**FOR USE IN THE FACILITIES AND OTHER RESOURCES SECTION AND THE DESCRIPTION OF INSTITUTIONAL ENVIRONMENT *– sample***

For the Facilities and other Resources Section, traditionally followed these headings:

Laboratory

Animal

Computer

Office

Clinical

Other

**Material from which to choose to list the above mentioned categories for the Facilities & Other Resources section AND for consideration within the 1 page Description of Institutional Environment section within K applications:**

**Overview of Emory University.** Founded in 1836, Emory University has grown into a national center for teaching, research, and service, awarding more than 2,500 undergraduate and graduate degrees annually. It is recognized by the U.S. News & World Report as one the top 25 Universities in the US (ranked 21st in the 2016 report). In 1966 the University’s Board of Trustees integrated all of Emory’s health components into the Robert W. Woodruff Health Sciences Center. The Robert W. Woodruff Health Sciences Center joins those components of Emory University concerned with patient care, education of health professionals, research affecting health and illness, and policies for prevention and treatment of disease. It is an academic health science and service center focused on missions of teaching, research, health care and public service. Its components include schools of medicine, nursing, and public health; the Yerkes National Primate Research Center; the Emory Winship Cancer Institute; and Emory Healthcare, the largest, most comprehensive health system in Georgia.

**The Robert W. Woodruff Health Science Center (WHSC)**

**The Robert W. Woodruff Health Science Center (WHSC)** is an academic health science and service center focused on missions of teaching, research, health care and public service. It is composed of the Emory University School of Medicine, Rollins School of Public Health, Nell Hodgson Woodruff School of Nursing, Yerkes National Primate Research Center, and Emory Healthcare, the most comprehensive health system in Georgia, which comprises those components dedicated to patient care. Major teaching affiliates of the Emory University School of Medicine include Grady Memorial Hospital and its community clinics, the Atlanta Veterans Affairs Medical Center, and Children’s Healthcare of Atlanta (CHOA). The institutions of the WHSC have long been recognized for the quality of their programs in patient care and research with $2.5 billion in operating expenditures, 19,847 employees, 2,736 faculty, 1,428 affiliated faculty, 5,018 students and trainees, and a $6.4 billion economic impact on metro Atlanta. In fiscal year 2016, there was $574.6 million in total research funding at Emory, with WHSC receiving $540 million of that including $364.9million in federal research funding awards led by the National Institutes of Health with $322.2 million. Emory Healthcare has 1,918 hospital beds, 61,760 annual hos­pital admissions, and 3.8 million annual outpatient/other patient services. Physicians in Emory Healthcare and affiliate hospitals are responsible for 5.7 million patient services a year. In summary, the WHSC creates an exceptionally rich environment for clinical research.

Academic components and programs housed within the WHSC include:

***The Emory School of Medicine*** is ranked among the nation’s finest institutions for education, biomedical research, and patient care, with 2,328 full- and part-time faculty and 833 volunteer faculty. Medical school faculty received $363 million in sponsored research in fiscal year 2015, with $199 million in NIH funding ranking it 18th nationally in NIH dollars received. Emory School of Medicine is one of the fastest-growing recipients of NIH awards in the country, and a nationally recognized leader in biomedical research.

* **The Emory Department of Pediatrics** currently includes 181 faculty conducting research, 124 of whom are extramurally funded with 390 extramurally funded research projects (grants and contracts). Growth in extramural research funding for the department has been considerable over the past 5 years. In 2005, the Department of Pediatrics reported approximately $10M in extramural funding. By the end of fiscal year 2016, DOP funding levels were $50.2 million in total funding and almost $31M in NIH funding, which allowed them to achieve a top 10 ranking (#4) in the 2016 NIH rankings for Departments of Pediatrics. Of note, research grants in the Emory Department of Pediatrics are only a part of the overall research enterprise in child health at Emory (estimated total of $110M in child health-related research in all of Emory in FY16).
  + **The Emory Department of Medicine** includes more than 500 faculty members from nine divisions, including the Division of Cardiology. This division is home to a dedicated group of cardiovascular researchers, all of whom have established research programs in cardiovascular biology. In FY15, 53 members of this Division brought in $18.4M in extramural research funding, encompassing a range of cardiovascular research from bench to bedside to population studies. This group frequently interacts with faculty members outside of the Division of Cardiology including faculty in the Emory-GA Tech joint Department of Biomedical Engineering and the Emory Department of Pediatrics. These inter-institutional and inter-departmental faculty members constitute a critical mass for conceptual advancement of cardiovascular research projects and further education and career growth of trainees.

***The Emory Rollins School of Public Health*** is ranked 7th of all U.S. Schools of Public Health by U.S. News & World Report (2015) and represents another robust component of the Robert W. Woodruff Health Sciences Center making significant contributions to research. Many of its 264 regular and 421 adjunct faculty members are linked by appointments, shared programs, or research grants with the CDC, Carter Center, American Cancer Society, CARE, Arthritis Foundation, Task Force for Global Health, and state and local public health agencies. Through these partnerships and in its role as a center for international health research and training, the School helps make Atlanta the public health capital of the world.

(more info on the Emory SPH for possible inclusion can be found at this link: - <http://www.sph.emory.edu/research/index.html>

***The Nell Hodgson Woodruff School of Nursing*** is an international leader in the advancement of nursing science, education, practice and policy. Major programs within the school include the Fuld Fellowship, targeting second-career students with interest in serving vulnerable populations; the Lillian Carter Center for International Nursing; and the Maternal and Newborn Health in Ethiopia Partnership. In 2015, the Emory School of Nursing brought in $6.5M in NIH funding ranking it 4th of all Schools of Nursing in the U.S. The school has 75 faculty, and students can learn from adjunct faculty at some 300 clinical sites.

(more info on the Emory SON for possible inclusion can be found at this link: -

<http://www.nursing.emory.edu/faculty-and-research/index.html>

***Emory’s Atlanta Clinical and Translational Science Institute (ACTSI)***, an NIH-funded collaborative with Emory School of Medicine, Morehouse School of Medicine and Georgia Institute of Technology was created to increase availability and enhance efficiency of clinical trials for patients. It is an inter-institutional magnet that concentrates basic, translational, and clinical investigators, community clinicians, professional societies, and industry collaborators in dynamic clinical and translational research projects. ACTSI provides research resources including technical support, biostatistical consultation, equipment, laboratory services and nursing support. Research educational opportunities include a Master of Science in Clinical Research program and KL2 Career Development Award for junior faculty. Community engagement is an important component of ACTSI and promotes effective community participation in clinical trials to build a partnership between researchers and the community in order to reduce health disparities. Other components of ACTSI include ethics and regulatory support, biostatistics, epidemiology, and research design support; a pilot grant program to promote new and multidisciplinary research and a tracking and evaluation unit.

The ACTSI Clinical and Translational Research Program offers a Clinical Research Network that provides infrastructure and support for conducting patient oriented research. Pediatric researchers benefit directly from a clinical research unit that was built at the Children’s Egleston campus in collaboration with CHOA and has become a centralized home for clinical research collaborations across the entire Atlanta pediatric community. The unit is a discreet 8 bed (4 inpatient and 4 outpatient), 2012 sq ft pediatric research unit located on the second floor of the hospital. The unit is staffed by pediatric trained research nurses 24 hours/day.

**Children’s Healthcare of Atlanta (Children’s)**

**Children’s Healthcare of Atlanta (Children’s)**is a national leader in inpatient days, admissions, surgical admissions and emergency department visits. In 2015, Children’s managed more than 922,861 patient visits, 368,342 patients from all 159 counties in Georgia, 26,553 hospital admissions, 40,252 surgical procedures (inpatient and outpatient) and 229,849 emergency department visits with Emory clinicians providing the majority of the care. Children’s is also very involved in research, especially in collaboration with the Emory Department of Pediatrics. In 2015 alone, Children’s had more than 4,500 patients participate in clinical trials.

Children’s consists of 3 pediatric hospitals, 27 neighborhood locations including 6 urgent care centers and the Marcus Autism Center. Patients have access to over 1,900 pediatric physicians and practitioners representing more than 60 pediatric specialties and programs and the reach includes more than 80 telemedicine presenting sites around Georgia. There are more than 10,000 employees and 7,000 volunteers. CHOA is the largest pediatric clinical system in the country, the largest Medicaid provider in Georgia (serving 8 out of 10 pediatric inpatient Medicaid cases in Atlanta and 4 out of 10 statewide), and is consistently ranked among the top pediatric hospital systems in the country (e.g., by U.S. News & World Report). Children’s was formed in 1998 when Egleston Children’s Healthcare System and Scottish Rite Medical Center joined to form a unified healthcare system. In February 2006, Hughes Spalding Children’s Hospital joined the healthcare system. Children’s is a not-for-profit corporation. A complete array of pediatric subspecialties is available through pediatric physicians affiliated with CHOA, including allergy/immunology, cardiology, cardiothoracic surgery, critical care, orthopedics, otolaryngology, hematology/oncology, neurology, neurosurgery, gastroenterology, neonatology, transplant medicine, infectious diseases, psychiatry, and other specialties.

**The Children’s Healthcare of Atlanta Investigational Drug Service (IDS) Pharmacy** is a joint venture of the CHOA Department of Pharmacy and the Department of Clinical Research. The IDS pharmacy manages the investigational medications for over 140 clinical trials conducted on the various campuses in the CHOA system. The IDS pharmacy is staffed by two full time pharmacists and one full time pharmacy technician / assistant. The hours of operation are 8:00-16:30, Monday-Friday. The services and staff of the main hospital pharmacies are utilized to support trials requiring off-hours support. Various services provided by the IDS pharmacy include protocol review, budget preparation, staff education, receipt of study medications, IWRS system documentation, inventory maintenance, dose preparation, medication dispensing, subject randomization, subject and family education, invoice preparation and billing, periodic meetings with study monitors, final disposition of study medications, preparation and shipping of study medications, transfer of study medications among the various campuses, and compounding services (see below a detailed list of services provided by the IDS pharmacy).

|  |  |
| --- | --- |
| Services provided by the Children’s Healthcare of Atlanta Investigational Drug Service (IDS) Pharmacy | |
| Study Initiation | Review protocol  Prepare budget  Receive and process initial shipment of study drug  Prepare study fact sheet for staff  In-service staff (as needed)  Work with pharmacy IT staff to create drug build in Epic  Prepare preprinted labels (as needed) |
| Study Maintenance | Maintain appropriate inventory storage  Maintain study records  Meet with study monitors  Order and receive inventory  Process expired inventory  Process patient returns  Store patient returns for monitor  Process drugs for onsite destruction  Periodic study billing |
| Study Closeout | Process study drug for return to sponsor / onsite destruction  Process study records to archive  Meet with study monitor for closeout visit  Final billing |
| Dose Preparation | Retrieve and sign out inventory  Calculate dose/volume (as needed)  Order entry / verification in computer  Prepare dose  Dose labeling |
| Prescription Dispensing | Retrieve and sign out inventory  Order entry into computer  Prepare prescription  Prescription labeling  Patient/family education  IVRS documentation (when required)  Prepare for shipping (as needed) |

**Children’s Pediatric Research Centers & Cores**

**CHOA Pediatric Research Centers and Core Resources** were launched in 2007 via a $430M endowment from CHOA to enhance the research infrastructure towards supporting and facilitating child health research in the Atlanta area. This effort has been extremely successful in bringing together multidisciplinary groups from multiple institutions to collaborate on research topics important to child health. It is now jointly sponsored via a financial investment from CHOA, the Emory University Woodruff Health Science Center and Georgia Institute of Technology (GA Tech) resulting in a unique collaboration between a Children’s Hospital, a state university and an academic medical center. The collective CHOA-Emory-GA Tech initiative has resulted in establishing robust research centers that offer a thematic home for basic, translational and clinical investigators to interact and collaborate.

**The currently funded Pediatric Research Centers** are:

* AFLAC Cancer Center & Blood Disorders Service
* Center for Childhood Infections and Vaccines
* Center for Transplantation and Immune-mediated Disorders
* Center for Cystic Fibrosis & Airways Disease Research
* Center for Clinical Outcomes Research and Public Health
* Center for Drug Discovery
* Marcus Autism Center
* Pediatric Neuroscience Center
* Center for Clinical & Translational Research
* Children’s Heart Research and Outcomes Center
* Pediatric Technology Center at Georgia Tech

This Center structure supports robust research centers that offer a thematic home for basic, translational and clinical investigators to interact and collaborate in the represented areas of research strength and expertise. Each Center’s activities are supported through an NIH-funded leader, a series of primary faculty, and a wide array of collaborators from Children’s, Emory, Morehouse School of Medicine, Georgia Institute of Technology and other area institutions.

**Pediatric Core Resources**

The Research Center affiliated core facilities are available to pediatric researchers at a significantly reduced or fully subsidized cost offering access to instruments, technologies, services, and expert consultation to biomedical and behavioral investigators. The cores currently available for researchers’ include:

Pediatric Research Center affiliated core facilities are available to pediatric researchers at a significantly reduced or fully subsidized cost offering access to instruments, technologies, services, and expert consultation to biomedical and behavioral investigators. Cores available for researchers’ use include:

* **Biomarker Core** – provides the equipment and technical expertise to perform small-molecule metabolite profile identification including analysis of markers related to oxidative stress.
* **Molecular Clinical Trials Laboratory & Biorepository** – Offers laboratory and technical assistance for collecting, storage and analysis of biological samples including blood and biological fluids collected as part of a clinical study. These services are offered to investigators conducing basic science, epidemiologic, translational and clinical research related to improving child health.
* **Biostatistical Core** – Two PhD level and 4 master’s level biostatisticians provide assistance to investigators for analytic help and statistical methodology for study design, grant proposal preparation and manuscript preparation; database design for data collection is also available.
* **Cardiovascular Imaging Research Core** (CIRC) – provides non-invasive imaging services (including EKG, echocardiography, stress test, stress echocardiography and cardiac MRI) for cardiovascular research involving infants, children and adolescents. The CIRC has dedicated space, equipment and staff to provide quality cardiovascular imaging data that is collected in a systematic manner.
* **Medical Imaging Resources** – Both inpatient and research specific outpatient facilities exist to accommodate a variety of medical imaging needs including MRI, CT, PET, PET-CT, bone densitometry, fluoroscopy, nuclear medicine, interventional radiology, ultrasound, and X-ray. Pediatric sedation services are available, when needed.
* **General Equipment Core** **and Specimen Processing** – common use equipment such as ultracentrifuges, RT-PCR, gel documentation systems, TopCount system, developer and specimen processing resources.
* **The Grant Editing/Manuscript Support Core** is a Pediatrics Research Office Core available to pediatric researchers. This core assists with final editing and of extramural grant applications and/or manuscripts reporting data generated from extramurally funded research programs.
* **The Pediatric Heart Diseases Data Registry** **Core** provides access to a rich registry of surgical, catheter-based and electrophysiologic studies and interventions for multiple pediatric heart diseases. This core provides consultation assistance and compile data for outcome studies related to pediatric heart diseases.

**Clinical Research Centralized Core Resources**

**The Emory-Children’s Center Research Unit (ECC-RU)** is located on the first floor of the Emory-Children’s Center Building, within the Children’s Specialty Services Clinic. It is Emory University space, managed by the Department of Pediatrics. The ECC-RU is dedicated to clinical research activities and is available for IRB approved protocols conducted by Emory or its academic partners. The unit contains a research staff work room, 2 exam rooms and 1 interview room, which is also equipped for phlebotomy.

The ECC-RU is self-service. Once an appointment is booked in the dedicated on-line scheduling system, the IRB status is verified and the study team is given badge access to the workroom, where room keys are kept. The study staff is responsible for all subject interactions, including informing the subject of the visit and escorting them to the unit. The rooms are equipped with basic supplies: gloves, sharps containers, foaming hand sanitizer and sanitizing wipes. Anything else will need to be provided by the study team and the room must be cleaned after use. The PI is responsible for overseeing the research activities performed and insuring all staff is appropriately trained and credentialed.

**General Research Resources: Faculty Development, Mentoring, Seed Grants, Intellectual Interactions**

**Faculty Development**

***Formal Workshops and Seminars:***

* **Pediatric Research “K-Club” Meeting Series (monthly):** Sponsored by the Emory Departments of Pediatrics and Medicine and the ACTSI, K-Club brings together young scientists with senior faculty who serve on study sections and who have extensive mentoring and grantsmanship expertise. In addition to the monthly program, attendees are offered the opportunity to meet individually with a professional grants educator/advisor for advice and direct feedback on their draft applications. K-Club topics span a wide scope and include a variety of specific sessions falling under the broad headings of

1. Navigating the NIH and extramural research funding landscape
2. Strategies and approaches to writing NIH and other grant applications
3. General advice and guidance in preparing research grant applications
4. Research administration and logistics
5. Professional development including focused sessions on mentoring

* **Research Resources 101 (monthly):** Research Resources 101 is jointly sponsored by the Departments of Pediatrics and Medicine. It is a monthly series designed to introduce early career and established investigators to research resources available at Emory University and provides information about the access to and use of individual clinical and basic research resources. Topics presented range from clinical to basic science research related and include subjects like electronic resources, regulatory support, consultative services and core facilities. Presentations may be attended in person or via a live web feed.
* **FEED Conference (annually):** Co-sponsored by the Emory Departments of Pediatrics and Medicine, the Faculty Education, Enrichment, and Development Conference or “FEED Conference” is an annual full day event that includes general presentations as well as career-path specific sessions for clinical researchers and basic scientists. Regularly presented topics disseminate practical information such as use of tools to facilitate collaboration, finding research funding, the manuscript review process and the Emory promotion process.
* **Clinical Research Bootcamp (annually):** The Emory School of Medicine Office of Faculty Development organizes and hosts an annual “Clinical Research Boot Camp,” a day-long program providing participants with a comprehensive overview of the major components involved in clinical research.
* **Junior Faculty Development Course (10 sessions over 5 months):** Featuring a diverse faculty selected from throughout the School of Medicine, School of Public Health and Goizueta Business School, this course presents information necessary for success in an academic medical center using a variety of formats including didactic presentations, panel discussions, group and individual exercises, and case-based problem solving. Specific topics include organizational structure and finances, teaching, presentation skills, promotions and tenure, manuscript writing, negotiation and conflict resolution and ethics.
* **Laboratory Management Course:** Once a year, the Emory Office of Postdoctoral Education offers a Laboratory Management training class to support the success of postdocs and junior faculty in establishing and managing their own independent basic science research labs. The course has four two-hour sessions with two major topics covered in each session in one-hour segments. Topics that are covered include setting up your own lab, budget management, hiring people, data management and managing the tenure-process. The course is offered once a year in the Spring semester.
* **Principles and Practice of Molecular Biology in Medicine course:** Offered annually, this course is designed to provide an overview and technical information on the most common molecular biology techniques that are available for biomedical research. Taught by experienced Emory School of Medicine faculty, this course educates participants to select the most appropriate techniques to best test their research questions and hypotheses and to appropriately design experiments and incorporate proper controls. Each lecture includes a description of the methodology being presented, the strengths and weaknesses of the approach being used, as well as examples of successful use of the techniques from the literature. Topics covered include: Monitoring Cell Growth and Apoptosis; Identification and Localization of Proteins in Cells; Protein Analysis; State of the Art Techniques in Proteomics; Signaling Networks in Cells; DNA/mRNA Analysis; Regulation of Gene Expression; Defining Function of a Gene or Protein in Cultured Cells; Defining Function of a Gene or Protein in Animal Models; Biomaterials Based Approaches; Design & Analysis of Experiments; Grant Writing Skills; and Fundamentals and Art of Scientific Presentation and Manuscript Writing.

***Grant and Manuscript Writing Resources:***

Numerous institutionally initiated and support faculty development opportunities are available throughout Emory University.

* Grant strategy and writing programs are offered through a School of Medicine organized “K Tutorial,” a 6 hour course designed to provide in-depth information and targeted grant writing assistance to faculty preparing NIH K applications.
* Department specific grant writing help is also offered through programs such as the Dept of Pediatrics sponsored “Grant Editing and Manuscript Support Core,” which is a fully subsidized service providing comprehensive grant and manuscript editing support.
* The Emory University Center for Faculty Development and Excellence organizes a faculty writing group called “The Writing Room” that is tailored to a small group of participants and designed to meet their specific needs and preferences. The Center for Faculty Development and Excellence serves as scheduler and convener of this group and facilitates the planning and communication of the current cohort of participants.
* The Emory School of Medicine Office of Faculty Development offers a “Peer-Mentoring Manuscript Development Initiative,” connecting junior faculty ready to publish with experienced faculty who can provide the needed guidance and mentoring.
* The Laney Graduate School at Emory University organizes the “Grant Writing Program” that addresses every stage of grant proposal writing inducing developing fundable project ideas, presenting projects in persuasive ways and tailoring proposals to specific funders. The program is designed so that you can participate in a series of forums and workshops that build on one another and help you to develop your proposal and dissertation project. Workshops and informational sessions are offered throughout the year.

**Mentoring**

Mentoring is a strong cultural component at all levels of Emory. The “Mentor Emory” program is organized annually and not only pairs mentees with seasoned mentors based on the mentee identified needs, but also facilitates the development of these relationships through moderated sessions and suggested communication strategies. The Department of Pediatrics also offers a variety of mentor-specific resources including the “Mentoring Check-up” series designed to seek feedback from junior investigators and learn what areas they are still in need of assistance seeking mentor resources to match. “Speed Mentoring” is a session held during the annual Emory Departments of Pediatrics and Medicine sponsored Faculty Education, Enrichment, and Development Conference that pairs junior faculty members with senior faculty members. This venue provides a series of short face-to-face meetings to facilitate networking and to promote mentor related discussions between individuals who may not otherwise have a chance to meet.

**Seed Grants**

The Emory University Department of Pediatrics and Children’s Healthcare of Atlanta are committed to providing grant support for investigators as they pursue additional grant funding. Annual seed grant programs available for research initiatives include a) The Pediatric Center Research Seed Grant program supporting basic, clinical and translational pediatric research projects with an emphasis on supporting junior faculty; b) the Friends Research grant geared towards non-faculty clinicians with project ideas that are likely to have a direct clinical practice impact; c) Dudley Moore awards for nursing and allied health research and d) the Pediatric Research Center Pilots. Emory University also offers a variety of seed funding opportunities

The Atlanta Clinical Translational Research Institute (ACTSI) offers targeted seed grant programs to promote clinical and translational science including support for research involving community-based research initiatives and development and support of research technologies aimed at benefitting the clinical community. Through collaboration with the Emory University Research Committee, the ACTSI supports several health-science specific $30K awards for short-term research goals that can be accomplished in one year or less. The program prioritizes funding of research and creative projects to explore new areas of research that are likely to attract outside support.

**Formal Seminars and Workshops Facilitating Networking & Intellectual Interactions**

There are numerous opportunities for intellectual interactions with other investigators. Some examples are listed here:

***Department of Pediatrics***

* Pediatric Research Grand Rounds (monthly) connecting a clinical case from the hospital to a research presentation related to ongoing investigations and Emory and/or Children’s.
* Pediatric Research Seminar (weekly) representing topics relevant to all Research Centers including a monthly seminar dedicated to topics of interest to the pediatric research centers.

***Rollins School of Public Health – If relevant***

* Extensive spectrum of courses including epidemiology, biostatistics, and data management in research are available to Emory faculty and through the MSCR program
* Regularly scheduled seminars in epidemiology, biostatistics, and clinical trials methodologies
* MSCR Journal Club: Critical assessment of research design and methodologies; discussion of patient-oriented research related topics (e.g. use of placebo; informed consent)
* MSCR Clinical Research Colloquium: Series of seminars given by leaders in clinical investigation detailing their clinical investigation careers and how they have organized multidisplinary approaches to address complex issues in biomedical research