

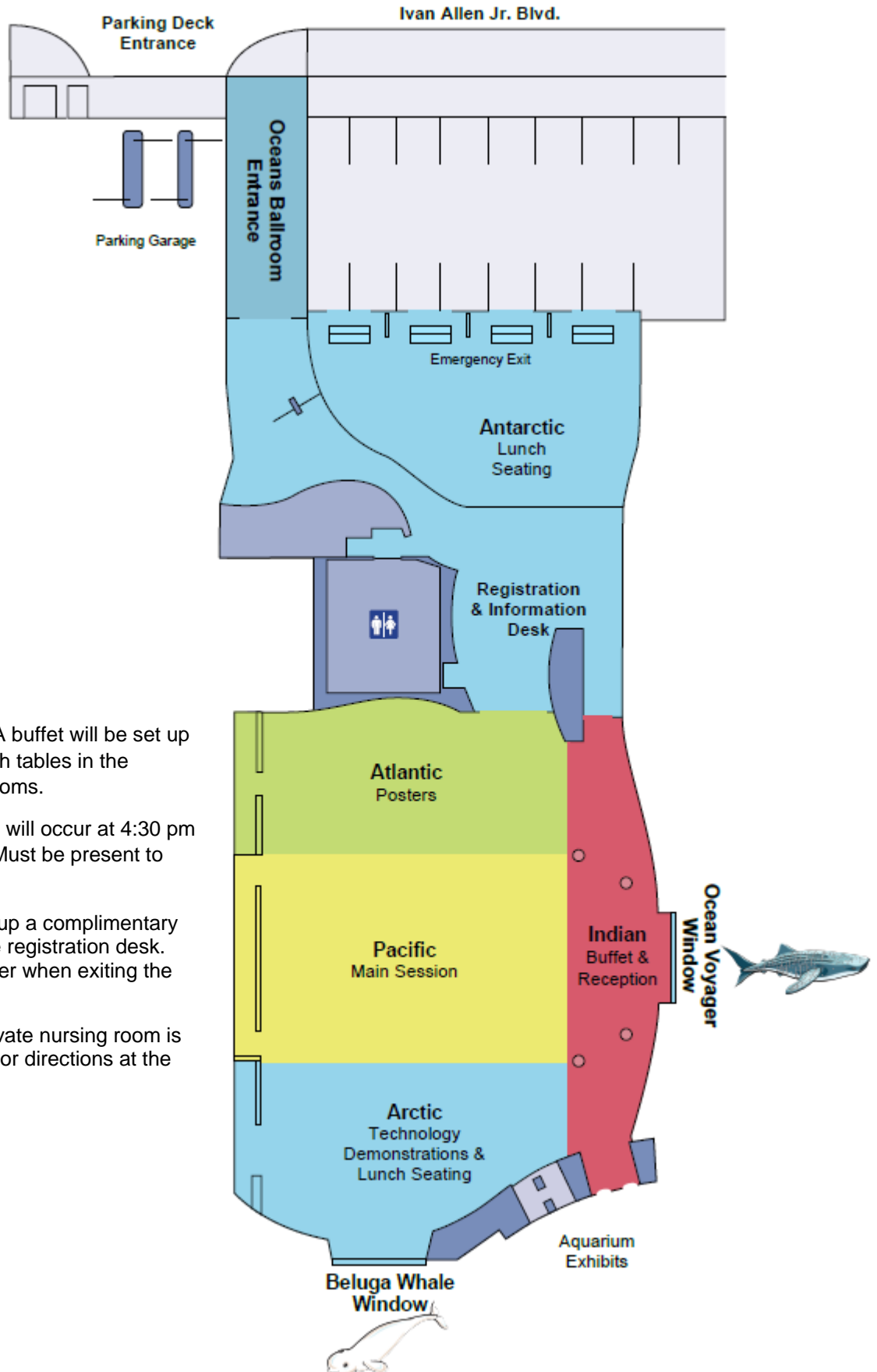


**2017 Southeastern Pediatric Research
Conference:
Big Data for Better Care**

Georgia Aquarium, Atlanta, GA
June 9, 2017

EMORY • Children's • 
Pediatric Research Alliance

Georgia Aquarium Map



Breakfast & Lunch: A buffet will be set up in the Indian room, with tables in the Antarctic and Arctic rooms.

Door Prizes: Drawing will occur at 4:30 pm during the reception. Must be present to win.

Parking: Please pick up a complimentary parking voucher at the registration desk. You will need a voucher when exiting the parking deck.

Nursing Room: A private nursing room is available; please ask for directions at the registration desk.

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View abstracts and a participant directory online at www.pedsresearch.org!



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Agenda

7:00 – 8:00	Registration & Continental Breakfast
8:00 – 8:05	Welcome from Conference Co-Chairs
	<p>Chris Gunter, PhD Associate Professor of Pediatrics and Human Genetics, Emory University School of Medicine & Director of Communications Operations, Marcus Autism Center, Children's Healthcare of Atlanta</p> <p>Stacy Heilman, PhD Assistant Professor, Department of Pediatrics & Director, Pediatric Research Operations, Emory University and Children's Healthcare of Atlanta</p> <p>Greg Gibson, PhD Professor of Biological Sciences & Director, Center for Integrative Genomics, Georgia Institute of Technology</p>
8:05 – 8:20	Opening Remarks
	<p>Donna Hyland President and Chief Executive Officer, Children's Healthcare of Atlanta</p> <p>Lucky Jain, MD, MBA Richard W. Blumberg Professor and Interim Chair, Department of Pediatrics, Emory University & Executive Medical Director and Interim Chief Academic Officer, Children's Healthcare of Atlanta</p> <p>M.G. Finn, PhD Professor and Chair, School of Chemistry and Biochemistry, Georgia Institute of Technology James A. Carlos Family Chair for Pediatric Technology Chief Scientific Officer, Pediatric Technology Center Children's Research Scholar</p>
8:20 – 9:05	Keynote Presentation: "Real World Data and Patient-Driven Precision"
	<p>Kenneth Mandl, MD, MPH Director, Computational Health Informatics Program, Boston Children's Hospital Donald A.B. Lindberg Professor of Pediatrics, Harvard Medical School Professor of Biomedical Informatics, Harvard Medical School</p>
9:05 – 9:25	Rapid-Fire Talks on Selected Abstracts (<i>Posters 101 to 105</i>)
	<p>101. "Patterns of Visual Engagement Identify Distinct Subgroups of School-Age Children with ASD" Julia Yurkovic, Scott Gillespie, Warren Jones, Ami Klin, Sarah Shultz</p> <p>102. "Association analysis identified a novel TPCN2 loci and HLA signals specific to Pediatric Onset Ulcerative Colitis" Suresh Venkateswaran, Jarod Prince, David J. Cutler, Urko M. Marigorta, David Okou, Sampath Prahallad, Cary G. Sauer, Greg Gibson, Lee Denson, Jeffrey Hyams, Subra Kugathasan</p> <p>103. "YB1 regulates radiation resistance in the medulloblastoma tumor microenvironment" Abhinav Dey, Anshu Malhotra, Anna Kenney</p> <p>104. "Impact on Rotavirus Vaccination: Determining the Effects of Travel Distance and Time on Access to a Rotavirus Vaccine Provider" Kelly Brown, Victoria Churchill, Elham Laghaie, Fengzia Yan, Lilly Immergluck</p> <p>105. "Drug Library Screening and Identification of Novel Targets to Promote the Proliferation of Cardiomyocytes Derived from Human Pluripotent Stem Cells" Rajneesh Jha, Cinsley Gentillon, Louise McCormick, Caitlin Shepard, Monalisa Singh, Antonio Rampoldi, Baek Kim, Chunhui Xu</p>

9:25 – 9:30	Presentation of Poster Awards
9:30 – 10:10	Break & Poster Session 1 <i>(Rapid Fire Posters 101 to 105, Even-Numbered Posters 112 to 204 & Core Posters)</i>
10:10 – 10:40	Short Talks on Selected Abstracts
	<p>“Gestational age acceleration in neonates predicts NICU course” Anna K. Knight, Alicia Smith, Karen Conneely, Jane Loke, Jeanie Cheong, Jeffery M. Craig, Lex W. Doyle, Christiane Theda</p> <p>“Development of a Live-Attenuated Vaccine for Respiratory Syncytial Virus with Enhanced Thermostability and Immunogenicity” Christina Rostad, Christopher C. Stobart, Martin L. Moore</p>
10:40 - 11:05	Rapid-Fire Talks on Selected Abstracts <i>(Posters 106 to 110)</i>
	<p>106. “Postnatal Zika virus infection causes persistent neurologic abnormalities in infant macaques” Maud Mavigner, Jessica Raper, Sanjeev Gumber, Jens Wrammert, Mehul Suthar, Xiaodong Zhang, Maria Alvarado, Ann Chahroudi</p> <p>107. “KPT-350 ameliorates Duchenne muscular dystrophy symptoms in dystrophic zebrafish and mice” Matthew Alexander, Rylie Hightower, Yimin Wang, Sharon Tamir, Devin Gibbs, Louis Kunkel</p> <p>108. “Neural Mechanisms of Asthma” Liang Han, Nathachit Limjunyawong, Wayne Mitzner, Bradley J. Udem, Brendan J. Canning, Xinzhong Dong</p> <p>109. “Virtual transcatheter pulmonary valve replacement to optimize patient outcomes in pediatric patients” Sassan Hashemi, W. James Parks, Denver Sallee III, Holly D. Bauser-Heaton, Dennis W. Kim, Christopher J. Petit, Robert N. Vincent, Timothy C. Slesnick</p> <p>110. “The Emory 3q29 Deletion Project: Profiles of Neurodevelopmental and Neuropsychiatric Phenotypes” Rebecca Pollak, Sherly Boddu, Joy Park, Michael E. Zwick, Celine A Saulnier, Jennifer G. Mulle</p>
11:05 – 11:30	Rapid-Fire Talks on Research IT Services
	<p>222-224. Emory Library Information Technology Services – Patrick Maloney</p> <p>221. Emory Integrated Computational Core – Gaurav Kumar</p> <p>225. REDCap – Carol Dickens</p> <p>227. Children’s Data Assessment/Extraction – Robert Palmer</p> <p>228. Children’s Data Warehouse – Todd Sharp</p>
11:30 - 1:00	Lunch, Technology Demonstrations & Poster Session 2
11:30 – 1:00	Lunch and Technology Demonstrations
12:15 – 1:00	Poster Session 2 <i>(Rapid Fire Posters 106 to 110, Odd-Numbered Posters 111 to 203 & Research IT Services Posters)</i>
1:00 - 1:10	Afternoon Welcome
	<p>Yasmin Tyler-Hill, MD, FAAP Associate Professor & Chair, Department of Pediatrics, Morehouse School of Medicine Medical Director, Children’s Healthcare of Atlanta – Hughes Spalding</p>

1:10 - 1:35	Presentation: "Predicting Changes in Pediatric Medical Complexity using Large Longitudinal Health Records"
	Jimeng Sun, PhD Associate Professor, School of Computational Science and Engineering, Georgia Institute of Technology
1:35 - 2:05	Short Talks on Selected Abstracts
	"Smartphone processing system for non-invasive, quantitative diagnosis of pediatric anemia using only patient-sourced photos" Robert Mannino , David Myers, Erika Tyburski, Jeanne Boudreaux, Gari Clifford, Wilbur Lam
	"Data Driven Post-Operative Appendicitis Care" Jason Zutty , Edward Clarkson, Mehul Raval
2:05 – 2:15	Break
2:15 – 3:55	Keynote Presentations & Panel Discussion
2:15 - 2:45	"Clinical Genomic Sequencing For Better Patient Care and Better Research" Howard Jacob, PhD Executive Vice President and Chief Genomic Medicine Officer HudsonAlpha Institute for Biotechnology
2:45 – 3:15	"If We Build It, Will They Come? Issues for Community-Engaged Genomics" Colleen M. McBride, PhD Grace Crum Rollins Professor and Chair, Behavioral Sciences and Health Education Department Rollins School of Public Health, Emory University
3:15 – 3:55	Panel Discussion <ul style="list-style-type: none"> • Howard Jacob, PhD • Colleen M. McBride, PhD • Greg Gibson, PhD • Madhuri Hegde, PhD, FACMG, VP & CSO, Global Laboratory Services, Diagnostics, PerkinElmer; Adjunct Professor of Human Genetics, Emory University School of Medicine Moderator: Chris Gunter, PhD
3:55 - 4:00	Closing Remarks
4:00 - 5:00	Reception with Door Prize Drawing at 4:30 PM Must be present to win - prizes include tickets to Atlanta area restaurants and attractions, including Buckhead Life Restaurants, the College Football Hall of Fame, Fernbank Museum, Botanical Gardens, and World of Coke!
5:00 – 8:00	Complimentary Aquarium Admission for Conference Participants

Children's Healthcare of Atlanta is accredited by the Medical Association of Georgia to provide continuing education for physicians. Children's designates this live event for a maximum of 5.5 AMA PRA Category 1 credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Speaker Biographies



Kenneth Mandl, MD, MPH, directs CHIP (The Computational Health Informatics Program) at Boston Children's Hospital and is a Professor of Biomedical Informatics and Pediatrics at Harvard Medical School. Dr. Mandl's work at the intersection of population and individual health has had a unique, sustained influence on the developing field of biomedical informatics. His Presidential Early Career Award for Scientists and Engineers was for pioneering real time biosurveillance, tracking infections and detecting outbreaks with diverse data. Dr. Mandl has long advocated for patient participation in producing and accessing data. He created the first personal health systems, crowdsourced knowledge from online patient networks, and advanced participatory medicine and engagement in clinical trials. Cognizant of the limitations of extant electronic health record systems, Dr. Mandl developed a widely adopted, highly

influential approach (SMART)--substitutable iPhone-like apps that run universally on health IT systems. SMART lets innovators reach market scale and patients and doctors access an "app store for health." Dr. Mandl uses his open source inventions to lead large EHR research networks--he is principal investigator of the Scalable Collaborative Infrastructure for a Learning Health System across Boston hospitals and nationally. Recognized for teaching, Dr. Mandl received the Clifford A. Barger Award for top mentors at Harvard Medical School. He was advisor to two Directors of the CDC and chaired the Board of Scientific Counselors of the NIH's National Library of Medicine. His clinical training and experience is in pediatrics and pediatric emergency medicine. Dr. Mandl has been elected to multiple honor societies including the American Society for Clinical Investigation, Society for Pediatric Research, American College of Medical Informatics and American Pediatric Society. He is a recent recipient of the Donald A.B. Lindberg Award for Innovation in Informatics.



Howard Jacob, PhD, is a Faculty Investigator and Executive Vice President for Genomic Medicine at the HudsonAlpha Institute for Biotechnology. Dr. Jacob uses molecular genetics to understand complex, multifactorial disease. His passion for improving the lives of critically ill patients has been the catalyst for his determination to bring whole genome sequencing into a clinical setting. Dr. Jacob received his PhD in pharmacology from the University of Iowa in 1989. He completed two parallel postdoctoral fellowships in functional genomics and molecular genetics and genomics at Harvard, Stanford and MIT. He was on the faculty at Massachusetts General Hospital and Harvard Medical School before moving to the Medical College of Wisconsin in Milwaukee. Dr. Jacob was the founding director of the Human and Molecular Genetics Center as well as the Warren P. Knowles Chair of Genetics and a professor in the

departments of physiology and pediatrics at MCW, positions he held for nearly 20 years. He joined the HudsonAlpha Institute for Biotechnology in 2015. In his role as Executive Vice President for Genomic Medicine at the HudsonAlpha Institute for Biotechnology, Dr. Jacob leads the clinical genomics team at HudsonAlpha and is heavily involved in its two clinical enterprises-- the Smith Family Clinic for Genomic Medicine and the Clinical Services Lab. The Smith Family Clinic is believed to be the world's first stand-alone genomic medicine clinic devoted exclusively to the use of whole genome sequencing for the diagnosis of rare undiagnosed and misdiagnosed disease. The Clinical Services Lab offers CAP/CLIA whole genome sequencing and interpretation. Dr. Jacob also runs a research lab at HudsonAlpha. His research focus is verification of specific changes to DNA that are disease causing, and pinpointing those genetic changes quickly enough to benefit patients. Dr. Jacob has published more than 250 peer-reviewed papers, abstracts and book chapters. He has served on the editorial boards for multiple peer-reviewed journals, NIH study sections, and is currently a member of the National Advisory Board for the National Human Genome Research Institute.



Colleen M. McBride, PhD, is the Grace Crum Rollins Chair in Behavioral Sciences and Health Education. She came to Emory from the National Human Genome Research Institute of the National Institutes of Health, where she served as founding chief and senior investigator of the Social and Behavioral Research Branch. Dr. McBride's research focuses on innovative public health interventions to promote risk-reducing behaviors, specifically using genetic information to motivate healthy behaviors. Genetic information, scientists believe, eventually will allow lifestyle interventions to be personalized to make compliance with healthy behaviors easier. Dr. McBride held academic positions at the University of Washington as well as Duke University Medical Center, where she served as chief of the Division of Prevention Research in the Department of Community and Family Medicine. At Duke, she was director of the Cancer

Prevention and Control Research Program. She has held adjunct faculty appointments in the Gillings School of Global Public Health at the University of North Carolina and the Johns Hopkins Bloomberg School of Public Health.

Pediatric Research Alliance Cores

Please visit www.pedsresearch.org for more information. Visit core posters in the Atlantic Ballroom during poster session 1.

Animal Physiology Core

Director: Josh Maxwell, PhD, jtmaxwe@emory.edu

Contact: Ming Shen, Technical Director, mshen@emory.edu

Location: Emory-Children's Center

The Animal Physiology Core provides pediatric researchers with services and equipment to develop and characterize animal models relevant to investigating pediatric diseases. We perform acute and survival surgery for rats and mice, as well as USDA regulated animals such as rabbits, guinea pigs, and piglets. The core also has available for use a Visualsonics Vevo 2100 High Frequency Ultrasound system that allows high resolution small animal ultrasound examinations for noninvasive measurement of in vivo structure and function. The newly acquired Vevo LAZR add-on system for the Visualsonics incorporates photoacoustic imaging into high-resolution ultrasound allowing for anatomical, functional, and molecular imaging. In addition to the variety of surgical services offered and small animal ultrasound, the core is willing to work with investigators to develop new surgical and imaging techniques to meet their needs.

Cardiovascular Imaging Core

Director: Ritu Sachdeva, MD, sachdevar@kidsheart.com

Contact: Nicole Allen Krupa, MPH Research Coordinator, nicole.allen@choa.org

Location: Children's Healthcare of Atlanta, Egleston

The Cardiovascular Imaging Core (CIRC) provides non-invasive cardiovascular imaging support for investigators involved in clinical research involving infants, children and adolescents. The CIRC has dedicated space, equipment and experienced staff to provide high quality cardiovascular imaging services as well as post-processing of previously acquired images using specialized software. These services include performance of a routine complete or limited congenital or non-congenital two-dimensional echocardiography, color and spectral Doppler imaging; advanced echocardiographic imaging including three-dimensional echocardiography, tissue Doppler imaging, strain and strain rate imaging; stress echocardiography and cardiac magnetic resonance imaging. CIRC also has launched a program for assessment of vascular health in pediatric patients that includes non-invasive assessment of endothelial function using brachial artery flow-mediated dilation, measurement of arterial stiffness using applanation tonometry and assessment of structural arterial changes using carotid imaging. In 2015, CIRC expanded our research administration offerings to include data coordinating center and core imaging site capabilities for multi-center studies. We commit to working with each investigator to provide a research plan that best fits your research goals in an effort to increase your scientific productivity.

Center for Systems Imaging - Biomedical Imaging Technology Center

Director: John Oshinski, PhD, jnoshin@emory.edu

Contact: Orman Simpson, Core Administrator, osimpso@emory.edu

Location: Wesley Woods

The Center for Systems Imaging (CSI) and The Biomedical Imaging Center (BITC) are a single imaging Core Services Center (CSI-BITC) within Emory School of Medicine and serve as the cross-disciplinary scientific, administrative and educational home for imaging science at Emory. The center supports the development of new and emerging technologies and its services facilitate the use of imaging methods by basic and clinician scientists and physicians. CSI/BITC is home to approximately thirty-eight faculty, post-docs, students and staff.

Emory Integrated Computational Core

Director: Michael E. Zwick, PhD, mzwick@emory.edu

Contact: Viren Patel, Sr. Manager, Information Technology, viren.patel@emory.edu

Location: Emory University

The Emory Integrated Computational Core (EICC), one of the Emory Integrated Core Facilities (EICF), is supported by the Atlanta Clinical & Translational Science Institute and the Emory University School of Medicine. Our mission is to provide cutting-edge computational support to Emory researchers and users of other Emory Integrated Core Facilities. In effect, we act as the "digital hub" for all the Emory Integrated Core Facilities.

Emory Integrated Genomics Core

Director: Michael E. Zwick, PhD, mzwick@emory.edu

Contact: Robert Isett, Manager, Research Laboratory, robert.b.isett@emory.edu

Location: Emory University

The Emory Integrated Genomics Core (<http://cores.emory.edu/eigc/>), one of the Emory Integrated Core Facilities (EICF, <http://cores.emory.edu>), is a CLIA-certified (CLIA:11D1086150) laboratory located on the 7th floor of the Woodruff Memorial Research Building, with 2400 square feet of dedicated wet-lab space. The EIGC's laboratory areas include dedicated pre- and post-PCR spaces. The EIGC is composed of three divisions: CLIA, Research, and Custom Cloning. Each division provides specialized genomics research services to Emory investigators. A Thermo Scientific Nautilus Laboratory Information Management System (LIMS) is hosted at Emory and all data is stored on-site in a HIPAA secure zone. This LIMS provides the foundation for EIGC workflows and fosters collaboration across the Emory campus and with external consortia. The EIGC also closely coordinates with the Emory Integrated Computational Core (EICC, <http://www.cores.emory.edu/eicc/>) to provide computational and bioinformatics services for Emory investigators.

Experimental Models Support Core

Director: Michael Koval, PhD, mhkoval@emory.edu

Contact: Samuel Molina, PhD, Associate Director, s.a.molina@emory.edu

Location: Emory University

The overarching goal of the Experimental Models Support Core (EMC) is to provide validated human cell model systems for researchers to study the effects of airway diseases on human airway cell physiology. We isolate, expand and distribute primary human airway epithelial cells from donor lung and nasal tissue and maintain and distribute immortalized human airway epithelial cell lines. We validate cultured epithelial cells for ion channel function (e.g. CFTR, ENaC) and barrier function by electrophysiological measurement, as well as assist investigators in selection of experimental model systems and interpretation of results.

Integrated Cellular Imaging

Director: Adam Marcus, PhD, aimarcu@emory.edu

Contact: Neil Anthony, PhD and April Reedy, PhD, Imaging Specialists, ici@emory.edu

Location: Emory University

The Integrated Cellular Imaging core provides state-of-the-art light microscopy tools including Confocal (Olympus FV1000 inverted and upright, Leica SP8), Live cell (Nikon A1R, Leica SP8, DeltaVision OMX, Perkin Elmer Ultraview Spinning Disk), Multi-photon (Leica SP8 MP, Zeiss 710 MP), Widefield & deconvolution (Nikon TE300, Olympus IX51, Zeiss Axioplan 2), Super resolution (Nikon SIM and DeltaVision OMX), and Image analysis (5 computer workstations). We provide consultations, expert training, and support for all our systems. For more information contact us at ICI@emory.edu.

Laboratory and Pathology Clinical Research Core

Director: Beverly Rogers, MD, Beverly.Rogers@choa.org

Contact: Bethany Watson or Cherie Lumpkin, Laboratory Research Coordinators, labresearchcoordinator@choa.org

Location: Children's Healthcare of Atlanta, Egleston and Scottish Rite

The Children's Healthcare of Atlanta Laboratory and Pathology Clinical Research Core provides clinical laboratory testing, specimen processing, research histology, and de-identified tumor bank specimens to investigators conducting research at CHOA (Egleston and Scottish Rite) and affiliated organizations. The lab currently provides services for over 130 actively enrolling studies since merging with the CHOA core lab in January 2015. It has a tiered pricing schedule, which is based on individual study sponsors and the time required for processing and shipping. The clinical research technologists are all IATA and CITI trained to ensure research samples are processed accurately and shipped to laboratories around the world following federal regulations. Our core also includes the Ian's Friends Foundation (IFF) Brain Tumor Biorepository established to collect, culture, and distribute pediatric brain tumor cell cultures for research studies with CHOA IRB approval and patient consent. The goal of IFF is to make these cultures available free of charge except for shipping to research investigators working on advancing the molecular understanding and treatment of pediatric brain tumors.

Molecular Clinical Trials Laboratory and Biorepository

Contact: Brad Hanberry, PhD, bradley.hanberry@emory.edu

Location: Emory Health Sciences Research Building

The Center for Clinical and Translational Research (CCTR) has a core that offers laboratory and technical assistance for collecting, storage and analysis of patient samples collected as part of a clinical study, to investigators conducting basic science, epidemiologic, translational and clinical research related to improving child health. The Molecular and Clinical Trials Laboratory and Biorepository is located on the second floor of the Emory Health Sciences Research Building (E264). The MCTL and Biorepository supports clinical research for Emory IRB approved clinical studies. Our mission is to support and compliment the research efforts of qualified investigators by providing laboratory research services and access to biological samples that represent a variety of diagnoses and healthy volunteers. The use of the biorepository is open to investigators at Emory and CHOA, as well as collaborators within and outside of Emory. Samples that the CCTR Biorepository processes and stores include, but are not limited to PBMC, serum, plasma, urine, stool, tissue, DNA, and biopsies. Biologic, genetic, demographic and clinical data are collected in association with human specimens. All collected biological specimens are tracked electronically via a Laboratory Information Management System (LIMS). The biorepository can store samples in 4°C, -80°C, and -150°C freezers. All storage locations are monitored to ensure specimen integrity. The CCTR Biorepository is also able to ship and receive samples to/from external laboratories.

Molecular Evolution

Contact: Anton Bryksin, PhD, anton.bryksin@ibb.gatech.edu

Location: Georgia Tech

The Molecular Evolution core facility performs phage, bacterial and yeast displays, SELEX, yeast 2-hybrid, and related experiments for Georgia Tech principal investigators and beyond. Additional services include custom cloning, Sanger and next generation sequencing. Moreover, students and postdocs in Georgia Tech laboratories have an opportunity to be trained in cutting-edge methodologies to either take the methods back to their home groups or be engaged in longer-term collaborations.

Optical Microscopy Core

Director: Aaron Lifland, PhD, aaron.lifland@ibb.gatech.edu

Contact: Andrew Shaw, MS, Lab Manager, andrew.shaw@ibb.gatech.edu

Location: Georgia Tech

The Georgia Tech Optical Microscopy Core provides state-of-the-art microscopy tools to Georgia Tech researchers and the surrounding academic and industrial community. Expert training and consultation is available from the core staff on all of our systems including point scanning confocal, spinning disk confocal, 2-photon, super-resolution, lightsheet, and widefield systems.

Pediatric Biomarkers Core

Director: Lou Ann Brown, PhD, lbrow03@emory.edu

Contact: Frank Harris, Technical Director, fharris@emory.edu

Location: Emory-Children's Center

The Pediatric Biomarkers Core offers analysis of biological samples in the fastest turnaround time possible to support pediatric research. This core provides equipment and technical expertise to assay samples using methods such as high performance liquid chromatography and gas or liquid chromatography coupled with mass spectrometry. Headed by core director Lou Ann Brown, PhD and technical director Frank Harris, the Biomarkers Core works with investigators to develop and tailor assays to answer specific research questions. Some of the current analyses performed by the core include biomarkers for the study of oxidative stress, alcohol use and exposure, nucleic acid synthesis and cellular metabolism.

Pediatric Biostatistics Core

Director: Courtney McCracken, PhD, courtney.mccracken@emory.edu

Contact: Curtis Travers, MPH, Biostatistician, curtis.d.travers@emory.edu

Location: Emory University

The Pediatric Biostatistics Core assists investigators in designing statistically sound research projects and provides the analytical expertise required to properly analyze the results tied to clinical, translational and basic science child health-related research projects. The Biostatistics Core provides expertise in statistical methodology and analytic help in study design and data analysis geared towards grant applications and manuscript preparation. The core's expertise includes, but is not limited to, database design and creation, use of modern statistical methods to handle missing data and facilitating the creation and implementation of appropriate data management and data sharing plans.

Pediatric Heart Diseases Data Registry Core

Director: Lazaros Kochilas, MD, MSCR, lazaros.kochilas@emory.edu

Contact: Amanda Thomas, MSPH, Manager of Research Projects, amanda.thomas@emory.edu

Location: Emory University

The Pediatric Heart Diseases Data Registry Core (PHDDR) provides access to the rich collection of data from the Pediatric Cardiac Care Consortium (PCCC). The PCCC includes outcome events from surgical, catheter-based and electrophysiologic interventions for multiple pediatric heart diseases. Between 1982 and 2011, over 300,000 event outcomes from over 140,000 patients have been collected. This core provides consultation assistance and can run queries and compile data for research investigators wishing to perform outcome studies related to pediatric heart diseases. Forms for requests of research projects can be found at <http://www.pedsresearch.org/research/cores/phddcore> and submitted for consideration to the staff of PHDDR.

Pediatric Imaging Research Core

Director: Gina Griffin, Gina.Griffin@choa.org

Contact: Victoria Allen, MS, Senior Research Coordinator, Victoria.Allen@choa.org

Location: Children's Healthcare of Atlanta

The Pediatric Imaging Research Core (PIRC) is an interdisciplinary research program that recognizes the importance of medical imaging in the diagnosis and treatment of diseases in children and young adults. PIRC provides investigators with modern imaging technology and collaboration with imaging experts to achieve research goals. Our team consults with investigators to enhance their research through access to state-of-the-art technology, pediatric radiologists, physicists, pediatric technologists, nurses and pediatric sedation providers. PIRC also enables the conduct of standard imaging associated with large clinical trials. Services include MRI, CT, PET, bone densitometry, fluoroscopy, nuclear medicine, interventional radiology, ultrasound, X-ray and pediatric sedation.

Systems Mass Spectrometry Center

Director: David Smalley, PhD, dsmalley@gatech.edu

Contact: David Gaul, PhD, Metabolomics Director, david.gaul@chemistry.gatech.edu

Location: Georgia Tech

The mission of the Systems Mass Spectrometry Center is to provide state-of-the art instrumentation, resources, and technical support in both proteomics and metabolomics. Standard proteomics services include protein identification of simple and complex mixtures, relative protein quantification, and protein characterization. Standard metabolomics services include both targeted assays as well as untargeted assays to evaluate metabolome alterations in biofluids and tissues. Also, specialized services, such as global phosphoproteome analysis, are available to examine cellular pathway activation. Customized research is welcome. Researchers are strongly encouraged to contact us during the design phase of any potential projects to increase the likelihood of success.

Research Resources

Please visit www.pedsresearch.org for more information. Visit posters in the Atlantic Ballroom during poster session 2.

Children's Healthcare of Atlanta Data Assessment & Extraction

Contact: Todd Sharp, todd.sharp@choa.org & Robert Palmer, PhD, Robert.palmer@choa.org; data@choa.org

Do you know what data and extraction resources are available Children's affiliated researchers? From IS&T systems like the clinical data warehouse, Epic and Hadoop driven "big data" to the Outcomes Center's Population Discovery (Pop Disco) and informatics services, Children's has data, systems and expertise supporting your research needs.

Children's Healthcare of Atlanta Research, Big Data & Warehousing Services

Contact: Todd Sharp, todd.sharp@choa.org; data@choa.org

Are you aware of Children's Research Technology Team? Children's IS&T formed a specific team to help meet the technology needs of the research enterprise. The team helps connect all of IS&T with the needs of researchers and academic partners to support and enhance research specific technology needs, to innovate and inform the pediatric body of knowledge and standard of care for pediatric medicine through direct and indirect pediatric technology research, and to continually redefine research informatics and related technologies as core pediatric differentiators for Children's Research Enterprise and its partners throughout the future.

Emory Research Laboratory Information Management System (LIMS)

Contact: Sharon Mason, smason5@emory.edu

The Emory Research Laboratory Information Management System (LIMS) is a secure, internally hosted application designed to support workflow automation and information tracking related to biospecimen sample management and processing as part of Emory's Bio-Banking infrastructure. Emory's Library & Information Technology Services (LITS) LIMS team supports the application.

LabKey

Contact: Wayne Harris, waharri@emory.edu

LabKey Server is a web-based, HIPAA compliant, scalable research informatics database solution that allows scientists to integrate, analyze, and share complex biomedical research data regardless of their skill or experience with research IT tools. Data integration across heterogeneous data types and data sources is fully extensible, with added functionality afforded through built-in modules, plugins, and libraries for common scripting languages allowing more skilled developers to further customize the functionality of the tool. LabKey server is supported jointly by the Emory Integrated Computational Core (EICC) and Library and Informational Technology Services (LITS) who support the full development cycle for LabKey projects.

REDCap

CHOA Contact: Carol Dickens, carol.dickens@choa.org

Emory Contact: Patrick Maloney, patrick.maloney@emory.edu

REDCap is a secure web application for building and managing online surveys and databases. While REDCap can be used to collect virtually any type of data (including 21 CFR Part 11, FISMA, and HIPAA-compliant environments), it is specifically geared to support online or offline data capture for research studies and operations.

Tableau

Contact: Patrick Maloney, patrick.maloney@emory.edu

Tableau provides self-service data discovery through interactive visualizations.

eCREST

Contact: Amanda Cook, amcook@emory.edu

A collaborative system to manage training, credentials, and competencies for clinical research staff across the Pediatric Research Alliance member institutions. The training system increases efficiency and transparency to ensure clinic research training compliance.

Pediatric Research Alliance Centers

Please visit www.pedsresearch.org for more information.

Aflac Cancer and Blood Disorders Center

Director: Douglas K. Graham, MD, PhD

The Aflac Cancer and Blood Disorders Center is a national leader in translational research in pediatric BMT, brain tumor, leukemia and lymphoma, solid tumor, hemophilia and thrombosis, sickle cell disease, and cell and gene therapy. These research discoveries directly impact the care of pediatric patients with cancer and blood disorders, and our center provides a very robust number of clinical trials to enable our patients to benefit from these latest advances in novel disease targets and drug development.

Center for Childhood Infections and Vaccines

Director: Marty Moore, PhD

Infectious diseases are the leading cause of death in children worldwide. Researchers in the Center for Childhood Infections and Vaccines are working closely with the Emory Vaccine Center and the Centers for Disease Control and Prevention to find new ways to stop the spread of infectious diseases and save the lives of children. This includes developing new vaccine and treatment options for many infectious diseases, including respiratory syncytial virus, measles, malaria, HIV, Zika, Ebola and more.

Center for Clinical and Translational Research

Director: Cynthia Wetmore, MD, PhD

This center provides organization and leadership for clinical trials science, and acts as a central point for training and recruiting clinical investigators in a variety of disciplines. The center also serves investigators with support for biological assays through the Molecular Clinical Trials Laboratory and Biorepository, and serves as the home of the **Center for Clinical Outcomes Research and Public Health**. Researchers in this center focus on identifying new methods to measure and improve pediatric healthcare outcomes. Emphasis is placed upon evaluating comparative effectiveness in a variety of clinical areas including birth and neonatal outcomes, neurodevelopmental outcomes and transition of care from the teenage years into adulthood for those populations who suffer from chronic illness. There is also an important focus on wellness including health promotion and obesity prevention.

Center for Cystic Fibrosis and Airways Disease Research

Director: Nael McCarty, PhD

Cystic fibrosis is a devastating genetic disease that affects tens of thousands of children and young adults in the United States. Because it hampers the lungs' ability to remove mucous, cystic fibrosis leads to severe lung infections and shortens the lives of our patients. Asthma is the number one reason for admission at Children's Healthcare of Atlanta and has public health implications. Researchers at this center are working to develop new therapies, drugs, and tools to improve and extend the quality of lives of children with these conditions.

Center for Drug Discovery

Director: Baek Kim, PhD

Researchers at this center study and develop new drugs for a range of pediatric conditions, including infectious and neglected diseases, inflammatory conditions, cancers and blood disorders.

Children’s Center for Neurosciences Research

Director: Ton de Grauw, MD, PhD

Research Director: Alex Kuan, MD, PhD

The vision of Children’s Center for Neurosciences Research is to conduct research that will improve neurological care for children. In this center, clinical physician scientists and laboratory-based researchers collaborate closely to discover and identify preventive, diagnostic and wellness strategies for children with serious neurological challenges.

Pediatric Technology Center

Director: M.G. Finn, PhD

The mission of the Pediatric Technology Center is to establish the world’s leading program in the development of technological solutions for children’s health.

Modern biomedical research has made great strides in science and technology that impacts health care, but for the most part these advances have targeted adult populations. While children are often not included in clinical studies, the greatest impact in many areas of health care could be made by identifying and treating disease at the youngest possible age.

Children present distinct challenges in all aspects of research and development: they have a different physiology than adults, they grow and change in ways that adults do not, and market drivers for research and commercialization are often seen as less compelling by the private sector.

To accelerate the pace of practical discovery in pediatric medicine, scientists and engineers at the Georgia Institute of Technology work with clinicians and scientists at Children’s Healthcare of Atlanta and other partners on the engineering challenges of translating basic research to clinical practice. These efforts define the Pediatric Technology Center, the only organization in the U.S. designed to address this critical gap. Here, fundamental insights and new tools are combined to develop better ways to diagnose, treat, and cure diseases and conditions that affect children.

The Pediatric Technology Center is led by its Chief Scientific Officer, Dr. M.G. Finn, and a versatile team with expertise in the following areas:

- Nanotechnology
- Regenerative Medicine
- 3-D Printing
- Diagnostics and Imaging
- Medical Devices and Device Manufacturing
- Health Analytics
- Patient Facing Technologies

Center for Transplantation and Immune-mediated Disorders

Director: Subra Kugathasan, MD

When a child receives an organ transplant, the body may attack the new organ as foreign. In the same way, autoimmune diseases also cause the body to attack a part of itself as foreign. Researchers at this center are exploring new treatment options for children undergoing organ or bone marrow transplantation, and for those with autoimmune disorders.

Heart Research and Outcomes Center

Director: Mike Davis, PhD

The fields of pediatric cardiology and surgery have greatly improved the survival rate of children with congenital heart defects and heart disease. As this population now survives initial diagnoses, new efforts are focused on long-term developmental and neurological outcomes, as well as novel ways to study and treat continuing disorders. Exciting projects by Heart Research and Outcomes Center researchers include development of a biological pacemaker, stem cell therapy for heart failure, studies of developmental biology, understanding the links between heart disease and cognitive function, and tracking outcomes to enhance diagnosis and treatment of pediatric heart disease.

Marcus Autism Center

Director: Ami Klin, PhD

Director of Research: Warren Jones, PhD

Director of Communication Operations: Chris Gunter, PhD

Marcus Autism Center is a not-for-profit organization and subsidiary of Children's Healthcare of Atlanta that treats almost 5,000 children a year directly and impacts another 5,000 through community programs. As one of the largest autism centers in the U.S. and one of only three National Institutes of Health (NIH) Autism Centers of Excellence, Marcus Autism Center offers families access to the latest research, comprehensive evaluations and intensive behavior treatments. With the help of research grants, community support and government funding, Marcus Autism Center aims to maximize the potential of children with autism today and transform the nature of autism for future generations. Our research includes studies on social engagement, parent training and education, severe behaviors, feeding disorders, language acquisition, and vocal communication.

Egleston Pediatric Research Center

The Pediatric Research Center (PRC) at Egleston was created to facilitate Children's Healthcare of Atlanta's vision for clinical excellence. Inpatient and outpatient units offer core support facilities (e.g. cardiology, radiology) and resources including nursing, pharmacy, laboratory, and bio nutrition. The PRC studies children with asthma, cardiac disease, hypertension, Crohn's Disease, Type 1 and 2 Diabetes Mellitus, kidney and hepatic disease, Sickle Cell, cystic fibrosis and MRSA, among others. Research studies follow exacting standards for delivering the interventions and collecting the requisite data. To learn more about how the PRC can support your research, please call the PRC at 404-785-0400, or email Stephanie Meisner, RN, BSN, CCRP, Clinical Research Manager, at stephanie.meisner@choa.org.

Sponsors



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