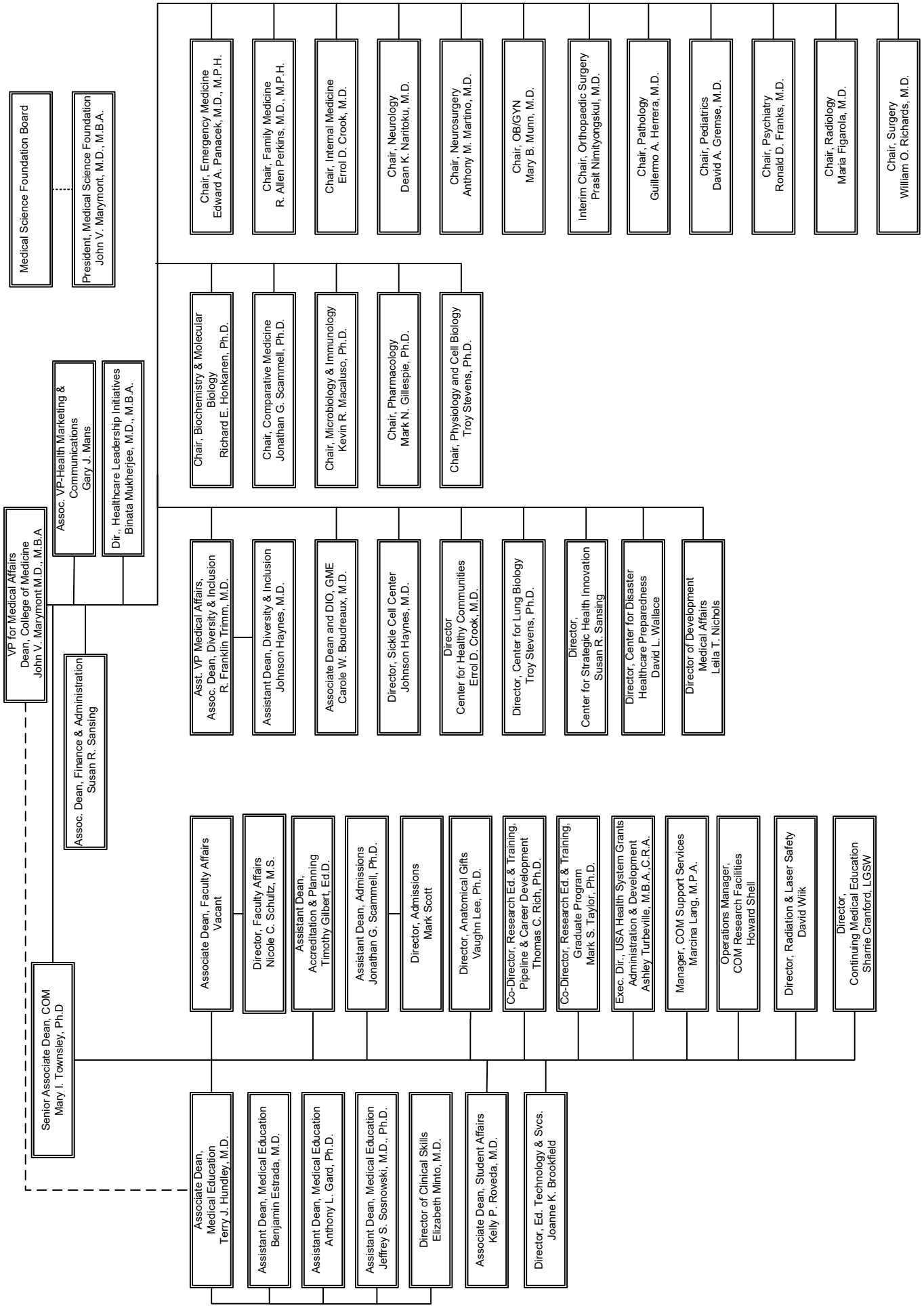


USA UNIVERSITY OF SOUTH ALABAMA
COLLEGE OF MEDICINE

ANNUAL REPORT

October 1, 2018 - September 30, 2019

USA College of Medicine Organizational Chart November, 2019



ANNUAL REPORT
UNIVERSITY OF SOUTH ALABAMA
COLLEGE OF MEDICINE

October 1, 2018 through September 30, 2019

FOREWORD

The 2018-19 annual report for the University of South Alabama College of Medicine catalogues the accomplishments of our faculty, staff and students as they relate to teaching, research, scholarly and community service. While impressive on their own and a demonstration of the continued excellence of everyone involved, these endeavors become even more remarkable when people understand the backdrop of significant change that we have had this fiscal year. Most notable this year is our being fully reaccredited by the Liaison Committee on Medical Education (LCME) for the next eight years. This affirmation from LCME is further supported by our students' continued success. For the past three years, they have scored higher than the national average on both Step exams and continue to compete for some of the most prestigious residencies in the nation. Further, they go on to practice in underserved areas at the highest levels of any school in the country. Not only do they flourish in their practice, but they bring that care to areas most in need.

We have had a number of leadership changes this year. We filled four department chairs – Richard Honkanen, PhD, in biochemistry and molecular biology; Kevin Macaluso, PhD, in microbiology and immunology, Mary Munn, MD, in obstetrics and gynecology, and Guillermo Herrera in Pathology. On the administration side, Kelly Roveda, MD, was named associate dean of student affairs, T.J. Hundley, MD, associate dean of medical education, and Carole Boudreaux, assistant dean of graduate medical education.

Our research efforts continue to be strong and growing. A significant change in this arena includes the research faculty from the Mitchell Cancer Institute joining home departments within the College to further foster interdisciplinary activity.

The individual and collective accomplishments detailed in this report are the result of the focused and continual effort of our excellent faculty, students and staff. I thank each of you for this successful year.



John V. Marymont, MD, MBA

VP Medical Affairs and Dean, College of Medicine.

TABLE OF CONTENTS

	Page
I. Reports from Departments and Centers	
Biochemistry and Molecular Biology	1
Comparative Medicine	7
Emergency Medicine	9
Family Medicine.....	16
Internal Medicine.....	19
Microbiology and Immunology	26
Neurology	30
Neurosurgery.....	35
Obstetrics and Gynecology.....	36
Orthopaedic Surgery	40
Pathology	43
Pediatrics	51
Pharmacology	61
Physiology and Cell Biology	74
Psychiatry	82
Radiology	85
Surgery.....	90
Center for Lung Biology.....	102
Center for Healthy Communities	104
Center for Strategic Health Innovation	107
Center for Disaster Healthcare Preparedness.....	109
Comprehensive Sickle Cell Center	113
II. Report from Office of Development and Alumni Relations.....	117
III. Report from Division of Medical Education and Student Affairs.....	120
IV. Report from Admissions.....	138
V. Report from Continuing Medical Education	141
VI. Report from Graduate Medical Education	142
VII. Report from Medical Student Summer Research Program	148
VIII. Report from the Graduate Program in Basic Medical Sciences.....	153
IX. Summary of Extramural Support	156

2018-2019
Summary of Scholarly Activities
Department of Biochemistry

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Dementiev A, Joachimiak A, Nguyen H, Gorelik A, Illes K, Shabani S, Gelsomino M, Ahn EE, Nagar B, Doan N. Molecular mechanism of inhibition of acid ceramidase by carmofur. *J Med Chem*. 2019 Jan 24;62(2):987-992.

D'Arcy BM, Swingle MR, Schambeau L, Pannell L, Prakash A, Honkanen RE. Development of a synthetic 3-ketosteroid $\Delta 1$ -dehydrogenase for the generation of a novel catabolic pathway enabling cholesterol degradation in human cells. *Sci Rep*. 2019 Apr 12;9(1):5969. Available from: <https://www.nature.com/articles/s41598-019-42046-8.pdf>

D'Arcy BM, Blount J, Prakash A. Biochemical and structural characterization of two variants of uncertain significance in the PMS2 gene. *Hum Mutat*. 2019 Apr;40(4):458-471.

D'Arcy BM, Swingle MR, Papke CM, Abney KA, Bouska ES, Prakash A, Honkanen RE. The antitumor drug LB-100 is a catalytic inhibitor of protein phosphatase 2A (PPP2CA) and 5 (PPP5C) coordinating with the active-site catalytic metals in PPP5C. *Mol Cancer Ther*. 2019 Mar;18(3):556-566.

Jeong K, Murphy JM, Rodriguez YAR, Kim JS, Ahn EE, Lim ST. FAK inhibition reduces metastasis of $\alpha 4$ integrin-expressing melanoma to lymph nodes by targeting lymphatic VCAM-1 expression. *Biochem Biophys Res Commun*. 2019 Feb 19;509(4):1034-1040.

Jeong K, Kim JH, Murphy JM, Park H, Kim SJ, Rodriguez YAR, Kong H, Choi C, Guan JL, Taylor JM, Lincoln TM, Gerthoffer WT, Kim JS, Ahn EE, Schlaepfer DD, Lim SS. Nuclear focal adhesion kinase controls vascular smooth muscle cell proliferation and neointimal hyperplasia through GATA4-mediated cyclin D1 transcription. *Circ Res*. 2019 July 5;125(2):152-166.

Jeong K, Murphy JM, Rodriguez YAR, Kim JS, Ahn EE, Lim SS. FAK inhibition reduces metastasis of a $\alpha 4$ integrin-expressing melanoma to lymph nodes by targeting lymphatic VCAM-1 expression. *Biochem Biophys Res Commun*. 2019 Feb 19;509(4):1034-1040.

Kim JH, Park EY, Chitayat D, Stachura DL, Schaper J, Lindstrom K, Jewett T, Wieczorek D, Draaisma JM, Sinnema M, Hoeberrigs C, Hempel M, Bachman KK, Seeley AH, Stone JK, Vukadin L, Richard A, Shinde DN, McWalter K, Si YC, Douglas G, Lim ST, Vissers LELM, Lemaire M, Ahn EE. SON haploinsufficiency causes impaired pre-mRNA splicing of CAKUT genes and heterogeneous renal phenotypes. *Kidney Int*. 2019 Jun;95(6):1494-1504.

Kim JS, Jeong K, Murphy JM, Rodriguez YAR, Lim SS. A quantitative method to measure low levels of ROS in nonphagocytic cells by using a chemiluminescent imaging system.

Oxid Med Cell Longev. 2019 Jun 11;2019:1754593. Available from: <http://downloads.hindawi.com/journals/omcl/2019/1754593.pdf>

Lin MT, Balczon R, Pitter JF, Wagener BM, Moser SA, Morrow KA, Voth S, Francis CM, Leavesley S, Bell J, Alvarez DF, Stevens T. Nosocomial pneumonia elicits an endothelial proteinopathy: evidence for a source of neurotoxic amyloids in critically ill patients. *Am J Respir Crit Care Med*. 2018 Dec 15;198(12):1575-1578.

Murphy JM, Jeong K, Rodriguez YAR, Kim JH, Ahn EE, Lim SS. FAK and Pyk2 activity promote TNF- α and IL-1 β mediated pro-inflammatory gene expression and vascular inflammation. *Sci Rep*. 2019 May 20;9(1):7617. Available from: <https://www.nature.com/articles/s41598-019-44098-2.pdf>

Stone JK, Kim JH, Vukadin L, Richard A, Lim SS, Tan M, Ahn EE. Hypoxia induces cancer cell-specific chromatin interactions and increases MALAT1 expression in breast cancer cells. *J Biol Chem*. 2019 Jul 19;294(29):11213-11224.

II. PUBLISHED ABSTRACTS

deWeever A, Gwin M, Voth SB, Francis CM, Balczon R, Stevens T. Lung endothelium produces cytotoxic, oligomer-like tau fragments during endothelial infection. *Am J Respir Crit Care Med*. 2019;199:A1979. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrcm-conference.2019.199.1_MeetingAbstracts.A1979

Gwin M, Voth SB, Francis CM, Balczon R, Stevens T. Gamma secretase activating protein is necessary for endothelial dysfunction and production of cytotoxic beta amyloid during bacterial infection. *Am J Respir Crit Care Med*. 2019;199:A1975. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrcm-conference.2019.199.1_MeetingAbstracts.A1975

Haldar B, Hamilton CL, Solodushko V, Scammell JG, Cioffi DL. The role of SI00A6 in calcium-induced endothelial barrier disruption. *FASEB J*. 2019;33:845.5.

Jeong K, Lim ST. FAK regulates VSMC plasticity via DNA methylation and histone modification. *Vascular Biology* 2018; 2018 Oct 14-18; Newport, RI. Abstract no. T43.

Kim JH, Stone JS, Li J, Richard A, Vukadin L, Gillespie Y, Sobol RW, Lim S, Ahn EYE. SON controls the oncogenic alternative splicing program in glioblastoma by regulating PTBP1/2 switch and RBFOX2 activity. O'Neal Comprehensive Cancer Center 20th Annual Research Retreat; 2018 Nov 16; Birmingham, AL.

Murphy JM, Rodriguez Y, Lim ST. Focal adhesion kinase activity is critical in flow-induced NF- κ B activation and disturbed flow-mediated atherosclerosis. *Vascular Biology* 2018; 2018 Oct 14-18; Newport, RI. Abstract no. M23.

Richard A, Kim JH, Stone JK, Vukadin L, Ahn EYE. The long non-coding RNA GAS5 promotes cell growth and inhibits differentiation in chronic myeloid leukemia. O'Neal

Comprehensive Cancer Center 20th Annual Research Retreat; 2018 Nov 16; Birmingham, AL.

Rodriguez Y, Lin S, Blanchard E, Abou-Saleh L, Baskar G, Boyd A, Zlock L, Finkbeiner W, Richter W. Non-selective, but not subtype-selective PDE4 inhibitors induce expression of the pro-inflammatory PDE4 variant PDE4B2. The 32nd Annual North American Cystic Fibrosis Conference; 2018 Oct 18-20; Denver, CO. Abstract no. 122.

Saleh LA, Koloteva A, Boyd A, Baskar G, Richter W. Genetic ablation of PDE4 subtypes protects from *P. Aeruginosa*-induced lung injury in mice. The 32nd Annual North American Cystic Fibrosis Conference; 2018 Oct 18-20; Denver, CO. Abstract no. 87.

Stone JK, Kim JH, Tan M, Ahn EYE. mascRNA, a MALAT1-derived non-coding RNA, regulates metabolic reprogramming in triple-negative breast cancer. O'Neal Comprehensive Cancer Center 20th Annual Research Retreat; 2018 Nov 16; Birmingham, AL.

Vukadin L, Park EY, Ahn EYE. SON represses RUNX1 expression and impairs megakaryocytic differentiation in acute megakaryoblastic leukemia (AMKL). O'Neal Comprehensive Cancer Center 20th Annual Research Retreat; 2018 Nov 16; Birmingham, AL.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Ahn E. Invited speaker. Oncogenic RNA splicing in glioblastoma. Splicing Factor Mutations and RNA Biology in Cancer Workshop; 2019 May 23; New Haven, CT.

Honkanen R. Invited speaker. Development and characterization of PPP2R5D variant cell lines. Jordan's Guardian Angels Workshop; 2018 Dec 12; New York, NY.

Honkanen R. Invited speaker. PPP2R5D cell lines provide insight into Jordan's Syndrome. Jordan's Guardian Angels Second Family Conference; 2019 Mar 28; San Francisco, CA.

Honkanen R. Invited speaker. CRISPR-genomic base editing and global phosphoproteomics provide insights into the actions of *de novo* missense variants of PPP2R5D. FEBS Europhosphatase 2019; 2019 Jun 12; Debrecen, Hungary.

Honkanen R. Invited speaker. Update on how PPP2R5D variants alter signaling pathways. 2019 Jordan's Guardian Angels Symposium; 2019 Jul 23; New York, NY.

Prakash A. Invited speaker. Structural and biochemical studies to assess protein interactions and classify VUSs. American Chemical Society National Meeting and Exposition; 2019 Apr 3; Orlando, FL.

Prakash A. Invited speaker. DNA repair: structural and biochemical studies to assess protein interactions and (re)classify variants of unknown clinical significance [video]. Produced by NIH Video Casting and Podcasting, as part of the DNA Repair Interest Group Videoconference; 2019 Feb 19; Bethesda, MD. Available from: <https://videocast.nih.gov/summary.asp?Live=27120&bhcp=1>

Prakash A. Invited speaker. Structural and biochemical studies to (re)classify variants of uncertain significance. University of Texas; 2018 Dec 17; Austin, TX.

V. NATIONAL PROFESSIONAL RECOGNITION

Erin Ahn: NIH Special Emphasis Panel/Scientific Review Group (ZRG1 F09B-M 20); NIH Cancer Genetic Study Section; Journal Peer Review: DNA Repair; Moderator: Human Diseases Gene Website Series; Leader: ZTTk-SONshine Foundation Advisory Board; Organizer: Touch-A-Truck; Nominee: RARE Champion of Hope Award.

Ron Balczon: Journal Peer Review: Scientific Reports.

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

Richard Honkanen: Panel Member NIH (NIDDK) ZDK1 GRB-7 R13 Special Emphasis Panel; BSF. United States-Israel Binational Science Foundation; Nominated for Chair, FASEB Summer Research Conference: Protein Phosphatases.

Lawrence LeClaire: Ad hoc Journal Review: Cell 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.

Aishwarya Prakash: Grant Review: University of Alabama Birmingham Comprehensive Cancer Center and Mitchell Cancer Institute Collaborative; Reviewer: North Carolina State University Center for Human Health and the Environment Pilot Project; NIH Study Section ZES1 RAM-K (R) R13 review group; Journal Peer Review: Acta D, International Journal of Molecular Sciences, Journal of International Medical Research, Genes, PlosOne, Environmental and Molecular Mutagenesis, Cell Reports, Nature Communications, Mitochondrial DNA, Nucleic Acids Research, DNA Repair, Structure; Environmental

Mutagenesis and Genomics Society; Co-Chair, Program Executive Committee Annual Meeting in Palm Springs, CA; Young Scientists Award Committee; Nominating Committee; New Directions Task Force; Faculty of 1000, F1000 Primer Faculty Member.

Wito Richter: Ad hoc Grant Review: NSF Graduate Research Fellowships: Biochemistry, Biophysics and Structural Biology; NILBI panel on Cardiovascular and Pulmonary Research on E-Cigarettes; Ad hoc Review: Biochemical Pharmacology Endocrine.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

This year was a year of revitalization for the Department. After an extensive national search, on April 1 Dr. Richard E. Honkanen was appointed Chair of the Department, replacing Dr. William Gerthoffer, who retired after serving as Chair for over 10 years. The department is in the process of updating equipment, with the goal of enhancing the research and teaching capabilities. In May, Dr. Erin Ahn joined the department as an Associate Professor and Dr. Aishwaraya Prakash joined as an Assistant Professor. Dr. Ssang-Taek (Steve) Lim was promoted to Associate Professor, with tenure, and a national search for three additional faculty is ongoing.

The department is a research-intensive academic unit that contributes primarily to undergraduate medical education, basic medical sciences graduate education and the service mission of the College of Medicine. In education the faculty contribute significant effort to the systems-based medical curriculum, contributing to the basic science (Foundation of Human Health), endocrine, cardiovascular, gastrointestinal, and musculoskeletal modules. In addition the faculty have a major commitment to multiple graduate science courses in the various tracks. Dr. Balczon served as the director of the endocrine module, and Dr. LeClaire served as co-director of the gastrointestinal module. Dr. Lim was the course director for IDL 580 and Dr. Honkanen served as the course director in IDL 577. This year one Ph.D. graduate student (Kevin Abney) graduated. Kevin is currently a postdoctoral fellow at Vanderbilt University. Currently eight students enrolled in the Basic Medical Science Ph.D. program and one MS student in the Environmental toxicology program are undergoing extensive small group training with faculty in the department. Five postdoctoral fellows in the department received intensive advanced training in the laboratories of Dr. Lim, Dr. Prakash and Dr. Ahn. Some faculty also contributes to undergraduate research training, acting as mentors for students enrolled in the BMD honors research programs.

The faculty continue to demonstrate excellence in research and scholarly activity, as is evident by their publications and presentations at national and international at scientific meetings, as listed above. This intensive research effort has been made possible by extramural grant support from NIH, AHA or JGA-foundation as well as internal funds supplied by the College of Medicine. Studies primarily performed by Dr. D'Arcy under the guidance of Drs. Swingle and Honkanen resulted in the introduction of a novel catabolic pathway into human cells that enabled cholesterol catabolism in human monocyte derived macrophages. US patents have been filed related to this potentially paradigm altering breakthrough, and the patent and related knowhow has been licensed to Repair Athero, Inc.

of LaFayette New York for further development. One of Dr. Lim's manuscripts was highlighted and made the cover of Circulation Research.

2018-2019
Summary of Scholarly Activities
Department of Comparative Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

II. PUBLISHED ABSTRACTS

Cawthon CV, Cooper K, Schuler M, Yazdani SK. Investigation of albumin-bound paclitaxel for liquid drug delivery. New Cardiovascular Horizons 20th Annual Conference. 2019 May 29-31; New Orleans, LA.

Cawthon C, Erwin M, Schuler M, Yazdani SK. The impact of pressure delivery on local liquid drug delivery and retention. 35th Southern Biomedical Engineering Conference 2019. 2019 Feb 22-24; Hattiesburg, MS.

Haldar B, Hamilton CL, Solodushko V, Scammell JG, Cioffi DL. The role of S100A6 in calcium-induced endothelial barrier disruption. FASEB J. 2019 Apr;33:845.5.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

Jonathan G. Scammell: Reviewer, *Journal of Steroids and Hormonal Science*, *American Biology Teacher*, *PLOS One*. Board Member, Alabama Board of Medical Scholarships.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The faculty and staff of the Department of Comparative Medicine participate in service, education, and research in the university's animal care and use program. The department continues to upgrade equipment and maximize the use of facilities with the goal of enhancing research and teaching capabilities for the benefit of investigators throughout the university. The department supports the activities of the VEVO high resolution ultrasound imaging system from VisualSonics, the hypoxia core for the development of pulmonary hypertensive rodents, the *Pseudomonas* delivery core, 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. She holds a joint appointment at the Associate Professor level in the Department of Microbiology and Immunology. Outside of the university, Dr. Schuler works with the Alabama Marine Stranding Network that collaborates with the NOAA's National Marine Fisheries Service to provide veterinary care to stranded cetacean species. 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. In 2019, she took on the directorship of the introductory graduate level course on Fundamentals of Basic Medical Sciences (IDL 580). 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.

2018-2019
Summary of Scholarly Activities
Department of Emergency Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Boulee D, Kalra S, Haddock A, Peacock W. Contemporary stethoscope cleaning practices: what we haven't learned in 150 years. Am J of Infect Control. 2019 March;47(3):238-242.

Grammer JT, Sternberg ML. Occult femur fracture. Visual Journal of Emergency Medicine; 2019 Jan;14:15-16.

Massey MJ, Hou PC, Filbin M, Wang H, Ngo L, Huang DT, Aird WC, Novack V, Trzeciak S, Yealy DM, Kellum JA, Angus DC, Shapiro NI; ProCESS investigators (includes Panacek EA). Microcirculatory perfusion disturbances in septic shock: results from the ProCESS trial. Crit Care. 2018 Nov 20;22(1):308.

Mellick L. Orbital cellulitis emergency in a child [video]. Youtube, USA Health Medical Education Videos. 2018 Oct 23. Available from: <https://www.youtube.com/watch?v=ZsHkIX3sNfg>

Mellick L. Intermittent testicular torsion emergency [video]. Youtube, USA Health Medical Education Videos. 2018 Oct 25. Available from: <https://www.youtube.com/watch?v=g-YTfoJuyJI>

Mellick L. Severe finger dislocation emergency [video]. Youtube, USA Health Medical Education Videos. 2018 Oct 25. Available from: <https://www.youtube.com/watch?v=ssjwnC3sfaM>

Mellick L. An interview with Dr. Larry Mellick [video]. Youtube, USA Health Medical Education Videos. 2018 Nov 3. Available from: https://www.youtube.com/watch?v=NTjGLW_PFHE

Mellick L. Needle aspiration of ganglion cyst [video]. Youtube, USA Health Medical Education Videos. 2018 Nov 5. Available from: <https://www.youtube.com/watch?v=-M2B7hKY8qo>

Mellick L. Ten ways to reduce a dislocated shoulder [video]. Youtube, USA Health Medical Education Videos. 2018 Nov 15. Available from: <https://www.youtube.com/watch?v=Fe9I55XSOsE>

Mellick L. Mystery nasal foreign body removal after suction catheter fail [video]. Youtube, USA Health Medical Education Videos. 2018 Nov 19. Available from: <https://www.youtube.com/watch?v=d2NA98E3V7o>

Mellick L. Bowing fracture of fibula and midshaft tibia fracture [video]. Youtube, USA Health Medical Education Videos. 2018 Nov 19. Available from: <https://www.youtube.com/watch?v=0eRkr1W9EK0>

Mellick L. Pediatric rib fracture emergency [video]. Youtube, USA Health Medical Education Videos. 2018 Dec 5. Available from: <https://www.youtube.com/watch?v=Ntf0wAaTUe0>

Mellick L. Atomized tranexamic acid for epistaxis control [video]. Youtube, USA Health Medical Education Videos. 2018 Dec 5. Available from: <https://www.youtube.com/watch?v=PZUxRY3As-s>

Mellick L. Conjunctivitis-otitis syndrome emergency [video]. Youtube, USA Health Medical Education Videos. 2018 Dec 7. Available from: <https://www.youtube.com/watch?v=FJTov4JoL64>

Mellick L. Nosebleed emergency and tanexamic acid treatment [video]. Youtube, USA Health Medical Education Videos. 2018 Dec 10. Available from: <https://www.youtube.com/watch?v=-en0EQ0xuew>

Mellick L. Parinaud oculoglandular syndrome and cat scratch disease [video]. Youtube, USA Health Medical Education Videos. 2018 Dec 15. Available from: <https://www.youtube.com/watch?v=mVNktMUDTkY>

Mellick L. Croup diagnosis management and treatment [video]. Youtube, USA Health Medical Education Videos. 2019 Feb 23. Available from: <https://www.youtube.com/watch?v=8u1R92ez6T0>

Mellick L. Enlarged baby breasts [video]. Youtube, USA Health Medical Education Videos. 2019 Apr 30. Available from: <https://www.youtube.com/watch?v=59HskcXuXsw>

Mellick L. MicroBVM and preoxygenation trial [video]. Youtube, USA Health Medical Education Videos. 2019 Apr 30. Available from: <https://www.youtube.com/watch?v=YP3QNDYAgNt>

Mellick L. Infant lumbar puncture pearls [video]. Youtube, USA Health Medical Education Videos. 2019 May 31. Available from: <https://www.youtube.com/watch?v=ffkEWhMgThE>

Mellick L. Myasthenia gravis case study [video]. Youtube, USA Health Medical Education Videos. 2019 May 31. <https://www.youtube.com/watch?v=uopYxCK1wuU>

Mellick L. Needle decompression of finger felon [video]. Youtube, USA Health Medical Education Videos. 2019 May 31. Available from: https://www.youtube.com/watch?v=XT_0lM0yNyo

Mellick L. Heat related illness emergency [video]. Youtube, USA Health Medical Education Videos. 2019 Jun 10. Available from: <https://www.youtube.com/watch?v=54lmD8BILIU>

Mellick L. How to inject rabies vaccine and immunoglobulin [video]. Youtube, USA Health Medical Education Videos. 2019 Jul 2. Available from: https://www.youtube.com/watch?v=Xy_LVYJ7On0

Mellick L. Pyloric stenosis emergency [video]. Youtube, USA Health Medical Education Videos. 2019 Aug 5. Available from: <https://www.youtube.com/watch?v=Bkgay7QItA4&t=11s>

Mellick L. Blistering distal dactylitis [video]. Youtube, USA Health Medical Education Videos. 2019 Sep 3. Available from: <https://www.youtube.com/watch?v=Jbl2jetYM-o>

Mellick L. Cardioinhibitory malignant vasovagal syncope [video]. Youtube, USA Health Medical Education Videos. 2019 Sep 3. Available from: <https://www.youtube.com/watch?v=f0CA6CF5TOs>

Mellick LB, Gonzalez J. The problematic 2014 American Academy of Pediatrics bronchiolitis guidelines. *Pediatr Emerg Care.* 2019 Sep;35(9):654-658.

Sternberg ML, Gibson BW. SAEM clinical image series: distended bowels. *Academic Life in Emergency Medicine Online.* 2019 July 1. Available from: <https://www.aliem.com/2019/07/saem-clinical-image-distended-bowels/>

Sternberg ML, Lasecki CH; Traumatic Hemorrhagic Chemosis. *Consultant,* 2018; 58 (12): 349. Available from: <https://www.consultant360.com/article/consultant360/opthalmology/traumatic-hermorrhagic-chemosis>.

Sternberg ML. Mid epigastric pain with vomiting. *Visual Journal of Emergency Medicine.* 2018 Oct;13:74-75

II. PUBLISHED ABSTRACTS

Sternberg ML, Goodloe TB, Towns JR, Cortopassi J. Oh cric-ey, that's a swollen tongue; case of recurrence of ACE inhibitor angioedema. 2019 EMerald Coast Conference; 2019 June 3-6; Miramar Beach, FL.

Sternberg ML, Young TW, McGill TH. So you're telling me IV drug use is bad-case of infective endocarditis with septic pulmonary emboli. 2019 EMerald Coast Conference; 2019 June 3-6; Miramar Beach, FL.

Sternberg ML, Gibson BW, McRae CT. You should have seen the other guy, case of facial trauma in hemophilia A. 2019 Emerald Coast Conference; 2019 June 3-6; Miramar Beach, FL.

Sternberg ML, McRae CT. Balanoposthitis. Society of Academic Emergency Medicine. (SAEM) Annual Session; 2019 May 14-17; Las Vegas, NV.

Sternberg ML, Gibson BW. Ogilvie's syndrome. Society of Academic Emergency Medicine (SAEM) Annual Session; 2019 May 14-17; Las Vegas, NV.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Henning P. Invited speaker. Trauma in Soweto –murder capital of the world. 10th Annual Gulf Coast Acute Care Surgery Symposium; 2019 Mar 4; Mobile, AL.

Kalra S. Invited speaker. Sedation for procedures in trauma. 10th Annual Gulf Coast Acute Care Surgery Symposium; 2019 Mar 4; Mobile, AL.

Mellick L. Invited speaker. Pediatric c-spine and airway in trauma. 10th Annual Gulf Coast Acute Care Surgery Symposium; 2019 Mar 4; Mobile, AL.

Panacek EA. Invited speaker. Pretest/introduction to workshop. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 5; Dallas, TX.

Panacek EA. Invited speaker. Process of research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 5; Dallas, TX.

Panacek EA. Invited speaker. Research questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 5; Dallas, TX.

Panacek EA. Invited speaker. Research hypotheses, objectives. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 5; Dallas, TX.

Panacek EA. Invited speaker. Research terminology. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 5; Dallas, TX.

Panacek EA. Invited speaker. Introduction to study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 5; Dallas, TX.

Panacek EA. Invited speaker. Practicum: your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 5; Dallas, TX.

Panacek EA. Invited speaker. Discuss your questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 5; Dallas, TX.

Panacek EA. Invited speaker. True experimental design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Quasi-experimental designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Case control and other designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Recognizing design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Research design practice. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Survey research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Qualitative studies. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Practicum: selecting your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 6; Dallas, TX.

Panacek EA. Invited speaker. Elements of a study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Practice discussion. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Sample size calculations. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Elements of a study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Instructions for between-session requirements. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Practicum: developing your study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2018 Nov 7; Dallas, TX.

Panacek EA. Invited speaker. Untold stories of the ER (I'm a doctor and play one on TV). Mobile Optimist Club; 2019 Jan 30; Mobile, AL

Panacek EA. Invited speaker. Emergency Room Trauma "Moderator". 10th Annual Gulf Coast Acute Care Surgery Symposium; 2019 Mar 04, Mobile, AL.

Panacek EA. Invited speaker. Role of Ketamine in the management of vaso-occlusive crisis in sickle cell disease. Sickle Cell Disease Practical Issues XVII; 2019 May 18, Mobile, AL

Panacek EA. Invited speaker. What I learned being a TV doctor. University of South Alabama Medical Alumni Association Reunion Weekend; 2019 July 07; 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); Moderator, EMS, 10th Annual Gulf Coast Acute Care Surgery Symposium; Moderator, Emergency Room Trauma, 10th Annual Gulf Coast Acute Care Surgery Symposium; 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" USA National Alumni Association Distinguished Alumni Award.

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 not 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 national certification for the Pediatric Emergency Department at CWH.

2018-2019
Summary of Scholarly Activities
Department of Family Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Butts-Wilkerson A, Logan Z, Hixon P, Kretsch L. Do frequent scheduled primary care visits reduce hospitalizations in patients with chronic disease? Evidence-Based Practice. 2018 Dec;21(9):89-90.

Edler M, Fernandez A, Anderson K, Pierce JY, Scalici J, Daniel CL. HPV vaccination, knowledge, and attitudes among young cervical cancer survivors in the Deep South. Vaccine. 2019 Jan 21;37(4):550-557.

Geller AC, Keske RR, Haneuse S, Davine JA, Emmons KM, Daniel CL, Gibson TM, Marghoob A, Mertens AC, McDonald AJ, Robison LL, Howell RM, Whitton JA, Coroiu A, Leisenring WM, Armstrong GT. Skin cancer early detection practices among adult survivors of childhood cancer treated with radiation. J Invest Dermatol. 2019 Sep;139(9):1898-1905.e2.

Hockenberry BJ, McGrew CA, Cass SP, Toldi JP. Rhabdomyolysis of the abdominal wall in a 23-year-old football player: a case report. The University of New Mexico Orthopedics Research Journal. 2018;7:95-97: Available from: https://issuu.com/rwood03/docs/unmorj_2018_master_file

McKinley JE, Perkins A. Neurologic conditions: common peripheral neuropathies. FP Essent. 2019 Feb;477:11-15.

McKinley JE, Perkins A. Neurologic conditions: Parkinson's disease. FP Essent. 2019 Feb;477:16-21.

McKinley JE, Perkins A. Neurologic conditions: new-onset seizures in adults. FP Essent. 2019 Feb;477:22-28.

McKinley JE, Perkins A. Neurologic conditions: dizziness and vertigo. FP Essent. 2019 Feb;477:29-39.

Molokhia E, Davis B, Tran Q, Campbell K, Warren P. Are ACE inhibitors contraindicated in hypertensive patients with a creatinine clearance below a certain level? Evidence-Based Practice. 2019 Mar;22(3):1-2.

Perkins A, Aggen A, Sollie R, Meredith M, Saville G. Which medications for pain have the lowest propensity for addiction? Evidence-Based Practice. 2019 Feb;22(2):7.

Reynolds ER, Ashbaugh AD, Toldi JP, Mercer DM, Langsfeld M, McGrew CA. Brachial artery vasculitis and associated stenosis presenting as elbow pain in a 16-year-old soccer player: a case report. The University of New Mexico Orthopedics Research Journal.

2018;7:113-115. Available from: https://issue.com/rwood03/docs/unmorj_2018_master_file

Trimmier M, Linder M, Assad S, Warner A, Pfleeger J. What populations are at most risk of rhabdomyolysis because of high-intensity workouts? Evidence-Based Practice. 2018 Dec;21(9):77.

II. PUBLISHED ABSTRACTS

Daniel CL, McLendon L, Green C, Beasley M, Pierce J. Assessing human papillomavirus (HPV) and HPV vaccine knowledge among medical students. Ann Behav Med. 2019 Mar; 53(Suppl 1).

Daniel CL, McLendon L, Green CL, Anderson K, Beasley M, Pierce JY. HPV and HPV vaccine knowledge and behaviors among undergraduate students. American Society of Preventive Oncology Annual Meeting; 2019 Mar 9-12; Tampa, FL. p. 44. Abstract no. 18.

Daniel CL, Vickers M, Green CL, Pierce JY. Mapping HPV vaccination and rates of associated cancers in the state of Alabama. O'Neal Comprehensive Cancer Center 20th Annual Research Retreat; 2018 November 16; Birmingham, AL.

Desmond RA, Venkatesh R, Padilla LA, Daniel CL, Litton AG, Heimburger DC, Brooks CM, Waterbor JW. Twenty-five year follow-up of short-term cancer research trainees at the University of Alabama at Birmingham: a brief report. International Cancer Education Conference; 2018 Oct 3-5; Atlanta, GA.

McLendon L, Pierce J, Daniel CL. Developing a survey of knowledge, attitudes, and intended practices regarding the human papillomavirus (HPV) and its vaccine among health professional students. 16th Annual American Medical Association Research Symposium; 2018 Nov 9; National Harbor, MD.

Pierce JY, Vickers MJ, Green C, Scalici JM, Daniel CL. HPV vaccination uptake associated with HPV-related cancer incidence but not rurality in the Deep South: does perceived risk outweigh access concerns? Gynecol Oncol. 2019 Jun;154(Suppl 1):9. Abstract no. 13.

Pierce JY, Vickers M, Green CL, Beasley M, Scalici JM, Daniel CL. HPV vaccination uptake associated with HPV-related cancer incidence but not rurality in the Deep South. Annual Mid-Atlantic Gynecologic Oncology Society Meeting, 2018 Oct 26-28; Columbus, OH.

Rasool, A. Daniel C, Pierce J, Green C, Outlaw E. Is integrative health coaching effective in improving the quality of life of cancer survivors? An evaluation of the THRIVE program. O'Neal Comprehensive Cancer Center 20th Annual Research Retreat; 2018 Nov 16; Birmingham, AL.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Daniel CL. Invited speaker. Partnering with oral healthcare providers to increase HPV vaccination in Alabama. Association of State and Territorial Health Officials HPV ECHO Telehealth Meeting; 2019 Jul 23; Mobile, AL.

Daniel CL. Invited speaker. Cancer prevention through HPV vaccination: the role of dental healthcare providers. Mobile Area Dental Society; 2019 Apr 5; Mobile, AL.

Daniel CL, Coyne-Beasley T, Ladinsky M. Invited speakers. Increasing HPV vaccination rates in Alabama. Blue Cross Blue Shield Circle of Care Annual Summit; 2019 Mar 1; Birmingham, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

R. Allen Perkins: was elected President of the Association of Departments of Family Medicine; Member of the Family Medicine Leadership Consortium and the Council of Academic Family Medicine

Ehab A. Molokhia: continues to serve as a member of the United States Medical Licensing Examination (USMLE) Step 2 Clinical Skills (CS) Test Material Development Committee (TMDC).

Casey L. Daniel: was elected Chair of the Alabama Comprehensive Cancer Coalition and was appointed to Executive Committee of the Alabama Adolescent Vaccination Task Force as well as Leader of the Data Work Group for this organization

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The department completed the move to the Strada Patient Care Center and successfully transitioned patient care to this location.

Dr. James Toldi was added to the faculty and is practicing Primary Care Sports Medicine. He is the team physician for 5 local high schools. He has implemented a county wide concussion protocol for student-athletes.

Dr. Allen Perkins was awarded a \$4.1 million dollar grant from HRSA to create medical student training opportunities in rural Alabama.

Dr. Casey Daniel was awarded a \$200,000 grant in collaboration with Dr. Isabel Scarinci of UAB to conduct a feasibility mixed methods study examining the effectiveness of a theory-based, multi-level intervention coupled with a school-based vaccination program (SBVP), compared with a SBVP alone, compared with no intervention in three rural Alabama counties.

2018-2019
Summary of Scholarly Activities
Department of Internal Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Bardia N, Nguyen L, Sachdev S, Kolakalapudi P, Omar B. Ventricular diverticulum! Beyond the colon! Cardiofellows Newsletter. 2019 Jul;2(7):30-32. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/apical_diverticulum_of_lv.pdf

Bardia N, Nguyen L, Sachdev S, Tahir H, Rafique M, Mozayan M, Omar B. Endocarditis of the mitral valve! And the vicinity! Cardiofellows Newsletter. 2019 Jun;2(6):25-26. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/aortic_root_abscess.pdf

Bardia N, Sachdev S, Nguyen L, Tahir H, Rafique M, Malozzi C, Rahimi F, Amritphale A, Awan GM, Omar B. Cleft mitral! A deleterious primum residue! Cardiofellows Newsletter. 2019 Jun;2(6):27-29. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/cleft_mitral_valve.pdf

Bath K, Akbar A, Tahir H, Rafique M, Omar B. Lacosamide-induced brugada! & SA exit block!! Cardiofellows Newsletter. 2019 May; 2(5):17-20. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/lacosamide-induced_brugada.pdf

Bath K, Sachdev S, Nguyen L, Malozzi C, Rahimi F, Omar B. Unicuspid aortic valve! Not so common! Cardiofellows Newsletter. 2019 Jun;2(6):21-24. Available from: <https://cardiofellows.com/newsletter-june-2019.html>.

Tahir H, Bardia N, Bath K, Ahmed Y, Rafique M, Omar B, Malozzi C. Trastuzumab-induced cardiomyopathy and intermittent left bundle branch block. Cardiol Res. 2019 Aug;10(4):230–235.

Karumbaiah K, Nguyen L, Sachdev S, Omar B. Acute severe aortic regurgitation. reverse circulation! Cardiofellows Newsletter. 2019 May;2(5):15-16. Available from: <https://cardiofellows.com/newsletter-may-2019.html>.

Klinger JR, Elliott CG, Levine DJ, Bossone E, Duvall L, Fagan K, Frantsve-Hawley J, Kawut SM, Ryan JJ, Rosenzweig EB, Sederstrom N, Steen VD, Badesch DB. Therapy for pulmonary arterial hypertension in adults: update of the CHEST guideline and expert report. Chest. 2019 Mar;155(3):565-586.

Kolakalapudi P, Sachdev S, Omar B. Anomalous coronary! Is it time to panic! Cardiofellows Newsletter. 2019 Apr;(4):13-14. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/pk_-_cor_anom_-_04-19.pdf

Nguyen L, Sachdev S, Tahir H, Rahimi F, Burckhardt B, Malozzi C, Omar B, Awan GM. Lost stents. peek-aboo! Cardiofellows Newsletter. 2018 Oct;1(4):23-24. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/ln_-_lost_stents_-_10-18.pdf

Nguyen, L, Sachdev S, Rahimi F, Malozzi C, Omar B. Sacubitril/valsartan: a pioneer in acute heart failure and a paradigm in chronic heart failure. Cardiofellows Newsletter. 2019 Feb;2(2):7-8. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/ln_-_pioneer-hf_trial_02-19.pdf

Omar B, Awan GM, Burckhardt B, Malozzi C, Rahimi F, Sachdev S, Nguyen L. The first six months! Manifest scholarship at its best. Cardiofellows Newsletter. 2018 Dec;1(6):42-44. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/bo_six_months_later_-_12-18.pdf

Sachdev S, Awan GM, Eyrich G. Coronary angiography: basic views. Cardiofellows Newsletter. 2018 Nov;1(5):27-38. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/ss_-_cath_basic_views_-_11-18.pdf

Sachdev S, Bardia N, Nguyen L, Omar B. Bioprosthetic valve thrombosis. Cardiol Res. 2018 Dec;9(6):335-342.

Sachdev S, Omar B, Awan GM. The art of switching P2Y12 inhibitors: how to mitigate platelet reactivation. Cardiofellows Newsletter. 2018 Dec; 1(6):39-41. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/ss_-_switching_p2y12_inhibitors_-_12_-_18.pdf

Sachdev S, Tahir H, Nguyen L, Awan GM, Omar B. Coronary fistula: the anomalous tributary! Cardiofellows Newsletter 2019 Feb;2(2):5-6. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/ss_-_coro_fistul_-_02-19.pdf

II. PUBLISHED ABSTRACTS

Abdalahdi H, Fahmawi Y, Mehta A, Blair-Elortegui J, Ludvik N. Profound polyuria in acute myeloid leukemia: a worrisome sign. Alabama and Mississippi Chapters of the American College Physicians Scientific Meeting; 2019 May 31-Jun 1; Jackson, MS.

Ahmad S, Nguyen L, Sachdev S, Tahir H, Rahimi F, Malozzi C, Awan GM, Omar B. Enigma of recurrent pulmonary emboli: artifact or mass; thrombus or myxoma. Alabama American College of Cardiology Winter Conference; 2019 Jan 12; Hoover, AL. Abstract no. 1312-135.

Ahmed Y, Hamid S, Blair-Elortegui J, Ludvik N. An unanticipated pulmonary mass. Alabama and Mississippi Chapters of the American College Physicians Scientific Meeting; 2019 May 31-Jun 1; Jackson, MS. Abstract no. P150.

Hanjar A, Fahmawi Y, Ousley J, Humphrey K, Blair-Elortegui J, Ludvik N. As if peritonitis were not spontaneous enough: an under recognized complication of cirrhosis. American College of Physicians, Internal Medicine Meeting; 2019 Apr 11-13; Philadelphia, PA.

Humphrey K, Hanjar A, Fahmawi Y, Blair-Elortegui J, Ludvik N. A case of radiation toxicity warranting an oncology consultation. Alabama and Mississippi Chapters of the American College Physicians Scientific Meeting; 2019 May 31-Jun 1; Jackson, MS.

Fahmawi Y, Abdalhadi H, Blair-Elortegui J, Ludvik N, Al Jaber E. Recalcitrant hypokalemia associated with under recognized phenotype of colonic pseudo-obstruction. Alabama and Mississippi Chapters of the American College Physicians Scientific Meeting; 2019 May 31-Jun 1; Jackson, MS.

Nguyen L, Cutrell K, Malozzi C, Omar B, Awan GM. Prevalence of poor r-wave progression on electrocardiography and its significance. Alabama American College of Cardiology Winter Conference; 2019 Jan 12; Hoover, Alabama.

Nguyen L, Sachdev S, Tahir H, Omar B, Rahimi F, Malozzi C, Awan GM. Pulse pressure following a brief patient rest period: age and gender variations. American Heart Association Epidemiology and Prevention | Lifestyle and Cardiometabolic Health 2019 Scientific Sessions; 2019 Mar 5-8; Houston, TX. Abstract no. P008.

Ousley J, Ahmed Y, Blair-Elortegui J, Ludvik N. When treatment causes the ailment: Disseminated mycobacterial infection following mitral valve replacement. Alabama and Mississippi Chapters of the American College Physicians Scientific Meeting; 2019 May 31-Jun 1; Jackson, MS.

Parker LL, Well K, Hudson MR, Bonner CM, Crook ED, Arrieta, MI. Experts speak: community members on the context of inequity. Xavier University of Louisiana 12th Health Disparities Conference; 2019 Apr 8-10; New Orleans, LA.

Sachdev S, Nguyen L, Tahir H, Omar B, Rahimi F, Awan GM, Malozzi C. Age-related gender and ethnic variations of pulse pressure and pulsatile stress. American Heart Association Epidemiology and Prevention | Lifestyle and Cardiometabolic Health 2019 Scientific Sessions; 2019 Mar 5-8; Houston, TX. Abstract no. P178.

Sachdev S, Tahir H, Nguyen L, Omar B, Malozzi C, Awan GM, Rahimi F. Age and gender differences in response to repeat blood pressure measurement after brief rest period. American Heart Association Epidemiology and Prevention | Lifestyle and Cardiometabolic Health 2019 Scientific Sessions; 2019 Mar 5-8; Houston, TX. Abstract no. P007.

Siow M, Hamid S, Blair-Elortegui J, Ludvik N. A case series: West Nile virus in Mobile County. Alabama and Mississippi Chapters of the American College of Physicians Scientific Meeting; 2019 May 31-Jun 1; Jackson, MS.

Tahir H, Nguyen L, Sachdev S, Omar B, Awan GM, Malozzi C, Rahimi F. Age, gender and race variations in QRS duration in patients with atrial fibrillation. American Heart Association Epidemiology and Prevention | Lifestyle and Cardiometabolic Health 2019 Scientific Sessions; 2019 Mar 5-8; Houston, TX. Abstract no. P178.

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 Training Program; 2019 May 8; Birmingham, AL.

Crook ED. Invited speaker. Identifying and overcoming roadblocks that limit the translation of research findings to the achievement of health equity. Second Conference on Bioethics Issues in Minority Health and Health Disparities Research; 2019 January 23; Tuskegee, AL.

Crook ED. Invited speaker. A discussion around health disparities in African Americans and the march toward health equity. Tulane University School of Medicine, Student National Medical Association, Black History Month Presentation; 2019 February 25; New Orleans, LA.

Crook ED. Invited speaker. The challenges of inequities in health. Legacy Leadership Institute of University of South Alabama Gerontology Center; 2019 March 14; Mobile, AL.

Crook ED. Invited speaker. The social determinants of health: a focus on poverty. University of South Alabama College of Medical Alumni Association Reunion Weekend; 2019 June 8, 2019; Pensacola, FL.

DiPalma, J. Invited speaker. Importance of preparation. Optimizing bowel preparations. Digestive Disease Week Conference; 2019 May 20; San Diego, CA.

Hundley TJ. Invited speaker. From sisyphus to the phoenix: burnout and resiliency in physicians – an update. University of South Alabama Medical Alumni Association Reunion Weekend; 2019 June 8; Pensacola, FL.

Schilthuis A. Invited speaker. Teaching panel management in an internal medicine residency program. Society of General Internal Medicine Southern Regional Meeting; 2019 Feb 15; Houston, Texas.

Tyler S. HIV update 2018. Jaguar Symposium; 2018 Oct 5; Mobile, AL.

Tyler S. HIV update. Mobile County Health Department Providers Meeting. 2019 Feb 13; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

DiPalma, J. Foundation Board Member and Secretary – Treasurer of World Gastroenterology Organization.

Fagan, K. Member Board of Directors. American Thoracic Society, 2017 – 2019.

Fagan, K. Chair, Pulmonary Circulation Assembly, American Thoracic Society, 2017-2019.

Fagan, K. Chair, Nominating Committee, Pulmonary Circulation Assembly, American Thoracic Society. 2019 -2020.

Fagan, K. Chair, Board of Trustees, Pulmonary Hypertension Association, 2018-2020.

Fagan, K. ABIM Pulmonary Exam Committee Member, 2019-2020.

Haynes, J. Member, Sickle Cell Disease Guideline Panel, Sickle Cell Disease Related Cardiopulmonary and Kidney Disease. American Society of Hematology.

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. The College of Medicine Class of 2019 recognized the Department for its efforts voting the third year internal medicine clerkship as the best clerkship in the 3rd year. The department has received this honor from graduating classes for 20 of the last 21 years.

Several of the department's faculty were recognized with the red sash award for their educational efforts and the graduating Class of 2019 again selected an Internal Medicine faculty member, Dr. Terry J. ("TJ") Hundley as the best teacher in the clinical years. Dr. TJ Hundley, who is also our Clerkship Director, has been recognized with this honor for 4 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 module voted as best in the first 2 years by the Class of 2019 as the Respiratory Disease module co-led by Dr. Brian Fouty, a Professor in the Department. Our 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 continue to have robust clinical studies portfolios. GI continues to involve its fellows, internal medicine residents and medical students in its research efforts with several of these trainees presenting their work at regional and national meetings. Cardiology also involved several internal medicine residents in their scholarly activities over the past year.

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.

Dr. Johnson Haynes has continued his efforts in leadership of the Comprehensive Sickle Cell Center. The Center is collaborator on a PCORI grant focused on advancing care of patients with sickle cell disease through the transition period of adolescence to adulthood. In addition, Dr. Haynes and his team continue to hold a well-attended annual Sickle Cell Conference to educate providers on the most advanced methods for caring for patients with sickle cell disease.

Dr. Meir Mizrahi, Assistant Professor, organized a conference for Gastroenterologists that was well attended and brought in several thought leaders from around the world. In addition, many of our own faculty were featured speakers. Dr. Mizrahi and Dr. Nicholas Ludvik, Instructor /Chief Medical Resident, were recognized for their great efforts in leading scholarly projects involving our internal medicine residents.

Service

The Department continues to deliver excellent clinical service. The Department has grown along with the growth in USA Health. This academic year resulted in the highest levels of clinical billing in the Department's history. The department has met considerable increases in clinical services at the USA Health University Hospital and in our ambulatory practices. The Division of Gastroenterology has continued to grow its services for all endoscopy procedures. These advancements have enhanced partnerships with the Mitchell Cancer Institute and the Division of Colorectal Surgery. The Department

expanded its Hospitalist faculty and partnered with University Hospital to improve patient flow through our hospital. Lastly, we have been able to reestablish our Endocrine Section under the guidance of Dr. Wilburn Bolton. This service grew quickly with both inpatient and ambulatory activities.

Departmental faculty continue to serve on editorial boards, as journal reviewers, on advisory boards, and on grant review panels. Several faculty play key roles in their subspecialty societies. Dr. Karen Fagan, Professor in the Division of Pulmonary and Critical Care, has notable leadership roles with the American Thoracic Society and the Pulmonary Hypertension Association (see National Professional Recognition above). Likewise, Dr. Jack DiPalma and Dr. Jorge Herrera, Professors in the Division of Gastroenterology, serve their national societies at high levels.

Several Department of Medicine faculty are on key committees within USA Health. An example is Dr. Sabrina Bessette, Division Chief of Nephrology, who continues as President of USA Health University Hospital Medical Executive Committee. In addition, our faculty has contributed significantly to the University as a whole and the Greater Mobile Community. Our faculty serve on several school related, community based, philanthropic, and service organizations in the region. In these roles they proudly represent The University of South Alabama and USA Health.

2018-2019
Summary of Scholarly Activities
Department of Microbiology and Immunology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Lindsey AS, Sullivan LM, Housley NA, Koloteva A, King JA, Audia JP, Alvarez DF. Analysis of pulmonary vascular injury and repair during *Pseudomonas aeruginosa* infection-induced pneumonia and acute respiratory distress syndrome. *Pulm Circ*. 2019 Jan-Mar;9(1);204589401982694. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30632898>

Malur A, Monhan A, Barrington RA, Leffler N, Muller-Borer B, Murray G, Kew K, Zhou C, Russell J, Jones JL, Wingard CJ, Bama BP, Thomassen MJ. Peroxisome proliferator-activated receptor- γ deficiency exacerbates fibrotic response to mycobacteria peptide in murine sarcoidosis model. *Am J Respir Cell Mol Biol*. 2019 Aug;61(2):198-208.

Weir GS, MacDonald LD, Rajagopalan R, Sivko GS, Valderas MW, Rayner J, Berger BJ, Sammatur L, Stanford MM. Single dose DPX-rPA, an enhanced-delivery anthrax vaccine formulation, protects against a lethal *Bacillus anthracis* spore inhalation challenge. *NPJ Vaccines*. 2019 Feb 8;4:6.

Yang XM, Gadde S, Audia JP, Alvarez DF, Downey JM, Cohen MV. Ticagrelor does not protect isolated rat hearts thus clouding its proposed cardioprotective role through ENT 1 in heart tissue. *J Cardiovasc Pharmacol Ther*. 2019 Jul;24(4):371-376.

Yong BT, Rieske RR, Audia JP, Pastukh VM, Capley GC, Gillespie MN, Smith AA, Tatum DM, Duchesne JC, Kutcher ME, Kerby JD, Simmons JD. Plasma transfusion products and contaminated with cellular and associated pro-inflammatory debris. *J Am Coll Surg*. 2019 Sep;229(3):252-258.

II. PUBLISHED ABSTRACTS

Cohen MV, Yang XM, Alvarez DF, Audia JP, Downey JM. Infarct-causing caspase-1 is made by inflammasomes in cardiac tissue at the onset of reperfusion, and its antagonism is cardioprotective. Available from: <https://ahajournals.org/doi/10.1161/circ.138.suppl.1.12324>.

Eslaamizaad Y, Housley N, Bell J, Audia JP, Alvarez DF. Secreted caspase-1 contracts amyloid-related danger molecules released from pulmonary microvascular endothelial cell as a novel stress response during infection. *FASEB J*. 2019 Apr;33(Suppl. 1):549.8. Available from: https://www.fasebj.org/toc/fasebj/33/1_supplement.549.8.

Friend J, Fitzpatrick S, Lausch RL, Barrington RA. CCR6⁺ $\gamma\delta$ T cells in the cornea are protective during early HSV-1 infection. *ARVO Annual Meeting*; 2019 April 28-May 2; Vancouver, British Columbia. Abstract no. 4623-B0117.

Sanderford V, Malur A, Leffler N, Malur A, Mohan A, Barrington RA, Kew K, Muller-Borer B, Barna BP, Thomassen MJ. PPAR- γ deficiency promotes a T lymphocyte response in a murine model of chronic pulmonary sarcoidosis. AASOG Conference; 2019 Apr 12-13; Chicago, IL.

Sanderford V, Malur A, Leffler N, Mohan A, Barrington RA, Kew K, Barna BP, Thomassen MJ. PPAR- γ deficiency promotes an adaptive T lymphocyte response to mycobacterial antigen ESAT-6 in a murine model of chronic pulmonary sarcoidosis. Immunology 2019; 2019 May 9-13; San Diego, CA. Abstract no. 4623-B0117.

Schmale E, Rayner JO. Development of immunologic assays to support clinical trials of new vaccines for Venezuelan equine encephalitis virus. ASM Biothreats Meeting; 2019 Jan 29-31; Arlington, VA. Abstract 131.

Wood RR, Rayner JO, McCready JW. A preliminary state-wide survey of the tick fauna and associated tick-borne diseases of Alabama. 67th Annual Meeting of the American Society for Tropical Medicine and Hygiene; 2018 Oct 28-Nov 1; New Orleans, LA. Abstract LB-5003. Available from: <https://www.abstractsonline.com/pp8/#!/4692/presentation/19522>.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Barrington RA. Invited speaker. Eye research report: evaluation and progress of trainees. Lions Eye Research Board Meeting; 2019 Feb 13; Mobile, AL.

Barrington RA. Invited speaker. Eye research report: significance of the ARVO conference for development of future eye research. Lions Eye Research Board Meeting; 2019 May 2019; Mobile, AL.

Rayner JO. Invited speaker. Virus classification and structure. Biomedical & Health Sciences (BHS) 503 Microbiology & Immunology, University of Alabama at Birmingham; 2019 Aug 6; Birmingham, AL.

Rayner, JO. Invited speaker. Vaccines and vaccination. Biomedical & Health Sciences (BHS) 503 Microbiology & Immunology, University of Alabama at Birmingham; 2019 Aug 7; Birmingham, AL.

Rayner, JO. Arthropod-borne infectious diseases and surveillance efforts in the State of Alabama. 30th Annual Alabama Vector Management Society Meeting; 2019 Mar 7-8; Orange Beach, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Audia JP: Grant Reviewer: National Institutes of Health - R13/U13 Support for Conferences and Scientific Meetings; R21/R03 ZRG1 IDM-B (80) S Study Section Topics in Bacterial Pathogenesis; R01 ZRG1 IDM-R (02) M Study Section Topics in Bacterial Pathogenesis and Host Interactions; R21/R03 ZRG1 IDM-B (81) S Study Section Topics in Bacterial Pathogenesis. Journal Editor: *Frontiers in Cellular and Infection Microbiology*. Journal Review: *Clinica Chimica Acta*, *PLoS ONE*, *PLoS Neglected Tropical Diseases*.

Barrington RA: Grant Reviewer: Agence Nationale De La Recherche. Journal Editor: *Frontiers in B cell biology*. Journal Review: *Immunohorizons*, *PLoS One*, *Journal of Experimental Medicine*, *The Ochsner Journal*, *Journal of Thoracic Diseases*, *AJP-Lung Cellular and Molecular Physiology*, *Cytometry*, *European Journal of Immunology*, *Journal of Immunology*, *Journal of DNA and Cell Biology*.

Rayner JO: Grant Reviewer, CDMRP, Industrial Doctorates Research Program. Journal Review: *Nature Communications*, *Science Translational Medicine*, *Emerging Infectious Diseases*, *The American Journal of Tropical Medicine and Hygiene*, *Antiviral Research*.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The 2018-2019 academic year for the Department was marked with substantial transition. Major changes included the retirement of Dr. David Wood on December 31, 2018. Dr. Wood served USA for 40 years and will transit to emeritus status in the Department. Dr. Jonathan Audia served as interim Chair for the department while a new Chair was identified. Dr. Audia took on this leadership role while continuing to serve as the Module Director for the Foundations of Human Health 2 (FHH2) course and overseeing the graduate student teaching by coordinating the Infectious Diseases and Host Defense Track (IDHD). Dr. Audia continued with community outreach by contributing to St. Luke's Episcopal basic science instructional activities and by mentoring a senior student from St. Paul's Episcopal in the laboratory. These activities are considered essential to our service mission. Dr. Audia continues his collaborative research with Dr. Alvarez on their NIH-funded research on Caspase-1, the microvascular endothelium, and infection. Additionally, Dr. Audia was part of a research team that submitted a new P01 program project grant in collaboration with Dr. Stevens and investigators at UAB. Dr. Robert Barrington continues the mission to educate and mentor students, oversee the flow cytometry core facility, and expand his research activities by independent and collaborative efforts. Dr. Barrington remains actively involved with Lions Club which supports components of his research program. Dr. Jin Kim continues to advance his research program focusing on influenza virus and the development of a universal influenza vaccine. Dr. Kim became the Faculty Advisor for the departmental journal club and research forum and continues to serve the educational mission by mentoring high school, undergraduate, and medical students during summer programs. Dr. Jonathon Rayner has established both tick- and mosquito-borne infectious disease surveillance programs supported through grants from the State of Alabama and the Mobile County Health Department, respectively. Research efforts have been directed towards development of a mouse model of chikungunya virus (CHIKV) infection which has been employed to evaluate the antiviral properties of annexin V through contract with the biotechnology company,

Immunomodulation. Data from these preliminary studies were used to support a R21 application to the NIH. The CHIKV mouse model is also being utilized to evaluate the efficacy of a new DNA vaccine platform and assess gender-dependent aspects of vaccination. Dr. Rayner has mentored undergraduate and medical students in the laboratory, providing training opportunities in a high-containment laboratory setting.

Dr. Kevin Macaluso was recruited to become the new Chair for the Department and began in that role in August 2019.

2018-2019
Summary of Scholarly Activities
Department of Neurology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Darbin O, **Dees D**, Lammle M, **Naritoku D**, Torres-Herman T, Martino A. Computed tomographic method to quantify electrode lead deformation and subdural gap after lead implantation for deep brain stimulation. *J Neurosci Methods*. 2018 Nov 1; 309; 55-59.

Ochoa J, Rini J, Diaz J, Botwell J. Technical description of long-term high-density EEG monitoring using 128-channel cap applied with a conductive paste. *J Clin Neurophysiol*. 2019 May;36(3):175-180.

II. PUBLISHED ABSTRACTS

Lammle M, Rusyniak WG; **Darbin O**, **Naritoku D**, **Ochoa J**. Hippocampal DTI changes in patients with temporal lobe epilepsy 105th Scientific Assembly and Annual Meeting, RSNA. Dec 1 – Dec 6, 2019, Chicago.

W. Kilgo. A multiple sclerosis-like presentation coincident with myasthenia gravis and autoimmune hepatitis successfully treated with rituximab. *ACTRIMS Forum*; 2019 Feb 28 Mar 2; Dallas, TX.

W. Kilgo. A case of cadasil with positive CSF oligoclonal bands initially misdiagnosed as multiple sclerosis. *Consortium of MS Centers Meeting*; 2019 May 28 Jun 1; Seattle, WA.

Maertens P, Rini J. Vigabatrin in the treatment of refractory malignant migrating partial seizures in infancy - a case report. *AES 2019 Annual Meeting*; 2019 Nov 30-Dec 4; New Orleans, LA. Abstract no. 2.143. Available from: https://www.aesnet.org/meetings_events/annual_meeting_abstracts/view/501944.

Maertens P, Cummock J. Ultrasonographic features of closed lip schizencephaly in a term infant. *J Neuroimaging*. 2019 Mar/Apr; 29(2): 279. Abstract no. 26. Available from: <https://onlinelibrary.wiley.com/doi/10.1111/jon.12610>

Sanchez O, **Maertens P**. Diagnosis of brain death using transcranial color and power Doppler duplex imaging in infants. *J Neuroimaging*. 2019 Mar/Apr; 29(2): 279. Abstract no 26. Available from: <https://onlinelibrary.wiley.com/doi/10.1111/jon.12610>

Maertens PM. Invited speaker. Pediatric neurosonographic imaging. *ASN 42nd Annual Meeting*; 2019 Jan 24-26; Rio Grande, PR. Abstract no. 30. Available from: <https://www.asnweb.org/files/2019%20Annual%20meeting/2019%20ASN%20ABSTRACTS.pdf>.

Maertens PM. Invited speaker. Ancillary ultrasound in brain death confirmation in neonates and infants. 2019 Jan 24-26; Rio Grande, PR. Abstract no. 29. Available from: <https://www.asnweb.org/files/2019%20Annual%20meeting/2019%20ASN%20ABSTRACTS.pdf>.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Bassam BA. Invited speaker. Resident-Fellow JumpStart Workshop. AANEM Annual Meeting; 2018 Oct 10; Washington, DC

Bassam BA. Invited speaker. ALS emerging therapies and treatment journey. AANEM Annual Meeting; 2018 Oct 10; Washington, DC

Bassam BA. Invited speaker. Emerging therapies in neuromuscular disease. AANEM Annual meeting; 2018 Oct 12; Washington, DC

Bassam BA. Invited speaker. Nerve Conduction Pitfalls Workshop. ANEM Annual Meeting; 2018 Oct 13; Washington, DC.

Bassam BA. Invited speaker. ALS Treatment Journey. Neurology Grand Rounds, Wayne State University; 2018 Nov 30; Detroit, MI.

Dees D. Invited speaker. Live. Learn. Connect. Parkinson's disease. Parkinson's and Movement Disorders Alliance; 2018 Oct 26; Mobile, AL

Dees D. Invited speaker. Parkinson's disease public awareness. Parkinson's Moving Day; 2019 Apr 23; Mobile, AL

Kilgo, W. Invited speaker. comprehensive care in multiple sclerosis. MS News and Views; 2018 Oct 16; Spanish Fort, AL.

Kilgo W. Invited speaker. Beyond relapsing MS: effects of aging, progressive disease, and symptomatic management. National MS Society Symposium; 2019 Jan 25; Ocean Springs, MS.

Kilgo W. Invited speaker. Introduction to MS care. Mississippi Gulf Coast MS Society Support Group; 2019 Mar 23; D'Iberville, MS.

Kilgo W. Invited speaker. Introduction to MS Care; Eastern Shore MS Support Group; 2019 Apr 10; Fairhope, AL.

Kilgo W. Faculty Mentor. Foundation of CMSC Mentorship Forum. Faculty Mentor; Consortium of MS Centers Meeting; 2019 May 28; Seattle, WA.

Kilgo W. Invited speaker. Research Update; Pathways to a Cure” Program; National MS Society; 2019 Aug 1; Pensacola, FL

Kilgo W. Invited speaker. Wellness and Lifestyle Solutions in MS; Pathways to a Cure” Program; National MS Society; 2019 Aug 1; Pensacola, FL

Maertens PM. Invited speaker. AES Annual Meeting; 2018 Dec 1-3; New Orleans, LA.

Minto E. Invited speaker. Pathways to a cure. MS Society of AL/MS; 2019 Apr 12; Mobile, AL

Naritoku DK. Invited speaker. Epilepsy MiniFellow Network. Wake Forest University School of Medicine; 2019 Jan 25; Winston-Salem, NC

Naritoku DK. Invited speaker. Current treatment in epilepsy; 2019 CMAATL Annual Conference; 2019 Apr 27; Atlanta, GA

Naritoku DK. Invited speaker. Diagnosing the patient with epilepsy. Epilepsy MiniFellow Network, Wake Forest University School of Medicine; 2019 May 15; Winston-Salem, NC

Naritoku DK. Invited speaker. Identification and management of non-epileptic seizures. Epilepsy MiniFellow Network, Wake Forest University School of Medicine; 2019 May 15; Winston-Salem, NC

Naritoku DK. Invited speaker. Seizure mechanisms & experimental models. Epilepsy MiniFellow Network, Wake Forest University School of Medicine; 2019 May 15; Winston-Salem, NC

Naritoku DK. Invited speaker. Pharmacokinetics & interactions of AEDs. Epilepsy MiniFellow Network, Wake Forest University School of Medicine; 2019 May 16; Winston-Salem, NC

Naritoku DK. Invited speaker. The art of AED management. Epilepsy MiniFellow Network, Wake Forest University School of Medicine; 2019 May 16; Winston-Salem, NC

Ochoa J. Invited speaker. Case: adult with status epilepticus following brain tumor resection. AES Annual Meeting 2018. 2018 Dec 2.

V. NATIONAL PROFESSIONAL RECOGNITION

Bassam A. Bassam: Ad Hoc Reviewer; Muscle & Nerve , Journal of Clinical Neurophysiology, Journal of Clinical Neuromuscular Disease, US Neurology. Questions writer and reviewer American Board of Neuromuscular and Electrodiagnostic Medicine (ABNM) Annual Neuromuscular Update Course Chair. American Board of Electrodiagnostic Medicine (ABEM) Board Examination Committee. ABEM Neuromuscular Update Committee. American Academy of Neurology (AAN) Neuromuscular Section subcommittee. AAN Practice Guidelines Subcommittee reviewer. SCNS Scientific Program committee.

Steve M. Cordina: Peer reviewer for Stroke, Neurocritical Care, Journal of NeuroInterventional Surgery, Clinical Case Reports, Interventional Neurology and Journal of Neuroimaging. Society of Neurointerventional Surgery (SNIS), Society of Vascular and Interventional Neurology (SVIN), American Society of Neuroimaging (ASN), American Heart Association/ American Stroke Association, American Academy of Neurology (AAN), Neurocritical Care Society (NCCS) Medical Association of Malta (MAM), Member, Alabama Office of Emergency Medical Services Statewide Trauma and Health Systems Advisory Council Stroke Workgroup, Board Member At Large 2016-2019, SVIN Board of Directors, Member, SVIN Stroke Life Support – Basic and Advanced Educational Initiative

Oliver Darbin: Frontier Human Neuroscience (Guest editor), Biomed Research /international (editorial board), International Journal Neural System, Brain Research, Clinical Neurophysiology, Frontier Human Neuroscience, Frontier Physiology, Frontier Neurology

Daniel Dees: Fontiers in Neurology Journal Peer Reviewer, Parkinsonism & Related Disorders Journal Peer reviewer, Movement Disorders Society, Young members Committee

William Kilgo: Action based council of regional providers of MS care in AL/GA/MS to address gaps in care, Community of local business leaders committed to advancing MS care locally via fundraising, Advocating for Neurology with legislative visits to House and Senate in Washington D.C. and at home offices, Faculty Mentor for Mentorship Forum with residents and fellows from across the country, Formal training from AAN for advocacy issues related to neurology

Paul M. Maertens: Journal of Neuroimaging: editorial board member, Journal of Neuroimaging: reviewer, Examination committee at the American Society of Neuroimaging, Program committee at the American Society of Neuroimaging: Board Member

Elizabeth Minto: Board of Directors, AL-MS Chapter of the National Multiple Sclerosis Society, Medical Association of the State of Alabama: College of Counselors (2017-present) & Council on Medical Service (2017-present)

Dean K. Naritoku: President and Board Member – Southern Epilepsy and EEG Society, Board Member – American Board of Clinical Pharmacology, Board Member – J. Kiffin Penry Mini Fellowship Program, Fellow - American Academy of Neurology, Fellow – American Epilepsy Association, Member – American Epilepsy Society, Member – American Society of Clinical Pharmacology and Therapeutics, Member – American University Professors of Neurology

Juan Ochoa: Reviewer, Journal of Clinical Neurophysiology, Epilepsy and Behavior, ACNS, EEG reporting guidelines, Treatments Committee AES, CME Committee ACNS

Rebecca Sugg: Neuroimaging Board Examination writer/board, American Heart Association GSA Board of Directors, Acute systems of Care, Stroke Subcommittee, American Stroke Association, Fellow, American Academy of Neurology, Fellow: Vascular Section, Endovascular Section, Neuroimaging Section, American Neurological Association, Society of Neurointerventional Surgery, Senior member, Society of Vascular and Interventional Neurology, Neurocritical Care Society

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The Department of Neurology at the University of South Alabama continues its expansion of clinical, educational and research efforts. The addition of our second neuro interventionalist, has enabled the USA Health Hospital to provide 24/7 comprehensive stroke center services. The Department has provided the infrastructure for multiple interdisciplinary programs including deep brain stimulation, epilepsy surgery and neuroimmunology. Important research collaborations between the Department Neurology and other University departments have resulted in multiple publications in neuroimaging, neuroimmunology, epilepsy and stroke. We have implemented many changes to provide quick and convenient referrals to improve access to our many patients. For FY'20 we anticipate further growth and development of programs providing services unique to the Gulf region.

2018-2019
Summary of Scholarly Activities
Department of Neurosurgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Menger R, Kelly P, Fernando S, Wolf ME, Martino A. Rear Admiral (astronaut) Alan Shepard: Menier's disease and the race to the moon. J Neurosurg. 2019 July;131(1):304-310.

Menger R, Wolf M, Thakar JD, Nanda A, Martino A. Astronaut Michael Collins, Apollo 8, and the anterior cervical fusion that changed the history of human spaceflight. J Neurosurg Spine. 2019 July;31(1):87-92.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Martino A. Invited speaker. Concussion management. Be Better, Be Greater, Be Extraordinary in Pediatric Care Symposium. 2019 Jan 18; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Anthony M. Martino: Chair Neurosurgery, USAMC Medical Executive Committee, Clinical Chairs Committee, Operation Committee, Infection Control Committee, The Student Promotion and Evaluation Committee, Surgery Committee, Chartis Dyad Strategic Leader Development, Red Sash, Promoted to Professor.

George Rusyniak: USA Stroke Committee.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The department of neurosurgery has continued the development of subspecialty services in epilepsy and brain stimulation. We have added a new department member, Dr. R. Menger. His fellowship is in complex spine surgery and will be spearheading that effort. We have also successfully recruited a 4th partner who will be joining the department in 2020.

2018-2019
Summary of Scholarly Activities
Department of Obstetrics and Gynecology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Brocato B, Lewis D, Mulekar M, Baker S. Obesity's impact on intrapartum electronic fetal monitoring. *J Matern Fetal Neonatal Med*. 2019 Jan;32(1):92-94.

Hadley EE, Discacciati A, Costantine MM, Munn MB, Pacheco LD, Saade GR, Chiossi G. Maternal obesity is associated with chorioamnionitis and earlier indicated preterm delivery among expectantly managed women with preterm premature rupture of membranes. *J Matern Fetal Neonatal Med*. 2019 Jan;32(2):271-278.

Holliday C, Al Basha S, Rizk B. Update on current medical management of endometriosis. In: Studd J, Lin Tan S, Chervenak F, editors. *Current progress in obstetrics & gynaecology*. Vol 5. Maharashtra, India: Tree Life Media; 2019. Chapter 17, p. 292-303.

Rimawi BH. Botulism in pregnancy - a clinical approach to diagnosis and management. *J Matern Fetal Neonatal Med*. 2019 Sep;32(18):3125-3132

Sahu MB, Deepak V, Gonzales SK, Rimawi B, Watkins KK, Smith AK, Badell ML, Sidell N, Rajakumar A. Decidual cells from women with preeclampsia exhibit inadequate decidualization and reduced sFlt1 suppression. *Pregnancy Hypertens*. 2019 Jan;15:64-71.

Stafford IA, Garite TJ, Maurel K, Combs CA, Heyborne K, Porreco R, Nageotte M, Baker S, Gopalani S, Dola C, How H, Das AF. Obstetrix Collaborative Research Network. Cervical pessary versus expectant management for the prevention of delivery prior to 36 weeks in women with placenta previa: a randomized controlled trial. *AJP Rep*. 2019 Apr;9(2):e160-e166.

Wildman JK, Rimawi BH. Cerebral pontine infarctions during pregnancy - a case report and review of the literature. *Case Rep Womens Health*. 2019 Jan;23(21):e00097. Available from: <https://www.sciencedirect.com/science/article/pii/S221491128301619>

II. PUBLISHED ABSTRACTS

Holliday CP, Holliday NP, Mulekar M. Women's perceptions of body mass index. *Clin Obes*. 2019 Jan;9:e12286. Available from: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/cob12286>

Rizk B, Torres E. Biocompatibility and efficacy of an isotonic buffered gel for vaginal pH balancing. *Fertil Steril*. 2018 Oct 10;110(Suppl 4):e285. P-441. Available from: [https://www.fertstert.org/article/S0015-0282\(18\)31398-0/pdf](https://www.fertstert.org/article/S0015-0282(18)31398-0/pdf)

Rizk B. An update on fertility preservation. Middle East Fertility Society; 2018 Nov 2; Beirut, Lebanon. Abstract no. O65. Available from: <https://www.mefs.org/abstractbook2018.pdf>

Rizk B. Abuzeid ML, Abuzeid OM. The virtue of ultrasound prior to IVF. Middle East Fertility Society; 2018 Nov 3; Beirut, Lebanon. Abstract no. O95. Available from: <https://www.mefs.org/abstractbook2018.pdf>

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Rizk B. Invited speaker. Development of assisted reproductive technology in the United States. Southeast University; 2018 Dec 22; Nanjing, China.

Rizk B. Invited speaker. Ultrasound: before, during & after ART. First International Citmer Symposium; 2019 Jan 18; Monterrey, México.

Rizk B. Invited speaker. Ultrasound: SIS & hysteroscopy in IVF cases. First International Citmer Symposium; 2019 Jan 18; Monterrey, México.

Rizk B. Invited speaker. Is there a different stimulation protocol for PCOS patients? First International Citmer Symposium; 2019 Jan 18; Monterrey, México.

Rizk B. Invited speaker. Ultrasound: Before, during and after ART. 2nd Conference of Mastery & Excellence; 2019 Feb 1; Bengaluru, Karnataka, India.

Rizk B. Invited speaker. Ultrasound: SIS & hysteroscopy in IVF cases. 2nd Conference of Mastery & Excellence; 2019 Feb 1; Bengaluru, Karnataka, India.

Rizk B. Invited speaker. Endometriosis & IVF. 2nd Conference of Mastery & Excellence; 2019 Feb 2; Bengaluru, Karnataka, India.

Rizk B. Invited speaker. Is there a different stimulation protocol for PCO patients? 2nd Conference of Mastery & Excellence; 2019 Feb 2; Bengaluru, Karnataka, India.

Rizk B. Invited speaker. New frontiers for fertility preservation, vitrification & ovarian transplant. 2nd Conference of Mastery & Excellence; 2019 Feb 2; Bengaluru, Karnataka, India.

Rizk B. Invited speaker. Keynote address. Personal journey – past, present & future in ART. 2nd Conference of Mastery & Excellence; 2019 Feb 1; Bengaluru, Karnataka, India.

Rizk B. Invited speaker. Fertility preservation: present and future. 20th Annual Conference of the Department of Obstetrics & Gynaecology; 2019 Mar 21; Cairo, Egypt.

Rizk B. Invited speaker. Ultrasound, sonohysterography and hysteroscopy in failed difficult IVF cases. 20th Annual Conference of the Department of Obstetrics & Gynaecology; 2019 Mar 22; Cairo, Egypt.

V. NATIONAL PROFESSIONAL RECOGNITION

Rizk B. President of Middle East Fertility Society. Honorary President, Egyptian Society for Reproductive Medicine; 2018 Sep 13-14, 2018; Cairo, Egypt. President, Middle East Fertility Society; 2018 Nov 2-3; Beirut, Lebanon. Keynote Speaker, Personal journey – past, present & future in ART. 2nd Conference of Mastery & Excellence; 2019 Feb 1; Bengaluru, Karnataka.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Mary B. "Mimi" Munn, M.D., has been appointed Professor and Chair of Obstetrics and Gynecology at the University of South Alabama College of Medicine.

We are implementing a new state-of-the-art software system for ultrasound structured reporting and image management 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.

Carey Winkler, MD, has been appointed as an adjunct faculty member in Maternal Fetal Medicine.

Jennifer Pierce, MD has been appointed as the Graduate Medical Education Program Director.

Our OB/GYN Conference will be held this year at the Battle House Hotel on Oct 10 and 11. This year's program features a wide spectrum of topics including: Maternal Mortality: Overview and potential areas for improvement, Workup for Vulvovaginal Complaints, All Mouths Matter: An oral link to saving lives.

We are implementing a new state-of-the-art software system for ultrasound structured reporting and image management 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 welcomed four new residents this year: Alexandra Berger, 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.

2018-2019
Summary of Scholarly Activities
Department of Orthopaedic Surgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Pearce SS, Honeycutt MW, Cutchen WA, Tillman MD, Nimityongskul P. Friberg equation to predict pediatric distal forearm remodeling. J Pediatr Orthop. 2019;39(6):e441-e446. Available from: <https://insights.ovid.com/pubmed?pmid=30688842>

Pearce SS, Mancini E, Nimityongskul P. Distal tibial chondroblastoma with intra-articular penetration treated with gelatin foam sponge and bone grafting. Orthopaedics. 2019 Jul 1;42(4):e391-e394. Available at: <https://doi.org/10.3928/01477447-20190624-06>

II. PUBLISHED ABSTRACTS

Honeycutt MW, Cox K, Cox WT, Delgado, Brewer J. Intramedullary nail entry point affects postoperative femoral shaft fracture alignment. Southern Orthopaedic Association 36th Annual Meeting; 2019 Jul 17-20. Amelia Island, FL.

Honeycutt MW, Johnson A, Zieman D, Nimityongskul P. Pediatric tibial eminence fractures: novel treatment using a bio-absorbable screw. Southern Orthopaedic Association 36th Annual Meeting; 2019 Jul 17-20. Amelia Island, FL.

Honeycutt MW, Cox K, Cox WT, Delgado G, Brewer J. The effect of intramedullary nail entry point on postoperative femoral shaft fracture alignment. Orthopaedic Trauma Association Annual Meeting; 2019 Sep 25-28. Denver, CO.

Honeycutt MW, Perry M. The Chopart variant dislocation: plantar dislocation of the cuboid and navicular. Alabama Orthopaedic Society/Mississippi Orthopaedic Society 2019 Annual Meeting; 2019 May 16-18; Destin, FL.

Pearce SS, Honeycutt MW, Cutchen W, Tillman M, Nimityongskul P. Predicting pediatric distal forearm fracture remodeling: does Friberg's equation really work? 23rd Annual G. Dean MacEwen Lectureship in Pediatric Orthopaedics; 2018 Nov 13; New Orleans, LA.

Prevost M, Cutchen W, Young P, Barousse 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 2019 Annual Conference; 2019 May 16-18; Destin, FL.

Sbravati N, Teachy W, Tedder C, Mulekar M, Nimityongskul P. Functional and radiographic outcomes of hybrid implant instrumentation for adolescent idiopathic scoliosis. Alabama Orthopaedic Society and Mississippi Orthopaedic Society 2019 Annual Meeting; 2019 May 16-18; Destin, FL.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Brewer J. Invited speaker. Current treatment strategies. 10th Annual Gulf Coast Acute Care Surgery Symposium; 2019 Apr 4; Mobile, 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; 2018 Dec 12; Bangkok, Thailand.

V. NATIONAL PROFESSIONAL RECOGNITION

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)*. Research Supervisor, Summer Research Program, University of South Alabama College of Medicine.

Mark Perry: Organizer, 30th Annual Southeastern Orthopaedic Foot Club Conference. Online Editor for *www.footeducation.com*. Reviewer, *Foot & Ankle International*. Moderator, *2019 AOFAS Annual Meeting*. Oral examiner: *American Board of Orthopaedic Surgery (ABOS)*. Department Representative and Crimson Liaison for University of South Alabama Health System. Director of Orthopaedic Service at USA Stanton Road Clinic.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Brewer, Jeffrey. In 2018-2019 Dr. Brewer coordinated and participated in numerous research projects with Orthopaedic Surgery residents and medical students. Dr. Brewer conducted/coordinated weekly resident conferences. Dr. Brewer actively participated on committees for the Department of Orthopaedic Surgery. Additionally, he served on the Burn/Trauma Operational Committee and Peer Review Committee at University Hospital. Dr. Brewer served as a coordinating committee member for the Gulf Coast Acute Care Surgery Symposium held in Mobile, April 2019.

Nimityongskul, Prasit: In 2018-2019 Dr. Nimityongskul served as a summer research supervisor at the University of South Alabama College of Medicine. Dr. Nimityongskul traveled to Thailand in December 2019 and gave several visiting profession lectures at hospitals and clinics.

Pearsall, Albert: In 2018-2019 Dr. Pearsall mentored numerous medical residents as well as surgical residents. He attended the International Society for Knee and Arthroscopic Surgery in Cancun, MX where he participated in panel discussions and hosted a discussion on "Fresh and Cryopreserved platelet rich plasma have equivalent constituents and growth factors". Proceeds from the discussion will be published in the Journal of ISAKOS in the

fall. Dr. Pearsall continued his ongoing work with university athletes and sports teams and serves as the team physician for USA Athletics Dept. Dr. Pearsall attended the Sunbelt Team Physicians meeting in New Orleans in May 2019.

Perry, Mark: In 2018-2019 Dr. Perry participated in a capstone project for Dhalanjay T. Tambe, PhD, “Validation of smart drill for orthopaedic surgery” with the University of South Alabama Department of Mechanical Engineering. Dr. Perry successfully coordinated the Annual Southeastern Foot Club Conference which hosted educational presentations and posters from residents and orthopaedic medical professionals in the southeastern United States. The conference was held in Destin, FL in May 2019. Dr. Perry is well underway with plans for the 31st annual meeting which will take place at the Grand Hotel in Point Clear, AL in April 2020. Dr. Perry attended a professional development conference regarding the evaluation of total ankle arthroplasty hosted by Wright Medical in November 2018. Dr. Perry provided medical coverage for the 15th Annual Publix Grandman Triathlon in Fairhope, AL in May 2019.

2018–2019
Summary of Scholarly Activities
Department of Pathology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Abdulraheem EA, Sait MK, Sait KH, Anfinan NM, Elkadi OR. Growing teratoma syndrome with porta hepatis involvement - a case report. *Int Med Case Rep J*. 2019 Mar 22;12:75–78.

Chavva SR, Deshmukh SK, Kanchanapally R, Tyagi N, Coym JW, Singh AP, Singh S. Epigallocatechin gallate-gold nanoparticles exhibit superior antitumor activity compared to conventional gold nanoparticles: potential synergistic interactions. *Nanomaterials (Basel)*. 2019 Mar 8;9(3). pii:E396. Available from: https://academic.oup.com/ajcp/article/150/suppl_1/S99/5103020?searchresult=1

Deal J, Mayes S, Browning C, Hill S, Rider P, Boudreaux C, Rich TC, Leavesley SJ. Identifying molecular contributors to autofluorescence of neoplastic and normal colon sections using excitation-scanning hyperspectral imaging. *J Biomed Opt* 2018 Dec;24(2):1-11. Available from: <https://www.spiedigitallibrary.org/journals/journal-of-biomedical-optics/volume-24/issue-02/021207/Identifying-molecular-contributors-to-autofluorescence-of-neoplastic-and-normal-colon/10.1117/1.JBO.24.2.021207.full?SSO=1>

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Maharjan AS, McMillin GA, Patel GK, Awan S, Taylor WR, Pai S, Frankel AE, Nelson C, Wang B, Hosein PJ, Singh AP, Khushman M. The correlation between DPYD*9A (c.85T>C) genotype and dihydropyrimidine dehydrogenase deficiency phenotype in patients with gastrointestinal malignancies treated with fluoropyrimidines: updated analysis. *J Clin Oncol*. 2019 Feb; 37(4 Suppl):544. Abstract no. 544.

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Xu H, Herrera GA, Wei E. The important role of pathology in the diagnosis of hemophagocytic lymphohistiocytosis. CAP18 Annual Meeting. 2018 Oct 20-24; Chicago IL.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Herrera GA. Invited speaker. Acute myogloculinuric renal failure case presentation. Pathology discussion/clinical correlations. American Society of Nephrology Meeting 2018; 2018 Oct 27; San Diego, CA.

Herrera GA. Invited speaker: Monoclonal light chain-related renal diseases. University of Florida; 2019 Feb 25; Jacksonville FL.

Herrera GA. Invited speaker. Acute kidney injury in plasma cell dyscrasias. Pathogenesis, clinico-pathological correlations, diagnosis, and pitfalls. Pathology Grand Rounds. University of Florida; 2019 Feb 25; Jacksonville, FL.

Herrera GA. Invited speaker. Understanding mesangiopathies and mesangial repair using a unique experimental model: a translational journey. Pathology Grand Rounds. Duke University; 2019 Mar 8; Durham NC.

Herrera GA. Invited speaker. Understanding mesangial injury and repair in light chain-associated mesangiopathies. 4th International Kidney Monoclonal Gammopathy Group Meeting; 2019 May 24; Montreal Canada.

Singh AP. Exosomes in pancreatic cancer: potential applications in diagnosis and therapy. International Conference on Future Diagnostic, Prognostic and Theranostic Modalities, Aligarh Muslim University; 2018 Dec 31; Aligarh, India.

V. NATIONAL PROFESSIONAL RECOGNITION

Guillermo A. Herrera, M.D.: Vice President/President-elect – International Kidney Monoclonal Gammopathy Society (IKMG); Editor-in-chief – Ultrastructural Pathology Journal; Treasurer, Society for Ultrastructural Pathology (SUP); Editorial Board Member: Archives of Pathology and Laboratory Medicine Section Editor/Renal Pathology; Applied Immunohistochemistry and Molecular Morphology; Stem Cells Research and Therapy; Journal of Cell Biology and Cell Metabolism (CBCM); Ad Hoc Grant Reviewer – American Diabetes Association; Member of New York Academy of Sciences, Sigma Xi – the Scientific Research Society, Alpha Omega Alpha, National Veterans Administration Electron Microscopy Ad Hoc Review Group – Department of Veterans Affairs.

Andrea Kahn, M.D.: President-elect, Alabama Association of Pathologists, 2018-Present.

Kahn A. APC 2019 Annual Meeting Discussion Group, International Medical Graduates: Challenges and Opportunities, panelist, Boston, MA, July 24, 2019.

Ajay Singh, M.D.: Outstanding Achievement Award by the Society of American Asian Scientists in Cancer Research (SAASCR); Appointed as Guest Editor for Cancers Journal (MDPI Publishers), special issue on prostate cancer; Associate Editor for Cancer Medicine – Cancer Biology Section – John Wiley & Sons Publisher;

Elizabeth Mancini, M.D.: Serving as Councilor, for District One, for the Medical Association of the State of Alabama.

Elba A. Turbat-Herrera, M.D.: Associate Editor for Ultrastructural Pathology Journal, Member Editorial Board, Applied Immunohistochemistry and Molecular Morphology.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Three residents completed the residency program this year. Dr. Shante Hill has entered a forensic pathology fellowship at the Tarrant County Medical Examiner's Office in Fort Worth, TX. Dr. Leo Maldonado has entered into an oncologic surgical pathology fellowship at Memorial Sloan Kettering Cancer Center, in NYC, NY; second year at Breast and Gynecologic Pathology at New York University (NYU), NYC, NY. Dr. Jonathan Newsom has entered into a forensic pathology fellowship at Miami Dade County Medical Examiner's Office, Miami, FL.

Once again, the department had a successful residency recruiting year with three residents joining the department: Dr. Sarah Anderson from Alabama College of Osteopathic Medicine, Alabama, Dr. Vindhya Bellamkonda from Gandhi Medical College and Hospital, Secunderabad, India, Dr. Ekim Kilinc from Istanbul Universitesi Cerrahpasa Tip Fakultesi, Turkey.

The following two faculty members moved from the Department of Pathology to other departments within the University: Dr. Kelly Roveda, Assistant Professor and Assistant Dean of Medical Education and Student Affairs moved from the department of pathology to become the Associate Dean of Student Affairs for the USA College of Medicine. Dr. Carole Boudreaux, Associate Professor, moved from the department of pathology to become the DIO (Designated Institutional Official) for the Residency Programs at USA Health University Hospitals. Dr. Andrea Kahn was promoted to Professor.

Dr. Elliot Carter was named Director of the Division of Clinical Pathology. Drs. Seema Singh, Associate Professor, and Ajay Singh, Professor, from MCI joined the Department of Pathology. Dr. A. Singh became the Director of the Research Division in the Department of Pathology. Dr. S. Singh obtained additional grant funding from the NIH, with a 5-year grant to study the impact of social factors on the biology of breast cancer. Overall Dr. S. Singh and Dr. A. Singh, currently have 6 active grants dealing with breast, prostate, ovary and pancreas cancer.

The Department of Pathology welcomed several new faculty members: Dr. Guillermo A. Herrera, as Locke Eminent Scholar, Professor and Pathology Chair. Dr. Herrera comes from LSU Health-Shreveport and brings a wealth of knowledge in renal and genitourinary pathology as well as ultrastructural pathology. Kurt Knowles, MD joined faculty from LSU Health-Shreveport to work as an Assistant Professor in dermatopathology, cytopathology, and surgical pathology. Professor Elba Turbat-Herrera, MD has an appointment with the MCI and will be performing ROSE (rapid onsite specimen evaluations) at that facility. Dr. Turbat-Herrera has trained 29 cytopathology fellows who are practicing throughout the U.S.A. Jiamin Teng, MD,

PhD has joined the research ranks in the department as an Associate Professor and has a shared laboratory with Dr. Guillermo A. Herrera, on the main campus, where Immunoglobulin monoclonal light chains pathology and glomerular repair is the research focus. Luis del Pozo-Yauner, MD, PhD is an Assistant Professor from LSU Health-Shreveport who will be in charge of Clinical Chemistry. Mingxia Shi, MD adds additional surgical pathology and cytopathology expertise as an Assistant Professor from LSU Health-Shreveport.

A new one year fellowship training program to begin July 1, 2020 was approved by the Institutional ACGME Committee. The fellowship program will be in Genitourinary and Renal Medical Diseases.

New staff added to Pathology include Nancy Lamborn as Pathology Outreach Coordinator, Nancy Merrill as Secretary V, Jennifer Russell as Director of Operations, Susan Magliato as an Electron Microscopy Technician, and Jane Ross as a sales rep for Pathology Outreach.

The Department of Pathology began an outreach program to provide pathology services throughout the United States. Originally starting with renal biopsies, the service will expand to include muscle and nerve biopsies, electron microscopy and genitourinary biopsies, among others. To support this new mission The Department of Pathology purchased a new transmission electron microscope and new microscope cameras. Additionally, the software purchases of Vital Access, Apollo and Athena will allow physicians, away from our institution, to have access to USA pathology as well as enhanced surgical pathology reports.

Furthermore, the pathology residents selected, Dr. Andrea G. Kahn and Dr. Gary E. Carnahan, as the 2019 Faculty Recognition Award recipients and Adrian Hoff, as the recipient of the 2019 Pathology Staff Recognition Award for excellence in and dedication to teaching. The Pathology faculty and house staff published 12 peer-reviewed journal articles in the medical literature, and the Pathology faculty participated as co-investigators in 7 NIH-funded grants.

2018-2019
Summary of Scholarly Activities
Department of Pediatrics

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Chatmethakul T, Phaltas R, Minzes G, Martinez J, Bhat R. A rare co-occurrence of intestinal malrotation and Hirschsprung's disease in a neonate with 13q21.31q33.1 interstitial deletion including the EDNRB gene. *J Pediatr Genet*. 2019 Sep;8(3):142-146.

Davis SL, Kaulfers AM, Lochman JE, Morrison SA, Pryor ER, Rice M. Depressive symptoms, perceived stress, and cortisol in school-age children with Type 1 diabetes: a pilot study. *Biol Res Nurs*. 2019 Mar;21(2):166-172.

Gremse D, Gold BD, Pilmer B, Hunt B, Korczowski B, Perez MC. Dual delayed-release dexlansoprazole for healing and maintenance of healed erosive esophagitis: a safety study in adolescents. *Dig Dis Sci*. 2019 Feb;64(2):493-502. Available from: <https://link.springer.com/content/pdf/10.1007%2Fs10620-018-5325-8.pdf>

Gulati R, Zayek M, Eyal F. Response to Letter to Editor: Gulati et al.'s article "Presetting ECG electrodes for earlier heart rate detection in the delivery room.": prehospital use of ECG electrodes by nonmedical emergency professionals: an additional source of help during unexpected out-of-hospital births (Letter). *Resuscitation*. 2019 Apr;137:242-243.

Hidalgo Corral NM, Batten LA. Saddle embolism in an extremely premature infant. *Arch Dis Child Fetal Neonatal Ed*. 2019 Jan;104(1):F68-F69.

Jarasvaraparn C, Belen Rojas Gallegos M, Wang B, Crissinger KD, Gremse DA. The characteristics of esophageal multichannel intraluminal impedance-PH measurements in infants experiencing brief resolved unexplained events. *Ann Gastroenterol Dig Disord*. 2018;1(1):1-8.

Jarasvaraparn C, Zlomke K, Vann NC, Wang B, Crissinger KD, Gremse DA. The relationship between sleep disturbance and disease activity in pediatric patients with inflammatory bowel disease. *J Pediatr Gastroenterol Nutr*. 2019 Feb;68(2):237-243.

Marsico C, Aban I, Kuo H, James SH, Sanchez PJ, Ahmed A, Arav-Boger R, Michaels MG, Ashouri N, Englund JA, Estrada B, Jacobs RF, Romero JR, Sood SK, Whitworth S, Jester PM, Whitley RJ, Kimberlin DW; Collaborative Antiviral Study Group (CASG). Blood viral load in symptomatic congenital cytomegalovirus infection. *J Infect Dis*. 2019 Apr 16;219(9):1398-1406.

Merritt JL, Quinonez RA, Bonkowsky JL, Franklin WH, Gremse DA, Herman BE, Jenny C, Katz ES, Krilov LR, Norlin C, Sapieni RE, Tieder JS. A framework for evaluation of the higher-risk infant following a brief resolved unexplained event. *Pediatrics*. 2019

Aug;144(2). pii: e20184101. Available from: <https://pediatrics.aappublications.org/content/pediatrics/144/2/e20184101.full.pdf>

Sharma K, Raszynski A, Totapally BR. The impact of body mass index on resource utilization and outcomes of children admitted to a pediatric intensive care unit. *SAGE Open Med*. 2019 Jan 22;7:2050312119825509. Available from: <https://journals.sagepub.com/doi/pdf/10.1177/2050312119825509>

Sharma K, Tengsupakul S, Sanchez O, Phaltas R, Maertens P. Guillain-Barré syndrome with unilateral peripheral facial and bulbar palsy in a child: a case report. *SAGE Open Med Case Rep*. 2019 Mar 21;7:2050313X19838750. Available from: <https://journals.sagepub.com/doi/pdf/10.1177/2050313X19838750>

II. PUBLISHED ABSTRACTS

Bhat R, Phaltas R, Jha OP, Eyal F. Elective high-frequency jet ventilation versus conventional mechanical ventilation in periviable preterm infants with respiratory distress syndrome. *Pediatric Academic Societies Meeting*; 2019 Apr 27-30; Baltimore MD.

Choe M, Zayek M, Eyal F. Red blood cell distribution width (RDW) as marker for neonatal sepsis. *J Invest Med*. 2019 Feb;67(2):574. Abstract no. 417.

Contreras-Yametti G, Custodio H, Imran H. Prevalence of severe bacterial infection in febrile children with Sick Cell Disease in the era of pneumococcal conjugate vaccine 13. *Blood*. 2018 Nov; 132(S1):3665.

Hidalgo Corral N, Roca Garcia MR. Fitz-Hug-Curtis Syndrome, an unexpected diagnosis in an early adolescent patient. *J Investig Med*. 2019 Feb; Mar, 67(2):376. Abstract no. 59.

Hongo MV, Sanchez O. Late onset neonatal alloimmune thrombocytopenia in an infant presenting with viral meningitis. *J Investig Med*. 2019 Feb;67(2):488. Abstract no. 350.

McCann L, Ponnambalam A. Investigation of fecal incontinence in children with ADHD before and after ADHD treatment: the role of stimulant medication. *J Pediatr Gastroenterol Nutr*. 2018 Nov; 67(S1):S171-S172. Abstract no. 284.

Phaltas R, Eyal F, Jha O, Bhat R. Elective high-frequency jet ventilation versus conventional mechanical ventilation in periviable preterm infants with respiratory distress syndrome. *J Investig Med*. 2019 Feb;67(2):610. Abstract no. 648.

Sanchez O, Maertens P. Ancillary diagnostic protocol of brain death using transcranial color and power doppler duplex imaging in infants. *Neuroimaging*. 2019 Mar/Apr;29(2):279. Abstract no 25.

Thai L, Sanchez O. Longitudinally extensive transverse myelitis with diaphragmatic paralysis in an infant. *J Investig Med*. 2019 Feb;67(2):573. Abstract no. 555.

Zayek AJ, Bhat R, Zayek M. Accuracy of point-of care blood glucose measurements in healthy newborn infants. *J Invest Med*. 2019 Feb;67(2):538. Abstract no. 475.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Turner, C. Invited speaker. Engaging the next generations of physicians in the business of healthcare. HFMA Annual Conference 2019; 2019 Jun 24; Orlando, FL.

Trammell, K. Invited speaker. The bridge between pediatricians and school nurses in Alabama. Annual meeting, Alabama Chapter, American Academy of Pediatrics 2019; 2019 Sep 29; Birmingham, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Stephanie Anderson: Member, American Academy of Pediatrics, Council on Children with Disabilities & Section on Developmental and Behavioral Pediatrics; Member, Society for Developmental and Behavioral Pediatrics, Education Committee; Member, Alabama Interagency Autism Coordinating Council (AIACC) Standards of Practice Committee, Diagnostics and Health Work Group.

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; Reviewer: *MedEd Portal*.

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*, *Pediatric Quality and Safety* and Abstract reviewer for *Pediatric Academic Societies Meeting 2019*.

Samar Bhowmick: Fellow, American Academy of Pediatrics; Member, American Association of Clinical Endocrinologists; Fellow, 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*.

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*.

Jennifer Cole: Fellow, American Academy of Pediatrics; Member, American Academy of Pediatrics, Alabama Chapter; Member, Medical Association of the State of Alabama.

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; CME Chair, Alabama Chapter, American Academy of Pediatrics; Member, Infectious Diseases Society of America; Member, Pediatric Infectious Diseases Society; Member, Association of Pediatric Program Directors. Reviewer: *Pediatric Academic Societies Meeting, Clinical Pediatrics, MedEd Portal, Global Pediatric Health*.

Nita Davis: Fellow, American Academy of Pediatrics; Member, Mobile Pediatric Society.

Kalsang Dolma: Member, American Academy of Pediatrics; Member, Indian Academy of Pediatrics; Member, American Thoracic Society.

Benjamin Estrada: Member, Alpha Omega Alpha Medical Honor Society; Fellow, 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; Fellow, American Academy of Pediatrics; Member, Critical Care Section, 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; Member, Mobile Pediatric Society.

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.

David Gremse: Executive Board, American Academy of Pediatrics, Alabama Chapter; Member, American Academy of Pediatrics, Subcommittee on Apparent Life Threatening Events; Member, American Board of Pediatrics (ABP); Member, Strategic Planning Committee, American Board of Pediatrics Foundation; Medical Editor, ABP Subboard of Pediatric Gastroenterology Exam Committee; Member, ABP Long-Term Investment Committee; Member, ABP Credentials Committee; Fellow of the American College of Gastroenterology; Member, ACG Pediatric Gastroenterology Committee; Member, American Gastroenterological Association; Member, American Medical Association; Member, American Pediatric Society; Member, Association of Medical School Pediatric Department Chairs (AMSPDC); President, Gulf Coast Total Care; Member, Mobile Pediatric Society; Member, North American Society of Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN); Member, Society for Pediatric Research; Member, The Gold Humanism Honor Society; Member, Alpha Omega Alpha Medical Honor Society; Editorial Board, *Pediatric Drugs*; Reviewer: *Pediatric Drugs*; *Digestive Diseases and Sciences*; *Pediatrics*; *Journal of Pediatric Gastroenterology and Nutrition*, *Clinical Pediatrics*

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; Abstract Reviewer: *2019 Eastern Society of Pediatrics Research Meeting*. Reviewer: *Journal of Neonatology and Clinical Pediatrics*.

Charles Miles Harmon: Member, American Academy of Pediatrics; Fellow, American Academy of Pediatrics Section on Perinatal Pediatrics; Member, Palliative Care Research Cooperative Group; Member, Society for Pediatric Research.

Chibuzo Ilonze: Member, American Academy of Pediatrics; Member, American Society of Pediatric Hematology-Oncology; Member, Children's Oncology Group (COG);

Member, American Society of Hematology (ASH); Member, American Society of Clinical Oncology (ASCO).

Hamayun Imran: Member, American Academy of Pediatrics; Member, American Society of Hematology; Member, American Society of Pediatric Hematology-Oncology; Member and Principal Investigator, 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. Reviewer: *Journal of Medical Devices*

Anne-Marie Kaulfers: Fellow, 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; Member, Association of Pediatric Program Directors.

Preethi Marri: Fellow, American Academy of Pediatrics; Member, American Society of Pediatric Hematology-Oncology; Member, American Society of Clinical Oncology; Member and Co-PI, Children's Oncology Group.

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

Paola Maurtua-Neumann: Fellow, 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, 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, Member, Alabama Chapter, American Academy of Pediatrics; Member, Advancing Pediatric Educator Excellence (APEX) Teaching Program 2020 Educator Class, Member Section on Pediatric Hospital Medicine, 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 (ACHIA); Fellow, American Academy of Pediatrics; 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; Member, Mobile Pediatric Society.

Mukul Sehgal: Member, American Academy of Pediatrics; Member, Society of Critical Care Medicine; Reviewer: *Journal Club at PedsCCM.org*.

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

Supatida Tengsupakul: Member, American Academy of Pediatrics; Member, Pediatric Infectious Diseases Society. Certificate of Knowledge in Clinical Tropical Medicine and Travelers' Health (CTropMed®).

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; Medical Director, Gulf Coast Total Care; Member, Pediatric and Adult Workgroup, Regional Care Organization-Region E.

Curtis Turner: Member, American Academy of Pediatrics; Member, Children's Oncology Group.

Rosa Vidal: Member, Section on Critical Care, American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Society of Critical Care Medicine; Member, Pediatric 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 Section on Hematology/Oncology; Member, American Society of Hematology; Board Member, Camp Rap-A-Hope; Member, Medical Association of the State of Alabama; Member, 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; Co-Chair, Hemoglobinopathy Subcommittee, State of Alabama Newborn Screening Advisory Committee; Member, Alabama Sickle Cell Oversight and Regulatory Commission; President, Aubreigh's Army Foundation 328 Board of Directors; Member, Children's Oncology Group.

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. Nita Davis joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Critical Care in March 2019. Dr. Davis received her medical degree from the University of the West Indies in Mona, Jamaica in 2008. She completed her Pediatrics Residency at University of Miami/Jackson Memorial Hospital in Miami, Florida in 2014. Dr. Mukul Sehgal joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Critical Care in July 2019. Dr. Sehgal received his medical degree from Seth GS Medical College in Mumbai, India in 2012. He completed his Pediatrics Residency at Saint Peter's University Hospital in 2016 and completed his Pediatric Critical Care fellowship at Nicklaus Children's Hospital in June 2019. Dr. Kalsang Dolma joined the faculty as Assistant Professor of Pediatrics in the Division of Neonatology in August 2019. Dr. Dolma received her medical degree from the Maulana Azad Medical College in Delhi, India in 2008. She completed her Pediatrics Residency at University of South Alabama in 2016 and completed her Neonatology fellowship at UAB in June 2019. Dr. Chibuzo C. Ilonze joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Hematology/Oncology. Dr. Ilonze received his medical degree from the University of Nigeria College of Medicine in Nigeria, Nsukka in 2008. He completed his Pediatrics Residency at Woodhull Medical and Mental Health Center in Brooklyn, New York in 2016 and completed his Pediatric Hematology Oncology fellowship at Jimmy Everest Center for Cancer and Blood Disorders in Children, University of Oklahoma Health Sciences Center in June 2019. Dr. Brian S. Gavan joined the faculty as Assistant Professor of Pediatrics in the Division of General Pediatrics in September 2019. Dr. Gavan received his medical degree from University of Medicine and Health Sciences in Basseterre, St. Kitts in 2014. He completed his Pediatrics Residency at University of South Alabama in June 2018.

Drs. Lynn Batten, Benjamin Estrada, Anna Foust, David Gremse, Melody Petty and Daniel Preud'Homme were recognized by the USACOM Class of 2019 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 2019 was Natalie Carlisle. Thirteen of the graduating medical students in the USACOM Class of 2019 chose residencies in Pediatrics or combined Medicine-Pediatrics. Of the pediatric housestaff completing residency training in 2019, two entered private practice, seven entered into fellowship training, and two remained in the department as Pediatric Chief Resident. The two graduating Medicine-Pediatrics residents entered private practice. Thirteen new first year residents and one third year resident entered the pediatric residency program, and two first-year residents entered the combined Medicine-Pediatrics Residency Program. Drs. Brian Gavan and Awab Ibrahim Ali Ibrahim completed their terms as Pediatric Chief Residents and Drs. Laurie McCann and Phillip Nehls took over duties as the Pediatric Chief Residents for the 2019-2020 academic year.

The scholarly activities by the faculty of the Department of Pediatrics this year included 11 original articles and 11 published abstracts. Departmental faculty were active in mentoring pediatric residents in clinical research. There were 8 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 2018-19 academic year included the approval of the first Quality Improvement Project awarded for MOC Part 4 Credit by the American Board of Pediatrics through the Department of Pediatrics as an ABP Portfolio Sponsor of Quality Improvement Activities. This approval makes the University of South Alabama the first medical school in the State of Alabama to approve a project as an ABP Portfolio Sponsor. Dr. Daniel Preud'Homme, who Chairs the Quality Improvement Team Leadership Committee, deserves credit for leading the effort for the successful application.

Dr. LaDonna Crews became Medical Director of the Complex Care Pediatrics Clinic January 2019. Dr. Crews practice is a model for the state, with the largest concentration of medically complex children of any clinic in Alabama. The clinic receives grant support from the Complexity Collaborative Improvement and Innovation Network (COIIN).

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. The Hollis J. Wiseman Neonatal Intensive Care Unit opened a new Small Baby Unit, the first in the region. The unit was dedicated to Dr. Fabien Eyal.

The Pediatric Residency Program introduced a new curriculum introducing X+Y Immersion Scheduling beginning in the 2019-2020 academic year. In an X+Y scheduling model, residents work on their block rotation such as wards uninterrupted by clinic responsibilities for "X" weeks, followed by a "Y" week, when the resident only works in

clinic with no hospital coverage responsibilities. This schedule is currently not part of the program requirements for ACGME accredited pediatric residencies, so USA applied for a waiver through a program sponsored by the Association of Pediatric Program Directors. Thanks to Roger Berkow, MD, FAAP, our residency program director, and the Pediatric Residency leadership team for introducing this new innovation into our residency training program.

The University of South Alabama Department of Pediatrics and the Office of Continuing Medical Education hosted the 2019 Pediatric Symposium, "Be Better, Be Greater, Be Extraordinary in Pediatric Care," that convened at the Strada Patient Care Center at the USA Children's and Women's Hospital campus on January 18, 2019. Dr. Haidee Custodio, organized and was the CME Chair for the event.

2018-2019
Summary of Scholarly Activities
Department of Pharmacology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Abd El-Aleam RH, George RF, Lee KJ, Keeton AB, Piazza GA, Kamel AA, El-Daly ME, Hassan GS, Abdel-Rahman HM. Design and synthesis of 1,2,4-triazolo[1,5- α]pyrimidine derivatives as PDE 4B inhibitors endowed with bronchodilator activity. *Archiv Pharm (Weinheim)*. 2019 Aug;352(8):e1900002.

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Ear PH, Chadda A, Gumusoglu SB, Schmidt MS, Vogeler S, Malicoat J, Kadel J, Moore MM, Migaud ME, Stevens HE, Brenner C. Maternal nicotinamide riboside enhances postpartum weight loss, juvenile offspring development, and neurogenesis of adult offspring. Cell Rep. 2019 Jan 22;26(4):969-983.e4.

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DG Jr, Meehan KL, Mertens I, Minciacchi VR, Möller A, Møller Jørgensen M, Morales-Kastresana A, Morhayim J, Mullier F, Muraca M, Musante L, Mussack V, Muth DC, Myburgh KH, Najrana T, Nawaz M, Nazarenko I, Nejsum P, Neri C, Neri T, Nieuwland R, Nimrichter L, Nolan JP, Nolte-'t Hoen EN, Noren Hooten N, O'Driscoll L, O'Grady T, O'Loghlen A, Ochiya T, Olivier M, Ortiz A, Ortiz LA, Osteikoetxea X, Østergaard O, Ostrowski M, Park J, Pegtel DM, Peinado H, Perut F, Pfaffl MW, Phinney DG, Pieters BC, Pink RC, Pisetsky DS, Pogge von Strandmann E, Polakovicova I, Poon IK, Powell BH, Prada I, Pulliam L, Quesenberry P, Radeghieri A, Raffai RL, Raimondo S, Rak J, Ramirez MI, Raposo G, Rayyan MS, Regev-Rudzki N, Ricklefs FL, Robbins PD, Roberts DD, Rodrigues SC, Rohde E, Rome S, Rouschop KM, Rughetti A, Russell AE, Saá P, Sahoo S, Salas-Huenuleo E, Sánchez C, Saugstad JA, Saul MJ, Schiffelers RM, Schneider R, Schøyen TH, Scott A, Shahaj E, Sharma S, Shatnyeva O, Shekari F, Shelke GV, Shetty AK, Shiba K, Siljander PR, Silva AM, Skowronek A, Snyder OL 2nd, Soares RP, Sódar BW, Soekmadji C, Sotillo J, Stahl PD, Stoorvogel W, Stott SL, Strasser EF, Swift S, Tahara H, Tewari M, Timms K, Tiwari S, Tixeira R, Tkach M, Toh WS, Tomasini R, Torrecilhas AC, Tosar JP, Toxavidis V, Urbanelli L, Vader P, van Balkom BW, van der Grein SG, Van Deun J, van Herwijnen MJ, Van Keuren-Jensen K, van Niel G, van Royen ME, van Wijnen AJ, Vasconcelos MH, Vechetti IJ Jr, Veit TD, Vella LJ, Velot É, Verweij FJ, Vestad B, Viñas JL, Visnovitz T, Vukman KV, Wahlgren J, Watson DC, Wauben MH, Weaver A, Webber JP, Weber V, Wehman AM, Weiss DJ, Welsh JA, Wendt S, Wheelock AM, Wiener Z, Witte L, Wolfram J, Xagorari A, Xander P, Xu J, Yan X, Yáñez-Mó M, Yin H, Yuana Y, Zappulli V, Zarubova J, Žekas V, Zhang JY, Zhao Z, Zheng L, Zheutlin AR, Zickler AM, Zimmermann P, Zivkovic AM, Zocco D, Zuba-Surma EK. Minimal information for studies of extracellular vesicles 2018 (MISEV2018): a position statement of the International Society for Extracellular Vesicles and update of the MISEV2014 guidelines. *J Extracell Vesicles*. 2018 Nov 23;7(1):1535750.

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II. PUBLISHED ABSTRACTS

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Keeton AB, Ward A, Chen X, Valiyaveetil J, Zhu B, Ramirez-Alcantara V, Maxuitenko Y, Berry K, Mattox TE, Boyd MR, Piazza GA. A novel RAS inhibitor, MCI-062, inhibits colon tumor growth in vivo and activates antitumor immunity. *Cancer Res*. 2019 Jul 1;79(13 Suppl):2707 Abstract no. 2707.

Keeton A, Mattox T, Chen X, Valiyaveetil J, Zhu B, Maxuitenko Y, Berry K, Ward A, Ramirez-Alcantara V, Piazza G. Novel RAS inhibitor MCI-062 potently and selectively inhibits the growth of KRAS mutant pancreatic tumor cells by blocking GTP loading of RAS. O'Neal Comprehensive Cancer Center 20th Annual Research Retreat; 2018 Nov 16; Birmingham, AL. Abstract no. 108.

Knighten J, Dolcelli RC, Patel M, Francis CM, Andrews J, Daly G, Pastukh VM, Langley RJ, Gillespie MN. High resolution microscopy reveals that transcription-associated oxidative base damage partitions into active chromatin domains in hypoxic endothelial cells. *Am J Respir Crit Care Med*. 2019;199:A4190. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2019.199.1_MeetingAbstracts.A4190

Koczor CA, Clark J, Andrews J, Sobol RW. Regulation of DNA polymerase β and XRCC1 DNA damage recruitment by PARP1, PARP2, and SIRT6. 1st Southern Genome Maintenance Conference; 2018 Oct 20-21; Mobile, AL. p. 37. Abstract no. 4.

Langley RJ, Kean EE, Mostellar M, Gillespie MN, Harrod K, Files DC, Morris P. Metabolomic changes predict quality of life outcomes 6 months after survival of acute respiratory failure. *Am J Respir Crit Care Med*. 2019;199:A2720. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2019.199.1_MeetingAbstracts.A2720

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Ma B, Li C, Wu Z, Huang Y, van der Zijk-Tan AC, Tan S, Li D, Fong A, Basetty C, Borchert GM, Huang J. A PWM-based muscle fatigue detection and recovery system. 2018 IEEE International Conference on Bioinformatics and Biomedicine; 2018 Dec 3-6; Madrid, Spain. P. 1013-1016.

Madeira da Silva L, Berry W, Chen X, Maxuitenko Y, Piazza GA, Scalici JM. A novel NSAID derivative for ovarian cancer chemoprevention in the hen model. Gynecol Oncol. 2019 Jun;154(Suppl 1):91. Abstract no. 1324.

Mattox TE, Chen X, Valiyaveettil J, Maxuitenko Y, Zhu B, Ward AB, Ramirez-Alcantara V, Berry K, Boyd MR, Keeton AB, Piazza GA. Novel RAS inhibitor, MCI-062, potently and selectively inhibits the growth of KRAS mutant pancreatic tumor cells by blocking GTP loading of RAS. Cancer Res. 2019 Jul 1;79(13 Suppl):345. Abstract no. 345.

Mattox TE, Norton TS, Keeton AB, Ward AB, Maxuitenko YY, Berry KL, Zhu B, Musiyenko A, Gavin E, Ramirez-Alcantara V, Chen X, Valiyaveettil J, Scalici J, Rocconi RP, Piazza GA, Madeira da Silva L. Targeting RAS and downstream signaling in high-grade serous ovarian carcinoma with novel RAS inhibitors. Cancer Res. 2019 Jul 1;79(13 Suppl):4822. Abstract no. 4822.

Pastukh V, Bardwell G, Gorodnya O, Gillespie MN. Oxidant stress triggers formation of intra- and extracellular mitochondrial DNA damage associated molecular patterns (mtDNA DAMPs) in human endothelial cells. Am J Respir Crit Care Med. 2019;199:A1980. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2019.199.1_MeetingAbstracts.A1980

Rachek LI. Targeting DNA repair enzyme hOGG1 to mitochondria by a TAT-protein transduction system as a novel therapeutics for breast cancer. 1st Southern Genome Maintenance Conference; 2018 Oct 20; Mobile, AL. p. 53. Abstract no. 20.

Renner R, Li S, Huang Y, Tan S, Li D, van der Zijk-Tan AC, Benton R, Borchert GM, Huang J, Jiang G. Mapping common data elements to a domain model using an artificial neural network. Oct 2018 IEEE International Conference on Bioinformatics and Biomedicine; 2018 Dec 3-6; Madrid, Spain. p. 1532-1535.

Ward AB, Chen X, Valiyaveettil J, Lee K, Chang W-CL, Maxuitenko Y, Ramirez-Alcantara V, Berry K, Madeira da Silva L, Zhu B, Mattox T, Boyd MR, Keeton AB, Clapper ML, Cooper HS, Piazza GA. A novel PDE10/ β -catenin pathway inhibitor, MCI-

030, for the treatment of colorectal cancer. *Cancer Res.* 2019 Jul 1;79(13 Suppl):3864. Abstract no. 3864.

Ward A, Chen X, Valiyaveetil J, Zhu B, Ramirez-Alcantara V, Lee K, Maxuitenko Y, Berry K, Piazza G, Keeton A. PDE10 inhibition is associated with reduced colon tumor formation: discovery of a PDE10 inhibitor, MCI-030. O'Neal Comprehensive Cancer Center 20th Annual Research Retreat; 2018 Nov 16. p. 58. Abstract no. 223.

Yuzefovych L, Kahn AG, Gibson B, Tan M, Rachek L. Targeting DNA repair enzyme hOGG1 to mitochondria by a TAT-protein transduction system as a novel therapeutics for breast cancer. 1st Southern Genome Maintenance Conference; 2018 Oct 20-21; Mobile, AL. p. 53. Abstract no. 20.

Yuzefovych L, Rachek L. Mitochondria-targeted DNA repair glycosylase OGG1 protects against HFD-induced obesity and insulin resistance in OGG1 deficient mice. *Diabetes.* 2019 Jun 1;68(Suppl 1):265-LB. Available from: https://diabetes.diabetesjournals.org/content/68/Supplement_1/265-LB

Zhu B, Ramirez-Alcantara V, Ward A, Berry K, Keeton AB, Boyd MR, Maxuitenko Y, Chen X, Piazza GA. A novel PDE10/beta-catenin inhibitor, MCI-048, suppresses lung tumorigenesis to block metastasis. *Cancer Res.* 2019 Jul 1;79(13 Suppl):2731. Abstract no. 2731.

III. INVITED PRESENTATIONS

Gillespie MN. Invited speaker. Three new faces of oxidative DNA damage: more than mutagenic. University of Alabama at Birmingham, Department of Anesthesiology; 2018 Oct 15; Birmingham, AL.

Gillespie MN. Invited speaker. The mitochondrial genome in endothelial injury and its propagation. University of Florida, Department of Surgery; 2018 Dec 11; Gainesville, FL.

Gillespie MN. Invited speaker. New faces of oxidative DNA damage in cardiovascular disease: more than mutagenic. University of Florida, Department of Surgery; 2018 Dec 12; Gainesville, FL.

Gillespie MN. Invited speaker. New genomic threats in cardiovascular disease: more than mutagenic. University of Pittsburgh School of Medicine; 2019 Apr 24; Pittsburgh, PA.

Gillespie MN. Invited speaker. Mechanisms of multi-organ failure after trauma. Gulf Coast Trauma Symposium; 2019 Apr 22; Mobile, AL.

Keeton AB. Invited speaker. Novel RAS inhibitor MCI-062 potently and selectively inhibits the growth of KRAS mutant pancreatic tumor cells by blocking GTP loading of

RAS. O'Neal Comprehensive Cancer Center 20th Annual Research Retreat. 2018 Nov 16; Birmingham, AL.

Migaud M. Invited speaker. Green chemistry meets biological chemistry and drug discovery: new entities to probe cell metabolism. University of Alabama at Birmingham Department of Chemistry; 2019 Sep 20; Birmingham, AL.

Migaud M. Invited speaker. Can NAD go rogue? The NAD⁺ Metabolism and Signaling Conference; 2019 Jun 27; Dublin, Ireland.

Piazza GA. Invited speaker. A chemical-biology approach using the sulindac indene scaffold to identify novel inhibitors of β -catenin or RAS signaling in cancer cells. Giessen University/Max Planck Institute; 2019 Jun 17; Giessen, Germany.

Piazza GA. Keynote speaker. Novel PDE10 inhibitors with anticancer activity that suppress Wnt-induced β -catenin transcription by activating cGMP/PKG signaling. cGMP: Generators, Effectors and Therapeutic Implications; 2019 Jun 15; Mainz, Germany.

Piazza GA. Invited speaker. Discovery and characterization of a novel class of Ras inhibitors. Fox Chase Cancer Center; 2019 May 30; Philadelphia PA.

Piazza GA. Invited speaker. Chemical-biology approach for the discovery of novel anticancer drugs. City University of Hong Kong; 2019 Dec 2; Kowloon Tong, Hong Kong.

Piazza GA. Invited speaker. Novel sulindac derivatives for cancer chemoprevention by targeting by targeting PDE10 and Ras. University of Alabama at Birmingham; 2019 Aug 13; Birmingham, AL.

Sobol RW. Invited speaker. Base excision repair - a functional node in the crosstalk between DNA repair and metabolism. Florida State University Department of Biomedical Sciences; 2018 Oct 3; Tallahassee, FL.

Sobol RW. Invited speaker. Base excision repair - a functional node in the crosstalk between DNA repair and metabolism. University of Texas Southwest Medical Center; 2018 Oct 9; Dallas, TX.

Sobol RW. Invited speaker. Base excision repair - a functional node in the crosstalk between DNA repair and metabolism. NIEHS Training Program in Environmental Health Sciences at UC Davis; 2019 Dec 20; Davis, CA.

Sobol RW. Invited speaker. Advancing base excision repair mechanistic insight to reveal new targets in cancer treatment. Georgetown-Lombardi Comprehensive Cancer Center; Oncology Grand Rounds Lecture series; 2019 Mar 1; Washington, DC.

Sobol RW. Invited speaker. From post-doc to professor in a cancer center – a path of research and discovery. ASBMB 2019 Career Development Program for Graduate Students and Postdoctoral Fellows; 2019 Apr 6; Orlando, FL.

Sobol RW. Invited speaker. Advancing base excision repair mechanistic insight to reveal new targets in cancer treatment. Basic and Translational Seminar Series; UPMC Hillman Cancer Center; 2019 Apr 23; Pittsburgh, PA.

IV. NATIONAL PROFESSIONAL RECOGNITION

Abu-Bakr Al-Mehdi: Faculty Reviewer and Question Writer, USMLE Rx and First Aid.

Natalie N. Bauer: Standing Member, American Heart Association. Member, Respiratory Integrative Biology and Translational Research Study Section NHLBI. Journal Reviewer, *Scientific Reports*, *American Journal of Physiology Lung Cellular and Molecular Physiology*, *American Journal of Physiology Cell Physiology*, *Respiratory Research*, *Science Translational Medicine*, *Circulation Research*. Representative to the national PhD working group, American Thoracic Society Pulmonary Circulation Assembly. Member, American Thoracic Society, American Physiological Society, American Association for the Advancement of Science.

Glen M. Borchert: Grant Reviewer Virtual Panelist, National Science Foundation Graduate Research Fellowships Program, National Science Foundation Improving Undergraduate STEM Education. Journal Reviewer, *PLOSOne*, *PLOSGenetics*, *Computing Surveys*, *Trends in Cancer*, *Journal of Molecular Biology*. Book Reviewer, Reviewed 2 chapters for *Pierce Genetics: A Conceptual Approach*, 6th ed.

Mark N. Gillespie: Grant Reviewer, NIH Prevention and Early Treatment of Acute Lung Injury Protocol Review Panel, NIH F31/F32. Journal Reviewer, *Cell Metabolism*, *Nucleic Acids Research*, *American Journal Physiology Lung Cellular and Molecular Physiology*, *Science Signaling*. Member, American Thoracic Society Awards Committee.

Adam B. Keeton: Grant Reviewer, Al-Jalila Foundation. Journal Reviewer, *OncoTargets and Therapy*.

Christopher A. Koczor: Journal Reviewer, *PLOSOne*, *DNA Repair*, *Cancer Drug Resistance*, *Journal of Neuro-Oncology*.

Raymond J. Langley: Journal Reviewer, *Science Translational Medicine*, *Scientific Reports*, *AJP-Lung*, *Intensive Care Medicine Experimental*, *Nucleic Acids Research*, *Frontiers in Physiology*.

Jianfeng Li: Editor, *Journal of Vaccines*, Immunology and Immunopathology. Journal Reviewer, *Journal of Neuro-Oncology*, *DNA Repair*, *Life Sciences*, *Cancer Drug Resistance*, *PLOSOne*.

Marie E. Migaud: Editor, *Medicina*. Expert Grant Reviewer, European Commission Chemistry Panel. Journal Reviewer, *PNAS*, *PLOSOne*. Chair Elect, American Chemical

Society, District IV. Member, American Chemical Society. Organizer, Federation of American Societies for Experimental Biology Conference.

Gary A. Piazza: Grant Reviewer, NCI SBIR Cancer Biotherapeutics Study Section, VA Oncology C Study Section, DoD Breast and Ovarian Cancer Study Section, NCI R01 Molecular Oncology. Chair, NCI R21 Drug Development, NCI PREVENT.

Lyudmila I. Rachek: Editorial Board Member, *The Open Endocrinology Journal*, *New Journal of Science*, *Journal of Pharmaceutical Sciences and Experimental Pharmacology*. Journal Reviewer, *Nutrients*, *Antioxidants*, *International Journal of Molecular Sciences*, *Molecules*, *Journal of Comparative Physiology-Biochemistry*, *Journal of Clinical Medicine*, *International Journal of Environmental Research and Public Health*, *Medicina*.

Thomas C. Rich: Grant Reviewer, NIH ZRG1 CBA (30) - S10 review panel, NIH-CSR-CVRS-H 03 M - Special Emphasis Review Panel, NSF Review Panel, AHA Signal Transduction & Trainee Review Panels. Journal Reviewer, *Cellular Signaling*, *Current Neurovascular Research*.

Mykhaylo Ruchko: Journal Reviewer, Amino Acids, *American Journal of Physiology Lung Cellular and Molecular Physiology*.

Robert W. Sobol: Chair, NIH Cancer Etiology Study Section. Grant Reviewer, NIH P42 Superfund Study Section, Special Emphasis Panel/Scientific Review Group 2019/10 ZES1 JAB-D (SF) 1, UK Medical Research Council, Fonds de la Recherche Scientifique. Associate Editor, *DNA Repair*. Special Edition Editor (DNA Repair & Cancer) – *DNA Repair*. Academic Editor, *PLOS One*. Editorial Board Member, *Mutation Research*. Reviewer, *Nucleic Acids Research*, *DNA Repair*, *PNAS*, *Cancer Research*, *BBA*, *Cancer Letters*, *Cells*, *Cellular and Molecular Life Sciences*, *ChemBioChem*, *Environmental and Molecular Mutagenesis*, *FASEB J*, *Human Molecular Genetics*, *Molecular Cancer Therapeutics*, *Oncogene*, *OncoTarget*, *Science Signaling*, *Scientific Reports*, *Aging Cell*, *Journal of Biological Chemistry*, *Journal of Molecular Biology*, *Communications Biology*, *PLOS One*, *Redox Biology*, *Haematologica*. President, Environmental Mutagenesis and Genomics Society. Nominations Committee Chair, Environmental Mutagenesis and Genomics Society. Member, American Association for Cancer Research, Science Policy and Government Affairs Committee. Organizer, 1st Southern Genome Maintenance Conference, Mobile, AL.

Victor Solodushko: Journal Reviewer, *BMC Research Notes*, *BMC Microbiology*, *Molecular Pharmaceutics*, *Nucleic Acids Research*.

Wiltz W. Wagner: Journal Reviewer, *Journal of Applied Physiology*. Member, American Thoracic Society Executive Committee, American Thoracic Society Planning Committee. Historian, American Thoracic Society Pulmonary Circulation Assembly. Inductee, American Motorcycle Association Hall of Fame.

V. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

This year a few of our colleagues moved on to retirement. Dr. June Ayling, along with her associate, Dr. Steve Bailey, both inventors and developers of the widely used vitamin supplement, Metafolin®, retired while continuing their work on new intellectual property development projects. Dr. Ayling served as Professor in the Department of Pharmacology for thirty-seven years and has worked in research for over fifty-two years. She achieved international recognition for her work on folate metabolism.

Dr. Wiltz Wagner, who taught one of the most successful graduate classes on professionalism in biomedical sciences, retired from his fourteen years as Professor of Pharmacology at USA and fifty-eight years of teaching and research. Among numerous contributions to understanding lung biology and pathology, Dr. Wagner pioneered the use of intra-vital microscopy to study the pulmonary microcirculation. He was among the first to discover pulmonary capillary recruitment and collateral ventilation, which are two critical physiologic determinants of gas exchange efficiency, and retired as an icon in the field. Another outstanding accomplishment of Dr. Wagner is unrelated to his career as a biomedical scientist; he was recently inducted into the American Motorcycle Association's Hall of Fame for his many contributions over the past four decades, which included his founding of the North American Trials council to promote and internationalize the sport of motorcycle trials competition. He also was a national champion in the international sport of motorcycle ice racing. Finally, in collaboration with his daughter, Belen, Wiltz was responsible for over 50 motorcycle world land-speed records. Dr. Wagner is truly a "renaissance man".

The department also added new faculty members. Dr. Glen Borchert joined us as Associate Professor of Pharmacology. Dr. Borchert served four years as a Pharmacology joint appointee while his primary appointment was in the Biology Department at USA. Dr. Borchert brings to the Department nearly twenty years of research expertise in genetics, structural biology, and immunology.

The Department of Pharmacology grew this summer with the addition of several new faculty members from the Mitchell Cancer Institute, including Dr. Marie Migaud, Dr. Gary Piazza, and Dr. Robert Sobol, along with their staff, postdoctoral fellows, and students. Dr. Migaud is a Professor with an international recognized chemical biology program focusing on vitamin B3 and its role in health and disease. Her findings allow biologists to test specific NAD-dependent biological events that control cell survival, DNA repair and gene regulation. Dr. Migaud's work has opened the door to detailed analyses of a number of NAD metabolism processes and helped correlate how vitamin supplements impact health status and recovery following chemotherapy and radiotherapy treatment. Dr. Piazza is the Institute's Leader of the Drug Discovery Research Center and Abraham A. Mitchell Distinguished Investigator. Dr. Piazza is the inventor of record for numerous University-held patents on novel anti-neoplastic drugs that are in various stages of pre-clinical development. Dr. Sobol, the Point Clear Charities Professor of Oncologic Sciences and an Abraham A. Mitchell Distinguished Investigator, is Chief of the Molecular & Metabolic Oncology Program. The Sobol lab focuses on the mechanism of base excision repair, PARP and NAD⁺ metabolism in human cells and the convergent role of these enzymes and pathways in response to environmental genotoxins and chemotherapy. All of these

senior investigators bring to the Department distinguished records of publication, extramural funding, graduate education, and service to the scientific community. We are delighted to have them as colleagues and look forward to a productive association.

A number of Department faculty were recognized this past year in the form of awards for education and research. Dr. Al-Mehdi, Professor of Pharmacology, was recognized with the Best Pre-Clerkship Educator Award by the 2019 graduating M.D. class and was selected to wear the “Red Sash” at the College of Medicine Honors Convocation. Dr. Natalie Bauer, who was appointed Associate Professor of Pharmacology with tenure this past year, was awarded an NIH R01 grant for her outstanding work in the area of intercellular communication in pulmonary hypertension by endothelial cell-derived micro-particles. Dr. Gillespie, the Department Chairperson, along with his collaborators, Drs. Langley and Borchert in Pharmacology, and Dr. Jon Simmons in Surgery, was the recipient of two NIH R01 awards for research on mechanisms of trauma-related multiple organ dysfunction syndrome. Finally, multiple Department faculty continued to serve as manuscript reviewers for the world’s best biomedical journals, as grant reviewers for the NIH and other prestigious organizations supporting medical research, and on national-level committees establishing new standards for medical education and care delivery.

2018-2019
Summary of Scholarly Activities
Department of Physiology & Cell Biology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Balczon R, Pittet JF, Wagener BM, Moser SA, Voth S, Vorhees CV, Williams MT, Bridges JP, Alvarez DE, Koloteva A, Xu Y, Zha XM, Audia JP, Stevens T, Lin MT. Infection-induced endothelial amyloids impair memory. *FASEB J*. 2019 Sep;33(9):10300-10314.

Davidson SM, Andreadou I, Barile L, Birnbaum Y, Cabrera-Fuentes HA, Cohen MV, Downey JM, Girao H, Pagliaro P, Penna C, Pernow J, Preissner KT, Ferdinandy P. Circulating blood cells and extracellular vesicles in acute cardioprotection. *Cardiovasc Res*. 2019 Jun 1;115(7):1156-1166.

Lee JY, Onanyan M, Garrison I, White R, Crook M, Alexeyev MF, Kozhukhar N, Pastukh V, Swenson ER, Supuran CT, Stevens T. Extrinsic acidosis suppresses glycolysis and migration while increasing network formation in pulmonary microvascular endothelial cells. *Am J Physiol Lung Cell Mol Physiol*. 2019 Aug 1;317(2):L188-L201.

Lin MT, Balczon R, Pittet JF, Wagener BM, Moser SA, Morrow KA, Voth S, Francis CM, Leavesley S, Bell J, Alvarez DE, Stevens T. Nosocomial pneumonia elicits an endothelial proteinopathy: evidence for a source of neurotoxic amyloids in critically ill patients. *Am J Resp Crit Care Med*. 2018 Dec 15;198(12):1575-1578.

Sayner SL, Choi CS, Maulucci ME, Ramila KC, Zhou C, Scruggs AK, Yarbrough T, Blair LA, King JA, Seifert R, Kaefer V, Bauer NN. Extracellular vesicles: another compartment for the second messenger, cyclic adenosine monophosphate. *Am J Physiol Lung Cell Mol Physiol*. 2019 Apr 1;316(4):L691-L700.

Sonavane M, Gassman NR. Bisphenol A co-exposure effects: a key factor in understanding BPA's complex mechanism and health outcomes. *Crit Rev Toxicol*. 2019 Jul;1:1-16. Available from: <https://www.tandfonline.com/doi/full/10.1080/10408444.2019.1621263>.

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II. PUBLISHED ABSTRACTS

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Xu N, Housley NA, Zhou C, Audia JP, Taylor MS. *Vibrio vulnificus* MARTX toxin-infected endothelial culture supernatant triggers Ca²⁺ responses in naïve endothelial monolayers. *Am J Respir Crit Care Med*. 2019;199:A6744. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2019.199.1_MeetingAbstracts.A6744

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III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Cohen MV. Invited speaker. Clinical cardioprotection following STEMI: elusive but attainable. 4th EU-Cardioprotection COST Action MC and WG Meeting; 2019 Feb 13; Kragujevac, Serbia.

Gassman NR. Invited speaker. Defective base excision repair in triple negative breast cancer. National Institute of Environmental Health Sciences Dr. Robert London Symposium; 2019 May 28; Research Triangle Park, NC.

Lin MT. Invited speaker. Hospital-acquired pneumonia impairs cognitive function. Loma Linda University Integrated Biomedical Science Seminar; 2018 Nov 8; Loma Linda, CA.

Lin MT. Invited speaker. Research is hard – persevere. Loma Linda University Center for Perinatal Biology Seminar; 2018 Nov 9; Loma Linda, CA.

Stevens T. Invited speaker. Infectious proteinopathy of the lung. Brown University; 2019 Nov. 7; Providence, RI.

Taylor M. Invited speaker. Symphony gone rogue: calcium pattern shifting in endothelial dysfunction. University of Nevada; 2019 Sep 19; Reno, NV.

Zha XM. Invited speaker. Acid-sensing ion channel trafficking and ischemia-induced neuronal injury. University of South Carolina; 2018 Dec 11; Columbia, SC.

Zha XM. Invited speaker. Molecular mechanisms underlying acidosis-induced spine remodeling and neuronal injury. Louisiana State University; 2019 Jan 23; New Orleans, LA.

Zha XM. Invited speaker. Acid-sensing ion channel trafficking and ischemic-induced neuronal injury. Tulane University; 2019 Feb 1; New Orleans, LA.

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 MDCN-T (03) Special Emphasis Panel, NIH ZCA1 SRB-K (O1) Special Emphasis Panel, NIH ZGM1 RCB-9 (SC) SCORE Grant Review Committee, NIH ZCA1 SRB-K (M2) Study Section, CCTS, Italian Ministry of Health, 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*.

C. Michael Francis: Member, American Physiological Society, American Thoracic Society. Reviewer, *Journal of Visualized Experiments*.

Natalie R. Gassman: Member, Environmental Mutagenesis and Genomics Society; Editorial Board, *Mutation Research Reviews*. Reviewer, *DNA Repair*, *Cancer Letters*, *PLoS One*, *Toxicology Letters*, *Environmental and Molecular Mutagenesis*, *Preventive Medicine*, *Environmental Research*, *Mutation Research Reviews*, *International Journal of Molecular Sciences*, *Radiation Research*, *Chemosphere*, *Journal of Molecular Biology*. *Study Section Early Career Reviewer*, MGA.

Ji Young Lee: Member, American Thoracic Society. Reviewer, Early Career Reviewer, *American Journal of Respiratory & Critical Care Medicine*.

Mike Lin: Member, American Physiological Society, Society of Neuroscience. Editorial Board Member, *Scientific Reports*. Reviewer, *International Journal of Biological Sciences*, *JOVE*.

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

Troy Stevens: Member, American Thoracic Society Board of Directors, American Physiological Society. 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*, *Nature*, *eNeuro*, *Cellular Physiology and Biochemistry*, *Heart and Vessels*.

David S. Weber: Member, American Physiological Society, American Heart Association. Editorial Board Member, *Journal of Human Physiology*. Abstract Reviewer, American Heart Association Scientific Sessions. Reviewer, *Journal of the American Heart Association*, *Circulation Research*, *Current Drug Delivery*, *Hypertension*, *Journal of Molecular and Cellular Cardiology*, *Laboratory Investigation*, *Journal of Cardiovascular Pharmacology*, *Microcirculation*, *Asian Journal of Medicine and Health*, *International Journal of Molecular Sciences*. *Journal of Advances in Medicine and Medical Research*, *Journal of Clinical Medicine*, *Nutrients*.

Xiangming Zha: Member, Society of Neuroscience. Editorial Board, *PLoS One*, *Molecular Brain*, *Frontiers in Cellular Biochemistry*. Reviewer, *Nature Communications*, *Molecular Neurobiology*, *Science Report*, International Stroke Conference 2019 Abstracts; Brain 2019. Study Section Reviewer, National Institutes of Health NTRC, American Heart Association CDG.

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. Alexeyev has received funding for a National Institutes of Health S10 Shared Instrumentation grant to purchase a XFe24 extracellular flux analyzer. Dr. Cohen has also received funding from NIH for a Small Business Innovation Research grant entitled "cardioprotection by inhibition of coagulation and inflammation in myocardial infarction." Dr. Zha has been awarded an NIH Center for Clinical and Translational Science (CCTS) Vouchers Program award for his project entitled "exploratory gene expression analysis on proton-sensitive GPCRs and ischemic injury".

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. Bradley Schuler, a sophomore medical student received the Clyde G. Huggins Award for Summer Research for his work in Dr. Michael Francis lab. Stuart McFarland, a third year medical student mentored by Drs. Taylor and Weber presented his work at the 16th Annual AMA Research Symposium.

Drs. Alexeyev, 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. Drs. Francis and Taylor were co-course directors for a new course IDL640 "Statistics and Experimental Design in Biomedical Research". Dr. Gassman was course director of IDL667 "Cancer Biology Research Seminar" and Dr. Lee was co-course director of IDL631 "Lung Pathobiology", respectively. Many of the faculty taught extensively in various graduate courses.

Dr. Mark Taylor, Director of Basic Medical Sciences Graduate Program, held a fall retreat to identify key areas of focus for the graduate program including a new comprehensive assessment plan. Griffin Wright, a second year graduate student in Dr. Gassman's lab received the Edwin R. Hughes Memorial Award for 2018-2019.

Dr. Stevens developed a novel transgenic rat model within his lab. This animal will harbor a knockout of the gamma secretase activating protein which is believed to impact production of both antimicrobial and cytotoxic amyloid beta. The animal will be broadly relevant to Dr. Steven's group of ongoing lung, vascular and neural studies. Dr. Gassman received first place for the John R. Durant Award for Excellence in Cancer Research from the University of Alabama at Birmingham Comprehensive Cancer Center.

Several faculty delivered lectures to professional societies and international meetings this year. Dr. Cohen was an invited speaker at the 4th EU-Cardioprotection COST Action MC and WG meeting in Kragujevac, Serbia. Dr. Gassman gave a seminar entitled "Defective base excision repair in triple negative breast cancer" at the Robert London Symposium held at the National Institute of Environmental Health Sciences in North Carolina. Dr. Zha was an invited speaker at LSU in New Orleans presenting a seminar entitled "Molecular mechanisms underlying acidosis-induced spine remodeling and neuronal injury".

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.

2018-2019
Summary of Scholarly Activities
Department of Psychiatry

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

II. PUBLISHED ABSTRACTS

Brooks B, Narahari P. Mistaken affect — not a laughing matter: a case report pseudobulbar affect misidentified as worsening depression. Alabama Psychiatric Physicians Association 2019 Spring Conference; 2019 Apr 5-7; Sandestin, FL. Abstract 19-1-11.

Chastain L, Hossain S, Gatla S, Brooks WB. Overdose without the dose: a case study of patient handoff in psychiatry. Alabama Psychiatric Physicians Association 2018 Fall Conference; 2018 Oct 26-27; Mobile, AL. Abstract 18-2-04.

Harris B, Gatla S, Narahari P. Acute psychosis, alopecia, and partial edentulism in a narcoleptic patient on prescription dextroamphetamine/amphetamine. Alabama Psychiatric Physicians Association 2019 Spring Conference; 2019 Apr 5-7; Sandestin, FL. Abstract 19-1-08.

Lee P, Chastain L, Brooks WB. Assessing barriers to mental health care and the necessity of mental health screening in Mobile, AL. Institute of Psychiatric Services Annual Meeting; 2018 Oct 4-8; Chicago, IL.

Ousley T, Gatla S, Narahari, P. Hyperglycemia-induced resistance to antipsychotic treatment. Alabama Psychiatric Physicians Association 2019 Spring Conference; 2019 Apr 5-7; Sandestin, FL. Abstract 19-1-07.

Pai DS, McMullin MJ, Potts E, Ghelani K, Engeriser JL. A curious case of odd smells: depression secondary to phantosmia. Alabama Psychiatric Association 2019 Spring Conference; 2019 Apr 5-7; Sandestin, FL. Abstract 19-1-02.

Parker SK. Scaling and launching an integrated, results-focused telehealth program. National Council for Behavioral Health NatCon19; 2019 Mar 25-27; Nashville, TN. p. 67. P10.

Scott J, Narahari, P. Clinical course of a patient undergoing delayed withdrawal from alprazolam (Xanax). Alabama Psychiatric Physicians Association 2019 Spring Conference; 2019 Apr 5-7; Sandestin, FL. Abstract 19-1-06.

Tidwell C, Jackson T, Brooks WB. Treating bipolar I disorder in a natural killer cell deficiency patient: a cautionary tale. Alabama Psychiatric Physicians Association 2019 Spring Conference; 2019 Apr 5-7; Sandestin, FL. Abstract 19-1-10.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Departmental Educational Accomplishments:

The Department's third year clerkship continues to score very well on the NBME subject exams, averaging ~70th percentile when compared to national norms. Likewise, on Step II of the USMLE, the students have consistently scored at 0.2-0.5 S.D. above the national norm in psychiatry and behavioral science over the past five years. The residency and Child Fellowship continue with maximum years of accreditation. In July, 2020, the Department will start its first fellows in its addiction fellowship program, one of the first in the country and the first in Alabama. It will be an interdisciplinary program with Family Medicine.

Clinical Programs:

Maintained the psychiatric services at Student Health two afternoons per week, with demand for even greater services as the stigma associated with mental issues continues to lessen among the student body.

Education:

The Department continues with its strong emphasis on education. The NBME and Step II scores continue to be well above average when compared to national norms as outlined above. The students' satisfaction with the second year neuro-behavioral module and the third year clerkship continues to be very positive with the number of students matching in psychiatry residencies exceeding the national average by two to three-fold. This success is primarily due to the faculty teaching of the students while they also serve as effective role models and mentors.

At the graduate level, the residency has seen a remarkable increase in the number of qualified applicants. The residency continues to be reviewed without any citations. The Child Fellowship likewise continues with maximum years of accreditation and welcomes its new program director, Aneek Shoemaker. The vast majority of graduates from both the residency and fellowship remain in Alabama, which has a severe shortage of psychiatrists, especially child psychiatrists. We are proud to be beginning our Addiction Fellowship in July, 2020. One of the first in the country, it will use an interdisciplinary approach to educating our fellows in comprehensive and collaborative approaches to prevention and treatment of addiction disorders.

Research

Dr. Billett, Research Director for the Department, in collaboration with Dr. Mark Gillespie of Pharmacology, together with faculty from Nursing and Psychology, has shown that mitochondrial DNA is released during psychological stress in a sub-population of subjects, similar, but not to the same degree, as it is in those suffering from physical trauma. Tests

are now being proposed for patients hospitalized with bipolar disorder. Should this prove positive, newer models for drug development may follow for the treatment of stress related disorders. Other research efforts are focused on case reports and small clinical case studies involving students and residents to acquaint them with research methods in psychiatry.

Clinical Activity

Our unique partnership with AltaPointe has brought together academic and clinical programs to enhance the comprehensive mental health services available to patients from early childhood to the elderly. Increasing partnerships with mental health centers from around the state have resulted in expanded use of tele-psychiatry to improve access to psychiatrists in underserved areas, especially rural communities. Added to this has been the merger of the MARC program in Mobile with AltaPointe, thereby expanding services to those with cognitive disabilities. In addition, AltaPointe is one of the first programs in the country to initiate collaborative care, which is psychiatric services integrated with primary care services in the same clinic, the first being in Bayou La Batre. AltaPointe will soon be adding transcranial magnetic stimulation to its clinical offerings for the patients with treatment resistant depression; the first such offering in this region. The Department continues to offer psychiatric services to undergraduate and graduate USA students through the Student Health Clinic. The Chair continued to offer psychiatric services to specific to the needs of medical students.

Leadership

Dr. Luke Engeriser continued as President of the Alabama Psychiatric Physicians Association. In that capacity he has been instrumental in obtaining support from the Alabama Physicians Health Program to modify the disclosure form for physicians renewing their medical licenses each year. The change would require physicians only to disclose those psychiatric disorders that are currently active and would impair their ability to practice medicine. This change is in keeping with standards across the country and with legislation related to disclosing disabilities. A PGYIII resident was chosen for a “fellowship” experience, working with the leadership of the American Psychiatric Association (APA) to improve access to psychiatric services, especially in rural communities. An adjunct faculty was elected as Vice-Speaker to the APA Assembly.

2018-2019
Summary of Scholarly Activities
Department of Radiology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Kar J, Baldwin BM, Cohen MV, Joseph S, Chouhdry A, Figarola MS, Malozzi C. A case study in MRI-based automated detection of left-ventricular cardiotoxicity in a breast cancer patient after chemotherapy treatment. SCMR Case of the Week. 2019;19-01. Available from: <https://scmr.org/page/COW1901>

Mando R, Ceballos D, Kumar M, Abdul-Rahim O, Mizrahi M. The light at the end of the tunnel. ACG Case Rep J. 2019 Jul 10;6(7):1-3. Available from: https://journals.lww.com/acgcr/Fulltext/2019/07000/The_Light_at_the_End_of_the_Tunnel.3.aspx#epub-link

II. PUBLISHED ABSTRACTS

Smith C, Chouhdry A, Martin B. A focus on the spinal cord: a focused case based review on lupus related transverse myelitis, multiple sclerosis, neuromyelitis optica, and acute disseminated encephalomyelitis. American Society of Neuroradiology 57th Annual Meeting. 2019 May 21; Boston, MA. Abstract no. 3513.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Abdul-Rahim O. Invited speaker. IR management of metastatic colorectal cancer. American College of Surgeons Alabama and Mississippi Chapters 2019 Annual Conference; 2019 Jul 26; Gulf Shores, AL.

Abdul-Rahim O. Invited speaker. From the perspective of interventional radiology: uterine artery embolization for abnormal uterine bleeding. University of South Alabama Med School Café; 2019 Jul 12; Mobile, AL.

Abdul-Rahim O. Invited speaker. Uterine artery embolization. Fox 10 News Medical Highlight Segment; 2019 May 16; Mobile, AL.

Figarola M. Invited speaker. Fetal MRI: practical approach and pictorial review. University of South Alabama Ob/Gyn Resident Research Day; 2019 May 3; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

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

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. 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 ESIR teaching program (early specialization interventional radiology). Once again Dr. Abdul Rahim has provided leadership for trauma level one minimally invasive services, which has experienced significant growth over the last year. His help in recruitment has resulted in two new hires for his section.

Dr. Gregg Delgado recently joined the department of diagnostic radiology in January 2019. He serves as the section chief of musculoskeletal radiology, a subspecialty area required for ACGME residency training and accreditation. He gives regular resident lectures in musculoskeletal radiology. He has served as the radiology representative to the Emergency Department Committee.

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, prostate 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 is a member of the COM Curriculum Committee and Medical School Admission Committee. She is co-director for the radiology rotation for M3 and M4 medical students. New practice based initiatives that she has introduced includes the initiation of GA 68 Dototate PET scans to diagnosis and stage neuroendocrine tumors. She is also certified to perform Xofigo injections for evaluating disseminated osseous metastases.

Dr. Zeiad Hussain joined our department as a fellowship trained interventional radiologist in November 2018. He has hit the ground running providing outstanding minimally invasive services for our patients. His additional skillset working alongside Dr. Rahim has contributed to department growth with increased clinical volume and billing. He has assisted in outreach and education to further clinical referrals. In addition, Dr. Hussain is providing lectures on interventional radiology to our residents and teaching in the IR rotation. He is an essential part of our ESIR (early specialization in interventional radiology) education program which requires a minimum number of interventional radiology faculty.

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. He continues to work with an interdisciplinary team at MCI to establish a high-resolution CT lung cancer screening program.

Dr. Brett Martin has completed his first year as the new section chief of neuroradiology. As a fellowship trained neuroradiologist, Dr. Martin has brought a new set of resident lectures, an updated curriculum and new imaging protocols to the department. In addition, he became the associate program director for the radiology residency program. Dr. Martin gives regular lectures on neuroradiology to our residents and represents radiology at the multidisciplinary radiology, neurology and neurosurgery weekly meetings. He was the major advisor for two of our residents who presented national exhibits. He also received the 2018 –19 diagnostic radiology teacher of the year award. Dr. Martin's service contributions include participating in the competency curriculum committee, program evaluation committee and MRI safety committee for the department of radiology. He also serves on the peer review committee for the USA health system.

Dr. Sam McQuiston, associate professor, provides invaluable contributions to the education, service and leadership in the department of radiology in addition to his service and leadership to the College of Medicine as the assistant dean of GME. As program director for the department of radiology, Dr. McQuiston continues to provide excellent guidance and leadership for the residents, ensuring that the residency program meets all of the ACGME standards required for accreditation. He is also very active in mentoring medical students and has received the Red Sash award recognizing his outstanding teaching. Dr. McQuiston's scholarly activity includes grand rounds and workshops for multiple clinical departments. He has also mentored many residents and medical students. He has been a major contributor to many service activities including numerous committee assignments for the department and College of Medicine. He also chairs the GMEC and GME subcommittee on Quality Improvement. Nationally, Dr. McQuiston is a question writer for the Rad exam (ACR in-training exam) and has a three-year term on the Angoff committee for the American Board of Radiology.

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 breast imaging, 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. She is one of our radiology representatives for MCI Oncology Tumor Boards.

Dr. Elizabeth Park, our fellowship trained breast imager, has played a key role in her contributions to the department and women's imaging center over the last year. She continues to provide excellent clinical service and resident education with increased efforts after the resignation of the prior section chief a year ago. The clinical volume and billing has increased significantly over the last year under Dr. Park's leadership. She is part of the multidisciplinary breast cancer treatment team made up of USA surgeons and oncologists. Dr. Park's teaching contributions include providing a monthly mammography lecture to the residents. She is also a member of the departmental program evaluation committee and clinical competency committee for the residency program. Dr.

Park was a speaker at the USA annual breast conference last fall giving a lecture titled Explanation of Risk Factors. She has also played an advisory role for the NAPBC national breast accreditation process.

Dr. Patrick Patten joined our department as an Assistant Professor in the summer of 2019. He graduated from our USA radiology residency program in 2018 and then completed a fellowship in interventional radiology at UAB in Birmingham, Alabama. Dr. Patten contributes to both interventional and diagnostic radiology. He has assisted in outreach and education to further clinical referrals. In addition, Dr. Patten is proving lectures on interventional radiology to our residents and teaching in the IR rotation. He is an essential part of our ESIR (early specialization in interventional radiology) education program which requires a minimum number of interventional radiology faculty.

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 provides excellence in teaching, education and clinical service to the radiology department as the chief of body imaging section. His background in interventional radiology has provided expertise in overseeing arthrograms and other basic interventional procedures. He is also a key instructor for fluoroscopic procedures and has led efforts to improve the curriculum and services in ultrasound. He provides monthly resident lectures in body imaging and has been mentoring a resident research project regarding retrograde urethrography. His administrative duties include a three-year term on the CME Committee for the College of Medicine.

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, who joined the USA College of Medicine in July as an Assistant Professor of Radiology and the division chief 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 joined 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. He then finished an interventional radiology fellowship at the University of Miami Jackson Health System in Miami, Florida. In January 2019, the radiology department welcomed Dr. Gregg Delgado as an Assistant Professor and the division chief 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 welcomed 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 completed a fellowship in interventional radiology at UAB in Birmingham, Alabama.

Our senior residents matched in prestigious and highly competitive fellowship programs that include the University of Alabama in Birmingham, Medical Center of South Carolina, UT Southwestern in Texas, Vanderbilt in Tennessee and University of Florida in Gainesville. We have also had great success in our residency recruitment, with six new residents who joined us in July.

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. 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 new Director of Operations, Barry Porter has provided outstanding support in recruitment, credentialing and department finances. Our Assistant Administrators Alice Johnson and Elizabeth Kirby also greatly facilitate meeting the radiology departments' needs as we continue to grow. A new 1.5 Tesla Philips Ingenia will soon be operational. We continue our space planning collaboration with University Hospital administration as well as plans for additional imaging services. We have begun new and innovative clinical practices/protocols in multiple areas including nuclear medicine, neuroradiology and musculoskeletal radiology.

In addition, we have selected our first class for the accredited Early Specialization in Interventional Radiology training program. We continue working towards final accreditation by the National Accreditation Program for Breast Centers. 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.

2018-2019
Summary of Scholarly Activities
Department of Surgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Beckett AR, Larson KJ, Brooks RM, Blache AL, Lintner AC, Patterson SB, Roberts ML, Kahn, SA. Blinded comparative review of lubricants commonly used for split-thickness skin graft harvest. *J Burn Care Res.* 2019 Apr 26;40(3):327-330.

Bell R, Lipham J, Louie B, Williams V, Luketich J, Hill M, Richards W, Dunst C, Lister D, McDowell-Jacobs L, and Reardon P, Woods K, Gould J, Buckley FP 3rd, Kothari S, Khaitan L, Smith CD, Park A, Smith C, Jacobsen G, Abbas G, Katz P. Laparoscopic magnetic sphincter augmentation versus double-dose proton pump inhibitors for management of moderate-to-severe regurgitation in GERD: a randomized controlled trial. *Gastrointestinal Endosc.* 2019 Jan;89(1):14-22.el. Available from: [https://www.science-direct.com/science/article/pii150016510718328487?via 3c/oDinb](https://www.science-direct.com/science/article/pii150016510718328487?via%3C/oDinb)

Deal J, Mayes S, Browning C, Hill S, Rider P, Boudreaux C, Leavesley SJ. Identifying molecular contributors to autofluorescence of neoplastic and normal colon sections using excitation-scanning hyperspectral imaging. *J Biomed Opt.* 2018 Dec;24(2):1-11.

Gamboa AC, Ethun CG, Switchenko JM, Lipscomb J, Poultsides G, Grignol V, Howard JH, Gamblin TC, Roggin KK, Votanopoulos K, Fields RC, Maithel SK, Delman KA, Cardona K. Lung surveillance strategy for high-grade soft tissue sarcomas: chest X-ray or CT Scan? *J Am Coll Surg.* 2019 Aug 1; pii: S1072-7515(19)30446-6.

Gannon NP, King DM, Ethun CG, Charlson J, Tran TB, Poultsides G, Grignol V, Howard JH, Tseng J, Roggin KK, Votanopoulos K, Krasnick B, Fields RC, Cardona K, Bedi M. The role of radiation therapy and margin width in localized soft-tissue sarcoma: analysis from the US Sarcoma Collaborative. *J Surg Oncol.* 2019 Sep;120(3):325-331.

Hunter J, Grimm L. Surgery for pilonidal disease and hidradenitis suppurativa. In: Kann BR, Beck DE, Margolin DA, Vargas HD, Whitlow CB, editors. *Improving outcomes in colon & rectal surgery.* 1st ed. Boca Raton, FL: CRC Press; 2019. Chapter 22, p. 211-222.

Pollock RE, Payne JE, Rogers AD, Smith SM, Iwenofu OH, Valerio IL, Zomerlei TA, Howard JH, Dornbos D 3rd, Galgano MA, Goulart C, Mendel E, Miller ED, Xu-Welliver M, Martin DD, Haglund KE, Bupathi M, Chen JL, Yeager ND. Multidisciplinary sarcoma care. *Curr Probl Surg.* 2018 Dec;55(12):517-580.

Richards WO, McRae C. Comparative analysis of laparoscopic fundoplication and magnetic sphincter augmentation for the treatment of medically refractory GERD. *Am Surg.* 2018 Nov 1;84(11):1762-1767.

Roy J, Sims K, Rider P, Grimm L, Hunter J, Richards W. Endoscopic technique for closure of enterocutaneous fistulas. *Surg Endosc*. 2019 Jan 16. [Epub ahead of print.] Available from: <https://link.springer.com/content/pdf/10.1007%2FS00464-018-06646-1.pdf>

Somarajan S, Muszynski ND, Olson JD, Bradshaw LA, Richards WO, Magneto-enterography for the detection of partial mesenteric ischemia. *J Surg Res*. 2019 Jul;239:31-37.

Tan YB, Rieske RR, Audia JP, Pastukh VM, Capley GC, Gillespie MN, Smith AA, Tatum DM, Duchesne JC, Kutcher ME, Kerby JD, Simmons JD. Plasma transfusion products are contaminated with cellular and associated pro-inflammatory debris. *Am Coli Surg*. 2019 Sep;229(3);252-258.

Velanovich V, Rider P, Deck K, Minkowitz HS, Leiman D, Jones N, Niebler G. Safety and efficacy of bupivacaine HCl collagen-matrix implant (INL-001) in open inguinal hernia repair: results from two randomized controlled trials. *Adv. Ther*. 2019 Jan;36(1):200-216.

Wilkinson KH, Ethun CG, Hembrook M, Bedi M, Charlson J, Mogal H, Tsai S, Christians K, Tran TB, Poultides G, Grignol V, Howard JH, Tseng J, Roggin KK, Chouliaras K, Votanopoulos K, Cullinan D, Fields RC, Weber S, Gamblin TC, Cardona K, Clarke CN. Outcomes of elderly patients undergoing curative resection for retroperitoneal sarcomas: analysis from the US Sarcoma Collaborative. *J Surg Res*. 2019 Jan;233:154-162.

II. PUBLISHED ABSTRACTS

Awan S, Patel GK, Maharjan AS, McMillin GA, Taylor WR, Pai S, Frankel AE, Smith C, Grimm L, Rider P, Hunter J, Liles S, Nelson C, Wang B, Hosein PJ, Sing AJ, Khushman MM. Germline pharmacogenomics of thymidylate synthase gene in patients with gastrointestinal malignancies treated with fluoropyrimidines-based chemotherapy regimens. *J Clin Oncol*. 2019 Feb 1;37(Suppl 4):545.

Brzezinski M, Young A, Rider P, Cochrane K, Wase L, Beard T. Risk of opioid-induced respiratory depression after colorectal surgery in patients treated with oliceridine: analysis from a Phase 3 Open- Label Study, ATHENA. 2019 Annual Congress of Enhanced Recovery and Perioperative Medicine; 2019 Apr 25-27; Washington DC.

Fahmawi Y, Smith C, Grimm L, Khullar S, Rider P, Hunter J, Iloff G, Mneimneh W, Roveda K, Wang B, Proddaturvar P, Campos Y, Mehta A, McCormick B, Khushman M. The prognostic significance of magnetic resonance imaging (MRI) following neoadjuvant concurrent chemoradiation (NCCR) in patients with locally advanced rectal adenocarcinoma (LARA). *J Clin Oncol*. 2019 May 26;37(Suppl 15). Available from: https://ascopubs.org/doi/abs/10.1200/JC0.2019.37.15_suppl.15166.

Gibson L, Blount J, Wang B, Grimm L. Familial adenomatous polyposis prevalence and APC mutation spectrum in University of South Alabama regional patient population. *Dis Colon Rectum*. 2019 Jun 1;62(6):e120. Abstract no. P33.

Hunter J, Rider P, Grimm L. Laparoscopic pouchpexy for prolapsing j-pouch. American College of Surgeons Clinical Congress 2018; 2018 Oct 21-25; Boston, MA.

Langley RJ, Pastukh VM, Francis CM, Daly G, Edwards C, Tan Y, Simmons JD, Gillespie MN. Detection of mitochondrial oxidative/phosphorylation variants in cell-free plasma using next-generation sequencing. *Am J Respir Crit Care Med.* 2019;199:A2112.

Mansour TW, Richards WO. Heller myotomy and dor fundoplication for functional esophagogastric junction outflow obstruction: a video case report. Southeastern Surgical Congress 2019 Annual Scientific Meeting; 2019 Feb 23-26; Charlotte, NC.

Mansour TW, Richards WO. Heller myotomy and dor fundoplication for functional esophagogastric junction outflow obstruction: a case series. Society of American Gastrointestinal Endoscopic Surgeons 2019 Annual Meeting; 2019 Apr 3-6; Baltimore, MD.

Mudyadadzo TA, Hunter JD III, Rider PF, Richards WO. Robotic ventral hernia repair improves outcomes compared to laparoscopic ventral hernia repair. Southeastern Surgical Congress 2019 Annual Scientific Meeting; 2019 Feb 23-26; Charlotte, NC.

Proddaturvar P, McCormick B, Mneimneh W, Dal Zotto V, Grimm L, Rider P, Hunter J, Iliff G, Smith C, Patel GK, Pannell L, Singh S, Singh A, Perry J, Khushman MM. Exosomal markers (CD63 and CD9) expression using immunohistochemistry (IHC) in patients with right-sided and left-sided colon cancer. *J Clin Oncol.* 2019 May 26;37(Suppl 15). Available from: https://ascopubs.org/doi/abs/10.1200/JCO.2019.37.15_suppl.e15119

Richards WO, McRae C. Comparative analysis of laparoscopic fundoplication and magnetic sphincter augmentation for the treatment of medically refractory GERD. *Am Surg.* 2018 Nov 1;84(11):1762-1767.

Roy J, Hill S, Rider P, Stahl J, Hunter J, Richards W. Achieving engagement in robotic simulation through competition. Society of American Gastrointestinal Endoscopic Surgeons 2019 Annual Meeting; 2019 Apr 3-6; Baltimore, MD.

Squires MH, Suarez-Kelly LP, Yu PY, Hughes TM, Shelby RD, Ethun GG, Tran TB, Poultsides G, Charlson J, Gamblin TC, Tseng J, Roggin KK, Chouliaras K, Votanopoulos K, Krasnick BA, Fields RC, Pollock RE, Grignol V, Cardona K, Howard JH. Trends in the use of adjuvant chemotherapy for high-grade truncal and extremity soft tissue sarcoma. 14th Annual Academic Surgical Congress; 2019 Feb 5-9; Houston, TX.

Suarez-Kelly LP, Howard JH, Hughes TM, Shelby RD, Yu PY, Ethun GG, Tran TB, Poultsides G, Tseng J, Roggin KK, Chouliaras K, Votanopoulos K, Krasnick BA, Fields RC, Gamblin TC, Salem A, Weber S, Pollock RE, Cardona K, Grignol VP. Intrapleural solitary fibrous tumor surgical margins matter. 2019 SSO Annual Cancer Symposium; 2019 Mar 27-30; San Diego, CA.

Swords J, Iliff G, Wang B, Rider P, Hunter J, Grimm L. The impact of a multidisciplinary team and cancer-specific tumor board in improving processes and outcomes in patients with rectal cancer. American Society of Colon and Rectal Surgeons 2019 Annual Scientific Meeting; 2019 Jun 1-5; Cleveland, Ohio. p. 165-166. Abstract no. P91. Available from: https://www.fascrs.org/sites/default/files/ascrg19_abstract_bookfor_web-2-with-cover.pdf.

Yaney A, Rossfeld K, Wu T, Wuthrick E, Agnese D, Terando A, Howard JH. Adjuvant radiation does not affect locoregional control following resection of melanoma satellitosis or in-transit disease. 2019 SSO Annual Cancer Symposium; 2019 Mar 27-30, San Diego, CA.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Bright A. Invited speaker. Kibogora burn care overview. Rwanda CME Staff Meeting; 2019 Feb 18; Kirambo, Rwanda.

Bright A. Invited speaker. The sandwich technique: cadaveric allograft overlay for split thickness skin grafting of challenging posterior burns. 31st Annual Southern Region Burn Conference; 2018 Nov 10; Mobile, AL.

Brooks RM. Invited speaker. Management of full thickness wounds using a hyaluronic acid based bilayer matrix. 31st Annual Southern Regional Burn Conference; 2018 Nov 10; Mobile, AL.

Ding L. Fall prevention initiative: a fall screening pilot study in the ambulatory setting. 32nd EAST Annual Scientific Assembly; 2019 Jan 17; Austin, TX. p. 92-93. Abstract no. 21.

Ding L. Invited speaker. Project THRIVE: building a trauma-informed community. Gulf Coast Trauma and Acute Care Surgery Symposium; 2019 Apr 4; Mobile, AL.

Dyess L. Invited speaker. Breast risk analysis. Alabama Department of Public Health Nurse Practitioner Conference; 2019 Apr 17; Montgomery, AL.

Dyess L. Invited speaker. Inequality of breast cancer. Satellite Conference; 2019 Jun 26; Montgomery, AL.

Dyess L. Invited speaker. Continuing education breast disease. Poarch Creek Tribal Health Clinic, 2018 Nov 28; Atmore, AL.

Grimm L. Invited speaker. Colorectal cancer awareness month the importance of getting screened; Live on air interview for colon cancer awareness month, Fox 10 News; 2019 Mar 26; Mobile, AL.

Richards WO. Invited speaker. Magnetic sphincter augmentation. Minimally Invasive Surgery Symposium; 2019 Feb 26; Las Vegas, NV.

Richards WO. Invited speaker. Surgical treatment of Barrett's Esophagus. Minimally Invasive Surgery Symposium; 2019 Feb 27; Las Vegas, NV.

Richards WO. Invited speaker. Managing EGJ outlet obstruction, Minimally Invasive Surgery Symposium; 2019 Feb 27; Las Vegas, NV.

Rider P. Invited speaker. Laparoscopic pouchpepy for prolapsing J-pouch [video]. American College Surgeons Clinical Congress 2018; 2018 Oct 24; Boston, MA.

Simmons J. Invited speaker. Unintended consequences of newer massive transfusion protocols. Surgical Grand Rounds; University of Arkansas; 2019 Mar 26; Little Rock, AK.

Simmons J. Invited speaker. Use of infrared thermography for burns. Gulf Coast Trauma Symposium; 2019 Apr 3; Mobile, AL.

Simmons J. Invited speaker. Cellular contamination of stored plasma. Gulf Coast Trauma Symposium; 2019 Apr 4; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Hannah Alemayehu: Mastery Minimally Invasive Skills Cours, International Pediatric Endosurgery Group, March 20, 2019

Sidney Brevard: President, AL Chapter American College of Surgeons, 2018-2019; EAST Seniors Members Committee, 2017-2020; AAST Military Honors Committee, 2018-2021; Statewide Trauma and Healthcare Advisory Council, 2016-2019; Regional Advisory Council; AL State Trauma System 2016-2019.

Linda Ding: EAST Injury Control and Violence Prevention Committee; Firearm Injury Prevention Taskforce Co-Chair 2019-2020

Lynn Dyess: Governor, Alabama Chapter American College of Surgeons, 2018-2019

Leander Grimm: Young Surgeons Committee - American Society of Colon & Rectal Surgery, invited member, 2016-2019; CREST Committee - American Society of Colon & Rectal Surgery, invited member, 2015-2019; Judge Medical Student Poster Presentations, American College of Surgeons Annual Meeting, Oct 21, 2018, Boston, MA; Invited Examiner - Mock Oral Exams for Colon & Rectal Fellows and Young Surgeons, American Society of Colon & Rectal Surgeons Annual Meeting, June 1, 2019, Cleveland, OH

Charles Hartin: SAGES- Pediatric Committee, 2013-2019

Charles Hartin: AAP-COQIPS, 2016-2019; AAP Surgery – membership committee, 2017-2019; AAP Surgery – nominations committee, 2018 to 2019

Spencer Liles: Society of Surgical Oncology – Brand Development, Southeastern Surgical Congress - Young Surgeons Committee, 2018-2019

William O. Richards: President Elect Southeastern Surgical Congress, 2018-2019; Executive Council Alabama Chapter American College of Surgeons; American College of Surgeons Video Based Education Executive Committee; Subcommittee on “ICONS” in Surgery; Producer and Moderator, for the “Icons” in Surgery videos presented at the meeting, American College of Surgeons Clinical Congress; 2018 Oct 24; Boston, MA.

Paul F. Rider: Alabama State Chair Commission on Cancer, 2016-2019; President Elect Alabama Chapter American College of Surgeons, 2018-2019; ASCRS Self-Assessment Committee, invited member, 2018-2019; ACS Video-based Education Committee, invited member, 2017-2019; Alabama District #2 Committee on Applicants, American College of Surgeons, 2016-2019

Jon D. Simmons: AAST Publications Committee; Alabama Statewide Trauma & Health Systems Advisory Council (STAC), Alabama Dept. of Public Health; Region 6 RAC, Alabama Dept. of Public Health; Chair, Trauma Outcomes Subcommittee, Alabama Dept. of Public Health; Alabama State Emergency Medical Control Committee (SMECC), Dept. of Public Health; Mississippi Coastal Trauma Care Region Medical Control/Performance Committee, Dept. of Public Health

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Overview: This past year the Department of Surgery excelled in clinical services (outcomes, volume, and expertise), education (resident, medical student, and graduate medical education) and academics (publications, research grants, and impact). The Department of Surgery has expanded clinical services dramatically this past year and has broken records for the highest amount of charges (>\$2.5 million/month) highest number clinic visits (1,781/month), highest number of operations at University Hospital (310/month), and work RVU's (>17,00/month). Academically the Department has increased the number of publications (15 Peer-reviewed publications, 17 abstracts, 2 book chapters) and impact of publications (4 multi-center national clinical trials, 4 publications resulting from faculty serving as the principal investigator), and grant support (9 industry funded, 3 federally funded grants). Graduates from the General Surgery residency program matched into very competitive fellowship programs in Pediatric, Cardiothoracic, Vascular, Critical care, Minimally Invasive/Laparoscopic, Colorectal, and Plastic/reconstructive Surgery. Medical Students have had a good match into surgical specialties including a record number of general surgery applicants.

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 during the last year that Lee Grimm, MD, was the Surgery Clerkship Director. Linda Ding, MD, and John Hunter were appointed as Co-Directors of the Surgery Clerkship and the new clerkship coordinator Jenneice White were instrumental in continuation of a very positive learning environment for the medical students.

Lee Grimm, Spencer Liles, John Hunter, Ron Brooks, Jon Simmons and William Richards, 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 the faculty of the DOS. The students on average are performing at the 62ndile, 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 implemented by Drs. Ding and Hunter and the faculty of the DOS.

General Surgery Residency Training: In June 2018, Dr. Simmons relinquished his position as Program Director of the General Surgery Residency program. Dr. Lee Grimm took over as Program Director General Surgery Residency Program. Paul Rider, M.D. relinquished his role as Chair of the Clinical Competency Committee and handed it off to Harrison Howard, M.D. Lee Grimm, M.D., FACS in his first year as Program Director along with associate program director Paul Rider, MD, FACS has provided outstanding leadership for resident education. Many of the continued excellence in academics, ABSITE performance, and educational activities of the Department of Surgery can be attributed to Drs. Grimm and the dedicated faculty of the Department of Surgery. 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.

Recruitment: The Department was able to recruit several outstanding surgeons to continue the clinical, academic, and educational missions of the Department. Harrison Howard, MD was appointed as an Associate Professor of Surgery Division of Surgical Oncology and has interest in treatment of sarcomas and melanomas. He has started several clinical trials investigating treatment of cancer this past year and has taken over the leadership of the Clinical Competency Committee of the General Surgery Residency Program. Annabelle Fonseca, MD, was recruited to the Division of Surgical Oncology as a Hepatobiliary-Pancreatic specialist after finishing her training as a surgical oncologist at MD Anderson Cancer Center. Both Drs. Howard and Fonseca enabled the Division to increase the number and variety of cancers being treated. A major recruitment to the health system was Mike Chang, M.D., FACS who was recruited to be the Chief Medical Officer for the USA Health

System. Dr. Chang was appointed as Professor of surgery in the Division of Traumatology/Surgical Critical Care/Acute Care Surgery.

Division of Traumatology/Surgical Critical Care/Acute Care Surgery: Sidney B. Brevard, M.D., F.A.C.S., continued his leadership role as the program director of the surgical critical care fellowship program, but stepped down from being the Chief of the Division. 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. Jon Simmons, M.D., FACS was named the Chief of the Division in June 2018 after a national search conducted by Paul Rider, MD.

Under the able direction of Dr. Simmons and with the entire skilled faculty recruited to the division, we have seen an improvement in quality of care delivered. This past year was also marked by the renovation of the University Hospital 8th floor to be the trauma unit with a corresponding decrease in the hours of trauma diversion. Admissions to the level 1 trauma service has increased dramatically.

Division of Burn Surgery: Steve Kahn, MD continued his leadership of the Arnold Luterman Regional Burn unit until April 2019 when he stepped down to leave for a new position. Dr. Chang along with Andrew Bright MD assistant Professor continued the excellence in burn care as evidenced by the substantially better than average O/E mortality in 2018 of 0.45 which places USA burn unit in the top 10 Mortality O/E ratio in the Vizient Clinical outcomes report. Moreover, USA had substantially more cases than eight of the top 10 burn units did, 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.

Pediatric Surgery: Chip Hartin, M.D. FACS, a USA COM graduate took 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 Alemayehu, M.D. joined the faculty in Pediatric surgery after completion of her fellowship training in September 2018. Dr. Alemayehu immediately established herself as an excellent surgeon while creating the USA Chest Wall Reconstruction Program using minimally invasive techniques to reduce postoperative pain, which led to a reduction in hospital stays and improved postoperative recovery. She has taken over the Research and Education program for pediatric surgery and started several clinical trials. Drs. Hartin and Alemayehu 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. Oluyinka O. Olutoye, M.D., Ph.D., F.A.C.S., Professor of Surgery, Co-Director, Pediatrics and Obstetrics, Fetal Center, Texas Children's Hospital presented the Randall W. Powell, M.D., F.A.C.S. Endowed Memorial Lectureship in Pediatric Surgery, in September 2018. Dr. Randall Powell, M.D., FACS established this Lectureship in Pediatric Surgery. Dr. Powell was an Alpha Omega Alpha medical honor

society graduate who 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.

Colorectal Surgery: Dr. Rider in his fifth 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 (O/E=0.37) in 2019 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 implementing the robotic surgery program using simulation training on the simulation console and assisting in the training of other surgeons on the robotic platform.

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 (0.37) that was substantially better than expected and ranked 18th 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, William Richards, MD and Linda Ding, M.D. Dr. Hunter 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

winner 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 fourth 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 elected to the Arnold P. Gold Humanism Society. Drs. Liles and Lynne Dyess, MD 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 (ACS) 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. Drs. Harris and Brooks have created a highly rated elective rotation for senior students in Plastic 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 Gastroenterology. The initiation of this innovative surgical procedure continues the tradition of collaboration, and multidisciplinary care between the Department of Surgery and the Department of Medicine to improve the care of patients with GI disorders. A new monthly conference on gastrointestinal disorders was started to increase the collaborative efforts between Gastroenterology and surgery.

Surgical Oncology: Spencer Liles, MD is in his fourth year as a faculty member has increased the number of breast, melanoma, and endocrine cancer patients seen in his clinic. Dr. Liles is boarded in Complex General Surgical Oncology and provide specialized surgical oncology care. 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 joined the Department in September 2018 and immediately increased

the number of cancer patients being seen and treated by the multidisciplinary team at the Mitchell Cancer Institute.

Humanitarian Efforts: Drs. Simmons, Grimm, and Bright led a group of USA surgery residents and USA medical students to Rwanda in 2019 on mission trips to provide medical care. Dr. Lynne Dyess went on Mission trip to rural Honduras in 2019. Spencer Liles, 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 fourth 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. Richard Rieske a PGY2 resident in surgery who has taken a year 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 development of the Multidisciplinary Rectal Cancer Center on referrals and found there was an increase in referrals from the surrounding area. This research also helps to identify the best practices for complex medical and surgical care and outcomes for the patients with rectal cancer. 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 USA Health and the Mitchell Cancer Institute. 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 in 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. The one-year follow-up study was accepted for publication in September 2019. Annabelle Fonseca, M.D. initiated a research project “Quantitative Imaging Analysis of Pancreatic Cystic Neoplasms” funded by COM Research Grant Award to stratify the degree of dysplasia in pancreatic cysts in radiographic imaging.

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.

2018-2019
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 47 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.

Our administrative offices are located in the Medical Sciences Building in Rooms 3340 on the main University campus. Ms. Jennifer Collins serves as support staff for the CLB and is responsible for clerical duties for the administrative office and research laboratories. Our annual report is available in 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 five 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 this year's series. Dr. Brian Fouty, Professor, Department of Internal Medicine, presented *Vaccines*; Dr. Mike Lin, Assistant Professor, Department of Physiology and Cell Biology, presented *Hospital-acquired pneumonia impairs cognitive function*; Dr. Thomas Rich Professor, Department of Pharmacology, presented *cAMP Signaling Pathways: What You Didn't Learn in Medical School*; Dr. Sarah Sayner, Associate Professor, Department of Physiology and Cell Biology presented *cAMP in the pulmonary endothelium: how many compartments are there?*; Dr. Donna Cioffi, Associate Professor, Department of Biochemistry, presented *A Role for the Immunophilin FKBP51 in Acute Respiratory Distress Syndrome?*

Extramural Funding

In the past year, CLB principal investigators submitted 53 grant applications to the American Heart Association (AHA), National Institutes of Health (NIH), and other foundations/industries. This fiscal year, CLB funding exceeded \$7.2 million.

New awards in this fiscal year included: Dr. Mark Gillespie, Professor and Chair, Department of Pharmacology received the following two awards an NIH R01 (Madigan Army Medical Center (MAMC)) entitled *mtDNA damage and DAMPs in multiple organ dysfunction syndrome*, and NIH U54 CCTS Competitive Renewal entitled *University of South Alabama Translational Research Service Center*. Dr. Raymond Langley, Assistant Professor, Department of Pharmacology received an NIH R21 subcontract with Florida International University entitled *Novel Long noncoding RNAs in the airway mucous response*. Dr. Thomas Rich, Professor, Department of Pharmacology received an NIH R01 Competitive Renewal subcontract with Thomas Jefferson University entitled *G Protein-Coupled Receptor Regulation in Airway Myocytes*. Meredith Gwin, Graduate Student, Department of Physiology and Cell Biology (Mentor Dr. Troy Stevens) received an AHA Predoctoral Fellowship entitled *Gamma Secretase Activating Protein is Necessary for Endothelial Production of Cytotoxic Beta Amyloid*. Joshua Deal, Graduate Student, Department of Pharmacology (Mentor Dr. Thomas Rich) received a travel award from the Office of Research and Economic Development entitled *Hyperspectral imaging fluorescence excitation scanning (HIFEX) microscopy for detection of calcium signals in single cells*. Sarah Voth, Graduate Student, Department of Physiology and Cell Biology (Mentor Dr. Troy Stevens) received an NIH F31 Predoctoral Fellowship grant entitled *Cytotoxic Lung Endothelial Amyloids*. Dr. Mikhail Alexeyev, Professor, Department of Physiology and Cell Biology received an NIH S10 award entitled *Seahorse XFe24 Extracellular Flux Analyzer*.

We had three faculty receive Intramural Research grants through the College of Medicine, Dr. Lyudmila Rachek, Assistant Professor, Department of Pharmacology entitled *Effect of bariatric surgery on mtDNA DAMPs, inflammation and diabetes outcome*; Dr. Brian Fouty, Professor, Department of Internal Medicine entitled *Novel DNA Vaccine Against Chikungunya Infection*; and Dr. Donna Cioffi, Associate Professor, Department of Biochemistry entitled *Effects of IgG glycosylation on endothelial barrier function*.

We had three graduate students receive Dean's Predoctoral Fellowships through the College of Medicine: Meredith Gwin, Department of Physiology and Cell Biology (Mentor Dr. Troy Stevens) entitled *Bacterial Infection Increases Gamma Secretase Activity In Pulmonary Microvascular Endothelial Cells*; Lina Abou Saleh, Department of Biochemistry (Mentor Dr. Wito Richter) entitled *Targeting PDE4 as a therapeutic approach in cystic fibrosis, declined to accept NIH T32 appointment*; and Abigail Boyd, Department of Biochemistry (Mentor Dr. Wito Richter) entitled *Activation of endothelial PDE4 during P. aeruginosa-induced lung injury, declined to accept NIH T32 appointment*.

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 16th year of funding. This T32 supports 6 pre-doctoral trainees in the Lung Biology track per year.

During this academic year, 21 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 trainee completed requirements for the Ph.D. within this academic year (Annamdevula).

2018-2019
Summary of Scholarly Activities
Center for Healthy Communities

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Arrieta MI, Wells NK, Parker LL, Hudson AL, Crook ED. Research apprenticeship and its potential as a distinct model of peer research practice. *Progress in Community Health Partnerships: Research, Education, and Action*. 2018;12(2):199-214. PMID: 30270230. PMCID: PMC6168749

II. PUBLISHED ABSTRACTS

Hanks RS, Wraight S, Lio S. From Contemporary Art to Collard Greens: Multiple Pathways for Community Health Advocates to Message Social Justice and Health Equity. Paper presented at the: annual meeting of the Southern Sociological Society; April 11, 2019; Atlanta,GA

Parker LL, Wells N K, Hudson MR, Bonner CM, Crook ED, Arrieta MI. (April 9, 2019). Experts speak: Community members on the context of inequity. Poster presented at the 12th Health Disparities Conference, Xavier University of Louisiana College of Pharmacy, New Orleans, Louisiana. P. 63. Abstract no. 1.5.10

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Crook ED. Panel Presenter: Title: “Identifying and Overcoming Roadblocks that Limit the Translation of Research Findings to the Achievement of Health Equity.” Conference on Bioethics Issues in Minority Health and Health Disparities Research; 2019 January 23; Tuskegee University.

Crook ED. Invited Speaker. A Discussion Around Health Disparities in African Americans and The March Towards Health Equity. Tulane University School of Medicine, SNMA, Black History Month Presentation; 2019 February 25. New Orleans, LA.

Crook ED. Invited Speaker. The Challenges of Inequities in Health. Legacy Leadership Institute of USA Gerontology Center; 2019 March 14, University of South Alabama.

Arrieta MI. Invited speaker. Community Engagement: Is there any Value for Translational Researchers? University of Alabama at Birmingham Center for Clinical and Translational Science (CCTS) Training Program. 2019, May 8. Birmingham, AL.

Crook ED. Invited Speaker. The Social Determinants of Health: A Focus on Poverty” USA COM Medical Alumni Assoc Meeting 19; 2019 June 8.

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 completed the second 5-year cycle of the P-20 grant funding from NIH's National Institute for Minority Health and Health Disparities in February 2019. The Center is in the 2nd year of the 5-year subcontract award with UAB on the All of US Research program funded by NIH. In addition, the Center has received a 5-year sub-award on the 5-year project investigating DNA damage and repair capacity in partnership with Dr. Robert Sobol at the USA Mitchell Cancer Institute. 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 CCTS. The Center had 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 the research projects within the Center. In October 2018, the Research Core launched participant recruitment within the All of Us Research Program as a member of the Southern All of US Network, thus transitioning into the active recruitment phase of this national initiative to gather data from one million or more people living in the United States to accelerate research and improve health.

In keeping with its engaged research approach, the Core also instituted a Community Advisory Board to advise and assist with the development of recruitment and informed consent materials for the project addressing DNA damage and repair. Further, on July 10, 2019, the Core hosted a luncheon with elected officials from the cities of Prichard and Mobile for the purpose of formally informing them of the objectives of the DNA study, so as to initiate a bi-directional dialog between community and researchers.

The Center also continued promoting community engaged research with two events focused on expanding health disparities research and community partnerships. The Community Engagement Institute Livestream, held in October, connected USA with the resources from the event hosted by the UAB CCTS. In January 2019, the Center hosted its third forum on community-engaged research which focused on the key elements of community engagement that foster progression to health equity and encouraged interconnections between researchers and community-based organizations.

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 with many of the CHAs providing long-term service and leadership in their community in the form of health advocacy through

education and health initiatives. In this reporting year, CHAs have continued activities related to cancer education, heart health, and healthy eating. In May of 2019, CHA Barbara Hodnett opened an exhibit at the USA Archaeology Museum chronicling the development of a food desert in the 36603 zip code of Mobile. This exhibit was an offshoot of a previous art exhibit at the Alabama Contemporary Art Center in Mobile AL developed out of a photovoice project chronicling health disparities in the Mobile area.

The Pipeline component focuses its efforts on high school students from underserved communities. It aims to reinforce STEM courses, expose students to the health professions, and influence their choice of health professions career. This year, fifteen area high school rising juniors and seniors were selected to participate in the two arms of the program, Students Training for Academic Reinforcement in the Sciences (STARS) and Special Training to Raise Interest and Prepare for Entry into the Sciences (STRIPES). The program provided enrichment in math, sciences, language arts, and test-taking. It also includes 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 in 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 2019, two students participated in the summer research program. Each student presented their work in poster presentations at the College of Medicine Research Day on July 26, 2019.

2018 – 2019
Summary of Scholarly Activities
Center for Strategic Health Innovation

I. 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. We are excited about our new partnership with four (4) of Medicaid's new Alabama Coordinated Health Networks (ACHN) to serve as their Health Information Management System (HIMS) vendor. The ACHNs will provide coordinated consolidated case management services to Medicaid Eligible Individuals across Alabama. RMEDE case management system will be the tool used by My Care Alabama and North Alabama Community Care to record, analyze and report care coordination data to the Alabama Medicaid Agency.

Medical Informatics and Healthcare Technology: RMEDE™, our in house developed Realtime Medical Electronic Data Exchange platform, 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. As Medicaid's Meaningful Use program begins to sunset, and the number of Practices/PCPs still eligible for MU incentive payments has decrease, thus causing REC memberships to decrease, as well. ALREC is currently consulting with over 25 medical practices throughout Southern Alabama working directly with 286 physicians, nurse practitioners, and physician assistants. Approximately \$125,000 was received in revenue from ALREC's membership service line. ALREC continue to work with USA's Medical Center to monitor 140 physicians helping them to complete Meaningful Use attestations, which can result in over \$1M in incentive payment. Throughout the year, ALREC published quarterly newsletters and hosted webinars to discuss MIPS, Chronic Care management, and other relevant healthcare topics.

2018-2019
Summary of Scholarly Activities
Center for Disaster Healthcare Preparedness

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

II. PUBLISHED ABSTRACTS

Wallace D, Williams E, Legett D. An assessment, training, planning and coordination program for HCCs. National Healthcare Coalition Preparedness Conference; 2018 Nov 27-29; New Orleans, LA.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Wallace D, Williams E. Invited speakers. Emergency preparedness 101 for healthcare facilities: part I. Association of Healthcare Emergency Preparedness Professionals Annual Pre-conference 2018; 2018 Nov 5; Scottsdale, AZ.

Wallace D, Williams E. Invited speakers. Emergency preparedness 101 for healthcare facilities: part II. Association of Healthcare Emergency Preparedness Professionals Annual Pre-conference 2018; 2018 Nov 5; Scottsdale, AZ.

Wallace D. Invited speaker. Developing an assessment, training, planning, and coordination program for healthcare coalitions. 2019 International Conference on Disaster Medicine & Hurricane Resiliency; 2019 Mar 11; St. Maarten, Caribbean.

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, CDHP. 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.

Throughout the year, there was a total of 170 AIMS Notifications which included over 2,450 messages between facilities during real events, exercises and general messaging. Thirty-one of those notifications were sent in response to real events with potential impact on the delivery of healthcare: 1. Transportation event of charter bus accident in Baldwin County, 2. Industrial chemical leaks in Birmingham and Dothan and 3. Weather events including Tropical Storm Gordon, Hurricane Florence, Hurricane Michael, winter weather advisories, deadly tornadoes in Lee County (Beauregard, AL) and severe weather warnings throughout the state (heavy rain, flooding and tornadoes).

During the 2019 grant year, AIMS experienced a growth in utilization in both the number and organizational types of users. At the end of the 2019 grant year, there were 2,369 user accounts. Throughout the state, 98% of the 124 hospitals and 78% of the 234 nursing homes have active accounts. Additional organizational users include Public Health, Emergency Medical Services, Community Health Centers, Emergency Management Agencies, and other users which include Home Health, Hospice, Assisted Living, Dialysis, Durable Medical Equipment Suppliers and more. Through AIMS, healthcare facilities and Healthcare Coalitions were able to provide updates on patient bed availability, resource requests and communications for ongoing situational awareness throughout the duration of the events.

Eighty-one notifications were sent in response to exercises and training. The notifications were sent predominantly from individual Healthcare Coalitions, followed by healthcare facilities and ADPH-CEP, to evaluate and monitor user capabilities to access and input information; and to conduct redundant communication drills and coalition-wide patient surge tests, in addition to healthcare facility specific exercises.

After Action Reports from real events and exercises identified opportunities to enhance operational features within AIMS, which led to improved situational awareness and overall healthcare response during events. Coding changes include enhancements such as development of several report forms completed by Hospitals and Nursing Homes during Hurricane Florence and Hurricane Michael which provided the state associations and federal agencies with inpatient capacities for potential evacuee and patient transfers from affected neighboring states. Another report implemented and currently utilized by various Hospitals throughout the state is the Emergency Department (ED) Psych Reporting Form. This innovative tool was requested by the Mobile Healthcare Coalition in response to the increasing issue of limited resources to evaluate, stabilize and treat mental health patients as the number of inpatient facilities throughout the state has decreased. The report form collects and captures: total number of patients seen in ED; total number of psychiatric patients seen in ED; total number of hours psychiatric patients are held in ED; total number of sitter/manpower used; ages of psychiatric patients (total number <18; total number 19-

59 and total number >60) and total number of workplace violence incidences. At the end of the year, among the 11 hospitals reporting, they saw 12,894 psychiatric patients which required 116,458 hours of care for 3,915 patients 18 years and younger, 7,615 patients 19-59 years of age and 1,364 patients 60 years and older.

CDHP TRAINING

Now in its sixteenth 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 2019 is 19,889. This year, CDHP offered training on-site in Mobile (Basic Course, Simulation Course and Healthcare Emergency Preparedness Professional Certificate Course) and throughout the State as requested by healthcare coalitions and 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, the Healthcare Emergency Preparedness Symposium 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. Topics included: Better in Crisis makes us Better Today; Healthcare Coalitions in the Preparation of the Medical and General Community for Response to Nuclear and Radiological Incidents; Outbreaks of Highly Infectious Diseases: Dealing with Biological Risk and Mathematical Myths; How AHEPP Helps Practitioners Manage Changes in CME, ASPR and Policy; Healthcare Coalitions: Family Reunification and Assistance Integration Between Healthcare Facilities and Community Centers, Managing Supply Chain Shortages; Hurricane Michael: A Health Ministry's Response and Story of Healing; Regulatory Compliance and Sustaining Effective Communication During Disasters and Emergencies; and Emergency Preparedness-CME Final Rule and Implementation. Attendance for the Basic courses totaled 547 students, a 22.9% increase over the previous year.

Ten CDHP Simulation sessions were offered, each comprised 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 158 students participated, an increase of 32% over the previous year.

Thirty-six 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 950 students in this reporting period.

Two Supplemental Trainings were conducted during the 2018-2019 project year. Alabama Healthcare Coalition Workshops on February 5-6, 2019, encompassed Healthcare Coalitions in Alabama: Stronger Capabilities for Readiness; and Capabilities for Healthcare & Medical Readiness: Special Pathogens. The Southwestern Healthcare Coalition Workshop on April 11-12, 2019, focused on Capabilities for Healthcare & Medical Readiness: Special Pathogens. Total attendance for both workshops was 60.

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 fifth program year, with eleven 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 Outpatient Clinics. 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 five points, with an average score of 40 out of 50 on the final assessment. One hundred percent of graduates indicated the course met their expectations and provided the foundation for serving as Healthcare Emergency Preparedness Planner.

2018-2019
Summary of Scholarly Activities
USA Comprehensive Sickle Cell Center

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Vinchinsky E, Hoppe C C, Ataga K L, Ware RE, Nduba V, El-Beshlawy A, Hassab H, Achebe MM, Alkindi S, Brown RC, Diuguid DL, Telfer P, Tsitsikas DA, Elghandour A, Gordeuk VR, Kanter J, Abboud MR, Lehrer-Graiwer J, Tonda M, Intondi A, Tong B, Howard J; HOPE Trial Investigators; Haynes J, Contributor. A phase 3 randomized trial of voxeltor in sickle cell disease. *N Engl J Med.* 2019 Aug 8; 381(6):509-519.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Haynes J. Pathophysiology and medical management of sickle cell disease. *Sickle Cell Disease Educator /Counselor Certification Program*; 2019 April 1; 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.

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 and pulmonary fellows. The USA Sickle Cell Center has sponsored a clinical based conference on practical issues involving sickle hemoglobinopathies for the last 17 years.

The 2019 annual sickle cell conference, *Sickle Cell Disease Practical Issues XVII: New & Emerging Therapies & Approaches to Management*, was held May 18, 2019. This year, 90

participants registered for the conference of which 58 received 7.5 inter-professional continuing medical education (CME) credits or CME credit equivalents. This year's conference boasted the largest physician participation in its 17 year history, with 23 physicians. This CME activity was supported by unrestricted educational grants and exhibitor support. This support was appreciated by all involved and allowed its organizers to provide an affordable registration cost without compromising quality of the educational experience. Attendees included physicians, nurses, social workers, pharmacists, students and sickle cell clients. In 2008 when the Dr. Cecil L. Parker, Jr., Sickle Cell Disease Distinguished Lecture Endowment was established to support the educational agenda of the Center, it was difficult to fathom the growth now seen in support of the annual conference. Over the past 11 years, the Center has been able to invite one nationally recognized expert to speak at the conference. The 2019 conference featured three nationally recognized experts on sickle cell disease, three local experts and a patient panel. The topics addressed at this year's conference were, "Drug Therapies for Sickle Cell Disease: Beyond Hydroxyurea," "L-glutamine in the Management of Sickle Cell Disease: Benefit in Combination with Hydroxyurea?," "Improving Emergency Department Assessment and Management of Vaso-occlusive Crisis in Sickle Cell Disease," "Role of Ketamine in the Management of Vaso-occlusive Crisis in Sickle Cell Disease," "Proteinuria in Sickle Cell Disease: Diagnosis and Management," and "Indications and Use of Hydroxyurea in Children with Sickle Cell Disease." The learning objectives at the conclusion of this activity were that participants should be able to:

- 1) Employ a framework that addresses a more efficient approach to assessment and management of pain crisis in the emergency department;
- 2) Better understand the use and indications of hydroxyurea in the pediatric population with sickle cell disease;
- 3) Better understand the role of angiotensin-converting enzyme inhibitor/ angiotensin receptor blocker use in the management of proteinuria complicating sickle cell disease;
- 4) Better understand new and emerging therapies for the management of sickle cell disease.

The patient panel was a new feature of the annual conference and clearly brought a meaningful perspective that heightened the awareness of implicit biases fostered by healthcare providers. The patients openly expressed the negative feelings derived from being referred to by providers as a "sickler," healthcare provider bias when suggesting they are drug addicts when in pain, and contrary to what some believe, they do not want to come to the emergency room when having a pain crisis, but when severe enough, they have no other choice. This discussion proved to be empowering for the patients and served as an eye-opener for the organizers and attendees. By providing a forum for those directly affected by sickle cell disease, it was resoundingly clear there is a need for healthier communication between providers and patients.

The *Dr. Cecil L. Parker, Jr. Sickle Cell Disease Distinguished Lectureship Endowment* is in its 12th 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.

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”. An open-label extension for GBT-440 (Voxelotor) is also now under way since July 2018.

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). Participation in this study now affords the Center to employ a full-time coordinator for the Pediatric to Adult Transition Program

Clinical Operations / Services: The Adult Sickle Cell Clinic has operated as a subspecialty clinic for over 20 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 eighth 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.

Adult hematology support for adult operations remains lacking and there is no proposed solution to this deficit of overall clinical operations in sight. Urology support is now in place.

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 eighth year as Assistant Dean of Diversity and Inclusion in the USA College of Medicine. The Center is now in its 13th 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, Yolanda Turner, PhD, Reverend John Dees 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
2018-2019

Representing 42 graduating classes (1976-2019), the total number of M.D. graduates of the USA College of Medicine is 2,770 (not including former USAMC housestaff or graduates of the Ph.D. program).

2018-2019 Medical Alumni Association Board of Directors

Officers

- Dr. John Todd '88, *President*
- Dr. Christopher Semple '85, *Vice President*
- Dr. Brandi Trammell '02, *Secretary/Treasurer*
- Dr. Edward Panacek, '81, *Chair, Alumni and Student Services Committee*
- Dr. William Blaylock '89, *Immediate Past President*

Directors

- Dr. Romsel Ang, '01
- Dr. Jason Dyken, '91
- Dr. Matthew Cepeda, '03
- Dr. Amy Morris '92
- Dr. Ed Panacek, '81
- Dr. Wes Pickard, '88
- Dr. Brandi Trammell, '02
- Dr. Juan Ronderos, '85
- Dr. Russell Goode, '10
- Dr. Bibb Lamar, '98
- Dr. Steve Kinsey, '89

During the 2019 Annual Meeting of the Board of Directors, 3 new members were appointed to the Board of Directors and will begin their term with the 2019-2020 year:

- Dr. Stacey Wing, '10
- Dr. Druhan Howell, '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. Oscar Almeida, Jr. '85
- Dr. Lamar Duffy '84
- Dr. Matthew McIntyre, '06
- Dr. Grace Hundley, '04

Scholarship Recipients for the 2018-2019 Academic Year

Student Name	Scholarship Received	Amount of Scholarship
Sarah Bignault	2019 Medical Alumni Association Scholar	\$10,000
Madeline Tucker	2019 Medical Alumni Association Scholar	\$10,000
Christopher Roberts	2019 Medical Alumni Association Scholar	\$10,000
John David Roveda	2019 Medical Alumni Leadership Award	\$500
		\$30,500

2019 Medical Alumni Reunion Weekend

The 2019 Medical Alumni Reunion Weekend was celebrated June 7-9, 2019 at the Hilton Pensacola Beach Resort in Pensacola, Florida. The classes of 1979, 1984, 1989 1994, 1999, 2004, 2009, and 2014 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:

2019 Distinguished Medical Alumni Award Recipient

David Adkison, M.D. '84,

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.

2019 Medical Alumni Humanitarian Award Recipient

Steven Kinsey, M.D. '89

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.

2019 USA COM Distinguished Service Award Recipient

Susan LeDoux, PH.D. '86

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:

- **David Adkison, M.D.**, *Adventures in Medicine: Practicing in China*
- **Mike Ledet, M.D.**, *Update on Lipids*
- **Ed Panacek, M.D.**, *What I Learned from being a TV Doctor*
- **Shelia Ross, D.N.P.**, *Success of a Collaborative Certified Stroke Program*
- **Anne Schott, M.D.**, *Cancer Advances Since the 2016 USA Alumni Reunion*
- **T.J. Hundley, M.D.**, *From Sisyphus to the Phoenix: Burnout and Resiliency in Physicians*
- **Amy Boone, M.D.**, *HPV Vaccination: What can you do?*
- **Errol Crook, M.D.**, *The Social Determinants of Health: A Focus on Poverty*
- **John V. Marymont, M.D., M.B.A.**, *State of The College*
- **Franklin Trimm, M.D.**, *Unconscious Bias*

Student Events Sponsored

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

- Class of 2022 Freshman Orientation Lunch
- Student Career Exploration Mixer
- Class of 2021 White Coat Ceremony
- 2019 Match Day

2018-2019 Annual Fund and Membership Drive and MAA Scholarship Endowment Initiative

Annual Fund Contributions	\$31,626.32
Amount Raised via Memberships	\$14,500.00
MAA Scholarship Endowment Commitments	\$19,425.00
Total Amount Raised	\$65,551.32

2018-2019
Summary of Activities
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, USA Health University Hospital. Students in the clinical years of undergraduate medical education rotate at all USA Health Campus sites including University Hospital and Children's and Women's Hospital with the possibility of clinical interaction and research opportunities at USA Health Mitchell Cancer Center. USA College of Medicine students have the opportunity to see patients in the out-patient settings at Stanton Road Clinic and Strada Patient Care Center.

Student Affairs

The Medical Association of the State of Alabama, Medical Society of Mobile County, University of South Alabama Medical Alumni Association, and ProAssurance sponsored Match Day festivities which were held at the Mobile Convention Center in downtown Mobile on March 15, 2019. Dr. John Marymont, Vice President for Medical Affairs and Dean of the College of Medicine, faculty from the College of Medicine, and families of the students were on hand to watch as the Class of 2019 excitedly learned of their residency placements. The match results were impressive including five students in Ophthalmology, one student in Dermatology, one student in Neurosurgery, one student in Otolaryngology, one student in Radiation Oncology, three students in Anesthesiology, four students in Emergency Medicine, one student in Neurology, three students in Orthopedic Surgery, three students in Radiology, and two students in Pathology. With respect to primary care fields, the following were the match results: twelve students in Internal Medicine, ten students in Family Medicine, seven students in Psychiatry, and six students in Pediatrics. Regarding General Surgery, four students matched into categorical programs and five into preliminary programs. Regarding OB/Gyn, seven students matched into categorical programs and one student into a preliminary program. Seventy five percent of students matched into out of state residency programs with the remaining twenty five percent staying in Alabama programs. Twelve USA COM students choose to continue their graduate medical education in the USA Health Hospitals. Students from USA COM were placed into programs spanning the entire United States including but not limited to representation in Massachusetts, Illinois, Ohio, South Carolina, North Carolina, Virginia, Tennessee, Texas, Missouri, Washington, and California.

Honors Convocation for the College of Medicine Class of 2019 was held Friday evening May 3, 2019, in the Mitchell Center on the USA Campus. The Class chose Dr. Susan LeDoux, Associate Dean for Medical Education and Student Affairs, as their faculty speaker and David Roveda to represent the class response. This recognition was especially poignant for Dr. LeDoux as this event was her last official class graduation in her capacity as the Associate Dean thus retiring from her position July 1, 2019. During Honors Convocation, the graduates were recognized for academic and other achievements, academic hoods were bestowed, and the Hippocratic Oath was administered. Graduation was held the following day May 4, 2019, at the USA Mitchell Center.

The White Coat Ceremony for the College of Medicine Class of 2021 was held at the USA Mitchell Center on June 15, 2019. Michael Chang, M.D., Chief Medical Officer and Associate Vice President for Medical Affairs, USA Health, delivered the charge to the Class and Zachary White, Class President, delivered the response. The Class of 2021 received not only their White Coats but also personalized messages from the Alumni Association and their own reflective writings which they had penned during their M1 orientation two years prior. Student, resident and faculty members were also inducted into the Gold Humanism Honor Society. A reception was held at the Globe in the Mitchell Center.

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

	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Total Visitors	21	26	27	32	38
From LCME Schools	6	14	10	17	9
From Osteopathic Schools	15	11	17	15	29
From Foreign Schools	0*	0*	0*	0*	0*
Completed Paperwork, but Cancelled Visit					
From LCME Schools	4	3	6	14	12
From Osteopathic Schools	2	5	12	11	11
From Foreign Schools	0*	0*	0*	0*	0*
Disciplines in which Electives were taken					
Anesthesiology	0	0	0	0	0
Clinical Pharmacology	0	0	0	0	0
Emergency Medicine	0	0	0	0	0
Family Medicine	0	0	1	2	5
Internal Medicine	4	3	8	6	11
Medical Genetics	0	0	0	0	0
Neurology	0	0	0	1	2
Neurological Surgery	0	0	0	0	0
Obstetrics/Gynecology	5	2	2	1	0
Ophthalmology	0	0	0	0	0
Orthopedics	4	5	6	10	4
Pathology	1	1	0	1	1
Pediatrics	4	8	6	5	7
Psychiatry	0	1	0	1	4
Radiology	1	3	2	2	1
Surgery	2	3	2	3	3

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

Months Electives Taken

	2015-2016		2016-2017		2017-2018		2018-2019	
	American	Foreign*	American	Foreign*	American	Foreign*	American	Foreign*
January	0	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	3	0	9	0	11	0
August	3	0	5	0	6	0	10	0
September	8	0	7	0	7	0	8	0
October	6	0	10	0	6	0	6	0
November	7	0	2	0	4	0	3	0
December	0	0	0	0	0	0	0	0

Letters of evaluation (Dean’s Letters) were written for each of the 80 seniors who graduated in May, 2019. Students applied to 3,376 residency programs through the AAMC Electronic Residency Application Service (ERAS).

Seventy-eight (78) students matched for residency positions. Seventy-one (71) of the May graduates used the NRMP as their primary means of obtaining residency and four (4) graduates participated in a specialty match.

	Number of Graduates	Match Utilized	
		NRMP	Non-NRMP
2015	74	71	3
2016	73	67	6
2017	70	68	2
2018	73	70	3
2019	80	70	7

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

University of South Alabama Seniors
Residencies Received by Discipline

	Class of 2015		Class of 2016		Class of 2017		Class of 2018		Class of 2019	
PRIMARY CARE:	31	42%	31	38%	31	44%	33	45%	28	36%
Internal Medicine	19	26%	15	12%	15	21%	13	18%	12	16%
Family Medicine	3	4%	10	11%	10	14%	7	10%	10	13%
Pediatrics	6	8%	3	14%	3	4%	11	15%	6	8%
Med/Peds	3	4%	3	1%	3	4%	2	3%	0	0%
Anesthesiology	3		3		0		2		3	
Dermatology	0		1		0		0		1	
Emergency Medicine	6		2		7		8		4	
Int. Med/Emer. Med.	1		0		1		0		0	
Neurology	1		2		1		1		1	
Neurological Surgery	2		1		0		0		1	
OB/Gyn	1		2		7		6		7	
OB/GYN Preliminary	0		0		0		0		1	
Ophthalmology	1		3		2		1		5	
Orthopedic Surgery	2		4		1		2		3	
Otolaryngology (ENT)	0		0		0		1		1	
Pathology	4		0		0		2		2	
Physical Medicine & Rehabilitation	0		1		0		0		0	
Psychiatry	10		6		6		5		7	
Radiation Oncology	0		1		0		0		1	
Radiology	1		8		2		1		3	
Radiology - Interventional	0		0		0		1		0	
Surgery – General	8		7		11		8		4	
Surgery - Plastics	1		0		0		1		0	
Surgery – Preliminary	2		4		0		0		5	
Transitional	0		0		1		0		0	
Urology	0		0		0		1		0	
TOTAL Graduating Seniors	74		73		70		73		77	

University of South Alabama Seniors
Residencies Received by State

	Alabama		USA Hospitals (Mobile)	Out-of-State		Number of Different States
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
2019	19	25%	12	58	75%	20

Seventy-seven seniors received the Doctor of Medicine degree at Commencement on May 4, 2019. On the evening of May 3, the College held its forty-fourth Honors Convocation which took place in the Mitchell Center. Dr. Susan LeDoux addressed the class and John David Roveda, Jr. responded for the graduates. Prior to hooding the graduates, the following awards were presented:

Dean's Award – Trevor Chalk Stevens
 Merck Award – Ryan David Screven and Emily Morgan Smith
 Glasgow-Rubin Achievement Citations – Christina Erin Artz, Emily Morgan Smith, and Kasey Amber Stoutin
 Dr. Robert A. Kreisberg Endowed Award of Excellence – Trevor Chalk Stevens
 Leonard Tow Humanism in Medicine Award – Trevor Chalk Stevens and Dr. Spencer Liles
 Medical Alumni Leadership Award – John David Roveda, Jr.
 Proassurance Award – Audrey Marie Murphy
 Community Service Award – Natalie Brooke Carlisle and William Charles Gambla
 SNMA Leadership Award – Hilda Antranette Watkins
 Outstanding Student in the Pre-clerkship Curriculum – John David Roveda, Jr.
 Award for Excellence in Teaching Clinical Skills – Ashleigh Mei Tomkovich
 Clinical Pharmacology & Therapeutics Excellence Award – Trevor Chalk Stevens
 Hollis J. Wiseman Award for Excellence in Pediatrics – Natalie Brooke Carlisle
 Samuel Eichold Award – Dalton Thomas Patterson
 The Orthopaedic Excellence Award – Joseph William Anderson
 John W. Donald Memorial Award in Surgery – Christina Erin Artz
 H. C. Mullins, M.D. Award – Christel Doiron Bowman and Charlotte Carolyn Linder
 Obstetrics/Gynecology Award – Kristen Leigh Smith
 Excellence in Emergency Medicine Award – Connor William Kimbrell
 Society for Academic Emergency Medicine (SAEM) Award – Christopher Charles Musselwhite
 Excellence in Psychiatry Award – Anna Williams Zampese
 AAN Medical Student Prize for Excellence in Neurology Award – Vivek Hitesh Patel

Grade Distribution 2018 - 2019 Academic Year

Freshman Courses

	H	P	F
Foundations of Human Health I	9	68	0
Foundations of Human Health II	8	66	3
Cardiovascular	8	67	2
Basic Concept Human Structure	13	64	0
Urinary	8	66	3
OSCE M1 – Fall	14	63	0
OSCE M1 - Spring	11	60	0

Sophomore Courses

	H	P	F
Digestive	12	59	0
Endocrine & Reproductive	23	48	0
Ear, Nose, Throat	17	54	1
Neuroscience & Behavior	14	56	0
Respiratory	8	63	0
OSCE M2 – Fall	18	53	0
OSCE M2 - Spring	14	57	0
Multisystem Disorders	0	71	0

Junior Clerkships

	H	P	F	Out of sequence
Family Medicine	10	61	0	3
Internal Medicine	18	51	0	1
Neurology	10	46	0	3
OB/GYN	17	52	0	2
Pediatrics	4	63	0	1
Psychiatry	12	55	0	1
General Surgery	22	44	1	1

Academic Progress of Medical Students
Source: Part II of LCME Annual Medical School Questionnaire

	2015	2016	2017	2018	2019
Initial Students in Class	75	75	74	76	75
Graduates	71	69	70	73	73
True Attrition (will not receive M.D. in any year)	4	3	1	1	0

	2014-15	2015-16	2016-17	2017-18	2018-19
Dismissed					
Freshmen	0	0	0	0	0
Sophomores	0	0	0	0	0
Juniors	1	0	0	0	0
Seniors	1	0	0	0	0
Placed on Leaves of Absence (LOA)					
Freshmen	1	1	5	2	0
Sophomores	1	1	1	1	4
Juniors	5	4	8	7	3
Transferred to Another Medical School	0	1	0	0	0
Withdrew	3	1	3	1	2
Admitted with Advanced Standing or Re-entered from Graduate School	0	0	0	0	0
Deceased	0	0	0	0	0
Repeated All or Part of the Year	3	1	6	3	5
Enrolled on a Decelerated Schedule	0	0	0	0	0

Minority Students (Black, Native American, Hispanic)	2014-15	2015-16	2016-17	2017-18	2018-19
Total	22	28	35	43	39
Freshmen	7	9	10	11	10
All Other Classes	15	19	25	32	29

United States Medical Licensure Examination (USMLE) Step 1
First Time Takers

	2014	2015	2016	2017	2018
Number of Students	72	73	78	74	67
National Overall Mean	229	229	228	229	230
USACOM Overall Mean	230	229	228	234	232
Failure Rate – National	4%	5%	5%	4%	4%
Failures at USA	3%	4%	2%	1%	3%

Minimum passing score = 176 in 1997; 179 in 1998-2000; 182 beginning in 2001; 185 in 2007; 188 in 2010; 192 in 2014; 194 in 2018

United States Medical Licensure Exam (USMLE) Step 2
First Time Takers

	2015	2016	2017	2018	2019
Number of Students	76	71	70	74	80
National Overall Mean	240	241	242	241	pending
USACOM Overall Mean	242	246	248	248	pending
Failure Rate – National	5%	4%	2%	4%	pending
Failures at USA	4%	3%	0%	3%	pending

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 2012	Class of 2013	Class of 2014	Class of 2015	Class of 2016
National Percentage Passing	97	98	98	98	98
USA Percentage Passing	93	97	98	99	99
USA Number of Students	67	66	62	69	69

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 2018 graduates. A total of 36 responses were received out of 76 requests. Below is a summary of the responses to the major domains that were assessed. Rows may not add to 100% due to rounding.

Domain	Bottom Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Top Fifth	Insufficient Contact
Fund of Information	6%	6%	39%	25%	25%	0%
Integration into Problem Solving	3%	8%	33%	33%	22%	0%
Use of Diagnostic Tests	3%	8%	36%	31%	22%	0%
History Taking	3%	11%	31%	33%	22%	0%
Physical Examination	0%	8%	33%	42%	14%	3%
Chart Documentation	3%	6%	25%	44%	22%	0%
Patient Presentation	0%	14%	31%	39%	17%	0%
Identification of Patient Problems	3%	9%	27%	43%	17%	0%
Systematic Approach to Problem Solving	6%	8%	33%	25%	28%	0%
Rational Plan of Management	6%	6%	33%	36%	19%	0%
Use of Consultants	0%	3%	37%	34%	20%	6%
Skills in Procedures	3%	0%	33%	25%	8%	31%
Overall Efficiency with Patient Care	6%	8%	31%	36%	19%	0%
Recognition of Own Limitations	0%	8%	31%	44%	17%	0%
Self-Directed Learner	6%	6%	19%	33%	36%	0%
Use of Literature to Answer Questions	3%	6%	46%	29%	14%	3%
Professional Demeanor	0%	3%	17%	33%	47%	0%
Effective Interpersonal Skills	0%	3%	19%	33%	44%	0%
Works Effectively in Interprofessional Teams	0%	3%	22%	39%	36%	0%
Recognizes Error & Advocates for Improvement	0%	0%	39%	38%	14%	8%
Practices High-Value Cost Effective Care	3%	0%	47%	25%	14%	11%

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 2018 – 2019. The subcommittees and their chairs included:

Assessment and Evaluation (Abu Al-Mehdi, MD, PhD)
Clerkship Directors (Benjamin Estrada, MD)
Clinical Skills (Elizabeth Minto, MD)
Curriculum Integration (Jeff Sosnowski, MD, PhD)
Clinical Pathways (Benjamin Estrada, MD)
Pre-Clerkship Directors (Mark Taylor, PhD)

A summary of Curriculum Committee activities and action for 2018 – 2019 follows:

Completion of the LCME Accreditation Site Visit

The Committee and its subcommittees completed a lot of hard work preparing and finalizing the necessary data for the LCME site visit. This work was done in conjunction with multiple faculty and departments across the institution. The LCME site visit was completed in October, 2018, with the final report arriving several months later. The overall report was positive with the College of Medicine receiving accreditation for a full eight year cycle. The Committee will continue to refine and improve design, delivery, and monitoring of the overall educational program as well as the individual modules, clerkships, and fourth year courses.

Educational Program Review

The Committee conducted its first comprehensive overall educational program. This report was a comprehensive collection of data related to student performance and outcomes as well as both faculty and student opinions. Multiple internal and external sources of data were used to compile the report. Overall the report was very positive which was indicative of all the hard work and dedication faculty commit towards the delivery of an effective educational program. The Committee used this information to guide further quality improvement efforts for the last academic year. The review was also an important piece of information utilized by the LCME site visit team during their time here.

Needs Assessment of Health System Science Curricular Content

The knowledge, skills, and attitudes necessary to practice medicine in the current healthcare environment continue to evolve. In addition to the content related to the domains of the basic and clinical sciences, the health system sciences has now been identified as a third domain of instructional content. This domain is defined as the fundamental understanding of how health care is delivered, how health professionals work together to deliver that care, and how the health system can improve health. The Committee recognized the importance of identifying where this content is currently taught in our curriculum in order to develop a plan on how to best teach this content. The Committee has begun conducting a needs assessment of our overall curriculum in the M1 to M3 years.

Review of Module Sequence in the M1 and M2 Years

The Committee conducted a review of the sequence of the M1 and M2 modules. The Module Directors subcommittee conducted the effort which was ultimately presented to the overall Committee. The Neuroscience and Behavioral module was moved before the Endocrine and Reproductive module in the M2 year to facilitate student wellness and better understanding of the material. The BCS and MSK modules were integrated into a new revised MSK module which will now occur in the M1 year. Biostatistics and malignant hematology and oncology content were

repositioned from the FHH2 module into other modules. This resulted in the FHH2 module becoming the Infectious Disease and Immunology module for 2019 – 2020. A new M2 module will be created around Hematology and Oncology in 2019 – 2020. A review of this resequencing will occur in 2019 – 2020 to further refine best practices.

Quality Improvement of the Selectives

The Selectives were a new initiative in 2017 – 2018 to allow students the opportunity to explore certain specialties prior to their M4 year. The experiences were in Emergency Medicine, Neurosurgery, Orthopedics, Pathology, and Radiology. The Committee used the opportunity to conduct continuous quality improvement of these courses in 2018 – 2019. Overall the students enjoyed the experiences and appreciated their inclusion in the M3 year. The enthusiasm of the course directors was pivotal in this process. As a result, the Committee continued the Selective course. Many of the Selectives implemented more robust means of assessment and evaluation. These included targeted case logs, feedback cards, reflective writing, independent learning activities, and simulation.

Creation of the Research Selective

The Committee reviewed the previously noted Selective experiences available to students. The Committee identified an opportunity to promote student engagement in research. This led to the development and approval of a research selective. This experience will allow students who are interested to commit four weeks towards the continuation or completion of a research project in the M3 year. The students are required to identify a mentor, outline the state of the project prior to starting the rotation, and develop a work plan. At the conclusion of the experience, the student will be assessed against the progress of the work plan and submission of a report in the format of a scientific publication.

USMLE and NBME Performance Review

Standardized test scores reviewed by the Committee during 2018 – 2019 continued their pattern of upward trending by meeting or exceeding national norms. Mean scores on NBME shelf exams for all seven clerkships continue to exceed national norms for the year. Final Step 1 data showed that USA students averaged 232 which was higher than the national average of 230. Step 2CK data demonstrated USA students averaged 248 which was above the national average of 243. On Step 2CS, data revealed USA students matched the national pass rate of 98% which was also above the national average of 95%.

AAMC Mission Management Tool Review

The Committee obtained and reviewed the most recent update from the AAMC Mission Management Tool. This resource provides an aggregate of three years of data to medical schools indicating how they performed compared to other medical schools in areas such as clerkships and practice patterns once our medical students enter the workforce. This data demonstrated an overall high satisfaction with many of the clerkships; we were at the 74th percentile for students reporting they received adequate basic science illustrations of clinical relevance. Most notable was that our medical school ranked at the 94th percentile for students stating they were satisfied with the quality of their medical education, 84th percentile for students practicing primary care, 81st percentile for students practicing in-state, 89th percentile for students practicing in rural areas, and 100th percentile for students practicing in underserved areas.

Development of Residents as Teachers

The Committee reviewed the processes and content utilized by the M3 clerkships to provide development to residents in their roles as teachers. In previous years, the Committee worked with clerkship directors to develop a process to ensure residents received fundamental information about the objectives, expectations, and assessment practices of the clerkship. During 2018 – 2019, the Committee identified the specific content provided to residents related to skills necessary to be effective teachers. Many clerkships delivered similar content such as giving effective feedback, understanding learning styles, and how to evaluate students. Using this data, the Committee developed a draft pocket guide to serve as a resource for residents. This guide will undergo further revisions to develop it into a useful tool for residents. In addition, the Committee will review opportunities to deliver this content to residents more efficiently.

Revision of the Assessment and Evaluation Process

The Committee continues its endeavors to continuously improve the assessment and evaluation process of the modules and clerkships. The Committee increased its focus in 2018 – 2019 on developing better methods of assessing courses against their stated educational objectives. The Assessment & Evaluation Subcommittee developed new tools to assist the Committee in further advancing this process when reviewing modules. The next phase will be to follow a similar process with the clerkships.

Collaboration with Student Affairs on Student Wellness

Student Affairs has been working diligently to continue to expand the infrastructure of the Wellness program for medical students. The Committee continues to collaborate with Student Affairs to develop and implement this content. The Clerkship Directors Subcommittee undertook the initiative this year to develop Wellness Forums for insertion into the M3 year. These forums will deliver important content to medical students in the realm of physician wellness while also allowing students to address their personal needs. The pilot will include five sessions. Most notable, these sessions will allow for large groups of students to come together in one setting to discuss these topics. If this structure is successful, it may provide opportunities for more innovative curriculum delivery in the M3 year.

Completion of Data Collection Entrustable Professional Activities Pilot

With the transition of GME training to a milestone-based evaluation system, Entrustable Professional Activities (EPAs) emerged as a 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 continues to investigate the use of EPAs as a means of UME assessment as well, if scaled appropriately. The Committee had previously endorsed the continuation of a prospective pilot of an EPA-based evaluation tool in 2018 – 2019. The data collection has concluded and an analysis will be performed to decide future directions in 2019 – 2020.

Approval of the first M4 Online Elective

The Committee approved its first entirely online elective for the M4 year. Medical schools nationally are increasing delivery of content in more innovative and flexible ways. As part of this trend, the development of online electives in the M4 year has increased. The residency interview season in the fourth year and utilization of away rotations by students resulted in the Committee

exploring opportunities to provide this flexibility in our M4 year. The Health and Wellness elective was created and approved as a direct result. This elective will be delivered online in a series of modules and students can select timing and order. Examples include modules on diet, exercise, burnout, and stress management. A large number of students enrolled in the course for 2019 – 2020. The Committee will review the results of the course next year to decide best practices for further development of online electives.

Executive Committee of Student Assembly

Meetings were held on the second Wednesday of every month in Mastin 209. Please note exceptions in the months of October, November, January, and March due to scheduling conflicts. Meetings took place at 4:15PM through October and then moved to 5:15PM. Meetings were not held in December, 2018, or June and July of 2019.

As set forth in the Student Handbook, Student Assembly addressed issue affecting student life. The officers were:

- President: William Nicolson
- Vice President: Whitney Smith
- Secretary/Treasurer: Patrick Young
- SGA Liaison: Travis Goodloe
- Faculty Advisors: Dr. Susan LeDoux, Dr. Linda Ding

1. Events funded by Student Assembly

- a. Halloween Party: October 20, 2018
 - i. Student Assembly approved \$300.00 for the event via electronic vote
- b. Christmas Party: December
 - i. Student Assembly has previously funded the annual Christmas Party, but no request was made this year
- c. Gold Humanism Honor Society Solidarity Week
 - i. Student Assembly approved \$350 that was used to purchase items handed out during Solidarity week and doughnuts for Resident's Day
- d. Asclepian Ball: March 23, 2019 at the USS Battleship
 - i. Student Assembly approved \$3500 for the event
 - ii. \$3000 came from the Medical Alumni Association
 - iii. \$500 came from the general Student Assembly account
- e. USACOM M3 Case Report Symposium: May 31, 2019
 - i. Student Assembly Approved up to \$725 to cover for plaques, catering, and thank you gifts for judges

2. Dates of Special Events were as follows:

- a. White Coat Ceremony for the Class of 2020 was held on June 16, 2018
- b. Honors Convocation for the Class of 2018 was held on May 4, 2018
- c. USACOM M3 Case Report Symposium was held on May 31, 2019 in the first floor conference room of the Strada Center

- d. The Wellness Committee organized several events for the COM as a whole
 - i. Individual house events were held in the fall semester at various times
 - ii. Individual house events were held in the Spring Semester at various times
 - iii. College-wide Crawfish boil at Dr. Gilbert's house on March 20, 2019
 - e. Match Day was held on March 15, 2019 at the Mobile Convention Center
 - f. Volunteer Opportunities for M1-M4 students at the University of South Alabama Student Run Free Clinic were discussed on a monthly basis
3. Changes to Student Assembly
- a. Dr. Kelly Roveda and Dr. Haley Ballard were no longer able to participate as faculty advisors
 - i. Dr. Ding was added as a new faculty advisor
 - b. Dr. Susan LeDoux will retire at the end of the year; her position on Student Assembly will be filled by Dr. Kelly Roveda
 - c. Decision to add a new class position
 - i. Each first-year class will elect a student to act as Gumbo-Chili Cookoff Chair
 - ii. Each class will have a Gumbo-Chili Chair
 - iii. The purpose of this position will be to help plan and carry out the Annual Gumbo-Chili Cookoff
 - d. New Student Assembly Officers were elected in April, 2019 for the 2019-2020 school year
 - i. The transitional meeting took place on May 8, 2019
 - ii. President: Stuart McFarland
 - iii. Vice President: Harold Brooks Lampkin
 - iv. Secretary/Treasurer: Allen Mao
 - v. SGA Liaison: Zachary White

Office of Financial Aid

	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Total Financial Aid	\$10,600,638	\$10,189,089	\$10,749,914	\$10,517,598	\$10,570,736
Students on Aid	270	263	272	256	270
Loans					
Perkins	642,000	557,500	423,000	0	0
Direct Unsubsidized	7,878,086	7,172,789	7,828,125	7,674,811	7,623,544
Direct Grad Plus	590,126	555,483	783,639	1,025,483	1,021,921
Outside Private Loans	6,898	14,983	0	0	0
Total Loans	\$9,117,110	\$8,300,755	\$9,034,764	\$8,700,294	\$8,645,465
Scholarships					
University Sponsored	801,174	968,916	900,064	972,261	1,276,612
Outside Sponsored	150,146	185,549	138,201	138,866	58,614
Military – Army	28,256	86,551	153,282	93,654	189,522
Military – Navy	140,785	229,467	206,468	216,613	126,048
Military - Air Force	226,259	201,106	88,791	280,409	189,127
Alabama VA Benefits	83,046	86,703	94,840	61,442	31,440
Faculty Staff Reimbursement	53,862	130,042	133,504	54,059	53,908
Total Scholarships	\$1,483,528	\$1,888,334	\$1,715,150	\$1,817,304	\$1,925,271
Average Indebtedness of a Graduating Senior					
	\$154,938	\$155,019	\$156,242	\$160,870	\$158,602

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, 2018, through July 31, 2019, two (2) emergency loans were approved for a total amount of \$1,000.00. During that period, zero (0) loans were paid back into the loan account.

2018-2019
Summary of Activities
Office of Diversity and Inclusion

The Office of Diversity and Inclusion (ODI) within USA College of Medicine continually strives to develop policies and best practices directed at the outreach, recruitment and retention of a more diverse and inclusive student body, housestaff and faculty. This mission informs the efforts of this office within the communities of the USA College of Medicine and USA Health. It is through the support of these communities that the ODI has been able to strengthen and expand efforts throughout 2018 and 2019.

ODI-In-Numbers, 2018-2019

- 101 Participants Trained, Unconscious Bias Training
- 41 Participants Trained, Transgender and LGBTQ+ Staff Development Training
- 8 Diversity & Inclusion “Lunch and Learn” Sessions
- 10 High School/University Recruitment Visits
- 5 Student Affinity Groups
- 21 Collegiate Pipeline Program Participants

Two pipeline programs are coordinated through the ODI as part of the office’s outreach and recruitment initiatives. The DREAM Program, formally known as the BEAR Program, has been in existence since 1985 and continues to develop each year. The DREAM Program aims to prepare first-time college seniors or non-traditional students for the Medical College Admission Test (MCAT) and other elements necessary for medical school admissions. Students are recruited from colleges and institutions across the state of Alabama and USA service area. Facilitated over the course of an 8-week summer session, students are immersed in coursework, professional development sessions, and cultural immersion experiences led by university-level faculty members.

The second pipeline program, the South Med Prep Scholars (SMPS) Program, also aims to prepare high-achieving pre-medical students for the MCAT. SMPS occurs over two summers and recruitment begins during a student’s freshman year. Students in SMPS Phase 1 engage in shadowing experiences within the USA Health System and basic science research under the tutelage of investigators within USA College of Medicine. Students in Phase 2 have activities similar to DREAM. Students for this program are recruited from five historically Black colleges and institutions (HBCUs) in the region: Tuskegee University, Morehouse College, Spelman College, Dillard University, and Xavier University.

During the 2018-2019 recruitment cycle, over 50 applications were received for both programs. Seventeen students were chosen from this applicant pool and four students returned from last year’s program for a total of 21 students for both programs in 2019. The students represent the following institutions: Auburn University, University of South Alabama, University of Mississippi, Alabama State University, University of Alabama-Huntsville, Huntingdon College and Southern A&M University in addition to the five HBCUs mentioned above.

As an office, ODI understands that recruitment is only a small piece of the puzzle. Pride is taken to

support current medical students by celebrating what makes each student unique and how that uniqueness positively impacts everyone. The ODI supports several student-led groups that not only serve as safe spaces of community for medical students but also as means of peer support and education. Those groups include Student National Medical Association (SNMA), American Medical Women's Association (AMWA), MedPride and Allies, Muslims in Medicine (MIM), and the Spanish Medical Interest Group. To date, these groups, in partnership with the ODI, have hosted and facilitated eight Diversity & Inclusion "Lunch and Learn" sessions. This office, led by Dr. Franklin Trimm, has also facilitated 14 Unconscious Bias trainings to audiences throughout the USA Health System.

As the year progresses, the ODI looks forward to continued growth and expanded reach for the purpose of impacting healthcare outcomes for the state of Alabama one student, faculty, or staff-person at a time.

2018-2019 Summary of Activities 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 AMCAS applications to the College of Medicine for the class entering August 5, 2019, opened June 1, 2018, and closed November 1, 2018. The matriculating Class of 2019 represents twenty-seven (27) colleges and universities from the United States. Sixty-six percent (66%) of this year's class, however, come from the four (4) largest universities in the state. Additional details of the 2018-2019 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 11 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. The following publication was approved by the Admissions Committee: Policies and Procedure Manual. The website was also updated and maintained by the Admissions Office.
5. Special admissions reports and correspondence were produced and distributed annually to in-state premedical advisors and selected out-of-state advisors.
6. A total of sixteen (16) Interview Day programs were conducted from September until February. The interviewers, primarily College of Medicine clinical and basic science faculty, serve as members of the Committee on Admissions and/or ad hoc members. These members interviewed one hundred ninety-eight (198) candidates; each interviewee was interviewed by three committee members, giving a total of five hundred ninety-four (594) interviews.
7. The following Admissions Committee subcommittees were active in 2018-2019: Scholarship Subcommittee, Wait List Subcommittee, Early Assurance Subcommittee, and the Interview Selection 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 and the Honors College at the University of South Alabama, and their curriculum includes the core requirements for their selected baccalaureate degree, the honors 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 nineteen (119) applications were received from students wishing to enter this program. After a screening process, fifty-three (53) of the applicants were selected for interviews and ten (10) were offered admission to the EAP.

Table 1. University of South Alabama College of Medicine Admissions Report

	2016	2017	2018	2019
<u>Total Applicants</u> <u>(Completed Secondary Applications)</u>	1525 (719)	1521 (740)	1604 (767)	1554 (860)
Residence: Alabama	472 (404)	467 (407)	471 (409)	430 (387)
Out-of-State (OOS)	994 (284)	1003 (301)	1079 (322)	1059 (426)
Service Areas (FL & MS)	59 (31)	51 (32)	54 (36)	65 (47)
Rural	82 (82)	63 (63)	101 (99)	67 (62)
Alabama Female	205 (173)	209 (183)	213 (188)	193 (179)
Alabama Black	59 (52)	55 (51)	45 (34)	41 (38)
Out-of-State Black	90 (33)	83 (46)	95 (28)	106 (42)
AL Other Underrepresented Minorities*	27 (17)	30 (27)	28 (26)	22 (22)
OOS Other Underrepresented Minorities	150 (42)	157 (62)	148 (44)	150 (48)
<u>Total Applicants Interviewed</u>	215	211	224	198
Residence: Alabama	201	196	215	182
Out-of-State	4	6	5	7
Service Areas (FL & MS)	10	9	4	9
Rural	40	33	50	28
Female	92	89	102	95
Black (excludes DREAM)	18	19	17	14
Other Underrepresented Minorities	12	10	17	14
<u>Total Applicants Accepted</u>	155	143	131	141
Residence: Alabama	144	132	123	127
Out-of-State	4	5	6	8
Service Areas (FL & MS)	7	6	2	6
Rural	32	21	31	23
Female	72	66	67	76
Black	17	15	16	17
Black Regular Admissions	13	14	14	13
DREAM Program	4	1	2	4
Other Underrepresented Minorities	10	6	11	11
<u>Total Matriculants</u>	74	72	74	74
Average MCAT	507	508	508	508
Average GPA	3.75	3.77	3.79	3.82
Early Decision Program	11	4	18	15
Residence:				
Alabama	69	67	69	65
Out-of-State	2	2	3	4
Service Areas (FL & MS)	3	3	2	5
Rural	18	12	18	8
Female	31	32	35	42
Total Black	9	8	5	8
Black Regular Admissions	5	6	3	3
DREAM + SMP Programs	4	2	3	7
Other Underrepresented Minorities	2	2	5	4

*Other Underrepresented Minority: Hispanic ethnicity, American Indian.

2018-2019
Summary of Activities
Office of Continuing Medical Education

I. NATIONAL PROFESSIONAL RECOGNITION

Sharrie Cranford: Editor of the Society for Academic Continuing Medical Education's tri-annual report the INTERCOM, as well as a standing member of the Communications Committee. Founder and Chair of the Alabama Continuing Medical Education Coalition which includes members from most continuing medical education providers in Alabama.

II. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The University of South Alabama (USA) Office of Continuing Medical Education (OCME) received a four-year accreditation as a provider of Interprofessional Continuing Education (IPCE). As a jointly accredited provider, USA OCME can now offer continuing education credits to physicians, nurses, and pharmacists, together or separately, through the Accreditation Council for Continuing Medical Education, the American Nurses Credentialing Center, and the Accreditation Council for Pharmacy Education.

During 2018-2019, the Office of Continuing Medical Education (OCME) provided numerous of educational activities that addressed the ever changing practice gaps of all healthcare providers including the healthcare team. The OCME coordinated CME activities provided by the clinical and university academic departments, the OCME, and outside agencies. There were approximately 35 regularly scheduled series (Grand Rounds), 33 conferences, 59 disaster preparedness seminars, and 3 online activities, all combining for 1070.75 CME hours of instruction and collaboration. In total 6727 physicians and 6422 non-physicians were awarded continuing education credits. Activities were jointly provided through the collaboration with the Coastal Trauma Care Region, Federal Bureau of Investigations, the Foundation for Sickle Cell Disease Research, Gulf Coast Patient Care Network, Gulf States Health Policy Center, Providence Foundation, Providence Hospital, Southeastern TeleHealth Resource Center, Springhill Medical Center, USA College of Business, Veterans Administration, and other organizations throughout our region.

III. SIGNIFICANT PROFESSIONAL AND CME ACHIEVEMENTS

- Awarded Joint Accreditation.
- Sharrie Cranford selected as Chair of the Alabama Continuing Medical Education Coalition.

CME Plans for 2020

- Integrate Joint Accreditation criteria for commendations.
- Revise Policy and Procedure Manual to reflect changes in Joint Accreditation criteria.
- Implement aspects of five-year strategic plan created by the students of USA's College of Business.

2018-2019
Summary of Activities
Office of Graduate Medical Education

I. Organizational Structure

Dr. Carole Boudreaux serves as Assistant Dean for Graduate Medical Education (GME), Designated Institutional Official (DIO), and chair of the Graduate Medical Education Committee (GMEC) at the University of South Alabama. Dr. Boudreaux and the GME Office staff oversee all GME training programs at the institution.

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 12 residency and 9 fellowship programs with a combined total of 274 training positions. During the 2018 – 2019 academic year, all residency positions were filled through the National Resident Matching Program (NRMP) with 71 physicians completing training during the 2018 – 2019 academic year.

Residency Programs

Program Name	Program Director	Program Coordinator
Emergency Medicine	Edward Panacek, M.D.	Jill Garcia
Family Medicine	Ehab Molokhia, M.D.	Stacey Hartman
Internal Medicine	Judy Blair-Elortegui, M.D.	Leah Musgrove Jessica Petro
Internal Medicine/Pediatrics	Grace Hundley, M.D.	Marley Harris
Neurology	Juan Ochoa, M.D.	Leigh Rowell
Obstetrics & Gynecology	Jennifer Pierce, M.D.	Shavella Everett
Orthopedic Surgery	Jeffrey Brewer, M.D.	Rhonda Smith
Pathology	Elliot Carter, M.D.	Kathy Cannon
Pediatrics	Roger Berkow, M.D.	Latasha Williams Nicole Laden
Psychiatry	Luke Engeriser, M.D.	Bayleigh Andrews
Radiology	Samuel McQuiston, M.D.	Shunda Fakaha
Surgery	Leander Grimm, M.D.	Dorothy Dickinson

Fellowship Programs

Program Name	Program Director	Program Coordinator
Advanced Endoscopy Fellowship	Meir Mizrahi, M.D.	Tracy Terpening
Cardiovascular Disease	Bassam Omar, M.D.	Donna Gregory
Child & Adolescent Psychiatry	Aneek Shoemaker, M.D.	Bayleigh Andrews
Clinical Neurophysiology	Juan Ochoa, M.D.	Leigh Rowell
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 Accreditation Council for Graduate Medical Education (ACGME) with its most recent renewal of accreditation on January 14, 2019. The next institutional self-study is due on approximately October 1, 2026, and the next institutional 10 year site visit on approximately April 1, 2028. All eligible GME programs are accredited by the ACGME.

During the 2018–2019 academic year, ACGME accreditation site visits occurred for the following programs: Internal Medicine Residency Program, Cardiovascular Disease Fellowship Program, Gastroenterology Fellowship Program, and Pulmonary Disease & Critical Care Medicine Fellowship Program. Results of this site visit are pending. The Pathology Residency Program has submitted their ACGME self-study and will be hosting an ACGME accreditation site visit in October 2019. The Family Medicine Residency Program and its associated fellowship in Primary Care Sports Medicine Andrews Program, the Obstetrics & Gynecology Residency Program, and the General Surgery Residency Program and its associated fellowship in Surgical Critical Care Program have completed their self-studies with the anticipation of an ACGME site visit in the upcoming year. Emergency Medicine Program received initial ACGME accreditation effective January 7, 2019 with an anticipated full accreditation site visit to be in January 2021.

The annual ACGME online surveys were completed by 93% of residents & fellows and 83% of faculty. Results on all ACGME Resident and Faculty Surveys placed GME training programs at or above the national averages in compliance.

Residency Programs

Program Name	Training Positions	Trained Residents	Accreditation Status	Self-Study Date
Emergency Medicine	18	0	Initial Accreditation	TBD
Family Medicine	18	17	Continued Accreditation	Submitted*
Internal Medicine	48	47	Continued Accreditation	Submitted

Internal Medicine/Pediatrics	11	9	Continued Accreditation	10/01/2022
Neurology	12	12	Continued Accreditation	08/01/2023
Obstetrics & Gynecology	16	16	Continued Accreditation with Warning	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	20	15	Continued Accreditation	10/01/2021
Radiology-Diagnostic	20	20	Continued Accreditation	04/01/2022
Surgery	29	30	Continued Accreditation	Submitted*

Fellowship Programs

Program Name	Training Positions	Trained Fellows	Accreditation Status	Self-Study Date
Advanced Endoscopy	1	1	No Accreditation Available	N/A
Child & Adolescent Psychiatry	4	5	Continued Accreditation	10/01/2021
Cardiovascular Disease	6	6	Continued Accreditation	Submitted
Clinical Neurophysiology	1	0	Continued Accreditation	08/01/2023
Gastroenterology	6	6	Continued Accreditation	Submitted
Pulmonary Disease & Critical Care Medicine	6	6	Continued Accreditation	Submitted
Medical Oncology	4	4	Initial Accreditation	TBD
Sports Medicine (FM) - Andrews	1	1	Continued Accreditation	Submitted*
Surgery Critical Care	1	0	Continued Accreditation	02/28/2019

*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 third Clinical Learning Environment Review (CLER) site visit at USA was completed in May 2019 at the USA Health University Hospital campus and included Stanton Road Clinics and the Mastin Clinics. The final report from the CLER site visit was received on July 8, 2019. The report reflected awareness throughout the USA Health University Hospital of the CLER program

foci and acknowledged programs that are in place throughout the USA Health System to support these foci.

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 75 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, the GME Office oversees duty-hour logging compliance, and the GMEC oversees duty-hour rule compliance. During the 2018 – 2019 academic year duty hour non-compliance represented less than 0.172% of entries for over 603,889 work hours by residents and fellows.

The USA Housestaff Council, composed of senior fellows and the chief residents from the 12 residencies, provides a platform for housestaff to address clinical and work-related concerns with USA Health administrators and GME leadership, including patient care issues, improving efficiency in clinical workflow, workplace safety, and the safety of residents and fellows.

The GMEC Subcommittee on Wellness completed its annual “How Are You” Survey in June 2019. Responses on the survey came from 233 residents, fellows and faculty physicians. The data from the ACGME and internal survey demonstrated that in most GME training programs, residents, fellows, faculty physicians were above the national means on all levels of personal wellbeing. The GMEC works with the USA Housestaff Council and the USA Housestaff Association to promote the well-being of residents and fellows.

Faculty and Resident Professional Development

During the 2018 – 2019 academic year, the GME Office 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, staff 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 USA Online project sites. These programs provided over 958 developmental hours to faculty, staff, fellows and residents.

Resident and Fellows Scholarship Exposition

The annual USA Resident and Fellow Scholarship Exposition, an opportunity for residents and fellows to display their scholarly activities from research projects, improvement projects, patient safety, and patient advocacy projects, was held on May 23, 2019. Residents and fellows displayed 28 scientific posters, which were evaluated by a panel of 9 judges from across USA Health and the COM. Dr. Anthony Todd et al. of the Family Medicine Residency Program authored the winning poster in the Patient Safety and Quality Improvement Category for their project on “Development of an *Inappropriate* Prescribing Protocol for Type 2 Diabetes Mellitus in a Family Medicine Clinic”, and Dr. Daniel Kim et al. in the General Surgery Residency Program in the Research Category for their work on “Outcomes Following Occipitocervical Fusion for Complex Suboccipital Spine Pathology”.

GME Competency Education Program (GCEP)

During the 2018 – 2019 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 “Physician Health: Physicians Caring for Ourselves”.

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 currency with changes in the USA Health System, accreditation requirements, the NRMP, and New Innovations. To assist the program coordinators in meeting the changing needs of their programs,

the GME Office incorporates staff/professional development into the monthly program coordinators' meeting, including the topics of CMS Reimbursement as it relates to Program Letters of Agreement and Non-Hospital Setting Agreements, the use of the Program Director's Work Station (PDWS) for the NRMP Match, the use of New Innovations to meet documentation requirements for ACGME accreditation, Program Coordinators as Leaders and Motivators in Medical Education, conflict resolution skills, and using software and online platforms for record creation, tracking, and retention for trainees. Beginning in the Spring of 2018, in alternating months, the GME program coordinators join together in a personal wellness event. Additionally, the GME Office held the Second Annual Program Coordinators' Retreat on March 29, 2019, featuring Dr. Juanita Braxton, Surgery Administrator for the Department of Surgery at the University of California, who spoke on Total Coordinator Wellness and Coordinator Career Development. The Retreat also covered "Interview Season", "GME Terminology, Resources, and Databases," "Overview of Licensing and DEA," "Developing Organizational Skills," and "Improving the Health of the Community."

2018-2019
Summary of Activities
Medical Student Summer Research Program

The Forty-Sixth Annual Medical Student Research Day was held on Friday, July 26, 2019 hosting over 100 attendees in the Medical Sciences Building for both oral and poster presentations. Forty Eight 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.

Rose Marie Robertson, M.D., FAHA, Deputy Chief Science and Medical Officer, of the American Heart Association was the keynote speaker. Dr. Robertson's seminar was entitled, "*Research Careers: Reaching for the Heights*".

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

ORAL PRESENTATIONS

ROLE OF TRPV4 CHANNEL SIGNALING IN SHEAR STRESS RESPONSES. **Kevin Aria**, Rising Sophomore. Sponsored By Mark Taylor, Ph.D. and David Weber, Ph.D., Department of Physiology and Cell Biology.

THE ROLE OF THE LONG NONCODING RNA GROWTH ARREST SPECIFIC 5 IN THE STEMNESS OF HEMATOPOIETIC CELLS. **Brittany Jackson**, Rising Sophomore. Sponsored by Erin Ahn, Ph.D., Department of Biochemistry and Molecular Biology, Mitchell Cancer Institute.

HOSPITAL REIMBURSEMENT FOR ABSCESSSES. **Blake Dunaway**, Rising Sophomore. Sponsored By Hanna Alemayehu, M.D., Department of Surgery.

THE IMPACT OF PHARMACY HPV VACCINATION ACCESS IN A RURAL SETTING. **Anna Robinson**, Rising Sophomore. Sponsored by Casey Daniel, Ph.D., Department of Family Medicine.

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

A RANDOMIZED TRIAL COMPARING ULTRASOUND-GUIDED TO LAPAROSCOPIC TRANSVERSUS ABDOMINIS PLANE BLOCKS. **Melody Zeidan**, Rising Sophomore. Sponsored By Paul Rider, M.D., Department of Surgery.

DEVELOPMENT OF A PROGRAM FOR BREAST CANCER PATIENTS. **Thomas Snead**, Rising Sophomore. Sponsored By Donna Lynn Dyess, M.D., Department of Surgery.

CHARACTERIZATION OF PPP2R5D KNOCK-OUT CELLS GENERATED USING CRISPR-CAS9 TECHNOLOGY. **Laurel Sharp**, Rising Sophomore. Sponsored By Richard Honkanen, Ph.D., Department of Biochemistry and Molecular Biology.

POSTER PRESENTATIONS

P1 A ROLE FOR TAU IN FKBP51-MEDIATED MICROTUBULE POLYMERIZATION. **Jessica Pham**, Rising Sophomore. Sponsored by Donna Cioffi, Ph.D., Department of Biochemistry and Molecular Biology and Center for Lung Biology.

P2 THE EFFECT OF PPP2R5D MUTATIONS ON CELL MORPHOLOGY AND MICROTUBULE ARCHITECTURE. **Regan Goocher**, Rising Sophomore. Sponsored by Lawrence LeClaire, Ph.D. and Richard Honkanen, Ph.D., Department of Biochemistry and Molecular Biology.

P3 ASSESSMENT OF CARDIOVASCULAR DISEASE RISK FACTOR CONTROL IN CANCER PATIENTS. **Michelle Nguyen**, Rising Sophomore. Sponsored by Christopher Malozzi D.O., Bassam Omar, M.D, Ph.D., and Farnoosh Rahimi, M.D., Department of Internal Medicine.

P4 MYOCARDIAL PERFORMANCE INDEX IN DIASTOLIC HEART FAILURE. **Edward Leonard**, Rising Sophomore. Sponsored by Farnoosh Rahimi, M.D., Christopher Malozzi D.O., Bassam Omar M.D, Ph.D., Department of Internal Medicine.

P5 EVALUATING THE USE OF THE TESTICULAR WORKUP FOR ISCHEMIA AND SUSPECTED TORSION SCORE IN A PEDIATRIC EMERGENCY ROOM SETTING. **Chris Roberts**, Rising Sophomore. Sponsored by Hanna Alemayehu, M.D., Department of Surgery.

P6 ASTHMA AND CONGESTIVE HEART FAILURE AS AMBULATORY-CARE SENSITIVE CONDITIONS AT UNIVERSITY HOSPITAL: 2010-2016. **Lily Brooks**, Rising Sophomore. Sponsored by Martha Arrieta, M.D., Ph.D., MPH, USA Center for Healthy Communities.

P7 PEDIATRIC TO ADULT CARE TRANSITION PROGRAM: PARTICIPATION BARRIERS FROM THE PERSPECTIVE OF THE FAMILY CAREGIVER(S). **Matthew Yoder**, Rising Sophomore. Sponsored by Ardie Pack-Mabien, Ph.D., Johnson Haynes, M.D., USA Comprehensive Sickle Cell Center.

P8 DNA REPAIR CAPACITY AND GENOTOXIC MODULATION BY METABOLIC EFFECTORS. **Phillip Friedlander**, Rising Sophomore. Sponsored by Robert W. Sobol, Ph.D., Department of Pharmacology, Mitchell Cancer Institute.

P9 DEVELOPING AN IN VITRO MODEL OF CORNEAL HSV-1 INFECTIONS. **Brandon Rivers**, Rising Sophomore. Sponsored by Robert Barrington, Ph.D., Department of Microbiology and Immunology.

P10 DNA ADDUCT MEASUREMENTS TO PREDICT THERAPEUTIC RESPONSE IN GYNECOLOGICAL CANCER. **Elise Mann**, Rising Sophomore. Sponsored by Natalie R. Gassman, Ph.D., Department of Physiology and Cell Biology.

P11 MCI-030, A NOVEL NON-COX INHIBITORY SULINDAC DERIVATIVE, IN THE LAYING HEN SPONTANEOUS MODEL OF OVARIAN CANCER. **Meg Lyons**, Incoming Freshman. Sponsored by Luciana Barnes, Ph.D., Gynecologic Oncology Research Team, USA Mitchell Cancer Institute.

P12 UNPRECEDENTED CHARACTERIZATION OF PROINFLAMMATORY MITOCHONDRIAL DNA FRAGMENTS IN PLASMA FROM SEVERELY INJURED PATIENTS. **Charles Aggen**, Rising Sophomore. Sponsored by G.T. Daly, S.C. Groark, D. Houserova, R.J. Langley, V.M. Pastukh, G.M. Borchert, and M.N. Gillespie (Sponsor), Pharmacology. C.M. Francis, Physiology. J.D. Simmons, Surgery, M.E. Kutcher, Surgery, Univ. of MS School of Medicine.

P13 QUANTIFYING CANNABIS USE AMONG MULTIPLE SCLEROSIS PATIENTS IN A LEGALLY RESTRICTED POPULATION. **Madeline Tucker**, Rising Sophomore. Sponsored by William Kilgo, M.D., Department of Neurology.

P14 INSTRUMENTED EXAMINATION OF KNEE LAXITY IN PATIENTS WITH ANTERIOR CRUCIATE LIGAMENT DEFICIENCY. **Alexander Tankersley**, Rising Sophomore. Sponsored by Albert Pearsall, M.D., Department of Orthopaedic Surgery, and John Kovaleski Ph.D., Department of Health, Kinesiology, and Sport.

P15 THE ROLE OF MTDNA DAMP'S IN NON-TRAUMATIC INFLAMMATION WITHIN THE KNEE. **Luke Driskill**, Rising Sophomore. Jonathan Gillig, M.D., Albert W. Pearsall IV, M.D., Department of Orthopaedic Surgery; Victor Pastukh, Ph.D., Mark N. Gillespie, Ph.D., Department of Pharmacology.

P16 HOW INSURANCE STATUS RELATES TO PERCEIVED PAIN AND NARCOTIC REQUIREMENTS IN THE ORTHOPAEDIC PATIENT. **Chris Evers**. Rising Sophomore. Sponsored by Jeffrey Brewer, M.D., William Cutchen, M.D., Department of Orthopaedic Surgery.

P17 PAIN MANAGEMENT USING VIRTUAL REALITY IN THE ORTHOPEDIC TRAUMA PATIENT. **Kaitlin Pardue**, Rising Sophomore. Sponsored by Jeffrey Brewer, M.D. Department of Orthopaedic Surgery.

P18 BICARBONATE REQUIREMENTS FOR RAT ENDOTHELIAL CELL PROLIFERATION. **Daniel Warren**, Rising Sophomore. Sponsored by Sarah Sayner, Ph.D., Department of Physiology and Cell Biology.

P19 QUALITY IMPROVEMENT MEASURES TO REDUCE SEPSIS EVALUATION AND ANTIBIOTIC UTILIZATION RATES IN WELL-BABY NURSERY: EVALUATION OF SUSTAINABILITY OF IMPROVED OUTCOMES. **Katie Bonner**, Rising Sophomore. Sponsored by Ramachandra Bhat, M.D., Department of Pediatrics, Neonatology Division.

P20 EVALUATION OF LOCALIZED CAMP SIGNALING DOMAINS. **Hayden Gunn**, Rising Sophomore. Sponsored by Thomas Rich, Ph.D., Department of Pharmacology, Center for Lung Biology.

P21 CHARACTERIZATION OF 475 NOVEL, PUTATIVE SMALL RNAS (SRNAS) IN CARBON-STARVED SALMONELLA ENTERICA SEROVAR TYPHIMURIUM. **Donavon Dahmer**, Incoming Freshman. Sponsored by Glen M. Borchert, Ph.D., Shivam V. Amin, Department of Pharmacology and Biology .Valeria M. King, Emmaline, C. Barnhill, Meghan A. Dean, Aline Crucello, Department of Biology. Michael P. Spector, Department of Biomedical Sciences. Dominika Houserova, Department of Pharmacology.

P22 CHARACTERIZATION OF NOVEL SMALL NONCODING RNA'S CONTRIBUTING TO PROSTATE CANCER PATHOLOGY. **Sam Hutcheson**, Rising Sophomore. Sponsored by Glen Borchert, Ph.D. Department of Pharmacology.

P23 VALIDATING NEW MICROSCOPY APPROACHES FOR FRET IMAGING. **Malvika Lall**, Rising Sophomore. Sponsored by Thomas Rich, Ph.D., Department of Pharmacology and Silas Leavesley, Ph.D., Department of Chemical and Biomolecular Engineering.

P24 FAK INHIBITION REDUCES INFLUENZA A VIRUS REPLICATION AND INFLAMMATORY SIGNALING. **Yousef Omar**, Rising Sophomore. Sponsored by Steve Lim, Ph.D., Department of Biochemistry and Molecular Biology.

P25 THE MAINTENANCE OF HUMAN MITOCHONDRIAL DNA IN HUMAN-MOUSE ρ SOMATIC CELL HYBRIDSic cell hybrids. **Hannah Granger**, Rising Sophomore. Sponsored by Dr. Mikhail Alexeyev, Ph.D., Department of Physiology and Cell Biology.

P26 MITOCHONDRIAL REACTIVE OXYGEN GENERATION WITH CYCLOOXYGENASE INHIBITION IN ENDOTHELIAL CELLS. **Jordan Burlingame**, Rising Sophomore. Sponsored by Abu-Bakr AI-Mehdi, M.D., Ph.D., Department of Pharmacology.

P27 REMARKABLE GENOMIC DIVERSITY IN PLASMA MITOCHONDRIAL DNA FRAGMENTS FROM TRAUMA PATIENTS AND ITS IMPACT ON MUTATIONAL DENSITY. **Chris Groark**, Rising Sophomore. C.Z. Aggen, G.T. Daly, D. Houserova, M.N. Gillespie, V.M. Pastukh, G.M. Borchert, R.J. Langley (Sponsor), Department of Pharmacology; C.M. Francis, Department of Physiology and Cell Biology; J .D. Simmons, Department of Surgery, USA College of Medicine; M.E. Kutcher, and Department of Surgery, University of Mississippi School of Medicine

P28 ENDOTHELIAL CELL PHENOTYPE AND CALCIUM DYNAMICS IN PULMONARY ARTERIAL HYPERTENSION. **Bradley Schuler**, Rising Sophomore. Sponsored by Michael Francis, Ph.D., Department of Physiology and Cell Biology, Center for Lung Biology.

P29 THE EFFECT OF PSEUDOMONAS AERUGINOSA INFECTED LUNG ENDOTHELIAL CELL SUPERNATANT ON BRAIN ENDOTHELIAL CELL AMYLOID PRODUCTION. **Sarah Bignault**, Rising Sophomore. Sponsored by Mike Lin, Ph.D., Department of Physiology and Cell Biology, Center for Lung Biology.

P30 CASPASE-3 AND -7 DELETION MODIFIES PMVEC GROWTH AND PROTECTS PMVEC MONOLAYER INTEGRITY DURING PSEUDOMONAS AERUGINOSA INFECTION. **Matthew O'Connor**, Rising Sophomore. Sponsored by Phoibe Renema and Troy Stevens. Department of Physiology and Cell Biology, Internal Medicine, and the Center for Lung Biology.

P31 ROLE OF ENDOTHELIAL TRPV4 CHANNELS IN VASCULAR REMODELING FOLLOWING CHRONIC LOW FLOW. **Catherine Taylor**, Rising Sophomore. Sponsored by David Weber, Ph.D., Department of Physiology and Cell Biology.

P32 CARBONIC ANHYDRASE IX IS CRITICAL TO PULMONARY MICROVASCULAR ENDOTHELIAL CELL METABOLISM AND MIGRATION. **Mary Kash**, Incoming Freshman. Sponsored by Ji Young Lee, M.D., Ph. D., Department of Physiology and Cell Biology and Internal Medicine, Center for Lung Biology.

P33 THE OBLITERATION OF NON-GASTRIC PORTOSYSTEMIC SHUNTS FOR REFRACTORY HEPATIC ENCEPHALOPATHY; AN EVALUATION OF SAFETY AND EFFICACY. **Colton Knight**, Rising Sophomore. Sponsored by Osama Abdul-Rahim, M.D. & Zeiad Hussain, M.D., Department of Radiology.

P34 PANCREATIC ADENOCARCINOMA - VARYING RESPONSE TO RESECTION AND CHEMOTHERAPY. **Turner Sankey**, Rising Sophomore. Sponsored by Anabelle Fonseca, M.D., MHS. Department of Surgery.

P35 REGIONALIZATION OF RECTAL CANCER CARE AND THE ESTABLISHMENT OF A MULTIDISCIPLINARY TUMOR BOARD. **Ryan Heslin**, Rising Sophomore. Sponsored by Leander Grimm Jr., M.D., Department of Surgery.

P36 PREVALENCE OF SCURVY IN SURGICAL PATIENTS. **Corey Phillis**, Rising Sophomore. Sponsored by William Richards, M.D., Department of Surgery.

P37 QUANTITATIVE IMAGING ANALYSIS OF PANCREATIC CYSTS. **Tyler Rayburn**, Rising Sophomore. Sponsored by Anabelle Fonseca, M.D., MHS, Department of Surgery.

P38 THE TREATMENT OF RIB FRACTURES: A SINGLE-CENTER COMPARISON. **Farley Paige**, Rising Sophomore. Sponsored by Christopher Kinnard, M.D., Department of Surgery, Division of Trauma and Acute Care Surgery.

P39 SOCIO-ECONOMIC STATUS AND STAGE PRESENTATION FOR CUTANEOUS MELANOMA ON THE GULF COAST. **Lexie Hensley**, Rising Sophomore. Sponsored by J. Harrison Howard, M.D., Department of Surgery.

P40 CHARACTERIZING PATIENT REPORTED OUTCOMES AS STANDARD OF CARE. **Sophia Theodos**, Rising Sophomore. Sponsored by Jennifer Pierce, M.D., Department of Interdisciplinary Clinical Oncology, Mitchell Cancer Institute.

The Clyde G. "Sid" Huggins Medical Student Research Awards were presented. Brittany Jackson, rising sophomore medical student, received the best oral presentation award. Four medical students were presented awards for best poster presentations: Jessica Pham, Corey Phillis, Brandon Rivers, and Bradley Schuler, all rising sophomores. Each winner was presented with a plaque of recognition and cash award.

**2018-2019
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 continued using the UniCAS admissions application program for the 2018-19 Academic Year. Prospective student applications were accessed and processed within the Graduate Office. An Admissions Committee was formed with representation from all 6 tracks. Committee members reviewed all applications to determine who would be invited to interview, and then participated in the interviews. Interviews with eligible students were hosted both on campus and via Zoom video conferencing by the BMS Graduate Office.

The Basic Medical Sciences Graduate Program interviewed applicants for the Fall 2019 class between February and April 2019. A total of 19 applicants were interviewed. A summary is provided below.

Admissions – BMS Graduate Program

		2019 Cohort
Applications	US	14
	International	31
Acceptances	US	11
	International	3
Matriculants	US	10
	International	3
Average GRE		V=150; Q=153
Avg. UG GPA		3.33
Avg. GR GPA		3.85

Curriculum

1. The twelfth annual COM Research Forum was held on November 9, 2018. First place winners Tyler Mattox (BMS Student award recipient) and Dr. Antonio Ward (postdoctoral fellow award recipient) were presented travel awards.
2. The BMS Graduate Program presented its twelfth Edwin R. Hughes Memorial Award to Griffin Wright on August 15, 2019. 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 Program Leadership

1. Dr. Natalie Gassman was named track coordinator for the Cancer Biology track on May 1, 2019.
2. Dr. Kevin Macaluso joined the University of South Alabama on August 1, 2019 as Department Chair for Microbiology and Immunology. He brought with him three students (included in the admissions count), one postdoctoral fellow, and a research assistant.

Financial Support for Graduate Training

1. The NIH Pre-Doctoral Institutional Training Grant on “Cell Signaling and Lung Pathobiology” continued to provide support for six Basic Medical Sciences graduate students.
2. BMS students received extramural grant awards through both the AHA and NSF during the 2018-19 academic year.
3. Joshua Deal and Sarah Voth were the 2019 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. The COM Dean’s Predoctoral Fellowship program supported a Fellowship for Cinta Maria Papke this year.

Graduates

5 students officially completed all requirements during the academic year (August 2018 – July 2019):

Kevin Abney

DISSERTATION TITLE: “Genetic Disruption of PPP5C Reveals Novel Roles for PPP5C in IRS4 and AKT Signaling”

MAJOR PROFESSOR: Richard Honkanen, Ph.D.

TRACK: Cell and Molecular Biology

Naga Annamdevula

DISSERTATION TITLE: “Measurement of Agonist-Induced cAMP Spatial and Temporal Gradients Using 5-Dimensional Hyperspectral FRET Imaging and Analysis in Living Cells”

MAJOR PROFESSOR: Silas Leavesley, Ph.D., and Thomas Rich, Ph.D.

TRACK: Biomedical Engineering

Crystal Daniels

DISSERTATION TITLE: “Glycoproteomic Analysis of Gastrointestinal Lavage Fluid as a Source of Cancer Biomarkers”

MAJOR PROFESSOR: Lewis Pannell, Ph.D.

TRACK: Cancer Biology

Tyler Mattox

DISSERTATION TITLE: “Characterization of Novel Putative RAS Inhibitor MCI-062 as a Therapeutic for Pancreatic Cancer”

MAJOR PROFESSOR: Gary Piazza, Ph.D.

TRACK: Cancer Biology

Joshua Stone

DISSERTATION TITLE: “Regulation and Function of the Long Noncoding RNA MALAT1 in Breast Cancer”

MAJOR PROFESSOR: Erin Ahn, Ph.D.

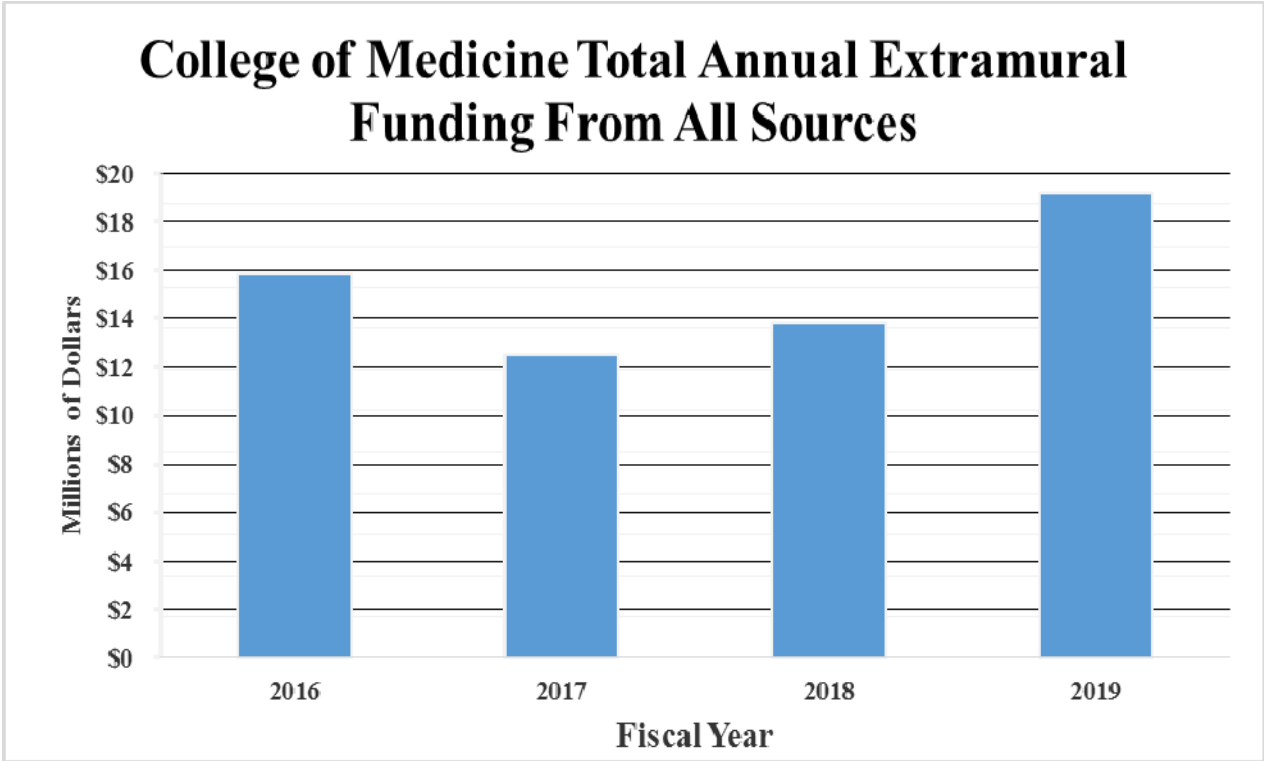
TRACK: Cancer Biology

Summary of Extramural Support

Funding for the 2018-2019 academic year includes \$18,627,866 and \$531,994 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

2016	\$15,832,783
2017	\$12,552,857
2018	\$13,790,910
2019	\$19,159,860



EXTRAMURAL FUNDING
October 1, 2018- September 30, 2019

Biochemistry and Molecular Biology

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
AHN, ERIN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000520679-10	Targeting Radiation Resistant Glioblastoma by Inhibition of SON-mediated RNA Splicing	\$46,200
HONKANEN, RICHARD	STATE OF CALIFORNIA	A19-3376-S003-02	PPP2R5D variants	\$588,974
HONKANEN, RICHARD	STATE OF CALIFORNIA	A19-3376-S003	PPP2R5D variants	\$579,464
LIM, STEVE (Fellow RODRIGUEZ, YELITZA)	NATIONAL INSTITUTES OF HEALTH	3 R01 HL136432-03S1	Role of FAK in Vascular Inflammation	\$47,740
LIM, STEVE	NATIONAL INSTITUTES OF HEALTH	5 R01 HL136432-03	Role of FAK in Vascular Inflammation	\$378,750
RICHTER, WITO (Colinvestigators SALEXEYEV, MIKHAIL; ALVAREZ, DIEGO; AUDIA, JONATHON)	NATIONAL INSTITUTES OF HEALTH	5 R01 HL141473-02	Regulation of Phosphodiesterases and cAMP Signaling During the Host-pathogen Interaction in the Pulmonary Endothelium	\$378,245
			Total	\$2,019,373

Center for Disaster Healthcare Preparedness

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
WALLACE, DAVID	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-19-337 (C90116215)	Alabama Healthcare Coalition Coordination Program	\$977,216
WALLACE, DAVID	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC 19-324 (C90116209)	CDHP Alabama Incident Management System (AIMS) 2020	\$258,398
WALLACE, DAVID	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC 19-336 (C90116214)	Fiscal Agent for Alabama Healthcare Coalition Coordination Program	\$413,815
			Total	\$1,649,429

Center for Strategic Health Innovation

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
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OLIVER, BARBARA	ALABAMA MEDICAID AGENCY	C90629701 a	PMP Portal and Health Home Contract Agreement	\$525,000
OLIVER, BARBARA	ALABAMA MEDICAID AGENCY	C90629701	Medicaid Maternity Contract Agreement	\$15,000
			Total	\$540,000

Emergency Medicine

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
KALRA, SARATHI	ASEPTISCOPE, INC	2000021	Acoustic Inferiority, A Necessary Evil for Infection Control? A Randomized Controlled Trial	\$8,000
			Total	\$8,000

Family Medicine

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
DANIEL, CASEY	BREAST CANCER RESEARCH FOUNDATION OF ALABAMA	A19-0064-001	Quantifying Breast Cancer Patient Preferences and their Association with Financial Toxicity During Treatment Decision-making	\$5,000
PERKINS, ALLEN	ALABAMA FAMILY PRACTICE RURAL HEALTH BOARD	MP2019-10-05	Resident Curriculum	\$40,000
PERKINS, ALLEN	ALABAMA FAMILY PRACTICE RURAL HEALTH BOARD	MP2019-10-04	Student Preceptor	\$20,000
PERKINS, ALLEN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	6 T99HP33560-01-01	Partnering to Improve Population Care	\$1,177,247
PERKINS, ALLEN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	5 TOBHP30027-04-00	Caring for the Complex Patient in the PCMH	\$451,633
PERKINS, ALLEN	ALABAMA FAMILY PRACTICE RURAL HEALTH BOARD	A19-0045-001	Student Curriculum in Family Medicine	\$60,000
			Total	\$1,753,880

Internal Medicine

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
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ARRIETA, MARTHA	NATIONAL INSTITUTES OF HEALTH	5 U01 ES029518-02 SUBFUND	Measuring Genomic DNA Damage and DNA Repair Capacity in Longitudinal Population Samples - A Step Towards Precision Prevention	\$180,773
AWAN, GHULAM	BRIGHAM AND WOMEN'S HOSPITAL	PS# 107223-06	Cardiovascular Inflammation Reduction Trial (CIRT)	\$350
COHEN, MICHAEL	BOEHRINGER INGELHEIM PHARMACEUTICALS	63697	Gloria-AF: Global Registry on Long-term Oral Anti-thrombotic Treatment in Patients with Atrial Fibrillation	\$3,873
CROOK, ERROL, (Coinvestigators ARRIETA, MARTHA; PERKINS, ALLEN)	UNIVERSITY OF ALABAMA AT BIRMINGHAM	30T20D026548-01S1	Alabama Precision Medicine Initiative	\$644,376
CULPEPPER, MICHAEL	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	\$25,531
DIPALMA, JACK	TAKEDA	63786	Entyvio (Vedolizumab) Long-Term Safety Study	\$13,792
DIPALMA, JACK	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)	\$13,983
DIPALMA, JACK	PFIZER	63838	Observational, Real-World Study of INFLECTRA in Patients with Inflammatory Bowel Disease	\$3,000
DIPALMA, JACK	THERAVANCE BIOPHARMA	63861	A Phase 2 Multi-Center, Randomized, Double-Blind, Placebo-Controlled, Parallel -Group Study to Evaluate the Efficacy and Safety of Induction Therapy with 2 Doses of TD-1473 in Subjects With Moderately-to-Severely Active Crohn's Disease	\$10,000
DIPALMA, JACK	THERAVANCE BIOPHARMA	63863	A Phase 2b/3 Multi-Center, Randomized, Double-Blind, Multi-Dose, Placebo-Controlled, Parallel -Group Set of Studies to Evaluate the Efficacy and Safety of Induction and Maintenance Therapy with TD-1473 in Subjects With Moderately-to-Severely Active Ulcerative Colitis	\$7,000
FAGAN, KAREN	UNITED THERAPEUTICS CORP	63836	An Open Label Extension Study of Inhaled Treprostinil in Subjects with Pulmonary Hypertension due to Parenchymal Lung Disease	\$2,121

HAYNES, JOHNSON (CoInvestigator WILSON, FELICIA)	CAROLINAS HEALTHCARE SYSTEM	A18-0056-S003-01	Comparative Effectiveness of Enhanced Peer Navigation versus Structured Education Based Programming for the Management of Care Transitions in Emerging Adults with Sickle Cell	\$59,977
HAYNES, JOHNSON	GLOBAL BLOOD THERAPEUTICS	GBT440-034-02	An Open Label Extension Study of GBT440 Administered Orally to Patients with Sickle Cell Disease Who Have Participated in GBT 440 Clinical Trials	\$4,700
MALOZZI, CHRISTOPHER	CSL BEHRING LLC	63848	A Phase3, Multicenter, Double-Blind, Randomized, Placebo-Controlled, Parallel-Group Study to Investigate the Efficacy and Safety of CSL112 in Subjects with Acute Coronary Syndrome	\$20,368.6
MALOZZI, CHRISTOPHER	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)	\$24,676.00
MALOZZI, CHRISTOPHER, (CoInvestigators COHEN, MICHAEL; MCQUISTION, SAMUEL)	AMERICAN ACADEMY OF PEDIATRICS	1 R21EB028063-01 SUB FUND	Automated MRI-based 3D Contractility (Strain) Analysis for Detecting Subclinical Cardiotoxicity in Breast Cancer Patients Undergoing Chemotherapy	\$55,190
VANDE WAA, JOHN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	5 H12HA24771-08-00	University of South Alabama Family Specialty Clinic	\$336,948
VANDE WAA, JOHN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	A18-0230	Data 4 CARE Alabama Clinics Achieving Retention & engagement by Implementing CDC EBIs via the Alabama Regional Quality Group	\$151,515
VANDE WAA, JOHN	UNITED WAY OF CENTRAL ALABAMA	RW-USAF-1920-01	USA Family Specialty Clinic	\$30,000
VANDE WAA, JOHN	UNITED WAY OF CENTRAL ALABAMA	RW2-USAF-1920	USA Family Specialty Clinic Ryan White Part B Supplemental Funds	\$20,000
			Total	\$1,608,173

Microbiology and Immunology

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
AUDIA, JONATHON (MPI with ALVAREZ, DIEGO)	NATIONAL INSTITUTES OF HEALTH	5 R01 HL118334-05	Caspase-1, the Microvascular Endothelium and Infection	\$419,655

BARRINGTON, ROBERT	MOWYCAL, LLC	A19-0046	Pre-clinical Studies to Determine the Efficacy of N-formylmethionyl-leucyl-phenylalanine (N-f-MLF) Peptide Prevention of Most Cell Degranulation	\$160,056
MACALUSO, KEVIN	UNIVERSITY OF TEXAS MEDICAL BRANCH	19-84813-01	Novel Bacterial Small RNAs as Determinants of Rickettsial Virulence and Transmission	\$74,981
RAYNER, JONATHAN (CoInvestigator MCCREADIE, JOHN)	ALABAMA DEPARTMENT OF PUBLIC HEALTH	18-0635	A Preliminary State Wide Survey of the Tick Fauna and Associated Tic-borne Diseases of Alabama	\$48,600
RAYNER, JONATHAN	MOBILE COUNTY HEALTH DEPARTMENT	A19-0089-001	Mobile County Public Health Department Mosquito-borne Infectious Disease Surveillance	\$51,976
			Total	\$755,268

Neurology

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
CORDINA, STEVE	DAIICHI SANKYO	63814	A Phase 1B/2, Multi-Center, Double-Blind (Principal Investiga	\$11,917
DEES, DANIEL	UNIVERSITY OF ALABAMA AT BIRMINGHAM	180111-02	Center of Excellence	\$6,400
MINTO, ELIZABETH	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	\$2,231
KILGO, WILLIAM	EMD SERONO RESEARCH & DEVELOPMENT	63868	Cladribine tablets: Observational Evaluation of Effectiveness and Patient Reported Outcomes in Suboptimally Controlled Patients Previously Taking Injectable Disease-Modifying Drugs for Relapsing Forms of Multiple Sclerosis	\$6,788
NARITOKU, DEAN	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	\$2,120
NARITOKU, DEAN	XENON PHARMACEUTICALS	63867	A Randomized, Double-Blind, Placebo-Controlled, Multicenter Study to Evaluate the Safety, Tolerability, and Efficacy of XEN1101 as Adjunctive Therapy in Focal-Onset Epilepsy	\$5,750
			Total	\$35,206

Obstetrics and Gynecology

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
BAKER, SUSAN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000503570-039 A01	Chronic Hypertension and Pregnancy	\$17,473
BAKER, SUSAN	SEQUENOM	63719	SQNM-T21-107 - Collection of Whole Blood Specimen 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	\$9,313
RIZK, BOTROS	ABBVIE	63819	Extension Study to Evaluate the Efficacy and Safety of Elagolix in Premenopausal Women with Heavy Menstrual Bleeding Associated with Uterine Fibroids	\$5,708
RIZK, BOTROS	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	\$16,184
			Total	\$48,678

Pathology

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
SINGH, SEEMA (CoInvestigator SINGH, AJAY)	NATIONAL INSTITUTES OF HEALTH	1 R01 CA231925-01A1	Impact of Social Factors on Breast Cancer Biology in African-American Women	\$618,241
SINGH, SEEMA	NATIONAL INSTITUTES OF HEALTH	5 R01 CA204801-04	Molecular Causes and Mechanistic Underpinning of Breast Cancer Racial Disparity	\$336,158
			Total	\$954,399

Pediatrics

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
ANDERSON, STEPHANIE	ALABAMA DEPARTMENT OF MENTAL HEALTH/MENTAL RE	A19-0011 SUPP	Regional Autism Network (RAN)	\$10,000

ANDERSON, STEPHANIE	ALABAMA DEPARTMENT OF MENTAL HEALTH/MENTAL RE	A19-0011	Regional Autism Network (RAN)	\$75,000
CRISSINGER, KAREN	CENTOCOR, INC.	62926	A Multicenter, Prospective, Long-term, Observational Registry of Pediatric Patients with Inflammatory Bowel Disease	\$8,248
EYAL, FABIEN	SHIRE HUMAN GENETIC THERAPIES	63864	A Phase 2b, Multicenter, Randomized, Open-label, Controlled, 3-Arm Study to Evaluate the Clinical Efficacy and Safety of SHP607 in Preventing Chronic Lung Disease Through 12 Months Corrected Age (CA) Compared to Standard Neonatal Care in Extremely Premature Infants	\$7,500
IMRAN, HAMAYAN	CHILDRENS HOSPITAL OF PHILADELPHIA	9400120212-04 ST. BALDRICKS	Childrent's Oncology Group Grant - Non-Industry Funded Work Order	\$5,000
IMRAN, HAMAYAN	CHILDRENS HOSPITAL OF PHILADELPHIA	9400710617-02	Project: Every Child (APEC14B1) Non Industry	\$9,400
IMRAN, HAMAYAN (ColInvestigator WILSON, FELICIA)	CHILDRENS HOSPITAL OF PHILADELPHIA	9500080215-12C-05	Children's Hospital of Philadelphia, Non Industry Funding Per Case Reimbursement: NIH COG Chair Grant	\$6,000
KAULFERS, ANNE-MARIE	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-19-096 (C90116055)	Endocrinology Clinic for State Newborn Screening	\$22,000
WILSON, FELICIA	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-19-097 (C90116056)	Comprehensive Sickle Cell Center for the State Newborn Screening Program	\$22,000
			Total	\$165,148

Pharmacology

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
BAUER, NATALIE (Colinvestigators ALEXEYEV, MIKHAIL;)	NATIONAL INSTITUTES OF HEALTH	5 R01 HL133066-03	Circulating Microparticle Effects on Phenotypically Distinct Pulmonary Endothelium	\$378,750
GILLESPIE, MARK	UNIVERSITY OF ALABAMA AT BIRMINGHAM	UC 90631-3	UAB CCTS Fee for Service Agreement to Fund Voucher Awards	\$15,000
GILLESPIE, MARK (Colinvestigators LANGLEY, RAYMOND; MULEKAR, MADHURI; PASTUKH, VICTOR)	NATIONAL INSTITUTES OF HEALTH	5 R01 HL113614-07	mtDNA Repair: An Isolated Pharmacologic Target in Acute Lung Injury	\$418,430

GILLESPIE, MARK (CoInvestigators ARRIETA, MARTHA; FRUH, SHARON; LANGLEY, RAYMOND; MULEKAR, MADHURI; ROCCONI, RODNEY; TOWNSLEY, MARY)	UNIVERSITY OF ALABAMA BIRMINGHAM	000520679-010	University of South Alabama Translational Research Service Center	\$193,978
GILLESPIE, MARK (CoInvestigators MULEKAR, MADHURI; PASTUKH, VICTOR; LANGLEY, RAYMOND)	NATIONAL INSTITUTES OF HEALTH	1 R01 GM127823-01A1	mtDNA Damage and DAMPS in Multiple Organ Dysfunction Syndrome	\$477,916
LANGLEY, RAYMOND (CoInvestigator BORCHERT, GLENN)	NATIONAL INSTITUTES OF HEALTH	800010905-01UJG	Novel Long Non-coding RNAs in the Airway Mucous Response	\$70,000
MIGAUD, MARIE	ELYSIUM HEALTH, INC.	A19-0143	Design, Development and Chemical Syntheses of Tools and Processes to Explore the Landscape of B-vitamin in Health and in Disease	\$405,555
MIGAUD, MARIE (CoInvestigator GASSMAN, NATALIE)	NATIONAL INSTITUTES OF HEALTH	5 R21 AT009908-02	B-vitamins and NAD Metabolism, or when Vitamin B3's Bioavailability is not Enough	\$192,500
PIAZZA, GARY	FOX CHASE CANCER CENTER	18038-01	A Novel Non-COX Inhibitory Sulindac Derivative for Colorectal Cancer Chemoprevention with Selective PDE-10 and Wnt/?-Catenin Inhibitory Activity	\$123,910
PIAZZA, GARY	NATIONAL INSTITUTES OF HEALTH	5 R01 CA131378-11	Novel Sulindac Derivatives for Colon Cancer Chemoprevention	\$365,641
PIAZZA, GARY (Fellow WARD, ANTONIO)	NATIONAL INSTITUTES OF HEALTH	3 R01 CA197147-04S1	Enhancing the Immune System by Targeting the RAS Signaling Pathway in Cancer: Immunotherapeutic Potential of a Novel RAS Inhibitor for Lung Cancer Treatment	\$81,635
PIAZZA, GARY	NATIONAL INSTITUTES OF HEALTH	5 R01 CA197147-04	Phosphodiesterase 10A, a Novel Target for Lung Cancer Chemoprevention	\$336,158
RICH, THOMAS (CoInvestigators LEAVESLEY, SILAS; RICHTER, WITO; SAYNER, SARAH)	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-17 PROJ 2	Lung Endothelial Cell Phenotypes - Project 2: Cyclic Nucleotide Gradients Regulate the Balance of Mechanical Forces Underlying Endothelial Barrier Integrity	\$350,168

RICH, THOMAS	AMERICAN HEART ASSOCIATION	18UFEL33900151-02	Undergraduate Summer Research Experience at USA	\$16,000
RICH, THOMAS (Coinvestigator LEAVESLEY, SILAS)	THOMAS JEFFERSON UNIVERSITY	080-18007-S28201-1	Functional Diversity of Compartmentalized Calcium Signaling in Airway Smooth Muscle	\$149,273
RICH, THOMAS (Coinvestigators LEAVESLEY, SILAS; PHAN, AHN-VU)	THOMAS JEFFERSON UNIVERSITY	080-18007-S11203	G Protein-Coupled Receptor Regulation in Airway Myocytes	\$115,500
SOBOL, ROBERT (Coinvestigator LI, JIANFENG)	UNIVERSITY OF CALIFORNIA	A17-0212	A Systems Approach to Mapping the DNA Damage Response	\$121,200
SOBOL, ROBERT (Coinvestigator CIOFFI, DONNA)	FLORIDA GULF COAST UNIVERSITY	17056-NSF-USA-MCI-02	To Assess and Minimize the Risk of Human Exposure to Ciguatoxins in a Changing Climate	\$281,028
SOBOL, ROBERT (Coinvestigator CIOFFI, DONNA)	FLORIDA GULF COAST UNIVERSITY	17056-NIH-USA-MCI-02	To Assess and Minimize the Risk of Human Exposure to Ciguatoxins in a Changing Climate	\$130,950
SOBOL, ROBERT 88(Coinvestigator LI, JIANFENG)	NATIONAL INSTITUTES OF HEALTH	5 U01 ES029518-02	Measuring Genomic DNA Damage and DNA Repair Capacity on Longitudinal Population Samples - a Step Towards Precision Prevention	\$368,472
			Total	\$4,592,064

Physiology & Cell Biology

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
ALEXEYEV, MIKHAIL	NATIONAL INSTITUTES OF HEALTH	5 R01 OD010944-08	Mouse Models for Mitochondrial Disorders Caused by mtDNA Mutations	\$359,438
ALEXEYEV, MIKHAIL	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-17 CORE C	Lung Endothelial Cell Phenotypes - Core C: Gene Delivery	\$289,411
ALEXEYEV, MIKHAIL	NATIONAL INSTITUTES OF HEALTH	1 S10 OD025089-01A1	Seahorse XFe24 Extracellular Flux Analyzer	\$164,092
ALVAREZ, DIEGO (MPI with AUDIA, JONATHON)	NATIONAL INSTITUTES OF HEALTH	5 R01 HL118334-05	Caspase-1, the Microvascular Endothelium and Infection	\$419,655
COHEN, MICHAEL	EVAS TECHNOLOGIES, LLC	A18-0157-001-SUPP	Cardioprotection by Inhibition of Coagulation and Inflammation in Myocardial Infarction.	\$8,283

FRANCIS, MICHAEL (CoInvestigator STEVENS, TROY)	NATIONAL INSTITUTES OF HEALTH	5 K25 HL136869-03	TRPC4-Mediated Calcium Signals Accelerate Vascular Remodeling In Pulmonary Arterial Hypertension	\$159,548
LEAVESLEY, SILAS (CoInvestigators PHAN, AHN-VU; RICH, THOMAS)	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-17 CORE D	Lung Endothelial Cell Phenotypes - Core D: Bioimaging and Biotechnology Implementation	\$220,166
LIN, MIKE (CoInvestigators AUDIA, JONATHON; BALCZON, RONALD; KIM, JIN; TAYLOR, MARK; ZHA, XIANGMING)	NATIONAL INSTITUTES OF HEALTH	3 R01 HL140182-02S1	Nosocomial Pneumonias Impair Cognitive Function	\$385,000
LIN, MIKE (CoInvestigators STEVENS, TROY; ZHA, XIANGMING; BALCZON, RONALD)	NATIONAL INSTITUTES OF HEALTH	5 R01 HL140182-02	Nosocomial Pneumonias Impair Cognitive Function	\$443,794
ROSSAYNER, SARAH	NATIONAL INSTITUTES OF HEALTH	5 R01 HL121513-05	Bicarbonate Regulation of the Pulmonary Endothelial Barrier	\$303,000
STEVENS, TROY (CoInvestigator LEE, JI YOUNG)	AMERICAN HEART ASSOCIATION	18CDA34080151-2	Carbonic Anhydrase IX and Pulmonary Endothelial Cell Acidosis During Infection	\$77,000
STEVENS, TROY (CoInvestigators BALCZON, RONALD; SAYNER, SARAH)	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-17 PROJ 1	Lung Endothelial Cell Phenotypes - Project 1: Soluble Adenylyl Cyclases in Lung Endothelial Permeability	\$315,786
STEVENS, TROY (CoInvestigator ALEXEYEV, MIKHAIL)	NATIONAL INSTITUTES OF HEALTH	5 R37 HL060024-22	Store Operated Ca2+ Entry: Lung Endothelial Permeability	\$412,459
STEVENS, TROY (CoSponsor TAMBE, DHANANJAY; Fellow XU, NINGYONG)	NATIONAL INSTITUTES OF HEALTH	5 F32 HL144040-02	TRPC4-dependent Cytosolic Ca2+ Signals Interendothelial Contractile Forces that Elicit Gap Formation	\$63,746
STEVENS, TROY	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-17 CORE A	Lung Endothelial Cell Phenotypes - Core A: Administrative Core	\$210,381

STEVENS, TROY (Fellow GWIN, MEREDITH)	AMERICAN HEART ASSOCIATION	19PRE34380166	Gamma Secretase Activating Protein is Necessary for Endothelial Production of Cytotoxic Beta Amyloid	\$26,844
STEVENS, TROY (Fellow VOTH, SARAH)	NATIONAL INSTITUTES OF HEALTH	1 F31 HL147512-01	Cytotoxic Lung Endothelial Amyloids	\$29,016
TAMBE, DHANANJAY (was ALVAREZ, DIEGO)	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-17 CORE B	Lung Endothelial Cell Phenotypes - Core B: Cell Culture & Small Animal	\$266,708
TAYLOR, MARK (ColInvestigator TOWNSLEY, MARY)	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-17 PROJ 3	Lung Endothelial Cell Phenotypes - Project 3: Functional Calcium Microdomains in Lung Microvascular Endothelium	\$334,768
ZHA, XIANGMING	MOREHOUSE SCHOOL OF MEDICINE	XIONG/ZHA 002	Mechanisms of ASIC-Mediated Neuronal Injury	\$39,769
ZHA, XIANGMING (ColInvestigator RICH, THOMAS)	NATIONAL INSTITUTES OF HEALTH	5 R01 NS102495-03	Neuroprotective Role of OGR1 in Brain Ischemia	\$361,518
			Total	\$4,890,382

SICKLE CELL

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
HAYNES JR., JOHNSON	Global Blood Therapeutics	63823	A Phase 3, Double-Blind, Randomized, Placebo-Controlled, Multicenter Study of GBT440 Administered Orally to Patients with Sickle Cell Disease	\$4,406
			Total	\$4,406

Surgery

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
BREVARD, SIDNEY	POLYPHOR LTD	63855	A Multicenter, Open-Label, Sponsor-Blinded, Randomized, Active-Controlled, Parallel Group, Pivotal Study to Evaluate the Efficacy, Safety, and Tolerability of Murepavadin Given with Ertapenam Versus an Anti-Pseudomonas B-Lactam-Based Antibiotic in Adult Subjects with Nosocomial Pneumonia Suspected or Confirmed to be due to Pseudomonas Aeruginosa	\$9,244

KAHN, STEVEN	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	\$3,639
KAHN, STEVEN	STRATATECH CORPORATION	A17-0209-001-01	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 Electme	\$35,624
KAHN, STEVEN	KINGSTON HEALTH SCIENCES CENTRE	2019-11-02/OSP-180547	Re-Energize Study	\$3,000
RIDER, PAUL	STATE UNIVERSITY OF NEW YORK/THD AMERICA	63820	THD Multicenter Trial: Multicenter, Non-Randomized, Prospective Observational Trial Comparing Ferguson Hemorrhoidectomy and Transanal Hemorrhoidal Dearterialization (THD) for Hemorrhoids in Terms of 1 Year Recurrence (Award 75557, Project 1134020)	\$9,500
RIDER, PAUL	TREVENA, INC	63850	Retrospective Chart Review Study of Care Patterns and Outcomes in Patients Receiving IV Opioids for Acute Post-Surgical Pain in the Hospital Setting	\$19,933
RIDER, PAUL	MILLENIUM PHARMACEUTICALS/TAKEDA	63857	A Randomized, Double-Blind, Placebo-Controlled, Phase2 Dose Ranging Study to Evaluate the Efficacy and Safety of 2 Dose Regimens of Intravenous TAK-954 for the Prophylaxis and Treatment of Postoperative Gastrointestinal Dysfunction in Patients Undergoing Large and Small- Bowel Resection	\$9,000
SIMMONS, JON	NATIONAL INSTITUTE OF HEALTH	5 K08 GM109113-04	mtDNA DAMPS: A Pharmacologic Target in Multi-Organ System Failure	\$189,000
			Total	\$278,940

MITCHELL CANCER INSTITUTE (SAMSF PROJECTS ONLY)

Principal Investigator	Agency	GrantID#	Title	Fiscal Year Funding
FINAN, MICHAEL	CARIS LIFE SCIENCES	63689	A Registry of Caris Life Sciences Molecular Intelligence Service (Biomarker Assessment Results) Intended for Correlation with Cancer Clinical Outcomes	\$4,100
KHUSHMAN, MOH'D	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)	\$10,980

NORDEN, CAROLE	GENENTECH 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	\$7,057
NORDEN, CAROLE	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	\$26,130.00
NORDEN, CAROLE	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	\$85,278.00
ROCCONI, RODNEY	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	\$28,216.00
SCALICI, JENNIFER	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	\$13,531.00
SCALICI, JENNIFER	MERCK/UVA	63805	A Randomized Phase II Study of Chemoradiation and Pembrolizumab for Locally Advanced Cervical Cancer	\$80,000.00
TAYLOR, WILLIAM	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	\$20,878.00
			Total	\$276,170