Emory+Children's Pediatric Research Center
Update November 2015

Research Resources:
The resources to the right are available to all investigators affiliated with Children's Healthcare of Atlanta (CHOA), including medical staff, Emory Department of Pediatrics (DOP) faculty and staff, and those outside of the DOP and CHOA who are members of our research centers. We encourage involvement of all those interested in research throughout our system, and provide this as a guide to resources along with our research website www.pedsresearch.org . Our goals are to build infrastructure and programs that serve a broad community of scientists and clinicians engaged in pediatric research, and provide training in grant writing and grant opportunities that enhance our extramural funding for all child health investigators affiliated with Children's Healthcare of Atlanta. For suggestions and comments on any of the initiatives and resources, please contact Paul Spearman, MD (paul.spearman@emory.edu).

Research Resources

Grant and Manuscript Support

- **Stacy Heilman, PhD Grants Advocate**

404-727-4819
stacy.heilman@emory.edu
•Assistance with finding grant opportunities and connecting to collaborators
•Core laboratory assistance, supervision

Clinical studies/ coordinators

- **Kris Rogers, RN, CRA Director,** CHOA Clinical Research Administration

404-785-1215
Kristine.rogers@choa.org

- **Manager, Egleston campus: Allison Wellons** 404-785-6459
Allison.wellons@choa.org

Emory Clinical Research Services

- **Amanda Cook, Director**

404-727-5234
amcook@emory.edu

Scientific Facilities Manager

- **Kira Moresco, MS**

kira.moresco@emory.edu
HSRB, G72, 404-727-6515

Grants & Manuscript Editing
•Prioritized for extramural funding opportunities, program projects
•Experienced at program project management, grant and scientific paper editing
•Request form on pedsresearch.org; send to Stacy Heilman.

- **Manager, Hughes Spalding/Scottish Rite campuses: Beena Desai**

404-785-2269
beena.desai@choa.org

- **Nurse Manager, Pediatric Research Unit (PRC/Egleston): Stephanie Meisner, RN**

Stephanie.Meisner@choa.org
404-785-0400-main number

Equipment Core: *Biosafety cabinet, incubators, clinical centrifuge, real-time PCR machine, standard PCR machine, multilabel plate reader, gel documentation system on order* **Services**: *This core provides common equipment for investigator's use, including access to benchtop space and hood space, centrifuges for clinical specimen processing*

Biostatistics Core

- **Courtney McCracken, PhD**
  - Traci Leong, PhD
  - Scott Gillespie, MS
  - Mike Kelleman, MSPH
  - Curtis Travers, MPH
  - Elizabeth Wang

Procedure: Request form located at:
http://www.pedsresearch.org/cores/detail/biostats
Priorities: analysis for grant applications and Publications

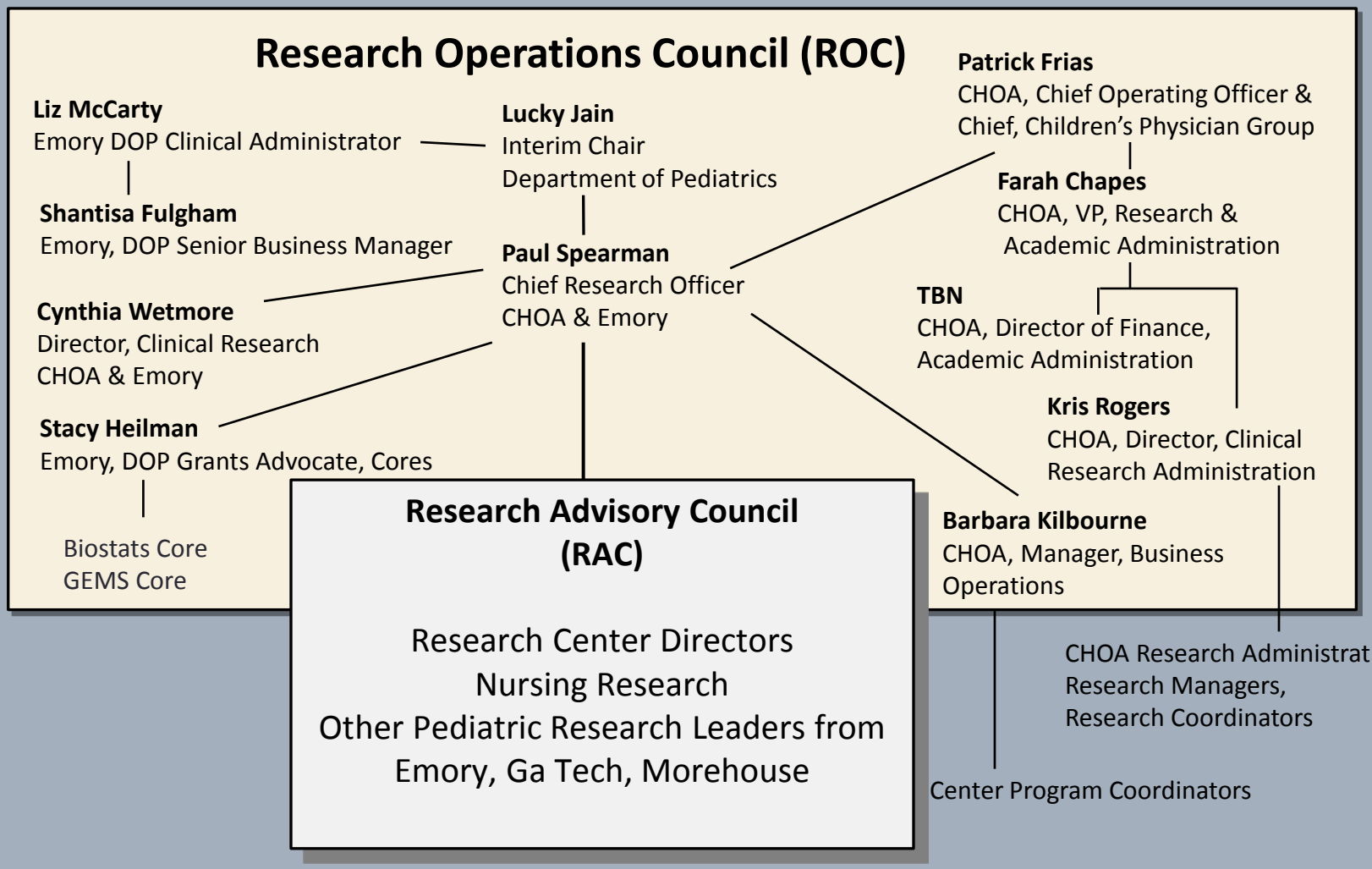
- **Pediatric Research Unit (PRC/Egleston) Services–** *A four-bed outpatient research unit/ A four-bed inpatient research unit/ A core research lab/A research pharmacy/ Bionutrition services/Nursing Services including, but limited to: Medication administration including investigational drugs; I.V. access and port access; I.V. infusions; Routine and complex vital sign monitoring; Phlebotomy; Timed specimen collections such as PK trials and oral glucose tolerance tests; Telemetry monitoring; For more information, please visit: http://www.pedsresearch.org/clinical-research/pediatric-research-center/*

Laboratory Specimen Processing: Clinical Laboratory at Egleston and Scottish Rite

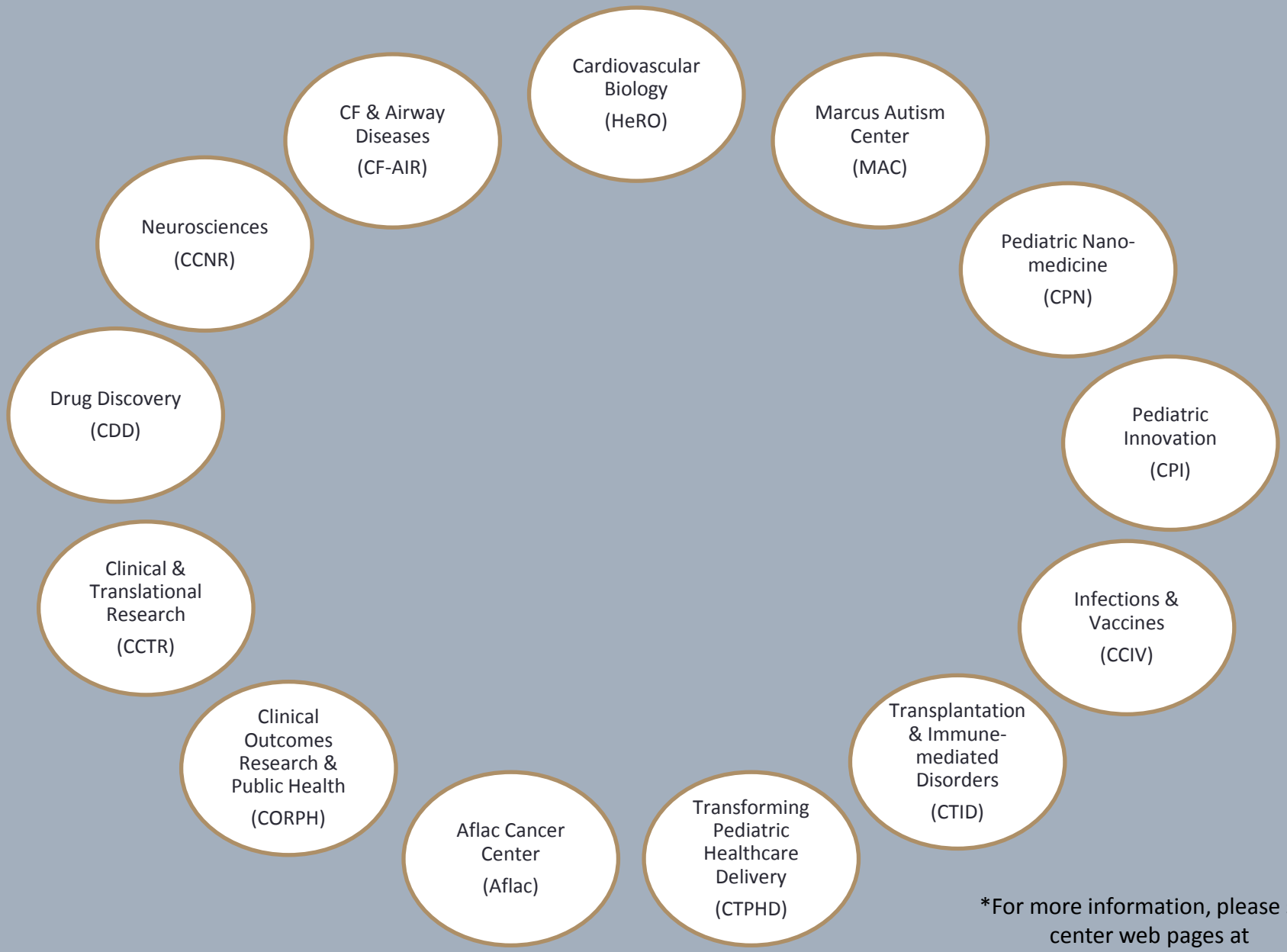
- **Heather MacDonald, Manager,** Advanced Diagnostics Laboratory

404-785-5766
Heather.macdonald@choa.org
•Clinical trials specimen processing, shipping, limited storage
•ACTSI processing lab
•Laboratory inventory management system (LIMS) available

Research Leadership:



Emory+Children's Pediatric Research Centers*



*For more information, please see center web pages at pedsresearch.org

Emory+Children's Pediatric Research Center Contacts

Center Directors:

Aflac Cancer and Blood Disorders Center
Center Director: Doug Graham, MD, PhD
douglas.graham@choa.org
Program Coordinator: Faith Barron
faith.barron@emory.edu

Children's Heart Research and Outcomes Center
Center Director: Mike Davis, PhD
michael.davis@bme.gatech.edu
Program Coordinator: Kristen Herzegh, BA, MPH kcoshau@emory.edu

Center for Clinical and Translational Research
Center Director: Cynthia Wetmore, MD, PHD *cynthia.wetmore@emory.edu*
Program Coordinator: Kristen Herzegh, BA, MPH kcoshau@emory.edu

Center for Cystic Fibrosis & Airways Disease Research
Center Director: Nael McCarty, PhD
namccar@emory.edu
Program Coordinator: Karen Kennedy, PhD
kmurra5@emory.edu

Center for Drug Discovery
Center Director: Baek Kim, PhD
Baek.kim@emory.edu
Program Coordinator: Kristen Herzegh, BA, MPH kcoshau@emory.edu

Center for Childhood Infections and Vaccines
Co-Center Directors: Paul Spearman, MD and Marty Moore, PhD
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Martin.moore@emory.edu
Program Coordinator: Karen Kennedy, PhD
kmurra5@emory.edu

Children's Center for Neurosciences Research
Center Director: Ton deGrauw, MD, PhD
ton.degrauw@choa.org
Research Director: Alex Kuan, MD, PhD
alex.kuan@emory.edu
Program Coordinator: Jennifer Villaseñor
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Center for Pediatric Innovation
Co-Center Directors: Bob Guldberg, PhD and Kevin Maher, MD
robert.guldberg@me.gatech.edu and maherk@kidsheart.com
Program Coordinator: Hazel Stevens
hazel.stevens@me.gatech.edu

Center for Pediatric Nanomedicine
Center Director: MG Finn, PhD
mgfinn@gatech.edu
Co-Director: Tom Barker, PhD
thomas.barker@bme.gatech.edu
Program Coordinator: Erin Kirshtein
Erin.kirshtein@bme.gatech.edu

Center for Transplantation & Immune-mediated Disorders
Center Director: Subra Kugathasan, MD
skugath@emory.edu
Program Coordinator: Jennifer Villaseñor
jkenny@emory.edu

Center for Transforming Pediatric Healthcare Delivery
Center Director: Beth Mynatt, PhD
mynatt@cc.gatech.edu
Program Coordinator: TBN

Clinical Outcomes Research and Public Health
Center Director: Paul Spearman, MD (Acting)
paul.spearman@emory.edu
Program Coordinator: Karen Kennedy, PhD
kmurra5@emory.edu

Marcus Autism Center
Center Director: Ami Klin, PhD
Director of Research: Warren Jones, PhD
ami.klin@emory.edu or
ami.klin@choa.org and
warren.r.jones@emory.edu
Associate Director of Research, Chris Gunter, PhD
Chris.gunter@emory.edu
Program Coordinator: Christina Wessels
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Research Center Administration:

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Executive Medical Director, Faculty Practices of the Children's Physician Group ljain@emory.edu

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Paul Spearman, MD
Nahmias-Schinazi Professor & Chief, Pediatric Infectious Diseases, Chief Research Officer, Children's Healthcare of Atlanta, Vice Chair for Research, Dept of Pediatrics, Emory University paul.spearman@emory.edu

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Barbara W. Kilbourne, RN, MPH
Manager, Business Operations, Research Strategy Leadership, Children's Healthcare of Atlanta
barbara.kilbourne@choa.org

Emory+Children's Pediatric Research Center

Locations and Contacts:

Emory Campus/Egleston

Emory-Children's Center (E-CC)
2015 Uppergate Drive
Atlanta, GA 30322

Health Sciences Research Building (HSRB)
1760 Haygood Drive, NE
Atlanta, GA 30322

Egleston hospital
1405 Clifton Road
Atlanta, GA 30322

Chief Research Officer *Paul Spearman, MD*
Paul.spearman@emory.edu
Manager, Business Operations: *Barbara Kilbourne, RN, MPH*
barbara.kilbourne@choa.org
Manager, Egleston campus: *Allison Wellons allison.wellons@choa.org*

Centers:

Aflac Cancer and Blood Disorders Center
Program Coordinator: Faith Barron faith.barron@emory.edu

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Program Coordinator: Karen Kennedy, PhD kmurra5@emory.edu

Center for Drug Discovery Program Coordinator: *Kristen Herzegh, BA, MPH kcoshau@emory.edu*

Center for Childhood Infections and Vaccines Program Coordinator: *Karen Kennedy, PhD kmurra5@emory.edu*

Children's Center for Neurosciences Research Program Coordinator: *Jennifer Villaseñor jkenny@emory.edu*

Center for Transplantation & Immune-mediated Disorders *Program Coordinator: Jennifer Villaseñor jkenny@emory.edu*

Clinical Outcomes Research and Public Health
Program Coordinator: Karen Kennedy, PhD kmurra5@emory.edu

Marcus Autism Center

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Program Coordinator: Christina Wessels
Christina.wessels@choa.org

Georgia Institute of Technology

Main Contacts:
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Chief Engineer, Pediatric Technologies: Leanne West
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Center for Pediatric Innovation
Parker H. Petit Institute for Bioengineering & Bioscience
315 Ferst Drive, NW
Atlanta, GA 30332
Program Coordinator: Hazel Stevens hazel.stevens@me.gatech.edu

Center for Pediatric Nanomedicine
Department of Biomedical Engineering
313 Ferst Drive
Atlanta, GA 30332
Program Coordinator: Erin Kirshtein Erin.kirshtein@bme.gatech.edu

Center for Transforming Pediatric Healthcare Delivery
College of Computing
801 Atlantic Drive
Atlanta, GA 30332
Center Director: Beth Mynatt, PhD mynatt@cc.gatech.edu

Scottish Rite Hospital*

1001 Johnson Ferry Road NE
Atlanta, GA 30342-1605
Director, Center for Clinical and Translational Research: Cynthia Wetmore, MD, PHD
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Program Coordinator: Kristen Herzegh, BA, MPH kcoshau@emory.edu
Manager, SR Campus: Beena Desai
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*Research Office located in the Medical Library on the Ground Floor

Hughes Spalding Hospital

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Research Coordinator, Saadia Khizer
Saadia.khizer@choa.org

Morehouse School of Medicine

PI: Beatrice Gee, MD, AB, FAAP
bgee@msm.edu
PI: Lily Immergluck, MD, FAAP
Limmergluck@msm.edu

Research-sponsored events/meetings:

(This is an overview, for specific dates/events, go to: http://www.pedsresearch.org/calendar)

MONDAYS	TUESDAYS	WEDNESDAYS	THURSDAYS	FRIDAYS	VARIOUS DAYS
Research Operations Council (ROC) meetings: occurs weekly at HSRB, E360. Designed for central team to discuss detailed operations and issues.		Research Brainstorming Sessions: Help as needed to allow development and exploration of special research topics. For suggested topic nominations, contact (Stacy.heilman@emory.edu)		PeRCS: 10 AM coffee social every 1st and 3rd Friday, usually held 3rd floor break area, E-CC	Research Advisory Council (RAC) meetings: twice monthly; restricted to RAC membership, contact Paul Spearman for inquiries or suggestions paul.spearman@emory.edu
K club: Monthly discussions/lectures for K award training, other grants training/education. Typically 2nd Monday, September to May, Contact Stacy Heilman (Stacy.heilman@emory.edu) for more information. *Sponsored by Departments of Pediatrics and Medicine and ACTSI.*		Research Grand Rounds: 3rd Wednesday of month, Egleston, 7:30 AM		Research Seminars: Fridays (Egleston Classrooms). Contact Barbara Kilbourne for suggestions or needs (barbara.kilbourne@choa.org)	Invited speakers through seminar series sponsored by centers; contact Center Directors or Barbara Kilbourne at barbara.kilbourne@choa.org if interested in upcoming events. Center Directors are listed on pedsresearch.org website.

Specialized Research Equipment/Service Cores:

CORE	SCIENTIFIC DIRECTOR	TECHNICAL DIRECTOR/CONTACT	EQUIPMENT	LOCATION	SERVICES
Animal Physiology Core	Mary Wagner, PhD mary.wagner@emory.edu 404-727-1336	Rong Jiang, MD rjiang2@emory.edu	Small animal surgical equipment	Emory-Children's Center, 2nd Floor Lab	This core assists with and provides the surgical expertise and equipment for small animal survival surgery, including IACUC protocol assistance. Currently, the core offers pulmonary banding, aortic banding, coronary ligation and intramyocardial injections for mice, rats and rabbits and is available for development of other surgical procedures.
Biomarkers Core	Lou Ann Brown, PhD lou.ann.brown@emory.edu 404-727-5739	Janine Ward janine.ward@emory.edu	Agilent gas chromatography/mass spectrometer and Waters high performance HPLC with fluorescence detector	Emory-Children's Center, 3rd Floor Lab	This cores analyzes markers of oxidative stress and markers of alcohol exposure. Speak to Scientific Director about other chromatography/mass spec assays available.
Cardiovascular Imaging Research Core (CIRC)	Ritu Sachdeva, MD sachdevar@kidsheart.com 404-785-CIRC	Heather Freidman Heather.friedman@choa.org	-Echocardiograms - Flow Doppler -3-D Imaging -Upright Bicycle -VO2 Analysis -Electrocardiogram -Cardiac MRI	Outpatient Cardiac Services, 2nd Floor, Tower 1	This core provides non-invasive cardiac support for investigators involved in clinical research involving infants, children and adolescents. The CIRC has dedicated space, equipment and staff to provide you with quality cardiovascular imaging data that is collected in a meticulous, systematic, detail-orientated manner. Because of our unique set-up, we are able to utilize state-of-the-art imaging modalities not typically seen in the clinical setting.

Specialized Research Equipment/Service Cores *(continued)*

CORE	SCIENTIFIC DIRECTOR	TECHNICAL DIRECTOR/CONTACT	EQUIPMENT	LOCATION	SERVICES
Flow Cytometry/Cell Sorting	David Archer darcher@emory.edu	Technical Director for Core: Aaron Rae aaron.j.rae@emory.edu Immunology services are overseen by Bridget Neary bridget.e.neary@emory.edu	FACSCanto, LSRII, FACSAria, AutoMACS Specimen processing (hood, centrifuges, Coulter counter), Zeiss ELISPOT reader, ELISAs, assay design for intracellular cytokine staining (ICS), luminex 200 assays for protein quantitation, real-time PCR	Health Sciences Research Building, E-362	This core offers access to several state of the art analytical flow cytometers as well as high-speed cell sorting. We also offer training as well as expert help to enable our users to improve the quality and scope of their research. In addition, this core provides equipment and technical expertise for the performance of immunologic assays and diagnostic assays for infectious pathogens. Our mission is to enhance the ability of investigators at Children's and affiliated institutions to perform research in the areas of immunology, vaccine testing, and infectious diseases
Medical Imaging Resources	Radiologists at Children's are board certified with additional training in pediatric imaging and are available for consultation upon request. This operation also includes physicists with imaging expertise and other staff experts.		• Access to clinical CT (4), PET (1), Bone Densitometry (2), Fluoroscopy (8), Nuclear Medicine (4), Ultrasound (9) and X-ray. • Access to 6 clinical MRI scanners including a 1.0T intraoperative, 1.5T and 3T systems. • Access to 2 fMRI systems. • Sedation Services • Access to radiology investigators specializing in radiology, neuroradiology and interventional radiology. • Access to MRI physicists (3). • Access to research professionals including administrators and research coordinators. • Administrative services including scheduling, archival of images		We provide a cross-disciplinary scientific, administrative, and educational home for imaging science through the Emory Center for Systems Imaging (CSI) and the Pediatric Imaging Research Core (PIRC) at Children's Healthcare of Atlanta. Inpatient Imaging Resources Outpatient Imaging Resources

CORE in Development	EQUIPMENT/LOCATION	DESCRIPTION
Specimen Repository (which will enhance the Specimen Processing Core)	LIMS, freezers (-80, LN2) Sync with freezer space in new building; temporary space until then being identified	The specimen repository will offer organized storage of blood and body fluids and nucleic acids. Tissue repository services are under further discussion. Specimen processing can be coordinated to link with the specimen repository. Bar-coded standard vial storage and a dedicated LIMS will offer automated tracking and organized retrieval of specimens.

Partnership Cores

CORE	SCIENTIFIC DIRECTORS	EQUIPMENT	LOCATION	SERVICES
Integrated Cell Imaging Core	Adam Marcus, PhD Director, ICI aimarcu@emory.edu Alexa Mattheyses, PhD Associate Director, ICI mattheyses@emory.edu Neil Anthony, PhD neil.anthony@emory.edu 404-969-CORE	The rates for the microscopes included in this effort can be found at: http://ici.emory.edu/document/ICI%20Pediatrics%20Rates.pdf. Pediatric researchers will benefit from a 40% subsidy when using any of the ICI equipment and technologies. ICI also provides expert consultation, training, and assistance on all technologies. More information on the microscopes and services available, locations, and how to become a user is available at ici.emory.edu	A partnership facilitated by the Emory School of Medicine and includes the Emory+Children's Pediatric Research Center Cellular Imaging Core along with other cellular imaging sites on campus including Winship Cancer Institute, Emory NINDS Neuroscience Core Facilities (ENNCF), and the Department of Physiology	This core provides training and access to advanced cellular imaging systems, including confocal and TIRF microscopy. For more information: http://www.pedsresearch.org/cores/detail/cell-imaging
Genetics/ Genomics Core Resources	**The Emory Integrated Genomics Core (EIGC):** Michael Zwick, PhD mzwick@emory.edu	The EIGC is a full-service genomics and computational facility offering Emory researchers the ability to use the latest technologies and methods of analysis in their research. We offer next-generation sequencing, high density microarray services, targeted enrichment, single nucleotide polymorphism (SNP) genotyping, and cutting-edge computational services built around our custom Galaxy server and Emory University's high performance computing and storage infrastructure. Please go to this link to learn more: Emory Integrated Genomics Core.		
	Emory Genetics Laboratory (EGL): Madhuri Hegde, PhD, FACMG mhegde@emory.edu and Derek Stevens derek.stevens@emory.edu	Emory Genetics Laboratory (EGL) is a "one-stop shop" for genetic testing. Its molecular genetics, biochemical genetics, and cytogenetics laboratories are fully integrated and offer one of the most comprehensive test menus available – more than 900 genetic tests are available for clinicians and researchers. As part of Emory University School of Medicine, EGL remains on the forefront of the latest technologies, including exome sequencing, next generation sequencing, whole genomic and targeted microarrays, and more. ABMG-accredited laboratory directors and NSGC-certified laboratory genetic counselors are available to all ordering clinicians and researchers. For more information, please visit Emory Genetics Laboratory.		

Funding Opportunities:

Funding Opportunity	Funding Limit	Funding Term	Deadline	Eligibility	Post Award Expectations	Additional Information
Friends	$25,000	12-18 months	Usually 2 times a year in the spring and fall	1. Children's professional staff who do not also have a compensated faculty appointment 2. Must be for clinical or outcomes research taking place in Children's facilities	1. Must provide annual and final reports. 2. Must be willing to present findings to Friends groups, Children's leadership, etc.	http://www.pedsresearch.org/research-tools/research-funding/friends/
Research Center Pilot Grants (including Emory & GA Tech based centers)	$50,000 (some GA Tech are $60K)	12 months	Usually mid-winter; Emory-based are due roughly every other year and GA Tech-based offered every year	1. Must include a member of the center and/or member of Children's medical staff 2. GA Tech-based centers (CPN, CPI and IPaT/CTPHD) must also include member of GA Tech faculty	1. Must provide annual report specifying related publications, grant applications submitted and extramural funding received. 2. Must apply for extramural funding within one year of project conclusion date.	http://www.pedsresearch.org/research-tools/research-funding/pilots/

Funding Opportunities *(continued):*

Funding Opportunity	Funding Limit	Funding Term	Deadline	Eligibility	Post Award Expectations	Additional Information
Dudley Moore Nursing and Allied Health Research Fund	$15,000	6-18 months	Usually 1st Friday in May and 1st Friday in October	1. All Children's nursing and allied health staff who provide services at one of Children's locations are eligible. 2. Excludes those with regular faculty appointments or who are employed by Emory 3. Projects must have an impact on enhanced patient care, priority is given to projects that will provide evidence to change practice.	Must be willing to present findings by request.	Fund restricted by donor to support nursing and allied health research at Children's
Quick Wins	varies	12-24 months	ongoing	1. Project proposals must be submitted by teams comprised of individuals from each organization, Children's and Georgia Tech. 2. The proposals must address a project that provides an answer to an unmet business or clinical need as identified by a clinician, technologist, or Children's leader.	The project must be capable of delivering a workable solution (at minimum a validated "prototype") into the hands of a clinician or team within 18 months from the receipt of funds and project start.	**https://pediatriconnect.gtri.gatech.edu/grants**

Additional Resources:

Research listserv:

Contact barbara.kilbourne@choa.org to be added to this listserv used to disseminate all pediatric research related announcements including seminars, funding opportunities, such as the BiRD *(Bringing in Research Dollars*), and the Weekly PREP *(Pediatric Research Events and Programs)*.

Website:

www.pedsresearch.org

This is the central resource for research seminar info, contacts, cores, calendars, and forms.

Emory Library Resources

- http://www.healthlibrary.emory.edu/
- Ask a librarian: http://health.library.emory.edu/about/contact/ask.php

Scottish Rite and Egleston Library Resources

- Emily Lawson
  Clinical Information Librarian, Inman Medical Library at Children's at Egleston
  404-785-1481
- Kate Daniels
  Clinical Information Librarian at Scottish Rite
  404-785-2157
- If you have access to Careforce — use the following link: http://careforceconnection/Departments/HumanResources/Learning%20Services/LibrarServices/Pages/Home.aspx
- If you do not have access to Careforce -- use the following link: http://www.choa.org/Health-Professionals/Physician-Resources/Medical-libraries.

Research Recruitment Update*:

NAME	PHOTO	CENTER	TITLE	START DATE	RECRUITED FROM	RESEARCH INTERESTS
Bernardo A. Mainou, PhD		Center for Childhood Infections and Vaccines (CCIV)	Assistant Professor	September 2015	Lamb Center for Pediatric Research Division of Pediatric Infectious Diseases Vanderbilt University School of Medicine	Dr. Mainou's research is focused on virus and host interactions, having developed expertise with enveloped DNA viruses as well as non-enveloped RNA viruses. As obligate intracellular pathogens, viruses require host cells to replicate, which has provided a strong platform to develop a series of assays to study cellular and viral processes. Dr. Mainou's research is centered on using knowledge from virus and cellular interactions to drive the development of viral therapeutics.
Sookyong Koh, MD, PhD		Children's Center for Neurosciences Research (CCNR)	Associate Professor	September 2015	Epilepsy Center, Ann & Robert H. Lurie Children's Hospital of Chicago	Dr. Koh is a pediatric neurologist and epileptologist. Her research interest is in inflammation of the central nervous system in relation to epilepsy, which she pursues currently in laboratory based animal models. In addition, Dr. Koh is interested in the clinical science of early-life onset seizure disorders and new onset seizures in general..

*Recruits for the past year

Research Recruitment Update*:

NAME	PHOTO	CENTER	TITLE	START DATE	RECRUITED FROM	RESEARCH INTERESTS
Doug Graham, MD, PhD		Aflac Cancer and Blood Disorders Center (Aflac)	Professor/ Center Director	August 2015	Children's Hospital Colorado, Center for Cancer and Blood Disorders, University of Colorado Cancer Center University of Colorado Anschutz Medical Campus	The Graham lab focuses much of its research on the role of Mer and Axl receptor tyrosine kinases(RTKs) in development and progression of human cancer. Mer is overexpressed in multiple human cancers and is transforming in vitro. With a particular focus on leukemia, lymphoma, and non-small cell lung cancer, the Graham lab has elucidated pro-survival pathways which are activated as a result of abnormal Mer and Axl activation. Specifically, the abnormal expression of Mer and/ or Axl leads to downstream activation of AKT and ERK 1/2 and mTOR, allowing cancer cells to survive even in the presence of apoptotic stimuli. In solid tumors, the Mer and Axl RTKs are important in cancer cell invasion. Using shRNA knockdown of Mer, a prolongation of survival has been found in xenograft studies. Recently, novel biologic inhibitors of Mer and Axl have been developed in the Graham lab and are being tested in preclinical in vitro and in vivo studies.
Eric J. Sorscher, MD		Center for Cystic Fibrosis and Airways Disease Research (CF-AIR)	Professor/GRA Eminent Scholar	July 2015	Department of Medicine Professor, Department of Cellular, Developmental and Integrative Biology Professor, Department of Human Genetics University of Alabama at Birmingham School of Medicine	Investigates the structure and function of the gene product responsible for cystic fibrosis (i.e., the cystic fibrosis transmembrane conductance regulator, CFTR), and also evaluates new approaches to therapy, including the activation of alternate chloride secretory pathways in cystic fibrosis epithelia, molecular correction of mutant CFTR, and gene transfer-related aspects of cystic fibrosis using both viral and non-viral vectors. Involves the characterization of a novel mechanism for tumor sensitization using the E. coli PNP gene. In this approach, tumors are rendered hundreds or thousands of times more sensitive to conventional chemotherapy by expression of a prokaryotic enzyme that cleaves nontoxic nucleoside prodrugs to a very toxic form. The research involves analysis of the crystal structure of E. coli PNP, and structure-based drug design of novel compounds that would be effectively cleaved in vitro and in vivo. Gene transfer vectors that might be important in the treatment of human cancers are also developed and characterized.

*Recruits for the past year

Research Recruitment Update*:

NAME	PHOTO	CENTER	TITLE	START DATE	RECRUITED FROM	RESEARCH INTERESTS
Dolores Hambardzumyan, PhD		Aflac Cancer and Blood Disorders Center (Aflac)	Assistant Professor	June 2015	Cleveland Clinic, Department of Neurosciences, Cleveland Clinic Cleveland, Ohio	Her research interests are focused on adult and pediatric gliomas, specifically looking at the role of macrophages (the most abundant immune infiltrates in gliomas) and reactive astrocytes. She studies these stromal non-neoplastic cells in gliomagenesis and how they modify glioma response to therapy. Her research is funded by a U01 grant from NIH/NCI (PI, 2012-2017). She also has a project investigating anti-VEGF therapy resistance in gliomas, which is funded as a subcontract from a U01 (until 8/30/2015) held by Dr. Eric Holland at Fred Hutchinson Cancer Center. She is also Co-I of an R01 (2013-2018) held by Dr. Jeongwu Lee at Case Western to investigate polycomb and cellular hierarchy in brain cancer.
Lazaros Kochilas, MD, MSCR		Children's Heart Research and Outcomes Center (HeRO)	Associate Professor	May 2015	University of Minnesota School of Medicine	Nearly 1 in every 120 children born has congenital heart disease (CHD). Congenital heart defects are the most common birth defect and are the number one cause of death from birth defects during the first year of life. Understanding the long term outcome for congenital heart disease is critically important. National Heart Blood Institute (NHLBI) has recently convened a panel of experts to address the issue of late outcomes for congenital heart disease NHLBI institute director Mike Lauer has expressed concern that not enough science has been focused toward late outcomes in emerging adults with congenital heart disease. Dr. Kochilas' expertise and interest in the field of late outcomes will put our center in a unique position to lead this effort to better characterize the late outcomes of those with congenital heart disease; and, improve their quality of life.

*Recruits for the past year

Research Recruitment Update*:

NAME	PHOTO	CENTER	TITLE	START DATE	RECRUITED FROM	RESEARCH INTERESTS
Steven L. Goudy, MD		Children's Heart Research and Outcomes Center (HeRO)	Associate Professor	March 2015	Vanderbilt Bill Wilkerson Center, Vanderbilt University	Both a surgeon and a basic scientist. He has an active basic science laboratory studying palatal development and the pathogenesis of cleft palate. His K08 was entitled "The Role of IRF6 during craniofacial development", and ended 7/31/2013. His R01 application submitted in 2013 examines the role of Jagged1 signaling in osteoblast differentiation and maxillary bone formation, using relevant mouse models that recreate mid-facial defects in humans. The reviewers noted that the mouse model matches well human disorders of maxillary hypoplasia, and that the investigator is well positioned to study this problem. The primary concerns were with the proposed mechanism through which Jagged1 signals and some technical approaches with the microCT techniques. These have been well addressed in the revised application. Two new manuscripts have been accepted that support his application, and it appears poised for a better reception
Rheinhallt M. Jones, PhD		Center for Transplantation and Immune-Mediated Disorders (CTID)	Assistant Professor	November 2014	Department of Pathology, Emory University	**Proposed Research Projects and Goals** The commensal microbiota that reside intimately with epithelial surfaces are increasingly recognized as important actors in a variety of host physiological and pathological events. For example, recent advances have implicated a role for the microbiota in epithelial cell cycle regulation and stem cell dynamics, thus suggesting that a "dysbiosis" of this relationship may lead to the initiation and progression of pathological conditions. However, there is a ***gap in the knowledge*** concerning a mechanistic understanding of how the commensal microbiota influences these processes. The goal of my research is to identify the cell signaling pathways, the bacterial community structure, and the microbial products that mediate the influences of the microbiota on human health. The ***short term objective*** is to identify how perturbations to the microbiota influence stem cell turnover, and by extension tumor initiation or progression – and ultimately, how deliberate manipulation of the microbiota may offer a therapeutic strategy

*Recruits for the past year