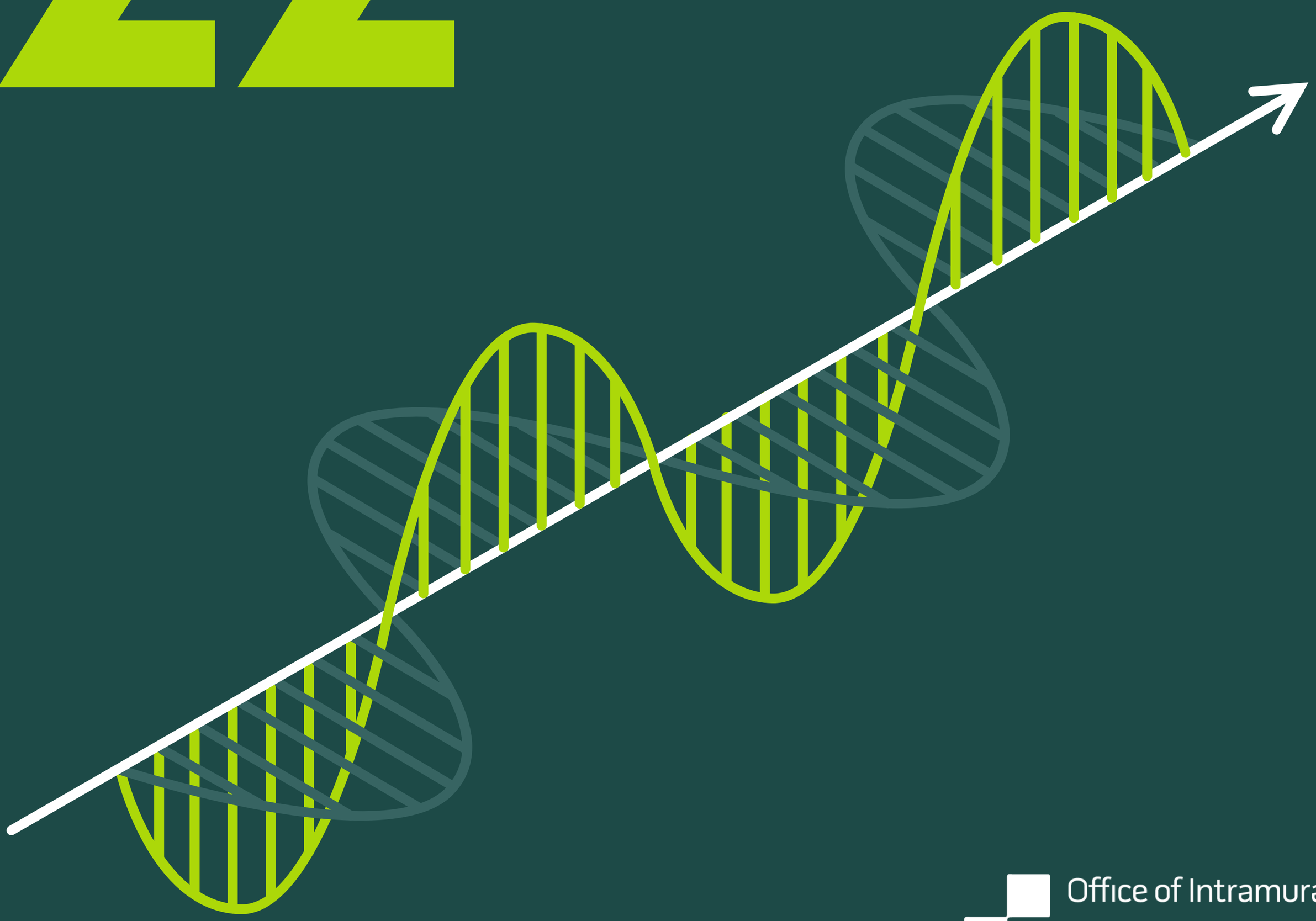
National Institutes of Health

22nd Annual NIH Graduate Student Research Symposium

22

February 12, 2026

Natcher Conference Center
Bethesda, Maryland



Office of Intramural
TRAINING & EDUCATION
build your career, shape the future

22nd Annual NIH Graduate Student Research Symposium

Graduate Partnerships Program
Office of Intramural Training and Education
Office of Intramural Research
National Institutes of Health
U.S. Department of Health and Human Services

FOREWORD

For twenty-two years, the National Institutes of Health (NIH) Graduate Student Research Symposium has showcased the achievements of the graduate student community in the NIH Intramural Research Program. The symposium is the largest graduate student event of the year - an event in which students can come together to share their research, appreciate the work of their colleagues, and celebrate the successes of the community.

This annual symposium provides an opportunity to acknowledge the scientific accomplishments of the hundreds of graduate students working on their dissertation research at NIH. The symposium highlights the broad spectrum of scientific research conducted by graduate students at the NIH, who represent numerous universities across the world and span nearly all institutes and centers within the NIH. The NIH Graduate Research Symposium recognizes the diversity of research specialties supported by the NIH and exhibits the scientists of tomorrow, from those developing new research proposals to those preparing to defend years of dissertation research.

The symposium will be held in person on February 12th and will provide the graduate student community with the chance to hear about the scientific work of our peers in several formats. Over 100 students will present their research through scientific posters and will be judged by NIH postdoctoral fellows and staff scientists. Winners of the poster competition will be awarded the prestigious NIH Graduate Student Research Award, generously funded by the Office of Intramural Training and Education (OITE). In addition, four graduate students chosen based on scientific merit and diversity will give oral presentations.

Additionally, this year marks our 10th annual elevator pitch competition, which will give current graduate students the opportunity to explain their science to a general audience in two minutes or less. In between poster sessions, we will host a lunch-time networking session for current students to connect with new fellows from across all NIH campuses.

In the afternoon, we are honored to welcome Dr. Bianca Jones Marlin, the Herbert and Florence Irving Assistant Professor of Cell Research in the Departments of Psychology and Neuroscience at Columbia University for a keynote presentation titled “Nature, Nurture, and the Neuroscience of Parenthood”. We are excited to hear from this inspirational leader of the neuroscience and behavioral biology community.

The symposium will conclude with our annual award ceremony. During a graduate ceremony to recognize students who have defended their dissertations within the past year, Dr. Lori Conlan and Dr. Roland Owens will present the recent graduates with a certificate to honor their accomplishments. Our success as graduate students would not be the same without the guidance of high-quality research mentors who have supported us in innumerable ways, from providing networking opportunities to career development advice. We are grateful for the influential mentorship provided at the NIH to help us become independent scientists and forge relationships extending beyond graduate school. We will conclude the day by recognizing two outstanding mentors, nominated by their students, for their leadership, support, and dedication to graduate research at NIH.

We are thankful for the opportunity to celebrate our graduate students with the entire NIH community at the 22nd Annual NIH Graduate Student Research Symposium. We thank all of the graduate students who are participating in this event and the mentors and loved ones who have continuously supported them throughout their scientific careers. We hope this event establishes new connections and collaborations and inspires future scientific contributions to the community at the NIH.

ACKNOWLEDGEMENTS

We would like to thank the NIH Training and Scientific Directors, the Graduate Partnerships Program (GPP) Directors, and the Graduate Student Council (GSC) for their continuous support of the graduate student community and their efforts in recognizing the achievements of the NIH graduate students at this symposium. We would also like to thank Dr. Gail Seabold for organizing the symposium poster session and the effort of the postdoctoral fellows and staff scientist judges to help to make the poster competition possible. We would also like to acknowledge the 2024-2025 GSC chair, Yizhen Zhang for coordinating the Outstanding Mentor Awards and for all of their efforts and dedication to the GSC and graduate student community. This symposium would not be possible without the help of the OITE. We are especially thankful for Dr. Lori Conlan, Dr. Phil Ryan, Dr. Gail Seabold, and other OITE staff who have contributed significantly to the planning of this event. Finally, we would like to thank the graduate students, mentors, alumni, and all attendees whose participation made this event successful.

The 22nd Annual NIH Graduate Student Research Symposium Committee:

Giulia Dalaty, NINDS, Karolinska Institutet
Shakira Rodríguez González, NIDDK, Johns Hopkins University
Kathy Li, NCI, Augusta University
Carolyn Lomahan, NINDS, Karolinska Institutet
Sabrina Mai, NEI, University of Rochester
Grace Ratley, NIAID, Karolinska Institutet

EVENTS PROGRAM

Thursday, February 12, 2026

9:00 am – 10:00 am	**ELEVATOR PITCH COMPETITION** Registration in Lower Lobby
10:00 am – 11:30 am	**WELCOME AND STUDENT ORAL PRESENTATIONS** Room E1/E2 **Lori Conlan, Ph.D.,** Director, NIH OITE **Grace Perry**, University of Cambridge, NHLBI **Chromosomal Instability Induced by Mps1 Inhibition as a Driver of Basal Cell Extrusion in the Intestinal Epithelia** **Sanjana Rajgopal**, University of Nebraska Medical Center, NCI **Anti-Tumor Actions of Neutrophils on Bone Metastatic Prostate Cancer** **Antara Syam**, Catholic University of America, NICHD **Beyond Cell Receptors: How Cationic Amphiphilic Drug Fingolimod Modify Lipid Membranes and Ion Channel Activity** **Spencer Waters**, Georgetown University, NIMH **Unilateral Damage to Anterior Cingulate Cortex and Amygdala Differentially Disrupts Socioemotional Responses in Macaque Monkeys**
11:45 am – 12:45 pm	**POSTER SESSION I** Upstairs Atrium Odd-numbered posters presenting
12:45 pm – 1:15 pm	**NETWORKING LUNCH** Room A/B
1:15 pm – 2:15 pm	**POSTER SESSION II** Upstairs Atrium Even-numbered posters presenting
2:30 pm – 3:45 pm	**KEYNOTE SPEAKER** Ruth L. Kirschstein Auditorium **Bianca Jones Marlin, PhD.** ***Nature, Nurture and the Neuroscience of Parenthood*** Herbert and Florence Irving Assistant Professor of Cell Research in the Departments of Psychology and Neuroscience at Columbia University and the Zuckerman Institute Freeman Hrabowski Scholar at the Howard Hughes Medical Institute
4:00 pm – 5:00 pm	**AWARDS CEREMONY** Ruth L. Kirschstein Auditorium **Graduation Ceremony** **Outstanding Mentor Awards** Certificates presented by: **Roland Owens, Ph.D.,** Deputy Director for Intramural Research, NIH **Lori Conlan, Ph.D.,** Director, OITE, NIH

GPP GRADUATION AWARD RECIPIENTS

GPP Graduation Award Recipient, Graduate University, Dissertation Title	University Research Advisors	NIH IC, NIH Research Advisor (PI)
Sooraj Achar *University of Oxford* Exploring TCR/CAR Antagonism from a Functional and Mechanistic Perspective	**Michael Dustin** (Primary)	NCI **Gregoire Altan-Bonnet**
Marion Amujal *Makerere University* Host Genetic Factors Associated with Pediatric HIV Disease Progression in African Populations	**David Patrick Kateete** (Primary) **Daudi Jjingo** (Secondary)	NHGRI **Neil A. Hanchard**
Francisco Oscar Battiti *University of Oxford* Applications of Hydrogen Borrowing in Synthesis of Carbocycles and Synthesis of Novel Dopamine Transporter Inhibitors	**Timothy Donohoe** (Primary)	NIDA **Amy Newman**
Sarah Ann Blackstone *University of South Dakota* JAK-STAT Pathway Aberrations in Genetic Syndromes Associated with Fibrosing Inflammatory Disease	**William Mayhan** (Primary)	NHGRI **Dan Kastner**
Cristina F. Contreras Burrola *University of Oxford* One Bite at a Time: Multiomic Unveiling of Monocyte Trogocytosis of Tumour Cells	**Francesca Buffa** (Primary)	NCI **Rosandra Kaplan**
Yasemin Cole *University of Cambridge* Interrogating the Genomic and Metabolomic Landscape of Pseudohypoxic Phaeochromocytoma and Paraganglioma Syndromes	**Professor Eamonn Maher** (Primary) **Ruth Casey** (Secondary)	NCI **Zhenping Zhuang**
Gwendolyn Cooper *Montana State University* Perturbations in Redox Stress and the Downstream Effects on Physiology	**Brian Bothner** (Primary)	NIAID **James Cherry**

GPP GRADUATION AWARD RECIPIENTS

GPP Graduation Award Recipient, Graduate University, Dissertation Title	University Research Advisors	NIH IC, NIH Research Advisor (PI)
Jasmine Cooper *University of Michigan* Place, Not Race: How Neighborhood Environmental Burdens Shape Cognitive Health in HANDLS	**Toni Antonucci** (Primary) **Patricia Reuter-Lorenz** (Secondary)	NIA **Indira Turney**
Shivangi Dave *University of Alabama at Birmingham* A Non-Canonical Role of T Follicular Helper Cells in Promoting Peripheral Tolerance by Supporting T Regulatory Cells	**Andre Ballesteros-Tato** (Primary)	NIAID **Andre Ballesteros-Tato**
Ciana Deveau *Brown University* Local Recurrent Network Contributions to Dynamic Visual Processing		NIMH **Mark Histed**
Ananth Hari *University of Maryland, College Park* Algorithms for Germline Genotyping, Methylation Deconvolution, and Somatic Phylogeny Reconstruction	**Uzi Vishkin** (Primary)	NCI **S. Cenk Sahinalp**
Julia Asami Licholai *Brown University* Neuronal Circuits for Immediate Sensory and Autonomic Responses		NIDCR **Nicholas J. P. Ryba**
Ting-Yi Lin *National Yang Ming Chiao Tung University and Academia Sinica, Taiwan* Genetic and Epigenetic insight into Human Retinal Aging	**Pui-Yan Kwok** (Primary) **Mei-Hsuan Lee** (Secondary)	NEI **Anand Swaroop**
Samantha Renee Lish *University of Oxford* From Active Matter to Embryoid Self-Organization	**Ramin Golestanian** (Primary)	NIBIB **Richard Leapman**

GPP GRADUATION AWARD RECIPIENTS

GPP Graduation Award Recipient, Graduate University, Dissertation Title	University Research Advisors	NIH IC, NIH Research Advisor (PI)
Sanna Madan *University of Maryland College Park* Computational Methods for Identifying Single and Combinatorial CAR T-Cell Targets from Single-Cell Transcriptomics Data	**Aravind Srinivasan** (Primary)	NCI **Eytan Ruppin**
Cristina Adelia Meehan *University of Alabama at Birmingham* Novel Assay Predicts Standard Membrane Feeding Results for Malaria Transmission Blocking Vaccine PFS230D1-EPA/AS01	**Paul Goepfert** (Primary) **William Geisler** (Secondary)	NIAID **Patrick E. Duffy**
Oloruntoba Ismail Osagie *Queens University, Belfast* Identification of Critical Hypoxia Induced Factors in Prostate Cancer Treatment Resistance	**Melissa LaBonte Wilson** (Primary) **Nick Orr** (Secondary)	NCI **Eborah Citrin**
Jacob W. Pederson *Oregon State University* Contributions of Innate Immunity to Metaflammation	**Natalia Shulzhenko** (Primary) **Andrey Morgun** (Secondary)	NIAID **Aleksandra Nita-Lazar**
Stormy Elizabeth Ruiz *Johns Hopkins University* Atypical Regulation of Transcriptional Machinery at the IgH V Region in B Cells	**Patricia J Gearhart** (Primary)	NIA **Patricia J. Gearhart**
Nitika Sangawan *University of Delhi* Characterization and Physiological Role of a Protease and Serine/Threonine Phosphatases in the Life Cycle of *Bacillus anthracis*	**Uma Dhawan** (Primary) **Yogendra Signh** (Secondary)	NIAID **Stephen H. Leppla**
Preston Nicole Siegler *UNC Chapel Hill* Prenatal Corticosterone Treatment Impacts Hippocampal Development and Adult Behavior: a Focus on Area CA2	**Serena Dudek** (Primary)	NIEHS **Serena Dudek**

GPP GRADUATION AWARD RECIPIENTS

GPP Graduation Award Recipient, Graduate University, Dissertation Title	University Research Advisors	NIH IC, NIH Research Advisor (PI)
Stephanie L. Williams *University of Oxford* Emergence and Evolution of Avian-Origin Genes in Pandemic Influenza A Virus Ribonucleoprotein Complexes	**Ervin Fodor** (Primary)	NIAID **Jeffery Taubenberger**
Emmanuel Woode *Howard University* Regulatory Strategies to Accelerate an HIV Vaccine-Microbicide Combination to the Clinic	**Earl B. Ettienne** (Primary)	NCI **Genoveffa Franchini**
Nana Yan *China Pharmaceutical University* Hepatocyte CEBPA Restricts Alcohol-Associated Liver Disease	**Haiping Hao** (Primary) **Tingting Yan** (Secondary)	NCI **Frank J. Gonzalez**
Xiaoting Yu *Capital Medical University* The Role of Vascular Smooth Muscle Cell Sirtuin 6 in Aortic Aneurysm and Dissection and the Underlying Mechanism	**Aijuan Qu** (Primary)	NCI **Frank J. Gonzalez**

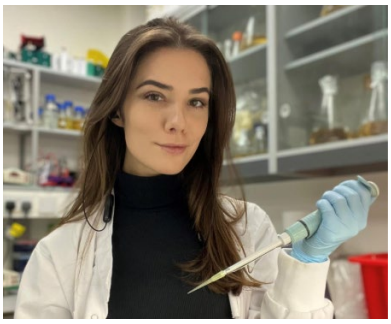
KEYNOTE SPEAKER

Dr. Bianca Jones Marlin is an Assistant Professor at Columbia University's Zuckerman Institute. Her innovative research investigates how organisms unlock innate behaviors at appropriate times, and how learned information is passed to subsequent generations via transgenerational epigenetic inheritance.

Dr. Marlin uses a multidisciplinary approach to uncover the mechanisms by which learning and emotion are biologically transmitted from neurons of parents to neurons of their offspring. Her insights into how learned behavior can become innate behavior in offspring promises to make a profound impact on societal brain-health, mental well-being, and parenting.

Dr. Marlin's distinguished academic background includes dual bachelor's degrees from St. John's University, a Ph.D. from New York University, and postdoctoral research under Nobel Laureate Dr. Richard Axel. Dr. Marlin and her work have been recognized with accolades such as Popular Science Magazine's Brilliant 10 and the STAT Wunderkind Award and featured in prestigious media outlets such as The New York Times, The Wall Street Journal, and National Geographic. Dr. Marlin is a skilled communicator, effectively able to convey complex scientific concepts to many different audiences. She is an engaging and charismatic speaker.

STUDENT SPEAKERS



Grace Perry's research interests began in Professor Bromage's laboratory at the University of Massachusetts Dartmouth. In a comparative immunology laboratory, she studied the adaptive immune response of rainbow trout to vaccination, with the goal to improve animal vaccinations for the aquaculture industry. After graduating in 2020 with a Bachelor of Science in biology, she joined the laboratory of Dr. Toker at Harvard Medical School (HMS) to study cellular signaling and cellular metabolism in breast cancer. She made significant contributions to her lab's work, identifying a novel substrate that regulates CoA synthesis from vitamin B5. Now, she is a PhD Candidate at the University of Cambridge as a student in the NIH-Oxcam program. Her PhD is split between Dr. Roche's laboratory in the Biochemistry Department at the University of Cambridge and Dr. John Hammer's laboratory in the Cell and Developmental Biology Center in NHLBI at NIH. Her PhD work aims to link aneuploidy and basal cell extrusion in the intestinal epithelium, a condition where cells are pushed into the basement membrane rather than apically into the lumen for disposal. Her work could provide insight into colon cancer metastasis. Outside of lab, Grace volunteers with the American Cancer Society to encourage education and advocacy in our fight against cancer. Grace also volunteers with STEM Unbarred, a branch of the Petey Greene program that provides hands-on based scientific demos to students in juvenile detention facilities. She has served on the student leadership board of the NIH-OxCam program for two years, as a postgraduate student representative in her department at Cambridge, and as editor for the Cambridge Journal of Science Policy.

Sanjana Rajgopal was born in India and raised in Kuwait. She earned her bachelor's degree with honors in Biomedical Sciences, majoring in Human Genetics, from the Sri Ramachandra Institute of Higher Education and Research in Chennai, India. She is currently pursuing a Ph.D. in Molecular Genetics and Cell Biology in the Department of Genetics, Cell Biology, and Anatomy at the University of Nebraska Medical Center. Sanjana joined the laboratory of Dr. Cook in 2022, whose research examines the interactions between neutrophils and the tumor microenvironment that influence cancer progression and therapy resistance. After successfully completing her doctoral candidacy, she was offered the opportunity to continue her

STUDENT SPEAKERS

dissertation research at the National Cancer Institute (NCI), NIH, in Frederick, MD. In 2024, she transitioned to the Cancer Innovation Laboratory, CCR at NCI under Dr. Cook's continued mentorship. Her current research focuses on the role of neutrophils in bone-metastatic prostate cancer, focusing on the mechanisms governing their cytotoxic activity and their potential contribution to therapeutic strategies. By studying neutrophil function within the bone tumor microenvironment, she aims to clarify how neutrophils influence innate immune processes that suppress prostate cancer progression. Sanjana has co-authored peer-reviewed publications including work in *Cancer Medicine* (2023) and *Molecular Cancer Research* (2025). She has presented her research at multiple national and international meetings.

Antara Syam is a PhD candidate in the NIH–Catholic University of America Individual Graduate Partnerships Program, where she conducts biophysics research focused on the mechanistic understanding of unintended membrane interactions of cationic amphiphilic drugs (CADs). Her work aims to elucidate how widely used and FDA-approved drug classes interact with lipid membranes and modulate ion channel behavior beyond their intended molecular targets. Antara holds a foreign MD and has previously worked on multifaceted projects spanning basic science, translational research, and public health. Before beginning her doctoral training, she worked as a study-physician on a WHO-funded randomized controlled trial designed to reduce hospital burden and antibiotic resistance in young infants in low-resource settings. She has also contributed to research examining the relationship between insulin resistance and cognitive decline. Her dissertation research investigates the effects of CADs and a novel drug candidate targeting VDAC, a mitochondrial outer membrane channel implicated in neurodegenerative diseases such as Alzheimer's and Parkinson's disease. Antara conducts her research under the mentorship of Dr. Bezrukov at the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD), NIH, in collaboration with her CUA advisor Dr. Choy. Looking ahead, she aims to apply her skills through evidence-based regulatory decision-making. She is grateful for the support of her mentors, colleagues, and the NIH OITE.

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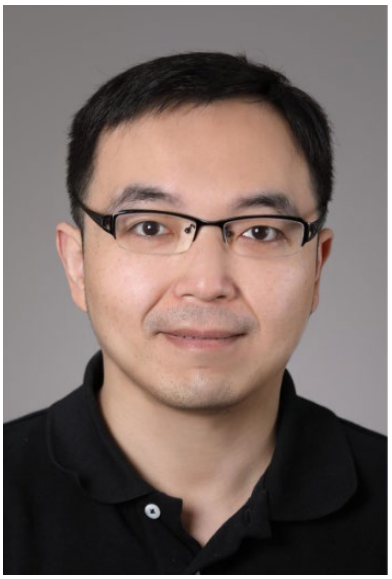
Spencer Waters is a PhD candidate in the Interdisciplinary Program in Neuroscience (IPN) and a predoctoral fellow (IRTA) at the National Institute of Mental Health (NIMH). His thesis research focuses on the neural substrates of social cognition and emotional regulation. Specifically, Spencer studies how projections between the amygdala and anterior cingulate cortex impacts autonomic arousal (e.g., heart rate) during live social interactions between rhesus monkeys. Outside the lab, Spencer enjoys spending time with his wife, Charday, and their two dogs (Clio & Styx).

MENTOR AWARDS

Robert W. Maul is a senior associate scientist in the Antibody Diversity Section of the Laboratory of Molecular Biology and Immunology at the National Institute on Aging. He received his BS in Biology from St. Bonaventure University in 2002 and earned a PhD from the University of Buffalo in 2007. Dr. Maul came to the National Institute on Aging for his postdoctoral work with Dr. Patricia J. Gearhart, and he was promoted to staff scientist in 2012 and senior associate scientist in 2022. His research focus is on the role of B cells and antibodies in various diseases, and deficiencies in these responses with age. Dr. Maul's work has shown that during atherosclerosis, B cells generate a broad immune response against self-antigens which increases plaque formation. During aging, B cells are intrinsically pre-activated by the aging environment (inflammaging), resulting in poor antibody responses against antigen. In addition to his research, Dr. Maul serves as the co-chair of the NIA postbaccalaureate committee and the NIA staff scientist representative to the NIH staff scientist committee.



Dr. Yuanyuan (Kevin) Liu is a Stadtman Investigator at the National Institute of Dental and Craniofacial Research (NIDCR) and the National Center for Complementary and Integrative Health (NCCIH). He received his B.S. degree from Nanjing University, China, and completed his Ph.D. training at the State University of New York, followed by postdoctoral training at Boston Children's Hospital and Harvard Medical School, where he was co-mentored by Drs. Zhigang He and Clifford Woolf. During his postdoctoral work, Dr. Liu developed and optimized a sophisticated, multi-step viral-based intersectional targeting strategy, which he applied to dissect the role of corticospinal neurons in controlling distinct spinal circuits underlying fine motor control and tactile sensation. Since joining the NIH in 2020, Dr. Liu has established an independent research program focused on deciphering supraspinal circuits that govern somatosensory perception and pain. His laboratory integrates advanced viral tracing, functional imaging, circuit manipulation, and molecular profiling approaches to investigate how the brain directly modulates normal and pathological somatosensory experiences. His recent work has been published in *Science and Neuron*. Dr. Liu practices an individualized, trainee-centered mentoring philosophy, tailoring guidance to each trainee's background, strengths, and career goals, with an emphasis on fostering independent thinking and long-term professional development. Ultimately, his research aims to uncover circuit- and cell-type-specific targets for the development of more effective, mechanism-based pain therapies.

STUDENTS: Listed alphabetically by last name

Poster #	Last Name, First	IC	University
29	Addissie, Yonit	NCI	University of Maryland School of Medicine
50	Ahamed, Mukshud	NCBI	Stony Brook University
126	Ahrend, Franziska	NIDDK	University of Regensburg, Germany
40	Amujal, Marion	NHGRI	Makerere University
57	Assefa, Genet Shawel	NHGRI	University of Pittsburgh
93	Azinge, Ifeoma	NIMH	Brown University
11	Bailey, Hannah	NIA	Brown University
81	Baldy, Meagan	NIEHS	UNC Chapel Hill
1	Barrett, Madeleine	NCATS	Karolinska Institutet
70	Battelli, Francesca	CC	Johns Hopkins University
28	Bichicchi, Federica	NIDCR	University of Bologna
127	Boaventura Tavares, Gabrielle Emily	NIAAA	Universidade Federal de Sao Paulo
52	Bolima, Nelanne	NHLBI	University of Cambridge
32	Bono, Michaella	NEI	University of Pennsylvania
17	Boydston, Darren	NHLBI	Johns Hopkins University
59	Branch, Briana	NCI	Johns Hopkins University
119	Brooks, Brittany	NINDS	Howard Univeristy
111	Bussgang, Jason	NINDS	Georgetown University
88	Castello Casta, Fabiola	NIAID	Georgetown University
6	Chandroth, Anjali	NCI	University of Montpellier
123	Chaudhry, Sarah	NIDDK	Brown University
122	Colelough, Brandon	NLM	University of Maryland
33	Cooper, Jasmine	NIA	University of Michigan
100	Dalaty, Giulia	NINDS	Karolinska Institutet
41	Daniel, Meklit	NIEHS	University of Oxford
107	David, Sandeep	NIDCD	Brown University
82	Delgado, Angel	NIA	Johns Hopkins School of Medicine
69	Detels, Megan	NICHD	Johns Hopkins University
34	Diaz-Gonzalez, Roberto	NIAID	University of Puerto Rico-School of Medicine
22	Dorman, Jack	NIAID	Johns Hopkins University
124	Duarte, Ines	NCI	Instituto Superior Tecnico
92	Dukov, Jennifer	NIDCD	Georgetown Univertsity
3	Dutta, Nisita	NCI	University of Cambridge
67	Elizalde, Paul	NHLBI	Johns Hopkins University
66	Elnaggar, Manar	NCI	University of Maryland Baltimore
121	Fan, Angela	NIMH	Monash University
87	Filio, Benjamin	NINDS	Brown University
102	Folkert, Gwen	NEI	Brown University
101	Freedgood, Natalie	NIMH	Brown University
115	Friedman, Nina	NIMH	University of Maryland, College Park
35	Fulda, Evelynne	NHGRI	University of Oxford
24	Gaertner, Elyse	NIAID	Georgetown University
94	Garrod, Daniela	NIMH	Brown University
109	Gevorgyan, Artur	NIDDK	Brown University
13	Gordon, Lila	NHLBI	Brown University
105	Greer, Lacey	NIDA	University of Maryland, Baltimore
18	Hanson, Sarah	NIAID	Johns Hopkins
36	He, Zhenzhen	NHLBI	George Washington University

STUDENTS: Listed alphabetically by last name

Poster #	Last Name, First	IC	University
120	Inoue, Yoshitaka	NLM	University of Minnesota
14	Jean Pierre, Makheni	NIAID	Georgetown University
37	Jiang, Angela	NLM	University of Maryland, College Park
25	Kanangat, Smriti	NCI	Emory University
96	Kanjanda, Simbarashe	NIAAA	Howard University
91	Karami, Behnam	NIMH	Radboud University
62	Kataria, Rhea	NCI	University of Cambirdge
64	Kazmi, Rida	NCI	Georgetown University
61	Khan, Sebastian	NHLBI	Johns Hopkins University
86	Kulchar, Rachel	NIDCR	University of California, Los Angeles
104	Kuperstein, Mitchel	NINDS	University of Kentucky
116	Laky, Zoe	NIMH	American University
5	Lanihun, Abdul-Azeez	CC	Howard University
73	Lawston, Marlene	NIMH	University of Oxford
53	Lehr, Alexander	NINDS	Brown University
8	Li, Kathy	NCI	Augusta University
125	Li, Tianming	NIDCR	Brown-NIH Neuroscience GPP
72	Lofgren, Mariah	NIAID	University of Oxford
65	Louis, Emeric	NICHD	National Museum of Natural History of Paris
110	Lowrie, Matthew	NIMH	Karolinska Institutet
68	Ly, Ann	NHLBI	Oxford University
55	Macdonald, Emma	NIMH	Brown University
95	Mai, Sabrina	NEI	University of Rochester
58	Maram, Ritish Raghav	CC	George Washington Univeristy
98	Marchi, Alex	NIEHS	North Carolina State University
76	Mastroianni, Izabella	NHGRI	Johns Hopkins University
44	McCormick, Lauren	NIAID	University of Oxford
130	McNeel, Rachel	NEI	Georgetown University
77	Molano, Olivia	NIDCD	Brown University
30	Molina-Lopez, Ivanna	NIAID	University of Pennsylvania
7	Molnar, Abby	NIA	Johns Hopkins
27	Morris, Vivian	NCI	Johns Hopkins
63	Moses, Aurelia	NCI	University of Maryland
80	Murray, Justin	NIAID	Utah State University
117	Oakeson, Ryan	NIMH	University College London
84	Orr, Walker	NIAID	University of Maryland
51	Pane, Anthony	NHLBI	University of Maryland
10	Park, Hyun Sung	NHLBI	Seoul National University
15	Park, Yein Christina	NIDCD	Johns Hopkins University
45	Pederson, Jacob	NIAID	Oregon State University
23	Perry, Grace	NHLBI	University of Cambridge
79	Pham, Linh	NIMH	University of Oxford
99	Platt, Ava	NINDS	Brown University
106	Pratt, Ashley	NICHD	Brown University
83	Rahman, Areebah	NIDDK	Brown University
2	Rajgopal, Sanjana	NCI	University of Nebraska Medical Center
39	Ratley, Grace	NIAID	Karolinska Institute
48	Rich, Zachary	NICHD	University of Cambridge

STUDENTS: Listed alphabetically by last name

Poster #	Last Name, First	IC	University
132	Sanchez-Mendoza, Daniel	NEI	Johns Hopkins University
47	Sanghvi, Neel	NCI	University of Maryland, College Park
78	Sangiorgio, Giuseppe	NIAID	University of Catania
26	Santiago, Nathan	NIAID	University of Alabama at Birmingham
75	Schwab, Kyle	NEI	Temple University
43	Secaira, Henry	NLM	Arizona State University
56	Shah, Nilesh	NINDS	McGill University
54	Shin, Jonathan	NHLBI	University of Maryland, College Park
103	Shirley, Sofia	NIMH	Johns Hopkins University
71	Shults, Christopher	NIDCD	University of Maryland, Baltimore
85	Silverstein, Sarah	NINDS	Rutgers New Jersey Medical School
60	Slattery, Kaitlynn	NCI	Georgetown University
4	Steffke, Emily	NCI	University of Oxford
42	Strauss DeFilipp, Jemma	NIEHS	North Carolina State University
12	Suh, Jaehyun	NCI	University of Montpellier
118	Sultan, Nauman	NHLBI	Johns Hopkins University
74	Summers, Rose	NINDS	University of Cambridge
46	Suri, Reecha	NHLBI	University of Kentucky College of Medicine
20	Swanbery, Nathan	NCI	University of Pennsylvania
128	Sweeten, Alexander	NHGRI	Johns Hopkins University
90	Syam, Antara	NICHD	The Catholic University of America
21	Tagay, Yerbol	NIBIB	Penn State University
16	Theberge, Marc	NIAID	University of Cambridge
49	Tunyi, Jude	NINDS	Oxford University
9	Tyan, Jean	NIDDK	Karolinska Institutet
113	Vlachos, Anna	NICHD	Brown University
38	Wang, Harrison	NIDCR	University of Pennsylvania
108	Wang, Chien-Sheng	NIDCR	National Taiwan University
114	Waters, Spencer	NIMH	Georgetown University
19	Watson, Abigail	NIEHS	Duke University
129	Wei, Yi	NCCIH	The University of Maryland
112	Xu, Jiyi	NIAAA	Capital Medical University
89	Zhang, Yizhen	NIDCR	Brown University

POSTERS

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Discovery and Development of a Potent, Selective Small Molecule Inhibitor of GPX1

Madeleine S. Barrett, Vinoth Kumar Chenniappan, Min Shen, Qing Cheng, Dorian M. Cheff, Elias S.J. Arnér, Samarjit Patnaik, and Matthew D. Hall
Graduate Student: Madeleine Barrett
NIH Institute-Center: NCATS
NIH Research Advisor: Matthew Hall
University Research Advisor: Elias Arnér
Graduate University: Karolinska Institutet

2

Anti-Tumor Actions of Neutrophils on Bone Metastatic Prostate Cancer

Sanjana Rajgopal, Massar Alsamraae, Theodore L. Reed, Emma R. Brannon, and Leah M. Cook
Graduate Student: Sanjana Rajgopal
NIH Institute-Center: NCI
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University Research Advisor: Leah M. Cook
Graduate University: University of Nebraska Medical Center

3

Mesothelin-Targeted Nanobody-Drug Conjugates to Treat Pancreatic Cancer

Nisita Dutta, Roman Misteli, Jessica Hong, Julie Becher, Francisco Corzana Lopez, Christine Alewine, Gonçalo Bernardes, and Mitchell Ho
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4

Viral Vector Vaccination Induces Brain Resident Memory T Cells to Drive Anti-Glioblastoma Immunity

Emily Steffke, Laila Latifi, Taijun Hana, Ayaka Hara, Morgan Coombs, Jo Spurgeon, Caitlin Huguely, John Hancock, Brita Anderson, James McAuliffe, Vinnycius Pereira-Almeida, Amanda Wicki, Sara Abdel Malak, Laurine Noblecourt, Meili Zhang, Wei Zhang, Dionne Davis, Nicole Briceno, Hua Song, Hye Kim, Chen Cam-El Makranz, Hideho Okada, Mark Gilbert, Carol Leung, Benoit Van den Eynde, and Masaki Terabe
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NIH Research Advisor: Masaki Terabe
University Research Advisor: Mike Dustin
Graduate University: University of Oxford

5

Electrochemiluminescence Immunoassay for Quantifying ZMA001 in Human Serum: Method Development, Validation, and Clinical Pharmacokinetic Application

Abdul-Azeez A. Lanihun, Olivia Poczatek, Yi Zeng Oluwatobi T. Arisa, Nam Hoon Kwon, Sunghoon Kim, Sandra Cooper, Jason Elinoff, and William D. Figg
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NIH Research Advisor: William D. Figg
University Research Advisor: Earl B. Ettienne
Graduate University: Howard University

6

Enabling CD19 CAR T-Cell Therapy for People Living With HIV: Preclinical Insights Into Manufacturing and Function

Anjali Chandroth, Nikolaos Svoronos, Saliha Majdoul, Olubukola Abiona, Ramya Ramaswami, Christopher Chien, Nirali Shah, Robert Yarchoan, and Naomi Taylor
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University Research Advisor: Valerie Zimmermann
Graduate University: University of Montpellier

7

Investigating the Molecular Basis Of NAD+ Metabolism Imbalance and its Therapeutic Applications in Fanconi Anemia

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Graduate University: Johns Hopkins

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Bit by Bit: Uncovering the Regulators of Monocyte-Tumor Trogocytosis

Kathy P. Li, Cristina F. Contreras, Shadin Ahmed, Jennifer Tran, Sabina Kaczanowska, and Rosandra N. Kaplan
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NIH Research Advisor: Rosandra Kaplan
University Research Advisor: Kebin Liu
Graduate University: Augusta University

9

Lysosomal Translocation of the Ubiquitin Ligase CHIP in Response to Membrane Damage

Jean L. Tyan, Juhyung Lee, Yue Xu, Layla Saidi, Daniel Ferreira, and Yihong Ye
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NIH Research Advisor: Yihong Ye
University Research Advisor: Daniel Ferreira
Graduate University: Karolinska Institutet

10

Single-cell CRISPR Screening Maps Gene Networks Regulating Primate Hematopoiesis

Hyun Sung Park, Luiz Fernando Catto, Taha Bartu Hayal, Chuanfeng Wu, Sogun Hong, Kyung-Rok Yu, and Cynthia E. Dunbar
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University Research Advisor: Kyung-Rok Yu
Graduate University: Seoul National University

11

Characterizing the Role of LRRK2 in Lysosome Signaling

Hannah M. Bailey and Mark R. Cookson
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NIH Research Advisor: Mark R. Cookson
Graduate University: Brown University

12

SPPL3-Glycosylation Axis Governs CD22 CAR T-Cell Susceptibility in B-ALL Independent of Antigen Recognition

Jaehyun Suh, Ukhyun Jo, Craig Thomas, Nirali N. Shah, Jack Shern, Christopher Chien, and Naomi Taylor
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13

Dynamic Analysis of RAB GTPases and Effectors in Dense Core Vesicle Docking

Lila Gordon and Justin Taraska
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University Research Advisor: Kate O'Connor Giles
Graduate University: Brown University

14

IFN-gamma Signaling in Monocyte-Derived Macrophages Drives Protection Against Chronic Fungal Infection

Makheni Jean Pierre, Yufan Zheng, Hannah Dobson, Eric Van Dang
Graduate Student: Makheni Jean Pierre
NIH Institute-Center: NIAID
NIH Research Advisor: Eric Dang
Graduate University: Georgetown University

15

TMC1 and TMC2 Lipid Scramblase Activity is Regulated by Cholesterol

Yein Christina Park, Hubert Lee, Runjia Cui, Jayashree Balaraman, and Angela Ballesteros
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University Research Advisor: Steve Farber
Graduate University: Johns Hopkins University

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Genetic Screens Identify Cellular Regulators of HIV Latency Establishment

Marc Theberge, Pehuén Pereyra Gerber, Claudia Melucci, Prakriti Mudvari, Ildar Gabaev, Alexandra Rowland, Iva Tchasovnikarova, Richard Timms, Paul Lehner, Nicholas Matheson, and Eli Boritz

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University Research Advisor: Nicholas Matheson
Graduate University: University of Cambridge

17

Identifying New Regulators of the Nonsense-Mediated mRNA Decay Pathway

Darren P. Boydston, Pascale D. Paul, Loveth A. Igbineweka, Nazmul Haque, Justin W. Mabin, and J. Robert Hogg

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NIH Research Advisor: J. Robert Hogg
Graduate University: Johns Hopkins University

18

Structure and Function of Rv2828A/c, a Virulence Factor Associated with Radiographic Extent of Disease in Human Tuberculosis

Sarah Hanson, Helena Boshoff, Peter Finin, and Clifton Barry

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University Research Advisor: John Kim
Graduate University: Johns Hopkins University

19

Seeing Membrane Proteins Clearly: ML for Geometry-Guided Particle Picking in Cryo-ET

Abigail J Watson, Jeffrey Martin, Alberto Bartesaghi, and Mario J Borgnia

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NIH Research Advisor: Mario J Borgnia & William Copeland
University Research Advisor: Alberto Bartesaghi
Graduate University: Duke University

20

Ion channels in plasma cell survival

Nathan J. Swanbery, Susannah C. Shissler, Marieke Lavaert, Zainul Hasanali, Rosy Sakr, Michael J. Kruhlak, Yongge Zhao, David Allman and Avinash Bhandoola

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University Research Advisor: David Allman
Graduate University: University of Pennsylvania

21

Cracking the Code of Nuclear Rigidity: New Frontiers in Cell Migration and Therapy

Yerbol Tagay, Alexis Manning, Chynna Smith, Jian Wang, Xuefei Ma, Nikolay V. Dokholyan, Rakesh K. Singh, Sami Alawadhi, Dimitrios Vavylonis, Alexander S. Zhovmer, Denis Tsygankov, Erdem D. Tabdanov and Alexander X. Cartagena-Rivera

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Graduate University: Penn State University

22

West Nile Envelope Protein Adaptation Across the 20th Century

Jack Dorman and Patrick Dolan

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NIH Research Advisor: Patrick Dolan
University Research Advisor: Jocelyne DiRuggiero
Graduate University: Johns Hopkins University

23

Chromosomal Instability Induced by Mps1 Inhibition as a Driver of Basal Cell Extrusion in the Intestinal Epithelium

Grace Perry, Sulaiman Yousafzai, Marc de la Roche, John Hammer III

Graduate Student: Grace Perry
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University Research Advisor: Marc de la Roche
Graduate University: University of Cambridge

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Antibodies to the Head Region of the La Crosse Virus Glycoprotein Spike Identify Structural Heterogeneity Impacting Neutralization Sensitivity

Elyse Gaertner, Danealle Parchment, Katherine Burgomaster, David Gordon, Allison Crouch, Zoji Bomya, Kimberly Dowd, Laura VanBlargan, Ted Pierson

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NIH Research Advisor: Ted Pierson
University Research Advisor: John Casey
Graduate University: Georgetown University

25

Exploiting MYC-Driven Oncogenic Stress for Lymphoma Therapy

Smriti Kanangat, Xin Yu, James Phelan, Louis Staudt
Graduate Student: Smriti Kanangat
NIH Institute-Center: NCI
NIH Research Advisor: Louis Staudt
University Research Advisor: Lawrence Boise
Graduate University: Emory University

26

Allergic Asthma Impairs CD8+ Trm Formation Against Influenza A

Nathan Santiago, Holly Bachus, and Andre Ballesteros-Tato

Graduate Student: Nathan Santiago
NIH Institute-Center: NIAID
NIH Research Advisor: Andre Ballesteros-Tato
University Research Advisor: Craig Maynard
Graduate University: University of Alabama at Birmingham

27

CRISPR-Cas9 Screens in Mice to Identify Tumor Suppressors of Aggressive Human Lymphoma

Vivian Morris, Arnold Bolomski, Jaewoo Choi, Julius Enssle, Ashok Kumar, Moyi Li, Yandan Yang, Xin Yu, James Phelan, Jagan Muppidi, and Lou Staudt

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NIH Institute-Center: NCI
NIH Research Advisor: Louis Staudt
Graduate University: Johns Hopkins University

28

Single-Cell Transcriptomic and Chromatin Characterization of Salivary Glands Virome in Sjogren's Through the Use of Spatial Transcriptomics

Federica Bichicchi, Natalie Atyeo, Danny Yi, and Jay Chiorini

Graduate Student: Federica Bichicchi
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NIH Research Advisor: Jay Chiorini
University Research Advisor: Giorgio Gallinella
Graduate University: University of Bologna

29

Synergistic Lethality of Combination Treatment with Trop2-directed Antibody-Drug Conjugate Sacituzumab Govitecan and TRAIL Agonists in Triple Negative Breast Cancer

Yonit A. Addissie, Yoshimi E. Greer, Stanley Lipkowitz

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University Research Advisor: Nevil Singh
Graduate University: University of Maryland School of Medicine

30

Heterogeneity of Tissue-resident Macrophage Metabolism During *in vivo* Nippostrongylus brasiliensis Infection

Ivanna Molina-Lopez, Benjamin Schwartz, Camila de Oliveira Silva E Souza, Oyesola Oyebola, Png Loke

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University Research Advisor: Taku Kamabayashi
Graduate University: University of Pennsylvania

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Mathematical and Experimental Models of Interactions Among Subclones and Immunity in Melanoma

M.G. Hirsch, Jon C. Ergun, Sung Chin, Cari Graff, Danielle Yee, Eva Perez-Guijarro, Glenn Merlino, Chi-Ping Day, and Teresa M. Przytycka

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University Research Advisor: Erin Molloy
Graduate University: University of Maryland

32

Investigating the Role of Mucosal-Associated Invariant T (MAIT) Cells in a Mouse Model of Alzheimer's Disease

Michaella Bono, Jaanam Gopalakrishnan, Sara Petillo, Aishini Singh, Andy Tso, Abhi Verma, Davide Randazzo, and Han-Yu Shih

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NIH Research Advisor: Han-Yu Shih
University Research Advisor: Han-Yu Shih
Graduate University: University of Pennsylvania

33

Place, Not Race: How Neighborhood Environmental Burdens Shape Cognitive Health in Baltimore, MD

Indira Turney, Gulam Kibria, Nicolle Mode, Alan Zonderman, Michele K. Evans

Graduate Student: Jasmine M. Cooper
NIH Institute-Center: NIA
NIH Research Advisor: Indira Turney
University Research Advisor: Toni Antonucci
Graduate University: University of Michigan

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Multistage Antiplasmodial Activity of Novel Tubulin-Binding Compounds

Roberto G. Díaz González, Sergio Ramos-Varela, Emilee E. Colón-Lorenzo, Tanaya Rahul Sheth, Alison E. Roth, David A. Fidock, Rafael Peláez Joel Vega-Rodríguez, and Adelfa E. Serrano-Brizuela

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University Research Advisor: Adelfa E. Serrano-Brizuela
Graduate University: University of Puerto Rico-School of Medicine

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11 Million Days of Fitbit Data Reveal Novel Future Health and Disease Insights

Evelynne S. Fulda, Bennett J. Waxse, Tam C. Tran, Slavina B. Goleva, Henry J. Taylor, Caitlin P. Bailey, Dana L. Wolff-Hughes, Huan Mo, Chenjie Zeng, Jacob M. Keaton, Tracey M. Ferrara, Anya Topiwala, Aiden Doherty, and Joshua C. Denny

Graduate Student: Evelynne S. Fulda
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NIH Research Advisor: Joshua Denny
University Research Advisor: Aiden Doherty, Anya Topiwala
Graduate University: University of Oxford

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Salivary Involvement in Human Norovirus Infection: Insights from Spatial Detection and Cross-Compartment Genomic Analysis

Zhenzhen He, Neval Elgormus, Hannah Karen Labayo, Danmeng Shuai, and Nihal Altan-Bonnet

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NIH Research Advisor: Nihal Altan-Bonnet
University Research Advisor: Danmeng Shuai
Graduate University: George Washington University

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Pathogenic Spirochaetes Acquired Cholesterol Metabolism Enzymes via Horizontal Gene Transfer from Commensal Gut Bacteria

Angela K. Jiang, Maggie R Grant, Keith Dufault-Thompson, Brantley Hall, and Xiaofang Jiang
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NIH Research Advisor: Xiaofang Jiang
University Research Advisor: Brantley Hall
Graduate University: University of Maryland, College Park

38

Role of DNASE1L1 in Inflammation and Autoimmunity

Harrison C Wang, Grozdan Cvijetic, Haiting Wang, Anastasia du Halgouet, Erfan Jabari, Valentina Ottaviani, Siqi Zhao, Isabella Olive Conway, Joanne Shi, and Roxane Tussiwand
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NIH Research Advisor: Roxane Tussiwand
University Research Advisor: Roxane Tussiwand
Graduate University: University of Pennsylvania

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A Targeted Multi-Omic Investigation of Sphingolipid Metabolism in Severe Asthma

Grace Ratley, Antonio Checa, Yulu Chen, Nicole Wagner, Ian Adcock, Sven-Erik Dahlén, Jessica A. Lasky-Su, Åsa M. Wheelock, Ian A. Myles, and Craig E. Wheelock
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NIH Research Advisor: Ian A. Myles
University Research Advisor: Craig E. Wheelock
Graduate University: Karolinska Institute

40

An African specific rare variant in NLRX1 is associated with long-term non-progression of HIV-1 in Pediatric Populations

Marion Amujal, Aparna Haldipur, Negin P. Martin, Qing Li, Shih-Heng Chen, José Luis Marín Franco, Xiaoqing Hu, Fahim Yiga, Samuel Kyobe, Gerald Mboowa, Eric Katagirya, John Mukisa, Savannah Mwesigwa, Thabo Diphoko, Gaseene Sebetso, Lesedi Williams, Gaone Retshabile, Busisiwe Mlotshwa, Grace P. Kisitu, Daudi Jjingo, Sununguko Wata Mpoloka, Mogomotsi Matshaba, Yuan Weirong, Lishan Su, Jenny P-Y Ting, Peter McGuire, David P. Kateete, Moses L. Joloba, Graeme Mardon, and Neil A. Hanchard
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University Research Advisor: David Patrick Kateete
Graduate University: Makerere University

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Fine Particulate Matter Composition Mixtures and Breast Cancer Incidence in a United States-Wide Prospective Cohort

Meklit Daniel, Jennifer L. Ish, Jared A. Fisher, Christiana Kartsonaki, Kin Bong Hubert Lam, Rena R. Jones, and Alexandra J. White
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University Research Advisor: Kin Bong Hubert Lam and Christiana Kartsonaki
Graduate University: University of Oxford

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CRAC Channel Inhibition as a Therapeutic Target for Psoriasis and Allergic Asthma

Jemma Strauss DeFilipp, Hideki Nakano, and Anant B. Parekh
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University Research Advisor: Santosh Mishra
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Granularity, Not Size, is What Matters for Reference Databases in Metagenomics

Henry Secaira-Morocho, Xiaofang Jiang, and Qiyun Zhu
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University Research Advisor: Qiyun Zhu
Graduate University: Arizona State University

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Comparative Analysis of Human Enteroviruses Reveals an Association Between Recombination and Diversification Patterns

Lauren McCormick, Peter Simmonds, Patrick Dolan, and Aris Katzourakis
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University Research Advisor: Aris Katzourakis
Graduate University: University of Oxford

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Dietary Lipids and Microbial Ligands Promote Mitochondrial Dysfunction and Type I Interferon Signaling in Macrophages

Jacob W Pederson, Jyothi Padiadpu, Sung Hwan Yoon, Matthew Macovsky, Donald Jump, Andrey Morgun, Natalia Shulzhenko, and Aleksandra Nita-Lazar
Graduate Student: Jacob Pederson
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Graduate University: Oregon State University

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A New Vascular Organoid Model to Study Dysregulated Extracellular Matrix Remodeling in Prolidase Deficiency

Reecha Suri, Kevin Emmerich, Manfred Boehm
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NIH Research Advisor: Manfred Boehm
University Research Advisor: Anika Hartz
Graduate University: University of Kentucky College of Medicine

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Genome-Wide Metabolic Modeling Identifies Key Modifiers of Precancerous LUSC Evolution

Neel Sanghvi, Thomas Cantore, Chi-Ping Day, Sanna Madan, Nishanth Ulhas Nair, and Eytan Ruppin
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University Research Advisor: Alisa Clyne
Graduate University: University of Maryland, College Park

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Unveiling Microprotein Control of Membrane Transporters

Zachary Rich, Rilee Zeinert, and Gisela Storz
Graduate Student: Zachary Rich
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University Research Advisor: Ben Luisi
Graduate University: University of Cambridge

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Use of *in silico* Protein Structure Prediction Software with Structural and Functional Studies to Characterise ERV14/Cornichon and Transporter Protein-protein Interactions

Jude Tunyi, Joanne L. Parker, Simon Newstead, and Lucy R. Forrest
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NIH Research Advisor: Lucy R. Forrest
University Research Advisor: Simon Newstead
Graduate University: Oxford University

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Comparative Genomics and Evolutionary Analysis of Bacterial Lipid Binding Lipoproteins

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University Research Advisor: Jessica Seeliger
Graduate University: Stony Brook University

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Phosphatidylserine potential energy function for C36, C36/LJ-PME, and the Drude polarizable model

Anthony J. Pane, Zack Jarin, Jeffery B. Klauda, and Richard W. Pastor

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University Research Advisor: Jeffery B. Klauda
Graduate University: University of Maryland

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Engineering Modular Antibody-Drug Conjugates for Targeted Hematopoietic Conditioning and Leukemia Therapy

Nelanne Bolima, Selami Demirci, Marc de la Roche, and John Tisdale

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University Research Advisor: Marc de la Roche
Graduate University: University of Cambridge

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Predicting Pathogenic Motifs in Intrinsically Disordered Regions of Synaptic Proteins Using a Long Short-Term Memory Model

Alexander W. Lehr and Katherine W. Roche

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University Research Advisor: Diane Hoffman-Kim
Graduate University: Brown University

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Impacts of Capillary Leakage and NGF Signaling on Neuropathic Pain

Jonathan Richard Shin and Yoh-suke Mukouyama

Graduate Student: Jonathan Richard Shin
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NIH Research Advisor: Yoh-suke Mukouyama
University Research Advisor: Margaret Scull
Graduate University: University of Maryland, College Park

55

A Synaptic Mechanism for Encoding the Learned Value of Action-Derived Safety

Emma E. Macdonald, Jun Ma, Di Liu, Kai Yu, Yan Leng, Michael E. Authement, Hannah C. Goldbach, Veronica A. Alvarez, and Mario A. Penzo

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NIH Research Advisor: Mario Penzo
University Research Advisor: Justin Fallon
Graduate University: Brown University

56

Mechanisms and Modulation of NMDAR-Mediated Hypofunction in Fragile X Syndrome

Nilesh Shah, Sehoon Won, Heika Silveira, Megan Brookbank, and Katherine Roche, and Derek Bowie

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NIH Research Advisor: Katherine Roche
University Research Advisor: Derek Bowie
Graduate University: McGill University

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Relative Fitness of Genotypes Containing the Hemoglobin C (HbC) and Hemoglobin S (HbS) Alleles

Genet S. Assefa, Daniel Shriner, Neil A Hanchard, Adebowale A Adeyemo, Charles N Rotimi

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University Research Advisor: Ryan Minster
Graduate University: University of Pittsburgh

58

Volumetric Mapping of Prostate Cancer Distribution via Geostatistical Interpolation of Sparse Biopsy and MRI Radiomics

Ritish Raghav Maram, Elliot Levy, and Murray Loew

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University Research Advisor: Murray Loew
Graduate University: George Washington University

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Designing an improved YAP1/TAZ-TEAD interaction inhibitor

Briana S. Branch, Yao Yuan, and Ramiro Iglesias-Bartolome
Graduate Student: Briana S Branch
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NIH Research Advisor: Ramiro Iglesias-Bartolome
University Research Advisor: Kat Mincey
Graduate University: Johns Hopkins University

60

Investigating the Levels of Non-CG DNA Methylation and the Expression of MeCP2 and DNMT3A in Cancer

Kaitlynn Slattery, Rosy Sakr, Maya Larbi, and Lisa D. Boxer
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University Research Advisor: Rebecca B Riggins, Ph.D.
Graduate University: Georgetown University

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Analysis of a Novel Species Barrier in Mice

Sebastian Khan and Takashi Akera
Graduate Student: Sebastian Khan
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NIH Research Advisor: Takashi Akera
University Research Advisor: Steve Farber
Graduate University: Johns Hopkins University

62

Unmasking Previously Unknown DLBCL-specific, Essential Genes to Determine New Therapeutic Targets in Lymphoma

Rhea Kataria, Daniel Hodson, and Louis Staudt
Graduate Student: Rhea Kataria
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NIH Research Advisor: Louis Staudt
University Research Advisor: Daniel Hodson
Graduate University: University of Cambridge

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Uncovering the Function of Nuclear AGO2 in Quiescent Immune Cells

Aurelia Moses, Arpita Upadhyaya, and Joana A. Vidigal
Graduate Student: Aurelia Moses
NIH Institute-Center: NCI
NIH Research Advisor: Joana Vidigal
University Research Advisor: Arpita Upadhyaya
Graduate University: University of Maryland

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Development of a Dual-Receptor TCR–CAR NK-92 Platform for Next-Generation Off-The-Shelf Cancer Immunotherapy

Rida Kazmi, Taisuke Kondo, Christopher Chien, and Naomi Taylor
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NIH Institute-Center: NCI
NIH Research Advisor: Naomi Taylor
University Research Advisor: Michael Benjamin Atkins
Graduate University: Georgetown University

65

How can a Single Methyltransferase (Dot1L) Shape the Development of *Xenopus tropicalis*?

Emeric Louis, Nga Luu, Laurent Sachs, and Yun-Bo Shi
Graduate Student: Emeric Louis
NIH Institute-Center: NICHD
NIH Research Advisor: Yun-Bo Shi
University Research Advisor: Laurent Sachs
Graduate University: National Museum of Natural History of Paris

66

Investigating The Role of Cell Polarity Proteins in Modulating Immune Tolerance in Cancer

Manar Elnaggar, Weilin Li, and Senthil K. Muthuswamy
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NIH Institute-Center: NCI
NIH Research Advisor: Senthil K. Muthuswamy
Graduate University: University of Maryland Baltimore

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Promoting Hematopoietic Stem Cell Growth by Modulating Lagging Strand Synthesis in Mice and Humans

Paul A Elizalde, Temiloluwa Olusanya, and Keji Zhao
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NIH Institute-Center: NHLBI
NIH Research Advisor: Keji Zhao
University Research Advisor: Steve Farber
Graduate University: Johns Hopkins University

68

The Evolution of Chronic Lymphocytic Leukemia and the Immune Microenvironment Response

Ann Ly and Adrian Wiestner
Graduate Student: Ann Ly
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NIH Research Advisor: Adrian Wiestner
University Research Advisor: Anna Schuh
Graduate University: Oxford University

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Studying the Role of Endothelial Calcium Signaling *in vivo*

Megan Detels, Miranda Marvel, Dan Castranova, Van Pham, and Brant Weinstein
Graduate Student: Megan Detels
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NIH Research Advisor: Brant Weinstein
Graduate University: Johns Hopkins University

70

Investigating the Contribution of a Dysregulated Neutrophil Response to Ebola Virus Disease Pathogenesis

Francesca Battelli, Kevin M. Vannella, and Daniel S. Chertow
Graduate Student: Francesca Battelli
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NIH Research Advisor: Daniel S. Chertow
Graduate University: Johns Hopkins University

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IKZF2 is Necessary for OHC Maintenance and Regulates Pathways Required for Cell Membrane Asymmetry and Stereocilia

Christopher Shults, Hannah Odom, Wei Song, Reza Aminapour, Beatrice Milon, Elena Chrysostomou, Runjia Cui, Mhamed Grati, Michael Bowl, Wade Chien, Angela Ballesteros, Ran Elkon, and Ronna Hertzano
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An Antigen-Agnostic Approach to Understanding Antibody Responses Against Blood-Stage *Plasmodium falciparum*

Mariah Lofgren, Andrew JR Cooper, Weizhi Zhong, Shanping Li, Safiatou Doumbo, Didier Doumtabe, Jeff Skinner, Kassoum Kayentao, Aissata Ongoiba, Boubacar Traore, Peter D. Crompton, Matthew K. Higgins, and Joshua Tan
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Do Astrocytes Drive Neuronal Differences in 16p11.2 Duplication Syndrome?

Marlene R Lawston, Xueying Jiang, Nirmala Akula, Francis Szele, and Francis McMahon
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Citrullination of Myelin Basic Protein as a Mechanism of Oligodendrocyte Dysfunction and Microglial Inflammation in Multiple Sclerosis

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Improving Retinal Organoid Viability and Outer Segment Morphology Using Multi-well Hydrogel Bioreactors

Kyle Schwab, Phil Hwang, Aditi Mahajan, Hotae Lim, Suja Hiriyanna, Peter Lelkes, and Tiansen Li

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Identifying Key Residues Which Determine Receptor Use of Human Alphacoronaviruses 229E and NL63 Using Chimeric Spike Proteins

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Visualizing how Presynaptic Activity Shapes Ribbon Synapse Formation in Zebrafish Hair Cells

Olivia Molano, Kate Pinter and Katie Kindt

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Derivation of Mesenchymal Stem Cells from Induced Pluripotent Stem Cells and Their Application in Modeling of Genetically-determined Thymic Defects

Giuseppe Sangiorgio, Francesca Pala, Kayla Amini, Eduardo Anaya, Sarah S. Dinges, Ottavia M. Delmonte, Alexandra Freeman, Alexandra Y. Kreins, E. Graham Davies, Horst von Bernuth, Cathleen Collins, Maria Teresa de la Morena, Melinda M. Rathkopf, Dusan Bogunovic, Marita Bosticardo, and Luigi D. Notarangelo

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A Longitudinal Reference Map of Sex-Biased Regional Brain Development in Mice

Linh Pham, Autessa Anoosheh, Simon Beggs, Lisa Bradley, Lindsay Cahill, Mallar Chakravarty, Tiffany Chien, Jacob Ellegood, Myrto Lavda, Gail Lee, Brian Nieman, Mark Palmert, Stephen Scherer, John Sled, Bilal Syed, Lily Qiu, Armin Raznahan, and Jason Lerch

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Pathogenesis of *Hazara orthonairovirus* Infection in Type I Interferon Receptor-Deficient Mice and Resolution of Disease Following 4'-Fluorouridine Therapy

Justin S. Murray, Jonna B. Westover, Dionna Scharton, Arnaud J. Van Wettere, Alexander A. Kolykhalov, Shuli Mao, Michael G. Natchus, George R. Painter, Thomas Tipih, Kyle Rosenke, Brian B. Gowen, Heinz Feldmann

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Characterization of a Putative Enhancer in the Gene Encoding the Norepinephrine Synthesizing Enzyme Dopamine Beta-Hydroxylase

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Analytical Comparisons of CNS-Derived B Cells and Immunoglobulin in Alzheimer's Disease

Angel M. Delgado and Patricia J. Gearhart
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The Role of Glial-Derived Neuropeptides in Regulating Behavior in *C. elegans*

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Functional Mutational Scanning of Enterovirus A71 Capsid

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Expanded Precision Splice Correction: Multiple Pathogenic Variants in a Deep Intronic Hotspot in IGHMBP2 can be Addressed with a Single ASO

Sarah Silverstein, Rotem Orbach, Sandra Donkervoort, Thomas Cassini, Mary Koziura, Veronique Bolduc, Jason J Busgang, Jahan Misra, Jordan Bontrager , David Herrmann, Francesco Vetrini, Erin Conboy, Adam Comer, Kayla Treat, Katelyn Payne , Khurram Liaqat, Aneesh Patankar, Alayne Meyer, Daniel Koboldt, Anne Connolly, Richard Shell, Anthony Miller, Pimchanok Kulsirichawaroj, Oranee Sanmaneechai, Kullasate Sakpichaisakul, Kyeyoon Park, Yan Li, Diana Bharucha-Goebel, William Macken, Anna Sarkozy, James Polke, Adnan Y Manzur, A. Reghan Foley, Katherine R Chao, Sarah Neuhaus, David R Adams, Christopher Grunseich, and Carsten G. Bönnemann
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Functional Mini-Organ Model of Human Salivary Glands Captures Disease-Specific Changes

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Cerebellar Circuits Represent Dopamine Reward

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Triseriatin: a Salivary Protein from *Aedes triseriatus* That Inhibits Collagen-Induced Platelet Aggregation

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Characterizing Rostral Ventromedial Medulla Serotonergic Neurons in Pain Modulation

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Beyond Cell Receptors: How Cationic Amphiphilic Drug Fingolimod Modify Lipid Membranes and Ion Channel Activity

Antara Syam, Ekaterina M Nestorovich, Tatiana K Rostovtseva, John S Choy, and Sergey M Bezrukov
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How Does the Macaque Brain Detect Optogenetic Perturbation of Inferotemporal Neurons?

Behnam Karami ÀÍ, Alvin Dinh, Reza Azadi, Arash Afraz
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Graduate University: Radboud University

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The Role of POU3F4 in Cell-Autonomous and Non-Cell-Autonomous Development and Function of the Stria Vascularis

Jennifer Emilov Dukov and Ronna Hertzano
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University Research Advisor: Tom Coate
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Involvement of Septal Galanin Circuitry in Cognition, Emotion and Executive Behaviors

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Investigating the Effect of Neuromodulators on mPFC SST Interneuron Subpopulations

Daniela Garrod and Hugo Tejeda
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Comparison of Eye Position Stability Between Head Stabilization Approaches in Macaques Performing Covert Attention Tasks

Sabrina Mai and Farran Briggs
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University Research Advisor: Ian Fiebelkorn
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CB1R Tolerance in TRN Circuits as a Mechanistic Driver of Chronic THC Withdrawal Symptoms

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Graduate University: Howard University

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Investigating the Brain Circuitry and Intracellular Mechanisms of Cagrilintide and Their Contribution to Semaglutide's Effects

Shakira Rodríguez González, Claire Gao, Chia Li, and Michael Krashes
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University Research Advisor: Yeka Aponte, Patricia Janak, Hey-Kyoung Lee
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Investigating How Genetic Risk for Alzheimer's Disease Reshapes Microglial Vulnerability to Environmental Exposures

Alex Marchi and Elizabeta Gjoneska
Graduate Student: Alex Marchi
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University Research Advisor: Michael Cowley
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Delineating Functional Connectivity of Dopamine-Mediated Threat Circuits

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Investigating the Expression of Kv2 and KvS Subunits in Peptidergic Nociceptors

Giulia Dalaty and Kenton Swartz
Graduate Student: Giulia Dalaty
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Effects of Subregional Silencing of Adult-Born Hippocampal Neurons on Hippocampal Network Activity

Natalie Freedgood and Heather Cameron
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Functional Characterization of a Superior Colliculus to Amygdala Circuit for Visual Processing in Non-Human Primates

Gwen W. Folkert and Richard J. Krauzlis
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Kappa- and Mu-Opioid Receptors are Differentially Compartmentalized and Activated by Endogenous Peptides Across Paraventricular Thalamic Circuits

S. Shirley, S. Hegel, H. Yarur-Castillo, M. Arenivar, V. Tsai, M. Penzo, H. Tejeda
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A Comparison of the Progression to Death in Disease-Free and Neurodegenerative Conditions

Mitchel Kuperstein, Andrew Scott, Kory Johnson, Phillip G. McQueen, and Edward Ginger
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University Research Advisor: Anika Hartz
Graduate University: University of Kentucky

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Increasing KDEL Receptor Expression in the Rat Midbrain Causes ER Stress and a Loss of Dopaminergic Neuron Phenotype

Lacey Greer, Abigail Harr, Reinis Svarcbahs, Katherine Savell, Anna Tischer, Alexander Hoffman, Michael Michaelides, Bruce Hope, Carl Lupica, and Brandon Harvey
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Investigating the Role of Kv4.2 in Regulating Medium Spiny Neurons of the Nucleus Accumbens

Ashley E Pratt and Dax Hoffman
Graduate Student: Ashley Pratt
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Identifying Key Molecules that Supply Synaptic Vesicles at Sensory Synapses

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Design of a Two-Color High-Speed XZ Spinal Imaging System to Study Nociceptive Circuit Dynamics

Chien-Sheng Wang, Xiaomin Lai, and Yuanyuan Liu
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Rescue of APOE4-Mediated Endosomal Dysfunction in Human Astrocytes with Modulation of Endosomal Proteins

Artur Gevorgyan, Lila Gordon, Chris Combs, Linda Yang, Justin Taraska, and Priyanka S. Narayan
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Ventral Striatal Islands of Calleja Complex Projects to Mediodorsal Thalamus via a Distinct Cell Type

Allison Bourd and Yogita Chudasama
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Senataxin Mutation in ALS4 Triggers CHMP7 Mislocalization, Nucleoporin Loss, and Defective Nucleocytoplasmic Transport

Jason Bussgang, Veronica Goveas, Joseph Steiner, Yan Li, Jahan Misra, and Christopher Grunseich
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Identification of Molecular Signals Driving Depression from Choroid Plexus Brain Barrier

Jiyi Xu, Shoupeng Wei, Gang Wang, Li Zhang and David M. Lovinger

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University Research Advisor: Gang Wang
Graduate University: Capital Medical University

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Identification and Interrogation of Novel Long-Range Projecting Hippocampal Somatostatin Interneurons Across Species

Anna Vlachos, Nadiya McLean, Adam Caccavano, Geoffrey Vargish, Lauren Hewitt, Xiaoqing Yuan, Steven Hunt, Elisabetta Furlanis, Yating Wang, Min Dai, Sherry Jingjing Wu, Josselyn Vergara, Ana Pereira, Bram Gorissen, Deepanjali Dwievedi, Justin McMahon, Jordane Dimidschstein, Stefano Antonucci, Hanna Silberberg, Claire Le Pichon, Mark Eldridge, Bruno Averbeck, Gordon Fishell, Kenneth Pelkey, and Chris J. McBain

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Unilateral Damage to Anterior Cingulate Cortex and Amygdala Differentially Disrupts Socioemotional Responses in Macaque Monkeys

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Activity-Dependent Cortical Plasticity *in vivo*: Perturbing Input to Drive Learning

Nina G. Friedman, Connor M. Phillips, Jonathan O'Rawe, Paul K. LaFosse, and Mark H. Histed

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Longitudinal Factorization of Youth Psychopathology in the Adolescent Brain Cognitive Development (ABCD) Study

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Noisy Environments Demand More Cognitive Effort from Autistic Listeners

Ryan J Oakeson, Sarah White, Sophie Scott, and Allison C Nugent

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Characterizing the Ion-Conductive State of the Alpha-nAChR via Single-Channel Measurements and Molecular Dynamics Simulations

Nauman Sultan, Gisela D. Cymes, Ada Chen, Bernard Brooks, Claudio Grosman, and Ana Damjanovic

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Understand the Wnt Signaling Pathways Role in Neural Stem Cell Trajectories and Adult Neurogenesis during Injury Induced Regeneration

Brittany Brooks, Whitney Heavner, and John Ngai
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Do Biological Pretrained Models Capture Shared or Domain-Specific Structure Across Patients and Cell Lines?

Yoshitaka Inoue, Minoh Jeong, Alfred Hero, Rui Kuang, and Augustin Luna
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Emergence of Primate-Specific Thalamocortical Projections from a Conserved Transcriptomic Architecture

Angela Y Fan, Maryam Majeed, Huihui Qi, Noah M Kuehn, Jack T Scott, Sabrina Cheng, Huiqing Zhan, Justus M Kebschull, Xiaoyin Chen, and James A Bourne
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MechaTerp: A Mechanistic-Interpretability Framework for Tracing Hallucination Pathways in Large Language Models

Brandon Colelough, Davis Bartels, Madeline Bittner, and Dina Demner-Fushman
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Monitoring Protein Kinase A Activity in Dopamine Receptor-Expressing Populations of the Central Amygdala During Feeding

Sarah Chaudhry, Damien Kerspern, and Andrew Lutas
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Engineering FAIR Privacy-Preserving Applications that Learn Histories of Disease

Ines N. Duarte, Praphulla M. S. Bhawsar, Lee K. Mason, Jeya Balaji Balasubramanian, Daniel E. Russ, Arlindo L. Oliveira, and Jonas S. Almeida
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A New Pontine Center in Descending Pain Control

Tianming Li, Wenjie Zhou, Jin Ke, Matthew Chen, Zhen Wang, Lauren Hayashi, Xiaojing Su, Wenbin Jia, Wenxi Huang, Chien-Sheng Wang, Kapsa Bengyella, Yang Yang, Rafael Hernandez, Yan Zhang, Xinglei Song, Tianle Xu, Tianwen Huang, and Yuanyuan Liu
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Integrating Computational Genomics and Machine Learning to Advance piRNA Cluster Discovery Across Species

Franziska Ahrend, Parthena Konstantinidou, Zuzana Loubalova, Gunter Meister and Astrid D. Haase
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Heterogeneous Maturation of GPe Neurons Modulates Age-Dependent Ethanol Effects

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AniAnn's: Fast and Accurate Annotation of Tandem Repeats

Alexander Sweeten, Michael Schatz, and Adam Phillippy
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Thermal Pain Tolerance Depends on Stimulus Duration and Thermode Type

Yi Wei, Julie S.P. Storkson, Kai Sherwood, Maya Joshi Delity, Titilola Akintola, Troy C. Dildine, Hayley Owens and Lauren Y. Atlas
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Using Retinal Organoid Technology to Study Dysregulation of Retinal Metabolism Caused by ACO2 Dysfunction

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NIH Research Advisor: Brian Brooks
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Investigating the Role of NR6A1 in Ocular Development and Coloboma

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