2018 Academic Annual Report
Dear Friends and Colleagues,

In the midst of busy clinics, complex medical and surgical inpatient care, teaching the next generation of care providers, pursuing discovery and everything else that fills our days here at Children’s of Alabama and UAB Pediatrics, we know it is important to take a moment to reflect on where we have been and where we are going. This Academic Annual Report, which highlights accomplishments for the past year, is an opportunity to do just that. This has been a year of growth and discovery for Children’s of Alabama and UAB Pediatrics. Our research report details our accomplishments by division.

In the Department of Pediatrics, we seek to discover new knowledge in order to improve the health of the children of Alabama, the region and the world. The clinical advances and research discoveries we describe here have a direct impact on children’s lives. That impact will be our legacy. We present in this report evidence of this impact as measured by major research accomplishments, grants, publications and awards. In fiscal year 2018, the Department of Pediatrics faculty had 358 publications, research funding from the National Institutes of Health (NIH) totaling $15.8 million and total research funding of $29.5 million.

In addition to our research accomplishments, our focus on safety and quality is always paramount. For the ninth consecutive year, U.S. News & World Report ranked Children’s of Alabama’s pediatric specialty services among the top 50 in the nation. Eight specialties were ranked: Cancer, Cardiology and Heart Surgery, Diabetes and Endocrinology, Gastroenterology and GI Surgery, Neonatology, Nephrology, Neurology and Neurosurgery, and Pulmonology.

We aim to build on these successes, expand the size and, importantly, the impact of our research in the coming years. We anticipate growth not only in our core areas of significant accomplishment—virology, therapeutic drug development, cancer, neonatal and rheumatology outcomes—but also in newer areas where the recruitment of talented young researchers will ensure continued and expanded success. We recruited 38 new faculty members, who will bring innovative patient care opportunities and new research discoveries to the Department and to the children of Alabama. This year we have compiled a History of the Department, and I invite you to browse it to see where we started and the tremendous accomplishments of those on whose shoulders we stand.

The Kaul Pediatric Research Institute (KPRI) has continued to support investigators at Children’s and remains an important edge in helping our faculty achieve extramural funding through initial pilot and feasibility funding. In addition, this past year, Children’s added to its support of two new research funds that will further bolster our research efforts in the Pediatric Enterprise.

Our clinical mission is to deliver exceptional, safe and accessible care to improve the outcomes for children in Alabama and elsewhere. From the simple to the most complex conditions, we work as a team to deliver the best care. Our achievements simply would not be possible without the physicians, nurses and staff who bring their talents and passion to the care of children every day, from everywhere in the state, the region and the nation. This coming year, we are finding ways to further increase access to our clinics, improve provider-to-provider communication and identify even more subspecialty services that we can offer to our patients and those who help care for them.

No matter what the next year holds, please know that one thing always remains in focus: our commitment to serving the patients and families who look to us for healing and hope. Thank you for being part of that most worthy endeavor.

Mitchell B. Cohen, M.D.
Katharine Reynolds Ireland Chair of Pediatrics
University of Alabama at Birmingham
Physician in Chief, Children’s of Alabama
The UAB Department of Pediatrics at Children’s of Alabama is comprised of 19 Subspecialty Divisions, each with a research, educational, and clinical focus. This Academic Annual Report includes information about research initiatives, areas of clinical excellence, educational efforts and faculty.

### PEDIATRIC DIVISIONS

1. Academic General Pediatrics  
2. Adolescent Medicine  
3. Pediatric Allergy & Immunology  
4. Pediatric Cardiology & Cardiac Intensive Care  
5. Child Abuse Pediatrics  
6. Pediatric Critical Care  
7. Developmental & Behavioral Pediatrics  
8. Pediatric Emergency Medicine  
9. Pediatric Endocrinology  
10. Pediatric Gastroenterology, Hepatology & Nutrition  
11. Pediatric Hematology & Oncology  
12. Pediatric Hospital Medicine  
13. Pediatric Infectious Diseases  
14. Neonatology  
15. Pediatric Nephrology  
16. Pediatric Neurology  
17. Pediatric Pulmonology & Sleep Medicine  
18. Pediatric Rehabilitation Medicine  
19. Pediatric Rheumatology

### CONTENT PER DIVISION INCLUDES

- Pediatric Faculty  
- Featured Research  
- Significant Publications  
- Division Awards & Recognition  
- Participation in National Research, Quality Improvement and Learning Networks

### ADDITIONAL CONTENT

- Pediatric Education Programs  
- Kaul Pediatric Research Institute Awards  
- Dixon Pediatric Fellowship  
- Chu Family Educational Scholarship  
- Russell Cunningham Memorial Research Program  
- Founder’s Fund Grants  
- Pediatric Research Office  
- Office of Faculty Development
FEATURED RESEARCH

The Division of Academic General Pediatrics’ work focuses largely on advocacy and on quality improvement.

Elizabeth Cason Benton, M.D., director of the Alabama Child Health Improvement Alliance (ACHIA), leads this quality improvement through partnerships with practitioners, payers, families and organizations that deliver care to improve health outcomes of children in the state. In 2018, 14 participating practices that have approximately 10% of the children in Alabama with asthma improved delivery of Optimal Asthma Care from 23% to above 80%.

Morissa Ladinsky, M.D., is working with Dr. Shawn Galin and others to develop a programmatic expansion of the UAB School of Medicine Standardized Patient Program around LGBTQ curricular metrics. This will make the UAB School of Medicine one of only two US medical schools to utilize transgender individuals as standardized patients to enhance medical students’ abilities to communicate with this growing underrepresented population.

Morissa Ladinsky, M.D., is a member of the Governor’s Opioid Council/Alabama Opioid Overdose and Addiction Council. This group is developing data-driven priorities and strategic objectives to guide our state’s coordinated response to the opioid crisis.

Dee Anne Jackson, M.D., is working with Dr. Mark Powell and Dr. Sara Anne Lester from the UAB Department of Anesthesiology to evaluate the effects on breastfeeding rates of the Early Recovery After Surgery (ERAS) protocol for women undergoing scheduled caesarean sections. She completed a quality improvement project this year to implement the use of oral glucose gel for neonatal hypoglycemia into standard care in the UAB Newborn Nursery and is continuing to collect data on the effects of this change. She has initiated a QI project to decrease antibiotic usage in the Newborn Nursery through incorporation of the Neonatal Sepsis Calculator in the newborn nursery and is collaborating with the Division of Neonatology in the VON Network antibiotic stewardship project.

SIGNIFICANT PUBLICATIONS

Morissa Ladinsky, M.D., was awarded the Inclusive Research & Initiative Award at the Lavender Celebration. The Lavender Celebration is an annual event in the spring of each academic year wherein LGBTQ undergraduate, graduate and professional students receive recognition for both their contribution to campus and their success in graduating. During the celebration, awards are given out to students, faculty and staff. Dr. Ladinsky was honored for her work on a project to make UAB medicine, and our trained physicians and healthcare providers, better at serving transgender patients.

Morissa J. Ladinsky, M.D., was awarded the American Academy of Pediatrics (AAP) Special Achievement Award, Alabama Chapter of AAP, for distinguished service to the missions and goals of the Academy.

Morissa Ladinsky, M.D., serves on Mayor Randall Woodfin’s LGBTQ+ Advisory Board for the city of Birmingham.

Morissa Ladinsky, M.D., serves on the Board of Directors for the Children’s Policy Council of Jefferson County.

Morissa Ladinsky, M.D., is a member of the Quality Improvement Center for Collaborative Community Court Teams, Jefferson County Site Steering Committee, a collaboration between Family Court, DHR and Medicine around enhanced care for mothers facing substance dependence and their children.

Morissa Ladinsky, M.D., received the Hope for Tomorrow Award at the first annual LGBTQ+ Community Service Awards and Gala. She was honored for her work in caring for and advocating for all youth.

Jaime McKinney, M.D., was appointed to the Admissions Selection Committee for the UAB School of Medicine. The Admissions Selection Committee reviews candidates and determines who will be accepted to join the School of Medicine.

Jaime McKinney, M.D., was selected for the Dean’s Excellence Award in Diversity Enhancement, Junior Faculty. The Dean’s Excellence Awards recognize exceptional contributions made by School of Medicine faculty in service, teaching, research, diversity enhancement and mentorship.
 Adolescent Medicine

PEDIATRIC FACULTY
Dr. Tamera Coyne-Beasley  Director | Professor
Dr. Heather Austin   Assistant Professor
Dr. Krista Casazza   Associate Professor
Dr. Nefertiti Durant   Associate Professor
Dr. Tina Simpson   Professor
Dr. Stephenie Wallace   Associate Professor

FEATURED RESEARCH
The UAB Division of Adolescent Medicine performs an array of investigations that includes behavioral science and outcomes research, as well as assessments of physiologic changes during growth and development. Specific highlights include:

SHINE Clinic continued enrolling patients in the Pediatric Obesity Weight Evaluation Registry (POWER) Study in 2018 (3rd cycle). The POWER study is a national collaborative involving 32 clinical sites. The goal is to better understand and improve the health outcomes of children and adolescents with overweight and obesity who are participating in multi-component weight management programs. During the last nine months of our participation, we have enrolled over 100 participants.

Tina Simpson, M.D., MPH, examined individual and peer risk factors and their relationship with family attachment for African American adolescent males. These data will guide the implementation of an evidence-based youth school-based prevention program.

Tina Simpson, M.D., MPH, examined barriers and facilitators affecting adolescent sexual health outcomes and individual and community factors influencing the future trajectories of black adolescent males.

Krista Casazza, Ph.D., was awarded a five-year Leadership Education in Maternal and Child Health (MCH) Nutrition grant.

Krista Casazza, Ph.D., serves as Co-Investigator with Dr. Sylvie Mrug, UAB Department of Psychology, on an Institute of Education Sciences grant: “The Impact of Diet on Behavior and Academic Outcomes in Middle School Students.” This project will examine the role of dietary factors in behavior and academic outcomes in middle school students.

Tamera Coyne-Beasley, M.D., serves as Co-Principal Investigator on 15-1175 PCORI, PESRAMHIP: Patient Empowered Strategy to Reduce Asthma Morbidity in Highly Impacted Populations. In patient populations that bear a disproportionate burden of asthma morbidity (Black and Hispanic adults) can PARTICSS improve outcomes of importance to patients, providers, and the health-care system. (Dr. Coyne-Beasley was the PI prior to leaving the University of North Carolina.)

SIGNIFICANT PUBLICATIONS


Tamer Coyne-Beasley, M.D., is the immediate past president of the Society for Adolescent Health and Medicine, where she also serves as a member of the Executive Team, Board of Directors and chair of the Nominations Committee.


Tamer Coyne-Beasley, M.D., serves on the Adolescent and Young Adult Health National Resource Center National Advisory Board. The Center aims to promote adolescent and young adult health by strengthening the abilities of State Title V MCH programs, to better service those populations (10-25).

Tamer Coyne-Beasley, M.D., is part of the National Alliance to Advance Health – Got Transitions, Transitions and Preventative Care for Youth and Young Adults, which develops recommendations for incorporating health care transition into preventive care for adolescents and young adults and is funded by Maternal and Child Health Bureau.

Tamer Coyne-Beasley, M.D., is a member of the Committee on Pediatric Research, American Academy of Pediatrics (AAP) as the Society for Adolescent Health and Medicine liaison.

Tamer Coyne-Beasley, M.D., is an NIH Study Section Member, NICHD, Health Behavior and Context Committee.

Tamer Coyne-Beasley, M.D., is a member of the Advisory Committee for Immunization Practices working groups: human papillomavirus, adult immunizations and provider group.

Tamer Coyne-Beasley, M.D., is the founding and current director of the North Carolina Child Health Research Network.

Tamer Coyne-Beasley, M.D., is a network director of the North Carolina Network Consortium (NCNC). The NCNC is a diverse statewide consortium of providers, academic institutions and partners whose mission is to address pressing questions related to the delivery of primary care health services and the management of primary care problems.

Tamer Coyne-Beasley, M.D., is a member of the Diversity and Inclusion Committee of the American Pediatric Society.

Tamer Coyne-Beasley, M.D., participated in the Leadership Development for Physicians in Academic Health Centers Program at the Harvard T. H. Chan School of Public Health.

Stephanie Wallace, M.D., serves as a member of the American Academy of Pediatrics (AAP) Committee of Adolescence. Dr. Wallace has co-authored publications with this committee.

Tina Simpson, M.D., M.P.H., was elected to the American Pediatric Society.

Tina Simpson, M.D., was named the first recipient of the “Dr. Tina Simpson Invisible Warrior Award” at the inaugural Birmingham Black Pride banquet. The award, named in her honor, recognizes Dr. Simpson as the longest serving African American physician caring for children, adolescents and young adults with HIV in the Birmingham area. In the future, this award will recognize those who have made contributions to advance equality and create strong connections in the lives of LGBTQ Alabamians.

Tina Simpson, M.D., was accepted into the UAB Healthcare Leadership Academy (HLA). The HLA is a collaboration between the Collat School of Business and the School of Medicine. The program offers training opportunities and develops leadership skills essential to academic healthcare. The program began in October 2018 and will conclude in May 2019.

Heather Austin, Ph.D., serves as a State Public Education Coordinator (PEC) for the Alabama Psychological Association (APA). PECs work at the state level in conjunction with American Psychological Association (APA) to educate the public how the science and application of psychology benefits society and improves lives. Duties have included participation and assistance with statewide volunteer activities and community presentations by psychologists.

Heather Austin, Ph.D., is a member of the Division of Maternal and Child Health Workforce Development (DMCHWD) and participates in monthly meetings to organize a leadership program for MCH grantees virtual meeting.
**FEATURED RESEARCH**

The Division of Pediatric Allergy & Immunology faculty are dedicated to research in the field of allergy and immunology, advancing knowledge in the diagnosis and treatment of patients with primary immunodeficiencies and in the care of patients with allergic diseases such as drug allergy, food allergy, asthma and atopic dermatitis. The faculty have ongoing collaborations with clinical immunologists at the NIH that have resulted in the identification of novel immunodeficiency diseases in several patients and extended knowledge in the clinical manifestations, diagnosis and treatment of these disorders.

**SIGNIFICANT PUBLICATIONS**


**EXTRAMURAL AWARDS & LEADERSHIP ROLES**

Prescott Atkinson, M.D. Ph.D., serves on the Accreditation Council for Graduate Medical Education (ACGME) Review Committee for Allergy & Immunology and is a member of the ACGME Allergy & Immunology Milestones Workgroup. He is the outgoing chair of the Allergy & Immunology Program Directors Assembly Executive Committee. He is a member of the Alabama Newborn Screening Advisory Board and is participating in the screening of infants for Severe Combined Immune Deficiency (SCID), which began on October 1, 2018.

Amy CaJacob, M.D., is the medical director of Camp WheezeAway, the annual asthma summer camp, and works in fundraising for the camp to fund transportation for low-income children to and from camp.
## PEDIATRIC FACULTY
### PEDIATRICS CARDIOLOGY
- **Dr. Yung R. Lau**  
  Director | Professor
- **Dr. Wally F. Carlo**  
  Associate Professor
- **Dr. Edward Colvin**  
  Professor
- **Dr. Camden Hebson**  
  Assistant Professor
- **Dr. Walter Johnson**  
  Professor
- **Dr. Mark Law**  
  Associate Professor
- **Dr. William McMahon**  
  Professor
- **Dr. Bennett Pearce**  
  Professor
- **Dr. Robb Romp**  
  Associate Professor

### CARDIAC CRITICAL CARE
- **Dr. Santiago Borasino**  
  Professor
- **Dr. Ahmed Asfari**  
  Assistant Professor
- **Dr. Erika Mendoza**  
  Assistant Professor
- **Dr. Leslie Rhodes**  
  Associate Professor
- **Dr. Hayden Zaccagni**  
  Assistant Professor

## FEATURED RESEARCH

In 2018, the Division of Cardiology & Cardiac Intensive Care saw the finalization of the data collection for the Neonatal Cardiac Surgery Induced Acute Kidney Injury (CS-AKI) Consortium, now called NEPHRON (Neonatal and Pediatric Heart and Renal Outcomes Network). UAB is leading this 21-center collaborative, with a total enrollment of 2,251 neonatal patients, the largest multicenter collaboration to date. UAB continued its work with Cincinnati Children’s Hospital Medical Center and Children’s National Medical Center in a multicenter quality improvement collaborative aimed at reducing cardiac arrest in the CICU. The cardiac arrest bundle created by this collaborative has been initiated in CICUs across the country and data collection is well underway.

Important innovations/novel findings from our research in 2018:

- Publication of the first multicenter manuscript describing the methods of the NEPHRON collaborative.
- Publication of the impact of hemolysis on acute kidney injury and mortality in children supported on ECMO.
- Publication of the effects of positive airway pressure versus high-flow nasal cannula for prevention of extubation failure in infants after congenital heart surgery.
- Publication of a successful Angiojet® aortic thrombectomy of an ECMO related thrombus in a newborn
- Publication of furosemide response being used to predict acute kidney injury after cardiac surgery in infants and neonates.
- Publication from our collaboration with Children’s of Colorado reporting the use of acute kidney injury biomarkers to predict an increase in serum milrinone concentration earlier than serum creatinine-defined acute kidney injury in infants after cardiac surgery.
- Publication of the epidemiology of healthcare-associated infections in pediatric CICUs using the PC4 database.
- Completed our enrollment of patients in a prospective study of intraoperative adrenal insufficiency undergoing cardiopulmonary bypass surgery with and without preoperative steroids.
- Received funding from Octapharma USA, Inc to review our data of patients who received pooled plasma during cardiopulmonary bypass versus those who received standard hospital issued single-donor plasma. We are currently enrolling patients in phase 3 trial into the use of L-citrulline to prevent pulmonary injury after cardiopulmonary bypass surgery.
- Currently enrolling in a phase 3 trial randomizing subjects to edoxaban tosylate versus standard of care therapy for prevention of thromboembolic events children with heart disease.
- We are preparing to initiate a phase 3 trial randomizing subjects to macitentan versus placebo to determine its safety and efficacy in Fontan-palliated adult and adolescents.
• We initiated enrollment in the first ever national collaboration looking at standardizing immunosuppressant therapy six months post-cardiac transplantation.

• We have initiated the process for participation in a new device trial for total artificial heart implantation.

• We are in the process of finalizing the process to initiate a post-approval study implanting the SAPIEN XT Transcatheter Heart Valve.

• We are completing the process for our participation in a phase 4 trial randomizing subjects to apixaban to standard of care therapy for treatment of venous thromboembolism.

• We participated in a collaborative collecting data on pediatric cardiac transplant patient whos also had BARTH syndrome.

• Continue to collect specimens for our biorepository, now with more than 500 individual patient samples.

• Completed data collection in a collaborative trial with Children’s of Colorado looking at acute kidney injury after the Norwood procedure.

• Contributed data to the national collaborative looking at coronary artery fistula.

• Our division had nine poster research presentations at scientific conferences in 2018: three of these were accepted as oral presentations as well.

SIGNIFICANT PUBLICATIONS


Pediatr Cardiol. 2018. The case for cardiac xenotransplantation in neonates: Is now the time to reconsider xenotransplantation for hypoplastic left heart syndrome? Cleveland D, Adam Banks C, Hara H, Carlo WF, Mauchley DC, Cooper DKC.


PARTICIPATION IN NATIONAL RESEARCH AND QUALITY IMPROVEMENT

The Division of Cardiology and Cardiac Critical Care participates in the following Quality Improvement Networks:

- PC4—Cardiac Intensive Care Unit Data on outcomes
- STS—Pediatric and Adult Congenital Heart Disease surgery outcomes
- ACC—Impact- Pediatric and Adult Heart Catheterization outcomes
- PediMac—Extracorporeal Ventricular Device outcomes
- InterMac—Adult Ventricular Assist Device outcomes in patients with congenital heart disease
- ELSO—ECMO outcomes
- NPC-QIC—Complex congenital heart disease outcomes
- Pediatric Heart Transplant Study
- UNOS—Organ Transplantation Outcomes
- CCRC—Comparison of Management Strategies for Symptomatic Young Infants with Tetralogy of Fallot: A Multicenter Congenital Catheterization Research Collaborative Study
- ACTION—Advanced Cardiac Therapies Improving Outcomes Network to Improve the Health of Pediatric and Congenital Heart Disease Patients with Heart Failure
- PCMR (process initiated)—Pediatric Cardiomyopathy Registry
- CPVT—Improving Diagnosis and Treatment in Catecholaminergic Polymorphic Ventricular Tachycardia
FEATURED RESEARCH

Michael Taylor, M.D., is the principal investigator of the West Alabama Child Medical Evaluation Program: a clinic for medico-legal evaluation of potentially abused children. John C. Higginbotham, Ph.D., MPH, from the University of Alabama is co-principal investigator. This is an extensive analysis of the findings of 574 children examined for sexual abuse from 1991-2004. This is the first study of medical findings on children being assessed for potential sexual abuse from Alabama.

Screening for nonviral sexually transmitted infections in children being evaluated for sexual abuse: a comparison of nucleic acid amplification tests vs. culture and wet preparations.

Aim: To evaluate the performance of nucleic acid amplification tests (NAATs) to detect infection with Neisseria gonorrhoea, Chlamydia trachomatis, and/or Trichomonas vaginalis in children being evaluated for possible sexual abuse in comparison to culture and wet preparation slides (vaginal).

Methods: Patient population: All children under 18 years of age who were seen for an examination due to concerns for possible sexual abuse at the Children’s Hospital Intervention and Prevention Services (CHIPS) Center and all children under 18 years of age seen by the Pediatric Sexual Assault Nurse Examiner (SANE) nurses in the Children’s of Alabama emergency department during a four-year period from January 1, 2014 through December 31, 2017.
FEATURED RESEARCH

The Division of Pediatric Critical Care has many important research endeavors housed both within and outside of our division.

Within our division, Michele Kong, M.D., is leading basic and translational science research focusing on acute lung injury and respiratory viral infections. She has NIH funding to delineate the role and impact of protease dysregulation in the pathogenesis of Respiratory Syncytial Virus (RSV)-induced respiratory failure in children, and is the PI of a randomized controlled trial (RCT) of azithromycin treatment in severe pediatric RSV infection. Dr. Kong is also the PI for several multi-centered trials, including the NIH-funded PROSpect trial that seeks to determine the effects of prone positioning and high-frequency ventilation on pediatric acute respiratory distress syndrome outcome; the ADAPT trial that investigates the current approaches for pediatric traumatic injury; and the PICFLU trial that aims to identify genetic factors underlying disease susceptibility and severity in children with influenza virus-related critical illness. Many of these involve the international study group, Pediatric Acute Lung Injury and Sepsis Investigators (PALISI).

Robert Richter, M.D., is studying endothelial disruption and activation in the setting of sepsis in collaboration with Jillian Richter, Ph.D., Division of Acute Care Surgery, UAB Department of Surgery, under the mentorship of Jean-Francois Pittet, M.D., Division of Critical Care Medicine, UAB Department of Anesthesiology and Perioperative Medicine. He was awarded a multi-year Kaul Pediatric Research Institution grant in January 2018 to help fund his research.

Leslie Hayes, M.D., leads our Pediatric Critical Care quality improvement efforts with two major projects this year, including early mobility and delirium screening. In addition, her team manages 10 ongoing quality improvement projects within the PICU. These interprofessional projects range from reduction in length of stay for post-operative adolescent spinal fusion patients to standardization in management of patients with severe neurologic injury or shock. She and her team have presented their findings at several national meetings, including Society for Critical Care Medicine and the Institute for Healthcare Improvement. Dr. Hayes is also the director for our clinical database, Virtual Pediatric Systems (VPS), and manages its use for research and quality improvement in the PICU. She was an invited speaker at the National VPS annual meeting to discuss our unique and robust approach to using data for quality improvement.

Mark Buckmaster, M.D., leads our deep sedation service. He is nationally involved with a pediatric sedation network focusing on best sedation practices in children. He has recently published a book chapter on pediatric sedation. Madhura Hallman, M.D., is leading a Tracheostomy Decision Support Service which is a multidisciplinary effort to improve the process of advanced technology in complex pediatric patients.

Many of our faculty are actively involved with education and simulation research. Will Sasser, M.D., and Priya Prabhakaran, M.D., are heavily involved with important education projects focusing on medical students, residents and PICU fellows. Dr. Sasser is a member of a multicenter education research collaborative (EPIC Investigators: Education in Pediatric Intensive Care) focused on education topics related to PICU fellows. Chrystal Rutledge, M.D., and Kristen Waddell, CRNP, have developed an important simulation outreach program, COACHES (Children’s of Alabama Community Healthcare Education Simulation Program), to assist hospitals throughout the state with pediatric emergency preparedness. Nancy Tofil, M.D., and Dr. Crystal Rutledge, M.D., work on many simulation education studies and best practices of cardiopulmonary resuscitation within the INSPIRE (International Network for Simulation-based Pediatric Innovation, Research, Education) Network.
SIGNIFICANT PUBLICATIONS


DIVISION AWARDS & RECOGNITION | EXTRAMURAL AWARDS & LEADERSHIP ROLES | PARTICIPATION IN NATIONAL RESEARCH, QUALITY IMPROVEMENT & LEARNING NETWORKS

Nancy *Tofil, M.D., M.Ed.*, was elected to membership in the Society for Pediatric Research (SPR). The goal of SPR is to create a network of multidisciplinary researchers to improve child health. 

**Michele Kong, M.D.,** was chosen as a 2018 Woman of Distinction for the Girl Scouts of North-Central Alabama. The Girl Scouts have been honoring Women of Distinction in Alabama since 1993. The Women of Distinction Award honors women who have made special contributions to their communities through civic, academic, or professional efforts and who are exemplary role models for today's girls. She was also selected to participate in Leadership Birmingham and completed the program in 2018. Leadership Birmingham programs explore our community's critical issues in education, government, health care, social services, diversity, criminal justice, economic development and quality of life.

**Chrystal Rutledge, M.D.,** was chosen as one of Birmingham Magazine’s 2018 Women Who Shape the State. 

**Leslie Hayes, M.D.,** serves as the UAB Medicine Associate Quality Education Officer. She is also an associate professor in the School of Health professions, Department of Health Services Administration with the Healthcare Quality and Safety (HQS) Graduate Programs. She is the associate medical director for the UAB Medicine Quality Academy, teaching four graduate courses at the School of Health professions. She has created a new course within the HQS Master’s Degree Program, ‘Advanced Data Use in Quality Improvement and Patient Safety, HQS 613.’ She additionally oversees HQS Master’s Degree students’ capstone projects. At the Health System level, she is one of two instructors for the UAB Medicine Mini-Quality Academy, which is offered monthly for residents, fellows and other frontline providers across the health system.
FEATURED RESEARCH

The UAB Division of Developmental and Behavioral Pediatrics is an active participant in the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) Neonatal Research Network (NRN). Myriam Peralta-Carcelen, M.D., is the follow-up PI for the center at UAB. Developmental-Behavioral Pediatrics works with UAB Neonatology and other investigators to assess the long-term outcomes among infants who participate in the Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. Recent completed studies include the NICHD NRN SUPPORT Neuroimaging and Neurodevelopmental Outcomes and research on the impact of prematurity on behavioral and socio-emotional outcomes.

SIGNIFICANT PUBLICATIONS


DIVISION AWARDS & RECOGNITION | EXTRAMURAL AWARDS & LEADERSHIP ROLES | PARTICIPATION IN NATIONAL RESEARCH, QUALITY IMPROVEMENT & LEARNING NETWORKS

Justin Schwartz, M.D., and Snehal Khatri, M.D., joined the Innovation’s Academy’s “Train the Trainer” program. This program is a unique, inter-professional approach to analyze and develop solutions for current challenges in healthcare delivery. The program hopes that participants will return to their respective units armed with new knowledge and a thorough understanding of the process of innovating at UAB Medicine. A key goal of this academy is the creation of a cohort of innovation coaches dispersed throughout our organization.
Snehal Khatri, M.D., and Justin Schwartz, M.D., were named among Birmingham Parent’s Favorite Kids’ Docs 2018. Doctors were nominated by Birmingham Parent readers for providing the best care for their children. They were recognized along with other honorees in the December issue of Birmingham Parents.

The Division of Developmental and Behavioral Pediatrics is home to the Newborn Follow-up Program, which participates as a follow-up site in the NICHD neonatal research network. Dr. Waldemar Carlo from Neonatology is the PI for the UAB center of the NEONATAL RESEARCH NETWORK, and Dr. Myriam Peralta is the follow-up PI for the UAB center of the NRN.

Myriam Peralta, M.D., is executive member of the Section of Developmental and Behavioral pediatrics from the American Academy of Pediatrics. Dr. Peralta is the follow-up coinvestigator for the PREMOD trial: A randomized Controlled Trial of Umbilical Cord Milking vs. Delayed Cord Clamping in Premature Infants. Dr. Peralta is also the follow-up investigator for the Randomized Clinical Trial Comparing the Overall Adverse Event Rate of Inguinal Hernia Repair (IHR) prior to NICU Discharge vs. IHR after NICU discharge and beyond 55 weeks post-menstrual age in premature infants.

Kimberlly Stringer, M.D., is a co-investigator for the Early Childhood Health Promotion System for High Need Program, which is a Human Resources and Services Administration (HRSA) sponsored grant through the University of Mississippi Medical Center. The central purposes of this project are to increase the prevalence of developmental screening rates throughout Mississippi, establish a well-trained workforce in regards to early childhood development and achieve policy change and sustainability based on the novel system developed.

Project ECHO: Autism has completed a cycle in 2018. Our multidisciplinary, cross-organizational team connected with primary care providers in pediatrics and family medicine to promote best practices in autism care. Project ECHO® (Extension for Community Healthcare Outcomes) is a live videoconferencing model that hosts educational events between the subspecialists and primary care clinicians. The local provider uses this knowledge to manage patients in their community while receiving ongoing mentoring from subspecialists through the interactive ECHO sessions.
PEDIATRIC FACULTY

Dr. Peter Glaeser  Director | Professor
Dr. Mark Baker  Associate Professor
Dr. Steven Baldwin  Professor
Dr. Judson Barber  Professor
Dr. David Bernard  Professor
Dr. Christine Campbell  Assistant Professor
Dr. Christina Cochran  Assistant Professor
Dr. Teresa Coco  Associate Professor
Dr. Valerie Davis  Associate Professor
Dr. Matt Digman  Assistant Professor
Dr. Shea Duerring  Assistant Professor
Dr. Lynzee Head  Instructor
Dr. Terry Hope  Assistant Professor
Dr. Kara Huls  Assistant Professor
Dr. Nicole Jones  Assistant Professor
Dr. Ann Klasner  Professor
Dr. Patricia LaBorde  Instructor
Dr. Edward Lose  Assistant Professor
Dr. Laurie Marzullo  Associate Professor
Dr. Heather Mitchell  Assistant Professor
Dr. Kathy Monroe  Professor
Dr. Michele Nichols  Professor
Dr. Melissa Peters  Associate Professor
Dr. Christopher Pruitt  Associate Professor
Dr. James Sedlis  Assistant Professor
Dr. Annalise Sorrentino  Professor
Dr. Marjorie Lee White  Professor

FEATURED RESEARCH

Researchers in the Division of Pediatric Emergency Medicine are working on a number of multicenter studies involving infectious diseases in young infants, coordinated by the National Pediatric Emergency Medicine Clinical Research Network. The Division of Pediatric Emergency Medicine has additional important research focus areas including:

- Improved education through simulation
- Injury prevention
- Pain management in the Emergency Department
- Quality improvement

SIGNIFICANT PUBLICATIONS


EXTRAMURAL AWARDS & LEADERSHIP ROLES

Kathy Monroe, M.D., is an elected member of the Executive Council for Injury, Violence, and Poison Prevention for the American Academy of Pediatrics (AAP) nationally.

Marjorie Lee White, M.D., MPPM, MA, is active in the international simulation community. She serves on the executive committee of the International Simulation Data Registry, the executive committee of the American Academy of Pediatrics’ provisional Section on Simulation and Innovative Learning and a board subcommittee of the International Pediatric Simulation Society.

Chris Pruitt, M.D., was elected to the Executive Committee of the National Pediatric Emergency Medicine Clinical Research Network and also to the SSPR Council.

Annalise Sorrentino, M.D., is an elected member of the national American College of Emergency Physicians (ACEP) Steering Committee and the Education Chair of the Alabama chapter of American College of Emergency Physicians. She is also the medical director of an annual 9-state regional conference sponsored by ACEP.

Steve Baldwin, M.D., is an elected member of the board of the Alabama chapter of American College of Emergency Physicians (ACEP).

Mark Baker, M.D., is a medical officer with the National Disaster Medical System in the US Department of Health and Human Services. (Hurricane Harvey in Texas most recent deployment).

Jud Barber, M.D., is a founding board member of the Society for Pediatric Sedation and received an award of appreciation for his service to the society and board as he rotated off the board in the last year.

Michele Nichols, M.D., is on the Business Model Committee of the National Association of Program Directors and also served as a moderator for the annual meeting of the Injury Free Coalition for Kids.

Terri Coco, M.D., is a member of the national American Academy of Pediatrics (AAP) Urgent Care Committee and the subcommittee responsible for writing a fellowship curriculum.
The Division of Pediatric Endocrinology research encompasses cystic fibrosis, type 1 diabetes, lipoprotein metabolism, congenital hypothyroidism and the effect of pyridine nucleotides on both endoplasmic reticulum redox and calcium uptake.

Cystic Fibrosis
Research in cystic fibrosis (CF) assessed the frequency of endocrine comorbidities in CF patients. Specifically, the reduced growth and osteoporosis seen in CF patients are multifactorial but interrelated. Reduced growth in CF is associated with reduced lung health and life expectancy. In addition, poor bone health and CF-related bone disease can lead to increased fractures and decrease the likelihood for lung transplantation. Ongoing research suggests an intrinsic defect exists in CF that predisposes to problems with bone metabolism and normal growth. These pathogenic abnormalities can be noted even in the absence of other CF complications.

The research of Michael Stalvey, M.D., has parlayed from the translational models of CF to now include large-scale clinical studies. His sentinel paper describing improved growth in CF children treated with CFTR correction has ignited the interest into the idea of an intrinsic defect in growth. He currently is the National PI for the PROMISE Endocrine Sub-Study. “A Prospective Study to Evaluate Biological and Clinical Effects of Significantly Corrected CFTR Function (PROMISE)” and “PROMISE-Endocrine Sub-study”. This prospective, multicenter observational study is designed to measure the clinical effectiveness of triple combination modulator therapy in individuals with cystic fibrosis (with one or more copies of the F508del mutation), assess salutary effects across a number of CF disease manifestations, and collect specimens for future research. The major focus of the endocrine sub-study is to evaluate glucose metabolism, growth, bone metabolism and body composition in CF in response to the triple combination modulator therapy.

Type 1 Diabetes
The pathogenesis of type 1 diabetes mellitus (T1DM) involves autoimmune destruction of pancreatic beta cells. Once hyperglycemia appears, more than 70% of islet beta cell mass has been destroyed; surviving beta cells represent the only reservoir for potential regeneration. Recent studies suggest that gamma aminobutyric acid (GABA) plays important metabolic roles in the pancreas through: promotion of insulin secretion by beta cells, suppression of glucagon secretion by alpha cells, activation of cell survival pathways protection against apoptosis and decrease in inflammation. GABA has been shown both to prevent and to reverse diabetes in animal models.

About 2.5 years ago, Kenneth McCormick, M.D., Gail Mick, M.D., and Heather Chota, M.D. (Endocrinology Fellow) initiated an investigator-hypothesized, double-blind, placebo-controlled intervention trial of GABA in children with new onset T1DM. Patient enrollment (n=105) was completed in June, 2018. Statistical data analysis will be completed by July, 2019. Notably, this is the first clinical trial of oral GABA in children with T1DM. To date, the vast majority of animal studies aiming to cure T1DM have focused on immune suppression to halt autoimmune pancreatic destruction. Studies of GABA avoid the toxicities and risks associated with immunosuppressive regimens, thus potentially improving the quality of life for T1DM patients. GABA has an excellent safety profile, with no serious side effects noted in our study.

Lipoprotein Metabolism
Ambika Ashraf, M.D., is currently working on a research study of low carbohydrate diet in children with dyslipidemia and metabolic syndrome. Along with Bhuvana Sunil, M.D. (Endocrinology Fellow), they will assess the aforesaid lipid lowering dietary outcome using NMR spectroscopy and vascular measures. In collaboration with Dr. McCormick, the cortisone / cortisol ratios in these patients will also be studied. The premise is that a low carbohydrate diet will reduce intracellular glucose 6 phosphate which, in turn, lowers the endoplasmic pyridine redox (NADPH/NADP) and shifts tissue production of active cortisol to inactive cortisone via bidirectional 11β-hydroxysteroid dehydrogenase in hepatocytes and adipocytes. Therefore, a low CHO diet will improve the disordered peripheral glucocorticoid metabolism characteristic of obesity.
Congenital Hypothyroidism

As pertains to congenital hypothyroidism, the efficacy, cost and practicality of a second Alabama newborn screen measurement has been analyzed; a manuscript has been submitted for publication by Dr. Mick. Few states mandate second (follow-up) screening tests for congenital hypothyroidism.

Effect of Pyridine Nucleotides

In rat hepatic endoplasmic reticulum (ER), a new pathway through which cortisol promotes glucose production was described. By reducing the pyridine nucleotide redox in the ER lumen via bidirectional 11β-hydroxysteroid dehydrogenase, cortisol expands the lumen pool size of glucose-6-phosphate, thereby favoring hydrolysis. Moreover, steady-state Michaelis kinetic analysis confirms that the facilitated transport across the ER membrane preferentially delivers G6P to the terminal gluconeogenic enzyme (G6Pase). Another study addressed the dysregulation of adrenal glucocorticoid production as an etiology of the metabolic obesity syndrome. The endoplasmic adrenal P450 enzymes, CYP17 and CYP21, are essential for glucocorticoid synthesis. The polyunsaturated omega-3 and omega-6 fatty acids (PUFA) may ameliorate metabolic syndrome but it is unknown whether they have direct actions on CYP steroidogenic enzymes. Cortisol production was measured in a cell-free reaction and endoplasmic membrane lipid composition following arachidonic acid (20:4) exposure was determined by sequential window acquisition theoretical fragment ion spectra. Porcine adrenal microsomal CYP21 and CYP17 activities with cytosolic orientation were attenuated by an array of PUFA; the inhibition correlated with the number of the PUFA double bonds and carbon atoms. Endoplasmic enzymes with intraluminal activity were unaffected by PUFA. Finally, reciprocal enzyme velocity (Dixon) plots confirmed uncompetitive inhibition, that is, inhibitor binds only to the enzyme-substrate complex, not the free enzyme.

SIGNIFICANT PUBLICATIONS


DIVISION AWARDS & LEADERSHIP RECOGNITION

Michael Stalvey, M.D.

- North American Cystic Fibrosis Conference—Symposium Co-Chair 2018
- Cystic Fibrosis Foundation—Physician Training Program Evaluation Working Group
- Cystic Fibrosis Foundation—Strategic Planning Group
- Cystic Fibrosis Foundation—Research and Research Training Grants Review Committee
- Cystic Fibrosis Foundation, Alabama Chapter—Board of Directors
- Cystic Fibrosis Foundation—Clinical Research Advisory Board
- Cystic Fibrosis Canada—Targeted Research Review Panel
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- Pediatric Endocrine Society—Education Committee
- University of Alabama at Birmingham Faculty Senate—Senator
- UAB Faculty Senate Research Committee
- UAB Healthcare Leadership Academy, Class of 2019
• UAB GME Wellness Subcommittee
• National Sub-study PI: “Prospective Study to Evaluate Biological and Clinical Effects of Significantly Corrected CFTR Function (PROMISE) and PROMISE-Endocrine Sub-study (2018-2023)”.

Ambika Ashraf, M.D.
• Co-chair, Education Council, Pediatric Endocrine Society (PES)
• Established Lipid Special Interest Group (SIG) within the Pediatric Endocrine Society (PES). Co-chair of the PES Lipid SIG.
• Chair Person for AAP National Conference and Exhibition (NCE), Section on Endocrinology (SOEn) the 2019 Annual NCE conference

Ken McCormick, M.D.
• Visiting professor in Endocrinology at the Department of Pediatrics, Shandong Provincial Hospital, Shandong University, Jinan, PR China

Hussein Abdul-Latif, M.D.
• Recipient of the UAB School of Medicine Argus Award for Best Clinical Instructor
• Recipient of the UAB School of Medicine Argus Award Best Clerkship: Department of Pediatrics

Pallavi Iyer, M.D.
• Pediatric Endocrine Society—elected member of the “Drugs and Therapeutics and Rare Diseases” committee
• Elected to the UAB Clinical Scholar Program “Introduction to clinical medicine for 1st and 2nd year students”—instructing students the essential skills of history-taking and physical examination

PARTICIPATION IN QI AND LEARNING NETWORKS

Gail Mick, M.D. and Giovanna Beauchamp, M.D.- The pediatric endocrine ECHO team was organized in November 2016. Project ECHO® (Extension for Community Healthcare Outcomes) is a live videoconferencing model that hosts educational events between the subspecialists and primary care clinicians. The local provider uses this knowledge to manage patients in their community while receiving ongoing mentoring from subspecialists through the interactive ECHO sessions. We worked with the American Academy of Pediatrics (AAP) to develop our Endo-ECHO and obtain formal certification in ECHO from the AAP ECHO super-hub (Chicago, IL). Our first Project ECHO “Pediatric Growth Disorders” ran during the summer 2017. The second Endo-ECHO was in the spring of 2018 on “Pediatric Diabetes and Obesity.” This topic was selected because Alabama faces a staggering health crisis in obesity and diabetes. Moreover, many rural healthcare providers are inadequately prepared and supported to deliver best-practice care of these disorders and their complex comorbidities. The Endo-ECHO team developed an innovative, best-practice curriculum and was able to recruit 59 providers from 16 Alabama counties to participate in the six-month, 12-session series. The spirit of ECHO is to increase knowledge by encouraging all participants to share medical expertise, ask questions and learn from each other. Indeed, it is a valuable learning environment for both the subspecialists and providers.
FEATURED RESEARCH

The Division of Gastroenterology, Hepatology & Nutrition focuses on research that mirrors our growth in developing specialty programs. Specific highlights include:

• Our Inflammatory Bowel Disease (IBD) Program continues to be a part of the multi-institutional collaborative ImproveCareNow (ICN). This collaborative is developed to aid clinicians in benchmarking patient outcomes. We continue to excel in clinical outcomes compared to programmatic benchmarks. In addition, our IBD Program has spearheaded several ICN multi-center research projects.

• Margaux Barnes, Ph.D., is investigating the role of nutrition and lean body mass in IBD patients. Her research is focused on improving the health of pediatric patients with IBD utilizing nutrition and exercise.

• The Gastrointestinal Eosinophilic Disease Program continues to partner with Cincinnati Children’s Hospital Medical Center to study novel gene mutations in our patients with eosinophilic esophagitis (EoE). This partnership is focusing on inheritance patterns with EoE, specifically racial/ethnic differences.

• We are a site that is investigating a new medication for the treatment of EoE. This research will provide the first FDA-approved ready to administer oral topical corticosteroids for EoE.

• The Intestinal Rehabilitation (IR) Program is part of an international network developing a database of patients with intestinal failure. As part of that effort, we are studying quality of life in our patients and have developed a novel quality instrument. Over the past year, we have established an IR collaborative in the Southeast to study outcomes and specific therapies.

• We are testing vaccines for diarrheal disease and have secured successful licensing of the first cholera vaccine in the U.S.

• Marissa Gowey, Ph.D., has developed a novel study to understand pediatric obesity. The program is a family-based program focusing on executive function. Since last year, she has begun enrolling families and collecting data for future research projects and funding.

• We have established our new Pediatric Liver Care Center. Mike Leonis, M.D., Ph.D., has joined our group and is leading this Center. We are involved in several multi-center collaborative projects involved in acute liver disease and liver transplantation.

• Michelle Mastin, Ph.D., and Margaux Barnes, Ph.D., are studying outcomes research in our Intensive Feeding Program.

• David Galloway, M.D., is studying changes in the intestinal microbiome in patients with short bowel syndrome and intestinal failure.
• Neel Tipnis, M.D. is well known in the area of pediatric gastrointestinal motility. He has established a robust program at UAB/Children’s of Alabama. He is currently studying motility issues associated with the esophagus.

• We are expanding our portfolio of clinical care, education and research in 2018 with the recruitment of new faculty and the development of the new Pediatric Liver Care Center.

SIGNIFICANT PUBLICATIONS


EXTRAMURAL AWARDS & LEADERSHIP ROLES

Traci Jester, M.D., R.D., was invited to join the National Scientific Advisory Committee Cabinet of the Crohn’s and Colitis Foundation to serve as co-chair of the Pediatric Affairs Committee. This is a three-year term from June 2018 to May 2021. Dr. Jester has served on the Pediatric Affairs Committee since June 2015.

Margaux Barnes, Ph.D., was accepted into the Clinical Investigator Training Program at UAB. This program is a first of its kind at UAB, a collaborative effort of UAB’s School of Medicine, Center for Clinical and Translational Science, Comprehensive Cancer Center and Department of Medicine and supported by funding from the Health Systems Foundation, General Endowment Fund and the Center for Clinical and Translational Science. The program is a pragmatic and hands-on program focused on preparing new investigators to plan and implement human subject investigation in a good clinical practice compliant manner.
FEATURED RESEARCH

The Division of Pediatric Hematology & Oncology is committed to advancing research and taking findings from the bench to the bedside and then to the community. The division works in close collaboration with members of the UAB Comprehensive Cancer Center, the Institute for Cancer Outcomes and Survivorship (ICOS), the UAB Center for Clinical and Translational Science, the UAB Center for Outcomes and Effectiveness Research and Education, the Children’s Center for Supportive and Palliative Care and the UAB School of Public Health. These multidisciplinary collaborations serve as a rich resource to accelerate the pace of discovery across the entire trajectory of disease from diagnosis to survivorship and end of life.

An example of discoveries taken from bench to bedside include the research led by Gregory Friedman, M.D., in the field of neuro-oncology. Dr. Friedman has demonstrated that the deadliest subgroup of medulloblastoma is highly sensitive to a genetically modified herpes simplex virus (HSV). His innovative phase 1 study using modified HSV to attack difficult-to-treat brain tumors began recruiting patients from across the U.S. in 2016. To date, seven patients have been enrolled in this groundbreaking study with encouraging results thus far. This translation of engineered herpes simplex virotherapy is FDA-approved and supported by the National Institutes of Health (NIH). Another example of bench-to-bedside research is in the field of bone and marrow transplantation (BMT), where Frederick Goldman, M.D., is attempting to understand the pathogenetic mechanisms of bone marrow failure syndromes, congenital immune deficiencies and translating this information to the promotion of novel agents and stem therapies for these disorders. His translational research laboratory is addressing unmet needs in hematopoietic disorders using innovative gene correction technology, coupled with BMT, to develop safer cures.

Matthew Kutny, M.D., serves as UAB’s institutional Principal Investigator and is a member of the myeloid disease steering committee within the Children’s Oncology Group. In this role he leads efforts to develop clinical trials testing novel treatments for childhood leukemia. He is the study chair for an international trial of acute promyelocytic leukemia open at over 100 institutions. His research efforts focus on improving treatment cure rates while also decreasing treatment toxicity.

Ana Xavier, M.D., is leading a new early phase 1 clinical trial looking to improve outcomes in patients with a rare form of lymphoma. Mature T/NK cell neoplasms are histologically, immunophenotypically and genomically distinct diseases generally associated with poor clinical outcomes despite intensified therapy. The implementation of auto or allo stem cell transplant as upfront consolidation therapy or for chemotherapy sensitive relapsed disease have resulted in improved survival for some patients subsets. Encouragingly, the use of novel targeted molecular and immunotherapeutic agents has also demonstrated survival advantage in small number of patients. Significant and sustained improvement in patient outcome is limited by the low incidence and heterogeneity of this disease. Thus, development and enrollment into pediatric and adolescents and young adults (AYA) mature T/NK cell lymphoma focused clinical trial is needed and encouraged. This will be the first prospective multi-institutional trial targeting pediatric and AYA...
mature T/NK cell lymphoma study. This trial will use chemo-immunotherapy followed by consolidation with reduced intensity conditioning stem cell transplant in advanced stage mature non-anaplastic T-cell or NK-cell lymphoma/leukemia in children, adolescent and young adults.

Jamie Aye, M.D., in collaboration with Dr. Elizabeth Beierle, UAB Department of Surgery, seeks to advance our current knowledge of pediatric solid tumors through the Tumor Xenograft Project. Despite recent advances in pediatric cancer care, the treatment and outcomes for many pediatric solid tumors has not significantly changed. Primary human tumors directly implanted into mice more accurately recapitulates the features of patient tumors compared to current cell-based models. Using primary human patient tumor models, the Children's of Alabama-UAB Pediatric Tumor Bank and Tumorgraft Development Program’s long-term goal is to identify agents that are effective treatments for children with tumors having specific genetic and molecular profiles and to move these agents into the clinical realm. The program currently has approximately 100 patient tumors banked. Preliminary studies have demonstrated the tremendous potential of this rare resource with new discoveries featured in multiple peer-reviewed publications. Ongoing studies are investigating whether the addition of ALK inhibitors or novel rexinoids improve the infectivity of herpes simplex virus, M032, in neuroblastoma, whether inhibition of PIM kinases coupled with standard chemotherapeutic agents decreases the tumorigenicity of hepatoblastoma, and whether osteosarcoma pulmonary metastases are sensitive to novel M032 treatment.

The Pediatric Hematology and Oncology Division has a strong team dedicated to cutting-edge research in the field of sickle cell disease. Jeffrey Levensburger, D.O., section head of Hematology, continues to focus his research efforts on understanding the progression to chronic kidney disease that impacts about one out of four of adults with sickle cell anemia. One recent pathway that he studies, is the link between acute kidney injury during sickle cell crisis and progression to chronic kidney disease for patients with sickle cell disease. He recently received a second grant from the NIH to continue this work. Additionally, he was awarded funding from the Patient-Centered Outcomes Research Institute (PCORI) to develop a novel approach to improve transition of care to adult programs utilizing peer mentoring. Lee Hilliard, M.D., recently completed a national clinical trial exploring the impact of omega acid to improve outcomes in sickle cell disease and Tom Howard, M.D., is organizing a trial of a novel agent with the aim of improving baseline hemoglobin levels in patients with sickle cell. Dr. Goldman is using a murine model of sickle cell disease to optimize reduced intensity conditioning in blood or marrow transplantation to balance toxicity with efficacy. Finally, Brandi Perrelli, DNP, was awarded funding to improve education and implementation of sickle cell disease standard of care guidelines throughout Alabama. The sections of Hematology and Stem Cell Transplantation are collaborating with the goal of improving outcomes in patients with sickle cell disease. Hilary Haines, M.D., in conjunction with Drs. Goldman and Levensburger, is producing new educational materials and pursuing new opportunities for our sickle cell patient population to learn more about curative options, including bone marrow transplant. The Alabama Center for Childhood Cancer and Blood Disorders has opened a collaborative haploidentical bone marrow transplant protocol, CTN1507. Additionally, the Center, in collaboration with our adult hematology colleagues, will be participating in an autologous gene therapy protocol for sickle cell disease.

In addition to working on hemoglobinopathies, the Hematology section is working to develop subspecialty programs to improve the care of children with blood disorders. Hope Wilson, M.D., Christy Bernrich-Stolz, M.D., and Dr. Hilliard have opened a post thrombosis monitoring clinic to provide excellent care to children and young adults who develop blood clots. Drs. Bernrich-Stolz and Hope Wilson are collaborating with the Division of Adolescent Medicine to develop a women’s and children bleeding disorders clinic. Dr. Goldman is developing a bone marrow failure clinic to care for children with diseases such as Fanconi’s Anemia, Diamond Blackfan Anemia and Dyskeratosis Congenita. The Hematology section has also joined the ITP Consortium of North America to improve the care for children with immunemediated thrombocytopenia.

Smita Bhatia, M.D., MPH, is the Bew and Gay White Endowed Chair in Pediatric Oncology and the founding director of the Institute for Cancer Outcomes and Survivorship (ICOS); several members of the division collaborate with and are members of the institute. The mission of ICOS is to reduce the burden of cancer and its sequelae across all segments of population through interdisciplinary research, health promotion and education. ICOS has been very active over the past year. Currently, the Institute has 12 faculty members with a primary research focus on cancer outcomes, with the total funding in FY 2018 of $3.5M. Dr. Bhatia has published over 260 peer-reviewed publications and has 17,835 citations (10,674 since 2013), her Google Scholar H-INDEX is 71 (57 since 2013) and her i10-index is 198 (179 since 2013). She was awarded the National Cancer Institute Outstanding Investigator Award in 2018, providing her with funding for the next seven years to identify childhood cancer survivors at highest risk for long-term complications. She also received funding to understand the pathogenesis of therapy-related leukemia in patients with lymphomas receiving autologous stem cell transplantation. She continues to follow a cohort of 10,000 BMT survivors, attempting to determine the burden of morbidity borne by the survivors. Finally, she is working closely with Wendy Landier, Ph.D., to evaluate the efficacy of an adherence intervention to improve adherence to oral chemotherapy in children with acute lymphoblastic leukemia.

Julie Wolfson, M.D., MSHS, has received funding from Hyundai Hope on Wheels and the Rally Foundation for Childhood Cancer Research to form a national multi-site consortium and investigate disparities in adolescents and young adults (AYAs) with acute lymphoblastic leukemia (ALL). She also published findings regarding the factors related both to the patient and health care delivery that predict relapse among AYAs with ALL. She is leading two national intergroup studies within the NCI cooperative groups looking at AYAs with ALL, one focused on health care delivery and the other focused on medication adherence. She also continues to lead a prospective study, which is establishing the infrastructure to identify reasons for outcome disparities among children, adolescents and young adults with cancer in Alabama.

Wendy Landier, Ph.D., RN, has received funding from the NIH to understand the facilitators and barriers to HPV vaccination in childhood cancer survivors, as well as testing the immunogenicity and safety of using this vaccine in childhood cancer survivors. She has also received funding from the Alex’s Lemonade Stand Foundation to develop a patient-family education intervention for children with newly diagnosed cancer and from Kaul Pediatric Research Institute (KPRI) to develop an educational smartphone app for parents of children with a new diagnosis of cancer. Dr. Bhatia has received funding from the Leukemia Lymphoma Society (LLS) to construct a cohort of 10,000 BMT survivors and understand the burden of morbidity borne by the survivors. This cohort of survivors has demonstrated that BMT survivors carry a substantial burden of morbidity with the highest risk seen in allogeneic BMT recipients with a history of chronic graft versus host disease. These findings have informed the need for lifelong follow up of
BMT survivors. Funded by NIH, she has a multi-institutional study at >100 institutions to understand the molecular pathogenesis of radiation-related stem cell neoplasm and anthracycline-cardiac dysfunction association. This has led to improved models the identify survivors most at risk for radiation-related brain subacute neoplasms. Dr. Bhatia is also developing FDA-approved and NIH-funded strategies to reduce the risk of radiation-related breast cancer in survivors of Hodgkin’s lymphoma. Finally, Drs. Bhatia and Landier serve as co-PIs on a national trial funded by the NIH to improve adherence to oral chemotherapy in children with acute lymphoblastic leukemia treated at >3 institutions, which has led to recommendations regarding 6-mp intake during maintenance therapy for childhood ALL that are aimed to simplify administration in hopes of improving compliance and decreasing risk of relapse.

**SIGNIFICANT PUBLICATIONS**


Smita Bhatia, M.D., was named to the National Academies of Sciences, Engineering and Medicine ad hoc Committee on National Strategy for Cancer Control in the United States.

Smita Bhatia, M.D., was named a Fellow of the American Society of Clinical Oncology. The Fellow of the American Society of Clinical Oncology (FASCO) distinction recognizes ASCO members for their extraordinary volunteer service, dedication, and commitment to ASCO.

Smita Bhatia, M.D., MPH, received an Outstanding Investigator Award from the National Cancer Institute. The highly competitive award will enable Dr. Bhatia and her team to continue making promising advancements in pediatric oncology. Dr. Bhatia received a seven-year, $6.2 million grant to continue her research into how personalized treatment of childhood cancer can further minimize toxicity. The award provides funding to investigators with exceptional records of productivity in cancer research to continue or embark upon new projects of unusual potential in cancer research. Award recipients are cancer researchers who have served as principal investigators on an NCI grant for the last five years and have demonstrated outstanding productivity.

Jeffrey Lebensburger, D.O., was selected to lead a national panel for the FDA/American Society of Hematology (ASH) on end-organ complication of sickle cell disease. He also serves on the ASH Sickle Cell Clinical care guidelines committee and the ASH Clinical Research Training Institute.

Jeffrey Lebensburger, D.O., has been selected to serve as the Incoming Clinical Research Training Institute (CRTI) Co-Director for the American Society of Hematology. Dr. Lebensburger will serve as Incoming Co-Director for a one-year term beginning July 1, 2019.

Smita Bhatia, M.D., is a Leukemia Lymphoma Scholar, a recipient of the Frank H Oski award, and an elected member of the American Society of Clinical Investigation and the Association for American Physicians. Her service includes elected membership on the Executive Committee of the Children’s Oncology Group and Board of Directors of the American Society of Clinical Oncology, appointment as Associate Chair of the Children’s Oncology Group, appointment as a member of the Pediatric Cancer Working Group for the NCI Cancer “Moonshot” initiative, and appointment as a member of the National Academy of Science, Engineering and Medicine to develop a national strategy for Cancer Control.
FEATURED RESEARCH

The Division of Pediatric Hospital Medicine seeks to improve the system of care and care delivery to inpatients. Division faculty are prominently involved in training and education of medical students, resident physicians and pediatric hospital medicine fellows. Overall, faculty members in Pediatric Hospital Medicine devote over 80% of their professional time to patient care and medical education. Most research efforts of the division address questions related to those areas. A number of new studies have been completed late this year and have been submitted for publication.

In August 2015, Pediatric Hospital Medicine changed the system for admission of patients to the inpatient service with the goal of achieving a better match between patient load and physicians available to evaluate new patients. Prior to that date, patients were admitted to one of four inpatient hospital medicine teams during an on-call day (bolus system), which occurred every fourth day, a system commonly used in academic hospital settings for decades. Because the number of patients admitted during the day often exceeded the ability of the on-call team to provide timely evaluations and complete the process of admission we changed to a system in which patients are admitted to each team in rotation every weekday (drip system), which created a four-fold increase in the number of physicians available to evaluate new admissions each day. A retrospective study was conducted to assess the effects of this change on distribution of patients among teams and its impact on measures of resident education. Results of this study were presented at the annual Pediatric Hospital Medicine Meeting in July 2018 and have been submitted for publication, (Continuous Rotation System for Admissions to Inpatient Teams: Impact on Workload and Education, Berger, S, Nassetta, L, Hofto, M, Pass, RF).

Meghan Hofto, M.D., studied community-acquired pneumonia, one of the leading causes of hospitalization of children. Dr. Hofto’s work has focused on the antibiotics that hospitalized children receive for this diagnosis. The results of a study based on data from Children’s of Alabama were presented at the national Pediatric Hospital Medicine Meeting in May 2015, after which the study was expanded to include data on community-acquired pneumonia in over 28,000 patients from 46 U.S. children's hospitals. A key finding of that study was that there is wide variability across 46 children’s hospitals in the proportion of patients treated with the important anti-staphylococcal antibiotics vancomycin and clindamycin, ranging from 2.9% to 29%, even though the average proportion of community-acquired pneumonia attributed to staph was 0.8% for the 46 children’s hospitals. Results of that investigation are being reported in a manuscript submitted December 2018. (Anti-staphylococcal Antibiotic Use in Hospitalized Children with Community Acquired Pneumonia, Hofto ME, Samuy N, Huang MZ, McLeod M, Pass RF)

During fellowship, Erinn Schmit, M.D., worked on a multi-institution study of medical school clinical faculty that sought to identify characteristics of students that faculty members considered most important in scoring student performance on clinical rotations. Among 319 faculty members from five medical schools surveyed, the most valued characteristics in identifying high-performing medical students were professionalism, clinical reasoning and curiosity. The results were presented at a national meeting (International Association of Medical Science Educators, 2018) and will be published in 2019 in Academic Medicine. During fellowship, Adolfo Molina, M.D., studied outcomes of children who required inpatient treatment of asthma. He found that among children hospitalized with status asthmaticus, severity of chronic asthma and black race were significant predictors of hospital readmission within 12 months, while prescription refill history for asthma medications was not. The paper reporting his results (Molina, AL, Magruder, TG, Immaculada, A, Ward, L, Narayanan, S, Walley, S, Predictors of hospital re-utilization among publicly insured children hospitalized for status asthmaticus) has been accepted for publication in 2019 in Hospital Pediatrics. Both Drs. Schmit and Molina joined our faculty after completing their pediatric hospital medicine fellowship in July 2018.
SIGNIFICANT PUBLICATIONS


DIVISION AWARDS AND RECOGNITIONS | EXTRAMURAL AWARDS & LEADERSHIP ROLES

Susan Walley, M.D., received the Becky Trigg Outstanding Woman UAB Faculty Member Award for 2018. The award is given out by the UAB Commission on the Status of Women to honor women in the UAB and Birmingham community who have mentored and served other women and taken a courageous stance or overcome adversity to achieve a goal.

Susan Walley, M.D., was accepted into the UAB Healthcare Leadership Academy (HLA). The HLA is a collaboration between the Collat School of Business and the School of Medicine. The program offers training opportunities and develops leadership skills essential to academic healthcare. The program began in October 2018 and will conclude in May 2019.

Susan Walley M.D., was elected Chair of the American Academy of Pediatrics Executive Committee for the Section on Tobacco Control.

Stephanie Berger, M.D., received the 2018 Dean’s Excellence Award for Excellence in Teaching. The Dean’s Excellence Awards are an honor recognizing exceptional contributions made by School of Medicine faculty in service, teaching, research, diversity enhancement and mentorship.

Adolfo Molina, M.D., received an award in November 2018 from the UAB Center for Clinical and Translational Science Research Voucher Program in support of his work titled “Residential Instability and Neighborhood Deprivation Associated with Worse Asthma Severity and Hospital Readmissions.”

PARTICIPATION IN NATIONAL RESEARCH, QUALITY IMPROVEMENT AND LEARNING NETWORKS

Lauren Nassetta, M.D., is participating in a multi-institution research project, Pediatric Resident Burnout-Resilience Study Consortium, sponsored by the Association of Pediatric Program Directors. Dr. Nassetta is Associate Director of the UAB Pediatric Residency program and the site principal investigator for this project.

Nichole Samuy, M.D., and Paul Scalici, M.D. are the site co-leads for a multi-institution study, Kawasaki Disease Comparative Effectiveness Trial (KIDCARE), a randomized clinical trial for patients who fail to improve significantly with the initial IVIG treatment. Clinical trial participants will be randomized to receive a second dose of IVIG or treatment with infliximab.

Meghan Hofto, M.D., is participating in a multi-institution collaborative research project, Short Course vs Standard Course Outpatient Therapy of Community Acquired Pneumonia in Children. The project is funded by the National Institutes of Allergy and Infectious Diseases, Division of Microbiology and Infectious Diseases through a grant to Vanderbilt; UAB is subcontracted study site and Dr. Hofto is a co-investigator.
PEDIATRIC FACULTY
Dr. Richard Whitley  Co-Director | Professor
Dr. David Kimberlin  Co-Director | Professor
Dr. Suresh Boppana  Professor
Dr. William Britt  Professor
Dr. Maaike Everts  Professor
Dr. Karen Fowler  Professor
Dr. Cecelia Hutto  Professor
Dr. Scott James  Professor
Dr. Larisa Perebeova  Professor
Dr. Swetha Pinninti  Professor
Dr. Claudette Poole  Professor
Dr. Mark Prichard  Professor
Dr. Shannon Ross  Associate Professor
Dr. Veronica Sanchez  Assistant Professor
Dr. Sergio Stagno  Professor Emeritus

FEATURED RESEARCH
The Division of Pediatric Infectious Diseases is internationally known for its studies of congenital and perinatal viral infections, as well as its studies of antiviral therapeutics. For decades, its programs have defined the basic science, natural history, diagnosis, and treatment of viral infections in infants and children. For 50 years, the Division has defined the natural history, pathogenesis, diagnosis, treatment and prevention of congenital cytomegalovirus (CMV) and neonatal herpes simplex virus (HSV) infections. These research programs were begun by Dr. Charles Alford in the 1960s, following his return to UAB from training in the laboratory of Nobel Prize winner Dr. Thomas Weller. Applying a critical scientific approach to the emerging field of virology, Dr. Alford established UAB as the national leader in congenital and perinatal viral infections. Currently, the Division consists of nine physician scientists and five Ph.D.s. Collectively, these investigators are responsible for $14.9 in NIH grant and contract support in FY2018, representing approximately 50% of all research funding for the UAB Department of Pediatrics. Division faculty currently hold seven R awards, 14 NIH contracts, one U award, two P awards, and two K awards, and generate over 40 major original publications each year. This is in addition to a thriving clinical service and molecular diagnostic laboratory. The legacy of the work initially started in the laboratories of Drs. Weller and Alford continues. Advances in technology promise to take what today is cutting-edge science and make it the foundation upon which tomorrow’s advances stand.

Congenital Cytomegalovirus Program
Multiple projects extend the division’s studies of CMV infections. A major effort, led by Suresh Boppana, M.D., Karen Fowler, Ph.D., and Shannon Ross, M.D., is the completion of patient follow-up and data analyses of the National Institute on Deafness and Other Communication Disorders (NIDCD)-funded CMV and Hearing Multicenter Screening (CHIMES) study. These data have provided new insights into the changing natural history of congenital CMV infection. This study enrolled more than 100,000 infants from seven hospitals in the U.S. and was organized and administered by Drs. Boppana and Fowler. New findings from the study include the development of a highly sensitive and specific PCR-based assay for testing newborn saliva samples to identify babies infected with CMV, lack of sensitivity of newborn blood spots collected for routine screening to detect CMV infected babies, a significantly higher prevalence of congenital CMV infection in African American women and teens than previously reported, and the failure of newborn hearing screening to identify a significant proportion (~ 40%) of infants with CMV-associated hearing loss at birth. Most recently, the CHIMES data were utilized to establish the cost savings that would be achieved by a universal screening program for congenital CMV infections. The landmark findings from this pivotal study are being used to develop new guidelines on caring for infants and children locally, nationally and internationally.

Utilizing next-generation sequencing technologies and informatics, Dr. Ross is investigating the contribution of genetic heterogeneity of viruses shed in different compartments (mouth, blood, urine, etc.), with the aim of identifying biomarkers for the development of hearing loss. Internationally, William Britt, M.D., and Drs. Boppana and Fowler have ongoing projects in Brazil and South Africa (supported by the NIH). In Brazil, more than 20,000 women and their newborn infants are being enrolled in studies to define the natural history of congenital CMV infection in a population of women with universal immunity to CMV, a critical question in the design of prophylactic vaccines for this infection.
Veronica Sanchez, Ph.D., and Drs. Boppana, Britt and Ross all lead robust laboratory research programs as well, with studies in basic molecular virology and of virus-host interactions. A significant effort has been focused on understanding the role of virus-induced inflammation and brain development in a small animal model of CMV infection of the developing central nervous system. This system has pointed to the role of inflammation in altered cell positioning in the developing brain, a finding that recapitulates aspects of the pathology of brain disease in infants with congenital CMV infection. A second major focus of this project is defining mechanisms of hearing loss in infants with congenital CMV infections. This small animal model closely recapitulates the findings of hearing loss in infants with congenital CMV infection, and findings generated from studies in this system have identified mechanisms of hearing loss, which include virus-induced inflammation. Additional studies aim to improve understanding of fundamental aspects of virus replication and virus-host interactions, including several projects directed at dissecting the role of the functional components of the infected cell in the efficient production of infectious virus from an infected cell—a project that can be translated into the identification of novel targets for antiviral agents. In addition, these studies have developed a new and previously unknown function of novel modes of regulation of cellular function, viral micro RNA molecules.

Antiviral Therapies Program

Major clinical trials of the treatment of life-threatening viral infections have been performed by David Kimberlin, M.D., and Richard Whitley. Building upon their previous body of work that had established early initiation of intravenous ganciclovir or oral valganciclovir as the standard of care for the management of babies with symptomatic congenital CMV disease, Drs. Kimberlin and Whitley are now assessing whether starting antiviral therapy later in childhood provides the same benefit. They also are determining the appropriate dose of these medications to use in babies born extremely premature. A study of the treatment of babies with asymptomatic congenital CMV infection has been funded by the NIH and will begin in 2019. Additionally, studies assessing new diagnostic tests in neonatal herpes simplex virus (HSV) infections seek to establish biomarkers that will be of value in determining degrees of risk from this life-threatening disease. All of these studies are conducted through their multicenter, NIH-funded network known as the Collaborative Antiviral Study Group (CASG), and both CMV and HSV trials are being conducted nationally and internationally (South America and Europe). The Peru site is participating in the NIH-funded Zika in Pregnancy (ZiP) study. Scott James, M.D., utilizes next generation sequencing to identify and characterize viral subpopulations with diminished susceptibility to antiviral drugs from subjects enrolled on the CASG studies of congenital CMV and neonatal HSV.

Antiviral Drug Development and Discovery Program

Mark Prichard, Ph.D., leads an interdisciplinary team of investigators to help select molecules with optimal antiviral activity against a broad array of DNA viruses. In addition, his group provides preclinical data to support human trials. The expertise of his laboratory has been expanded from herpesviruses and poxviruses to all the DNA viruses, including the adenoviruses, polyomaviruses, and papillomaviruses. This was made possible by investments in new instrumentation to increase efficiency and analytical capacity into highly automated 384-well assays that greatly increased the productivity of the laboratory while lowering research costs. Preclinical work performed in his laboratory helped to support the advance of five drugs for the treatment of viral infections into clinical trials: maribavir (for CMV), brincidofovir (for CMV), tecovirimat (for smallpox), and most recently, filociclovir (for CMV), N-Methanocarbathymidine (for VZV), and ABI-1968 (for HPV). More importantly, he applied the study of antiviral drug resistance to help understand the molecular mechanisms of action and to help manage their use in the clinic. He used molecular biology and reverse genetic techniques to identify the molecular targets of antiviral drugs in cytomegalovirus, herpes simplex virus and vaccinia virus, and went on to describe some of the essential functions of these enzymes in the replication of virus infection. Specifically, the CMV UL97 protein kinase was known to phosphorylate ganciclovir, and his basic research efforts over many years have helped to define its function by demonstrating that it was critical for lytic replication and also that it hyperphosphorylates the retinoblastoma protein. He also identified the CMV UL114 uracil DNA glycosylase as a critical component of the DNA replication complex. The UL114 open reading frame was also shown to encode a miRNA important for the control of the host immune response. Collaborative efforts with the Cooperative Antiviral Studies Group documented the development of resistance to antiviral therapies that arose during clinical trials and characterized the rates of resistance in pediatric patients.

Emerging Infections Program

Maaike Everts, Ph.D. and Dr. Whitley have built a team of experienced scientists in virology, viral immunology, pathogenesis and medicinal chemistry from eight partnering academic institutions, plus Southern Research, to develop small molecule therapeutics for the treatment of emerging viral infections under the umbrella of the Antiviral Drug Discovery and Development Center (AD3C). Members of several genera of RNA viruses that are major causes of human disease, bioterrorist threats or emerging infectious diseases are being studied. Projects focus on coronaviruses that cause SARS and MERS, alphaviruses causing Venezuelan equine encephalitis virus and chikungunya, flaviviruses (dengue, West Nile virus, and Zika) and influenza A virus. The team utilizes the existing data and compounds to perform proof of principle studies in animal models, thereby delivering potential small molecule therapeutics to the government. The group will also evaluate a limited number of additional, novel compounds provided by collaborators at the Emory Institute for Drug Discovery (EIDD) and Gilead Sciences. Expertise exists in the AD3C for IND preparation and filing as well as Phase I studies with adequate resources. The projects are supported by three Cores: Administrative, the Assay, and the Medicinal Chemistry and Lead Development. The organization and interaction between all projects and Cores is monitored by the Administrative Core. This collaboration has already contributed significant data to an IND filed for MERS and two patents for chikungunya.
SIGNIFICANT PUBLICATIONS


Neonatal HSV Disease: Balancing the Low Incidence With the Need to Treat Promptly. Mahant S, Berry JG, Kimberlin DW.

Neonatal herpes simplex virus infections: Pinninti SG, Kimberlin DW.


Human Cytomegalovirus Nuclear Capsids Associate with the Core Nuclear Egress Complex and the Viral Protein Kinase pUL97: Milbradt J, Sonntag E, Wagner S, Strojan H, Wanger C, Lenac Rovis T, Lisnic B, Jonjic S, Sticht H, Britt WJ, Schlotzer-Schrehardt U, Marschall M.

Maternal Immunity and the Natural History of Congenital Human Cytomegalovirus Infection: Britt WJ.


DIVISION AWARDS & RECOGNITION | EXTRAMURAL AWARDS & LEADERSHIP ROLES | PARTICIPATION IN NATIONAL RESEARCH, QUALITY IMPROVEMENT & LEARNING NETWORKS

William Britt, M.D., was appointed as a Distinguished Professor in the School of Medicine in recognition of his outstanding academic accomplishments and peer recognition.

Rich Whiteley, M.D., received the Alexander Fleming Award for lifetime achievement by the Infectious Diseases Society of America. According to the IDSA, the Alexander Fleming Award for lifetime achievement is given “in recognition of a career that reflects major contributions to the acquisition and dissemination of knowledge about infectious diseases.” Dr. Whiteley also was awarded an Honorary Fellowship of the Royal College of Physicians of Ireland in recognition of his significant contribution to medicine. Honorary Fellowship is the highest honor that the College can bestow, and previous recipients have included presidents of Ireland, Nobel laureates, international philanthropic figures, and international royalty. It is reserved for world leaders in medical science and those who have made an exceptional contribution to society.

Shannon Ross, M.D., was elected to the American Pediatric Society. Membership in the American Pediatric Society is reserved for individuals who are child health leaders, teachers, scholars, policymakers and/or clinicians who make important contributions to pediatrics. Dr. Ross’s membership will begin on January 1, 2019.

Antimicrobial Stewardship Program (ASP)

The Antimicrobial Stewardship Program (ASP) team includes co-medical directors, a pharmacist, a data analyst, six physicians that represent the various specialties within the department, and COA and representation from Children’s of Alabama performance improvement and administration. The ASP team works to develop hospital-wide interventions to measure and improve appropriate use of antimicrobial agents with the overarching goal of improving patient care. The ASP team participates in the Solutions for Patient Safety ASP collaborative with the goal of reducing antimicrobial use in the hospital and multi-drug resistant organisms. The team has worked to assure compliance with the Joint Commission antimicrobial stewardship standard that went into effect January 1, 2017. The ASP monitors monthly hospital antimicrobial use and reports this back to prescribers in the hospital. In addition, we monitor daily bug-drug mismatches, duplicate antimicrobials and high-risk antimicrobial use and make an average of 30 interventions based on this monitoring that results in antibiotic changes. The ASP prepares and publishes the Children’s of Alabama hospital antibiogram twice yearly to help guide practitioners on appropriate antibiotic use. In November, the Children’s of Alabama ASP, led by April Yarbrough, Pharm.D., BCPS, and Drs. Ross and Boppana, was featured in the Pew Charitable Trust’s Antimicrobial Resistance Project.

Infection Control

The Infection Control and Prevention team, which includes the medical director, the nurse manager, and three infection prevention nurses, work together to identify, investigate and develop processes to prevent infections acquired in the hospital. Over the past three years, they have worked closely with multidisciplinary Solutions for Patient Safety teams to develop and educate the hospital staff about process bundles to prevent four of the hospital-acquired conditions that are a focus of this nationwide collaboration, CLABSI, SSI, CAUTI, and VAP.

Molecular Diagnostic Virology Laboratory

Under the leadership of Dr. Mark Prichard, the Molecular Diagnostic Virology Laboratory provides an essential service for the University of Alabama Hospital and Clinics and Children’s of Alabama. Same-day diagnostic services of infections of the central nervous system (CNS) and respiratory system allows for targeted therapeutic approaches, resulting in improved patient care. Same-day turnaround for CNS viral infections is not available either commercially or at hospital laboratories other than the services provided by Dr. Prichard.
The Division of Neonatology is a founding member of the NIH Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) Neonatal Research Network (NRN). Over its 30 years of existence, the NRN has defined the standards of multi-institutional collaborative research that has directly resulted in the increased survival and decreased morbidity rates of extremely low birth weight infants and other critically ill infants in the United States. The UAB Division of Neonatology is consistently one of the top centers in developing, leading, enrolling and analyzing the important randomized controlled trials and clinical studies conducted by the NRN. Division members have led three major innovative NRN studies: the SAVE Factorial Trial, the Cytokine Study and the SUPPORT Factorial Trial. A fourth innovative trial led by UAB neonatologists that tests the effects of caffeine late in the neonatal course and at home to shorten hospitalization and decrease apparent life-threatening events has been funded by the NIH and will start enrollment in early 2019. The UAB NRN grant was again renewed for the 2016–2021 cycle.

The UAB Division of Neonatology is also funded by the Eunice Kennedy Shriver NICHD Global Network for Women’s and Children’s Health Research. Division researchers led seminal investigations of resuscitation and essential newborn care in 100 communities in six countries, which included almost 200,000 infants. These trials established the effectiveness of the interventions in reducing stillbirths and neonatal mortality and led to worldwide implementation of training, including the globally implemented Helping Babies Breathe Program and the Essential Care for Every Baby Program introduced in 2014. This year, we successfully competed for the next five-year cycle and will be funded through 2023. In addition, the major trial during this next cycle will be led by UAB. This will be a randomized clinical trial to test the efficacy and safety of azithromycin in women during labor to reduce maternal and neonatal death/infections.

The Division of Neonatology at UAB is the only one in the country funded to lead sites for both NICHD neonatal networks. The division also conducts groundbreaking basic research in the LungMAP project. Namasivayam Ambalavanan, M.D., is the principal investigator of the UAB Research Center, which comprises one of the four research centers in NIH Nationla Heart, Lung and Blood Institute (NHLBI) LungMAP consortium. LungMAP seeks to improve lung health by providing the research community with a web-based resource to support investigations into the processes that regulate lung development. The use of cutting-edge technologies for analysis of the developing mouse and human lung will generate a novel map of where and when the lung cells differentiate and the alveoli form. LungMAP is making this knowledge accessible and freely available to the public through novel imaging and web-based tools (www.lungmap.net). Dr. Ambalavanan is also principal investigator of the UAB Research Center in the NHLBI PreVENT Consortium comprising five research centers, which studies control of breathing in preterm infants.

There are many ongoing extramurally funded projects with a research focus on bronchopulmonary dysplasia (BPD). Dr. Ambalavanan is funded by the NHLBI for “STOP BPD” (Signature of Top Omic Profiles in BPD) to prospectively define and validate clinical and “omic” signatures associated with resilience against or risk for development of BPD. Trent Tipple, M.D., is funded by the NHLBI to determine mechanisms of oxygen-induced lung injury and evaluate novel strategies, such as thioredoxin reductase-1 inhibition to attenuate...
BPD in animal models. Vivek Lal, M.D., is funded by an American Heart Association Scientist Development Grant to evaluate the role of the neonatal airway microbiome in the development of BPD and we are expecting his K08 to be funded before the end of 2018.

The Division of Neonatology at UAB, in collaboration with the UAB Department of Anesthesiology, also conduct research funded by the CounterACT Network of the NIH. The CounterACT network operates under the oversight of the Office of Biodefense Research and Surety (OBRS), and its main goal is to bolster medical readiness to care for victims of mass casualties by chemical threat agents. Tamas Jilling, M.D., is co-principal investigator, along with Sadis Matalon, Ph.D., UAB Department of Anesthesiology, of a U01 grant awarded by the CounterACT Program to perform preclinical studies in multiple animal models, to test the therapeutic efficacy of taladafli (Cialis) as a countermeasure against pregnancy-specific toxicity of bromine gas inhalation.

SIGNIFICANT PUBLICATIONS


Namasingh Ambalavanan, M.D., was accepted into the UAB Healthcare Leadership Academy (HLA). The HLA is a collaboration between the Collat School of Business and the School of Medicine. The program offers training opportunities and develops leadership skills essential to academic healthcare. The program will begin in October 2018 and conclude in May 2019.

Namasingh Ambalavanan, M.D., was appointed as a member to the Scientific Advisory Committee for Innovation and Business Development (SACIB) with University of Alabama at Birmingham.

Nitin Arora, M.D., M.PH., received the Society of Pediatric Research Clinical Research Award for Fellows at the Pediatric Academic Societies annual meeting for his work titled, “Zika virus infection of human fetal brain microvascular endothelial cells.”

Allison Black, M.D., was accepted as an elected member of the inaugural class of Women in Neonatology into the American Academy Pediatrics Neonatal-Perinatal Medicine Section.

Allison Black, M.D., was elected as an executive committee member for the board of Camp Smile-A-Mile.

Allison Black, M.D., was selected as one of Top Four poster presentations at the 2018 Children’s Hospital Neonatal Consortium Annual Meeting.

Allison Black, M.D., received a Golden Collaborative Award STEPP IN project from Children’s Hospital Neonatal Consortium.

Waldemar Carlo, M.D., was elected to the Association of American Physicians. The Association of American Physicians is a professional organization founded in 1885 by seven physicians, including Drs. William Osler and William Henry Welch, for “the advancement of scientific and practical medicine.” The Association is composed of members who are leading senior physician scientists and are competitively selected.

Waldemar Carlo, M.D., was appointed as a Distinguished Professor in the School of Medicine in recognition of his outstanding academic accomplishments and peer recognition.

Waldemar Carlo, M.D., was invited to be a New Century Scholars Reviewer for Academic Pediatric Association (APA).

Samuel Gentile, M.D., received the David Oelberg M.D. Trainee Travel Award from the Southern Society for Pediatric Research.

Samuel Gentile, M.D., was appointed as a committee member for the Alabama Infant Mortality Reduction Initiative, Alabama Perinatal Quality Collaborative, UAB Neonatal-Perinatal Medicine Fellowship and RPAC.

Jegen Kandasamy, M.D., was selected for an award under the Perinatal Research Society Young Investigator program to attend the Perinatal Research Society Annual Meeting and the NIH Abbott Nutrition Pre-Meeting Workshop. Selection into this program is highly competitive. This is the third year in a row that one of our neonatal junior faculty have been selected to attend the pre-meeting workshop.

Charitharth Vivek Lal, M.D., was invited to be an abstract reviewer for Southern Society of Pediatric Research.

Joseph Phillips III, M.D., received the Albert Nelson Marquis Lifetime Achievement Award from Marquis Who’s Who.

Manimaran Ramani, M.D., was selected as a winner of the 2018 Souther Society for Pediatric Research Young Faculty Award. The award program was established to honor and support travel of junior faculty.

Manimaran Ramani, M.D., was invited as a member of the UAB School of Medicine Admission Committee.

Ariel Salas, M.D., Neonatology, was selected as a finalist of the 2018 Souther Society for Pediatric Research Clinical Science Young Investigator Award.

Ariel Salas, M.D., was awarded the Samuel J. Fomon Young Physician Award endowed by the Nestlé Nutrition Institute. This award is one of the National Scientific Achievement Awards given out by the American Society of Nutrition Foundation. These awards are given in honor of scientists, clinicians and scholars for significant achievements in nutrition research and practice.

Christine Stoops, M.D., M.PH, FAAP, was awarded the Southern Society for Pediatric Research (SSPR) 2018 Travel Award.

Christine Stoops, M.D., M.PH, FAAP, Neonatology, was awarded AKI and CRRT 2018 Best Abstract Award, 2018 First Place Poster Award and Fellow in Training Registration Grant.

Christine Stoops, M.D., M.PH, FAAP, received the Pediatric Academic Society (PAS) 2018 Travel Grant Award.

Trent Tipple, M.D., was invited to join the editorial board of the American Journal of Physiology – Lung Cellular and Molecular Physiology, for a three-year appointment. The editorial board is a critically important element of the journal, serving as the primary source of reviewers of submitted manuscripts. It ensures the veracity of the reports that they publish and serves multiple important functions to support the workings and reputation of the journal.

Trent Tipple, M.D., accepted the position of Vice-Chair for the Neonatal and Developing Lung Interest Group Steering Committee, Respiratory Cell Molecular Biology Assembly, American Thoracic Society.

Trent Tipple, M.D., was an invited moderator for the session titled “BPD and Other Congenital Lung Disease” RAPID Poster Discussion Session at the 2018 American Thoracic Society International Conference in San Diego, California.

Lindy Winter, M.D., received the Top Neonatologist in Birmingham Award from International Association of Healthcare Professions.
FEATURED RESEARCH

The Division of Pediatric Nephrology leads research efforts in drug discovery and pharmacokinetics, as well as the assessment, progression and treatment of chronic kidney disease in children.

The Pediatric and Infant Center for Acute Care Nephrology (PICAN), directed by David Askenazi, M.D., MPH, seeks to develop novel management options for pediatric patients with renal impairment, and includes translation from bedside to bench and back again. As an example, PICAN studied a new dialysis device called Aquadex. We adapted the Aquadex to treat neonates and premature infants with kidney failure who were too small for hemodialysis. As a result of this work, children as small as one kg can now receive this lifesaving therapy. With the publication of these results, this technology is now being used at other major children’s hospitals across the country, including Cincinnati Children’s Hospital Medical Center, Boston Children’s Hospital and Seattle Children’s. In collaboration with Daniel Feig, M.D., Ph.D., and members of the Hematology Section, Dr. Askenazi is also investigating the causes of renal impairment in patients with sickle cell disease.

Sahar Fathallah, M.D., who serves as medical director of dialysis, is the site investigator for nearly a dozen nationwide studies aimed to improve the care of children with chronic kidney disease and those requiring dialysis. She tirelessly works to improve the care of children with renal disease.

Daniel Feig, M.D., Ph.D., leads the Childhood Hypertension Program, which has identified critical mechanisms involved in the development of adolescent onset essential hypertension, as well as the risk factors associated with hypertensive target organ damage. Previous clinical trials have demonstrated that elevated serum uric acid causes vascular damage and activation of the renin angiotensin system, resulting in high blood pressure that can be mitigated by uric acid-lowering therapy. The SURPHER (Serum Uric acid Reduction to Prevent HypERtension) trial is an ongoing study to assess the effectiveness of uric acid reduction in lowering blood pressure in young adults. This study found that even mild hyperuricemia results in increased risk for hypertension and chronic kidney disease in patients with type 2 diabetes through vascular injury associated mechanisms. A new branch of research, in collaboration with faculty in the School of Public Health, is the evaluation of the impact of early life stress on the development of vascular dysfunction that leads to hypertension and renal disease.

Michael Seifert, M.D., investigates ways to improve long-term kidney function in children who receive kidney transplants. In a study that will alter how children with kidney transplants are evaluated, he has demonstrated that early immunologic activation, seen on surveillance renal transplant biopsies, predicts long-term complications even before changes in laboratory values. His current NIH-funded studies are aimed at identification of biomarkers of chronic transplant dysfunction and new therapeutic targets to mitigate chronic allograft nephropathy.

Tennille Webb, M.D., is collaborating with investigators in the Cardiac Intensive Care Unit to better understand the alterations in perfusion, cytokines and inflammation that lead to acute kidney injury in patients undergoing cardiac surgery. The goal of her program is to reduce complications, hospital time and morbidity and improve survival in these critically ill children.

Megan Yanik, M.D., focuses on research that bridges the fields of renal transplantation, genetics and pharmacology. Her studies evaluate individual variations in metabolism that can predictably alter the body’s handling of both diet and medications. These findings can be leveraged to more accurately and effectively prescribe immune suppression for transplant recipients, increasing longevity and reducing complications.

In addition to these programs, the Division of Nephrology has a robust portfolio of quality improvement efforts. On a local level, we have projects that address two of the most severe complications of dialysis, anemia and hyperparathyroidism, and important aspects of renal transplantation, including immune suppression medication titration, management of opportunistic viral infections and pre-clinic planning to improve efficiency and medication adherence.
SIGNIFICANT PUBLICATIONS


EXTRAMURAL AWARDS & LEADERSHIP ROLES | PARTICIPATION IN NATIONAL RESEARCH, QUALITY IMPROVEMENT AND LEARNING NETWORKS

Daniel Feig, M.D., was elected to the American Academy of Pediatrics Section on Nephrology Executive Council. Dr. Feig will serve on the council beginning November 1, 2018, and the term will extend through October 31, 2021.

We are also involved in leadership of national quality-improvement efforts.

IROC (Improved Renal OutComes) is a national consortium of 17 pediatric renal transplantation programs. Generous donations have allowed us to both participate and lead aspects of this program. We have automated data collection that is now monitoring over 30 benchmark issues. We have initiated intervention programs aimed at improving blood pressure (BP) control after transplant, which is critical for organ longevity, and standardization of immune suppression induction. Upcoming projects include standardization of post-transplant biopsy schedules and therapy of asymptomatic acute rejection episodes that may presage future graft dysfunction. Michael Seifert, M.D., leads the IROC Research Committee and is on the governance board.

SCOPE (Standardization Care to Improve Outcomes in Pediatric End-Stage Renal Disease) is a collaborative of 78 pediatric nephrology programs to prevent infections in peritoneal and hemodialysis patients using large-scale collaboration to identify and disseminate effective interventions across pediatric care settings. Sahar Fathallah, M.D., medical director of the Pediatric Renal Dialysis Unit, leads the local chapter. In the past year, since we have joined SCOPE, our dialysis associated infection rates have fallen more than. This represents substantial cost savings and prevention of numerous infection-related hospitalizations.

NINJA (Negation of Renal Injury by Just-In-Time Action) is a collaboration between Children’s of Alabama (led by Dr. Askenazi) and Cincinnati Children’s Hospital in which hospitalized patients receiving medications that can cause kidney injury are automatically identified by using the electronic medical record system and scheduled for dose adjustments and increased renal function surveillance. The rate of acute renal injury in infants has been decreased by over 60% resulting in substantially decreased morbidity across the hospital and reduced hospitalization duration. A very recent application of this program in the Neonatal Intensive Care Unit, a project only done at Children’s of Alabama has nearly eliminated medication associated acute kidney injury in our most vulnerable premature infants. The NINJA program has been so successful that in 2018 it will be the first new program added to the Solutions of Patient Safety consortium and instituted at 147 children’s hospitals worldwide.
FEATURED RESEARCH

Alan Percy, M.D., has maintained funding and serves as the Principal Investigator for the multi-site Natural History Study (NHS) that initially addressed three aligned epigenetic disorders: Rett Syndrome (RTT), Prader-Willi Syndrome and Angelman Syndrome. This study continued for 11 years and upon its second renewal in 2014, the focus shifted to RTT, MECP2 Duplication disorder, males and females with MECP2 mutations, but failing to meet the consensus diagnostic criteria for RTT, and other genetic disorders, specifically, FOXG1 and CDKL5, meeting some features of RTT. The RTT NHS has continued to enroll and has expanded now to 14 sites, covering a broad sweep of geographic regions in the US. This expansion resulted from the concerted efforts of colleagues and the parent advocacy group, Rettsyndrome.org.

Presently, the total group of participants represents the largest single study of individuals with classic or atypical RTT examined directly by qualified physicians and followed successively for up to at least 12 years. Over the past dozen years, numerous cross-sectional and longitudinal studies have emerged from the NHS covering a wide range of clinically relevant topics, including but not limited to growth, development, phenotype-genotype correlation, seizures, awake breathing dysfunction, gastrointestinal dysfunction, scoliosis, puberty, diagnostic improvements, quality of life, clinical severity criteria, survival and emergence of parkinsonian features. Additional studies in the current iteration include neurophysiologic analysis of auditory brain stem and visual evoked responses, biomarker analyses, development of a reliable behavioral outcome measure and utilization of wearable devise to assess specific modalities, including heart rate, blood pressure, respiratory patterns, stereotypic hand movements, and skin temperature. The Rett Syndrome Center of Excellence has also recruited Amitha Ananth, M.D., to serve as an investigator and clinician. It is anticipated that Dr. Ananth will gradually assume Dr. Percy’s overall role as he prepares for retirement.

In 2016, Matthew Alexander, Ph.D., was recruited as a basic science investigator in the division. The major focus of his laboratory is to study the epigenetic (non-DNA modifications) and genetic (DNA modifications) factors that regulate human neuromuscular diseases and to develop novel therapeutics for the treatment of these debilitating disorders. The laboratory takes a multi-systematic translational approach in using a combination of zebrafish and mouse disease modeling, along with using primary human samples to better understand the etiologies of these disorders and determine any potential avenues for therapeutic treatment. Duchenne Muscular Dystrophy (D.M.D.) is the most prevalent muscular dystrophy that is studied; although there are additional projects in myotonic dystrophy type 1 (D.M.I) and limb-girdle muscular dystrophy 2I (L.G.M.2I). Zebrafish are an excellent translational tool for use, as they have low maintenance costs, high numbers of offspring (200—300 embryos per mating pair), ex vivo (outside of the womb) development, and most importantly, can rapidly uptake small molecules through their gills and skin during development. The laboratory performs important pre-clinical mouse testing of “hit” compounds for eventual opportunity for translational (e.g., D.M.D. patient) use and applications (e.g., bench to bedside).
The success of Dr. Alexander’s lab is evidenced by the awarding by the NIH of two extramural grants. A RO1 titled ‘A miR-486/Dock3 axis modulates dystrophin-deficient pathology,’ funded through 2023 and a R21 entitled ‘MicroRNAs as biomarkers and therapeutic targets for myotubular myopathy.’ In addition, Dr. Alexander will be joined by Michael Lopez, M.D., who will be developing a collaborative research program in pediatric neuromuscular disease. Dr. Lopez recently completed training at Stanford University and has assumed the role of the primary neuromuscular specialist within the division.

To address the needs of clinical care, the division has also recruited Han Phan, M.D., who will be commuting from Atlanta, Georgia, to participate in the effort to develop a recognized Center of Excellence in Muscular Dystrophy. Dr. Phan is also charged with helping to develop infrastructure and processes to enable the clinic to serve as a site for multicenter therapeutic trials in both Duchenne Muscular Dystrophy and Spinal Muscular Atrophy. Drs. Alexander, Lopez, and Phan all represent a nidus of basic science and clinical research expertise that is unique to the region, and we anticipate ongoing growth and success in the area of pediatric neuromuscular disease as a result.

Leon Dure, M.D., continues to serve as the pediatric neurology resource for the multisite clinical trials consortium, NeuroNEXT. In this role, he responds to queries from clinical trial investigators regarding the suitability of UAB as a site. Few NeuroNEXT studies have been developed that address childhood neurologic disorders, and UAB has not been selected as a site. In a similar role, Tony McGrath, M.D., now serves as the national resource for the National Stroke Consortium, which will be recruiting patients for a natural history study of childhood arterial ischemic stroke. He will be collaborating with Dr. Toby Gropen of UAB Department of Neurology, as well as pediatric faculty in neonatology, pediatric critical care, and pediatric rehabilitation medicine.

In 2014, the state of Alabama enacted legislation to decriminalize the use of cannabidiol (CBD) for individuals with refractory epilepsy. As part of this law, money was set aside to carry out an observational study of the effect of CBD in known epileptics. Dr. Dure is a member of the steering committee for this effort, which involved a number of administrative and logistical issues in order to carry out the study. Besides taking a major role in the development of the study, Dr. Dure continues as a records analyst to determine if patients meet inclusion criteria for this study.

In 2017, Dr. Dure was named the site investigator for two industry-sponsored trials. The first is a phase 3 assessment of the efficacy and safety of triheptanoin for the treatment of movement disorders in Glucose Transporter Type 1 Deficiency, and is not yet active. Similarly, Dr. Dure will serve as the site investigator for an open-label extension of an agent to treat Niemann-Pick Type C1, and this study is awaiting regulatory approval. These studies are ongoing, and an additional patient was enrolled as a part of an expanded use protocol. In 2018, TEVA Pharmaceuticals recruited Dr. Dure to serve as one of two coordinating investigators for a multi-site, international study of the efficacy of deuterotubacaine in the treatment of dyskinetic cerebral palsy. In addition, UAB/COA will serve as an investigational site for the study, with Emlyn Gantz, M.D. serving as site-investigator.

Dr. McGrath functions as a consultant on the U01 HD052102-02 research cooperative, addressing disease burden for HIV-infected children, and as a sub-investigator for U01 HL078787-05S1, a trial examining features of cerebrovascular events in children with sickle-cell disease. He chairs the selection committee for the UAB CBD study, and is a sub-investigator with Jayne Ness, M.D., Ph.D., on two industry-sponsored multiple sclerosis (MS) therapy trials. Finally, he is a medical monitor for a phase I clinical trial of a modified herpesvirus vector to treat childhood brain tumors.

As the head of the only pediatric MS center in the South, Dr. Ness has accumulated a large panel of children with a variety of demyelinating disorders. She is currently the site investigator for two industry-sponsored clinical trials, one examining the safety and efficacy of tocolizumab in neuromyelitis optica spectrum disorders and the other addressing safety and efficacy of oral fingolimid versus intramuscular beta-interferon in MS.

In collaboration with Dr. Martina Bebin in the UAB Department of Neurology, Monisha Goyal, M.D., serves as co-PI for two NIH-funded studies of tuberous sclerosis. The first involves the identification of biomarkers for autism-spectrum disorders, and the second examines EEG biomarkers as well as treatment strategies in tuberous sclerosis. Dr. Goyal is the principal site investigator for three industry-sponsored studies of the efficacy and safety of cannabidiol in Dravet syndrome and Lennox-Gastaut syndrome.

Pongkiat Kankirawatana, M.D., has focused exclusively on industry-sponsored epilepsy studies. He is currently the site investigator for two studies examining lacosamide as an adjunctive therapy for partial onset seizures, as well as an intravenous equivalency study of lacosamide. He is also recruiting patients with new onset epilepsy to compare safety and tolerability of topiramate vs levetiracetam. One study of an investigational drug for super-refractory epilepsy has recently closed enrollment, and an open label study of lacosamide safety and tolerability is in the development/regulatory stages.

Ismail Mohamed, M.D., is our representative to the Pediatric Epilepsy Research Consortium and has taken over our recruitment for a multicenter study of treatment and outcomes in infantile spasms. He is also a participant in the Experimental Program to Stimulate Competitive Research initiative examining the dynamics of seizure and memory networks.

**SIGNIFICANT PUBLICATIONS**


The Division of Pediatric Pulmonology and Sleep Medicine maintains a broad research portfolio that complements the clinical programs, with focus areas in cystic fibrosis (CF), asthma, primary ciliary dyskinesia (PCD), neuromuscular disorders (NM.D.) sleep medicine, and sickle cell disease (SCD).

### Cystic Fibrosis

Gabriela Oates, Ph.D., is conducting research on the role of individual- and neighborhood-level social determinants of health for clinical outcomes in cystic fibrosis and other pulmonary diseases. She investigates the contribution of tobacco smoke exposure for pulmonary decline in cystic fibrosis, the impact of unmet social needs for child respiratory health, and leads studies on adherence and self-management in chronic conditions. Dr. Oates is the UAB site PI for the CF Foundation Successful Therapies Research Consortium (STRC), where she also leads the Community Input Project.

Tom Harris, M.D., investigates mechanisms of disease progression in cystic fibrosis (CF) and the identification of novel targets for disease intervention. He specifically focuses on genetic modifiers of disease, as these might provide clues to improved treatment strategies. His work focuses on the genetic modifier transforming growth factor beta (TGF-β). Dr. Harris has identified the specific micro RNA (miRNA) that mediate TGF-β inhibition of F508del cystic fibrosis transmembrane conductance regulator (CFTR) correction. miRNA are small (~22 base pair) non-coding RNA that destabilize mRNA transcripts and inhibit protein translation. miR-145 mimics destabilize CFTR mRNA, protein synthesis and channel function in airway and nasal epithelia. In 2018, Dr. Harris investigated the use of oligotherapeutics to improve CFTR correction. Specifically, Dr. Harris is pursuing the benefit of anti-sense oligonucleotides to block the miR-145 binding site on CFTR as a novel approach to overcome TGF-β inhibition of CFTR directed therapeutics. His work in CF-related miRNA antagonists and miRNA target site blockers in CF animal models. Dr. Harris also leads several pharmaceutical trials of CFTR correction at UAB, including one trial that for the first time evaluates the benefit of CFTR potentiation in infants and toddlers with CF and another that brings next generation CFTR modulators to young school-aged children.

Jennifer Guimbelloth, M.D., Ph.D., and colleagues have developed multiple personalized models for predicting the effectiveness of CFTR modulators in CF patients and those with acquired CFTR dysfunction. Using cells from the nose, lower airway and sweat gland, her laboratory continues to develop minimally invasive, personalized models for individuals with pulmonary disease. She has had support from the Cystic Fibrosis Foundation (CFF) and the National Institutes of Health (NIH) to develop these models. Because of the significant interest in these personalized, cell-based models made from human tissues, Dr. Guimbelloth also has an interest in understanding drug distribution and metabolism into the tissues. Her CFF-supported research also involves individualized pharmacokinetic analysis and pharmacogenomics approaches to gain insights into further tailoring modulator therapy to provide maximal therapeutic benefit for every CF patient.

Hector Gutierrez, M.D., leads the Cystic Fibrosis Clinical Center. His research objectives are to implement and investigate quality improvement, outcome measurement and management of both clinical and non-clinical processes using CF care as a model to improve the quality and value of clinical care, which ultimately results in longer survival. By applying quality improvement methodologies, assessment and optimization of care processes and team functioning, his work has demonstrated significant improvement in key measures of clinical outcomes in CF. The CFF recently awarded funding to continue his work in Chile and extend it to Mexico and Argentina, in collaboration with the Pediatric CF Center at Baylor University.
Sickle Cell Disease

In collaboration with the Division of Hematology/Oncology, Ammar Saadoon Alishash, M.D., launched the Sickle Cell Pulmonary Program at Children's of Alabama, which encompasses both basic research and clinical components. Dr. Alishash's lab investigates the pathogenesis and management of pulmonary complications of Sickle Cell Disease (SCD). He uses SCD mouse model to investigate the mechanisms and therapeutic approaches of acute chest syndrome and SCD-associated pulmonary hypertension. The clinical component involves screening, developing protocols and treating SCD patients for pulmonary complications such as asthma, pulmonary hypertension, acute chest syndrome and sleep-disordered breathing. Dr. Alishash has a designated clinic for SCD patients with pulmonary disorders.

SIGNIFICANT PUBLICATIONS


DIVISION AWARDS & RECOGNITION | EXTRAMURAL AWARDS & LEADERSHIP ROLES | PARTICIPATION IN NATIONAL RESEARCH, QUALITY IMPROVEMENT AND LEARNING NETWORKS

Tom Harris, M.D., was awarded a Clinical Investigator Award (K08) from the NIH’s National Heart Lung and Blood Institute to study the novel therapeutic opportunities in cystic fibrosis (CF). In this project, Dr. Harris investigates the utility of oligoatherapeutics to improve F508del CFTR correction. Dr. Harris has previously shown that the genetic modifier TGF-b decreases CFTR expression through miR-145. This project will now test if oligonucleotides that block miR-145 binding to CFTR can amplify the benefit of recently FDA-approved small molecule correctors. To conduct his experiments, Dr. Harris will utilize preclinical cell culture and animal models available through the UAB Gregory Fleming James Cystic Fibrosis Research Center.

Jennifer Guimbellot, M.D., Ph.D., won the prestigious Cystic Fibrosis Foundation’s Harry Shwachman Clinical Investigator Award. With this award, she will examine the importance of genetic variants of drug metabolism enzymes in the CF population and measure association with clinical efficacy; measure intracellular concentrations of ivacaftor and effect on CFTR activity in a novel in vitro biomarker; and conduct a pilot study in people to combine pharmacogenetics of CYPs with CFTR activity and in vivo drug response. Ivacaftor is a significant component of many combination therapies, so understanding its variation in metabolism and impact on efficacy as monotherapy is the first step to step understanding pharmacogenetics in complex combinations, as well as expanding these concepts to other systemically administered modulator drugs.

Jennifer Guimbellot, M.D., Ph.D., through a CFF-funded grant, is developing cell-culture based models derived from individual patients, which are three-dimensional organoid models, and are capable of measuring fluid transport (via changes in organoid size). Her lab is optimizing methodology to use these models to determine the efficacy of CFTR modulator activity and its impact on fluid transport and mucus clearance, providing a comprehensive assessment of pharmacological activity that will be implemented in an individualized fashion.

Gabriela Oates, Ph.D., gained admission to the NIH 18th Annual Summer Institute on Randomized Behavioral Clinical Trials and became a graduate fellow of this research training program sponsored by the NHLBI/oBSSR.

Hector Gutierrez, M.D., is the site PI for the Cystic Fibrosis Learning Network (CFLN). The overall goal of the CFLN is to achieve a care model that reliably improves clinical and patient-reported outcomes for people with CF. The objective of this implementation phase is to accelerate and spread improvement of outcomes by maturing the CFLN and developing real-world research capabilities.

Hector Gutierrez, M.D., and Gabriela Oates, Ph.D., are co-PIs of the Cystic Fibrosis Foundation funded CF Training Network: Latin America, a quality improvement initiative aimed to train multidisciplinary CF teams in Latin America in three critical aspects: delivery of evidence-based CF care that is adapted to local healthcare settings; establishment of a CF patient registry and data infrastructure to support such care; and engagement and education of the local CF patient community and stakeholders. The network will develop and implement a structured sustainable training program for CF centers in Latin America.
FEATURED RESEARCH

The Division of Pediatric Rehabilitation Medicine seeks to generate new knowledge related to disabling conditions of childhood. Through close collaboration with the UAB/Lakeshore Research Collaborative, our division is working to develop interventions to improve the health and wellness of children with physical impairments through sports, fitness, recreation and lifestyle interventions. The expansion of division clinical services on the campus of Lakeshore Foundation in 2018 has served to further the research goals of the collaborative and resulted in creation of the Lakeshore Foundation Pediatric Rehabilitation Ph.D. Postdoctoral Fellowship. As well, Drew Davis, M.D., and Erin Swanson-Kimani, M.D., are members of the Children’s of Alabama Concussion Work Group, collaborating with other UAB researchers to identify biomarkers and risk factors for prolonged concussion recovery in children and adolescents, and to assess safety for returning to drive in adolescents who have received a mild traumatic brain injury through collaboration with the UAB Translational Research for Injury Prevention Laboratory (TRIP Lab). This work is at the forefront of efforts nationally to learn more about the serious consequences of traumatic brain injury. The division also continues collaboration with leaders in the UAB Constraint Induced (CI) Therapy Research Group to develop new applications for CI therapy in the pediatric population.

SIGNIFICANT PUBLICATIONS

PEDIATRIC FACULTY
Dr. Randy Cron  Director | Professor
Dr. Tim Beukelman  Associate Professor
Dr. Melissa Mannion  Assistant Professor
Dr. Emily Smitherman  Assistant Professor
Dr. Matthew Stoll  Associate Professor
Dr. Peter Weiser  Associate Professor

FEATURED RESEARCH

Members of the Division of Pediatric Rheumatology excel in research into macrophage activation syndrome (MAS) in the pediatric population. This includes the novel recognition that a group of patients with fatal H1N1 flu died after their viral infections triggered this serious hyperinflammatory disorder. Randy Cron, M.D., Ph.D., led a group of investigators from across the country to determine that the reason for this increased mortality was related to gene mutations in susceptible individuals. His data suggest that people with other types of infections and identical gene mutations may also be prone to the disorder, known as reactive HLH (rHLH), or hemophagocytic lymphohistiocytosis. Perhaps more importantly, these findings raise the question of whether to screen for HLH gene mutations (potentially 10% or more of the population) at birth to identify those carrying risk alleles for developing severe H1N1 or other infections. Dr. Cron’s research laboratory is also exploring the pathophysiology of this disease by demonstrating that identified mutations in HLH genes contribute to the pathology of MAS in children and adults by disrupting white blood cell function. His recent work identified a mutation that disrupts the level of protein expression (rather than directly altering the protein), a new region of genetic interest leading to human disease.

Dr. Cron’s work in the field of MAS also includes a retrospective re-analysis of the results from a large clinical trial of IL-1 blockade using the drug anakinra for the treatment for sepsis. When sepsis patients were divided based on the presence of MAS, it was found that anakinra doubled survival of those sepsis patients with features of MAS. Anakinra had no effect on survival of sepsis patients without MAS. In recognition of his leadership in this area, Dr. Cron co-led (with Dr. Angelo Ravelli, University of Genoa, Italy) a group of experts who developed and published classification criteria for MAS complicating systemic juvenile idiopathic arthritis (sJIA). Recently, in collaboration with Dr. Winn Chatham (UAB), Dr. Cron is conducting an investigator initiated clinical trial to study the role of anakinra in treating children and adults with MAS. As part of this trial, Dr. Cron, in collaboration with Dr. Devin Absher (HudsonAlpha) is funded by the Histiocytosis Association, as well as the UAB Center for Genomic Medicine, to explore potential genetic contributions to the development of MAS in these patients. Dr. Cron’s lab also continues to explore transcriptional regulation of the HIV-1 virus (cause of AIDS) as it relates to viral latency as part of an NIH-funded project in collaboration with Dr. Olaf Kutsch (UAB). Dr. Cron also continues his clinical research in the arena of temporomandibular joint (TMJ) arthritis in children with juvenile idiopathic arthritis (JIA).

Tim Beukelman, M.D., MSCE, serves as the scientific director of the Childhood Arthritis and Rheumatology Research Alliance (CARRA) Registry. The CARRA Registry, a multicenter prospective observational registry for children with arthritis, became operational in 2015 and currently has more than 40 clinical sites enrolling patients. The primary aim of the registry is to evaluate the safety of therapeutic agents used to treat pediatric rheumatic diseases, and the secondary aim is to evaluate clinical outcomes and their determinants, including treatment. Dr. Beukelman has worked closely with other members of the registry executive committee to bring the registry to fruition and encourage the performance of Phase IV safety surveillance studies that satisfy FDA requirements. Current work is focused on expanding the capabilities of the registry to allow investigator-initiated observational and interventional sub-studies to be layered on the existing registry infrastructure. Dr. Beukelman is also the principal investigator of a pharmacoepidemiology project as part of the Agency for Healthcare Research and Quality (AHRQ) funded UAB Center for Education and Research on Therapeutics (CERTs). This project aims to use administrative claims data, such as Medicaid billing data, to further evaluate the safety of medications used to treat JIA with emphasis on serious infection and malignancy risk. These studies build upon this team’s prior successful publications and will allow for longer-term follow-up of patients, as well as the examination of newer biologic agents. Recently, Dr. Beukelman, in collaboration with Dr. Jeffrey Curtis (UAB), was awarded a grant from PCORI to compare the effectiveness and safety of novel biologic therapies.
Matthew Stoll, M.D., Ph.D, MScS, explores the role of the microbiota in children and adults with spondyloarthritis. He has identified various bacterial species in patients with spondyloarthritis that are protective for disease and others which contribute to the pathology. Recently, Dr. Stoll has evaluated the metabolic diversity and functions in the gut microbiomes and shown diminished function in arthritis patients versus controls, as well as alterations in tryptophan metabolism that may alter immune function to allow for autoimmunity. Dr. Stoll, along with Dr. Cron, is also an expert in temporomandibular joint (TMJ) arthritis in children with juvenile idiopathic arthritis, and Drs. Cron and Stoll continue to explore the diagnosis and treatment of this common problem in children with chronic arthritis.

Melissa Mannion, M.D., MSPH, conducts research using epidemiologic analysis related to juvenile idiopathic arthritis (JIA). Specifically, she is interested in the use of medications to treat juvenile idiopathic arthritis (JIA), the outcomes of JIA in adulthood and the comparative effectiveness of treatment modalities. Her specific research topics include the risk of malignancy associated with biologic treatments and the transition of pediatric arthritis patients in adult rheumatologic care. Dr. Mannion also employs the pediatric rheumatology national quality improvement network, PR-COIN, to address related research questions by exploring this large database.

Emily Smitherman, M.D., MScCTR, studies patient-centered outcomes with an emphasis on developing and implementing healthcare system interventions to drive improvement in outcomes. Dr. Smitherman also employs the pediatric rheumatology national quality improvement network, PR-COIN, to address related research questions by exploring this large database.

SIGNIFICANT PUBLICATIONS


Initially known as the Pediatric Research Institute, the Kaul Pediatric Research Institute (KPRI) was created by the Board of Trustees of Children’s of Alabama in 1989 to provide internal funding for junior faculty who were just beginning their academic careers. The initial funding came from proceeds (10%) of the Children’s Miracle Network telethon, with half committed to an endowment and the other half to support grants submitted by faculty or professionals working at Children’s of Alabama. The first grants were awarded in 1993. Following the donation of an initial $5 million from the Kaul Foundation to increase the endowment, the Board of Trustees changed the name of this program to the Kaul Pediatric Research Institute (KPRI). Initially, four two-year grants of $20,000 per year were awarded. With the increase of the contributions to the KPRI and the growth of the endowment, seven grants are now awarded each year, and the funding has increased to $35,000 each for five new investigators and two awards at $50,000 each for established investigators.

The program is competitive and peer-reviewed in an NIH format. Up to 2018, 129 grants have been awarded to 93 investigators for a total investment of $7,937,000. The return on the investment has been outstanding with 42 awardees remaining on faculty at UAB and a total of $37.79 million in extramural funding to these investigators.

The major goal of the KPRI grant program is to allow investigators to obtain data that will advantage applications for additional extramural funding. This will bring new knowledge to the care of children, leverage the investment of the KPRI and allow projects to be competitive for the very best science on the national stage. A second, but important, goal is to ensure that a dedicated funding source is available to unique segments of the pediatric research, education and quality improvement enterprise.

2018 AWARDEES

NEW INVESTIGATOR AWARDS

Ismail S. Mohamed, M.D.
Associate Professor
Pediatric Neurology
Computational Neurology for Non-invasive Delineation of the Epileptogenic Zone

Robert P. Richter, M.D.
Assistant Professor
Pediatric Critical Care
Heparanase and Endotheliopathy in Pediatric Sepsis

Robert T. Russell, M.D.
Associate Professor
Pediatric General Surgery
Coagulopathy Following Head Injury in Pediatric Trauma: From Bedside to Bench

Ariel A. Salas, M.D.
Assistant Professor
Neonatology
Effect of Increased Enteral Protein on Body Composition of Preterm Infants: A Randomized Trial
ESTABLISHED INVESTIGATOR AWARDS

Daniel I. Feig, M.D.
Professor
Pediatric Nephrology
ESTaBLUSH: Impact of Early life
STressors on the Blood
pressure and vascular function
In adolescents and cHildren

Wendy Landier, Ph.D., RN
Associate Professor
Pediatric Hematology & Oncology
Integrating Technology to Enhance
Patient/Family Education in
Pediatric Oncology

Gregory K. Friedman, M.D.
Associate Professor
Pediatric Hematology & Oncology
Immunovirotherapy to Target
Pediatric Brain Tumors
PEDIATRIC RESIDENCY PROGRAM

Research is an important part of our residents’ education and is encouraged and supported by the program. While research is not a requirement of our Pediatric Residency Program, the majority of our residents have either ongoing research projects, extensive involvement in quality improvement projects, and/or experience in clinical case presentations. There are 70 pediatric residents who participate in scholarly efforts. We have three combined programs that also participate in research. Our programs include: Combined Internal Medicine/Pediatric Program (16 residents), Child Neurology (two residents) and Combined Medical Genetics/Pediatrics (three residents).

For the past 10 years, 50% of our graduates have continued into academic fellowships.

CLASS OF 2018 POST-GRADUATION PLANS

Baani Bawa, M.D.  
Hospital Medicine, Nashville, TN

Megan E. Boothe, M.D.  
Genetics Fellowship, UAB

John Mark Bouchillon, M.D.  
2018–2019 Chief Resident, UAB

Stephen T. Clark, M.D.  
Pediatric Cardiology Fellowship, UAB

Adam W. Cohen, M.D.  
Pediatric Gastroenterology Fellowship, UAB

Orlando Esparza, M.D.  
Pediatric Hematology/Oncology Fellowship, University of Colorado

Anna L. Hoppmann, M.D.  
Pediatric Hematology/Oncology Fellowship, UAB

Claire S. Keith, M.D.  
Gastroenterology Instructor followed by Pediatric GI Fellowship, UAB

Angela J. King, M.D.  
General Pediatrics, Clinical Instructor, UAB

Tiffany D. Moore, M.D.  
General Pediatrics, Birmingham, AL

Anastasia T. Nelson, M.D.  
General Pediatrics, Trussville, AL

Jamie L. Powell, M.D.  
General Pediatrics, Homewood, AL

Robert D. Sellers, IV, M.D.  
2018–2019 Chief Resident, UAB

Mary E. Silverberg, M.D.  
Research at UAB, Pursuing NICU Fellowship

Karlene D. Walker, M.D.  
2018–2019 Chief Resident, UAB

Carter D. Wallace, M.D.  
Gastroenterology Instructor followed by Pediatric GI Fellowship, UAB

Timothy A. Wang, M.D.  
Neonatology Fellowship, Cincinnati Children’s

Anna P. White, M.D.  
General Pediatrics, Health Department, Birmingham, AL

Andrea M. Wolf, M.D.  
Developmental and Behavioral Pediatrics Fellowship, University of Colorado

Taylor A. Woodfin, M.D.  
Pediatric Gastroenterology Fellowship, UAB

Sara E. Bagwell, M.D.  
General Medicine/Pediatrics, UAB

K. Shannon Booker, M.D.  
Medicine/Pediatrics Hospitalist, Minneapolis, MN

Sarah E. Bragg, M.D.  
General Medicine/Pediatrics, UAB

Teresa B. Cornelius, M.D.  
Medicine/Pediatrics, Hospitalist, UAB

Sarah Joy Dean, M.D.  
Medical Biochemical Genetics Fellowship, UAB

2017—2018 CHIEF RESIDENTS

Bryauna S. Lewis, M.D.  
General Pediatrics, Birmingham, AL

T. Spencer Poore, M.D.  
Pediatric Pulmonary Fellowship, University of Colorado

Michelle Udine, M.D.  
Pediatric Cardiology Fellowship, Children’s National
The program offers multiple opportunities for the residents to participate in research during their residency. Some of these include:

**Pediatric Research Academic Program:** Research interest group that meets monthly to discuss basic research topics, set monthly goals and network with each other, as well as faculty.

**Senior Talks:** Every PGY-3 Pediatric and PGY-4 MedPeds and Peds/Genetics resident presents a 30-minute research topic at a Noon Conference throughout the year. Below are examples of topics that have been presented in 2018.
- “Wilderness Medicine”—Dr. Jamie Oakley
- “Vaccine Hesitancy”—Dr. JaneMarie Freeman
- “Early Learning and Literacy”—Dr. Anna Magliolo
- “Pediatric Organ Donation”—Dr. Emily Foreman
- “I Am New at this, Information for The New Parent and New Inter” – Drs. Spandana Induru & Leen Mataika

**Quality-Improvement Projects:** Every resident must participate in a QI project during their residency. They are able to join projects that have already been started by previous residents or create a new one. Below is a sampling of resident QI projects.
- “Back to Boot Camp: Procedural Competence of Pediatric Residents”
- “Adolescent Depression Screening in Primary Care”
- “Using Quality Improvement Process to Increase Influenza Vaccination in Pediatric Inflammatory Bowel Disease Patients”
- “Bridging the Gap: Improving Transition from Pediatric to Adult Care”
- “Standardizing Inpatient Admissions for Patients Admitted to Children’s of Alabama on the Asthma Clinical Pathway”
- “Smoking Cessation Counseling: A Simulated Enhanced Curriculum for Residents to Promote Smoking Cessation Counseling”
- “Reducing Checkout Errors by Implementing Handoff Tool in iConnect”

**Annual UAB Pediatric Science Day:** Pediatric residents can attend or present at this all-day departmental conference.

**RIME (Research and Innovation in Medical Education):** A three-day long program at UAB where residents have the opportunity to present their research.

**Founders’ Fund Grant:** $1,000 research grants awarded annually to peer-selected projects to help residents accomplish research goals. Below is a list of grants awarded this year.
- “Improving Firearm Safety in Primary Care Clinic”
- “Procedural Competence of Pediatric Residents”
- “All-Terrain Vehicle (ATV) Injury Prevention through Education in Schools”
- “Pediatric Research Academic Program”
- “Creating a Medical Home for Children with Medical Complexity within Primary Care Clinic”

**Attendance at national and regional meetings is supported by the Department of Pediatrics throughout the year. Below is a list of conferences our residents have attended this year.**
- Southern Society for Pediatric Research (SSPR)—25 residents presented at 2018 conference.
- American Society of Nephrology
- American Academy of Pediatrics National Conference and Exhibition (AAP-NCE)
- North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN)
- Crohn’s and Colitis Congress
- Vermont Oxford Network Quality Congress
- American College of Rheumatology Annual Meeting

We are very proud of the research accomplishments of our Pediatric Residents. We are very grateful to the Department of Pediatrics faculty and fellows who have mentored and inspired their work.
The UAB Pediatric Fellowship Programs encompass 18 fellowship programs (16 ACGME and two non-ACGME programs), representing more than 60 pediatric fellows who participate in scholarly efforts.

**ACGME–APPROVED PEDIATRIC FELLOWSHIP PROGRAMS**

- Adolescent Medicine
- Allergy-Immunology
- Cardiology
- Child Neurology
- Critical Care
- Emergency Medicine
- Endocrinology
- Gastroenterology
- Hematology-Oncology
- Hospice-Palliative Care
- Infectious Disease
- Neonatology
- Nephrology
- Pulmonary
- Rheumatology
- Sleep Medicine

**NON-ACGME–APPROVED PEDIATRIC FELLOWSHIP PROGRAMS**

- Cardiac Critical Care
- Hospital Medicine

Research and research scholarship are of upmost importance to our pediatric fellowship programs. Research activities are a requirement of the American of Board Pediatrics (ABP) as well as the Accreditation Council for Graduate Medical Education (ACGME), but many of our fellows perform at a level well above the minimum expected requirements. These efforts during fellowship are further supported by the fact that approximately 80% of our pediatric fellowship graduates go into academic medicine or seek additional training, while 20% go into private practice or other areas of interest (i.e., CDC, International Missions, etc.).

We offer some innovative opportunities and programs to assist our fellows to perform at high levels of research during their fellowship training. A few highlights include:

- **Annual Pediatric Science Day**—Daylong conference with invited guest Grand Rounds speaker and moderator. Pediatric fellows, residents and medical students present their ongoing research and case presentation in platform and poster format.
- **RIME (Research and Innovation in Medical Education)**—A three-day-long program at UAB including invited speakers, poster presentation by residents and fellows, and a one-day educational session just for fellows.
- **Dixon Fellowship**—A program initiated in 1988, aimed at supporting and preparing selected fellows for careers in academia. Since its inception, this program has aided in the training and research efforts of 73 fellows, with 28 of them remaining as active faculty at UAB.
- **T-32 Fellowship Positions**—The ability to support our strongest research fellows on training grants, most recently in the divisions of Pediatric Rheumatology and Pediatric Infectious Disease.
- **Research Roundtable**—A twice-monthly conference to allow fellow presentations of ongoing research across all pediatric divisions. Faculty and fellows provide mentoring and feedback on all aspects of the projects.
- **Fellow’s Core Educational Series**—A two-year curriculum for all pediatric fellowship programs with an entire year devoted to research techniques and research-related topics.
Nationally and regionally our fellows present at scientific conferences, including Southern Society for Pediatric Research (SSPR), American Academy of Pediatrics National Conference and Exhibition (AAP-NCE) and Pediatric Academic Society (PAS), to name a few. Grants and awards highlighted by our pediatric fellows:

- Founders’ Fund Grant for multiple fellows (Pediatric Emergency Medicine and Pediatric Critical Care)
- LEAH Grant (Adolescent Medicine)
- Finalist Clinical Sciences Young Investigator Award (Neonatology)
- Endowed Kennedy Fellow (Rheumatology)

Below are some recent publications of the specific projects our pediatric fellows are involved in with the fellow’s name bolded:


Papers from the 2018 Academic Annual Report:


**Minerva Pediatr.** 2018 Jul 23. Clinically relevant cardiopulmonary interactions for the pediatric intensivist. Sasser WC, Sims AN, Loberger JM, Tolli NM, Prabhakaran P.

The Dixon Pediatric Fellowships were endowed in 1988 by the Edwin Dixon family of Birmingham, Alabama. The Dixon Fellowships are competitive awards to assist in the training of fellows who intend to pursue an academic career with a research emphasis in pediatric subspecialties. Recipients receive salary support and a $5,000 per year discretionary fund to support research and continuing education activities. There are five Dixon Fellow training slots, and funding for the program is shared between the Dixon Foundation and the Department of Pediatrics. Since the establishment of the fellowship, 73 awards have been given. Of the awardees, more than 50% are now active faculty within the department. Among the alumni, there are 10 division chiefs, seven endowed chairs, one clerkship director, five division fellowship program directors, one residency training program co-director, one center director, and one associate dean.

The selection of fellows is made by a committee composed of Dixon family members and five former Dixon Fellows who evaluate a formal proposal submitted by the fellows with letters from their future mentors and division directors. Awardees are announced at the end of May each year during the delivery of the Bradford Dean Dixon Memorial Lectureship. To date, 36 lectures have been presented at Grand Rounds by notable leaders in the field of pediatrics.

2018–2019 Dixon Fellows

Abdulsalam Alsulami, M.D., Second Year Pediatric Infectious Diseases Fellow, researched the "Impact of Different Human Coronaviruses (HCoVs) on Pediatric Patients at a Tertiary Pediatric Hospital—Retrospective Study and Assessment of Interventions.”

Neha Gupta, M.D., FAAP, Third-Year Pediatric Critical Care Fellow, worked to develop a Children’s of Alabama Delirium Scale (COADS).

Samantha Hill, M.D., MPH, Third-Year Adolescent Medicine Fellow, researched “Identification of Strategies That Increase PrEP Uptake for Adolescents and Young Adults in the Deep South.”

Nazia Kabani, M.D., Second-Year Combined Pediatric Infectious Diseases and Neonatology Fellow, researched “Defining the full spectrum of neuroimaging findings and determining their impact on outcome in infants with congenital cytomegalovirus infection.”

Cali Reynolds, M.D., Second-Year Pediatric Allergy/Immunology Fellow, researched “Addressing Penicillin Allergies in the Inpatient Pediatric Population.”

Graduating Dixon Fellows Are:

Claudette Poole, M.D., Pediatric Infectious Diseases, who joined the UAB Division of Pediatric Infectious Diseases as an assistant professor.

Jamie Aye, M.D., Pediatric Hematology/Oncology, who joined the UAB Division of Pediatric Hematology/Oncology as an assistant professor.

Corey Falcon, M.D., Pediatric Hematology/Oncology, who joined the Tulane Medical School as an assistant professor in pediatric hematology/oncology.

Miranda Curtiss, M.D., Pediatric Allergy & Immunology, who joined the UAB Department of Medicine Division of Pulmonary, Allergy, and Critical Care as an instructor.

In 2015, the Chu family donated a generous gift to Children’s of Alabama and the Department of Pediatrics to support educational initiatives. A portion of this donation was set aside to fund educational scholarships for pediatric fellows. The scholarship is selected on a competitive basis by a selection committee. This year the selection committee for the Chu Family Educational Scholarship selected two fellows to receive educational scholarships. These awards will provide funds for tuition, books and fees related to their educational endeavors.

2018 Chu Family Scholarship Recipients

Aman Wadhwa, M.D.—Third-Year Pediatric Hematology/Oncology Fellow, was awarded $5,000. Dr. Wadhwa will use funds towards completing a MSPH degree in Outcomes Research at UAB.

Jeremy Loberger, M.D.—Second-Year Pediatric Critical Care Fellow, was awarded $5,000. Dr. Loberger will use funds toward completing a UAB Quality Academy Certificate Course.
Russell Cunningham Memorial Research Program

The Cunningham Scholarship was established in 2007 to honor Dr. Russell Cunningham, the former director of the Division of Endocrinology and pediatric clerkship director. The goal of the program is to attract UAB medical students who are interested in academic pursuits during the summer. Students select their mentors and are tracked for ultimate career paths. Recipients are selected after a competitive selection process, and each receive a $4,000 stipend and a $1,000 travel allowance to work with their research mentor for eight weeks during the summer. To date, 25 awards have been granted.

2018 Russell Cunningham Memorial Research Program Recipients

Zachary Burns

Project: Research the effects of the transition of Pediatric Cardiology from within UAB to a freestanding program on personnel and patient care.

Faculty Mentor: Robert Dabal, M.D., Pediatric Cardiovascular/Thoracic Surgery

Meghana Gaini

Project: “The Effects of Demographic Differences in the Use of Breast Milk and Complementary Foods on the Growth of Preterm Infants”

Faculty Mentor: Myriam Peralta, M.D., Developmental & Behavioral Pediatrics

Founder’s Fund Grants

The Founder’s Fund Endowment was developed in partnership with Children’s of Alabama in 2006 to honor three prominent former faculty members: FoundersFundImage Drs. Ralph Tiller, Paul Palmisano, and Bill Benton. This program was designed to specifically benefit the Pediatric Residency Program. The monies raised are held in an endowed account by Children’s of Alabama in the Kaul Pediatric Research Institute. Founder’s Fund Grants are awarded every May for innovative research projects in the focus areas of education, clinical practice, quality improvement or outcomes that focus on residency education and advocacy. Approximately 10–12 grants are awarded each year in the amount of approximately $1,000 per year. It is a competitive process under the direction of the residency program directors.

Several Founder’s Fund projects have resulted in significant advances in the manner by which we care for patients, patient and family education, advocacy and training for medical students. At least 10 projects have led to presentations by residents and their mentors at national and regional academic meetings (SPR/APS, SSPR, AAP).

2018 Founder’s Fund Grants-Principal Investigator and Project Titles

Emily Bufkin, M.D., Med-Peds PGY-3: “Creating a Medical Home for Children with Medical Complexity within Primary Care Clinic.”


Austin Doss, M.D., Pediatric PGY-3: “Procedural Competence in Pediatric Residents.”

Eric Jorge, M.D., Pediatric PGY-3: “Improving Firearm Safety Counseling in Primary Care Clinic.”


Kristyn Jeffries, M.D., Pediatric PGY-3: “Teaching residents Pediatric Advanced Life Support (PALS) cardiac arrest guidelines using Rapid Cycle Deliberate Practice (RCDP).”

Rashmi Patil, M.D., Pediatric PGY-2: “Baby Shower for Young Mothers Program.”

Kristyn Jeffries, M.D., Pediatric PGY-3: “Pediatric Research Academic Program (Pediatric RAP).”

Candice Dye, M.D., Academic General Pediatrics: “Use of Mental Health Simulation to Improve Pediatric Primary Care, Resident Reflection on Suicide Prevention, and Development of Support Groups.”

Michele Nichols, M.D., Pediatric Emergency Medicine: “Spanish Class for Residents.”
The UAB Department of Pediatrics established the Pediatric Research Office (PRO) in 2015 to renew its commitment to the next generation of new knowledge in the diagnosis, treatment, and sequelae of pediatric diseases. The PRO seeks to "lower the energy of activation" in the design, conduct, and analysis of research conducted within Children's of Alabama (COA) and UAB.

The PRO is led by David W. Kimberlin, M.D., vice chair for Clinical and Translational Research in the Department of Pediatrics. PRO personnel and associated partners provide assistance with the following:

- **Administrative Matters**—items such as process issues related to UAB Administration or the UAB/COA interface, meetings with research faculty, and tracking of departmental productivity
- **Biostatistics and Research Design**—study design, biostatistical analysis planning, sample size assessment, DSMB reports, final analyses at end of study, and final study report generation for use on manuscripts and grant applications
- **Grant Development**—meeting with investigators to discuss funding opportunities, assistance with funding organization guidelines, non-scientific editing of applications, assembly of pre-submission review panels, and setting of timelines; special expertise in the formulation of training plans for federal and private career development applications
- **Informatics**—retrieval of data from the EHR for feasibility assessments, preliminary data and research protocols, while ensuring proper oversight of data requests
- **Data Management**—assistance with database development and management (TeleForm, SAS, EpilInfo, REDCap), data analysis and modeling, and training related to data management
- **Grants and Contracts**—grant application activities related to federal and non-federal grants and contracts, including face pages and formatting through ASSIST and grants.gov, to ensure that applications are appropriately formatted for submission
- **Regulatory**—assistance with IRB applications and regulatory documents
- **Research Coordination**—provides budget development and negotiation for industry studies, study implementation, site management, quality control, and Good Clinical Practice (GCP) training

The PRO also manages the Child Health Research Unit (CHRU), a partnership between COA, the UAB Department of Pediatrics and the UAB Center for Clinical and Translational Science (CCTS). It provides outpatient space for the conducting of pediatric research to reduce barriers of scientifically rigorous clinical and translational research. Opened in 2017 in newly renovated space, the 2,547-square-foot CHRU is located on the 3rd floor of Dearth Tower. This facility includes:

- A reception/registration area
- A triage room with scales and a stadiometer
- Six well-equipped exam rooms
- Office and conference space
- Workspace with monitors and locked storage
- A lab with centrifuge and freezer for short-term storage
- An equipment storage room

During 2018, the 3rd floor CHRU was used by 18 unique investigators for 22 studies.

- Most users were from Pediatrics (from five divisions: Allergy/Immunology, Gastroenterology, ID, Nephrology, and Neurology)
- Others were from the Departments of Medicine, Ob/Gyn, Neurology, Genetics, and Neurosurgery

There were more than 835 visits in 2018.

Note: There is also a satellite CHRU on the 7th floor (the old unit). They keep their own data.

**Breakdown of 2018 Services Provided**

The PRO assisted investigators and their study teams with 427 projects that utilized 491 services. Projects can use more than one service if, for example, one project requested help with both biostatistics and informatics. There has been an increase of 21% in projects and 20% in services from 2016 (the first full year PRO operated) to 2018.

Services were used by all 19 DOP divisions.

Services were also used by those doing pediatric research within five other schools and 12 other departments.

- Schools included: College of Arts and Sciences, School of Dentistry, School of Public Health, School of Nursing, and School of Health Professions
- Departments included: Neurology, Neurosurgery, Surgery, Urology, Psychiatry and Behavioral Neurobiology, Psychology, Oral and Maxillofacial Surgery, Health Care Organization and Policy, Pharmacology/Toxicology, Occupational Therapy, Genetics, and Medicine

The breakdown of projects by type of user (not unique users) for 2018 is as follows:

- 14 project requests from students (3%)
- 6 project requests from residents (1%)
- 20 project requests from fellows (5%)
- 3 project requests from instructors (1%)
Office Of Faculty Development

The UAB Office of Pediatric Faculty Development (OFD) exists to support the individual career development of our faculty and to advance institutional and departmental goals in the areas of teaching and service.

The OFD seeks to create an academic environment and programs that
1. support, enhance, and reward the professional activities of faculty;
2. promote recruitment, retention, and academic career advancement of all faculty;
3. enhance leadership development of a diverse faculty; and
4. improve career satisfaction and promote work/life integration among

OFD services include programs in:
- Professional Development
- Leadership Development
- Mentorship
- Work/Life Balance and Wellness
- Executive Coaching
- Coaching Circles

The OFD sponsors a monthly 4th Fridays Lunch and Learn Series and a year-long Faculty Scholars webinar course. Other services include providing full support to faculty during their promotion and tenure process. The office also sponsors Special Interest Groups and Departmental Days of Service. The OFD coordinates the annual New Faculty Orientation, New Faculty Reception and Faculty Awards process.

**OFD Services Offered in 2018**

**Individual Faculty Development Consultation**
- CV Preparation Education and Assistance
- Promotion Readiness Consultation
- Faculty Development Issues and Guidance
- Mentorship Identification and Education

**Sponsored December Pediatric Grand Rounds**
*Caring for Our Own: The Second Victim Experience*
Susan D. Scott, Ph.D., RN, CPPS, FAAN
University of Alabama at Birmingham
December 6, 2018

**Coaching Circles**—provided Coaching Circles September 2018–February 2019 for nine faculty members at Junior and Mid-Career Level in conjunction with the UAB Organizational Learning and Development Office.

**Ice Cream Social**—sponsored in August for Department of Pediatrics Faculty

**Leadership Development Presentations**—for faculty

- **Change Style Indicator**
  Claire Lenker, MSW
  January 23, 2018

**Effective Listening for Faculty and Staff**
Speaker: Jeremy Wass
HR Learning and Development Specialist
November 30, 2018

- 132 project requests from assistant professors (31%)
- 81 project requests from associate professors (19%)
- 99 project requests were from professors (23%)
- 27 project requests from administrators (6%)
- 45 project requests from others (typically researchers, study coordinators or study team members) (11%)

There were 195 unique users during 2018.
Leadership Development Program for Division Directors
September 2018—February 2019—Five monthly, 1.5 hour training meetings
Led by Jean Ann Larson, UAB Leadership Development Officer
This series is designed to promote camaraderie through stimulating leadership topics in an intimate setting. The curriculum emphasizes the following:
• The Science of Leadership
• Change Management
• Team/Career Development/Coaching
• Coaching Application Workshop
• Time Management

Faculty Scholars in Culturally Responsive and Family Centered Care Class
Led by Jeff Ring, Ph.D., Principal, Health Management Assoc.
The goal of the Department of Pediatrics (DOP) Faculty Scholars Program is to strengthen our cadre of teaching faculty. This is accomplished through providing training and support for the development, implementation, and evaluation of innovative curricula designed to improve pediatric graduate medical education. Our aim is to fortify your capacity to teach culturally competent and family-centered care. This type of training is critical to being responsive to the Accreditation Council for Graduate Medical Education (ACGME) directives to train residents and fellows to provide high-quality care to an increasingly diverse population in the face of health inequities. The program also aims to enhance the leadership capacity of the participants.

Outreach
Collected toys for Christmas
Collected school supplies at Christmas

Special Interest Groups
The Office of Pediatric Faculty Development continues to support and promote special interest groups offered, such as the AMWA, yoga classes and running groups.

New Faculty Orientation
Day-long seminar covering issues and items helpful to new faculty in the Department of Pediatrics. Agenda attached.

New Faculty Recognition
Recognized 46 new pediatric faculty at the October Department of Pediatrics Faculty Meeting.

“Faculty Pals” Program
Matches new faculty hires with faculty peer support mentors. The mentors are available for questions and guidance, and touch base with their mentees at least once a quarter.

Pediatric Faculty Excellence Awards
Led the nomination and voting process to select and recognize outstanding pediatric faculty. See attached listing.

Wellness: Mini Z—Research project survey to monitor departmental wellness and plan department activities. Sponsored by the Pediatric Office of Faculty Development and Wellbeing Committee, the goal is to create an environment that promotes healthy work/life integration, fosters physical and emotional development of our colleagues, encourages collegial interactions both within and between divisions, and role models professional and healthy behaviors and compassionate recognition of unhealthy behaviors.

Faculty Training Seminars
Our Pediatric 4th Fridays Series continued in 2018, often in conjunction with the Center for Teaching and Learning’s Medical Educator Program. The schedule follows:

<table>
<thead>
<tr>
<th>DATE</th>
<th>TITLE___________________________________________________________</th>
<th>SPEAKER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/26/2018</td>
<td>Case-Based Learning in Large Enrolment Classes—Medical Educators Series</td>
<td>Will Brooks, Ph.D.</td>
</tr>
<tr>
<td>2/23/2018</td>
<td>Personal Development Plan—Promotion Series</td>
<td>Maaike Everts, Ph.D., MSc</td>
</tr>
<tr>
<td>3/23/2018</td>
<td>The Teaching Portfolio—Promotion Series</td>
<td>Marjorie Lee White, M.D.</td>
</tr>
<tr>
<td>4/27/2018</td>
<td>Teaching with the End in Mind—Medical Educators Series</td>
<td>Scott Phillips, Ph.D.</td>
</tr>
<tr>
<td>5/25/2018</td>
<td>Effective Team Teaching—Medical Educators Series</td>
<td>Tino Unlap</td>
</tr>
<tr>
<td>6/22/2018</td>
<td>Resilience</td>
<td>Kathryn Jones Ph.D., EACC</td>
</tr>
<tr>
<td>7/27/2018</td>
<td>Mindfulness</td>
<td>Heather Austin, Ph.D.</td>
</tr>
<tr>
<td>8/24/2018</td>
<td>Work/Life Balance</td>
<td>Lynne Clifton, MSW, LICSW, PIP</td>
</tr>
<tr>
<td>9/28/2018</td>
<td>The Clinical Portfolio</td>
<td>Terri Magruder, M.D.</td>
</tr>
<tr>
<td>10/26/2018</td>
<td>SMART Goals &amp; The UAB CV</td>
<td>Tina Simpson &amp; Clare Mallette, M.D.</td>
</tr>
</tbody>
</table>
Dear Friends and Colleagues,

We are pleased to provide the 2018 report for the Pediatric Surgical Subspecialties. Translational research continues to be productive with forays into novel therapies for children with solid tumors. Clinical research endeavors include national trials and multi-institutional projects that look at how we might improve the care for infants and children with uncommon surgical problems. Much of this work is made possible through the generosity of the Children’s of Alabama and the children of Alabama are the principal beneficiaries.

Mike K. Chen, M.D.
Farley Endowed Chair
Professor of Surgery
Surgeon-in-Chief, Children’s of Alabama
Director, Division of Pediatric Surgery
Department of Surgery
UAB School of Medicine

CONTENT

The Pediatric Surgical Subspecialties at Children’s of Alabama are comprised of 10 subspecialty divisions, each with specific interests and focus on education, research and excellent clinical care. The highlights and accomplishments of each division and its faculty in 2018 will be detailed.

**PEDIATRIC SURGICAL SUBSPECIALTIES**

1. Pediatric Cardiovascular Surgery  
2. Pediatric Dentistry  
3. Pediatric General Surgery  
4. Pediatric Neurosurgery  
5. Pediatric Ophthalmology  
6. Pediatric Oral/Maxillofacial Surgery  
7. Pediatric Orthopedic Surgery  
8. Pediatric Otolaryngology  
9. Pediatric Plastic Surgery  
10. Pediatric Urology
FEATURED RESEARCH

The Division of Pediatric Surgery continues to be productive in a broad range of research—pediatric oncology, necrotizing enterocolitis, pediatric trauma and clinical outcomes research. This division has garnered significant grant funding to support the research mission.

Dr. Elizabeth Beierle continues her research efforts focused on novel treatment strategies for pediatric solid tumors and utilizing patient-derived xenograft models of pediatric solid tumors to study these innovative therapies. She continues to evaluate the utility of a novel rexinoid therapy, 9-cisUAB30, for the treatment of pediatric neuroblastoma and high-risk pediatric medulloblastoma. In addition, she will continue to evaluate the role of specific mechanisms influencing metastasis in hepatoblastoma as she mentors junior surgical residents in her lab.

Dr. Mike Chen continues his leadership as the local PI for the NIH prospective, observational study: Teen-Longitudinal Assessment of Bariatric Surgery (Teen-LABS). This project is in its 7th year, and significant metabolic changes have been observed when comparing surgical management versus medical therapy for this disease process. Notable changes include reduction in cardiovascular disease risk factors, improvement in diabetes profile and reduced renal injury. Surgical intervention in the teenage years may produce benefits that can be life-altering.

Necrotizing enterocolitis continues to be a significant source of morbidity and mortality in premature infants. Dr. Colin Martin has established a laboratory and clinical effort, as surgical director of the Children’s of Alabama/UAB Center for Advanced (CCAIR) Intestinal Rehabilitation, focused on improving outcomes in pediatric patients with necrotizing enterocolitis and short bowel syndrome. With a multidisciplinary effort, CCAIR has five active research protocols with two manuscripts submitted for publication this year. His investigational focus continues to define the role of innate immunity in intestinal diseases of prematurity. Specifically, they are interested in how maternal psychological stress and the environment during pregnancy and shortly after birth shapes developing neonatal immune function. The overall goal is to develop novel vaccine strategies that can protect neonates at risk for intestinal diseases.

Dr. Rob Russell continues his investigation of coagulopathy following trauma. His research has become more translational—his lab is now evaluating animal models of trauma/hemorrhage and head injury in relation to traumatic coagulopathy. His focus has expanded to head injury as he investigates outcomes of head injury in relation to specific coagulation factors—von Willebrand factor and ADAMTS-13. In addition, he has continued to publish research characterizing important clinical outcomes surrounding pediatric surgical care with the National Surgical Quality Improvement Project-Pediatrics (NSQIP-P) and multi-institutional collaboration.

GRANTS

1. Elizabeth A. Beierle; Role: Mentor. Total Award: $35,000, Society of University Surgeons, Resident Research Award. PIM3 kinase promotes tumor metastases in hepatoblastoma.


5. Colin A. Martin, Role: Principal Investigator. Total Award: $150,000. The American Surgical Association Fellowship Research Award. Early Microbial Influence of IgA Secretion and Immune Development.

PUBLICATIONS


22. Doctor A, Choulette JM, Remy KE, Argent A, Carson JL, Valentine SL, Bateman ST, Lacroix J. Pediatric Critical Care Transfusion and Anemia Expertise Initiative (TAXI); Pediatric Critical Care Blood Research Network (BloodNet), and the Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) Network. Recommendations on RBC Transfusion in General Critically Ill Children Based on Hemoglobin and/or Physiologic Thresholds from the Pediatric Critical Care Transfusion and Anemia Expertise Initiative, Pediatric Critical Care Medicine, September 2018. Supp 1: S98-S113. PMID: 30161064.


Dr. David Rogers was appointed the ProAssurance Endowed Chair for Physician Wellness, UAB School of Medicine in June 2018.

Surgeons and chosen to participate in the UAB Health Leadership Academy.

Dr. Russell was also elected as a new member of the Society of University pediatric trauma. He also participated in the Pediatric Critical Care Transfusion and Anemia Expertise Initiative (TAXI), framing important recommendations for transfusion in pediatric patients. Dr. Russell was also elected as a new member of the Society of University Surgeons and chosen to participate in the UAB Health Leadership Academy.

Dr. Rogers was appointed the ProAssurance Endowed Chair for Physician Wellness, UAB School of Medicine in June 2018.
2018 has been a productive and banner year for the Pediatric Neurosurgery service at Children’s of Alabama/UAB. One important event was recognition and promotion within UAB of the Section of Pediatric Neurosurgery to become a Division within the Department of Neurosurgery. This distinction attests to University recognition of substantial productivity and scholarship over a significant period of time.

Academic manuscripts: A total of 28 papers were published by faculty members within the Division in 2018. These are included as Appendix I. Topics range broadly and cover a full range of surgically relevant topics in Pediatric Neurosurgery, including hydrocephalus, spina bifida, tumors, spinal neurosurgery in children and epilepsy.

Research Awards Received: The Division attained a landmark accomplishment in 2018. We were awarded all four of the major awards/competitions at our major national meeting. No program in North America has previously attained this level of award dominance at the Pediatric Section meeting.

Editorial/Peer Review Positions: Faculty members provide peer review for a significant number of journals, including the major journals in Neurosurgery. Dr. Blount is on the editorial board of both major journals in Neurosurgery.

Grants Applied/Received: At present faculty members have applied for 13 grants totaling over 4.5 million dollars. Each faculty member has several applications out for which they are PI or co-PI, and the topics range broadly from hydrocephalus to spina bifida to concussive head injury. Favorable review led to a collaborative grant funded in 2018 that will enable investigation of tissue from Spina Bifida patients for expression of key genes related to growth and cell signaling pathways.

Registries (Multi-center Collaborative Clinical Research): The Division continued to uphold its excellent track record of registry collaboration by providing either the largest or second-largest number of patients in each study for every registry in which we are participating.

- Hydrocephalus Clinical Research Network (HCRN)
- Park-Reeves Syringomyelia Registry
- National Spina Bifida Patient Registry, NSBPR (funded by CDC)
- Cerebral Palsy Research Network
- Understanding Variation in Medical Care and Follow up of Pediatric Sports Concussion Patients: Bridging the Multi-Disciplinary Gap Registry

Global Neurosurgery: The division continues its commitment to global neurosurgery.

1. Founder/Co-developer of Intersurgeon-online program embraced by International Society of Pediatric Neurosurgery and American College of Surgeons to connect programs between countries of modest or moderate resources with programs in North America and Europe- J.M Johnston

4. Incorporation of Rotation at Red Cross Children’s Hospital into Pediatric Neurosurgery Fellowship.
6. Visiting Neurosurgeons and neurologists from Vietnam; active ongoing participation with pediatric epilepsy programs in Vietnam
7. International Visiting Professorships/Invited Lectures:
   a. J Blount—Bombay Children’s Hospital, Mumbai, India.
   b. BG Rocque—National Neurosciences Hospital, Dhaka, Bangladesh.
   d. BG Rocque—Vietnam.
   f. JB invited faculty—Intl Federation for Spina Bifida and Hydrocephalus, New Delhi, India, August, 2018.
   g. J Johnston- invited faculty—International Society for Pediatric Neurosurgery Course, Dakar, Senegal.
   h. BG Rocque—Guest lecturer: Indonesia.

PUBLICATIONS


**PEDIATRIC NEUROSURGERY GRANT AWARDS/RECOGNITION/LEADERSHIP:**

- Recent presented/submitted analysis of Fellowship Programs in Pediatric Neurosurgery showed UAB/COA fellowship program number 2 in USA in post-fellowship academic productivity of fellows, as measured by academic paper output and academic value.
- Award funded: Risk Genes and Environmental Interactions in Neural Tube Defects CO- PI: Jeffrey Blount, MD, submission by Dr. Betsy Ross, Cornell Weil Medical College Funding source: NIH/NICHD Supplement to P01. Amount: $194,957 for 1 year (our site), to commence 2019
  - AAP/SONS Award—“Capacity building for the surgical treatment of pediatric epilepsy in Vietnam: A model for international collaboration”
  - Schulman Award—“Developing a de novo stereotactic electroencephalography (SEEG) program: A multi-institutional pediatric experience”
  - Hydrocephalus Award—“Cross-sectional evaluation of transition readiness in the interdisciplinary spina bifida clinic”
  - Top Poster Presentation—“Quality of life in Benign Tumors.”

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The Division of Pediatric Oral and Maxillo-Facial surgery has enjoyed a very successful year. Peter Waite, M.D., D.D.S., MPH, and Kathryn Powell, M.D., D.M.D. are the primary pediatric OMS at Children’s Hospital of Alabama and operate on more than 450 patients per year. They provide sub-specialty care for cleft craniofacial, trauma, benign pathology, airway obstruction, odontogenic and rheumatologic disease of the TMJ. Dr. Powell is the only pediatric trained OMS in Alabama and has strong referral relationships throughout the state and region. Dr. Powell frequently lectures to the pediatric dentists and the Alabama Dental Association. We provide care for special needs children that is not available in any other facility in the state. The department has more than 20 publications this year and 36 research projects, including collaboration with pediatric rheumatology of the TMJ. Dr. Hassan is PI for RO1 “Epigenetic axis of bone formation” and submitted an additional RO1 titled “micro RNA based therapy for rheumatoid arthritis.” Most of our research is clinical based scholarly activity directly related to patient care and involves resident projects. We have 24 residents in OMS, and they all must be involved with research activity.
RESEARCH HIGHLIGHTS

Participating in the following multi-institutional studies:

- International Perthes Study Group
- Congenital Pseudarthrosis Tibia BMP Multicenter study (D. of Defense, UAB lead site)
- IMPACCT (Infrastructure for Musculoskeletal Pediatric Acute Care Clinical Trials)
- AIS (Adolescent Idiopathic Scoliosis) Obesity Study

PUBLICATIONS


Other Publications


Other Notables

Dr Michael Conklin serves as committee chair for orthopedics for Spina Bifida Healthcare guidelines. He has also been selected to serve on the Committee for Science and Publication, National Spina Bifida Patient Registry by the Center for Disease Control.

Dr. Shawn Gilbert has continued to serve as chair of the basic science content committee for the American Academy of Orthopaedic Surgery. He also serves on the Trauma and Disaster Preparedness committee of the Pediatric Orthopaedic Society of North America and on the leadership committee of the International Perthes Study group as the IRB/regulatory chair. He is president-elect of the Alabama Orthopedic Society.
The Division of Pediatric Plastic Surgery has a wide breadth of focus on specific clinical problems, global education and research involving wound healing. Our cleft and craniofacial team has received five-year recognition from the American Cleft Palate Craniofacial Association Commission on Approval of Teams. This prestigious listing with the ACPA facilitates the improvement of team care and ensures accurate information is provided to patients and families/caregivers regarding services provided by teams that meet the Standards for Approval of Cleft Palate and Craniofacial Teams.

Dr. John Grant continues to host, mentor and educate international fellows at Children’s of Alabama, with the most recent trainee from El Salvador. He continues to cultivate relationships with local surgeons in Kumasi, Ghana, Sohag, Egypt, and Ho Chi Minh City, Vietnam—this is a commitment to teaching local surgeons better surgical techniques and developing international clinical research initiatives.

Dr. Tim King continues research including cutaneous wound healing, regenerative therapies, tissue engineering, and 3D printing. His NIH K08 grant focuses on the role of Notch2 and Notch3 in cutaneous wound healing.

Dr. Myers has continued his focus developing a coordinated effort in neonatal mandibular distraction for Pierre Robin Sequence and has now treated more than 20 such patients with excellent results in the past two years. He has traveled to Guatemala and Honduras to provide cleft and general plastic surgery care to needy populations. He maintains a strong teaching portfolio and currently coordinates the maxillofacial plating lab, upcoming cadaver lab and helps with microsurgery labs at UAB.

**PUBLICATIONS**


**ABSTRACTS**

BOOK CHAPTERS


PEDIATRIC PLASTIC SURGERY AWARDS/RECOGNITION/LEADERSHIP

Dr. Tim King hosted the Plastic Surgery Research Council Meeting May 17–20 in Birmingham, Alabama. He now serves as the Immediate Past Chair, Plastic Surgery Research Council. He was elected President, American Association of Pediatric Plastic Surgeons.

Dr. John Grant was invited faculty at week-long live surgical workshops in both Egypt and Ghana, where he worked with local and regional surgeons, providing lectures and hands-on teaching through live surgery to improve surgical care provided in these regions.

Dr. Rene Myers was awarded the Plastic and Reconstructive Surgery Chief Residents’ Award for Excellence in Teaching in 2018. He sits on both the Nominating Committee and the Educational Grants Committee of the American Society of Maxillofacial Surgeons. He was invited by the University of Rochester Division of Plastic Surgery as a Visiting Professor, where he presented his early work after leaving residency and fellowship, as well as significant plastic surgery oral boards reviews and testing. He currently serves as the course director for Plastic Surgery and Pediatric Plastic Surgery for third- and four-year medical students. He also precepts a number of PA students. He is under consideration for active membership in the American Society of Craniofacial Surgery and associate membership in the International Society of Craniofacial Surgery.
The Section of Pediatric Urology has a wide variety of research interests including spina bifida outcomes, renal stone disease in pediatric patients, and advances and application of robotic surgery. Dr. David Joseph has significant grant funding to specifically study improving care and outcomes in the spina bifida population, and to evaluate the efficacy of BOTOX® in urinary incontinence due to neurogenic detrusor overactivity.

Dr. David Kitchens is exploring outcomes in surgical management of hypospadias and open extravesical approaches in the treatment of vesicoureteral reflux. He is also exploring innovative interactive computer-assisted learning for the enhancement of resident education. He heads the COA/UAB component of new Southeastern Research Consortium for Pediatric Urology.

Dr. Pankaj Dangle is directing the cooperative Urologic Robotic program of UAB and COA. He also directs the Multidisciplinary Pediatric Urinary Stone Clinic in conjunction with Pediatric Nephrology.

GRANTS
1. David Joseph, CDC 1U01DD001080-01 The UAB Approach to Improving the Care and Outcomes of People Living with Spina Bifida—Component B. Project period 9/1/2014-8/31/2019 ($299,715).
3. David Joseph, Allergan 191622-120 BOTOX® in the Treatment of Urinary Incontinence Due to Neurogenic Detrusor Overactivity in Patients 5 to 17 Years of Age.
4. David Joseph, Allergan 191622-12 Long-term Extension Study of BOTOX® in the Treatment of Urinary Incontinence Due to Neurogenic Detrusor Overactivity in Patients 5 to 17 Years of Age.

PUBLICATIONS

PEDIATRIC UROLOGY AWARDS/RECOGNITION/LEADERSHIP
Pankaj P. Dangle: Elected to the COA Executive Committee; Director of Pediatric Urology Robotic Program. Director of the Multidisciplinary Urinary Stone Clinic.

David M. Kitchens: COA/UAB Site director for the Southeastern Pediatric Urology Research Consortium.

David B. Joseph: Past Chair, Section on Urology AAP, Member ACGME Urology RRC, Member National Spina Bifida Board of Directors, President-elect American Board of Urology.