

## **Biomedical Research Workforce Pipeline, Diversity, and Training Programs**

October 5, 2018 (please send updates/corrections to Dr. Alison Hall, akhall@gwu.edu)

### **Pre-College**

*Health Careers Opportunity Program (HCOP)* Led by Dr. Reamer Bushardt. Health sciences-focused high school academy through public-private partnership at TC Williams High School & partnership with Alexandria city public schools. Starts with biomedical informatics pathway in fall 2018, followed by four additional pathways – sports medicine, pharmacy, emergency medical services and medical laboratory sciences that will launch over the next four years. 100-150 students per year. Health Resources and Services Administration grant (#)

*The DC Health and Academic Prep Program (DC HAPP)*, led by Dr. Yolanda Haywood. Pre-college program for underrepresented, rising high school juniors and seniors with an interest in a medical education and career. During a four-week summer experience and clinical internships during the academic year, DC HAPP scholars learn about potential healthcare professions, and are mentored through the college application process.

*The GW SMHS Upward Bound Program*, led by Jessica Castillo, serves grades 9-12 from partnered public and private charter schools in Wards 5, 6 and 7 in the District of Columbia. The program identifies students with an interest in medical and allied health careers and offers Saturday Academy, Tutorial Services, Summer Institute, SAT seminar and student ambassador program.

*Mentored Experience To Expand Opportunities in Research version High School* led by Dr. Naomi Luban et al. provides high school students from underrepresented groups the opportunity to participate in an experiential research project at Children's National Medical Center and its Children's Research Institute. This six-week summer experience is designed to encourage students to take the required steps toward careers in STEM and biomedical research fields. This program is supported by NIH R25 HD090722-02.

*Colaco Scholar Program* led by Dr. Naomi Luban. Philanthropically supported program takes 1 to 2 high school students from area high schools with specific interest in laboratory medicine and chemistry. Most students are recruited from private high schools in DC and Thomas Jefferson High in Virginia per the donor's requirements.

*Sheik Zayed Summer Student Innovators Program*. This formal program recruits college and some high school students for a summer experience in bioengineering robotics and innovation research. Contact Kolaleh Eskadanin for more detail

*Discover Science with Dr. Bear* Led by Dr. Naomi Luban. This STEAM-focused program brings preventative health, science, mathematics and robotics to children and families for out of school time using hands-on brains on art focused activities in the DC Public Library System. Pilot at 2 DCPL sites; includes family learning events in in year 2 a one week science camp at CNHS. This program is supported by NIH R25 GM129225-02

## **College**

Summer Program Advancing Research on Cancer (GW SPARC) led by Drs. Alison Hall and Edward Seto. GW-SPARC engages about 10 undergraduates from diverse groups in a 10-week mentored summer research experience at the GW Cancer Center. The program fosters active engagement in cutting-edge research, exposure to contemporary cancer research techniques, understanding of health disparities and impact of cancer in different communities, and preparation for research careers.

Harlan Undergraduate Research Fellowship. Wilbur V. Harlan Research Fellowship program supports GW undergraduate biology majors with stipend of \$5,000 to support their independent research program in the laboratory of a member of the Department of Biological Sciences.

Summer Research Opportunity in Chemistry. The A. D. Britt, Madeleine Reines Jacobs, and Charles R. and Elma M. Naeser Scholarships honor outstanding GW students in the field of chemistry by supporting summer research opportunities in one of the Department's research laboratories.

Luther Rice Undergraduate Research Fellowship supports GW undergraduates in discovery- and inquiry-based education throughout the undergraduate experience.

CRI Summer Student Program Informal program of medical student, doctoral, college and some high school students linked to a CRI investigator, which provides some stipends, a summer lecture program that covers all CTS competencies, Redcap and CITI training and allows students to shadow, attend grand rounds, clinical rounds and become a member of a research team. A poster session with SZIPSI concludes this 8 week summer opportunity. About 110 students are involved annually. Contact Kersten Hildebrandt for details on the application process.

## **Medical Student**

MD Pre-Matriculation Program is a four-week program for about a dozen incoming medical students who are invited by the Committee on Admissions to develop skills needed to successfully navigate through the medical school curriculum.

Mentored Experience To Expand Opportunities in Research (METEOR version1) program led by Dr. Hall offers a competitive fellowship for medical students from groups underrepresented in medicine who are interested in an academic research career to matriculate into GW's M.D. program. Up to 5 GW medical students appointed each year.

The Clinical and Translational Research Scholarly Concentration, led by Drs. Alison Hall and Naomi Luban engages some 50 medical students each year in a longitudinal, in-depth research opportunity to form new mentors, explore new research areas, reinforce research skills and build new research competencies.

Gill and Health Services Research Fellowships. Competitive summer fellowship support for GW medical students to engage in research projects.

### **Postdoc/ Resident/Fellow**

Genetics and Genomics of Muscle Postdoctoral Training Program (Jaiswal) Research and training topics focus on understanding muscle tissue in health and disease (dystrophy and damage), with an emphasis on genome-enabled approaches and translational research. 2 MD, 5 postdoc per year. This program is supported by T32 AR056993

Children's National Stimulating Access to Research in Residency (CNStARR) Program Led by Drs. Teach and , Luban, Freishtat, to recruit and retain outstanding pediatric residents with demonstrated interest in pursuing research careers in NHLBI: sickle cell disease, congenital heart disease, and pediatric lung disease; NIAID HIV and immunology. The Program supports 80% effort for six pediatric residents among two grants. Lisa Sheehy, Admin. These programs are supported by NIH R38 AI140298-01 and NIH R38 HL143585-01

Research, Education, and Advocacy in Child Healthcare (REACH) Informal Reach Resident Research Program. Internal funding at CNHS for about 60 residents per year; Contact An Massaro.

Pediatric Resident Research Track. Internally supported track via ERAS match allowing up to 9 months of dedicated research time during residency training. Contacts An Massaro and Dewesh Agrawal

Postdoctoral Training in Pediatric Clinical Pharmacology (van den Anker) The program is a joint collaboration with the Office of Clinical Pharmacology at the FDA the T32 training program in Clinical Pharmacology at Johns Hopkins University School of Medicine and the University of Maryland School of Pharmacy in the discipline of Pediatric and Adult Clinical Pharmacology. 4 MD, 2 PharmD 2 PhD This program is supported by NIH T32 HD087969

### **Junior Faculty**

KL2 Mentored Career Development Core Scholars. Led by Dr. Naomi Luban and An Massaro. Select and train about 2 scholars per year, support from internal sources as well as Clinical and Translational Science Institute-CN KL2. The KL2 program offers a variety of different programs throughout the year including a half day retreat and multiple K-special interest groups. This program is supported by NIH TR001877-03. Contact Rachel Smilow

Pediatric Hematology and Transfusion Medicine Multidisciplinary Research Training at CNHS, led by Drs. Naomi Luban and Catherine Bollard. Focused on preparing trainees from diverse backgrounds for academic leadership and independently funded research careers. Trainees will be linked to physicians and basic/translational scientists whose work advances the diagnosis and management (including cell-based therapies) of blood, cardiovascular, pulmonary and renal diseases affecting infants and children. Through this T32, two to three years of mentored training experience utilizing core resources of our CTSA will be offered. One or two applicants per year will be accepted. T32 HL110841-07

K12 Child Health Research Career Development Award at Childrens National, led by Dr. Teach and Dr. Freishtat The purpose of the Child Health Research Career Development Award (CHRCDA) program at the Children's National Health System/Children's Research Institute is to facilitate the development of successful basic science and translational research careers for junior faculty members in pediatrics The applicant must be a pediatrician whose future focus will

be on bench research. One or two applicants are accepted each year .This program is supported by K12 HD001399

**Research Skills and Educational Initiatives:**

Clinical and Translational Science Award- The CTSI-CN award is a partnership between Children's National and The George Washington University which offers unique resources in translating discovery to improved health and provides highly integrated, cost-effective, investigator-focused resources designed to overcome research barriers, promote collaborative research, and provide research training with a special focus on children's health. Made of up eight cores the CTSI-CN offers a variety of services that helps with designing, setting up, conducting and closing out studies. Through a variety of different databases such as REDCap, PowerTrials, SPARC and a variety of other services. UL1TR001876

Grantwriting for the Individual Investigator HSCI 6297 TR1 (Nasser, Hall). The complete process of a research grant proposal development. Online, 10 week, 3-credit-hour, 30-CME course. Summer 2018, 5 registrants.

Grants Enhancement Program to improve grant applications submitted by investigators; includes review and feedback, monthly facilitated group meetings. (# participants?)

Workshop: Statistical Package for the Social Science (Schlumpf, Gordish-Dressman) 2017 one day hands-on workshop.

Data Analysis Workshop Series. SPSS and R workshops, getting data with APIs (GW Libraries/workshops <https://library.gwu.edu/events>)

Building the Next Generation of Academic Physicians GW regional host for national meeting (2018) SMHS faculty from both GW and CN participate in this organization committed to recruit women and under-represented minorities into careers in academic medicine (<http://bngap.org/>).