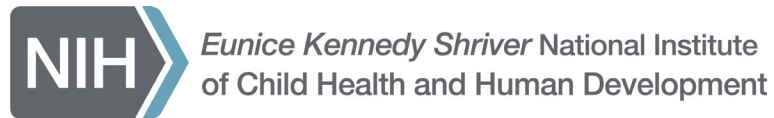


National Advisory Child Health and Human Development Council

September 6, 2023

OPEN SESSION

Chris J. McBain, PhD
Scientific Director



Outline

- NICHD Intramural Program Overview
- Budget & Personnel Updates
- Competitive Funding Opportunities
- Office of Education Updates



NICHD Intramural Program Overview

NICHD Intramural Program

Made up of 8 divisions:

- Division of Developmental Biology
- Division of Translational Medicine
- Division of Molecular and Cellular Biology
- Division of Neurosciences and Cellular and Structural Biology
- Division of Basic and Translational Biophysics
- Division of Translational Imaging and Genomic Integrity
- Division of Obstetrics and Maternal-Fetal Medicine
- Division of Population Health Research



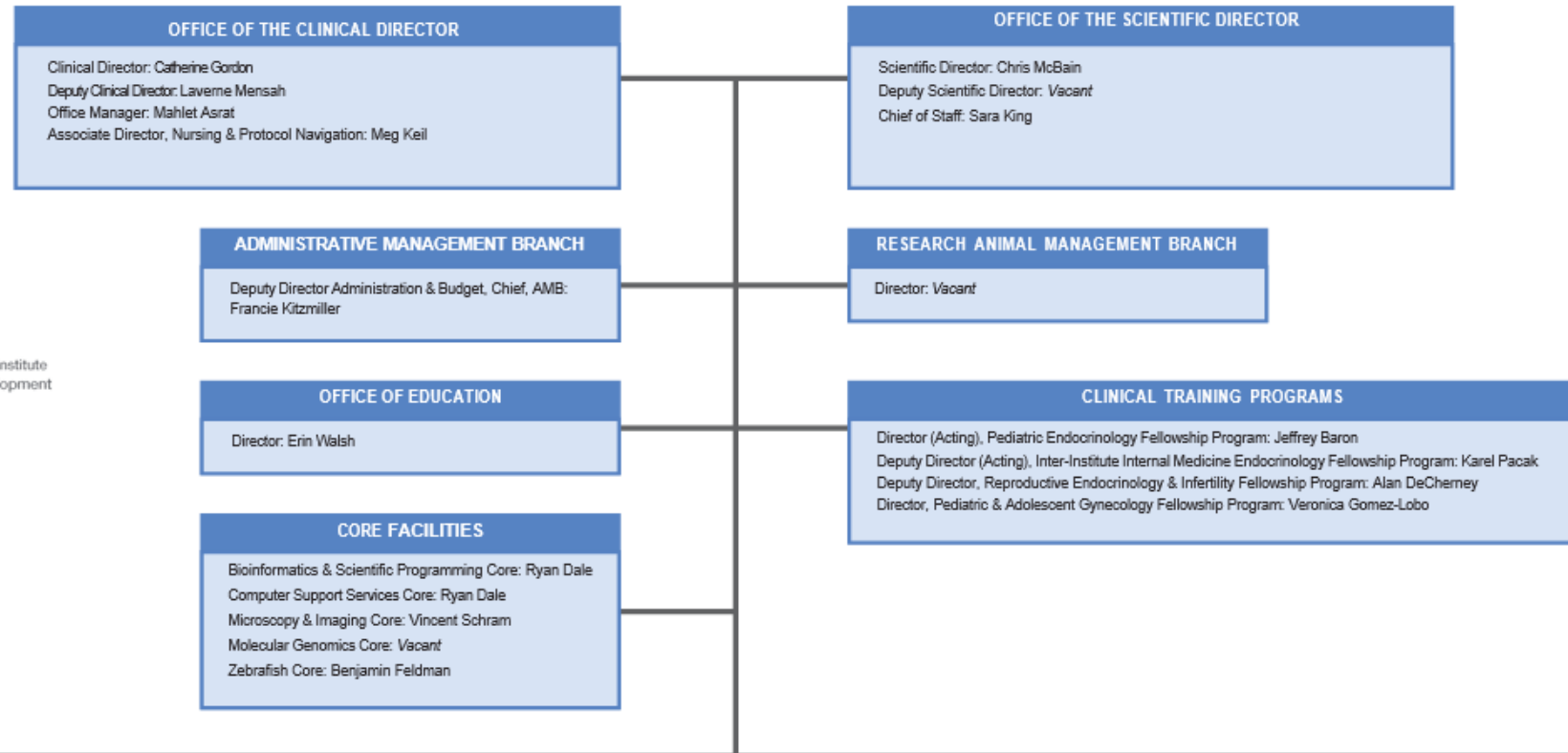
Who we are in numbers

- Total personnel of ~830 staff
 - 70 PIs (61 Tenured; 9 Tenure-Track; 2 Assistant Clinical Investigators)
 - 62 Staff Scientists
 - 272 trainees (graduate, postbac, postdoctoral and clinical fellows)
- Basic and clinical programs are divided into 12 scientifically based affinity groups
- Epidemiologic programs of DiPHR are divided into 3 branches and 1 program
 - Epidemiology Branch
 - Biostatistics and Bioinformatics Branch
 - Social and Behavioral Sciences Branch
 - Contraceptive Development Program
- 69 Clinical Protocols
- 5 Accredited Medical Training Programs



NICHD Division of Intramural Research

Updated September 2023



DIVISION OF DEVELOPMENTAL BIOLOGY	DIVISION OF TRANSLATIONAL MEDICINE	DIVISION OF MOLECULAR AND CELLULAR BIOLOGY	DIVISION OF NEURO SCIENCE AND CELLULAR AND STRUCTURAL BIOLOGY	DIVISION OF BASIC AND TRANSLATIONAL BIOPHYSICS	DIVISION OF TRANSLATIONAL IMAGING AND GENOMIC INTEGRITY	DIVISION OF OBSTETRICS AND MATERNAL-FETAL MEDICINE	DIVISION OF POPULATION HEALTH RESEARCH
ASD: Todd Macfarlan Deputy ASD: Pedro Rocha Harold Burgess Ajay Chitnis David Clark Robert Crouch Melvin DePamphilis Jeffrey Farrell Paul Love Todd Macfarlan Richard Marais Keiko Ozato Karl Pfeifer Pedro Rocha Katherine Rogers Brant Weinstein	ASD: Jack Yanovski Deputy ASD: Veronica Gomez-Lobo Jeffrey Baron Janice Chou An Dang Do Rena D'Souza Veronica Gomez-Lobo Catherine Gordon Sergey Leikin Anil Mukherjee Karel Pacak Forbes Porter Sarah Sheppard Stanko Stojilkovic Christina Tatsi Jack Yanovski	ASD: Gisela Storz Deputy ASD: Henry Levin Mary Dasso Thomas Dever Alan Hinnebusch Henry Levin Y. Peng Loh Jon Lorsch Matthias Machner Yun-Bo Shi Gisela Storz	ASD: Mary Lilly Deputy ASD: Timothy Petros Tamás Balla Anirban Banerjee Juan Bonifacino Andres Buonanno Dax Hoffman Claire Le Pichon Mary Lilly Chris McBain Timothy Petros Tracey Rouault Mihaela Serpe Mark Stopfer	ASD: Sergey Bezrukov Deputy ASD: Leonid Chernomordik Sergey Bezrukov Leonid Chernomordik Leonid Margolis Doreen Matthies Alexander Sodi Joshua Zimmerberg	ASD: Amir Gandjbakhche Deputy ASD: Peter Basser Peter Basser Amir Gandjbakhche Bruce Tromberg Roger Woodgate	ASD: Roberto Romero Roberto Romero	Director: Una Grewal Deputy Director: Yvette Pittman Jennifer Weick Biostatistics and Bioinformatics Branch Neil Perkins, Acting Branch Chief Zhen Chen Aiyi Liu Rajeshwari Sundaram Epidemiology Branch Edwina Yeung, Acting Branch Chief Katherine Grantz Fasil Tekola-Ayele Social and Behavioral Sciences Branch Stephen Gilman, Branch Chief Bobby Cheon Tonja Nansel Contraceptive Development Program Diana Blithe, Chief



Affinity Group Membership

Aquatic Models of Human Development

Chitnis, Ajay [Head]

Burgess, Harry
Feldman, Ben (Core)
Rogers, Katherine
Weinstein, Brant

Bone & Matrix Biology in Development & Disease

Leikin, Sergey [Head]

D'Souza, Rena (NIDCR)
Marini, Joan

Cell & Structural Biology

Machner, Matthias [Head]

Banerjee, Anirban
Buonanno, Andres
Bonifacino, Juan
Lilly, Mary
Storz, Gigi

Cell Regulation & Development

Hinnebusch, Alan [Head]

Dasso, Mary
Dever, Tom
Farrell, Jeff
Levin, Henry
Lorsch, Jon (NIGMS)
Serpe, Ela
Shi, Yun-Bo

Developmental Endocrinology, Metabolism, Genetics, & Endocrine Oncology

Pacak, Karel [Head]

Baron, Jeff
Chou, Janice
Dang Do, An (ACI)
Merke, Deborah (CC)
Mukherjee, Anil
Porter, Denny
Sheppard, Sarah
Stojilkovic, Stanko
Tatsi, Christina (ACI)
Yanovski, Jack

Genetics & Epigenetics of Development

Rocha, Pedro [Head]

Love, Paul
Macfarlan, Todd
Ozato, Keiko
Pfeifer, Karl

Genomics & Basic Mechanisms of Growth & Development

Maraia, Richard [Head]

Clark, David
Crouch, Bob
Depamphilis, Mel
Woodgate, Roger

Molecular Medicine

Le Pichon, Claire [Head]

Rouault, Tracey

Maternal-Fetal Medicine & Translational Imaging

Basser, Peter [Head]

Gandjbakhche, Amir
Margolis, Leonid
Romero, Roberto
Tromberg, Bruce (NIBIB)

Neurosciences

Stopfer, Mark [Head]

Balla, Tamas
Hoffman, Dax
Loh, Y Peng
McBain, Chris
Petros, Tim

Physical Biology & Medicine

Chernomordik, Leonid [Head]

Bezrukov, Sergey
Matthies, Doreen
Sackett, Dan (SS)
Sodt, Alex
Zimmerberg, Josh

Reproductive Endocrinology & Infertility and Pediatric & Adolescent Gynecology

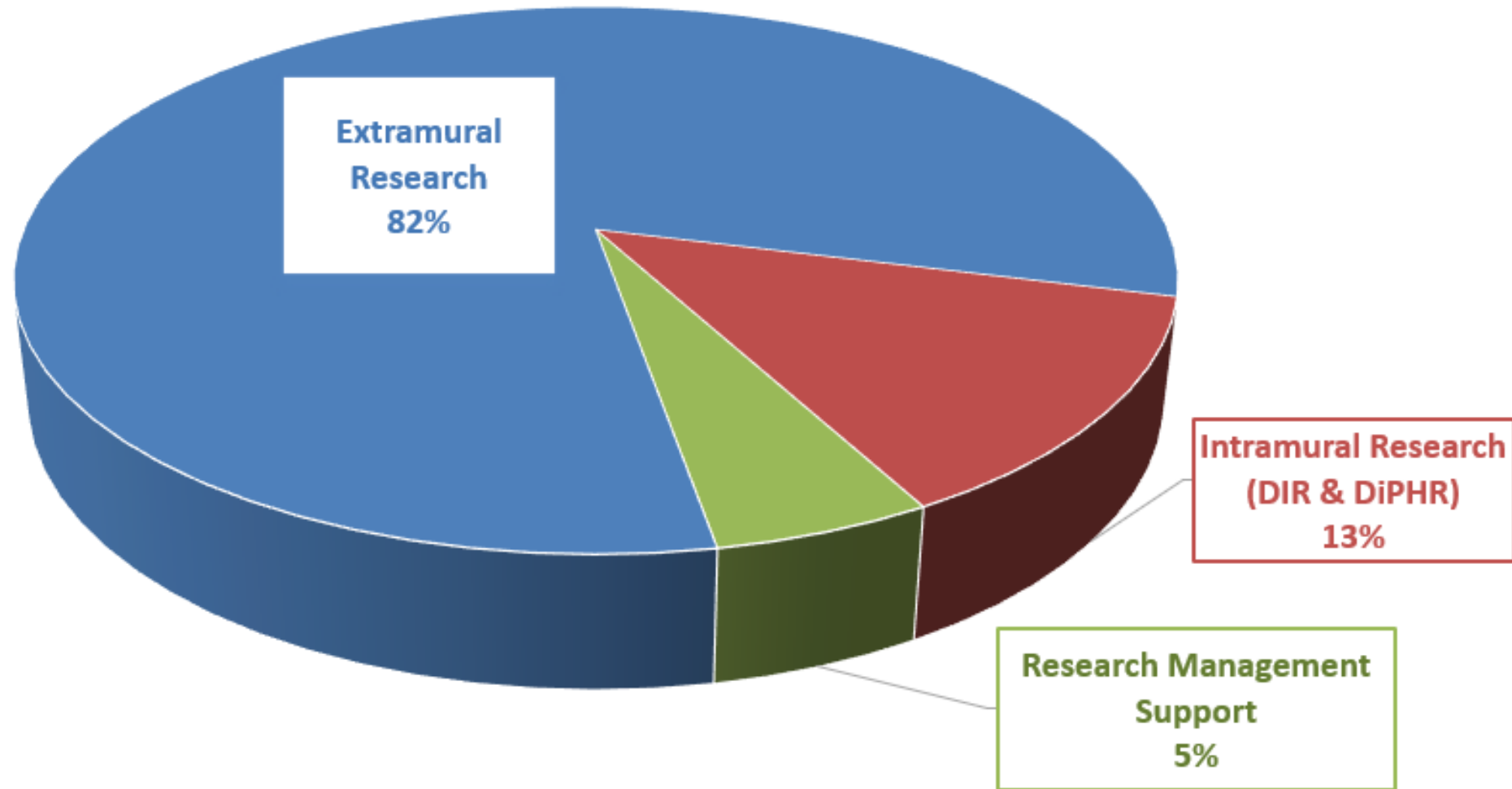
Decherney, Alan [Head]

Gomez-Lobo, Veronica

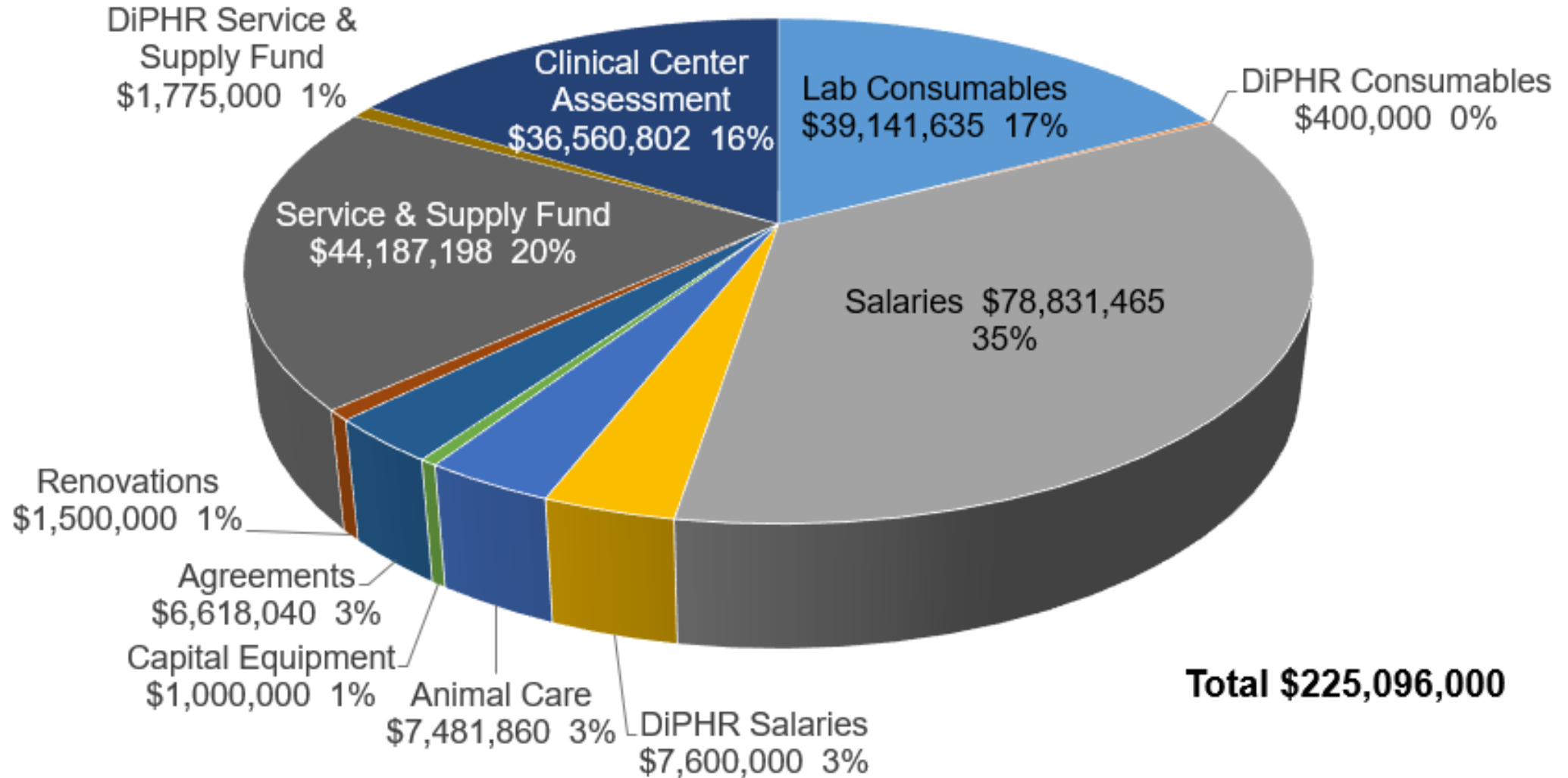


Budget & Personnel

NICHD Intramural Program FY2023 Allocations



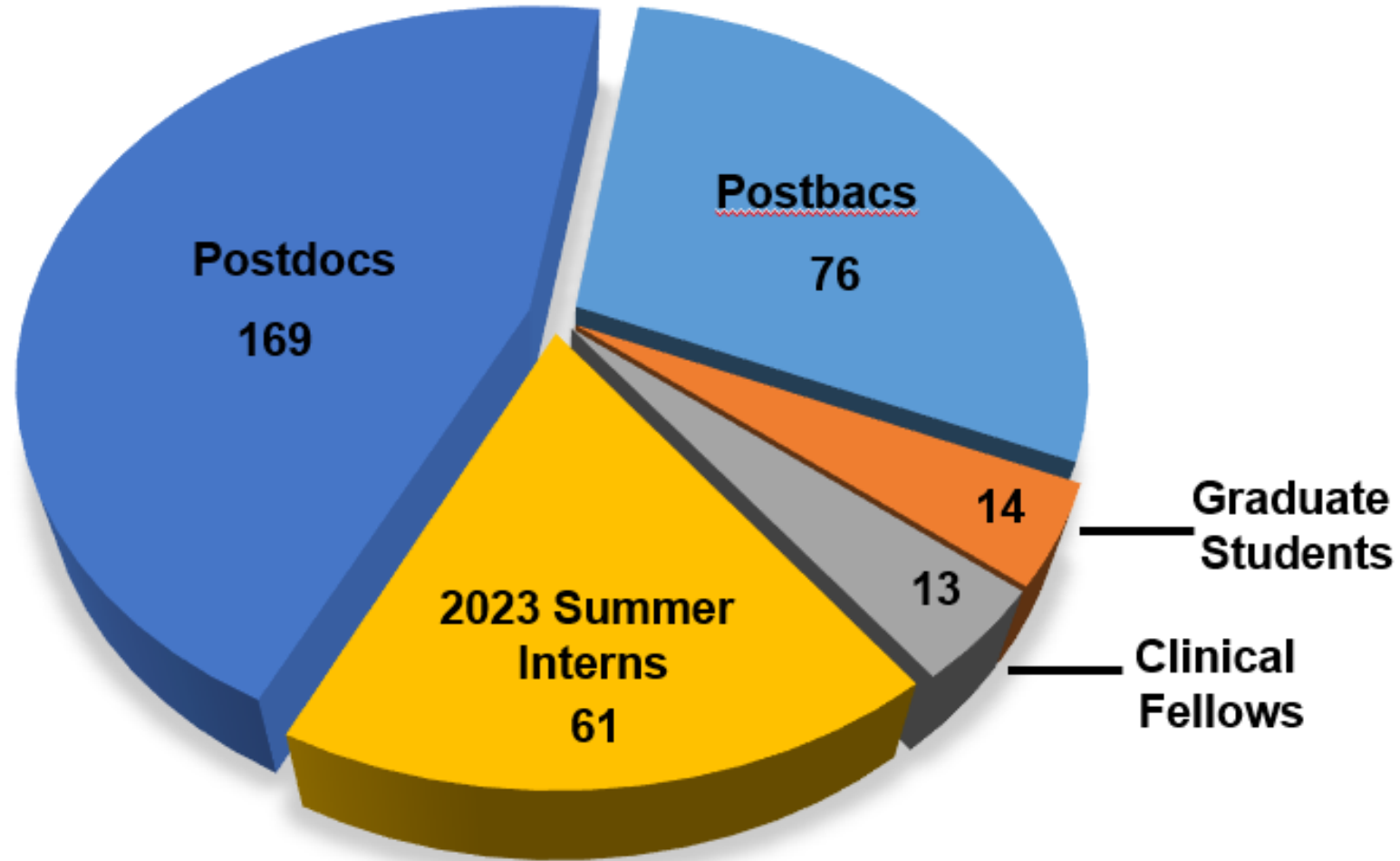
NICHD DIR Budget FY23 Actuals



NICHD Intramural Trainee Numbers

As of July 2023, 333 trainees

272 currently





Retirements/Departures

Maria Dufau – November 30, 2022

Senior Investigator, Section on Molecular Endocrinology



Shyamal Peddada – December 3, 2022

Branch Chief and Senior Investigator, Biostatistics and Bioinformatics Branch, DiPHR

- Moved to NIEHS
- Recruitment for a new Branch Chief underway



Retirements/Departures

Joan Marini, MD, PhD – December 31, 2022

Senior Investigator, Section on Heritable Disorders of Bone and Extracellular Matrix

- Appointed Scientist Emeritus May 3, 2023

Judith Kassis – February 28, 2023

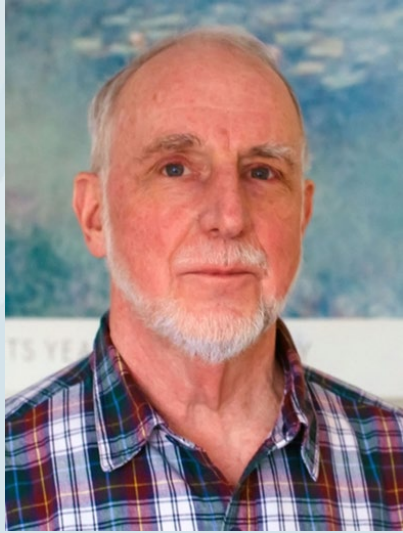
Senior Investigator, Section on Gene Expression

James Morton – April 16, 2023

Tenure-Track Investigator, Biostatistics and Bioinformatics Branch, DiPHR

- Departed to start consulting firm

Retirements/Departures



James Mills – April 30, 2023

Senior Investigator, Epidemiology Branch, DiPHR



R. Douglas Fields – May 31, 2023

*Senior Investigator, Section on Nervous System
Development and Plasticity*

- Awarded the 2023 Mensa Foundation Prize for the best scientific discovery in the field of intelligence or creativity in recognition of his research on myelin plasticity

Recruitment

Catherine Gordon, MD

Clinical Director as of September 3, 2023



- Researcher, adolescent medicine specialist, pediatric endocrinologist
- Research focus on adolescent bone health and reproductive endocrinology
- Served on NICHD's Advisory Council

Dr. Gordon will be presenting later in the agenda

Recruitment



Leah Rosin, PhD

Stadtman Investigator Recruit

Unit on Chromosome Dynamics

Anticipated Start: Fall 2023

Dr. Rosin studies how chromosome homologs pair and unpair in meiosis, a process essential for accurate chromosome segregation and development of healthy germ cells. She is an expert in the powerful DNA FISH technology oligopaints that have allowed her to visualize whole chromosomes in multiple species and she plans to use oligopaints as a diagnostic tool to detect chromosomal abnormalities in human developmental disorders.

We are recruiting!

- Clinical tenure-track investigator to establish an independent translational research program integrating both basic and clinical research
- The candidate's clinical and basic science/translational research plans should be aligned with the NICHD strategic plan.
- Applications will be reviewed on a continuous basis after September 15, 2023. Interviews of qualified applicants will begin in October 2023 and applications will be accepted until the position is filled.

The full advertisement is available at: <https://www.nichd.nih.gov/about/jobs>



NICHD DIR Honors & Awards



Juan Bonifacino, DDS, MS, PhD

Section on Intracellular Protein Trafficking

- Keith R. Porter Lecture Award, American Society for Cell Biology



Yun-Bo Shi, PhD

Section on Molecular Morphogenesis

- Sidney H. Ingbar Distinguished Lectureship Award, American Thyroid Association

NICHD DIR Honors & Awards



Sarah Sheppard, MS, MD, PhD

Unit on Vascular Malformations

- John M. Opitz Young Investigator Award, American Journal of Medical Genetics



Karel Pacak, MD, PhD, DSc

Section on Medical Neuroendocrinology

- Frontiers in Science and Distinction in Endocrinology Award, AACE
- Outstanding Clinical Investigator Award, US Endocrine Society

NICHD DIR Honors & Awards

Rena D'Souza, MS, PhD, DDS

Section on Molecules and Therapies for Craniofacial and Dental Disorders, NICHD

Director, National Institute of Dental and Craniofacial Research (NIDCR)

- Recipient of the “Excellence in Research” Award from the Edward B Shils Entrepreneurial Fund





Competitive Funding Opportunities

NICHD Early Career Awards

- **Internal funding opportunity aimed at promoting the research careers of early-stage intramural researchers in the basic, clinical, and translational sciences.**
- 3rd cycle. Launched in FY21 as an NICHD OD, OSD & OE Initiative
- Modeled after Tufts University School of Medicine's Zucker Grant Program (Blanchard et al., 2019)
 - Between 2000 and 2016, \$377,050 was awarded to 142 recipients (early-stage, female investigators)
 - Funds were primarily used for development of pilot, preliminary research projects
 - 2016 Survey: awards promoted extramural funding success (60% success rate), mentorship, and boosted confidence and morale at a critical time in their careers

JOURNAL OF WOMEN'S HEALTH
Volume 28, Number 12, 2019
© Mary Ann Liebert, Inc.
DOI: 10.1089/jwh.2018.7642

The Impact of an Institutional Grant Program
on the Economic, Social, and Cultural Capital
of Women Researchers

Rebecca D. Blanchard, PhD,¹ Reva Kleppel, MSW, MPH,¹ and Diana W. Bianchi, MD²



NICHD Early Career Awards

- Open to NICHD assistant clinical investigators, postdoctoral fellows, research fellows, and clinical fellows are eligible regardless of sex/gender.
- Individual awards of up to \$25,000 for outstanding, original research proposals, to support one-year research projects.
- Up to \$10,000 awarded individually to applications for proposed scientific meeting participation, and/or training that supports scientific and/or professional development.
- 38 applications received for FY23, \$490,543 in awards

Research Area	Applications Received	Total Funds Awarded	Number of Awardees
Clinical	4	\$33,275	2
Basic Science	30	\$441,468	19
Epidemiology	3	\$15,800	2



NICHD Scientific Director Awards

- Two years of funding
 - FY14-15, \$3M
 - FY16-17, \$2M, 8 of 25 applications funded
 - FY18-19, \$3.2M, 12 of 26 applications funded
 - FY23-24, \$3.9M, 9 out of 14 applications funded
- Established pursuant to a recommendation in the July 2013 Blue Ribbon Panel Report to create competitive research opportunities with a collaborative focus among investigators, and to support new research ideas.
- Uses a modified application based on an R-21, and an expedited administrative review process with the support of NICHD's Division of Extramural Research and a panel of NIH extramural reviewers.



NICHD Scientific Director Awards FY23-24

PI	Collaborators	Project Title
Porter, Forbes	Bonifacino, Juan (NICHD) Le Pichon, Claire (NICHD) Dale, Ryan (NICHD) Molecular Genomics Core (NICHD)	Functional modeling of a genetic modifier, APOE isotype, in Niemann-Pick Disease, type C
Le Pichon, Claire	Bonifacino, Juan (NICHD) Roll-Mecak, Antonina (NINDS)	Defining mechanisms that enable axon regeneration after injury
Love, Paul	Storz, Gisela (NICHD) Belkaid, Yasmine (NIAID) Iyer, Aravind (NLM) Schram, Vincent (NICHD) Salomon, Arthur (Brown U)	Investigating the role of THEMIS3 in enteric E coli pathogenesis
Storz, Gigi Matthies, Doreen Sodt, Alex		Modulating P-type ATPases with microproteins in native lipid environments
Dever, Tom	Burgess, Harry (NICHD)	Developmental and Disease-associated Regulation of Translation Start Site Selection
Petros, Tim Rocha, Pedro	Dale, Ryan (NICHD)	Untangling gene regulatory interactions during neurodevelopment
Chernomordik, Leonid Margolis, Leonid	Collins, Michael (NIDCR) Boyce, Alison (NIDCR)	Extracellular Vesicles In The Crosstalk Between Cells That Form And Resorb Bones
Gandjbakhche, Amir	Tromberg, Bruce (NICHD) Luo, Guoyang (Howard U)	Development of an Integral, Wearable, and Point of Care Device for Continuous Monitoring of Pregnancy Health with Emphasis on Maternal Hypertension
Dang Do, An	Dever, Thomas (NICHD) Young-Baird, Sarah (USUHS)	Integrated Stress Response in MEHMO syndrome iPSC and Mouse Models and Its Potential as a Treatment Target





Education Updates

Office of Education: Key Activities

Public Speaking & Teaching: job talks, individual coaching, elevator speeches, syllabus & curriculum development with Univ. of Maryland (college teaching workshop summer series); graduate student talks (GST) during the PI monthly meetings

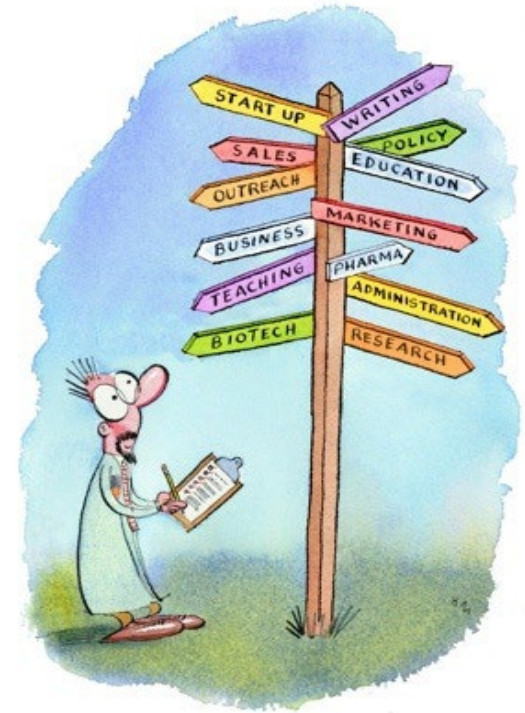
Grantsmanship & Publishing: annual grants workshop (full day); guidance with NIH submissions (K99, K22, PRAT), mock study section workshop, three-week grant writing course

Careers: job interview preparation, networking, editing of job application materials, individualized guidance of IDPs/Annual Progress Reviews, exploration sessions for various career paths, preparing for industry success



Office of Education: Key Activities

- Annual Postbac Seminar Series: Career Exploration, Professional Development, & Graduate/Medical School Application Prep
- K99 Grant Writing Course: April 2023
- Ad hoc Industry Job Consulting Sessions
- Industry Careers Webinar Series: May 2023
- Three-minute Talks Science Communication Competition (June 22)
- One-Day Grant Writing Workshop: August 2023
- Webinar Series: Academic Job Application & Interview Process (July/August 2023)
- NICHD Intramural Research Fellowships: Applications due September 8
- Launching an IDP and annual progress report system for NICHD postbac fellows
- Exit survey implemented summer 2022 and actively collecting data



NICHD Intramural Research Fellowships: 2023-2024 7th Application Cycle Began in June (FY24 Awards)

- Grant writing opportunity for NICHD postdoctoral and clinical fellows in their second or third training year
- Award of \$25K for one year, towards equipment, reagents, travel/training, stipend
- Application review by committee of NICHD investigators, postdoctoral grantees and tenure-track alumni
- Review, Scoring, Study Section Procedures mirrors NIH extramural scoring system for F-series
- Scoring Criteria & Application Sections:
 - Fellowship Applicant (Biosketch and Leadership Diversity Statement)
 - Sponsors and Collaborators (Sponsor Statement)
 - Research Training Plan (Specific Aims and Significance & Approach)
 - Training Potential (Goals for Fellowship Training)
 - Institutional Environment and Commitment to Training (Selection of Sponsor and Institution and Sponsor Statement)



FY23 NICHD Intramural Research Fellowship Awards:

> 65% scored in the “Outstanding” or “Excellent” range (within NIH fundable range)

Fellow	PI	Topic
Zhenyu Zuo	Pedro Rocha	Identification of genomic loci susceptible to chromatin loop mediated instability
Adriana Golding	Juan Bonifacino	Investigating the role of the GTPase ARL1 in Golgi network transport
Miranda Marvel	Brant Weinstein	Assessing the roles of selected downstream genes and pathways through which kdm4b regulates arterial development
Avik Dutta	Paul Love	Investigating the TCR inhibitory molecules LAX1 and SIT1 as possible targets for cancer immunotherapy
Jong Park	Brant Weinstein	Zebrafish gill model of mammalian lung endothelium



2023 Virtual Three-minute Talks (TmT): Science Communication Training and Awards Program

- Dr. Jong Park (Weinstein lab) placed 1st overall while representing NICHD in the 2023 TmT Competition on June 22nd.
- This year's competition included fellows from 11 ICs: NICHD, NLM, NHGRI, NIAMS, NEI, NIDCR, NIDCD, NIDDK, NCATS, NIEHS & NIAID.
- Presenters had to convey the excitement and significance of their research projects in three minutes or less, using just one slide per talk.



Funding Opportunities: Recent Fellow Successes

- **NIGMS Postdoctoral Research Associate Training Fellowship**: Two NICHD Awardees Start in September 2023
 - Julian Rey (Basser Lab)
 - Jong Park (Weinstein Lab)
- **NIH K99/R00 Pathway to Independence**: Four New Awardees in FY23
 - DIR Incentive Award provides \$20K Consumables Budget and Postbac Slot for K99 phase
 - Shu Yang (Lilly Lab)
 - Jarred Whitlock (Chernomordik Lab)
 - Leah Greenspan (Weinstein Lab)
 - Joyce Thompson (Rocha Lab)
 - Velencia Witherspoon (Basser Lab, Departing for R00 Phase this fall)



Funding Opportunities: Recent Fellow Successes

- **NIH Center for Compulsive Behaviors Seed Grant**
 - Adam Caccavano (McBain Lab)
- **NIH Center for Compulsive Behaviors Fellowship: FY23 Renewals**
 - Geoffrey Vargish (McBain Lab)
 - Adam Caccavano (McBain Lab)
 - Thien Nguyen (Gandjbakhche Lab)
 - Wen-Chieh Hsieh (Serpe Lab)
- **Brain and Behavior Research Foundation Young Investigator Grant (Two-Year Award)**
 - Eastman Lewis (Research Fellow, Buonanno Lab)



NIH Fellows Award for Research Excellence FY24 Awardees (\$1500 Travel Grant)

- Rilee Zeinert (Storz Lab)
- Nathan Williamson (Basser Lab)
- Yingbiao Zhang (Lilly Lab)
- Jinho Park (Gandjbakhche Lab)
- Natalia Moreno (Woodgate Lab)
- Zhaoyi Peng (Shi Lab)
- Louis Tung Faat Lai (Matthies Lab)
- Megan Parker (Yanovski Lab)
- Shreeta Chakraborty (Rocha Lab)
- Yuen Yan Chang (Machner Lab)
- Geoffrey Vargish (McBain Lab)



2023 NIH Postbac Poster Day Awards

Scoring in the Top 20% Overall (Judged Presentations)

- Keith Ameyaw (Weinstein Lab)
- Tyler Bruno (Sackett Lab)
- Juwaan Douglas-Jenkins (Storz Lab)
- Elizabeth Giordano (Dasso Lab)
- Yi Hsien Hsieh (Bonifacino Lab)
- Alexandra Jean-Louis (Grantz Lab)
- Summer Khan (Machner Lab)
- Georgia Krikorian (Sheppard Lab)
- Celia Martinez-Aceves (Weinstein Lab)
- Katerina Melnyk (Porter Lab)
- Golnar Mostashari (Tromberg Lab)
- Emily Petroni (Storz Lab)
- John Prevedel (Weinstein Lab)
- Allison Saul (Rogers Lab)
- Dhyanam Shukla (Sheppard Lab)
- Daniel Soliman (Storz Lab)



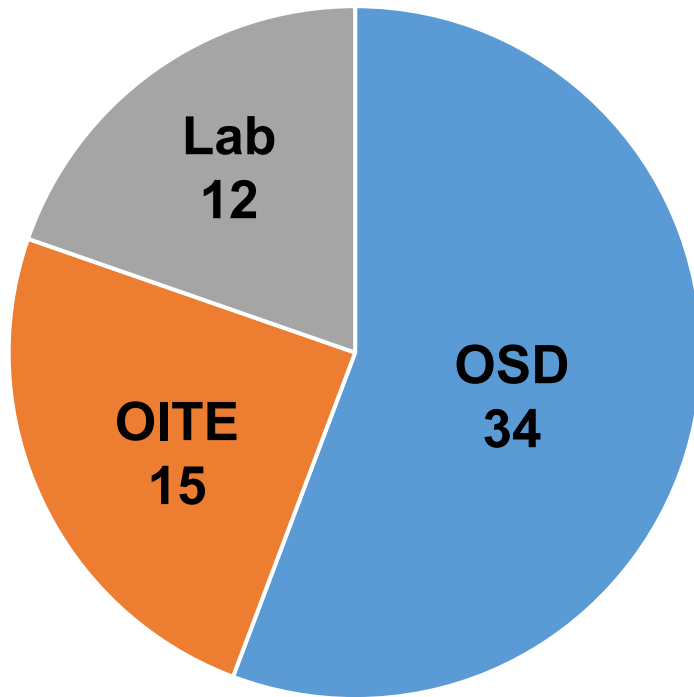
Enhancing the Graduate Partnership Program (GPP) in the DIR

- Collaborative training and education program in which PhD students complete all or part of their graduate research in the NIH Intramural Research Program
- Degree is conferred by the university and student must complete all required academic components required by their extramural graduate program
- Historically very positive mentoring experiences, but administrative costs limited recruitment
- To encourage recruitment of graduate students to complete their research training in the DIR, two funding paths for Graduate Students, starting FY23:
 1. Central funding of tuition and fees, for **all** DIR graduate students
 2. Full central coverage of fees, tuition, stipend and health insurance for up to **four** DIR graduate students at a time, two in FY23

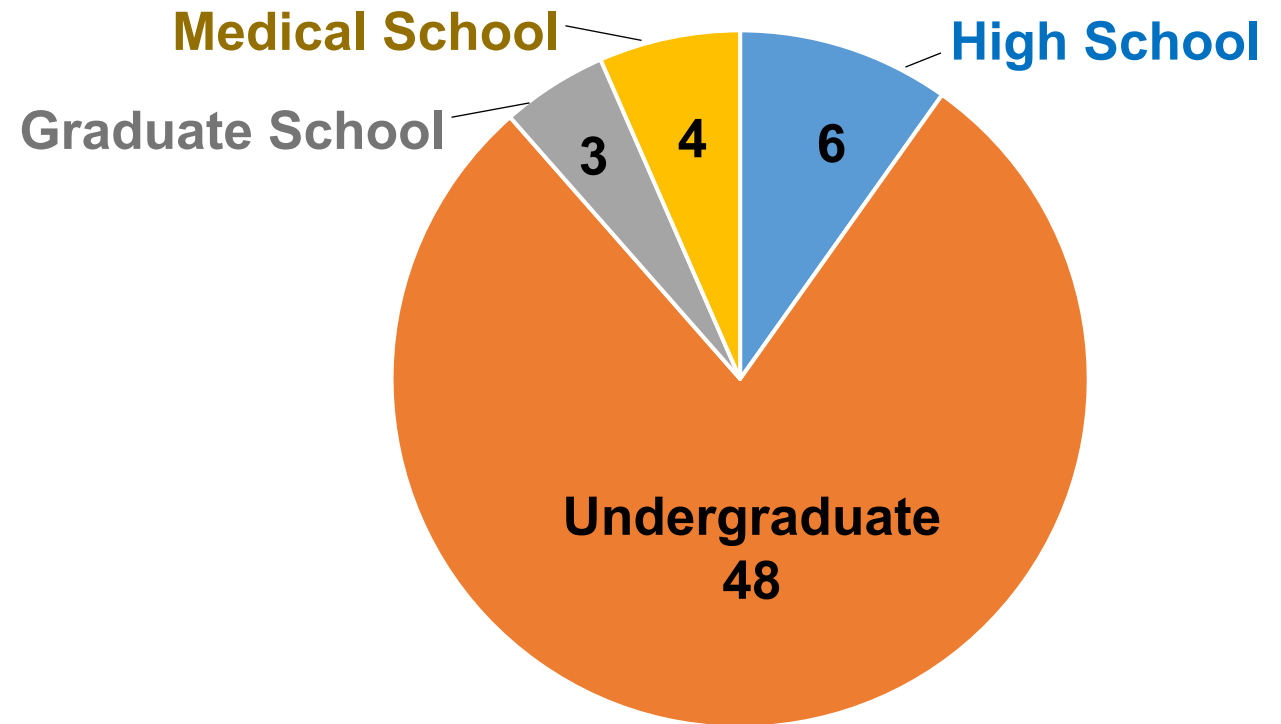


2023 NICHD Summer Internship Program

2023 SIP Funding



Training Levels

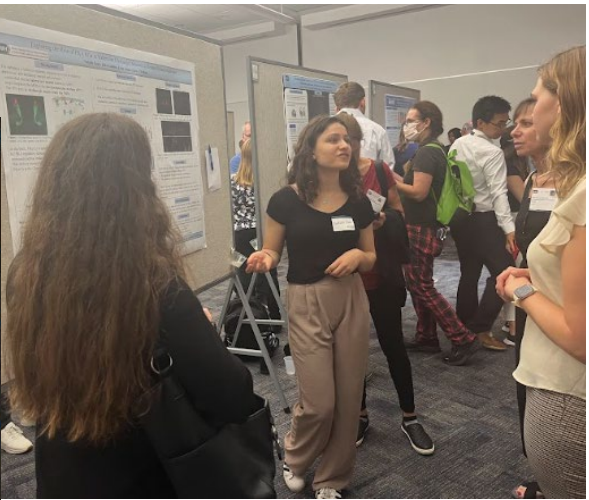
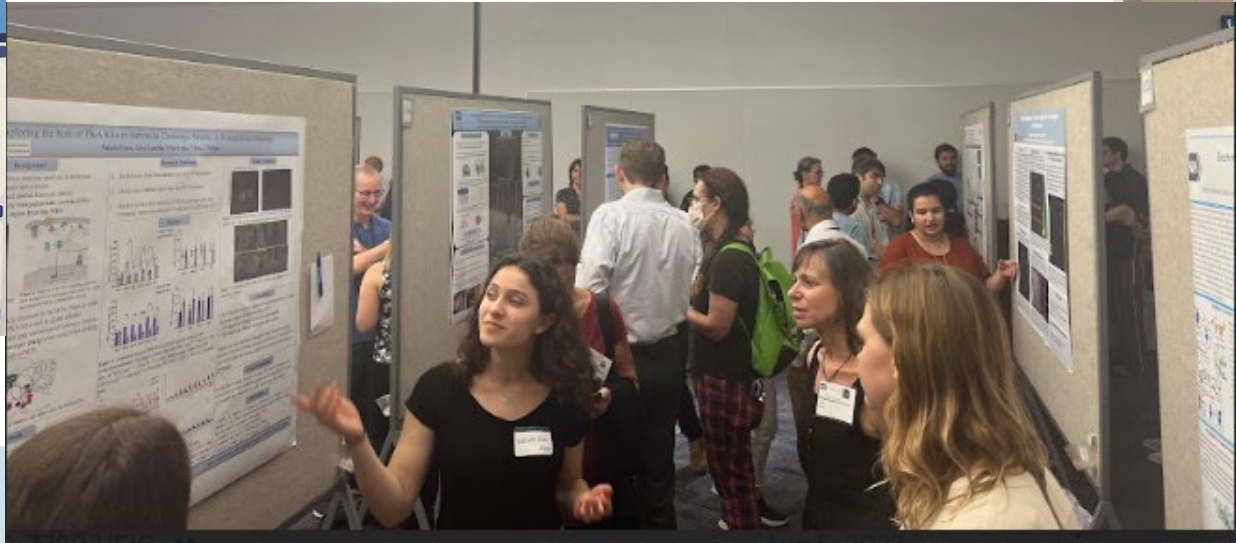
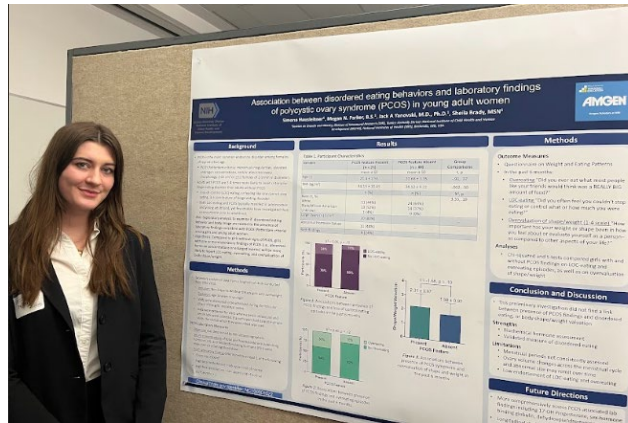
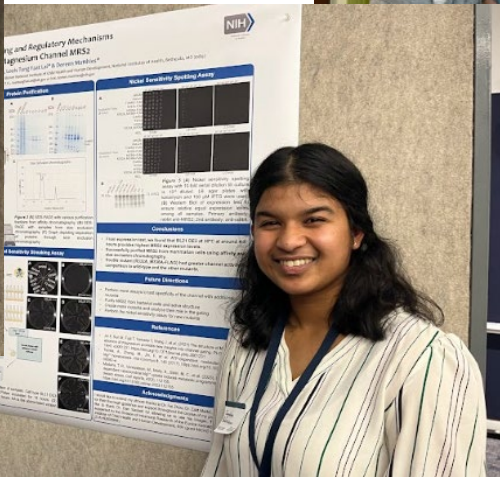
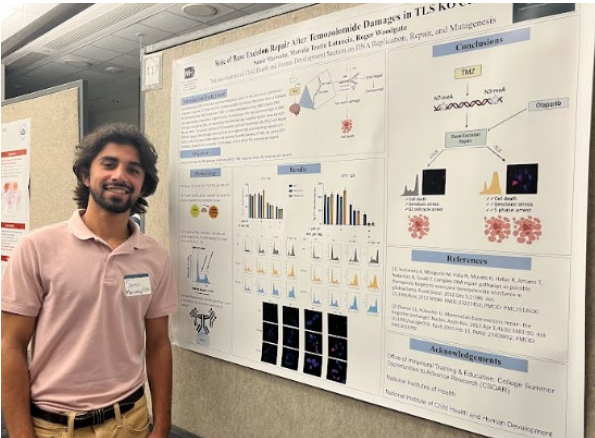
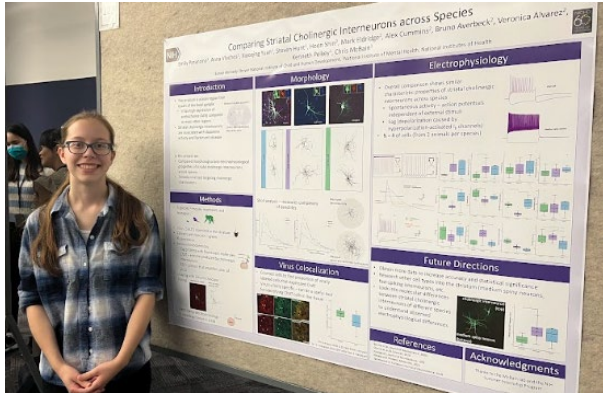


2023 NICHD Summer Internship Program

New! Virtual Summer Opportunities to Advance Research
15 Undergraduate Interns with Drs. Machner, Storz and Adams
(10 OSD Funded, 5 OITE Funded)

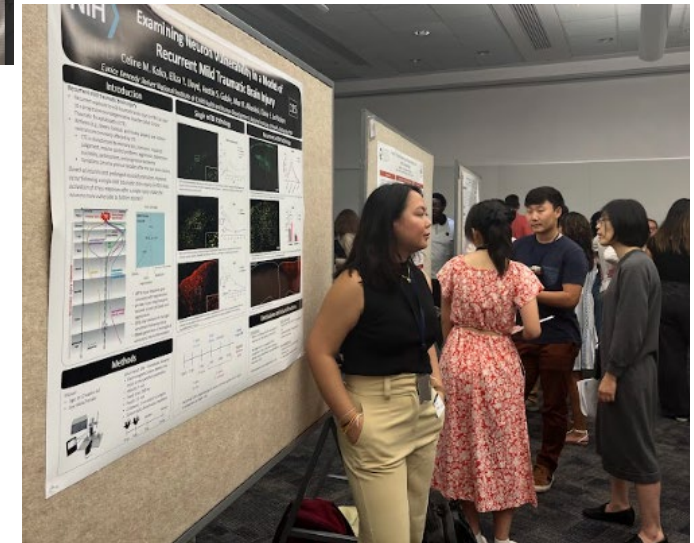
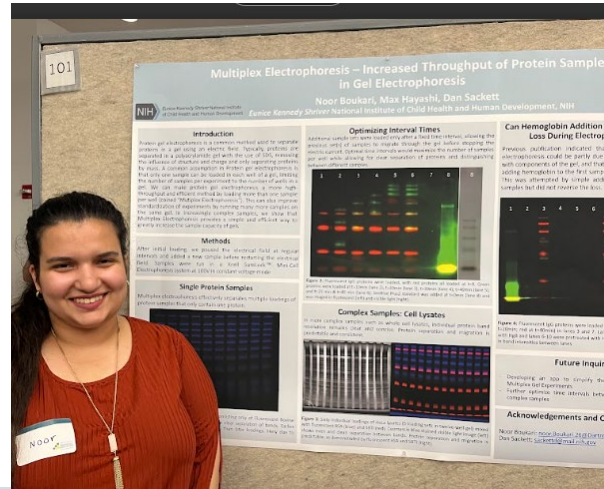
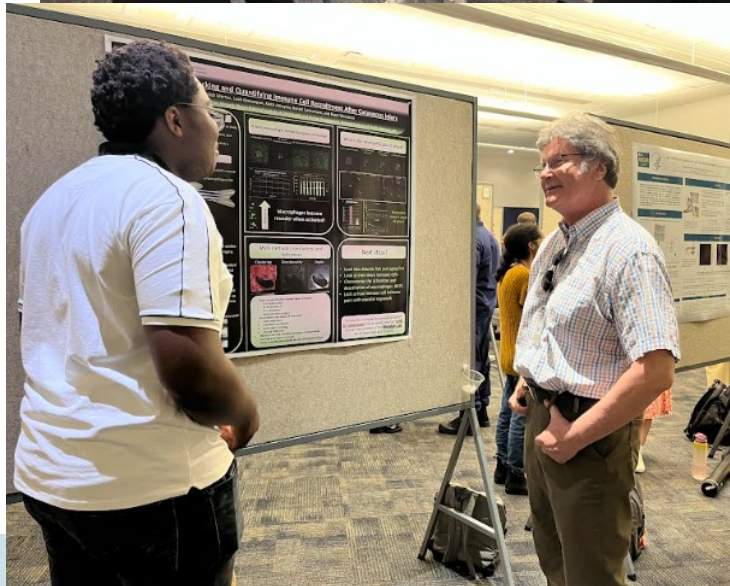
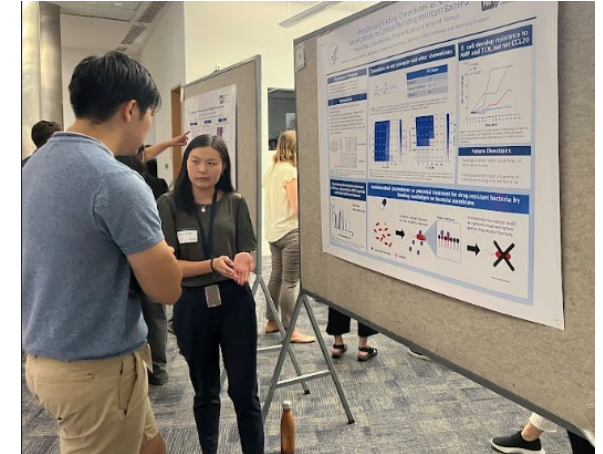
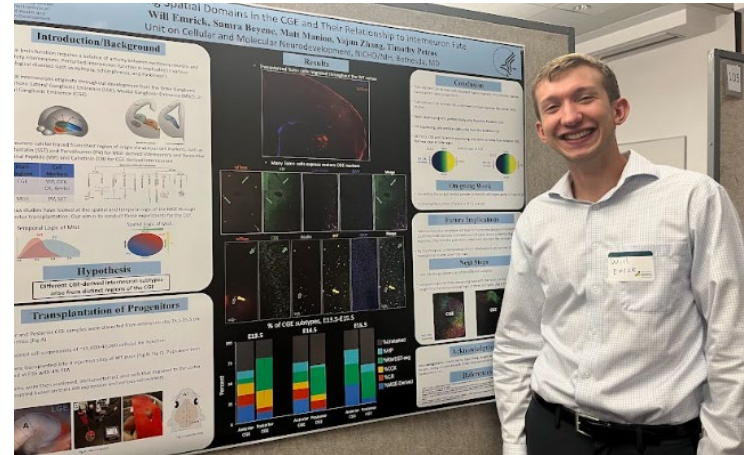
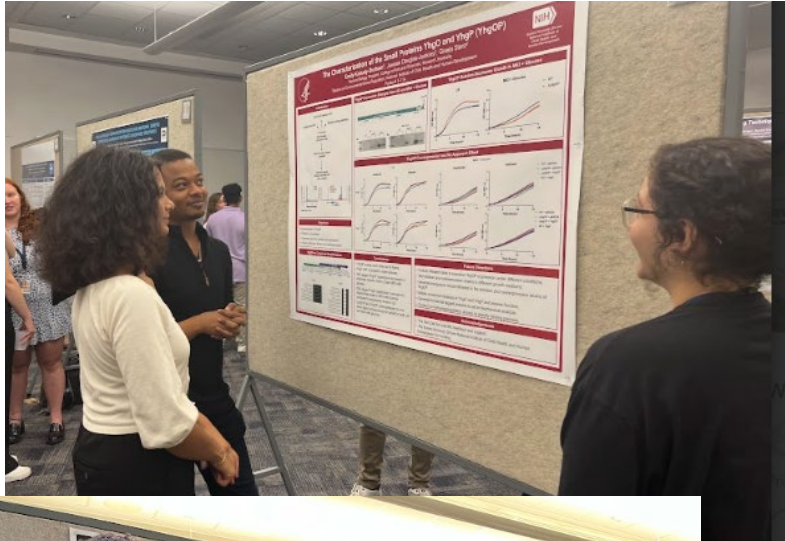


NICHD Summer Internship Program 2023 Summer Events



NICHD Summer Internship Program

2023 Summer Events



NICHD Summer Internship Program 2023

Summer Events



Life Outside Lab
*NICHD Fellows
Social Event*

*NICHD trainees enjoying a fun outdoor event
for networking, socializing, and team building*

RECREATION FIELD NEXT TO
BUILDING 41, BETHESDA CAMPUS
FRIDAY, JULY 14, 2023

*Check out a [video from the event](#)
(NIH login required)!*



VOLUME 14 • ISSUE 158 • JULY 2023

Life Outside Lab
*Lunch Social with
NICHD Trainees*

OUTSIDE BUILDING 10
ON THE NIH CAMPUS
TUESDAY, JUNE 13, 2023



Former NIH Director Dr. Francis Collins and other members of the Affordable Rock 'n' Roll Act band were giving a live performance for the [Camp Fantastic BBQ](#) event at the Clinical Center South Entrance on June 13.



NICHD Intramural Diversity Initiatives

Supports the DIR commitment to recruit, train, support and sustain a diverse group of talented young scientists including those from groups traditionally underrepresented in science.

➤ **NICHD Developing Talent Scholars Program (Postbacs):**

- **Three new scholars for FY23, one returning (Banerjee, Machner & Petros Lab)**
- Alumni group of ~30 - many of them are currently in professional school, MD and PhD programs

➤ **Fellows Recruitment Incentive Award (Postdocs):**

- **Luciana Daniela Garlisi Torales (Sheppard lab)**
- Diana Elizondo (Yanovski lab) for 2022
- Mohammed Mohammed (Mafarlan Lab) for 2021
- Aisha Burton (Storz Lab) for 2020
- Velencia Witherspoon (Basser Lab, started in 2019)
- Alejandra Garcia (Stopfer Lab, started in Nov. 2017)





College of Arts & Sciences: Biology Honors Program Secondary Research Mentor

- DIR PIs provide students the opportunity for a two-year period of advanced mentored instruction and training to develop and execute their honors research thesis and project.
- Research projects can continue beyond the academic year through the NICHD Summer Internship Program.
- **New cohort of five sophomore students began spring 2023**
- **First cohort completed their honors theses, graduated May 2023**



College of Medicine: OB/GYN Clerkship Research Mentors

- PIs serve as research mentors to medical students and residents for their independent research projects
- **Mentor-mentee matching is in progress as we formalize a clinical training agreement**



Howard University Hospital/College of Medicine: OB/GYN Residency Research Mentors/Lecturers

- Spring 2023 Guest Lectures to OB/GYN residents during their didactic sessions by
 - Drs. Laverne Mensah & Karim Calis
 - Dr. Forbes Porter
 - Dr. Kathryn Wagner (postdoc)





QUESTIONS?