-689.

Chatmethakul T, Bhat J, Zayek M, Glasser JG, Bhat R, A rare occurrence of infantile hypertrophic pyloric stenosis following a primary surgical closure of gastroschisis in a neonate [letter]. *J Neonatal Surg.* 2017 Oct-Dec;6(4):84.

Freno D, Sahawneh J, Harrison S, Sahawneh T, Patterson SB, Kahn SA. Determining the role of nasolaryngoscopy in the initial evaluation for upper airway injury in patients with facial burns. *Burns.* 2018 May;44(3):539-543.

Glasser JG, Nottingham JM, Durkin M, Haney ME, Christensen S, Stroman R, Mammett T. Case series with literature review: surgical approach to megarectum and/or megasigmoid in children with unremitting constipation. *Ann Med Surg (Lond).* 2017 Dec 27; 26:24-29.

Hunter JL, Blair SG, Brevard SB, Simmons JD, Ding L. Venous embolization of shotgun pellets in the setting of vascular and tracheal injury. *Am Surg.* 2018 Jun 1;84(6):e206-2017. [subscription required].

Hunter JL, Blair SG, Quang CY, Mitchell ME, Simmons JD. Popliteal artery injuries in the morbidly obese can occur while engaged in activities of daily living. *Am Surg.* 2018 Feb 1;84(2):e82-e84. [subscription required].

Kahn SA, Mosier M. Firefighter injury data are wrought with discrepancy: pearls from the national burn repository. *J Burn Care Res.* 2018 Jun 13;39(4):623-625.

Lasecki CH, Mujica FC, Stutsman S, Williams AY, Ding L, Simmons JD, 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. *J Trauma Acute Care Surg.* 2018 Jan;84(1):70-74.

McGinn KA, Weigartz K, Lintner A, Scalese MJ, Kahn SA. Nebulized heparin with N-acetylcysteine and albuterol reduces duration of mechanical ventilation in patients with inhalation injury. *J Pharm Pract.* 2017 Dec 12;897190017747143. Available from: <http://journals.sagepub.com/doi/pdf/10.1177/0897190017747143>

Rattan R, Joseph DK, Dente CJ, Klein EN, Kimbrough MK, Nguyen J, Simmons JD, O'Keeffe T, Crandall M. Prevention of all-terrain vehicle injuries: a systematic review from the Eastern Association for the Surgery of Trauma. *J Trauma Acute Care Surg.* 2018 Jun;84(6):1017-1026.

Rider P, Hunter J, Grimm L. The diagnostic and therapeutic challenge of anal intraepithelial neoplasia. *Curr Gastroenterol Rep.* 2018 Jul 5;20(8):38.

Schulz S, Zeiderman MR, Gunn JS, Riccio CA, Chowdhry S, Brooks R, Choo JS, Wilhelmi BJ. Safe plastic surgery of breast II: saving nipple sensation. *Eplasty.* 2017 Nov 21;17:e33. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5700452/>

Simmons JD, Kahn SA, Vickers AL, Crockett ES, Whitehead JD, Kreckler AK, Lee YL, Miller AN, Patterson SB, Richards WO, Wagner WW Jr. Early burn depth assessment with infrared time lapse thermography. *J Am Coll Surg.* 2018 Apr;226(4):687-693.

Zeiderman R, Kelishadi SS, Tutela JP, Rao A, Chowdhry S, Brooks RM, Wilhelmi BJ. Vapocoolant anesthesia for cosmetic facial rejuvenation injections: a randomized, prospective, split-face trial. *Eplasty.* 2018 Feb 7;18:e6. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5809626/>

Zeiderman MR, Kelishadi SS, Tutela JP, Chowdhry S, Brooks RM, Wilhelmi BJ. Reduction mammoplasty: intraoperative weight versus pathology weight and its implications. *Eplasty.* 2017 Oct 12;7:e32. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5656939/>

II. PUBLISHED ABSTRACTS

Artz CE, Liles JS. Acral lentiginous melanoma – a curious case. University of South Alabama M3 Case Symposium; 2018 Jun 7; Mobile, AL.

Bierman T, Kahn SA. Inhalant abuse and burn injury: “huffing” a killer of skin cells in addition to brain cells. 30th Southern Regional Burn Conference Meeting; 2017 Nov 2-5; Miami, FL.

Grimm L, Hunter JD, Rider PF. Overlapping sphincteroplasty for the treatment of fecal incontinence [video]. American College of Surgeons Clinical Congress 2017; 2017 Oct 22-26; San Diego, CA.

Kahn SA, Siordia C. Temporal trends of firefighter crude mortality rates: trauma on the decline but cardiovascular events remain prevalent. 30th Annual Southern Regional Burn Conference. 2017 Nov 2-5; Miami, FL.

Lintner AC, Scott C, Mullens B, McGinn K, Kahn SA. Coke with a “K” - oral administration of injectable ketamine during burn wound dressing changes. 30th Annual Southern Regional Burn Conference; 2017 Nov 2-5; Miami, FL.

Long E, Abdul-Rahim O, Rider P, Richards WO. Gastric leaks arising after bariatric surgery and an innovative approach to closure. Society of American Gastrointestinal and Endoscopic Surgeons and Canadian Association of General Surgeons 16th World Congress of Endoscopic Surgery Scientific Session and Post-graduated Courses; 2018 Apr 11-14; Seattle, WA. p. 165. Abstract no. P492.

Purvis MV, Beckett AR, Beasley JR, Reed HE, Haiflich A, Lee Y, Ding L, Bowden SE, Panacek EA, Brevard SB, Simmons JD. Overutilization of helicopter EMS in the Central Gulf Coast Region. 13th Annual Academic Surgical Congress; 2018 Jan 30 – Feb 1; Jacksonville, FL. p. 32. Abstract no. 8.04.

Purvis MV, Beckett AR, Beasley JR, Reed HE, Haiflich A, Lee Y, Ding L, Bowden SE, Panacek EA, Brevard SB, Simmons JD. Overutilization of helicopter EMS in the Central Gulf Coast Region. University of South Alabama Residents and Fellow Exposition 2018; 2018 May 22; Mobile, AL.

Purvis MV, Lintner A, Lindsay L, Scott VL, Kahn SA. An adjusted ideal body weight index formula with FFP rescue decreases fluid creep during burn resuscitation. 30th Annual Southern Regional Burn Conference; 2017 Nov 2-5; Miami, FL.

Williams AY, Davis SN, Hill SK, Connor P, Lee Y, Butts CC, Simmons J, Brevard S, Ding L. Trauma patients have improved access to post-discharge resources through the Affordable Care Act. 13th Annual Academic Surgical Congress; 2018 Jan 30 – Feb 1; Jacksonville, FL, p. 87. Abstract no. 62.03.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Barber WH. Invited speaker. Emergency general surgery in the cirrhotic. 9th Annual Gulf Coast Acute Care Surgery Symposium & 11th Annual William A. L. Mitchell Endowed Lecture; 2018 Mar 22; Mobile, AL.

Brevard SB. Invited speaker. Stop the bleed. 9th Annual Gulf Coast Acute Care Surgery Symposium & 11th Annual William A. L. Mitchell Endowed Lecture; 2018 Mar 23; Mobile, AL.

Brevard SB. Invited speaker. Advances in the management of hemorrhage and traumatic shock. 67th Annual Meeting of the Society of Pelvic Surgeries; 2017 Oct 12; Point Clear, AL.

Brevard SB. Invited speaker. Stop the bleed. University of South Alabama Med School Café; 2018 Jun 15; Mobile, AL.

Brooks R. Invited speaker. Soft tissue coverage of the mangled extremity. 9th Annual Gulf Coast Acute Care Surgery Symposium & 11th Annual William A.L. Mitchell Endowed Lecture; 2018 Mar 24, 2018; Mobile, AL.

Ding L. Invited speaker. Palliative care. Ethics Club; 2018 May 18; Mobile, AL

Ding L. Invited speaker. Violence: a public health epidemic. 9th Annual Gulf Coast Acute Care Surgery Symposium & 11th Annual William A. L. Mitchell Endowed Lecture, 2018 Mar 22; Mobile, AL.

Ding L. Invited speaker. Damage control principles for the general surgeon. American College of Surgeons Alabama and Mississippi Chapters 2018 Annual Conference; 2018 Jun 8; Destin, FL.

Ding L. Invited speaker. Papers that should change your practice. American College of Surgeons Alabama and Mississippi Chapters 2018 Annual Conference; 2018 Jun 9; Destin, FL.

Ding, L. Invited speaker. Women in medicine and surgery. American Medical Women's Association Student Chapter; 2017 Dec 13; Mobile, AL.

Kahn SA. Unique considerations for burn injuries in worker's compensation cases. Alabama Department of Health Annual Meeting; 2017 Oct 12; Birmingham, AL.

Kahn SA. Invited speaker. F-160. Fire fighter I: carbon monoxide & cyanide poisoning - how they affect fire fighters continental A- L; Fifth Cyanide Working Group Meeting; 2018 Apr 6; Atlanta, GA.

Kahn SA. Invited speaker. Use of virtual reality in burn care. International Association of Fire Fighters 14th District Caucus; 2018 Jun 26, Orange Beach, AL.

Liles SJ. Invited speaker. Surgical management of breast cancer. Oncology Outlook 2018; 2018 Apr 14; Orange Beach, AL.

Richards W. Invited speaker. You have been served...giving a deposition & testimony. American College of Surgeons Alabama and Mississippi Chapters 2018 Annual Conference; 2018 Jun 8; Destin, FL.

Richards W. Invited speaker. Patients with Barrett's esophagus should undergo anti-reflux surgery. American College of Surgeons Alabama and Mississippi Chapters 2018 Annual Conference; 2018 Jun 8; Destin, FL.

Rodning CB. Invited speaker. Welcoming address. 9th Annual Gulf Coast Acute Care Surgery Symposium & 11th Annual William A. L. Mitchell Endowed Lecture; 2018 Mar 22; Mobile, AL.

Rodning CB. Invited speaker. Welcoming address. 9th Annual Gulf Coast Acute Care Surgery Symposium & 11th Annual William A. L. Mitchell Endowed Lecture; 2018 Mar 23; Mobile, AL.

Rodning CB. Invited speaker. Medicine in art. University of South Alabama Med School Café; 2018 Apr 13; Mobile, AL.

Simmons J. Invited speaker. Transfusion-induced ARDS. University of Alabama at Birmingham Surgical Grand Rounds; 2018 Mar 26; Birmingham, AL.

Simmons J. Invited speaker. How many cells are in acellular plasma. 9th Annual Gulf Coast Acute Care Surgery Symposium & 11th Annual William A. L. Mitchell Endowed Lecture; 2018 Mar 23; Mobile, AL.

Simmons J. Invited speaker. Developing thermography for early diagnosis in burns. University of Alabama at Birmingham Center for Clinical and Translational Science; 2018 Mar 26; Birmingham, AL.

Simmons J. Invited speaker. Clowes Award update. American College of Surgeons Clinical Congress 2017; 2017 Oct 23; San Diego, CA.

V. NATIONAL PROFESSIONAL RECOGNITION

Sidney B. Brevard: Executive Council, *Alabama, American College of Surgeons: Chairman, AL Committee on Trauma, February 2018, Alabama State Trauma Advisory Council, Mississippi Gulf Coast Trauma Committee, December 2017.*

Steven A. Kahn: Reviewer, *Army Research Office Extramural Basic Research – Life Sciences Section, 2017*, Invited speaker *American Burn Association Annual Meeting 2018- Course Director and Lecturer- 2018 Apr 11*, American Burn Association Annual Meeting 2018- *Sunrise Session Moderator, S-213. Burn Centers & Fire Fighters: Building Relationships 4K, 2018 Apr 1*, American Burn Association Annual Meeting 2018- *Podium Session Moderator, C-354. Correlative XI - Critical Care: Clinical III, 2018 Apr 13*, Reviewer, *Journal Burn Care and Research, Burns, Surgical Infections*,

William O. Richards: Invited speaker, *Surgical Treatment of Barrett's Esophagus. Minimally Invasive Surgery Symposium 2017 Mar 1, Las Vegas Nevada, Update on Achalasia and Esophagogastric Junction Outlet Obstruction. Minimally Invasive Surgery*

Symposium 2017 Mar 1, Las Vegas Nevada, The Nutritionally Depleted Patient. Alabama Chapter of the American College of Surgeons Annual Meeting. 2017 Jun 9, Point Clear, Alabama, Minimally Invasive Treatment of GERD, Hiatal Hernia and Barrett's esophagus. Alumni Weekend 2017 Jun 10, Pensacola Beach, FL, "The Truth and Nothing but the Truth: The Deposition" Presented at the Southeastern Surgical Congress 86th Annual Scientific Meeting, Tampa, FL, 2018 Feb 11, Moderator: Southeastern Surgical Congress 86th Annual Scientific Meeting, Tampa, FL, 2018 Feb 12, "Comparative Analysis of Nissen Fundoplication and Magnetic Sphincter Augmentation For the Treatment of Medically Refractory Gerd" Presented at Southeastern Surgical Congress 86th Annual Scientific Meeting, Tampa, FL, 2018 Feb 13, James Glenn Donald, III, M.D., F.A.C.S., Memorial Resident Poster Presentation, American College of Surgeons Alabama and Mississippi Chapters 2018 Annual Conference; 2018 Jun 8; Destin, FL., Reviewer, Ad hoc reviewer for Annals of Surgery, Ad hoc reviewer for Digestive Diseases and Sciences, Ad hoc reviewer for Journal of Surgical Research, Ad hoc reviewer for Surgery, Ad hoc reviewer for Physiological Measurement.

Paul F. Rider: Journal Peer Reviewer, *Ochsner Journal*, *Committee on Video-Based Education*, ACS, *Alabama District #2 Committee on Applicants*, ACS, *American Society of Colon and Rectal Surgeons CARSEP Committee*.

Jon D. Simmons: Reviewer, *Journal of Trauma & Acute Care Surgery*, *Journal of Surgical Education*, *Journal of Surgical Research*, *Annals of Surgery*, *Publications Committee – Association for the Surgery of Trauma (AAST)*.

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. The graduating medical students voted the Surgery clerkship as the best junior student clerkship at the University Of South Alabama College of Medicine in 2018. This is a remarkable change since the Department of Medicine has previously won this award for the past 20 years in a row. Lee Grimm, MD, Surgery Clerkship Director, Linda Ding, MD, Assistant Clerkship Director and the clerkship coordinator Jill Garcia were instrumental in creating the environment and redesign of the clerkship to achieve recognition as the best student clerkship.

In addition to the award of the best student clerkship Linda Ding, MD, Lee Grimm, MD, Spencer Liles, MD, William Richards, MD, Charles Rodning, MD, and Jon Simmons, MD, were awarded the red sash award by the senior medical students for their significant contributions to the graduating medical students' education. In addition, many faculty including Sid Brevard, MD, Lee Grimm, MD, Marcus Tan, MD, William Richards, MD, and Paul Rider, MD participated in the active learning sessions for the first and second year students under the new system based curriculum.

Students continued to perform well on the NBME while participating in the Team-based learning modules designed by Lee Grimm, MD and the faculty of the DOS. The students on average are performing at the 62%ile, which is better than average compared to national

performance. We attribute the excellent performance on the NBME scores and the 100% match into general surgery residency programs to the curriculum and teaching redesign implemented by Dr. Grimm and the faculty of the DOS.

In June 2018, Dr. Grimm relinquished his position as Clerkship Director to take the position as Program Director of the General Surgery residency. Linda Ding, MD and John Hunter, MD were named as the Co-Directors of the Surgery clerkship.

General Surgery Residency Training: Jon Simmons, MD, FACS in his fourth year as Program Director along with associate program director Paul Rider, MD, FACS 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 graduating residents continue to match into competitive fellowship programs or to successfully transition to private practice in general surgery.

Dorothy Dickinson has provided outstanding leadership in her role as the General Surgery Residency and Surgical Critical Care Fellowship Program Coordinator. She also serves on the Executive Committee for the Association of Administrators in Surgery and chaired a highly successful charity event Breast Cancer Prevention Partners in April 2018.

In June Dr. Simmons was named the Chief of the Division of Acute Care Surgery and relinquished his position as Program Director of the General Surgery Residency program. Dr. Lee Grimm took over as Program Director.

Recruitment: The Department was able to recruit several outstanding surgeons to continue the clinical, academic, and educational missions of the Department. Chris Kinnard, MD and Katrina Weaver, MD provided expert clinical care on the Trauma/critical care/acute care surgery service. After working on the service for 5 months, Dr. Weaver was accepted into Pediatric surgery fellowship in January 2018 and has been recruited to start as faculty in Pediatric Surgery in January 2020 after completion of her fellowship in Pediatric surgery.

Division of Traumatology/Surgical Critical Care/Acute Care Surgery: Sidney B. Brevard, M.D., F.A.C.S., is in his fourth 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 Division participates in the American College of Surgeons Trauma Quality Improvement Project (TQIP), which measures Risk-Adjusted Mortality compared to 750 trauma centers in the database. From April 2016 through March 2017 the USA Trauma Center Observed to Expected Mortality was 0.70 much less than expected which ranked the USA Trauma Center as being in the top 10% of trauma centers in the ACS TQIP database. Under the able direction of Dr Brevard and with all the skilled faculty recruited to the division we have seen an improvement in quality of care delivered.

Dr. Brevard stepped down from being the Chief of the Division, After a national search, Jon Simmons, MD was selected to be the Chief of the Division in June 2018.

Division of Burn Surgery: Steve Kahn, MD 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 eight of the top 10 burn units did 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 John Gosche, MD into part time practice and set about to recruit more full time pediatric surgical faculty. Hanna Alemayhu, MD and Katrina Weaver, MD will join the faculty in Pediatric surgery after completion of their fellowship training in September 2018 and January 2020 respectively. Dr Hartin has also reinvigorated medical student and resident teaching on the pediatric surgery service achieving high levels of resident and medical student satisfaction with their educational experience.

Dr. Randall Powell, M.D., FACS established the Randall W. Powell, M.D. Lectureship in Pediatric Surgery at the USA College of Medicine. Dr. Powell an Alpha Omega Alpha medical honor society graduate joined the department of Surgery as an Assistant Professor in 1984 and was promoted to Professor in 1991 and served in that role until he retired in 2009. We are saddened to report that Dr. Powell died in July 2016. Dr, Michael Caty a distinguished Pediatric Surgeon and Chair of the Department of Surgery at Yale University gave the first endowed lectureship in October 2017.

Colorectal Surgery: Dr. Rider in his fourth year as the Chief of the Division of Colorectal Surgery continued the development of the colorectal surgery division. Drs. Grimm and Rider developed the multidisciplinary colorectal cancer multidisciplinary tumor conference (MDT) 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, this multi-disciplinary team has treated 204 patients. 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 John Hunter, MD, 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 expect mortality in 2017/2018 is related to the superior care the colorectal service delivers while performing major small and large bowel resections. Dr. Hunter in particular has been instrumental in improving resident flexible endoscopy training needed to graduate from general surgical residency programs.

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 and faculty 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 until his retirement in September 2018. Dr. Rodning was awarded the Red Sash award for significant contributions to the graduating medical students' education 38 years in a row.

One of the major improvements in resident autonomy and education was creation of a Chief Resident Clinic, which is run by the PGY 5 Chief Resident with close attending supervision. This allows the chief residents to run their own clinic and increase their decision-making in preparation for complete autonomy. There has been substantial improvement in quality of general surgical services, which includes our Gastrointestinal, colorectal, and oncologic surgery divisions as measured by the Vizient observed to expected mortality for (0.88) that was substantially better than expected and ranked 39 percentile for the last year. 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.

John Hunter, MD was named the director of the Robotic Surgery at USAMC, and quickly trained Paul Rider, MD and William Richards, MD. Dr. Hunter also established robust training for the residents on the robot system using the simulator and developed a competition and prizes for the residents. This proved to be highly entertaining while increasing resident technical skills and participation in simulation training. One of the prizes given to the winners of the robotic competition was a Charles Rodning bobble head

doll complete with red beret, green scrubs, glasses and long locks of hair.

Breast and Endocrine: Spencer Liles, M.D. completed his third 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.

Drs. Liles and Lynne Dyess serve as co-directors of the Breast cancer multidisciplinary conference, and both Drs. 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 third 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. Dr. Curtis Harris continues to provide expert care of patients needing plastic and reconstructive 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. A new monthly conference on Gastrointestinal disorders was started to increase the collaborative efforts between Gastroenterology and surgery.

Surgical Oncology: Marcus Tan, M.D., F.A.C.S. accepted a position at Vanderbilt and left USA. Spencer Liles, MD is in his third year as a faculty member has increased the number of breast, melanoma, and endocrine cancer patients seen in his clinic. Dr. 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. Two surgical Oncologists (Annabelle Fonseca, MD Harrison Howard, MD), were recruited to take Dr. Tan's place and will join the Department in October 2018.

Humanitarian Efforts: Drs. Simmons and Grimm led a group of USA surgery residents and USA medical students to Rwanda in 2018 on mission trips to provide medical care. The National Disaster Medical System called up Dr. Lynne Dyess to deploy to Puerto Rico in September 2017 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 third 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. Amazing science is coming from this collaborative effort, which is also incorporating surgical residents such as Dr. Andy Tan a PGY2 resident in surgery who has taken 2 years away from clinical training to work in Dr Simmons' lab.

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.

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 determines 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 3-year surgical clerkship.

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 and 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. was a co-investigator The Caliber Study a randomized clinical trial investigating the outcomes after LINX or magnetic sphincter augmentation verses double-dose PPI for Reflux Disease. The study found that magnetic sphincter augmentation was much better at objective and subjective improvement of GERD symptoms compared to increasing doses of PPI.

In summary, the Department of Surgery faculty is 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; the faculty in the Department has developed gastrointestinal physiology, cancer, and wound healing. 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.

2017-2018
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 35 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.usahealthsystem.com/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. Yong Tan (Andy), Postdoctoral Fellow, Department of Surgery, presented *Increasing the Pool of Donor Lungs Available for Transplant*; Dr. Dhananjay Tambe, Assistant Professor, Department of Mechanical Engineering, presented *Mechanical signaling in pulmonary endothelial cells*; Dr. Michael Francis, Assistant Professor, Department of Physiology and Cell Biology, presented *Calcium signatures of the vascular endothelium*; Dr. Mary Townsley, Senior Associate Dean of the College of Medicine, presented *Permeability and calcium signaling in lung endothelium: unpack the box*; Dr. Mark Gillespie, Professor and Chair, Department of Pharmacology, presented *Mechanisms and pharmacological significance of*

mitochondrial dysfunction in lung disease; Dr. Rob Barrington, Associate Professor, Department of Microbiology, presented *Multi-Wall Carbon Nanotube Model for Pulmonary Sarcoidosis*; Dr. Wito Richter, Assistant Professor, Department of Biochemistry, presented *Targeting type 4 cAMP-phosphodiesterases (PDE4s) in inflammatory lung diseases*; Dr. Jonathan Rayner, Associate Professor, Department of Microbiology and Immunology, Director, Laboratory of Infectious Diseases, presented *Establishing virology research capabilities at the LID*.

Extramural Funding

In the past year, CLB principal investigators submitted 54 grant applications to the American Heart Association (AHA), National Institutes of Health (NIH), and other foundations/industries. To date, fifteen applications from the previous fiscal year were awarded generating over \$16.8 million in new revenue over the next five years. Joshua Deal, Graduate Student, Department of Pharmacology (Mentor Dr. Thomas Rich) received two awards an Office of Research and Economic Development – ORED Fellowship entitled *Demystifying autofluorescence with excitation scanning hyperspectral imaging* and an American Heart Association (AHA) Predoctoral Fellowship (Mentors Drs. Silas Leavesley and Thomas Rich) entitled *Hyperspectral Imaging as a Novel Method to Classify Atherosclerotic Plaque*. Dr. Donna Cioffi, Associate Professor, Department of Biochemistry received an Intramural Research grant through the College of Medicine entitled *Regulation of endothelial store operated calcium entry by an FKBP51/PP5C axis*. Dr. Rob Barrington, Associate Professor, Department of Microbiology received an Intramural Research grant through the College of Medicine entitled *Underlying Mechanisms Mediating Autoimmune Pulmonary Alveolar Proteinosis*. Lina Abou Saleh, Graduate Student, Department of Biochemistry (Mentor Dr. Wito Richter), received a Cystic Fibrosis Foundation – CFF fellowship grant entitled *Novel Host-Pathogen Interactions in the Airway Epithelium*. Dr. Thomas Rich, Professor, Department of Pharmacology, received the following two awards an AHA Institutional Undergraduate Student Fellowship entitled *Undergraduate Summer Research Experience at University of South Alabama*, and an NIH R01 subcontract with Thomas Jefferson University entitled *Functional Diversity of Compartmentalized Calcium Signaling in Airway Smooth Muscle*. Dr. Wito Richter, Assistant Professor, Department of Biochemistry, received the following two awards NIH R01 entitled *Regulation of phosphodiesterases and cAMP signaling during the host-pathogen interaction in the pulmonary endothelium*, and an Intramural Research grant through the College of Medicine entitled *cAMP-Phosphodiesterase PDE4D as a Target for Colon Cancer Therapy*. Dr. Mike Lin, Assistant Professor, Department of Physiology and Cell Biology, received an NIH R01 entitled *Nosocomial pneumonias impair cognitive function*. Dr. Troy Stevens, Professor and Chair, Department of Physiology and Cell Biology, Director, Center for Lung Biology received an NIH P01 Competitive Renewal entitled *Lung endothelial cell phenotypes*. Dr. Mark Gillespie, Professor and Chair, Department of Pharmacology, received an NIH R01 Competitive Renewal entitled *MtDNA repair: An isolated pharmacologic target in acute lung injury*. Dominika Houserova, Graduate Student, Department of Pharmacology (Mentor Glen Borchert) received an Alabama Commission on Higher Education – ACHE fellowship entitled *Novel Noncoding RNA Contributors to Salmonella Stress Response*. Dr. Ji Young Lee, Assistant Professor, Department of Internal Medicine and Physiology and Cell Biology, received an American Heart Association (AHA) Career Development Award (Mentor Dr. Troy Stevens) entitled *Carbonic anhydrase IX and pulmonary endothelial cell acidosis during infection*. Dr.

Ningyong Xu, Postdoctoral Fellow, Department of Physiology and Cell Biology, received an NIH F32 (Mentor Drs. Troy Stevens and Dhananjay Tambe) entitled *TRPC4-dependent cytosolic Ca²⁺ signals coordinate interendothelial contractile forces that elicit gap formation*.

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 15th 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, 16 predoctoral fellows trained in the laboratories of CLB faculty and affiliated with the Lung Biology track in the Basic Medical Sciences Doctoral Program. One Lung Biology trainees completed requirements for the Ph.D. within this academic year (McClinton).

2017-2018
Summary of Scholarly Activities
Center for Healthy Communities

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Fruh SM, Mulekar MS, Crook E, Hall H, Adams J, Lemley T. The family meal challenge: a faith-based intervention to empower families. *J Christian Nurs*. 2018 Jul/Sep;35(3):191–197.

Hanks RS, Myles H, Wraight S, Williams MC, Patterson C, Hodnett BM, Broadnax A, Shelley-Tremblay S, Crook E. A multigenerational strategy to transform health education into community action. *Prog Community Health Partnersh*. 2018;12(Special Issue):121–128.

II. PUBLISHED ABSTRACTS

Arrieta MI, Parker LL, Parsons-Wells N, Hudson M, Crook E. Can we sharpen the focus? Small area and sentinel surveillance estimates for a health disparate population. American Public Health Association 2017 Annual Meeting & Expo; 2017 Nov 3-7; Atlanta, GA. Abstract no. 3215.0.

Chen YX, Shi C, Deng J, Diao C, Clarkson M, Shrivastava V, Adijiang A, Hu A, Chiu MH, Gwilym B, Hellmich A, Malozzi C, Batulan Z, O'Brien ER, Gerthoffer W. HSP27 immunization attenuates atherogenesis by markedly reducing plasma PCSK9 and cholesterol levels. *Atheroscler Suppl*. 2018 Jun;32:12. Abstract no. C2-5.05.

Parker LL, Parsons-Wells N, Hudson M, Arrieta MI. Returning what was given: communicating research findings in the community. American Public Health Association 2017 Annual Meeting & Expo; 2017 Nov 3-7; Atlanta, GA. Abstract no. 3212.0.0

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Arrieta M. Invited speaker. Community engagement: is there any value for translational researchers? University of Alabama at Birmingham Center for Clinical and Translational Science; 2018 May 16; Birmingham, AL.

Crook E. Invited speaker. Community and academics at the altar: community-academic in partnership to achieve health equity. University of Alabama at Birmingham Center for Clinical and Translational Science, Community Engagement Institute; 2017 Oct 6; Birmingham, AL.

Crook E. Invited speaker. Achieving health equity by addressing the social determinants of health. 2017 Student National Medical Association Regional Medical Education Conference; 2017 Oct 14, Mobile, AL.

Hudson K, Timothy Linthicum, Crook E. Health care apartheid: race-ethnicity, labor, and affordable care in the United States. Southern Sociological Society 2018 Meeting; 2018 Apr 5; New Orleans, LA.

Parsons-Wells N. Invited speaker. Community engagement in research. University of South Alabama Office of Research Compliance and Assurance Clinical Research Fundamentals; 2018 Jul 27; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Led by Dr. Errol Crook, the University of South Alabama Center for Healthy Communities continues to foster partnerships with community and academic partners as well as other stakeholders. The Center is in its second 5-year cycle of the P-20 grant funding from NIH's National Institute for Minority Health and Health Disparities. In addition, the Center has been awarded a 5-year subcontract with UAB on the Alabama Precision Medicine Initiative that is also NIH funded. The Center's efforts are focused on research and community engagement. 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:

The Research Core, led by Dr. Martha Arrieta, has continued to focus on providing support to sub-projects within the Center. All of the Core's projects have been recognized with acceptance of material for presentation at prestigious scientific meetings. In addition to supporting the research projects, CHC continues to sponsor the Health Disparities Research Group (HDRG).

This year HDRG has hosted monthly meetings and collaborative initiatives. The Center is currently planning a regional forum focused on expanding health disparities research and community based participatory approaches. In the past, community members and several faculty members participated with many posters presented. The HDRG has continued its momentum and has worked on original projects with community based participatory research themes. HDRG continues to be a strong force for health disparities research at USA.

Community Engagement:

Roma Hanks, PhD directs the Community Engagement Core. The two 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. The CHAs have maintained their roles as leaders in the community in the form of health advocacy through health education and health initiatives. We have had over nine CHA directed projects which are focused on the main topics of concern that were identified in our health disparities workshops. Topics include mental health, empowerment of young women / girls, healthy diet, community gardening, and physical activity. In 2018, Dr. Hanks, staff members, and CHAs published an article that is referenced above. In addition, the CHA PhotoVoice projects will be featured in an installation at the Alabama Contemporary Arts Center for five months starting August 2018.

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 year, ten students who were successful last year as STARS (Students Training for Academic Reinforcement in the Sciences), were invited to return as STRIPES (Special Training to Raise Interest and Prepare for Entry into the Sciences). The program provided enrichment in math, sciences, language arts, and test-taking, and include activities focused on retention throughout the school year. We continue our partnership with the USA College of Education and the Mobile County Summer Youth Internship Program (STEP). High achieving and motivated graduates of STRIPES are eligible for the Undergraduate Research Program after their first year of college.

Research Training and Mentoring:

Dr. Crook continues to lead 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 summer 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 2018, six students participated in the summer research program. Each student presented their work in poster presentation at the College of Medicine Research Day on July 27, 2018.

2017-2018
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 and the USA Department of OB/GYN successfully completed a 4 year initiative on the awarded CMS Strong Start for Mothers and Newborns Initiative Grant and are now collaborating to begin an In-Home Remote Patient Monitoring pilot program for select high risk maternity patients at USA, Mobile County. We are excited about our new partnership with the Central Montana Medical Center (CMMC). This extends our case management services to CMMC and six rural Montana hospitals.

Medical Informatics and Healthcare Technology: RMEDE™, 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™ 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™ serves as the framework used for data management, 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 1,100 active Medicaid Pt 1st 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™ 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™ 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.

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 486 physicians, nurse practitioners, and physician assistants. Over \$200,000 was received in revenue from ALREC's membership service line. ALREC worked with USA's Medical Center to successfully complete Meaningful Use attestations for 75 clinicians. 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. 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.

2017-2018
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 D. Invited speaker. Emergency department preparedness for infectious disease patients: the role of mystery patient drills. Alabama Department of Public Health 13th Annual Laboratory Conference; 2018 May 10; Montgomery, AL.

Wallace D., Williams E. Invited speakers. Emergency preparedness: are you ready for November? Alabama Hospice & Palliative Care Organization 2017 Annual Conference; 2017 Oct 18; Orange Beach, AL.

Wallace D., Williams E. Invited speakers. Emergency preparedness 101 for healthcare facilities: part I. Association of Healthcare Emergency Preparedness Professionals Annual Pre-conference 2017; 2017 Nov 7; Dallas, TX.

Wallace D., Williams E. Invited speakers. Emergency preparedness 101 for healthcare facilities: part II. Association of Healthcare Emergency Preparedness Professionals Annual Pre-conference 2017; 2017 Nov 7; Dallas, TX.

- 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 and Response (ASPR).

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 Healthcare Coalitions established in each of the Public Health areas. At the end of the 2018 grant year, CDHP managed over 2000 AIMS accounts representing a variety of healthcare organizations including Core Healthcare Coalition members from hospitals, EMA, EMS, and Public Health. Additional AIMS users include Nursing Homes, Community Health Centers, Medical Needs Shelters, Hospice, Home Health and others. There were two major coding changes to AIMS during the year to reflect Federal Hospital Preparedness Program (HPP) Requirements for Healthcare Coalitions (HCCs): the redefining of the geographical boundaries for Alabama's HCCs and the transition from HAvBED to Acute Care Bed capacity reporting. The Alabama Department of Public Health transitioned from the former 11 Public Health Areas (HCCs) into 8 Public Health Districts (HCCs) which defined the State's Healthcare Coalition boundaries. The new geographical boundaries redefined the AIMS map and realigned the nearly 1000 facilities and their respective users. Additionally, the former Federal HAvBED reporting system was terminated (8 bed types: Adult ICU, Adult Med/Surg, Ped ICU, Ped Med/Surg, Negative Pressure/Isolation, Burn, Operating Room and Psychiatric) and replaced the HPP Coalition Surge Test (CST) bed reporting requirement for Acute Care beds (7 types: Adult ICU, Adult Med/Surg, NICU, Ped Med/Surg, Labor/Delivery, LTAC, and Psychiatric). To further assist HCCs and hospitals CST reporting requirements, CDHP developed code to display the percent total immediate bed availability and the percent acute care bed availability.

Throughout the year, CDHP monitored 184 notifications sent through AIMS to alert Healthcare Coalitions, organizations and associations throughout the state of local, State and Federal healthcare emergency preparedness exercises, communication updates, resource sharing requests and real events. Additionally, CDHP provided technical support for multiple real events which had the potential and/or direct impact on the delivery of patient care as result of Hurricane Nate, Subtropical Storm Alberto, Influenza and the associated Declaration of Public Health Emergency (January 11, 2018-March 12, 2018), fatal Charter Bus accident in Baldwin County, and Acrylamide, Hazmat event in Mobile County.

CDHP TRAINING

Now in its fifteenth year, CDHP 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 CDHP training from 2005 to 2018 is 18,004. 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).

CDHP Basic is a two-day course designed to provide core disaster response training. Ten 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 eight nationally recognized speakers who shared their experience and expertise on disaster medicine and hurricane Irma, an ASPR update, outbreaks of highly infectious diseases: dealing with biological risk and mathematical myths, mystery patient drills and emergency department preparedness, healthcare coalitions evolving to a whole community approach, medical surge, Pulse nightclub: mass casualty preparedness and lessons learned, regulatory compliance and sustaining effective communication during disasters and emergencies, and Alabama Healthcare Coalitions and hospital mutual aid compact. Attendance for the Basic courses totaled 445 students during 2017-2018.

Ten CDHP Simulation sessions were offered, each consisting of a one-day interactive training 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, 120 students participated.

Thirty-four CDHP 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/Healthcare Coalition District from a menu of topics to reflect the specific needs of each facility/Healthcare Coalition District. Road Show enrollment included 941 students during 2017-2018.

The CDHP Healthcare Emergency Preparedness Professional Certificate Course (HEPP) is an online course consisting of more than 250 hours of instructional material and interactive assignments engaging students in and outside of their healthcare facilities including meetings with their Healthcare Coalition, Emergency Management Agency and attendance at the USA-CDHP. This reporting period was the fourth program year, with seven students receiving certificates of completion. Participants represented Healthcare Emergency Management planning considerations and requirements (local, State, and Federal) of Hospitals, Nursing Homes, Federally Qualified Health Centers and Hospice. The HEPP course is designed to provide the opportunity to gain the knowledge, skills and capability to prepare and manage a healthcare facility's Emergency Management program. Overall, the students' pre-post assessment scores increased six points, with an average score of 44 out of 50 on the final assessment. On the course evaluation, 100% of students indicated the course provided an awareness of planning roles and responsibilities and a foundation of planning tools and resources needed for individuals responsible for their facility Emergency Management program.

2017-2018
Summary of Scholarly Activities
Comprehensive Sickle Cell Center

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Smith WR, Anderson NF, Axelrod DJ, Haynes J, Hirson JM, Kavanah PL, Lottenberg R, Miller SH, Mitchell EP, Zempsky WT. Sickle Cell Disease Council for CHANGE: improving vaso-occlusive crisis management. New York: Pfizer Inc.; 2018, 20 p.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Haynes, J. Invited speaker. Pathophysiology and medical management of sickle cell disease. Sickle Cell Disease Educator / Counselor Certification Program; 2017 Oct 3; 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); Panelist: Data and Safety Monitoring Board (DSMB) for Montelukast Trial in Sickle Cell Anemia; 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 / Service: 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.

Education: The Center faculty provides 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 16 years.

Dr. David Axelrod was the keynote speaker for this year's conference and the recipient of the Dr. Cecil L. Parker, Jr. Sickle Cell Disease Distinguished Endowed Lectureship Award.

Dr. Axelrod delivered a comprehensive review on inpatient pain management in sickle cell disease. Dr. Axelrod is the Director of the Sickle Cell Disease Program at the Thomas Jefferson University Hospital in Philadelphia, Pennsylvania.

This year's conference incorporated a series of presentations on inpatient and outpatient pain management, the new Alabama Board of Medical Examiners regulations and requirements, patient controlled analgesia, impact of sleep on pain, an insight concerning stroke risk when converting individuals identified by an abnormal transcranial doppler on chronic transfusions being changed to Hydroxyurea, (TWITCH) clinical trial. Also, a national speaker in partnership with American Society of Addiction Medicine presented risk evaluation and mitigation strategies (REMS) and attendees received pharmacy CME credits at no charge.

The *Dr. Cecil L. Parker, Jr. Sickle Cell Disease Distinguished Lectureship Endowment* is in its 11th year and continues to provide funding to support the USA Comprehensive Sickle Cell Center educational agenda in perpetuity. We will continue the clinical operations with the same determination and sincerity as we have previously. We continue to seek the necessary grant support to maintain 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.

On October 12, 2017 the USA Sickle Cell Center hosted Mary M. Hulihan, DPH, from the CDC who presented on, "CDC Guidelines for Prescribing Opioids for Chronic Pain," at the USA Medical Center Grand Rounds. She presented a second lecture at the Distinguished Scientist Series on, "Health Disparity Reports: Should Sickle Cell Disease be Included?"

Research: Ongoing research projects include, 1. 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."

2. Comparative Effectiveness of Peer mentoring vs Structured Education Based Transition Programming for the Management of Care Transitions in Emerging Adults with Sickle Cell Disease (Sub-Contract with Carolinas Healthcare System, Standard (STE) Arm, Patient-Centered Outcomes Research Institute).

Clinical Operations / Service: The Adult Sickle Cell Clinic has operated as a subspecialty clinic for over 19 years. This clinic serves over 200 clients and continues to grow. 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, Preethi Marri; Ms. Ardie Pack-Mabien, Nurse

Practitioner, and Ms. Aisha Davis, Case Manager. Family Medicine, Internal Medicine, and Pediatric residents rotate on a monthly basis through the Sickle Cell Clinics.

Ms. Pack-Mabien, Ms. Perryman and Ms. Davis 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 seventh year. In the PACT Program, a Learning Resource and Development Center (LRDC) is available and serves clients 13-19 years old. The LRDC is located 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.

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 physicians, legislators, clients, client's families, administrators, and community sickle cell foundations in April and September of each year. Dr. Haynes is now in his seventh year as Assistant Dean of Diversity and Inclusion in the USA College of Medicine. The Center is now in its 12th 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, Art May, Becky Tate, Primus Ridgeway, Toni Henry, and Ardie Pack-Mabien. This council facilitates the sickle cell center community education and outreach, public relations, event planning and fundraising. The Council is currently working on its signature event, "Tricycle for Sickle Cell".

Office of Medical Alumni Relations
Annual Report
2017-2018

Representing 41 graduating classes (1976-2018), the total number of M.D. graduates of the USA College of Medicine is 2,690 (not including former USAMC housestaff or graduates of the Ph.D. program).

2017-2018 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*

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- Dr. Oscar Almeida, Jr. '85
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- Dr. Lamar Duffy '84
- Dr. Jason Dyken, '91
- Dr. Matthew Cepeda, '03
- Dr. Grace Hundley, '04
- Dr. Matthew McIntyre, '06
- Dr. Amy Morris '92
- Dr. Ed Panacek, '81
- Dr. Wes Pickard, '88
- 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. Russell Goode, '10
- Dr. Bibb Lamar, '98
- Dr. Steve Kinsey, '89

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. Kit Outlaw '92
- Dr. Wanda Kirkpatrick '78
- Dr. Maryella Sirmon '78

Scholarship Recipients for the 2017-2018 Academic Year

Student Name	Scholarship Received	Amount of Scholarship
Monica Mitta	2018 Medical Alumni Association Scholar	\$10,000
Erin Schmale	2018 Medical Alumni Association Scholar	\$10,000
Vishal Schroff	2018 Medical Alumni Association Scholar	\$10,000
Winston Crute	Christian Grinaker Award	\$1,000
Brooks Lampkin	Class of 1981 Scholarship	\$10,000
Alan Akira	2018 Medical Alumni Leadership Award	\$500
		\$41,500

2018 Medical Alumni Reunion Weekend

The 2018 Medical Alumni Reunion Weekend was celebrated June 8-10, 2018 at the Hilton Pensacola Beach Resort in Pensacola, Florida. The classes of 1978, 1983, 1988 1993, 1998, 2003, 2008, and 2013 were honored.

The USA Medical Alumni Association has expanded its Alumni Awards program to include 3 separate distinctions, recognizing various commitments to the USA College of Medicine, the constituents it serves and the communities it supports. The following awards were developed and award recipients honored at the 2018 Reunion Weekend:

2018 Distinguished Medical Alumni Award Recipient

David Gremse, M.D. '83,

The Distinguished Medical Alumni Award is presented to an alumnus whose career has illustrated a commitment to leadership within the medical field; either in academics, business, government, or other unique positions. Such careers are usually distinguished by major leadership positions or respected national reputations.

2018 Medical Alumni Humanitarian Award Recipient

Sister Marilyn Aiello, M.D. '78

The Medical Alumni Humanitarian Award is presented to an alumnus who has made a significant impact on the medical care of the public, uniting medical service and public benefit on a local, national, or international scale.

2018 USA COM Alumni Service Award Recipient

Johnson Haynes, Jr. M.D. '80

The College of Medicine Alumni Service Award is presented to an individual who has made a significant contribution improving the quality and reach of the College of Medicine, as well as service that substantially benefits or enhances the reputation of the College.

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, 8.5 Continuing Medical Education credits were available for attendees to earn and included the following topics:

- **Gordon Deen, M.D., '78**, *Spine Surgery in the Year 2050: Will it be Done by Robots?*
- **David Gremse, M.D., '83**, *Recent Developments in Brief Resolved Unexplained Events in Infants*
- **Ed Panacek, M.D, M.P.H, '81**, *Sepsis in the Time of CMS*
- **John Sinnott, M.D., '78**, *Art and Medicine, Diagnosing the Canvas*
- **Lisa Spiryda M.D., Ph.D**, *Pap Tests, HPV and Cervical Cancer Screening: Are the Current Recommendations Being Dictated by Insurance Companies or Evidence-Based Medicine?*
- **Russell Goode, M.D., '10**, *Hip Fractures: The Geriatric Gamechanger*
- **Franklin Trimm, M.D.**, *Why Diversity Matters in Healthcare*
- **Druhan Howell, M.D., '03**, *Mythbusters: Allergy Edition*
- **Mike Hennigan, M.D., '82**, *Diabetes for the 21st Century: Technology, Medication and Mentoring*
- **Sabrina Bessette, M.D., '03**, *Primary Care and Chronic Kidney Disease*
- **Natalie Fox, D.N.P., '17**, *Implementing Team-Based Care to Achieve the Quadruple Aim: Improved Patient Care, Lower Cost, and Clinician Wellness*

Student Events Sponsored

The Medical Alumni Association contributed funds to the following student events and activities:

- Class of 2021 Freshman Orientation Lunch
- Student Career Exploration Mixer
- Class of 2020 White Coat Ceremony
- 2017 Review of Systems
- 2018 Match Day
- Asclepian Ball

2017-2018 Annual Fund and Membership Drive and MAA Scholarship Endowment Initiative

Annual Fund Contributions	\$23,875
Amount Raised via Memberships	\$16,800
MAA Scholarship Endowment Commitments	\$58,210
Total Amount Raised	\$98,885

2017-2018
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 16, 2018. The Match results were impressive with all graduating seniors matching including one student who matched in Ophthalmology, one in Otolaryngology and one in Plastic Surgery. Eight students matched in General Surgery and eight students matched in Emergency Medicine while six students matched in OB/GYN. Students matched in 22 different states and will be going to programs such as Vanderbilt, Wake Forest, Loma Linda, University of Maryland, Medical College of Georgia, University of South Florida and Barnes-Jewish Hospital. Sixteen percent of the students will remain in Alabama and seven students matched here at USA.

Honors Convocation for the College of Medicine was held Friday evening, May 4, 2018, in the Mitchell Center on the USA campus. Dr. Leander Grimm, Jr., Assistant Professor in the Department of Surgery, was selected as the faculty speaker by the Class of 2018, and Alan Akira 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 5, 2018.

The number of visiting medical students who participated in senior elective courses at USACOM is outlined below:

	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Total Visitors	28	21	26	27	32
From LCME Schools	12	6	14	10	17
From Osteopathic Schools	7	15	11	17	15
From Foreign Schools	9	0*	0*	0*	0*
Completed Paperwork, but Cancelled Visit					
From LCME Schools	3	4	3	6	14
From Osteopathic Schools	3	2	5	12	11
From Foreign Schools	3	0*	0*	0*	0*
Disciplines in which Electives were taken					

	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Anesthesiology	0	0	0	0	0
Clinical Pharmacology	0	0	0	0	0
Emergency Medicine	1	0	0	0	0
Family Medicine	3	0	0	1	2
Internal Medicine	0	4	3	8	6
Medical Genetics	0	0	0	0	0
Neurology	0	0	0	0	1
Neurological Surgery	0	0	0	0	0
Obstetrics/Gynecology	1	5	2	2	1
Ophthalmology	0	0	0	0	0
Orthopedics	12	4	5	6	10
Pathology	1	1	1	0	1
Pediatrics	10	4	8	6	5
Psychiatry	1	0	1	0	1
Radiology	0	1	3	2	2
Surgery	1	2	3	2	3

*We joined the AAMC VSAS in 2014 and no longer rotate foreign students

Months Electives Taken

	2014-2015		2015-2016		2016-2017		2017-2018	
	American	Foreign*	American	Foreign*	American	Foreign*	American	Foreign*
January	2	0	0	0	0	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	1	0	1	0	3	0	9	0
August	5	0	3	0	5	0	6	0
September	4	0	8	0	7	0	7	0
October	3	0	6	0	10	0	6	0
November	3	0	7	0	2	0	4	0
December	3	0	0	0	0	0	0	0

Letters of evaluation (Dean's Letters) were written for each of the 73 seniors who graduated in May, 2018. Students applied to 2779 residency programs through the AAMC Electronic Residency Application Service

(ERAS). Seventy-three (73) students matched for residency positions. Seventy (70) of the May graduates used the NRMP as their primary means of obtaining residency and three (3) graduates participated in a specialty match.

	Number of Graduates	Match Utilized	
		NRMP	Non-NRMP
2014	63	60	3
2015	74	71	3
2016	73	67	6
2017	70	68	2
2018	73	70	3

University of South Alabama Seniors: Residencies Received by Discipline

	Class of 2014		Class of 2015		Class of 2016		Class of 2017		Class of 2018	
	PRIMARY CARE:	22	35%	31	42%	31	38%	31	44%	33
Internal Medicine	12	19%	19	26%	15	12%	15	21%	13	18%
Family Medicine	4	6%	3	4%	10	11%	10	14%	7	10%
Pediatrics	3	5%	6	8%	3	14%	3	4%	11	15%
Med/Peds	3	5%	3	4%	3	1%	3	4%	2	3%
Anesthesiology	0		3		3		0		2	
Dermatology	0		0		1		0		0	
Emergency Medicine	4		6		2		7		8	
Int. Med/Emer. Med.	1		1		0		1		0	
Neurology	1		1		2		1		1	
Neurological Surgery	3		2		1		0		0	
OB/Gyn	4		1		2		7		6	
Ophthalmology	1		1		3		2		1	
Orthopedic Surgery	3		2		4		1		2	
Otolaryngology (ENT)	1		0		0		0		1	
Pathology	2		4		0		0		2	
Physical Medicine & Rehabilitation	0		0		1		0		0	
Psychiatry	5		10		6		6		5	
Radiation Oncology	0		0		1		0		0	
Radiology	6		1		8		2		1	
Radiology - Interventional	0		0		0		0		1	
Surgery – General	6		8		7		11		8	
Surgery - Plastics	1		1		0		0		1	
Surgery – Preliminary	2		2		4		0		0	
Transitional	1		0		0		1		0	
Urology	0		0		0		0		1	

University of South Alabama Seniors

Residencies Received by State

	Alabama		USA Hospitals (Mobile)	Out-of-State		Number of Different States
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
2018	12	16%	7	61	84%	22

Seventy-three seniors received the Doctor of Medicine degree at Commencement on May 5, 2018. On the evening of May 4, the College held its forty-third Honors Convocation, which took place in the Mitchell Center. Dr. Leander Grimm, Jr. addressed the class and Alan Akira responded for the graduates. Prior to hooding the graduates, the following awards were presented:

Dean's Award – Charles Alexander Wiles

Merck Award – Stephen Longshore Ambrose and Austin Thomas Brown

Glasgow-Rubin Achievement Citations – Sarah Kristin Cassity and Rebecca Adair Young

Dr. Robert A. Kreisberg Endowed Award of Excellence – Charles Alexander Wiles

Leonard Tow Humanism in Medicine Award – Katherine Elizabeth Glosemeyer and Leander Grimm, Jr., M.D.

Medical Alumni Leadership Award – Alan Akira

Proassurance Award – Adam Michael Powell

Community Service Award – Winston Murphree Crute and Adam Michael Powell

SNMA Leadership Award – Alexandria Lynelle Broadnax and Yasmine L. C. Strickland

Outstanding Student in the Pre-clerkship Curriculum – Sarah Kristin Cassity

Award for Excellence in Teaching Clinical Skills – Daniel Douglas Johnson

Award for Excellence in Curriculum Development in Clinical Skills – Katherine Elizabeth Glosemeyer

Pharmacology & Therapeutics Award – Michael Heath Haggard

Hollis J. Wiseman Award for Excellence in Pediatrics – Lauren Elizabeth Nelson

Samuel Eichold Award – Charles Alexander Wiles

The Orthopaedic Excellence Award – Daniel Douglas Johnson

John W. Donald Memorial Award in Surgery – Gregory Scott Van Wagner

H. C. Mullins, M.D. Award – Kaitlyn Crow Littleton

Obstetrics/Gynecology Award – Sarah Kristin Cassity

Excellence in Emergency Medicine Award – Austin Thomas Brown

Society for Academic Emergency Medicine (SAEM) Award – Tyler James Goldbach

Excellence in Psychiatry Award – David Botros Rizk

American Academy of Neurology (AAN) Award – Briana Joy Moore

Freshman Courses

	H	P	F
Foundations of Human Health I	8	68	1
Foundations of Human Health II	10	66	1
Cardiovascular	13	62	1
Basic Concept Human Structure	8	68	0
Urinary	11	60	4
OSCE M1 – Fall	11	65	0
OSCE M1 - Spring	19	56	0

Sophomore Courses

	H	P	F
Digestive	7	60	0
Endocrine & Reproductive	11	56	0
Ear, Nose, Throat	12	55	0
Neuroscience & Behavior	9	58	0
Respiratory	8	59	0
OSCE M2 – Fall	8	59	0
OSCE M2 - Spring	10	57	0
Multisystem Disorders	0	67	0

Junior Clerkships

	H	P	F	Out of sequence
Family Medicine	25	49	0	2
Internal Medicine	25	53	0	4
Neurology	12	51	0	4
OB/GYN	17	58	0	2
Pediatrics	4	73	1	4
Psychiatry	20	58	0	4
General Surgery	14	61	0	1

Academic Progress of Medical Students

Source: Part II of LCME Annual Medical School Questionnaire

	2014	2015	2016	2017	2018
Initial Students in Class	77	75	75	74	76
Graduates	63	71	69	70	73
True Attrition (will not receive M.D. in any year)	5	4	3	1	1

	2013-14	2014-15	2015-16	2016-17	2017-18
Dismissed					
Freshmen	0	0	0	0	0
Sophomores	0	0	0	0	0
Juniors	0	1	0	0	0
Seniors	0	1	0	0	0
Placed on Leaves of Absence (LOA)					
Freshmen	1	1	1	5	2
Sophomores	1	1	1	1	1
Juniors	12	5	4	8	7
Transferred to Another Medical School	0	0	1	0	0
Withdrew	1	3	1	3	1
Admitted with Advanced Standing or Re-entered from Graduate School	1	0	0	0	0
Deceased	0	0	0	0	0
Repeated All or Part of the Year	3	3	1	6	3
Enrolled on a Decelerated Schedule	0	0	0	0	0

Minority Students (Black, Native American, Hispanic)	2013-14	2014-15	2015-16	2016-17	2017-18
Total	19	22	28	35	43
Freshmen	7	7	9	10	11
All Other Classes	12	15	19	25	32

United States Medical Licensure Examination (USMLE) Step 1

First Time Takers

	2013	2014	2015	2016	2017
Number of Students	74	72	73	78	74
National Overall Mean	228	229	229	228	229
USACOM Overall Mean	224	230	229	228	234
Failure Rate – National	4%	4%	5%	5%	4%
Failures at USA	7%	3%	4%	2%	1%

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

	2014	2015	2016	2017	2018
Number of Students	65	76	71	70	74
National Overall Mean	240	240	241	242	241
USACOM Overall Mean	242	242	246	247	246
Failure Rate – National	3%	5%	4%	2%	4%
Failures at USA	3%	4%	3%	0%	3%

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 2011	Class of 2012	Class of 2013	Class of 2014	Class of 2015
National Percentage Passing	97	97	98	98	98
USA Percentage Passing	96	93	97	98	99
USA Number of Students	68*	67	66	62	69

*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 for assessment of graduates of the College of Medicine, was sent to the Program Directors of the PGY-1 programs of our 2017 graduates. A total of 40 responses were received out of 74 requests. Below is a summary of the responses to the major domains that were assessed.

Domain	Bottom Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Top Fifth	Insufficient Contact
Fund of Information	0%	8%	33%	38%	23%	0%
Integration into Problem Solving	0%	5%	33%	40%	23%	0%
History Taking	0%	8%	25%	53%	15%	0%
Physical Examination	0%	3%	35%	48%	13%	3%
Chart Documentation	0%	3%	45%	25%	25%	3%
Patient Presentation	0%	5%	33%	45%	18%	0%
Identification of Patient Problems	0%	3%	40%	38%	18%	3%
Systematic Approach to Problem Solving	0%	8%	33%	43%	15%	3%
Use of Diagnostic Tests	0%	5%	40%	38%	15%	3%
Rational Plan of Management	0%	5%	30%	48%	18%	0%
Recognition of Own Limitations	0%	5%	30%	35%	28%	3%
Use of Advisors and Consultants	0%	8%	35%	35%	20%	3%
Skills in Procedures	0%	3%	33%	33%	8%	25%
Professional Demeanor	0%	5%	13%	45%	38%	0%
Self-Directed Learner	0%	3%	28%	45%	25%	0%
Use of the Literature	0%	3%	48%	43%	8%	0%
Effective Interpersonal Skills	0%	8%	25%	35%	33%	0%

*Rows may not add to 100% due to rounding

Curriculum Committee

The Curriculum Committee met twice a month this past academic year. Meeting agendas consisted of 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 T.J. Hundley, MD.

Curriculum Committee subcommittees met regularly to perform the major workload of the parent committee in 2017 – 2018. The subcommittees and their chairs included:

Assessment and Evaluation (Abu Al-Mehdi, MD, PhD)
Clerkship Directors (Lee Grimm, MD)
Clinical Skills (Christen Altermatt, MD)
Curriculum Integration (Jeff Sosnowski, MD, PhD)
Clinical Pathways (Benjamin Estrada, MD)
Pre-Clerkship Directors (Mark Taylor, PhD)
Student (Anna Stevens, M2)

A summary of Curriculum Committee activities and action for 2017 – 2018 follows:

Preparation for the LCME Accreditation Site Visit

The Committee and its subcommittees have been hard at work supplying information to complete the LCME Data Collection Instrument (DCI) and the Institutional Self Study. The LCME site visit will occur in October, 2018. As part of this effort, the Committee continues to refine and improve design, delivery, and monitoring of the overall educational program as well as the individual modules, clerkships, and fourth year courses. An educational retreat was held over two days that involved a curriculum mapping of the USACOM program objectives to the overall course objectives and their respective assessments.

Curriculum Focus on Common Societal Problems

The Committee undertook the process of identifying common societal problems to be taught as part of our educational program. LCME expects a school's faculty to identify the problems deemed important to address in the curriculum. An initial list of possibilities was developed by the parent committee. Subsequent additions to the list were developed by suggestions from the subcommittees as well. In addition, local and national health statistics data was reviewed to identify conditions that disproportionately affect Alabama and/or Mobile County. This list was then distributed to the USACOM faculty for further additions. Ultimately, the faculty voted for what each member felt were the top five problems that should be addressed in the curriculum. After review of the results, the chosen societal problems were end of life/palliative care, opioid abuse, health care disparities, obesity, and patient safety/quality improvement.

Process for Centralized Monitoring of Clinical Encounters

The Committee implemented the One45 online platform for electronic case logging of required clinical encounters. The electronic system was started in phases and was fully implemented in all clerkships by January, 2018. The system has allowed for centralized monitoring of clinical conditions and skills logged by students. The clerkship directors plan to review the student case logs and master list of clinical conditions and skills to implement any changes prior to the start of the next academic year. In addition, the clerkship directors will use the year end summary reports and student feedback to evaluate the overall effectiveness of the platform for logging the clinical encounters.

Outcome Measures Review

Standardized test scores reviewed by the Committee during 2017 – 2018 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 Step 1 data showed that USA students averaged 234 which was higher than the national average of 229. Interim Step 2CK data demonstrated USA students averaged 247 which was above the national average of 241. On Step 2CS, data revealed USA students matched the national pass rate of 96%.

Faculty Preparation as Educators during the Clerkships

The Committee approved an improved process to ensure clinical faculty were appropriately prepared as educators on the clerkships. The process used for the last several years to accomplish this in the pre-clerkship modules was appropriately modified for the clinical years. All clinical faculty teaching on the clerkship will be provided the appropriate training and information by the respective clerkship director. This will be documented and monitored centrally using the “CODIFI” form. The improved process ensures documentation that all clinical faculty receive education on the USACOM objectives, clerkship objectives, required clinical conditions, the competency-based evaluation, and the student mistreatment policy.

Selectives Implemented in the M3 Curriculum

The selectives were implemented during the 2017 – 2018 academic year. These include Emergency Medicine, Orthopedic Surgery, Pathology, Radiology, or Neurosurgery as their junior year selective. These students chose to defer the core Neurology clerkship until the fourth year in order to have this unique opportunity at career exploration. A total of 12 students took advantage of selectives this past year. The distribution was two in neurosurgery, three in orthopedics, two in pathology, two in emergency medicine, and three in radiology. The Clinical Pathways subcommittee will be reviewing ways to improve the process and experience for upcoming years.

Student Use of the Electronic Medical Record

USA Health unified the variety of electronic medical records in use into one record. It was important for students to access and document within the electronic record to fulfill the program objectives. The Clerkship Directors subcommittee worked with individual leadership, risk management, compliance, information technology, and finances to develop the policy that allowed students to accomplish this goal. It was approved and implemented by the Curriculum Committee.

Collaboration with Student Affairs on Student Wellness

Student Affairs has been working diligently to develop an infrastructure in which to implement a

more comprehensive student wellness program. This work culminated in the creation and implementation of the Student Wellness Council in addition to a wellness program. In collaboration with the program, the Curriculum Committee welcomed new student membership to the Committee representing student wellness. The Pre-clerkship and Clerkship Directors subcommittee worked with the Student Affairs committee to develop a new student attendance policy that balanced professional expectations of students as well as student wellness.

Implementation of an Entrustable Professional Activities Pilot

With the transition of GME training to a milestone-based evaluation system, Entrustable Professional Activities (EPAs) emerged as new method of assessment of post-graduate trainees. An EPA has been defined as tasks or responsibilities to be entrusted to an unsupervised trainee once he or she has attained sufficient competence. The AAMC has now been investigating the use of EPAs as a means of UME assessment as well, if scaled appropriately. The Committee approved the implementation of a pilot assessment program using EPAs as part of the Internal Medicine clerkship. The initial data collected was promising when compared to the results generated by the competency-based evaluation tool. The Committee endorsed continuation of the pilot program in the 2018 – 2019 academic year.

Enhanced Interprofessional Education

The AAMC and LCME have continued to place increased emphasis on teaching students the skills necessary to function in interprofessional teams. The Committee approved and implemented multiple endeavors to further enhance these critical skills. The Clinical Skills subcommittee implemented educational experiences in which medical students work with other professional students during simulation exercises. In addition, they added interprofessional panels for students to listen and learn about the roles of varying interprofessional team members. The Clerkship Directors subcommittee collaborated to develop interprofessional experiences longitudinally. Pharmacy, Physician Assistants, and Nurse Practitioners are just a few examples of the different interprofessional team members that students work alongside. As part of this initiative, the clerkship directors have developed a rubric for assessment which can be shared for any course to use.

M4 Course Evaluations and Review

As part of the continuous quality improvement cycle, the Clinical Pathways subcommittee recognized an opportunity to enhance feedback and assessment of M4 courses. A common evaluation tool was developed by them and subsequently approved by the Curriculum Committee. The tool was used to collect feedback from students regarding the courses and then disseminated to course directors for review. The Clinical Pathways committee then implemented a new initiative to conduct an initial review of all M4 courses and forward the information to the Assessment and Evaluation subcommittee for formal assessment and comment.

Executive Committee of Student Assembly

Meetings were held on the second Wednesday of each month beginning in August and ending in May. NOTE: the meetings in February, March, and April were held on the third Wednesday of the month due to scheduling conflicts.

Location: Mastin #209 at 4:15 p.m.

As set forth in the Student Handbook, Student Assembly addressed issues affecting student life. The officers for 2017-2018 were:

President – Audrey Murphy

Vice President – Kristen Smith

Secretary/Treasurer – Matthew Robson

SGA Liaison: Ashleigh Tomkovich

Faculty Advisors: Dr. Susan LeDoux, Dr. Kelly Roveda, and Dr. Haley Ballard

1. Events funded by Student Assembly:
 - a. Thank you to Dr. Eichold and his wife
 - i. Student Assembly approved \$200 to fund a Ruth's Chris gift card to thank them for holding a dinner during M1 Orientation for so many years.
 - b. Halloween Party: October 27, 2017, at Kazoola's
 - i. Student Assembly approved \$300 for the event.
 - c. AMA Interim Meeting: November 11-14, 2017, in Honolulu, Hawaii
 - i. Student Assembly approved \$1,000 for the event to support students presenting research.
 - ii. Five students gave poster presentations.
 - d. Christmas Party: December 1, 2017, at Grand Central
 - i. Student Assembly approved \$200 for the event.
 - e. Gold Humanism Honor Society (GHHS) Solidarity Week: February 12-16, 2018
 - i. Student Assembly approved \$350 that was used to purchase items handed out during Solidarity Week and doughnuts for Resident's Day.
 - f. Asclepian Ball: April 7, 2018, at the USS Battleship
 - i. Student Assembly approved \$500 for the event.
 - g. USACOM M3 Case Report Symposium: June 7, 2018
 - i. Student Assembly approved \$637 for catering, plaques, and thank you gifts for the judges.
 - h. M1 Orientation t-shirts
 - i. Student Assembly approved \$500 to help cover the cost of orientation t-shirts for the incoming M1 students.
2. Dates of Special Events were as follows:
 - a. White Coast Ceremony for the Class of 2019 was held on Saturday, June 17, 2017, at the Mitchell Center.
 - b. Honors Convocation was held on May 4, 2018, and Graduation on May 5, 2018.

- Both events were held at the USA Mitchell Center.
- c. USA COM M3 Case Report Symposium was held on June 7, 2018, from 3-5 p.m. at the Strada Patient Care Center.
 - i. Organized by Student Assembly officers (Audrey Murphy, Kristen Smith, and Matthew Robson).
 - ii. M3 students presented interesting cases that they were involved in during their M3 clerkships to an audience of faculty and peers.
 - d. The Wellness Committee organized several events for the COM as a whole.
 - i. BBQ held at the Student Pavilion on the main USA campus on September 22, 2017.
 - ii. Crawfish boil held at Dr. Gilbert's house in April.
 - iii. A new mentor-mentee program for incoming M1 students was implemented and expanded to encompass all four classes.
 - e. Match Day was held on March 16, 2018, at the Mobile Convention Center.
 - f. Volunteer opportunities for M1-M4s at the University of South Alabama Student-Run Free Clinic were discussed. The clinic was moved to the Salvation Army. A new clinic for women and children was also started, named Family Haven.
 - g. Expansion of Student Assembly to include Wellness officers.
 - i. There are four officers for each class and they are members of Student Assembly. This was done to encourage communication between Student Assembly and Student Wellness Committee as both are heavily involved in student life at USA COM.
 - h. New Student Assembly officers were elected in April, 2018, for 2018-2019. The transitional meeting took place on May 9, 2018.
 - i. President – William Nicholson
 - ii. Vice-President – Whitney Smith
 - iii. Secretary/Treasurer – Patrick Young
 - iv. SGA Liaison – Travis Goodloe

No meetings were held December, 2017, or June and July, 2018.

Office of Financial Aid

	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Total Financial Aid	\$10,141,055	\$10,600,638	\$10,189,089	\$10,749,914	\$10,517,598
Students on Aid	248	270	263	272	262
Loans					
Perkins	558,000	642,000	557,500	423,000	0
Direct Unsubsidized	7,628,762	7,878,086	7,172,789	7,828,125	7,674,811
Direct Grad Plus	533,211	590,126	555,483	783,639	1,025,483
Outside Private Loans	0	6,898	14,983	0	0
Total Loans	\$8,719,973	\$9,117,110	\$8,300,755	\$9,034,764	\$8,700,294
Scholarships					
University Sponsored	749,146	801,174	968,916	900,064	972,261
Outside Sponsored	169,613	150,146	185,549	138,201	138,866
Military – Army	27,168	28,256	86,551	153,282	93,654
Military – Navy	189,810	140,785	229,467	206,468	216,613
Military - Air Force	191,971	226,259	201,106	88,791	280,409
Alabama VA Benefits	26,616	83,046	86,703	94,840	61,442
Faculty Staff Reimbursement	66,758	53,862	130,042	133,504	54,059
Total Scholarships	\$1,421,082	\$1,483,528	\$1,888,334	\$1,715,150	\$1,817,304
Average Indebtedness of a Graduating Senior					
	\$149,655	\$154,938	\$155,019	\$156,242	\$160,870

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, 2017, through July 31, 2018, zero (0) emergency loans were approved for a total amount of \$0.00. During that period, one (1) payment totaling \$2,750.00 was paid back into the loan account.

Office of Educational Enrichment
Diversity, Recruitment, and Enrichment for Admission into Medicine (DREAM)

The summer of 2018 marked the 32nd year of the BEAR/DREAM Pipeline Program. It was also the fourth summer of the new focus of DREAM on preparing students for the reformed MCAT (2015).

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 190 short videos (YouTube viewer compatible) and 30 quizzes based on 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.

One rising COM II student, two COM I students, and faculty from USA and Springhill College 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 professional sessions were presented to the DREAM students.

The composition of the 2018 class of DREAM students included eight females and two males representing six colleges and universities:

Auburn.	2
Univ. of South Alabama. . .	3
Spring Hill College.	1
Dillard.	1
Alabama State Univ.	1
Jackson State.	2

The participants were natives of Alabama, New Jersey, Louisiana, Arizona, and the Philippines.

The entering class has ACT scores ranging from 21 to 34, and all passed the summer program.

2017-2018 Office of Admissions

Applicant 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 6, 2018, opened June 1, 2017, and closed November 1, 2017. The matriculating Class of 2018 represents eighteen (18) colleges and universities from the United States. Seventy-six percent (76%) of this year's class, however, come from the four (4) largest universities in the state. Additional details of the 2017-2018 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 10 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 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) 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 twenty-four (224) candidates; each interviewee was interviewed by three committee members, giving a total of six hundred seventy-two (672) interviews.
8. The following Admissions Committee subcommittees were active in 2017-2018:
Early Decision Subcommittee, Scholarship Subcommittee, Alternate List Subcommittee, and 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 highly 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 the prerequisites for entering medical school. Students in the Early Acceptance Program must maintain a specified GPA 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 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, one hundred twenty-seven (127) applications were received from students wishing to enter this program. After a screening process, fifty-two (52) of the applicants were selected for interviews and fifteen (15) were offered admission to the Early Acceptance program.

University of South Alabama College of Medicine Admissions Report

	2015	2016	2017	2018
<u>Total Applicants (Completed Secondary Applications)</u>	1491 (699)	1525 (719)	1521 (740)	1604 (767)
Residence: Alabama	435 (362)	472 (404)	467 (407)	471 (409)
Out-of-State (OOS)	1008 (305)	994 (284)	1003 (301)	1079 (322)
Service Areas (FL & MS)	48 (31)	59 (31)	51 (32)	54 (36)
Rural	60 (60)	82 (82)	63 (63)	101 (99)
Alabama Female	198 (153)	205 (173)	209 (183)	213 (188)
Alabama Black	56 (40)	59 (52)	55 (51)	45 (34)
Out-of-State Black	83 (34)	90 (33)	83 (46)	95 (28)
AL Other Underrepresented Minorities*	19 (16)	27 (17)	30 (27)	28 (26)
OOS Other Underrepresented Minorities	147 (44)	150 (42)	157 (62)	148 (44)
<u>Total Applicants Interviewed</u>	197	215	211	224
Residence: Alabama	183	201	196	215
Out-of-State	2	4	6	5
Service Areas (FL & MS)	12	10	9	4
Rural	32	40	33	50
Female	79	92	89	102
Black (excludes DREAM)	17	18	19	17
Other Underrepresented Minorities	10	12	10	17
<u>Total Applicants Accepted</u>	147	155	143	131
Residence: Alabama	136	144	132	123
Out-of-State	4	4	5	6
Service Areas (FL & MS)	7	7	6	2
Rural	26	32	21	31
Female	71	72	66	67
Black	16	17	15	16
Black Regular Admissions	12	13	14	14
DREAM Program	4	4	1	2
Other Underrepresented Minorities	9	10	6	11
<u>Total Matriculants</u>	75	74	72	74
Average MCAT	30	507	508	508
Average GPA	3.8	3.75	3.77	3.79
Early Decision Program	7	11	4	18
Residence:				
Alabama	66	69	67	69
Out-of-State	5	2	2	3
Service Areas (FL & MS)	4	3	3	2
Rural	13	18	12	18
Female	28	31	32	35
Total Black	8	9	8	5
Black Regular Admissions	5	5	7	3
DREAM Program	3	4	1	2
Other Underrepresented Minorities	3	2	2	8

*Other Underrepresented Minority: Hispanic ethnicity, American Indian, Gulf Coast Asian

2017-2018 Office of Continuing Medical Education

The Office of Continuing Medical Education (OCME) provided hundreds of activities that addressed the continual practice gaps of all healthcare providers including the healthcare team. We continue to be accredited with commendation through the Accreditation Council of Continuing Medical Education.

During 2017-2018, the OCME coordinated CME activities provided by the clinical departments, the OCME, and outside agencies. There were approximately 1,325 regularly scheduled series (Grand Rounds) activities, 173 conferences, and 3 online activities, all combining for 6,238 CME credits. In total 13,272 physicians and 14,954 non-physicians were awarded continuing education credits. Activities were jointly provided through the collaboration with Providence Hospital, Providence Foundation, Springhill Medical Center, Gulf Coast Patient Care Network, Coastal Trauma Care Region, the Society of Pelvic Surgeons, the Veterans Administration and other organizations throughout our region.

The OCME also collaborated with Allied Health, United Way, and many other outside agencies during 2018 in an effort to address the needs of our homeless population. Healthcare for the Homeless coordinated over 450 volunteers from the University of South Alabama College of Medicine, Allied Health, Social Work, and the Mitchell College of Business. Volunteers addressed the medical needs through assessment and referrals.

Significant Professional and CME Achievements

- Submitted application, self-study, and activity files for Joint Accreditation
- Sharrie Cranford selected as the board Chair for the Alabama Board of Social Work Examiners

CME Plans for 2019

- Integrate Joint Accreditation criteria
- Revise the mission statement and Policy and Procedure Manual
- Complete five-year strategic plan with the assistance of the Mitchell College of Business

2017-2018
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 GME 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 9 fellowship programs with a combined total of 264 training positions. During the 2017 – 2018 academic year, all residency positions were filled through the Nation Residency Matching Program (NRMP) with 251 physicians completing training during the 2017 – 2018 academic year.

Residency Programs

Program Name	Program Director	Program Coordinator
Family Medicine	Ehab Molokhia, M.D.	Stacey Hartman
Internal Medicine	Judy Blair-Elortegui, M.D.	Leah Musgrove
Internal Medicine/Pediatrics	Grace Hundley, M.D.	Rita Harper
Neurology	Juan Ochoa, M.D.	Sherterica Evans
Obstetrics & Gynecology	Craig Sherman, M.D.	Shanoa Reed
Orthopedic Surgery	Richard Marks, 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

Program Name	Program Director	Program Coordinator
Advanced Endoscopy Fellowship	Meir Mizrahi, M.D.	Tracy Terpening
Cardiovascular Disease	Bassam Omar, M.D.	Kimberly Wilson
Children's & Adolescent Psychiatry	Ed Finn, M.D.	Bayleigh Andrews
Clinical Neurophysiology	Juan Ochoa, M.D.	Sherterica Evans
Gastroenterology	Jack Di Palma, M.D.	Tracy Terpening
Medical Oncology	David Clarkson, M.D.	Angela Carpenter
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.	Tyronda Rogers

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 2017–2018 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 and Critical Care; the Obstetrics and Gynecology Residencies; and the Pathology Residency Program completed their self-study with the anticipation of ACGME site visits; the site visits for these programs are expected to occur in the upcoming year. On June 19, 2018, the Department of Emergency Medicine applied for initial accreditation for an Emergency Medicine Residency and will host their initial site visit on August 22, 2018.

The annual ACGME online surveys were completed by 94% of residents and fellows and 85.3% of faculty. Results on all ACGME Resident and Faculty Surveys consistently placed GME training programs at or above the national averages in compliance. There was

Residency Programs

Program Name	Training Positions	Trained Residents	Accreditation Status	Self-Study Date
Family Medicine	18	19	Continued Accreditation	11/30/2018
Internal Medicine	48	43	Continued Accreditation	Submitted*
Internal Medicine/Pediatrics	11	8	Continued Accreditation	10/01/2022
Neurology	12	10	Continued Accreditation	08/01/2023
Obstetrics & Gynecology	16	16	Continued Accreditation	Submitted*
Orthopedic Surgery	15	15	Continued Accreditation	01/01/2025
Pathology	15	13	Continued Accreditation	Submitted*

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

Program Name	Training Positions	Trained Fellows	Accreditation Status	Self-Study Date
Advanced Endoscopy	1	1	No Accreditation Available	NA
Children's & Adolescent Psychiatry	4	3	Continued Accreditation	10/01/2021
Cardiovascular Disease	6	7	Continued Accreditation	Submitted*
Clinical Neurophysiology	1	1	Continued Accreditation	08/01/2023
Gastroenterology	6	6	Continued Accreditation	Submitted*
Pulmonary Disease & Critical Care Medicine	6	9	Continued Accreditation	Submitted*
Medical Oncology	4	2	Initial Accreditation	TBD
Sports Medicine (FM) - Andrews	1	1	Continued Accreditation	11/ 30/2018
Surgery Critical Care	1	1	Continued Accreditation	02/01/2019

*This GME program has submitted its self-study to the ACGME and is awaiting announcement of their accreditation site visit.

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. A CLER site visit is anticipated in the 2018 – 2019 academic year.

GMEC Subcommittee on Quality Improvement and Patient Safety

The GMEC Subcommittee on Quality Improvement and Patient Safety developed a framework for patient safety education across USA Health, intended to meet the needs of the GME training

programs as well as educate USA Health staff on the science of patient safety. USA Health has used 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 84 new housestaff were introduced to patient safety and quality improvement programs across USA Health. Housestaff gain experience in promoting patient safety and quality improvement by engaging in projects guided by their GME programs.

GMEC Subcommittee on Wellness

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 2017 – 2018 academic year duty hour disparities represented less than 0.07% of over 594,000 work hours by residents and fellows.

The GMEC established a permanent subcommittee to promote residents' and fellows' wellbeing. The GMEC works with the USA Housestaff Council and the USA Housestaff Association to this end. The ACGME began including wellbeing questions on its annual survey. The Subcommittee completed its first Wellness Survey in June 2018. Responses on the survey came from 233 residents, fellows and faculty physicians. The data from the ACGME and internal surveys demonstrated that in most GME training programs, residents, fellows, faculty physicians were above the national means on all levels of personal wellbeing.

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.

Faculty and Resident Professional Development

During the 2017 – 2018 academic year, the USA Office of Graduate Medical Education maintained the GME Speakers' List, which includes 34 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

- Personal Health and Wellness
- Quality Improvement Science

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 270 developmental hours to faculty, fellows and residents.

GME Competency Education Program (GCEP)

During the 2017 – 2018 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 modules on “Sleep Deprivation: Your Life and Your Work”, “Residents as Teachers” and “Cultural Competence in Healthcare”, and “Confidentiality: patient privacy in the context of social media”.

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 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. Beginning in the Spring of 2018, every other month, the GME program coordinators joined together in a personal wellness event. Additionally, the GME Office held the Inaugural Program Coordinators’ Retreat on March 5, 2018, featuring Dr. Roma Hanks, Chair of USA Sociology Department to speak on generational gaps and communication styles. The Retreat also covered “Dealing with Millennials”, “The Program Director – Program Coordinator Relationship”, “Overview of Licensing and DEA,” “Wellness and Preventing Burnout,” and “Problem-solving Skills.”

2017-2018
Summary of Activities
Medical Student Summer Research Program

The Forty-Fifth Annual Medical Student Research Day was held on Friday, July 27, 2018 hosting over 100 attendees in the Medical Sciences Building for both oral and poster presentations. Fifty-one 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.

David Guidot, M.D., Director of the Division of Pulmonary, Allergy, Critical Care & Sleep Medicine at Emory Health, Emory School of Medicine was the keynote speaker. Dr. Guidot's seminar was entitled, "*Alcohol- and HIV-mediated lung dysfunction: finding the common redox trigger*".

Culmination of the summer's work was the presentation of eight oral and forty-three poster presentations at the Annual Medical Student Research Day. Student presentations and their faculty sponsors were as follows:

ORAL PRESENTATIONS

PSEUDOMONAS AERUGINOSA TYPE III SECRETION SYSTEM EFFECTORS INFLUENCE PRODUCTION OF CYTOTOXIC AMYLOID SPECIES IN THE LUNG OF INFECTED MICE. **Jordan Matthews Smith**, Rising Sophomore. Sponsored by Jonathon P. Audia, Ph.D., Department of Microbiology and Immunology, Center for Lung Biology.

EARLY MOBILITY PRACTICES IN ADULT TRAUMA PATIENTS IN THE SURGICAL-TRAUMA INTENSIVE CARE UNIT. **Shyla Hossain**, Rising Sophomore. Sponsored by S. Noelle Davis, C.R.N.P. & Jon Simmons, M.D., Department of Surgery.

CAMP CONTAINING EXTRACELLULAR VESICLES AND IT'S INFLUENCE ON CELLULAR STRESS. **Nkemdi Agwaramgbo**, Rising Sophomore. Sponsored by Natalie Bauer, Ph.D., Dhananjay Tambe, Ph.D., Department of Pharmacology, Center for Lung Biology.

ROLE OF MITOCHONDRIAL DNA DAMAGE-ASSOCIATED MOLECULAR PATTERNS IN THE PROGRESSION OF KNEE OSTEOARTHRITIS. **Ravi Rajendra**, Rising Sophomore. Jonathan Gillig, MD; Mark N. Gillespie, Ph.D. Sponsored by Albert W. Pearsall, MD. Department of Orthopaedic Surgery; Department of Pharmacology.

EVALUATING THE ANTI-CANCER EFFECT OF A NOVEL PDE10 INHIBITOR IN HUMAN LUNG CANCER CELLS WITH CLINICALLY RELEVANT CHEMOTHERAPEUTIC DRUGS. **Ashley Nguyen**, Incoming Freshman. Sponsored by Dr. Gary Piazza, Ph.D. and Dr. Veronica Ramirez-Alcantara, Ph.D., Drug Discovery Research Center, Mitchell Cancer Institute.

EFFECTS OF A SPECIFIC EXPOSOME ON PULMONARY FUNCTION IN MINORITY POPULATIONS IN MOBILE COUNTY. **Jacob Rosner**, Rising Sophomore. Sponsored by Diego Alvarez, M.D., Ph.D., Department of Physiology and Cell Biology, Center for Lung Biology.

METABOLOMIC CHANGES PREDICT QUALITY OF LIFE OUTCOMES 6 MONTHS AFTER SURVIVAL OF ACUTE RESPIRATORY FAILURE. **Elizabeth Kean**, Rising Sophomore. Sponsored by Raymond Langley, Ph.D., Center for Lung Biology.

NUCLEAR ARCHITECTURE OF OXIDATIVE DNA DAMAGE AND GENE EXPRESSION IN HYPOXIA. **Raymond C. Dolcelli**, Rising Sophomore. C.M. Francis, V. Pastukh, J. Andrews, M. Patel, A-B Al-Mehdi, Sponsored by Mark N. Gillespie. Departments of Pharmacology, Physiology, University of South Alabama College of Medicine, and Mitchell Cancer Institute.

POSTER PRESENTATIONS

REDUCTION OF CENTRAL LINE USE WITH PICC AND MIDLINE CATHETERS IN A BURN ICU. **David Marks**, Rising Sophomore. Sponsored by Steven Kahn, M.D. and Alicia Lintner, CRNP, Department of Surgery, Division of Acute Care Surgery & Burns.

TRPV4 CHANNELS CONTROL A SPECIFIC SUBPOPULATION OF VASCULAR ENDOTHELIAL CA²⁺ SIGNALS. **Stuart McFarland**, Rising Sophomore. Sponsored by Mark S. Taylor, Ph.D. and David Weber, Ph.D., Department of Physiology and Cell Biology.

ASSESSING THE ACUTE EFFECTS OF PDE4 ABLATION IN MICE. **Justin Rich**, Rising Sophomore. Sponsored by Wito Richter and Lina Abou Saleh, Department of Biochemistry and Molecular Biology and Center for Lung Biology.

MITOCHONDRIAL DNA DAMPS IN SEVERE INJURED PATIENTS REQUIRING MASSIVE TRANSFUSION: EVIDENCE FOR A FEED-FORWARD PATHWAY REGULATING MTDNA DAMP PRODUCTION. **Carson Edwards**, Rising Sophomore. Y. Tan, C. J. Knighten, M. Francis, R. Langley, R. Dolcelli, V. Pastukh, J. Simmons. Sponsored by Mark Gillespie, Ph.D., Departments of Pharmacology, Physiology, and Surgery.

INHIBITION OF PDE4 INDUCES GASTROPARESIS IN MICE. **Will McDonough**, Incoming Freshman. Sponsored by Lina Abou Saleh and Wito Richter, Department of Biochemistry and Molecular Biology.

EXTRACELLULAR VESICLE PHYSIOLOGIC INTERACTION WITH VESSELS. **Jeanetta Morgan Malone**, Rising Sophomore. Sponsored by Natalie Bauer, Ph.D., Department of Pharmacology.

IDENTIFICATION OF ATP SPATIAL PATTERNS IN LUNG MICROVASCULAR ENDOTHELIUM WITH NORMAL AND ALTERED BIOENERGETICS. **Galen Garriga**, Rising Sophomore. Sponsored by Mikhail Alexeyev PhD, Mark Taylor PhD, and Mary Townsley PhD, Department of Physiology and Cell Biology.

KNOCKOUT OF FOCAL ADHESION KINASE IN A549 LUNG CARCINOMA USING CRISPR/CAS9 GENE EDITING. **Vishal Shroff**, Rising Sophomore. Sponsored by Steve Lim, Ph.D., Department of Biochemistry and Molecular Biology.

DEVELOPMENT OF A PAIRED TERMINI ANTI-SENSE RNA (PTASRNA) VECTOR TECHNOLOGY FOR HIGH THROUGHPUT BACTERIAL SRNA CHARACTERIZATION. **Kevin Aria**, Incoming Freshman. Sponsored by Glen Borchert, Ph.D., Department of Pharmacology.

IS URIC ACID AN OXYGEN FREE RADICAL SCAVENGER? A POTENTIAL DETERMINANT OF THE INNATE IMMUNE RESPONSE IN SEPSIS. **Murphy Mostellar**, Rising Sophomore. Sponsored by Raymond Langley, Ph.D., Department of Pharmacology.

DNA DAMAGE AND DNA REPAIR IN BARRETT'S ESOPHAGUS. **Will Edwards**, Rising Sophomore. Sponsored by William O. Richards, MD, Department of Gastrointestinal and Surgical Oncology.

ACIDOSIS INHIBITS LUNG CAPILLARY ENDOTHELIAL MIGRATION AND PROMOTES NETWORK FORMATION. **Ian Garrison**, Rising Sophomore. Sponsored by Ji Young Lee, MD/Ph.D., Department of Physiology and Cell Biology and Department of Internal Medicine, Center for Lung Biology.

IMPLEMENTING VIRTUAL REALITY AS A NON-PHARMACOLOGIC ADJUNCT FOR BURN CARE. **Noelle Ahmed**, Rising Sophomore. Sponsored by Clinton Leonard, NP; Steven Kahn, MD, Department of Surgery, Division of Burns.

HYPERSPETRAL IMAGING APPROACHES TO ENDOSCOPIC CANCER DETECTION. **Anna Robinson**, Incoming Freshman. Sponsored by Silas Leavesley, Ph.D., Thomas Rich, Ph.D., and Carole Boudreaux, MD. Departments of Pharmacology, Pathology, and Chemical and Biomolecular Engineering.

FAMILIAL ADENOMATOUS POLYPOSIS PREVALENCE AND APC MUTATION SPECTRUM IN UNIVERSITY OF SOUTH ALABAMA REGIONAL PATIENT POPULATION. **Lauren Gibson**, Rising Sophomore. Sponsored by Jessa Blount, MS, CGC; Bin Wang, Ph.D., and Leander Grimm, Jr., MD, Department of Surgery.

CORNEAL MICROENVIRONMENT SHAPES PROTECTIVE T CELL RESPONSES DURING HSV-1 INFECTION. **Eric Midenberg**, Rising Sophomore. Sponsored by Dr. Robert Barrington, Ph.D., Department of Microbiology & Immunology.

UNRAVELING THE MECHANISMS OF DNA REPAIR AND DYSFUNCTION INDUCED BY XRCC1 EXPRESSION LEVEL CHANGES. **Elise Mann**, Incoming Freshman. Sponsored by Natalie R. Gassman, Ph.D., Department of Oncologic Sciences, Mitchell Cancer Institute.

PARENTING INTERACTIONS DURING PLAY BETWEEN MOTHERS AND CHILDREN IN THE GULF COAST REGION OF THE U.S. TO SUPPORT POSITIVE DEVELOPMENTAL OUTCOMES. **Samantha Lee**, Rising Sophomore. Sponsored by Elizabeth Kennedy, PT, Ph.D., PC, and Stephanie Anderson, M.D., Division of Developmental and Behavioral Pediatrics, and Abigail Baxter, Ph.D., USA College of Education.

EVALUATION OF ANTICANCER F10 COMPOUND IN COMBINATION WITH CHK1 INHIBITOR IN COLON CANCER CELLS. **Kimberly McWilliams**, Rising Sophomore. Sponsored by Kumar Palle, Ph.D., Mitchell Cancer Institute.

ASSESSMENT OF LAPAROSCOPIC VS. ULTRASOUND GUIDED TRANVERSUS ABDOMINIS BLOCK IN PERIOPERATIVE PAIN MANAGEMENT. **Priscilla Perez**, Incoming Freshman. Sponsored by Paul F. Rider, MD, Department of Colon and Rectal Surgery.

THE EFFECT ON DENDRITIC SPINES DUE TO NOSOCOMIAL PSEUDOMONAS. **Alexandrea Jager**, Rising Sophomore. Sponsored by Mike Lin, Ph.D., Department of Physiology and Cell Biology.

SPEEDWHIP VS. KRACKOW IN HAMSTRING ACL RECONSTRUCTION: A BIOMECHANICAL COMPARISON AND COST ANALYSIS AMONG DIFFERENT LEVELS OF TRAINING. **Grayson Domingue**, Rising Sophomore. Sponsored by Mark Prevost, M.D. PGY-3 and Christopher Jones, M.D., Department of Orthopaedic Surgery, David Nelson, Ph.D., Department of Mechanical Engineering.

DEVELOPMENT OF IMMUNOLOGICAL ASSAYS TO SUPPORT CLINICAL TRIALS OF NEW VACCINES FOR VENEZUELAN EQUINE ENCEPHALITIS VIRUS. **Erin Schmale**, Rising Sophomore. Sponsored by Jonathan Rayner, Ph.D., Department of Microbiology and Immunology.

AMBULATORY-CARE SENSITIVE CONDITIONS AT THE USA MEDICAL CENTER: 2010-2016. **Gisella A. Ward**, Rising Sophomore. Sponsored by Dr. Errol Crook and Dr. Martha Arrieta, University of South Alabama College of Medicine, USA Center for Healthy Communities, and USA Department of Internal Medicine.

CHARACTERIZING MODIFIED SITES OF A CANCER-ASSOCIATED C-TERMINAL PEPTIDE IN A1-ANTITRYPSIN. **Patricia Vogel**, Rising Sophomore. Sponsored by Lewis Pannell, Ph.D., Mitchell Cancer Institute.

SOFT TISSUE AND BONE CONCENTRATION OF CEFTRIAXONE WHEN GIVEN INTRAVENOUSLY IN OPEN FRACTURES. **Lauren Loeb**, Rising Sophomore. Sponsored by Mark Prevost II, M.D., Mark N. Gillespie, Ph.D., Gina C. Bardwell, M.S., and Jeffrey Brewer, M.D., Departments of Orthopedic Surgery and Pharmacology.

MAPPING HPV VACCINATION AND RATES OF ASSOCIATED CANCERS IN THE STATE OF ALABAMA. **Macy Vickers**, Rising Sophomore. Sponsored by Casey Daniel, Ph.D., M.P.H. and Jennifer Pierce, M.D., M.P.H., University of South Alabama Mitchell Cancer Institute.

BREAST CANCER BIOMARKER ANALYSIS. **Annie Xu**, Rising Sophomore. Sponsored by Shalla Akbar, M.D., Spencer Liles, M.D., Andrea G. Kahn, M.D., D. Lynn Dyess, M.D., Department of Pathology, Department of Surgery.

ANALYSIS OF GENETIC MUTATIONS IN PATIENTS AT HIGH RISK FOR BREAST AND OVARIAN CANCER. **Allen Mao**, Rising Sophomore. Sponsored by Spencer Liles, M.D., Department of Surgery.

BICARBONATE REQUIREMENTS FOR RAT ENDOTHELIAL CELL PROLIFERATION. **Daniel Warren**, Incoming Freshman. Sponsored by Sarah Sayner, Ph.D., Department of Physiology and Cell Biology, Center for Lung Biology.

THE IMPACT OF A MULTIDISCIPLINARY TEAM AND CANCER-SPECIFIC TUMOR BOARD IN IMPROVING PROCESSES AND OUTCOMES IN PATIENTS WITH RECTAL CANCER. **Jacob Swords**, Rising Sophomore. Sponsored by Paul Rider, MD, John Hunter, MD, Greire Iliff, NP, and Leander Grimm MD, Division of Colon & Rectal Surgery, Department of Surgery.

P32 INVESTIGATING THE E420K VARIANT OF THE PPP2R5D GENE. **Fahim Al-Mehdi**, Incoming Freshman. Sponsored by Richard Honkanen, Ph.D., Department of Biochemistry.

P33 ENDOTHELIAL AMYLOIDS ARE CYTOPROTECTIVE ANTIMICROBIAL PRIONS. **Scott Piechocki**, Rising Sophomore. Sponsored by Voth S., Francis M., Gwin M., and Stevens T. Departments of Physiology and Cell Biology, Internal Medicine, and The Center for Lung Biology.

P34 EFFECT OF PENTOSE PHOSPHATE PATHWAY INHIBITION ON MITOCHONDRIAL MOVEMENT IN ENDOTHELIAL CELLS. **Fredrick Chambers**, Incoming Freshman. Sponsored by Abu-Bakr Al-Mehdi, M.D., Ph.D. Department of Pharmacology, Center of Lung Biology.

P35 SDRNA CONTRIBUTORS TO PROSTATE CANCER. **Zohaib Ijaz**, Incoming Freshman. Sponsored by Glen Borchert, Ph.D., Department of Pharmacology.

P36 TREATMENT OF PATIENTS WITH CONTROLLED HIV INFECTION COINFECTED WITH HEPATITIS C IN INNER CITY CLINICS IN THE SOUTHEASTERN UNITED STATES. **Ashley Cainion**, Rising Sophomore. Sponsored by Dr. Shannon Tyler and Dr. Eduardo Calderon, Division of Infectious Disease.

P37 REGENERATION OF A FUNCTIONAL PULMONARY VASCULATURE IN RAT SCAFFOLDS. **Kay Ann Simmons**, Rising Sophomore. Sponsored by Diego Alvarez, MD, Ph.D., Department of Physiology and Cell Biology and Dhananjay Tambe Ph.D., Department of Mechanical Engineering/Biochemical Engineering.

P38 PREVALENCE AND SIGNIFICANCE OF POOR R-WAVE PROGRESSION ON ELECTROCARDIOGRAPHY. **Kelley Cutrell**, Rising Sophomore. Sponsored by Dr. Landai Nguyen DO, Dr. Bassam Omar MD, PhD, Dr. Christopher Malozzi DO, Dr. G. Mustafa Awan, MD, Division of Cardiology.

P39 INVESTIGATION OF THE SIGNIFICANCE OF SON PROTEIN EXPRESSION IN PATIENTS WITH BLOOD CYTOPENIAS WITH AND WITHOUT EVIDENCE OF MYELOID NEOPLASIA. **Aliyah Kennedy**, Rising Sophomore. Sponsored by Thomas W. Butler, M.D., Interdisciplinary Clinical Oncology, Mitchel Cancer Institute.

P40 ENDOTHELIAL CELL CALCIUM AND NITRIC OXIDE SIGNALING IS IMPAIRED IN PULMONARY ARTERIAL HYPERTENSION. **Bradley Schuler**, Incoming Freshman. Sponsored by Michael Francis, Ph.D., Department of Physiology, Center for Lung Biology.

P41 INDUCTION OF MITOCHONDRIAL DYSFUNCTION by BISPHENOL A IN BREAST CANCER CELLS. **Jasmine Haralson**, Rising Sophomore. Sponsored by Natalie Gassman, Ph.D., Department On Oncologic Sciences.

P42 ECHOCARDIOGRAPHIC CHANGES IN PATIENTS TREATED WITH CHEMOTHERAPY. **Arslan Arshad**, Rising Sophomore. Sponsored by Christopher M. Malozzi, D.O., and Bassam Omar, M.D., Ph.D., Division of Cardiology.

P43 LOSS OF THE SUMO-LIGASE ZATT REGULATES ETOPOSIDE-INDUCED DNA DAMAGE AND REPAIR IN HEK293 CELLS. **Raymond Moosavi**, Rising Sophomore. Sponsored by Robert W Sobol, Ph.D., Department of Oncologic Sciences, Mitchell Center Cancer Institute.

The Clyde G. "Sid" Huggins Medical Student Research Awards were presented. Jordan Smith, rising sophomore medical student, received the best oral presentation award. Five medical students were presented awards for best poster presentations: Carson Edwards, rising sophomore; William McDonough, incoming freshman; Kim McWilliams, rising sophomore; Justin Rich, rising sophomore; and Patricia Vogel, rising sophomore. Each winner was presented with a plaque of recognition and cash award.

**2017-2018
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, along with other University graduate programs, began using the UniCAS admissions application program for the 2017-18 Academic Year. Prospective student applications were accessed and processed within the Graduate Office. Interviews with eligible students were hosted both on campus and via video conferencing by the BMS Graduate Office.

The Basic Medical Sciences Graduate Program interviewed applicants for the Fall 2018 class in March and April 2018. A total of 18 applicants were interviewed (US - 7; International – 11). A summary is provided below.

Admissions – BMS Graduate Program

		2018 Cohort
Applications	US	12
	International	18
Acceptances	US	6
	International	6
Matriculants	US	6
	International	5
Average GRE		V=152; Q=153
Avg. UG GPA		3.42
Avg. GR GPA		3.53

Curriculum

1. The eleventh annual COM Research Forum was held on November 17, 2017. Winners for the Graduate Student Presentation Awards were Alexander Richards in 1st place and Sarah Voth in 2nd place. Winners for the Post-Doctoral Fellow Presentation Awards were Dr. Ningyong Xu in 1st place and Dr. Kevin Lee in 2nd place.
2. The BMS Graduate Program presented its eleventh Edwin R. Hughes Memorial Award to Rebecca Dicks on August 16, 2018. The Award honors the first-year student with the best academic performance in the Basic Medical Sciences Graduate Program’s core curriculum (IDL 580 and IDL 581).

New Programs/Policies/Requirements

1. Changes were made to the Academic Advising requirements for all BMS students. Students will now be required to meet with the Academic Advisor once a semester until successfully completing their Qualifying Exam. After that time, students will meet with the advisor annually. This is in an attempt to keep students on track with meeting their benchmarks and completing the program on time.
2. The BMS Graduate Program also adopted a new Graduate Professionalism Concern Note policy and form by which faculty can report a student to the program for unprofessional behavior. Unprofessional behaviors are outlined in the Lowdown which will be used as a guide for this policy.

Both policies now appear in the BMS Student Handbook.

BMSSO – Basic Medical Sciences Student Organization

In May 2018, BMSSO elections were held. The 2018-19 officers are: Sarah Voth – President, Kierra Hardy – Vice President, Abigail Boyd – Treasurer, and Lana Vukadin – MCI Representative. They began their leadership of the BMSSO on July 1, 2018.

The BMSSO hosted a welcome reception for new students at Dr. Townsley's home during the 2018 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 students received extramural grant awards through both the AHA and NSF during the 2017-18 academic year.
3. Joshua Deal and Joshua Stone were the 2018 recipients of the Samuel J. Strada Career Enhancement Travel Award. The award was established to provide funds to support student travel to conferences and short courses to enhance the educational and career development opportunities for graduate students in the BMS Graduate Program.
4. In 2017, a COM Dean's Predoctoral Fellowship program was established. The program will provide up to three one-year \$30,000 fellowships through an annual competition. The first awardees of the fellowship for 2018 were Meredith Gwin and Barnita Haldar.

Graduates

12 students officially completed all requirements during the academic year (August 2017 – July 2018):

Ahmed Hussein Al-Ghadbhan

DISSERTATION TITLE: “Role of Resistin in Pancreatic Cancer”

MAJOR PROFESSOR: Seema Singh, Ph.D.

TRACK: Cancer Biology

Nina Ferguson

DISSERTATION TITLE: “Multi-Omic Analysis of Complex Microbial Communities in Gastrointestinal Lavage Fluid and their Association with Pancreatic Ductal Adenocarcinoma”

MAJOR PROFESSOR: Lewis K. Pannell, Ph.D.

TRACK: Cancer Biology

Caleb Lucas Hamilton

DISSERTATION TITLE: “Protein Phosphatase 5 (PP5C) Regulates the ISOC Calcium Channel and Subsequent Endothelial Barrier Function through PP5C-FKBP51 Axis”

MAJOR PROFESSOR: Donna L. Cioffi, Ph.D.

TRACK: Lung Biology

Anna Kathleen McClinton

DISSERTATION TITLE: “Glycosylation-Associated Dysregulation of Pyocyanin Production in Pseudomonas Aeruginosa: Implications for Quorum Sensing Regulation”

MAJOR PROFESSOR: Eugene A. Cioffi, Ph.D.

TRACK: Lung Biology

James Michael Murphy

DISSERTATION TITLE: “Role of FAK in Vascular Inflammation”

MAJOR PROFESSOR: Steve Lim, Ph.D.

TRACK: Cell Biology

Joshua Bryant Phillips

DISSERTATION TITLE: “The Splicing Cofactor of SON is Required for Appropriate Splicing of ERBB Family Receptors ERBB2 and ERBB3”

MAJOR PROFESSOR: Ming Tan, M.D., Ph.D.

TRACK: Cancer Biology

Sabrina Colleen Ramelli

DISSERTATION TITLE: “Oligonucleotide Therapy of Asthma to Reduce Inflammation and Remodeling”

MAJOR PROFESSOR: William T. Gerthoffer, Ph.D.

TRACK: Lung Biology

Phoibe Renema

DISSERTATION TITLE: “Cyclic Amp Signaling Regulates CASPASE-1 Activation in Pulmonary Microvascular Endothelial Cells During Pseudomonas Aeruginosa Infection”

MAJOR PROFESSOR: Diego F. Alvarez, M.D., Ph.D.

TRACK: Lung Biology

April Kathleen Scruggs

DISSERTATION TITLE: “Cellular Uptake and Intercellular Signaling by Extracellular Vesicles”

MAJOR PROFESSOR: Natalie R. Bauer

TRACK: Lung Biology

Sebastian Martus Spencer

DISSERTATION TITLE: “RAD6-Mediated Ubiquitin Signaling in the Etiology and Therapeutics of Ovarian Cancer”

MAJOR PROFESSOR: Komaraiah Palle, Ph.D.

TRACK: Cancer Biology

Emily A. Turner

DISSERTATION TITLE: “Keratose as a Novel Drug Carrier for Drug-Coated Balloons”

MAJOR PROFESSOR: Saami K. Yazdani, Ph.D.

TRACK: Biomedical Engineering

Kendall Lamar Walton

DISSERTATION TITLE: “The Role of NCK-Interacting Kinase (NIK) in Cancer Cell Migration and Metastasis”

MAJOR PROFESSOR: Lawrence L. LeClaire, III, Ph.D.

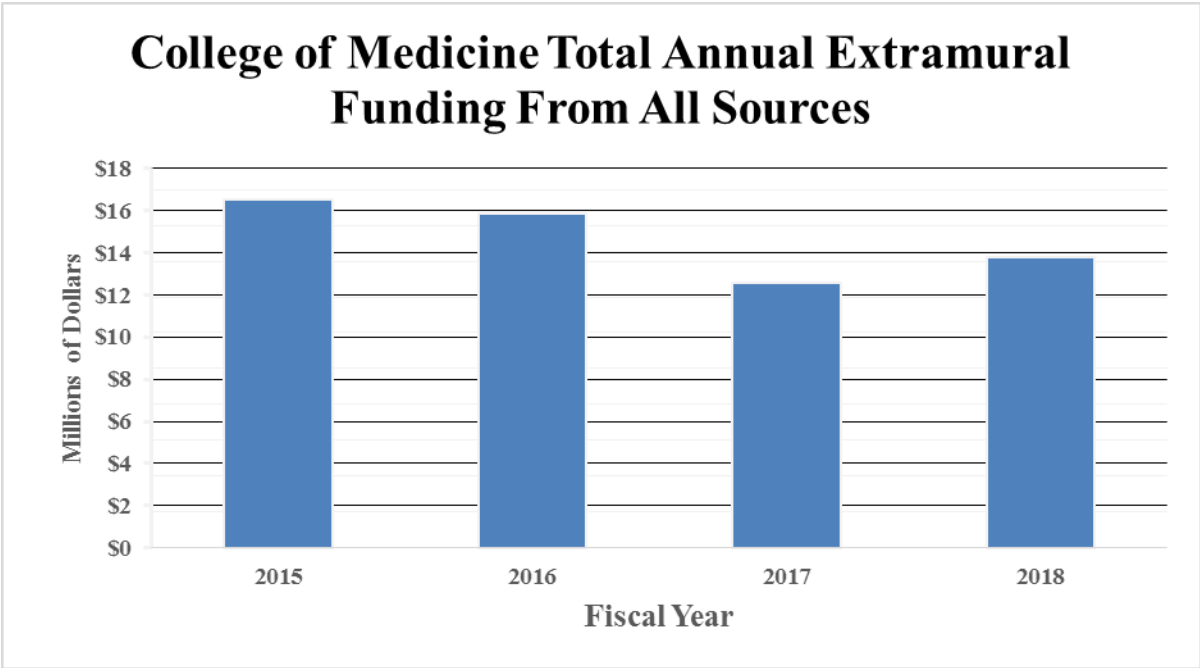
TRACK: Cell Biology

Summary of Extramural Support

Funding for the 2017-2018 academic year includes \$12,465,241 and \$1,325,669 in awards and revenue administered through the Office of Sponsored Programs and the South Alabama Medical Science Foundation, respectively. Note that MPI awards (awards with multiple principal investigators) are only counted once in the extramural fund totals.

Extramural Funds Totals for Last 4 Years

2015	\$16,546,756
2016	\$15,832,783
2017	\$12,552,857
2018	\$13,790,910



**EXTRAMURAL FUNDING
(OCTOBER 1, 2017 – SEPTEMBER 30, 2018)**

BIOCHEMISTRY & MOLECULAR BIOLOGY

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Donna Cioffi (co-investigators Alexeyev, Honkanen, Scammell)	NIH 2 R56 HL107778 05A1	Immunophilins Regulate SOC Entry Channels in Pulmonary Endothelial Cells	\$384,791
Steve Lim	NIH 5 R01HL136432-02	Role of FAK in Vascular Inflammation	\$378,750
Wito Richter (co-investigators Alexeyev, Alvarez, Audia)	NIH 1 R01 HL141473-01	Regulation of Phosphodiesterases and cAMP Signaling During the Host-Pathogen Interaction in the Pulmonary Endothelium	\$391,120
Wito Richter (fellow Abou Saleh)	CFF SALEH18H0	Novel Host-Pathogen Interactions in the Airway Epithelium	\$2,000
		Total	\$1,156,661

CENTER FOR DISASTER HEALTHCARE PREPAREDNESS

Principal Investigator	Agency	Project Title	Fiscal Year Funding
David Wallace	ADPH MP2018-06-10	Center for Disaster Healthcare Preparedness - CDHP AIMS 2019	\$265,334
David Wallace	ADPH MP 2018-06-11	Center for Disaster Healthcare Preparedness - CDHP Training 2019	\$1,006,389
		Total	\$1,271,723

CENTER FOR LUNG BIOLOGY

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Silas Leavesley (co-investigators Rich, Taylor, Phan)	NIH 2 P01 HL066299-16A1 CORE D**	Lung Endothelial Phenotypes: Core D - Bioimaging and BioTechnology Implementation	\$219,570

****Center for Lung Biology Program Project Grant
(other cores/projects listed under COM faculty home
department)**

Total \$219,570

CENTER FOR STRATEGIC HEALTH INNOVATIONS

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Barbara Oliver	CMMS C80629590	Medicaid Maternity Program	\$20,000
Barbara Oliver	CMMS C80629589	PMP Portal and Health Homes Contract Agreement	\$700,000
Total			\$720,000

FAMILY MEDICINE

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Allen Perkins	HRSA 6 T0BHP30027-03-01	Caring for the Complex Patient in the PCMH	\$459,463
Allen Perkins	HRSA 6 T0BHP30027-03-02 SUPPLEMENT	Caring for the Complex Patient in the PCMH	\$100,000
Allen Perkins	AFPRHB 170436	A Resident Curriculum in Rural Family Medicine at the USA Family Medicine Residency Program	\$30,000
Allen Perkins	AFPRHB 170541	Student Preceptorship	\$20,000
Total			\$609,463

GRADUATE PROGRAM IN BASIC MEDICAL SCIENCES

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Silas Leavesley (co-sponsor Rich; fellow Deal)	AHA 18PRE34060163	Hyperspectral Imaging as a Novel Method to Classify Atherosclerotic Plaque	\$26,844
Total			\$26,844

INTERNAL MEDICINE

Principal Investigator	Agency	Project Title	Fiscal Year Funding
G. Mustafa Awan	PS# 107223-05	Cardiovascular Inflammation Reduction Trial (CIRT)	\$2,750
G. Mustafa Awan	Hospital Quality Foundation 63804	Utilization of Ticagrelor in the Upstream Setting for NSTEMI Acute Coronary Syndrome ("UPSTREAM")	\$3,250
Martha Arrieta	NIH 1 U01 ES029518-01 SUBFUND	Measuring Genomic DNA Damage and DNA Repair Capacity Longitudinal Population Samples-A Step Towards Precision Prevention	\$205,080
Brooks Cash	Gastro Intestinal Health Foundation 63803	GSID Patient Journey Screening and Survey	\$5,950
Brooks Cash	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)	\$176,899
Errol Crook (co-investigator Perkins)	NIH 2018-11-05	Alabama Precision Medicine Initiative	\$637,000
Michael Culpepper	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	\$4,288
Michael Culpepper	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	\$56,455
Jack DiPalma	Takeda 63786	Entyvio (Vedolizumab) Long-Term Safety Study	\$24,771

Jack DiPalma	Medtronic 63833	Multicenter, Prospective, Randomized Study Comparing the PillCam Crohn's Capsule Endoscopy System to Ileocolonoscopy plus MRE (Magnetic Resonance Enterography) for Detection of Active CD in the Small Bowel and Colon in Subjects with Known CD and Mucosal Disease (the BLINK study)	\$3,600
Karen Fagan	United Therapeutics Corp 63835	A Multicenter, Randomized, Placebo-Controlled Trial to Evaluate the Safety and Efficacy of Inhaled Treprostinil in Subjects with Pulmonary Hypertension due to Parenchymal Lung Disease	\$8,620
Karen Fagan	United Therapeutics Corp 63836	An Open Label Extension Study of Inhaled Treprostinil in Subjects with Pulmonary Hypertension due to Parenchymal Lung Disease	\$7,500
Johnson Haynes (co-investigator Wilson)	PCORI A18-0056-S003	Comparative Effectiveness of Enhanced Peer Navigation versus Structured Education Based Programming for the Management of Care Transitions in Emerging Adults with Sickle Cell	\$54,779
Johnson Haynes	Global Blood Therapeutics 63823	A Phase 3, Double-Blind, Randomized, Placeo-Controlled, Multicenter Study of GBT440 Administered Orally to Patients with Sickle Cell Disease	\$17,949
Christopher Malozzi	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	\$13,960
Christopher Malozzi	Sanofi US Service Inc 63839	Long-term Legacy Effects of LDL-C Lowering with Alirocumab: Observational Follow-up of the Odyssey Outcomes Study.	\$3,079
Christopher Malozzi	Luitpold Pharmaceuticals 63842	A Randomized, Double-Blind, Placebo-Controlled Study to Investigate the Efficacy and Safety of Injectafer (Ferric Carboxymaltose) as Treatment for Heart Failure with Iron Deficiency (HEART-FID)	\$6,500

Reynaldo Rodriguez	Braintree Laboratories 63834	A Safety and Efficacy Comparison of BLI4700 Bowel Preparation Versus an FDA Approved Comparator in Adult Subjects Prior to Colonoscopy	\$56,911
John Vande Waa	HRSA 5 H12 HA24771-07-00	USA Family Specialty Clinic	\$381,260
John Vande Waa	NIH A17-0229-001 SUPP	FRESH Study	\$3,000
John Vande Waa	HRSA RW-USAF-1819	Ryan White Part B	\$144,016
		Total	\$1,817,617

MICROBIOLOGY & IMMUNOLOGY

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Jonathan Audia (MPI with Alvarez)	NIH 5 RO1 HL118334-04	Caspase-1, the Microvascular Endothelium and Infection	\$419,655
Jonathan Rayner	Immunomodulation 18-0233	Protocol Development	\$5,507
Jonathan Rayner (co-investigator Kim)	Immunomodulation 18-0375	Protocol Development Amendment I	\$8,843
Jonathan Rayner (co-investigator Kim)	Immunomodulation 18-0483	Protocol Development Amendment I	\$53,793
Jonathan Rayner (lead PI McCreadie)	ADPH 17-0597	A Preliminary State Wide Survey of the Tick Fauna and Associate Tick-borne Disease of Alabama	\$41,045
Jonathan Rayner (co-PI McCreadie)	MCHD 180426	The Mobile County Mosquito Surveillance Program	\$51,554
		Total	\$580,397

MITCHELL CANCER INSTITUTE (SAMSF Projects Only)

Principal Investigator	Agency	Project Title	Fiscal Year Funding
David Clarkson	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	\$7,586

David Clarkson	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 1st Line Chemotherapy	\$17,917
Michael Finan	Caris Life Sciences 63689	A Registry of Caris Life Sciences Molecular Intelligence Service (Biomarker Assessment Results) Intended for Correlation with Cancer Clinical Outcomes	8,500
Moh'd Khushman	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)	\$7,200
Carole Norden	Novartis Pharmaceuticals 63666	A Phase III Randomized, Double-Blind, Placebo-Controlled Study of BKM120 with Fulvestrant, in Postmenopausal Women with Hormone Receptor-Positive HER2-Negative Locally Advanced or Metastatic Breast Cancer Which Progressed on or After Aromatase Inhibitor Treatment	\$6,788
Carole Norden	Genetech 63701	An Observational Cohort Study of Treatment Patterns and Outcomes in Patients with HER2 Positive (HER2+) Metastatic Breast Cancer	\$13,749
Carole Norden	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	\$21,480
Carole Norden	Celldex Therapeutics 63735	A Randomized Multicenter Pivotal Study of CDX-011 (CR011-vcMMAE) in Patients with Metastatic, GPNMB Over-Expressing, Triple-Negative Breast Cancer	\$8,033
Carole Norden	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	\$36,750

Carole Norden	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	\$29,848
Rodney Rocconi	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	\$84,836
Jennifer Scalici	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	\$21,320
William Taylor	Halozyme, Inc 63742	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	\$22,273
William Taylor	Halozyme, Inc 63778	A Phase 3, Randomized, Double-Blind, Placebo-Controlled, Multicenter Study of PEGylated Recombinant Human Hyaluronidase (PEGPH20) in Combination with nab-Paclitaxel Plus Gemcitabine Compared with Placebo Plus nab-Paclitaxel and Gemcitabine in Subjects with Hyaluronan-High Stage IV Previously Untreated Pancreatic Ductal Adenocarcinoma	\$35,914
Total			\$322,194

NEUROLOGY

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Steve Cordina	NIH 2017-09-10	StrokeBelt StrokeNet	\$18,938
Steve Cordina	Daiichi Sankyo 63814	A Phase 1B/2, Multi-Center, Double-Blind (Principal Investigators and Study Subjects Blinded, Sponsor Unblinded), Placebo-Controlled, Randomized Single-	\$95,438

Daniel Dees	Huntington's Disease Society of America 180111	Ascending Dose Study to Assess the Safety, Pharmacokinetics, and Pharmacodynamics of DS-1040B in Subjects with Acute Ischemic Stroke Center of Excellence	\$7,500
Elizabeth Minto	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	\$2,000
Elizabeth Minto	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	\$10,805
Dean Naritoku	Sunovion Pharmaceuticals 63845	Efficacy and Safety of Eslicarbazepine Acetate as First Add-On to Levetiracetam or Lamotrigine Monotherapy or as Later Adjunctive Treatment for Subjects with Uncontrolled Partial-Onset Seizures: A Multicenter, Open-Label, Non-Randomized Trial	\$5,000
Juan Ochoa	Sage Therapeutics 63791	A Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy and Safety of Sage-547 Injection in the Treatment of Subjects with Refractory Status Epilepticus Who Have Failed Standard Treatment	\$32,763
Total			\$172,444

OBSTETRICS & GYNECOLOGY

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Susan Baker	Sequenom 63719	SQNM-T21-107 - Collection of Whole Blood Specimens 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	\$19,875

Brian Brocato	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	\$12,500
Botros Rizk	AbbVie 63819	Extension Study to Evaluate the Efficacy and Safety of Elagolix in Premenopausal Women with Heavy Menstrual Bleeding Associated with Uterine Fibroids	\$25,078
Botros Rizk	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	\$3,539
Lisa Spiryda	ADPH GC-18-012 C80113007	Regional Perinatal Coordinator	\$11,500
Total			\$72,492

PEDIATRICS

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Stephanie Anderson	ADMH 17-0572	Regional Autism Center	\$75,000
Karen Crissinger	Centocor, Inc. 62926	A Multi-Center, Prospective, Long-term, Observational Registry of Pediatric Patients with Inflammatory Bowel Disease	\$5,672
Fabien Eyal	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	\$2,546
Anna-Marie Kaulfers	ADPH GC-18-066 C80113046	Endocrinology Clinic for State Newborn Screening	\$22,000
Anand Ponnambalam	Braintree Labs 63810	A Safety and Efficacy Study of a Bowel Cleansing Preparation (BLI800) in Pediatric Subjects Undergoing Colonoscopy	\$3,614
Felicia Wilson	NIH 9500080215-12C-04	Children's Hospital Philadelphia, Non Industry Funding Per Case Reimbursement: NIH COG Chair Grant	\$5,700

Felicia Wilson	NIH 9500100715-XX-04	Master Subaward Agreement for NON-Industry Funding Per Case Reimbursement COG NCORP	\$666
Felicia Wilson	COG 9400710617-01	Every Child (APEC14B1) Non Industry	\$2,350
Felicia Wilson	COG 9400380000	Childrens Oncology Group Grant –Industry Funded Work Order - Study AALL1131 - Sanofi/Genzyme	\$10,500
Felicia Wilson	NIH 950008020216-13C-3	CHOP Workload Intensity NIH National Clinical Trials Network Grant (U10CA180886) Successor to NIH COG Chair Grant	\$2,500
Felicia Wilson	ADPH GC-18-125 C80113078	Comprehensive Sickle Cell Center for the State Newborn Screening Program	\$22,000
Felicia Wilson	NIH MUSC 2018-09-04	DISPLACE Dissemination and Implementation of Stroke Prevention Looking at the Care	\$14,969
		Total	\$167,517

PHARMACOLOGY

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Natalie Bauer (co-investigators Alexeyev, Taylor)	NIH 5 R01 HL133066-02	Circulating Microparticle Effects on Phenotypically Distinct Pulmonary Endothelium	\$378,750
Glenn Borchert (fellow Houserova)	ACHE A18-0142-001	Novel Non Coding RBA Contributors to Salmonella Stress Response	\$25,000
Mark Gillespie	NIH A15-0004-002	Mitochondrial DNA Repair Agents for Acute Lung Injury	\$200,248
Mark Gillespie (co-investigators Al-Mehdi, Borchert)	NIH 5 R01 HL058234-17	DNA Lesions & Gene Expression in Hypoxic Lung Disease	\$378,750
Mark Gillespie	NIH UC 90631-2	UAB CCTS Fee for Service Agreement to Fund Voucher Awards	\$15,000

Mark Gillespie (co-investigators Arrieta, Fruh, Langley, Mulekar, Rocconi, Townsley)	NIH 000508606-008-A04	USA Translational Research Service Center	\$133,902
Mark Gillespie (co-investigators Langley, Mulekar, Pastukh)	NIH 2 R01 HL113614-06A1	mtDNA Repair: An Isolated Pharmacologic Target in Acute Lung Injury	\$454,751
Thomas Rich (co-investigator Leavesley)	NIH 080-18007-S28201	Functional Diversity of Compartmentalized Calcium Signaling in Airway Smooth Muscle	\$151,500
Thomas Rich (co-investigators Leavesley, Richter, Sayner)	NIH 2 P01 HL066299-16A1 PROJECT 2**	Lung Endothelial Phenotypes: Project 2 - Cyclic Nucleotide Gradients Regulate the Balance of Mechanical Forces Underlying Pulmonary Endothelial Barrier Integrity	\$349,221
Thomas Rich (MPI with Stevens)	NIH 5 T32 HL076125-15	Training in Cell Signaling and Lung Pathobiology	\$174,503
Thomas Rich	AHA 18UFEL33900151	Undergraduate Summer Research Experience at USA	\$16,000
**Center for Lung Biology Program Project Grant			Total
			\$2,277,625

PHYSIOLOGY & CELL BIOLOGY

Principal Investigator	Agency	Project Title	Fiscal Year Funding
Mikhail Alexeyev	NIH 2 P01 HL066299-16A1 CORE C**	Lung Endothelial Phenotypes: Core C - Gene Delivery	\$288,628
Mikhail Alexeyev	NIH 5 R01 OD010944-07	Mouse Models of Mitochondrial Disorders Caused by mtDNA Mutations	\$359,438
Diego Alvarez (co-investigator Tambe)	NIH 2 P01 HL066299-16A1 CORE B**	Lung Endothelial Phenotypes: Core B - Cell Culture and Small Animal	\$265,986

Diego Alvarez (MPI with Audia)	NIH 5 RO1 HL118334-04	Caspase-1, the Microvascular Endothelium and Infection	\$419,655
Michael Cohen	NIH A18-0157-001	Cardioprotection by Inhibition of Coagulation and Inflammation in Myocardial Infarction	\$50,000
Michael Francis (mentor Stevens)	NIH 5 K25 HL136869-02	TRPC4-Meditated Calcium Signals Accelerate Vascular Remodeling In Pulmonary Arterial Hypertension	\$159,548
Ji Young Lee (mentor Stevens)	AHA 18CDA34080151	Carbonic Anhydrase IX and Pulmonary Endothelial Cell Acidosis During Infection	\$77,000
Mike Lin (co-investigators Balczon, Stevens, Zha)	NIH 1 R01 HL140182-01A1	Nosocomial pneumonias impair cognitive function	\$464,175
Sarah Sayner	NIH 5 R01 HL121512-04	Bicarbonate Regulation of the Pulmonary Endothelial Barrier	\$303,000
Troy Stevens (co-mentor Tambe; fellow Xu)	NIH 1 F32 HL144040-01	TRPC4-dependent Cytosolic Ca ²⁺ Signals Interendothelial Contractile Forces that Elicit Gap Formation	\$59,038
Troy Stevens	NIH 2 P01 HL066299-16A1 CORE A**	Lung Endothelial Phenotypes: Core A - Administrative Core	\$209,812
Troy Stevens (co-investigators Balczon, Sayner)	NIH 2 P01 HL066299-16A1 PROJECT 1**	Lung Endothelial Cell Phenotypes: Project 1 - Soluble Adenylyl Cyclases in Lung Endothelial Permeability	\$291,894
Troy Stevens (co-investigator Alexeyev)	NIH 5 R37 HL060024-21	Store Operated Ca ²⁺ Entry: Lung Endothelial Permeability	\$412,459
Troy Stevens (MPI with Rich)	NIH 5 T32 HL076125-15	Training in Cell Signaling and Lung Pathobiology	\$174,503
Mary Townsley (co-investigators Alvarez, Taylor) Xiangming Zha	NIH 2 P01 HL066299-16A1 PROJECT 3**	Lung Endothelial Cell Phenotypes: Project 3 - Functional Calcium Microdomains in Lung Microvascular Endothelium	\$356,900
Xiangming Zha	NIH 5 R01 NS102495-02	Neuroprotective Role of OGR1 in Brain Ischemia	\$357,257
	NIH XIONG/ZHA 001	Mechanisms of ASIC-Mediated Neuronal Injury	\$39,769
**Center for Lung Biology Program Project Grant			Total
			\$4,289,062

SURGERY				Fiscal Year Funding
Principal Investigator	Agency	Project Title		
Steven Brevard	Bayer 63686	A Prospective, Randomized, Double-Blind, Placebo-Controlled, Multicenter Study to Evaluate the Safety and Efficacy of BAY 41-6551 as Adjunctive Therapy in Intubated and Mechanically-Ventilated Patients with Gram-Negative Pneumonia		\$3,720
Steven Kahn	Mediwound 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		\$11,420
Steven Kahn	BARDA A17-0209-001	A Phase III Open Label, Controlled, Randomized, Multicenter Study Evaluating the Efficacy and Safety of Stratagraft Skin Tissue in Promoting Autologous Skin Tissue Regeneration of Complex Skin Defects due to Thermal Burns that contain Intact Dermal Elecme		\$37,396
William Richards	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		\$45,219
Paul Rider	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		\$11,061
Paul Rider	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)		\$110,164
Jon Simmons (mentor Gillespie)	NIH 5 K08 GM109113-03	mtDNA DAMPS: A Pharmacologic Target in Multi-Organ System Failure		189,000
Jon Simmons	NIH UL1TR001417-CCTS PILOT	The role of mtDNA DAMPs in the pathogenesis of trauma-induced platelet dysfunction		15,150
Jon Simmons	American College of Surgeons 272580	Mitochondrial DNA DAMP's, A Pharmacological Target in Multiple Organ Dysfunction Syndrome		\$45,000
		Total		\$468,130

