16th ANNUAL

Office of Intramural TRAINING & EDUCATION
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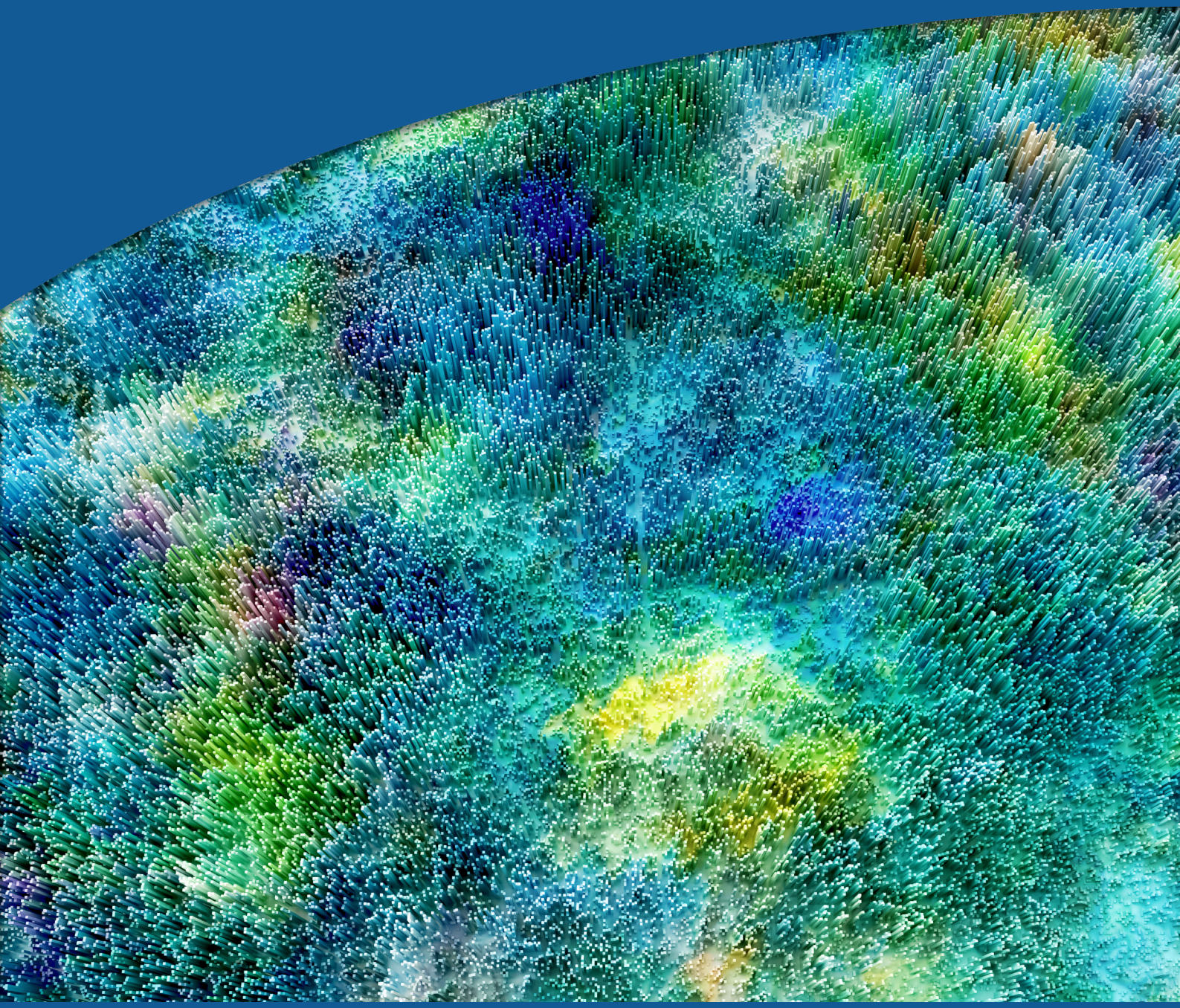
NIH GRADUATE STUDENT RESEARCH SYMPOSIUM: **FACES OF TOMORROW'S SCIENCE**

FEBRUARY 20, 2020

NIH NATCHER CONFERENCE CENTER, BETHESDA, MARYLAND



NIH National Institutes of Health

16th ANNUAL

NIH GRADUATE STUDENT RESEARCH SYMPOSIUM

FACES OF TOMORROW'S SCIENCE

2020

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

FOREWORD

Every year, the National Institutes of Health (NIH) Graduate Student Research Symposium showcases the breadth of scientific research and the achievements of the graduate student community at the NIH. The symposium is the largest graduate student event of the year - an event in which graduate students can come together to share their research, appreciate the work of their colleagues, and celebrate the successes of the graduate student community.

In its sixteenth year, this annual symposium provides an opportunity to acknowledge the scientific accomplishments of the hundreds of graduate students working on their dissertation research at the NIH. This symposium highlights the 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.

This symposium will provide the graduate student community with the chance to hear about the scientific work of our peers in several formats. In the morning, we will hold our 4th annual elevator pitch competition in which current graduate students will be judged on their ability to explain their science to a general audience in two minutes or less. The symposium will commence with opening remarks by the Director of the Office of Intramural Training and Education (OITE), Dr. Sharon Milgram, followed by four oral presentations from current students who will present scientific talks chosen based on scientific merit and diversity. Students will then present their research through scientific posters 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 OITE.

In the afternoon, we will be honored to welcome our keynote speaker, Dr. Todd Kashdan. As a professor of clinical psychology, Dr. Kashdan has devoted his life to understanding how people can improve their quality of life through the study of positive psychology. After earning his PhD in clinical psychology from the University at Buffalo, he began a multifaceted and prolific career at George Mason University, where he now holds positions as a professor in the Department of Psychology and as a senior scientist at the Center for the Advancement of Well-Being. Dr. Kashdan conducts psychological studies to understand happiness, stress and anxiety, social relationships, and general well-being, and has made it his goal to use science to help people improve their lives. Along the way, he has published multiple books, including "Curious? Discover the missing ingredient to a fulfilling life" and "The upside of your dark side: Why being your whole self - not just your "good" self - drives success and fulfillment", which aim to help the public understand the science behind how to achieve a well-lived life and tools to do so. He is a regular contributor to Psychology Today and has served as a scientific consultant for National Geographic, in addition to many academic editorial activities. NIH graduate students will be inspired by his illustrious career path, his dedication to scientific progress, and his commitment to sharing his science with the public.

After the keynote address, we will present the awards for outstanding research mentors. 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. Four outstanding mentors nominated by their students will be honored for their leadership, support, and dedication to their graduate students. Afterwards, we will conclude the day with a graduate ceremony to recognize those students who have defended their dissertations within the past year. Dr. Sharon Milgram will present the recent graduates with a certificate in honor of their accomplishments.

We are thankful for the opportunity to share our research with the entire NIH community at the 16th Annual NIH Graduate Student Research Symposium. We thank all of the graduate students who have participated in this event and those who have provided us with continuous support in our scientific careers. We hope this event establishes new connections and collaborations and inspires future scientific contributions to the community at the NIH.

ACKNOWLEDGEMENTS

We are grateful to the Training and Scientific Directors of the NIH Institutes and Centers, the Graduate Partnerships Program (GPP) Directors, and the Graduate Student Council (GSC) for their continuous support of the graduate student community and for the opportunity to recognize the achievements of the NIH graduate students at this symposium. We would like to thank Dr. Gail Seabold and Dr. Laura Marler for organizing the symposium poster session, and we acknowledge the effort of the postdoctoral fellow and staff scientist judges for helping to make the poster competition possible. We would like to thank the 2019 GSC co-chairs Albert Sek and James Stamos for managing 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 Office of Intramural Training and Education (OITE). We are especially thankful for Dr. Sharon Milgram, Dr. Philip Wang, Dr. Phil Ryan, Dr. Laura Marler, and other OITE staff who have contributed significantly to the planning of this event. We would like to extend a big thank you to Dr. Todd Kashdan for his enthusiasm and willingness to deliver our keynote address. Finally, we would like to thank the graduate students, mentors, alumni, and all attendees whose participation made this event successful.

THE 16TH ANNUAL NIH GRADUATE RESEARCH SYMPOSIUM COMMITTEE

Mor Alkaslasi, NICHD, Brown University
Yuanyi Dai, NINDS, Peking University
Maryam Mukhamedova, NIAID, Johns Hopkins University
Thomas Pranzatelli, NIDCR, University of Maryland, College Park
James Stamos, NCI, Georgetown University

PROGRAM OF EVENTS

16TH ANNUAL NIH GRADUATE STUDENT RESEARCH SYMPOSIUM "THE FACES OF TOMORROW'S SCIENCE" • FEBRUARY 20, 2020

9:00 am-10:00 am Registration in Natcher Conference Center Lower Lobby	**ELEVATOR PITCH COMPETITION**
10:00 am-11:45 am Ruth L. Kirschstein Auditorium	**WELCOME AND KEYNOTE ADDRESS** Sharon L. Milgram, Ph.D. Director, NIH Office of Intramural Training and Education Todd Kashdan, Ph.D. Director, George Mason University Well-Being Laboratory
12:00 pm-1:00 pm Atrium	**POSTER SESSION I** Odd numbered posters presenting
1:00 pm-2:00 pm Atrium	**POSTER SESSION II** Even numbered posters presenting
2:15 pm-3:45 pm Ruth L. Kirschstein Auditorium	**STUDENT ORAL PRESENTATIONS** Dennis Burke, Brown University, NIAAA Lateral inhibition between nucleus accumbens neurons shapes behavioral ensembles Sara Mithani, Unviersity of Illinois at Chicago, NINR High Throughput Sequencing of the Transcriptome in Individuals with Insomnia Simona Patange, University of Maryland, College Park, NCI A living, single cell view of MYC's effects in transcriptional bursts Meg Goswami, George Washington University, NHLBI Immunological features of immune-related adverse events during anti-PD-1 immune checkpoint inhibition in relapsed/refractory AML
3:45 pm-4:45 pm Ruth L. Kirschstein Auditorium	**GRADUATION CEREMONY** Certificates presented by: Sharon L. Milgram, Ph.D., Director, NIH Office of Intramural Training and Education Outstanding Mentor Awards NIH Graduate Student Research Awards (NGSRAs) Awarded to the winners of the poster competition

GPP GRADUATION AWARD RECIPIENTS

GPP GRADUATION AWARD RECIPIENT, DISSERTATION TITLE	NIH IC, MENTOR	UNIVERSITY, UNIVERSITY MENTOR
Allison Frances Dennis Investigating Chromatin Accessibility Through a Novel Long Read Sequencing Approach	NICHD Dr. David Clark	Johns Hopkins University
Sarah Deasy A Novel Rnaseh2c-Immune Response Axis in Breast Cancer Alters Tumor Progression and Metastasis	NCI Dr. Kent Hunter	The George Washington University
Michael J. DiPrima Eph Receptor Signaling Controls Colorectal Carcinoma Cell Proliferation and Survival	NCI Dr. Giovanna Tosato	The George Washington University Dr. Norman Lee
Larissa Erben Expression and Function of ErbB4 Splice Variants in the Central Nervous System	NICHD Dr. Andres Buonanno	University of Bonn Dr. Andreas Zimmer
Nathan Fridlyand Computational Prediction of Evolutionary Conserved RNA Secondary Structures	NIAID Dr. Jonathan W. Yewdell	University of Camerino Dr. Franco Venanzi
Jennifer Lefeuvre Characterization of Spinal Cord Lesions in the Marmoset EAE Model using MRI and Histopathology Techniques	NINDS Dr. Daniel S. Reich	UPMC, Sorbonne Universités
Jasmin Leshem Combining Immunotoxin with Immune Check Point Inhibitors	NCI Dr. Ira Pastan	Technion - Israel Institute of Technology Dr. Yoram Reiter
Crystal Chari Cole Lipsey Combating Obesity-Related Cancer Outcomes with Leptin Antagonists	NCI Dr. Michael M. Gottesman	Morehouse School of Medicine Dr. Ruben R. Gonzalez-Perez
Zhenhua Liu The Establishment of an Integrative Genomic Database and Analytic Platform for Parkinson's Disease (PD) and Its Application in Gene Diagnosis of Autosomal Recessive PD (ARPD)	NIA Dr. Huaibin Cai	Central South University Dr. Beisha Tang
Laura Marler Knowing Where to Start: eIF2ß and Rps26/eS26 as Determinants of Accurate and Efficient Start Codon Selection for Translation Initiation	NICHD Dr. Alan G. Hinnebusch	The Johns Hopkins University
Joseph Hiram McAbee The Impact of Radiation on Glioblastoma Evolution	NCI Dr. Philip Tofilon	University of Cambridge Dr. Colin Watts
Vincenzo Mercurio HIV-1 Infected Human Lymphoid Tissue Remains Immune-Activated Despite ART: Soluble and Extracellular Vesicle-Associated Cytokines	NICHD Dr. Leonid Margolis	University of Milan Dr. Mara Biasin

GPP GRADUATION AWARD RECIPIENTS

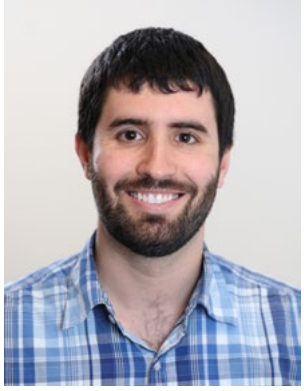
GPP GRADUATION AWARD RECIPIENT, DISSERTATION TITLE	NIH IC, MENTOR	UNIVERSITY, UNIVERSITY MENTOR
Stephanie R. Miller Stability and Scaling of Neuronal Avalanches and Their Relationship to Neuronal Oscillations	NIMH Dr. Dietmar Plenz	University of Maryland College Park Dr. Rajarshi Roy
Sara Mansoorali Mithani High Throughput Sequencing of the Transcriptome in Individuals with Insomnia	NINR Dr. Jessica Gill	University of Illinois at Chicago Dr. Anne Fink
Meghan Tamara Murray Risk Factors for Emerging and Reemerging Infectious Diseases in Children	NINR Dr. Jessica Gill	Columbia University Dr. Elaine Larson
Jeremiah Paskus Synaptic Kalirin-7 and Trio Interactomes Reveal a GEF Protein-dependent Neuroligin-1 Mechanism of Action	NINDS Dr. Katherine Roche	Georgetown University
Stephanie M. Prescott Perinatal Antibiotic Prophylaxis—Friend or Foe?	NINR Dr. Giorgio Trinchieri	University of Virginia Dr. Jessica Keim-Malpass
Paul Reardon The Neurotopography of Gene Expression, Anatomical Scaling, and Sex Chromosome Aneuploidy	NIAID Dr. Katherine Stagliano	University of Oxford Dr. Robert Gilbert
Amanda Claire Rhodes Psychological Flexibility, Pain Characteristics and Risk of Opioid Misuse in Noncancerous Chronic Pain Patients	NCI Dr. Staci Martin	Kean University
Samarjeet Accelerated Computing for Molecular Dynamics Simulations	NHLBI Dr. Bernard R. Brooks	Johns Hopkins University Dr. Thomas Woolf
Jessica Lee Schneller Novel Genomic Treatments for Methylmalonic Acidemia	NHGRI Dr. Charles Venditti	SUNY Stony Brook
Nicholas Sciascia Development of a Novel DNA Break Capture Method to Study the Repair Dynamics of Topoisomerase-DNA Lesions	NCI Dr. Andre Nussenzweig	George Washington University Dr. Norman Lee
Fayaz T. Seifuddin lncRNAKB: A Comprehensive Knowledgebase of Long Non-Coding RNAs	NHLBI Dr. Mehdi Pirooznia	George Mason University Dr. Saleet Jafri
Lisa M. Shank Stress, Loss of Control Eating, and Physical Health in Youth	NICHD Dr. Jack Yanovski	Uniformed Services University of the Health Sciences Dr. Marian Tanofsky-Kraff

GPP GRADUATION AWARD RECIPIENT, DISSERTATION TITLE	NIH IC, MENTOR	UNIVERSITY, UNIVERSITY MENTOR
Andrew James Smith Characterization of the Mitochondrial Protein GATD3A (Glutamine Amidotransferase Like Class 1 Domain Containing 3A)	NEI Dr. Anand Swaroop	University College Dublin Dr. Breandán Kennedy
Lorna I. F. Smith Transducer of Regulated CREB Activity in ACTH-mediated Star Transcription.	NICHD Dr. Greti Aguilera	University of Bristol Dr. Francesca Spiga
Carly Elizabeth Camille Starke SIV-Specific CD8+ T Cells Are Phenotypically, Functionally, and Clonotypically Distinct Across Lymphoid and Mucosal Tissues	NIAID Dr. Jason Brenchley	Georgetown University
Pablo Vidal-Ribas Belil Trajectories, Cognitive Mechanisms, and Treatment Response of Irritability in Children and Adolescents	NIMH Dr. Argyris Stringaris	King's College London Dr. Andrew Pickles
Talah Talaat Wafa A New Paradigm in Assessing Postural Stability	NIDCD Dr. Carmen Brewer	Gallaudet University Dr. Matthew Bakke
Jessica Walls PKM2 Regulation of Metabolism but not Transcription Is Important for Natural Killer Cell Responses	NCI Dr. Daniel McVicar	Trinity College Dublin Dr. David Finlay
Sing-Wai Wong The Role of Autophagy Machinery in Osteoclast Disease Pathogenesis	NIEHS Dr. Jennifer Martinez	University of North Carolina at Chapel Hill Dr. Ching-Chang Ko
Idalia Montano Yabe Barcoding of Macaque Hematopoietic Stem and Progenitor Cells: A Robust Platform to Assess Vector Genotoxicity	NHLBI Dr. Cynthia Dunbar	Georgetown University
Ka Chun Yau In Vivo Analysis of the Cellular Functions of Ran Binding Protein 1	NICHD Dr. Mary Dasso	The Chinese University of Hong Kong Dr. Kwok Pui Fung
Wei Zhao The Function of AKT in NLRP3-related Inflammasome Activation	NIAID Dr. John Kehrl	Sichuan University Dr. Min Wang

KEYNOTE SPEAKER

A world-recognized authority on well-being, strengths, social relationships, stress, and anxiety, Dr. Todd Kashdan has published over 200 scholarly articles and is the author of *The Upside of Your Dark Side: Why being your whole self - not just your "good" self - drives success and fulfillment* (Hudson Street Press), among other books. Dr. Kashdan is Professor of Psychology and Senior Scientist at the Center for the Advancement of Well-Being at George Mason University. Honors include distinguished faculty member of the year and early career awards from the American Psychological Association, Association for Behavioral and Cognitive Therapies, and International Society for Quality of Life Studies. He gives keynotes and workshops to organizations as diverse as the United States Department of Defense, Hormel, General Mills, Gensler, the Gap, and Standard Chartered Bank. His research has been featured in several media outlets, including the Harvard Business Review, New York Times, and Washington Post. He's a twin with twin 13-year old daughters, with plans to rapidly populate the world with great conversationalists.

STUDENT SPEAKERS



Dennis Burke is a 6th year PhD candidate in the Brown University-NIH GPP, currently working in the laboratory of Dr. Veronica Alvarez. Dennis graduated from Duke University in 2012, earning a BS in Neuroscience with Distinction. For his undergraduate senior honors thesis, Dennis investigated the role of dopamine receptors in the insula cortex — a brain region involved in conscious interoception — in regulating nicotine self-administration. Following graduation, Dennis worked as a Research Technician at Duke studying the ability of nicotinic agonists and antagonists to modulate learning and memory. Since joining Dr. Alvarez's lab at the National Institute on Alcohol Abuse and Alcoholism, Dennis' dissertation research has focused on understanding the microcircuitry of the nucleus accumbens, a brain region involved in motivation and reward learning with important relevance to psychiatric diseases including addiction and depression. Specifically, he is focused on understanding the organization and modulation of inhibitory synapses between projection neurons ultimately informing how the accumbens processes information. Dennis is grateful for this opportunity to share his research with the NIH graduate student community!

Sara Mansoorali Mithani is a fourth-year Ph.D. candidate in the individual graduate partnership program between the University of Illinois Chicago and the NIH-National Institutes of Nursing Research (NINR). Sara received her Bachelor of Science in Nursing from Case Western Reserve University in 2016, and it was there she found her passion for translational and sleep research in the neuroscience laboratory of Dr. Michael Decker. During the first two and a half years of her Ph.D., Sara conducted research in an animal lab investigating the impact of experimental shift-work on circadian patterns in blood pressure and heart rate variability in the lab of Dr. Anne M. Fink. Sara also used optogenetics to determine how neuronal networks in the pons regulate cardiorespiratory responses to experimental sleep apnea. After spending two summers at the NIH as a Graduate Summer Opportunities to Advance Research (G-SOAR) Fellow in 2017 and at the Summer Genetics Institute in 2018, she joined the lab of Dr. Jessica Gill at NINR as a GPP Fellow. Dr. Gill's lab is currently developing a novel line of biomarker research in an effort to reveal the mechanisms underlying differential responses to traumatic brain injury. Sara completed her dissertation research utilizing high throughput RNA-sequencing technology to understand transcriptomic changes in individuals with insomnia, which is a common sleep disorder with debilitating consequences. Sara is grateful for the support of her many mentors during her doctoral research. She would also like to thank OITE and GPP for the opportunity to share her work with the NIH community.

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Simona Patange is a PhD Candidate in Biophysics in her sixth year with the University of Maryland-NCI GPP. She is co-advised by Dr. Daniel Larson (NCI), Dr. Michelle Girvan (UMD), and Dr. David Levens (NCI). For her dissertation, Simona used optogenetic engineering to create a variant of the c-MYC oncogene that can be controlled with light. She combined this tool with single-molecule imaging to obtain the first real-time observations of how MYC affects transcription factor binding activity and gene expression events in single living cells. Simona holds a B.S. in Molecular Biology, a B.S. in Psychology, and a minor in Physics from Portland State University in Oregon. Prior to the GPP, Simona was an NIH summer student with Dr. Petr Kalab at NCI and Dr. Hari Shroff at NIBIB, and a Postbaccalaureate IRTA with Dr. Rosa Puertollano at NHLBI. At the NIH, Simona has contributed articles to the online blog of the NIH Intramural Research Program, has judged for NIH Postbac Poster Day, and has served as a lecturer for the FAES course BIOL262: Research Tools for Studying Disease. Simona also participates in research studies at the Clinical Center through the NIMH Healthy Research Volunteer Program. Outside of the NIH, Simona was recruited by NHGRI to be a docent for the Smithsonian exhibit, Genome: Unlocking Life's Code at the National Museum of Natural History in Washington, D.C. Last year, Simona's science outreach took her to Maryland State Capitol in Annapolis, where she met with legislators on behalf of the Biophysical Society to discuss the importance of funding scientific research and the impact it has on the state's economy. Simona is grateful to her many colleagues and mentors for making the NIH an inspiring place to work.

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Meghali Goswami is a final year PhD candidate in the George Washington University — NIH GPP. Following graduation from Rice University in 2009, she worked at MD Anderson evaluating molecular responses in patients with cutaneous T cell lymphomas treated with experimental immunotherapies. In 2012, Meg joined the NIH as an IRTA fellow at NHLBI in the Laboratory of Myeloid Malignancies under the mentorship of Dr. Christopher Hourigan, whose lab is dedicated to finding ways of detecting, preventing, and treating acute myeloid leukemia (AML) relapse. She enjoyed the work and the environment so much that she opted to stay for her doctoral studies. Meg's dissertation research revolves around immunotherapeutic strategies for the treatment of relapsed/refractory AML, with the ultimate goal of understanding T cell dynamics during immune checkpoint inhibition in these patients and gaining mechanistic insight into the development of immune-related adverse events. Through her work, she has developed a deep appreciation for the balance between cancer and autoimmunity. Meg is incredibly grateful for the opportunity to conduct research at the NIH and the support she has received from her mentors, colleagues, and the greater NIH-GPP community.

OUTSTANDING MENTOR AWARD RECIPIENTS

Suzanne Fenton received her B.S., M.S., and Ph.D. from the University of Wisconsin-Madison in endocrinology and reproductive physiology. She completed her post-doctoral work at the University of North Carolina's Lineberger Comprehensive Cancer Center in the area of cancer biology. Sue worked as a principal investigator at the U.S. Environmental Protection Agency's Reproductive Toxicology Division for 11 years before transitioning to the National Institute of Environmental Health Science, where she currently serves as Group Leader of the National Toxicology Program (NTP) Reproductive Endocrinology Group. Sue's research strives to help us understand the impact of environmental exposures on human health. She is particularly interested in understanding mechanisms of chemical effects on the rodent maternal:fetal unit, especially as it pertains to long-term risk for disease to the mother and offspring. Over the past 25 years, Sue has mentored some 50 young researchers, and she currently mentors four students. In addition to being an outstanding mentor, Sue herself has achieved several notable awards in recent years, including research awards from the US EPA and Merit awards for her service and research from the NIEHS

Iain Fraser is Chief of the Signaling Systems Section and a Senior Investigator in the Laboratory of Immune System Biology at the National Institute of Allergy and Infectious Disease at the NIH. He received his B.S. in biochemistry from Heriot-Watt University, Edinburgh, and his Ph.D. in biochemistry from Imperial College, University of London. He was a Wellcome Trust International Prize postdoctoral fellow at the Vollum Institute before joining the Alliance for Cellular Signaling (AfCS) research consortium at the California Institute of Technology. He led the AfCS Molecular Biology Laboratory at Caltech before joining NIAID in 2008. His research focuses on the mechanistic basis of cellular signaling, particularly in the context of regulation of inflammatory responses in cells of the innate immune system. His lab uses systems biology approaches to decipher how macrophage cells respond to pathogenic and host stimuli through pattern recognition receptors to ensure appropriate context-dependent cellular responses. This is vital to understanding how defects in information processing through these receptors and their linked signal transduction pathways regulates inflammation in the context of human disease.

OUTSTANDING MENTOR AWARD RECIPIENTS

Irini Sereti received her MD from the University of Athens in Greece and then completed her Internal Medicine and Chief Residency at Northwestern University in Chicago, IL. She joined the Infectious Disease fellowship program at the intramural NIAID/NIH under the mentorship of Cliff Lane and completed a Master's degree in health sciences from Duke University during her fellowship. She subsequently remained at NIAID in the Laboratory of Immunoregulation, initially as a staff clinician and later as a tenure track investigator. In 2015 she received tenure and is currently a Senior Investigator and the Chief of the HIV Pathogenesis Section. Dr. Sereti is a principal investigator on several clinical protocols and leads her own laboratory that focuses on bench work stemming from the clinical protocols. Her translational research is focusing on both acute (IRIS) and chronic inflammation in HIV as well as on idiopathic CD4 lymphopenia with a focus on pathogenesis and immune-based therapies. She has published more than 150 peer reviewed articles and has been the proud mentor of many students and physician scientists.

STUDENTS *Listed alphabetically by name*

Poster #	Last Name, First	IC	University
1	Abaandou, Laura	NIDDK	George Mason University
2	Abudi, Shachar	NHGRI	Tel Aviv University
4	Alkaslasi, Mor	NICHD	Brown University
3	Alsadhan, Anfal	NHLBI	Catholic University of America
5	AlZamzami, Waseem	NCI	Catholic University of America
6	Amalou, Amel	CC	American University of Leadership
7	Aoyama, Jordan	NICHD	University of Maryland, College Park
8	Arroyo-Mendoza, Melissa	NIDDK	Iowa State University
9	Bao, Lingyu	NICHD	Xi'an Jiaotong University
11	Bashant, Kathleen	NIAMS	University of Cambridge
13	Bellotti, Adriano	NICHD	University of Cambridge
10	Blake, Bevin	NIEHS	University of North Carolina at Chapel Hill
12	Boehm, Matthew	NIDA	Brown University
15	Bronder, Daniel	NCI	University of Manchester
14	Burke, Dennis	NIAAA	Brown University
16	Byrne, Meghan	NICHD	Uniformed Services University of the Health Sciences
17	Cai, Teddy	NICHD	University of Oxford
18	Chambers, Michael	NHGRI	Georgetown University
19	Chapman, Joseph	NHLBI	Johns Hopkins University
20	Cheff, Dorian	NCATS	Karolinska Institutet
22	Chen, Zibo	NCI	Zhejiang University
21	Cheng, Kuoyuan	NCI	University of Maryland
24	Chidester, Stephanie	NINR	University of Missouri-St. Louis
23	Chopp, Laura	NCI	University of Pennsylvania
25	Coomer, Charles	NCI	University of Oxford
26	Coon, Matthew	NIMH	University of Maryland, College Park
28	Corcoran, Sean	NCI	University of Cambridge
27	Crawford, David	NCI	University of Maryland, College Park
30	Dai, Yuanyi	NINDS	Peking University
32	Delgado, José	CC	University of Maryland, College Park
29	Dhungana, Gunaraj	NCI	Tribhuvan University
31	Diederichs, Kathryn	NIDDK	Johns Hopkins University
34	Dildine, Troy	NCCIH	Karolinksa Institutet
36	Dong, Jie	NIA	Dalian Medical University
38	Erucar, Fatma Memnune	NCI	Istanbul University, Department of Pharmaceutical Science
33	Faragalla, Youssef	NINDS	George Mason University

STUDENTS *Listed alphabetically by name*

Poster #	Last Name, First	IC	University
35	Fenimore, John	NCI	University of Maryland, Baltimore County
37	Foss, Amelia	NCI	University of Cambridge
42	Gao, Claire	NIMH	Brown University
39	Gasilina, Anjelika	NCI	Georgetown University
41	Ghorbani, Mahdi	NHLBI	University of Maryland, College Park
44	Gibbs, Carla	NCI	Meharry Medical College
46	Gordovez, Francis James	NIMH	University of the Philippines, Manila
43	Goswami, Meghali	NHLBI	George Washington University
48	Grant, Christopher	NCI	Georgetown University
45	Gray, Justin	NCI	Johns Hopkins University
50	Haley, Natalie	NCI	The George Washington University
47	Hogan, Chad	NCI	Stony Brook University
49	Huffer, Katherine	NINDS	Johns Hopkins University
52	Huntzicker, Kathleen	NIMH	Brown University
54	Jung, Olive	NCATS	University of Oxford
51	Kabrah, Ahmed	NIDCR	Howard University
56	Kacar, Zeynep	NCI	University of Maryland, College Park
58	Keary, Kevin	NIMH	Brown University
53	Khatib, Subreen	NCI	Georgetown University
60	Kim, Jung Hyun	NIAID	University of Maryland
62	Kistler, William	NINDS	University College London
64	Kluss, Jillian	NIA	University of Reading
66	Kolluri, Aarti	NCI	Mayo Clinic College of Medicine and Science
55	Konzman, Dan	NIDDK	Johns Hopkins University
57	Kuo, Pei-Lun	NIA	Johns Hopkins University
68	Lam, Ruby	NCCIH	Brown University
59	Langston, Rebekah	NIA	University of Arkansas for Medical Sciences
61	Levy, Emily	NHLBI	The George Washington University
70	Lewis, Dana	NINDS	The George Washington University
72	Li, Xiaoyi	NINDS	Johns Hopkins University
74	Liang-Guallpa, Jing	NIDDK	Brown University
76	Licholai, Julia	NIDCR	Brown University
78	Liu, James	NEI	Johns Hopkins University
63	Lukasz, Daria	NIDCD	Johns Hopkins University
80	Ma, Jing	NIAAA	Southern Medical University
82	Mackenzie-Gray Scott, Connie	NICHD	Newcastle University

Poster #	Last Name, First	IC	University
84	Masih, Katherine	NCI	University of Cambridge
65	Mason, Hannah	NINDS	University of Cambridge
86	Matson, Kaya	NINDS	Johns Hopkins University
67	Matus Nicodemos, Rodrigo	NIAID	Johns Hopkins University
69	Mauge-Lewis, Kevin	NIEHS	University of North Carolina, Chapel Hill
71	Meadows, Allison	NHLBI	University of Cambridge
73	Mercurio, Vincenzo	NICHD	University of Milan
75	Michelis, German	NEI	Universidad Nacional del Sur
88	Mithani, Sara	NINR	University of Illinois at Chicago
90	Mkrtchian, Anahit	NIMH	University College London
77	Morse, David	NCATS	University of Cambridge
92	Mueller, Lauren	NIDA	The State University of New York at Buffalo
79	Mule, Matthew	NIAID	University of Cambridge
94	Murray, Béga	NCI	Queen's University Belfast
81	Nathan, Willian	NCI	University of Oxford
83	Nguyen, Thuan	NIAID	Georgetown University
96	O'Brien, Aidan	NCI-DCEG	Queen's University Belfast
85	Ortolan, Davide	NEI	Universita' dell'Aquila
87	Paiano, Jacob	NCI	University of Pennsylvania
98	Palmieri, Laura	NEI	Newcastle University
100	Pan, Jiajia	NCI	East China Normal University
102	Parker, Megan	NICHD	Uniformed Services University of the Health Sciences
89	Patange, Simona	NCI	University of Maryland, College Park
91	Patkar, Sushant	NCI	University of Maryland
93	Phung, Emily	NIAID	The George Washington University
104	Piccus, Zoe	NICHD	Brown University
95	Pitt, Ashley	NIDDK	Johns Hopkins University
106	Porras, Christina	NICHD	Brown University
97	Pourshafie, Naemeh	NINDS	The George Washington University
99	Pranzatelli, Thomas	NIDCR	University of Maryland, College Park
108	Qanash, Husam	NHLBI	Catholic University of America
110	Rajagopal, Jayasai	CC	Duke University
112	Ren, Ruixue	NIAAA	Anhui Medical University
101	Ren, Tianyi	NIAAA	Jilin University
114	Rivera, Luis	NCCIH	Universidad Central Del Caribe
103	Robinson, Welles	NCI	University of Maryland, College Park

STUDENTS *Listed alphabetically by name*

Poster #	Last Name, First	IC	University
116	Ronzetti, Michael	NCATS	University of Maryland
118	Rosenthal, Justin	NINDS	University of Maryland, College Park
105	Roy, Siddharth	NCI-DCEG	University of Maryland, Baltimore County
120	Sabir, Marya	NINDS	University of Oxford
122	Saglam, Aybike	NINDS	University of Maryland, College Park
107	Sangare, Kotou	NCI	Howard University
124	Sass, Dilorom	NINR	University of Nebraska Medical Center
126	Schmidt, Keith	NCI	Utrecht University
128	Schone, Hunter	NIMH	University College London
109	Sek, Albert	NIAID	University of California, Los Angeles
130	Shaikh, Ahmad	NHLBI	Catholic University of America
132	Shammas, Mario	NINDS	University of Cambridge
134	Shi, Bo	NINDS	University of Maryland, College Park
111	Shumway, Lukas	NIDA	Johns Hopkins University
113	Smith, Kyle	NCI	Stony Brook University
136	Stamos, James	NCI	Georgetown University
115	Sun, Willy	NIDCD	University of Maryland, College Park
117	Taumoefolau, Grace	NIDDK	Johns Hopkins University
119	Tekin Turhan, Ferda	NIA	Cukurova University
121	Tilson, Samantha	NIDDK	University of Cambridge
123	Truong, Lynda	NHLBI	University of Oxford
125	Tumas, Keyla	NIAID	Georgetown University
127	Vega Sendino, Maria	NCI	Universidad Autónoma de Madrid
129	Wagh, Kaustubh	NCI	University of Maryland, College Park
131	Wang, Lawrence	NIAID	University of Oxford
138	Wei, Yong	NIA	Wuhan University
140	Whitted, Calandra	NHGRI	Florida A&M University
142	Wright, Andrew	NIDA	Brown University
133	Yau, Ka Chun	NICHD	Chinese University of Hong Kong
144	Yenkoidiok Douti, Lampouguin	NIAID	University of Maryland, College Park
135	Zhang, Mengyang	NHLBI	The George Washington University
137	Zhang, Zinan	NIAID	University of Cambridge (PhD) / Harvard Medical School (MD)

POSTERS

1

Novel Gene Targets for Improved Recombinant Protein Expression in the HEK293 Cell Line
Laura I. Abaandou, Ashish Sharma, Joseph Shiloach
Graduate Student Name: Laura I. Abaandou
NIH Institute-Center: NIDDK
NIH Research Advisor: Dr. Joseph Shiloach
University Research Advisor: Dr. Barney Bishop
Graduate University: George Mason University

2

Hermansky-Pudlak Syndrome: Molecular, Cellular, Pathological and Therapeutic Aspects
Shachar Abudi, Hadass Pri-Chen, Steven Bodine, John D. Burke, Bernadette Gochuico, May C. Malicdan, William A. Gahl, Anikster Yair
Graduate Student Name: Shachar Abudi
NIH Institute-Center: NHGRI
NIH Research Advisor: Dr. William Gahl
University Research Advisor: Prof. Yair Anikster
Graduate University: Tel Aviv University

3

Pharmacodynamic Analysis of BTK Inhibition in Patients with Chronic Lymphocytic Leukemia Treated with Acalabrutinib
Anfal Alsadhan, Adrian Wiestner
Graduate Student Name: Anfal Alsadhan
NIH Institute-Center: NHLBI
NIH Research Advisor: Dr. Adrian Wiestner
University Research Advisor: Dr. Pamela L Tuma
Graduate University: Catholic University of America

4

The Impact of Concussion: Understanding Neuronal Injury
Mor R. Alkaslasi and Claire Le Pichon
Graduate Student Name: Mor Alkaslasi
NIH Institute-Center: NICHD
NIH Research Advisor: Dr. Claire Le Pichon
Graduate University: Brown University

5

Understanding the Role of p53 in Leukemia
Waseem A. AlZamzami, Justin Chung, Jing Huang
Graduate Student Name: Waseem A. AlZamzami
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Jing Huang
University Research Advisor: Dr. Justin Chung
Graduate University: Catholic University of America

6

Measuring the Cost Impact of New Technologies in Interventional Oncology
Amel Amalou, Sheng Xu, Barris Turkbey, Hayet Amalou, Thomas Sanford, Victoria Anderson, Peter Pinto, Sharif Mehralivand, Brad Wood
Graduate Student Name: Amel Amalou
NIH Institute-Center: CC
NIH Research Advisor: Dr. Brad F. Wood
University Research Advisor: Dr. Mohamed Zerourou
Graduate University: American University of Leadership

7

Investigating Competition Between the Activities of Dual Function RNAs
Jordan Aoyama and Gisela Storz
Graduate Student Name: Jordan Aoyama
NIH Institute-Center: NICHD
NIH Research Advisor: Dr. Gisela Storz
University Research Advisor: Dr. Leslie Pick
Graduate University: University of Maryland, College Park

8

A Unique rpoD Variant Associated with the *E. coli* Pathobiont LF82
Melissa Arroyo-Mendoza, Nicholas Backes, Kyung Moon, Gregory J. Phillips, Deborah Hinton
Graduate Student Name: Melissa Arroyo-Mendoza
NIH Institute-Center: NIDDK
NIH Research Advisor: Dr. Deborah Hinton
University Research Advisor: Dr. Gregory J. Phillips
Graduate University: Iowa State University

9

SLC7A5 Is Crucial for Maintenance of Intestinal Homeostasis
Lingyu Bao, Liezheng Fu, Robert Liu, Yun-Bo Shi
Graduate Student Name: Lingyu Bao
NIH Institute-Center: NICHD
NIH Research Advisor: Dr. Yun-Bo Shi
University Research Advisor: Dr. Binying Shi
Graduate University: Xi'an Jiaotong University

10

Perfluorooctanoic Acid (PFOA) and Its Replacement, GenX, Disrupt the Maternal-embryo-placenta Unit in CD-1 Mice
Bevin E. Blake, Harlie A. Cope, Samantha M. Hall, Robert D. Keys, Beth W. Mahler, James McCord, Brittany Scott, Heather M. Stapleton, Mark J. Strynar, Susan A. Elmore, Suzanne E. Fenton
Graduate Student Name: Bevin E. Blake
NIH Institute-Center: NIEHS
NIH Research Advisor: Dr. Suzanne E. Fenton
Graduate University: University of North Carolina, Chapel Hill

POSTERS

11

The Intersection of Neutrophil Biophysical Properties and Immune Function in Health and Inflammatory Disease
Kathleen Bashant Day, Yvonne Baumer, Angel Aponte, Nehal N. Mehta, Charlotte Summers, Edwin R. Chilvers, Mariana J. Kaplan
Graduate Student Name: Kathleen Bashant Day
NIH Institute-Center: NIAMS
NIH Research Advisor: Dr. Mariana J. Kaplan
University Research Advisors: Dr. Charlotte Summers, Dr. Edwin R. Chilvers
Graduate University: University of Cambridge

12

Advancing Novel Neuromodulation Tools using Positron Emission Tomography
Matt Boehm, Hank Jedema, Jordi Bonaventura, Juan Gomez, Elliot Stein, Charles Bradberry, Mike Michaelides
Graduate Student Name: Matt Boehm
NIH Institute-Center: NIDA
NIH Research Advisor: Dr. Mike Michaelides
University Research Advisor: Dr. Theresa Desrochers
Graduate University: Brown University

13

The Microtubule Transport Profile of Kv4.2 in Axons Versus Dendrites Opposes and Corroborates Its Functional Distribution
Adriano Bellotti, Jon Murphy, Lin Lin, Fulvio Forni, Dax Hoffman, Timothy O'Leary
Graduate Student Name: Adriano Bellotti
NIH Institute-Center: NICHD
NIH Research Advisor: Dr. Dax Hoffman
University Research Advisor: Dr. Timothy O'Leary
Graduate University: University of Cambridge

14

Lateral Inhibition Between Nucleus Accumbens Neurons Shapes Behavioral Ensembles
Dennis A. Burke, Veronica A. Alvarez
Graduate Student Name: Dennis A. Burke
NIH Institute-Center: NIAAA
NIH Research Advisor: Dr. Veronica Alvarez
Graduate University: Brown University

15

Modeling Chromosome Instability in High Grade Serous Ovarian Cancer
Daniel Bronder, Daniela Hirsch, Anthony Tighe, Louisa Nelson, Darawalee Wangsa, Bjorn Bakker, Diana Spierings, Floris Foijer, Kerstin Heselmeyer-Haddad, Thomas Ried, Stephen Taylor
Graduate Student Name: Daniel Bronder
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Thomas Ried
University Research Advisor: Prof. Stephen Taylor
Graduate University: University of Manchester

16

Loss of Control Eating and Trait Anxiety in Relation to Serum Leptin and Dietary Intake among Youth
Meghan E. Byrne, Marian Tanofsky-Kraff, Manuela Jaramillo, Lisa M. Shank, Sarah LeMay-Russell, Sarah G. Rubin, Sophie Ramirez, Deborah R. Altman, Alexa C. Crist, Natasha A. Schvey, Sheila M. Brady, Lauren B. Shomaker, Amber B. Courville, Merel Kozlosky, Miranda M. Broadney, Jack A. Yanovski
Graduate Student Name: Meghan E. Byrne
NIH Institute-Center: NICHD
NIH Research Advisor: Dr. Jack A. Yanovksi
University Research Advisor: Dr. Marian Tanofsky-Kraff
Graduate University: Uniformed Services University of the Health Sciences

17

An *in vitro* Device to Deliver Induced Electromagnetic Fields to Cell and Tissue Cultures with Applications to Glioblastoma Multiforme (GBM) Treatment
Teddy X. Cai, Rea Ravin, Randall H. Pursley, Marcial Garmendia-Cedillos, Ping Zhuang, Tom Pohida, Raisa Z. Freidlin, Herui Wang, Nathan H. Williamson, Peter J. Basser
Graduate Student Name: Teddy X. Cai
NIH Institute-Center: NICHD
NIH Research Advisor: Dr. Peter J. Basser
University Research Advisor: Dr. Karla L. Miller
Graduate University: University of Oxford

18

Exploring the Combinatorial Fitness Landscape of Co-evolving Human and Viral Proteins
Michael J. Chambers, Thomas E. Dever, Meru J. Sadhu
Graduate Student Name: Michael J. Chambers
NIH Institute-Center: NHGRI
NIH Research Advisor: Dr. Meru J. Sadhu
Graduate University: Georgetown University

19

Conditional Processivity of the Nonsense-mediated mRNA Decay (NMD) Helicase UPF1
Joseph Chapman, Sarah Fritz, Keir Neuman, J. Robert Hogg
Graduate Student Name: Joseph Chapman
NIH Institute-Center: NHLBI
NIH Research Advisors: Dr. J. Robert Hogg and Dr. Keir Neuman
Graduate University: Johns Hopkins University

20

Novel Inhibitors of Glutathione Peroxidase for the Treatment of Glioblastoma Multiforme
Dorian M. Cheff, Qing Cheng, Matthew D. Hall, Elias S.J. Arnér
Graduate Student Name: Dorian Cheff
NIH Institute-Center: NCATS
NIH Research Advisor: Dr. Matthew D. Hall
University Research Advisor: Dr. Elias S.J. Arnér
Graduate University: Karolinska Institutet

21

Contribution of Synthetic Lethality to Cancer Risk, Onset Age, and Tumor Suppressor Specificity Across Human Tissues
Kuoyuan Cheng, Nishanth Ulhas Nair, Joo Sang Lee, Eytan Ruppin
Graduate Student Name: Kuoyuan Cheng
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Eytan Ruppin
Graduate University: University of Maryland, College Park

22

Loss of the Ubiquitin-Specific Peptidase 18 (USP18) Reduces Lung Cancer Metastasis
Zibo Chen, Lin Zheng, Yulong Chen, Masanori Kawakami, Lisa Mustachio, Jason Roszik, Mi Shi, Xiuxia Liu, Xin Liu, Jonathan Kurie, Ethan Dmitrovsky, Xi Liu, Joel Schneider
Graduate Student Name: Zibo Chen
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Joel Schneider
University Research Advisor: Dr. Bo Yang
Graduate University: Zhejiang University

23

The Transcription Factors Zfp281 and Zfp148 Cooperate to Support CD4 T Cell Development
Laura B. Chopp, Thomas Ciucci, Yayi Gao, Remy Bosselut
Graduate Student Name: Laura B. Chopp
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Remy Bosselut
Graduate University: University of Pennsylvania

24

Role of Small Extracellular Vesicles in Pancreatic ß-Cell Function and Viability: New Proposal
Stephanie Chidester, Jennifer C. Jones, Sushil G. Rane, Paule V. Joseph
Graduate Student Name: Stephanie Chidester
NIH Institute-Center: NINR
NIH Research Advisor: Dr. Paule V. Joseph
University Research Advisor: Dr. Anne F. Fish
Graduate University: University of Missouri, St. Louis

25

The Functional Relationship between Antiviral Restriction Factor IFITM3 and Cellular Cholesterol Homeostasis
Charles A. Coomer, Kazi Rahman, Saliha Majdoul, Selena Ding, Thorkell Andresson, Sergi Padilla-Parra, Alex A. Compton
Graduate Student Name: Charles A. Coomer
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Alex A. Compton
University Research Advisor: Dr. Sergi Padilla-Parra
Graduate University: University of Oxford

26

Sex Differences in the Forebrain Dopaminergic Circuit
Matthew C. Coon, Grace Wang, Erica R. Glasper, Yogita Chudasama, Kuan Hong Wang
Graduate Student Name: Matthew C. Coon
NIH Institute-Center: NIMH
NIH Research Advisor: Dr. Yogita Chudasama
University Research Advisor: Dr. Erica R. Glasper
Graduate University: University of Maryland, College Park

27

Pancancer Landscape of Clinically Relevant Splicing Isoforms
David R. Crawford, Steve Mount, Eytan Ruppin
Graduate Student Name: David R. Crawford
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Eytan Ruppin
University Research Advisor: Dr. Steve Mount
Graduate University: University of Maryland, College Park

28

Unraveling Mechanisms of B-cell Receptor Transport in Diffuse Large B-cell Lymphoma
Sean Corcoran, James Phelan, Ryan Young, Art Shaffer, Daniel Hodson, Louis Staudt
Graduate Student Name: Sean R. Corcoran
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Louis Staudt
University Research Advisor: Dr. Daniel Hodson
Graduate University: University of Cambridge

29

Assessment of Phage Therapy on Carbapenem Resistant *Acinetobacter baumannii* Infection in Mouse Model
Gunaraj Dhungana, Manoj Rajaure, Rajani Malla and Sankar Adhya
Graduate Student Name: Gunaraj Dhungana
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Sankar Adhya
University Research Advisor: Dr. Rajani Malla
Graduate University: Tribhuvan University

POSTERS

30

Rescue of Huntington's Disease in BAC226Q Mouse Model by CRISPR-Mediated Gene Editing of Human HTT
Yuanyi Dai, Wanping Huang, Sushuang Zheng, Chenjian Li, Zu-Hang Sheng
Graduate Student Name: Yuanyi Dai
NIH Institute-Center: NINDS
NIH Research Advisor: Dr. Zu-Hang Sheng
University Research Advisor: Dr. Chenjian Li
Graduate University: Peking University

31

Structural and Functional Studies of the Mitochondrial Sorting and Assembly Machinery Complex
Kathryn Diederichs, Xiaodan Ni, Sarah Rollauer, Jiansen Jiang, Joe Mindell, Susan Buchanan
Graduate Student Name: Kathryn Diederichs
NIH Institute-Center: NIDDK
NIH Research Advisor: Dr. Susan Buchanan
Graduate University: Johns Hopkins University

32

Capecitabine Drug Eluting Beads for Transarterial Chemoembolization Treatment of Hepatocellular Carcinoma
José F. Delgado, Ayele Negussie, L. Edward Mertz, J. Bradford Wood
Graduate Student Name: José F. Delgado
NIH Institute-Center: CC
NIH Research Advisor: Dr. J. Bradford Wood
University Research Advisor: Dr. Huang-Chiao Huang
Graduate University: University of Maryland, College Park

33

Delineating Vesicle Protein Distribution During Different Endocytosis Stages
Youssef Faragalla, Ling-Gang Wu
Graduate Student Name: Youssef Faragalla
NIH Institute-Center: NINDS
NIH Research Advisor: Dr. Ling-Gang Wu
University Research Advisor: Dr. A. Baranova
Graduate University: George Mason University

34

Do Pain-related Physiological Responses Differ as a Function of Sex or Race?
Troy C. Dildine, Dominik Mischkowski, Lauren A. Banker, Esther E. Palacios-Barrios, Elizabeth A. Necka, Olga Oretsky, Lauren Y. Atlas
Graduate Student Name: Troy C. Dildine
NIH Institute-Center: NCCIH
NIH Research Advisor: Dr. Lauren Y. Atlas
University Research Advisor: Dr. Andreas Olsson
Graduate University: Karolinksa Institutet

35

Chronic IFN-g Exposure Drives Metabolic and Structural Changes in Heart Muscle
John M. Fenimore, Danielle A. Springer, Julio C. Valencia, Rebecca A. Erwin-Cohen, Erika M. Palmieri, Elijah F. Edmondson, Sudhirkumar Yanpallewar, Michael N. Sack, Javid J. Moslehi, Elizabeth Engle, Dan W. McVicar, Howard A. Young
Graduate Student Name: John M. Fenimore
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Howard Young
University Research Advisor: Dr. Michelle Starz-Gaiano
Graduate University: University of Maryland, Baltimore County

36

Aldehyde Dehydrogenase 1a1 Protects Nigrostriatal Dopaminergic Neurons against Parkinson's Disease-related Mutant α-synuclein-induced Cytotoxicity in vivo
Jie Dong, Junbing Wu, Andreanna Le, Chengsong Xie, Lisa Chang, Weidong Le, Huaibin Cai
Graduate Student Name: Jie Dong
NIH Institute-Center: NIA
NIH Research Advisor: Prof. Huaibin Cai
University Research Advisor: Dr. Weidong Le
Graduate University: Dalian Medical University

37

Patient-derived Glioblastoma (GBM) Cells Demonstrate Distinctive Proteomic and Rheological Profiles in Brain-mimicking Hyaluronic Acid-based Hydrogels
Amelia Foss, Woong Young So, Maira Alves Constantino, Kandice Tanner
Graduate Student Name: Amelia Foss
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Kandice Tanner
University Research Advisor: Dr. Manav Pathania
Graduate University: University of Cambridge

38

Phytochemical and Chemotaxonomic Investigations on *Ferula szowitsiana* DC. and Allied Taxa of the Genus Ferula from Anatolia, Turkey
Fatma Memnune Erucar, Sarath P. D. Senadeera, John A. Beutler, Mahmut Miski
Graduate Student Name: Fatma Memnune Erucar
NIH Institute-Center: NCI
NIH Research Advisor: Dr. John A. Beutler
University Research Advisor: Dr. Mahmut Miski
Graduate University: Istanbul University, Department of Pharmaceutical Science

39

The Mechanism of Actin Remodeling by the BAR Domain of ArfGAP ASAP1.
Anjelika Gasilina, Teresa Vitali, Xiaoying Jian, Ruibai Luo, Paul A Randazzo
Graduate Student Name: Anjelika Gasilina
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Paul A. Randazzo
Graduate University: Georgetown University

41

Mechanism of Degradation of Histatin 5 Peptide by Secreted Aspartic Proteases (Saps)APS) of *C. Albicans*
Mahdi Ghorbani, Jeffery B. Klauda, Bernard Brooks
Graduate Student Name: Mahdi Ghorbani
NIH Institute-Center: NHLBI
NIH Research Advisor: Prof. Bernard Brooks
University Research Advisor: Dr. Jeffery B. Klauda
Graduate University: University of Maryland, College Park

42

Identification of Parallel Functional Domains in the Paraventricular Nucleus of the Thalamus
Claire Gao, Yan Leng, Jun Ma, Victoria Rooke, Shakira Rodriguez-Gonzalez, Charu Ramakrishnan, Karl Deisseroth, Mario A. Penzo
Graduate Student Name: Claire Gao
NIH Institute-Center: NIMH
NIH Research Advisor: Dr. Mario A. Penzo
University Research Advisor: Dr. Gilad Barnea
Graduate University: Brown University

43

Immunological Features of Immune-related Adverse Events During Anti-PD-1 Immune Checkpoint Inhibition in Relapsed/Refractory AML
Meghali Goswami, Gege Gui, Katherine E. Lindblad, Jaydira Del Rivero, Jennifer L. Marte, Pradeep K. Dagur, Christin B. Destefano, Julie Thompson, Bogdan Popescu, Laura W. Dillon, Cheryl D. Johnson, Steven J. Soldin, Catherine Lai, James L. Gulley, Christopher S. Hourigan
Graduate Student Name: Meghali Goswami
NIH Institute-Center: NHLBI
NIH Research Advisor: Dr. Christopher S. Hourigan
University Research Advisor: Dr. Norman Lee
Graduate University: The George Washington University

44

CXCL14 Association with Triple Negative Breast Cancer Tumor Microenvironment Remodeling
Carla Gibbs, Deok Soo-Son, Jae Young So, Li Yang
Graduate Student Name: Carla R. Gibbs
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Li Yang
University Research Advisor: Dr. Deok Soo-Son
Graduate University: Meharry Medical College

45

Tumor Cells Disburse their Nucleoplasm into the Extracellular Space to Enhance Metastasis to the Lung
Justin M. Gray, Woo Yong Park, Li Yang
Graduate Student Name: Justin M. Gray
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Li Yang
University Research Advisor: Dr. Steven Cappell
Graduate University: Johns Hopkins University

46

Gene Expression Regulation in iPSC-derived Neural Progenitor Cells (NPCs) from Patients with Smith-Magenis Syndrome (SMS)
Francis J. Gordovez, Shawn Kamboj, Bryce England, Joanna Cross, Jill Russ, Winston Corona, Dena Hernandez, Nirmala Akula, Layla Kassem, Ann Smith, Sevilla Detera-Wadleigh, Jose B. Nevado, Francis J. McMahon
Graduate Student Name: Francis James Gordovez
NIH Institute-Center: NIMH
NIH Research Advisor: Dr. Francis J. McMahon
University Research Advisor: Dr. Jose B. Nevado
Graduate University: University of the Philippines, Manila

47

STAT3 as a Critical Host Determinant of Gammaherpesvirus Latency Establishment
Chad H. Hogan, Laurie T. Krug
Graduate Student Name: Chad H. Hogan
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Laurie T. Krug
University Research Advisor: Dr. Adrianus Van Der Velden
Graduate University: Stony Brook University

48

Exploring the Role of Dopamine Signaling in Immune Oncology and Non-Canonical Functions of PD-L1 in Lung Cancer
Christopher E. Grant, Leila Toulabi, Adriana Zingone, Jessica Beck, Amy Flis, Bríd Ryan
Graduate Student Name: Christopher E. Grant
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Bríd Ryan
University Research Advisor: Dr. Anton Wellstein
Graduate University: Georgetown University

49

Making Sense of TRP Channel Structures
Katherine E. Huffer, Antoniya A. Aleksandrova, Andrés Jara-Oseguera, Lucy R. Forrest, Kenton J. Swartz
Graduate Student Name: Katherine E. Huffer
NIH Institute-Center: NINDS
NIH Research Advisor: Dr. Kenton J. Swartz
University Research Advisor: Dr. Karen Fleming
Graduate University: Johns Hopkins University

POSTERS

50

Exposure to Particulate Matter Air Pollution and Risk of Upper Gastrointestinal Cancers
Natalie Pritchett Haley, Emily Spangler, Alicia A. Livinski, George Gray, Sanford M. Dawsey, Rena R. Jones
Graduate Student Name: Natalie Pritchett Haley
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Rena Jones
University Research Advisor: Dr. George Gray
Graduate University: The George Washington University

51

The Role of Oral and Gut Microbiota in Autoimmune Pancreatitis and Sjögren's Syndrome
Ahmed Kabrah, Malini Ahuja, Shmuel Muallem
Graduate Student Name: Ahmed Kabrah
NIH Institute-Center: NIDCR
NIH Research Advisor: Dr. Shmuel Muallem
University Research Advisor: Dr. Yasmine Kanaan
Graduate University: Howard University

52

The Role of Adult Neurogenesis Ablation in a Probabilisitic Learning Task
Kathleen B. Huntzicker, Rose-Marie Karlsson, Heather A. Cameron
Graduate Student Name: Kathleen B. Huntzicker
NIH Institute-Center: NIMH
NIH Research Advisor: Dr. Heather A. Cameron
Graduate University: Brown University

53

The Impact of Cell Death on Tumor Heterogeneity and Fitness
Subreen A. Khatib, Yotsawat Pomyen, Hien T. Dang, Xin W. Wang
Graduate Student Name: Subreen A. Khatib
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Xin W. Wang
University Research Advisor: Dr. Christopher Loffredo
Graduate University: Georgetown University

54

Development of a High Throughput 3D-Microfluidics-based Blood-brain Barrier Assay System as an *in vitro* Model for Ultrasound-mediated Microbubbles Delivery of Drugs into the Brain
Olive Jung, Yen-Ting Tung, Min Jae Song, Eleanor Stride, Marc Ferrer, Molly Boutin
Graduate Student Name: Olive Jung
NIH Institute-Center: NCATS
NIH Research Advisor: Dr. Marc Ferrer
University Research Advisor: Dr. Eleanor Stride
Graduate University: University of Oxford

55

Defining the Impact of O-GlcNAc on Fertility of *C. elegans* Males
Dan Konzman, Michelle Bond, Tetsu Fukushige, Michael Krause, John Hanover
Graduate Student Name: Dan Konzman
NIH Institute-Center: NIDDK
NIH Research Advisor: Dr. John Hanover
Graduate University: Johns Hopkins University

56

Dissecting Tumor Clonality to Understand Intra- and Inter-Tumor Heterogeneity in Liver Cancer
Zeynep Kacar, Julián Candia, Doron Levy, Eric V. Slud, Xin W. Wang
Graduate Student Name: Zeynep Kacar
NIH Institute-Center: NCI
NIH Research Advisor: Dr. Xin W. Wang
University Research Advisor: Dr. Eric V. Slud
Graduate University: University of Maryland, College Park

57

Metrics of Phenotypic Aging from the Perspective of Energetics
Pei-Lun Kuo, Jennifer Schrack, Morgan E. Levine, Michelle Shardell, Eleanor Simonsick, Luigi Ferrucci
Graduate Student Name: Pei-Lun Kuo
NIH Institute-Center: NIA
NIH Research Advisor: Dr. Luigi Ferrucci
University Research Advisor: Dr. Jennifer A. Schrack
Graduate University: Johns Hopkins University

58

Characterizing Long-term Synaptic Depression at the Direct Medial Entorhinal Cortex to CA1 Synapse
Kevin M. Keary III, Dr. Zheng Li
Graduate Student Name: Kevin M. Keary III
NIH Institute-Center: NIMH
NIH Research Advisor: Dr. Zheng Li
University Research Advisor: Dr. Carlos Aizenman
Graduate University: Brown University

59

Exploring the Role of a Common Genetic Variant in Parkinson's Disease Pathogenesis
Rebekah G. Langston, Aleksandra Beilina, Xylena Reed, Luis Bonet-Ponce, Mark R. Cookson
Graduate Student Name: Rebekah G. Langston
NIH Institute-Center: NIA
NIH Research Advisor: Dr. Mark R. Cookson
University Research Advisor: Dr. Robert E. McGehee, Jr.
Graduate University: University of Arkansas for Medical Sciences

60

Determination of Correlates of Protection for an Epstein-Barr virus (EBV) gp350 Nanoparticle Vaccine
JungHyun Kim, Wei Bu, and Jeffrey I. Cohen
Graduate Student Name: JungHyun Kim
NIH Institute-Center: NIAID
NIH Research Advisor: Dr. Jeffrey I. Cohen
University Research Advisor: Dr. Xiaoping Zhu
Graduate University: University of Maryland, College Park

61

Approaches For Improving Autologous NK Cell Immunotherapy Targeting Bone Marrow Malignancies
Emily Levy, Robert Reger, Kate Stringaris, Toshihiro Onishi, Richard Childs
Graduate Student Name: Emily Levy
NIH Institute-Center: NHLBI
NIH Research Advisor: Dr. Richard Childs
University Research Advisor: Dr. David Leitenberg
Graduate University: The George Washington University

62

Characterizing Neural Dynamics of Synergies Composing an Activity of Daily Living
William D. Kistler, Leonardo Cohen
Graduate Student Name: William D. Kistler
NIH Institute-Center: NINDS
NIH Research Advisor: Dr. Leonardo Cohen
University Research Advisor: Dr. Sven Bestmann
Graduate University: University College London

63

Using Zebrafish to Correlate Hair-Cell Presynaptic Activity and Ototoxin Resistance
Daria Lukasz, Katie S. Kindt
Graduate Student Name: Daria Lukasz
NIH Institute-Center: NIDCD
NIH Research Advisor: Dr. Katie Kindt
Graduate University: Johns Hopkins University

64

Pharmacodynamic Readouts of *in vivo* LRRK2 Kinase Inhibition
Jillian H. Kluss, Melissa M. Conti Mazza, Mark R. Cookson, Patrick A. Lewis, Adamantios Mamais
Graduate Student Name: Jillian H. Kluss
NIH Institute-Center: NIA
NIH Research Advisor: Dr. Mark R. Cookson
University Research Advisor: Dr. Patrick A. Lewis
Graduate University: University of Reading

65

Role of the Glia Limitans in Partitioning Myeloid Cell Responses Following Repeat Traumatic Brain Injury
Hannah D. Mason, Alexis M. Johnson, Dorian B. McGavern
Graduate Student Name: Hannah D. Mason
NIH Institute-Center: NINDS
NIH Research Advisor: Dr. Dorian B. McGavern
University Research Advisor: Dr. Ole Paulsen
Graduate University: University of Cambridge

66

Engineering Next Generation GPC3 Targeted CAR T Cells for Liver Cancer Therapy
Aarti Kolluri, Mitchell Ho
Graduate Student Name: Aarti Kolluri
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67

HIV Directly Infects Resting Memory CD4 T cells
Rodrigo Matus Nicodemos, Samuel Darko, David Ambrozak, Amy Ransier, Daniel Douek, and Richard Koup
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68

Investigation of Molecular Mechanisms Underlying Mechanical Pain
Ruby M. Lam, Nima Ghitani, Marcin Szczot, Nicholas Ryba, Alexander T. Chesler
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University Research Advisor: Dr. Alexander Fleischmann
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Effects of 10 New Generation PFAS-containing Aqueous Film Forming Foams (AFFF) and Single PFAS Compounds on Human Liver Cell Viability and Function
Kevin A. Mauge-Lewis, Suzanne E. Fenton, Michael J. Devito
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NIH Research Advisor: Dr. Suzanne E. Fenton
University Research Advisor: Dr. Ilona Jaspers
Graduate University: University of North Carolina, Chapel Hill

70

The Sodium Leak Channel NALCN in D2 Signaling Mechanisms of VTA Dopamine Neurons
Dana E. Lewis, Rose-Marie Karlsson, Heather Cameron, Zayd M. Khaliq
Graduate Student Name: Dana E. Lewis
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Graduate University: The George Washington University

71

Identifying Metabolic Immunomodulatory Mediators of Fasting and Refeeding Using a Multi-omics Approach
Allison Meadows, Antonio Murgia, Ben D. McNally, Kim Han, Komudi Singh, Jing Wu, Steven A. Murfitt, James A. West, Julian L. Griffin, Michael N. Sack
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NIH Research Advisor: Dr. Michael N. Sack
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72

Preserving Visual Signaling in the Degenerating Retina
Xiaoyi Li, William N. Grimes, Jeffrey S. Diamond
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NIH Research Advisor: Dr. Jeffrey S. Diamond
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Graduate University: Johns Hopkins University

73

HIV-1 Infected Human Lymphoid Tissue Remains Immune-Activated Despite ART: Soluble and Extracellular Vesicle-Associated Cytokines
V. Mercurio, W. Fitzgerald, I. Molodtsov, L. Margolis
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NIH Research Advisor: Dr. Leonid Margolis
University Research Advisor: Dr. Mara Biasin
Graduate University: University of Milan

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High Fat Diet Biases Hypothalamic and Mesolimbic Encoding of Consummatory Drives
Jing Liang-Guallpa, Christopher Mazzone, Nora S. Wolcott, Montana H. Boone, Morgan Southern, Deepa M. Reddy, Guohong Cui, Michael J. Krashes
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University Research Advisor: Dr. Gilad Barnea
Graduate University: Brown University

75

Peptides Derived from Pigmented Epithelium Derived Factor (PEDF) Prevent Apoptosis and Promote Apical Localization of Rhodopsin in Retinal Photoreceptors
German A. Michelis, Lorena O. German, Nora P. Rotstein, Luis E. Politi, Sofia P. Becerra
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Graduate University: Universidad Nacional del Sur

76

Identifying the Neural Circuit Involved in Salivation
Julia A. Licholai, Nick J.P. Ryba
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Graduate University: Brown University

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Spatially-Segmented Single-Cell Transcriptomics by Diffusional Accessibility to a Small-Molecule Dye
David B. Morse, Michele Ceribelli, Joachim de Jonge, Christoph Muus, Aleksandra M. Michalowski, Maria Vias, Samantha Boyle, David A. Weitz, James D. Brenton, Jason Buenrostro, Tuomas P. J. Knowles, Craig J. Thomas
Graduate Student Name: David B. Morse
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Graduate University: University of Cambridge

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More Than Lip(id) Service: Uncovering the Molecular Basis of PNPLA6-opathies
Jimmy Liu, Cara Lwin, Lijin Dong, Bin Guan, Robert Hufnagel
Graduate Student Name: Jimmy Liu
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NIH Research Advisor: Dr. Robert Hufnagel
University Research Advisor: Dr. Robert Hufnagel
Graduate University: Johns Hopkins University

79

Mapping Single-cell Protein and Transcript Expression Landscapes of Influenza Vaccination Responses in Humans

Matthew P. Mule, Andrew J Martins, Yuri Kotliarov, Foo Cheung, Neha Bansal, Angelique Biancotto, Jinguo Chen, Arjun Jain, Brian Sellers, Juan A. Quiel, Pamela L Schwartzberg, CHI Consortium, John S Tsang

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NIH Research Advisor: Dr. John Tsang
University Research Advisor: Dr. Ken Smith
Graduate University: University of Cambridge

80

Chronic-plus-binge Alcohol Induces Steatohepatitis via the p38MAPKαβ-dependent Production of Proinflammatory mtDNA-enriched Extracellular Vesicles

Jing Ma, Yong He, Robim Rodrigues, Seonghwan Hwang, Tianyi Ren, Bin Gao

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81

Crosslinking Transcription and DNA Repair

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NIH Research Advisor: Dr. Andre Nussenzweig
University Research Advisor: Prof. Peter McHugh
Graduate University: University of Oxford

82

Viral Overexpression of NPTX2 as a Tool to Improve Inhibitory Neuronal Functioning and Rescue Disease Phenotype in a Mouse Model of Alzheimer's Disease

Connie Mackenzie-Gray Scott, Mandy Lai, Kenneth Pelkey, Ramesh Chittajallu, Chris McBain

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NIH Research Advisor: Dr. Chris McBain
University Research Advisor: Dr. Andrew Trevelyan
Graduate University: Newcastle University

83

Control of *Staphylococcus aureus* Skin Infection is Dependent on an EGR1-mediated Early Innate Immune Response to Secreted Toxins

Thuan H. Nguyen, Gordon Y.C. Cheung, Kevin R. Rigby, Olena Kamenyeva, Juraj Kabat, Daniel E. Sturdevant, Pipat Piewngam, Adeline R. Porter, Saba Firdous, Janice Chiou, Matthew D. Park, Rachelle S. Hunt, Fawaz M. F. Almufarriji, Vee Y. Tan, Titus K. Asiamah, Joshua W. McCausland, Emilie L. Fisher, Anthony J. Yeh, Scott D. Kobayashi, Ji M. Wang, Daniel E. Barber, Frank R. DeLeo, Michael Otto

Graduate Student Name: Thuan H. Nguyen
NIH Institute-Center: NIAID
NIH Research Advisors: Dr. Michael Otto and Dr. Daniel Barber
Graduate University: Georgetown University

84

Multi-omic Analyses of Pediatric Acute Lymphoblastic Leukemia Predict Tumor Heterogeneity and Decreased Immune Activation as Markers of Resistance to CD19 CAR T Cell Therapy

Katherine E. Masih, David Milewski, Abdalla Abdelmaksoud, Rebecca Gardner, Berkley E. Gryder, Ashley Wilson, Serifat Adebola, Benjamin Z. Stanton, Young K. Song, Justin Lack, Chaoyu Wang, Xinyu Wen, Zachary Rae, Adam Cheuk, Michael Kelly, Jun S. Wei, Michael C. Jensen, Rimas J. Orentas, Javed Khan

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NIH Research Advisor: Dr. Javed Khan
University Research Advisor: Dr. Richard J. Gilbertson
Graduate University: University of Cambridge

85

Using Cell Shape to Study Age-related Macular Degeneration (AMD)

Davide Ortolan, Ruchi Sharma, Andrei Volkov, Jorge Ferrari, Genqing Liang, Julie Laux, Rafael Villasmil, Mones Abu-Asab, Mercedes Campos, Nathan Hotaling, Gianluca Pegoraro, Stefano Di Marco, Silvia Bisti and Kapil Bharti

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NIH Research Advisor: Dr. Kapil Bharti
University Research Advisor: Dr. Stefano Di Marco
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86

System-Wide Changes at a Single Cell Resolution: Profiling the Lumbar Cord following Thoracic Contusion

Kaya Matson, Daniel Russ, Claudia Kathe, Anupama Sathyamurthy, Jordan Squair, Gregoire Courtine, Ariel J. Levine

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The Regulation and Processing of Meiosis-specific DNA Damage
Jacob Paiano, Wei Wu, Nicholas Sciascia, Elsa Callen, Ana Paola Cotrim, Rajashree A. Deshpande, Yaakov Maman, Amanda Day, Tanya T. Paull, André Nussenzweig
Graduate Student Name: Jacob Paiano
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NIH Research Advisor: Dr. André Nussenzweig
University Research Advisor: Dr. Craig Bassing
Graduate University: University of Pennsylvania

88

High Throughput Sequencing of the Transcriptome in Individuals with Insomnia
Sara M. Mithani, Sijung Yun, Vivian Guedes, Anne Fink, Philip Gehrman, Jessica Gill
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NIH Research Advisor: Dr. Jessica Gill
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A Living, Single Cell View of MYC's Effects on Transcriptional Bursting
Simona Patange, Michelle Girvan, David Levens, Daniel R. Larson
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NIH Research Advisor: Dr. Daniel R. Larson
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90

The Effect of Ketamine on Reinforcement Learning in Depression
Anahit Mkrtchian, Niall Lally, Jennifer W. Evans, Allison C. Nugent, Jonathan P. Roiser, Carlos A. Zarate, Jr.
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91

Mapping the Cell-Type Specific Transcriptomic Landscape of Tumors from their Bulk Expression
Kun Wang, Sushant Patkar, Joo Sang Lee, Welles Robinson, Michael Gertz, Fiorella Schischlik, Alejandro Schaffer, Eytan Ruppin
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University Research Advisor: Dr. Eytan Ruppin
Graduate University: University of Maryland, College Park

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Prior Cocaine Self-administration Alters State Encoding in Distinct Dorsomedial Striatal Neuron Populations in Rats
Lauren E. Mueller, Melissa J. Sharpe, Thomas A. Stalnaker, Andrew M. Wikenheiser, Geoffrey Schoenbaum
Graduate Student Name: Lauren Mueller
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University Research Advisor: Dr. Fraser Sim
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Defining the Humoral Response to a Stabilized Prefusion RSV F Subunit Vaccine (DS-Cav1)
Emily Phung, Lauren A. Chang, Kaitlyn M. Morabito, Man Chen, Azad Kumar, Pamela J. Costner, LaSonji A. Holman, Somia P. Hickman, Ingelise J. Gordon, Grace Chen, Tracy J. Ruckwardt, Julie E. Ledgerwood, Michelle C. Crank, John R. Mascola, Barney S. Graham
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An Investigation into the Genome-wide Expression Profiles of Malignant Peripheral Nerve Sheath Tumors (MPNST), and the Development of 3D Tumor Models of this Cancer Type for *in vitro* Analyses
Béga Murray, George Mo, Xiyuan Zhang, Carly Sayers, Jack Shern
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95

Structural Investigation of a Novel Tom40 Interaction
Ashley Pitt, Susan Buchanan
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NIH Research Advisor: Dr. Susan Buchanan
Graduate University: Johns Hopkins University

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Uncovering the Dark Matter of Pancreatic Cancer by Assessing Non-Coding Regulatory Mutations
Aidan O'Brien, Laufey T. Amundadottir
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Linking Epigenetic Dysregulation, Mitochondrial Impairment, and Metabolic Dysfunction in SBMA Motor Neurons

Naemeh Pourshafie, Ester Masati, Eric Bunker, Alec Nickolls, Parisorn Thepmankorn, Kory Johnson, Tyler Ekins, Christopher Grunseich and Kenneth H. Fischbeck

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98

Monocular and Binocular Components of Contrast Gain Control in Primate V1: A New Framework for the Binocular Energy Model to Describe Gain Control System in 3D Visual Processing

Laura Palmieri, Jenny Read, Bruce Cumming

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99

Chromatin State and Gene Regulation in Sjogren's Syndrome

Thomas J.F. Pranzatelli, Drew G. Michael, Ben N. French, Blake M. Warner, John A. Chiorini

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University Research Advisor: Dr. Hector Corrada-Bravo
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Engineering the Immunotoxins Targeting Glypican-1 as a Potential Target in Pancreatic Cancer

Jiajia Pan, Nan Li, Mitchell Ho

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University Research Advisor: Dr. Min Qian
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101

The Liver Combats Against Local and Systemic Bacterial Infection by Controlling Neutrophil Recruitment

Tianyi Ren, Xiaogang Xiang, Yong He, Bryan Mackowiak, Seonghwan Hwang, Junqi Niu, Bin Gao

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University Research Advisor: Dr. Junqi Niu
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The Relationship Between Momentary Food Cravings and Loss of Control Eating Varies by Pubertal Status in Youth

Megan N. Parker, Marian Tanofsky-Kraff, Ross Crosby, Deborah Altman, Taylor N. Swanson, Eliana Ramirez, Nia A. Moore, Sarah G. Rubin, Lisa M. Shank, Meghan E. Byrne, Sarah LeMay-Russell, Natasha A. Schvey, Scott Engel, Sheila M. Brady, Susan Z. Yanovski, Jack A. Yanovski

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103

Transcriptomic Predictors of Response to Adoptive Cell Transfer in Metastatic Melanoma

Welles Robinson, Leandro C. Hermida, Alex N Restifo, Frank J Lowery, Jared J Gartner, Mark D M Leiserson, Paul F Robbins, Steven A. Rosenberg, Eytan Ruppin

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104

Characterizing ALS-linked mutations in the serine palmitoyltransferase subunit, Sptlc1

Zoe Piccus, Ken Gable, Payam Mohassel, Carsten Bonnemann, Teresa Dunn, Claire Le Pichon

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University Research Advisor: Dr. Gilad Barnea
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105

Bivariate Longitudinal Joint Model with Binary Biomarker

Siddharth Roy, Paul Albert, Anindya Roy, Megan A Clarke, Nicolas Wentzensen, Danping Liu

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University Research Advisor: Dr. Anindya Roy
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Loss of Iron Metabolism Regulation Results in Motor Defects, Hyperactivity, and a Loss of Cognitive Flexibility

Christina A. M. Porras, Manik C. Ghosh, Hayden Ollivierre, Tracey A. Rouault

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107

Adenovirus Early Region 4 Open Reading Frame 1 (E4orf1) Restricts Vaccine-induced Mucosal Memory B Cell Immune Responses in an HIV Prime/Boost Regimen in Rhesus Macaques

Sangare. Kotou, Christopher Hogge, Sabrina Helmold Hait, Tanya Hoang, Marjorie Robert-Guroff and Michael A. Thomas

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NIH Research Advisor: Dr. Marjorie Robert-Guroff
University Research Advisor: Dr. Michael A. Thomas
Graduate University: Howard University

108

Eltrombopag Improves Erythroid Differentiation in a Human iPSC Model of Diamond Blackfan Anemia

Husam Qanash, Kaari Linask, Jeanette Beers, Keyvan Keyvanfar, Sara Young-Baird, Waleed Hakami, Richard H. Smith, Jizhong Zou, Andre Larochelle

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Graduate University: Catholic University of America

109

RNA-Sequencing Identifies Key Eosinophil Mediators Involved with Remodeling of Damaged Muscle Tissue in the Mdx Mouse Model Of Duchenne Muscular Dystrophy

Albert C. Sek, Justin Lack, Arun K. Boddapati, Michelle Ma, Caroline M. Percopo, Helene F. Rosenberg

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110

Imaging of Coronary Plaques and Stents with Conventional and Photon-Counting CT

Jayasai R. Rajagopal, Faraz Farhadi, Taylor Richards, Pooyan Sahbaee, William F. Pritchard, Marcus Y. Chen, Ehsan Samei, Elizabeth C. Jones

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University Research Advisor: Dr. Ehsan Samei
Graduate University: Duke University

111

Optogenetic Modulation of Endoplasmic Reticulum Calcium Homeostasis

Lukas J. Shumway, Lowella V. Fortunato, Chris J. Obara, Christopher T. Richie, Jennifer Lippincott-Schwartz, Brandon K. Harvey

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University Research Advisor: Dr. Andrew Gordus
Graduate University: Johns Hopkins University

112

Aging Restraining Sirtuin-1 in Neutrophils Aggravates Alcoholic Liver Injury by Downregulating Microrna-223 via C/Ebpα Acetylation

Ruixue Ren, Bin Gao

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Graduate University: Anhui Medical University

113

The Role of MHV68 Uracil DNA Glycosylase and dUTPase in Viral Replication

Kyle Smith, Qiwen Dong, Laurie T. Krug

Graduate Student Name: Kyle Smith
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NIH Research Advisor: Dr. Laurie T. Krug
University Research Advisor: Dr. Patrick Hearing
Graduate University: Stony Brook University

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4R-Cembranoid as a Positive Allosteric Modulator of the α7 Neuronal Nicotinic Acetylcholine Receptor for Modulation of Inflammatory Pain

Luis G. Rivera, Yarimar Carrasquillo, Vesna Eterovic

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University Research Advisor: Dr. Vesna Eterovic
Graduate University: Universidad Central Del Caribe

115

Nanoarchitecture of the Outer Hair Cell Lateral Wall: Structural Correlates of Electromotility
Willy W. Sun, Evan S. Krystofiak, Runjia Cui, Bechara Kachar
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NIH Research Advisor: Dr. Bechara Kachar
University Research Advisor: Dr. Catherine E. Carr
Graduate University: University of Maryland, College Park

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Targeting the *Borrelia burgdorferi* HtrA Serine Protease as an Intervention Strategy for Early and Late Stage Lyme Disease
Michael Hogan Ronzetti, Anton Simeonov, Utpal Pal
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Graduate University: University of Maryland, College Park

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Interpreting smFRET-based Extrapolation of Transition Path Time with MD Simulations
Grace Taumoefolau, Robert B. Best, Steven S. Segal
Graduate Student Name: Grace H. Taumoefolau
NIH Institute-Center: NIDDK
NIH Research Advisor: Dr. Robert B. Best and Dr. Steven S. Segal
Graduate University: Johns Hopkins University

118

Temporal Regulation of Nicotinic Acetylcholine Receptor Subunits Supports Central Cholinergic Synapse Maturation
Justin S. Rosenthal, Jun Yin, Anupama Sathyamurthy, Chengyu Sheng, Emma Spillman and Quan Yuan
Graduate Student Name: Justin Samuel Rosenthal
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NIH Research Advisor: Dr. Quan Yuan
University Research Advisor: Dr. Leslie Pick
Graduate University: University of Maryland, College Park

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Characterization of Sex Related Alterations in the Hematopoietic Stem Cell Compartment During Aging
Ferda Tekin Turhan, Le Zong, Hagai Yanai, Mayuri Tanaka, Taylor McNeely, Michael Leone, Saipriya Ayyar, H. Umit Luleyap, Isabel Beerman
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NIH Research Advisor: Dr. Isabel Beerman
University Research Advisor: Dr. H. Umit Luleyap
Graduate University: Cukurova University

120

Dissecting Complex Neurodegenerative Diseases: The Age of Genome Sequencing in Precision Medicine
Marya S. Sabir, Sarah Ahmed, Yevgeniya Abramzon, Coralie Viollet, Ruth Chia, Andrew B. Singleton, Clifton L. Dalgard, Bryan J. Traynor, Sonja W. Scholz
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NIH Institute-Center: NINDS
NIH Research Advisor: Dr. Sonja W. Scholz
University Research Advisor: Dr. Michele T. Hu
Graduate University: University of Oxford

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Induced Pluripotent Stem Cell Derived Liver Model for the Study of PNPLA3-induced Non-alcoholic Fatty Liver Disease
Samantha G. Tilson, Carola M. Morell, An-Sofie Lenaerts, Benjamin Jenkins, Albert Koulman, T. Jake Liang, Ludovic Vallier
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NIH Research Advisor: Dr. T. Jake Liang
University Research Advisor: Dr. Ludovic Vallier
Graduate University: University of Cambridge

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What Can OECs Teach Us About Moderating Astrocyte Reactivity?
Aybike Saglam, Susan Wray
Graduate Student Name: Aybike Saglam
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NIH Research Advisor: Dr. Susan Wray
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Synthetic Modifications Expand Fluorescent Spectrum of Fluorogenic Aptamer
Lynda Truong, Tom Brown, Adrian R. Ferre-D'Amare
Graduate Student Name: Lynda Truong
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NIH Research Advisor: Dr. Adrian R. Ferre-D'Amare
University Research Advisor: Dr. Tom Brown
Graduate University: University of Oxford

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The Role of Extracellular Vesicles in Cancer-Related Fatigue
Dilorom Sass, Wendy Fitzgerald, Leonid Margolis, Jennifer Barb, Paula Schulz, Leorey Saligan
Graduate Student Name: Dilorom Sass
NIH Institute-Center: NINR
NIH Research Advisor: Dr. Leorey Saligan
University Research Advisor: Dr. Paula Schulz
Graduate University: University of Nebraska Medical Center

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Dissecting the Mechanisms of Malaria Induced Anemia in Rodent Malaria Models
Keyla C. Tumas, Jian Wu, Sittiporn Pattadilokrat, Lu Xia, Yu-Chih Peng, Cui Zhang, Timothy Myers, Chen-Feng Qi, Xin-zhuan Su
Graduate Student Name: Keyla C. Tumas
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NIH Research Advisor: Dr. Xin-zhuan Su
University Research Advisor: Dr. William Fonzi
Graduate University: Georgetown University

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A Phase II Trial Combining NLG207, a Nanoparticle Camptothecin, with Enzalutamide in Men with Metastatic Castration-Resistant Prostate Cancer Post-Enzalutamide
Keith T. Schmidt, Cindy H. Chau, Lisa M. Cordes, Cody J. Peer, Susan Wroblewski, Jan H. M. Schellens, Alwin D. R. Huitema, Ravi A. Madan, William D. Figg
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NIH Research Advisor: Dr. William D. Figg
University Research Advisor: Dr. Alwin D. R. Huitema
Graduate University: Utrecht University

127

Essential Role for the ETS Transcription Factor Erf in the Exit from Naïve Pluripotency
Maria Vega-Sendino, Teresa Olbrich, and Sergio Ruiz
Graduate Student Name: Maria Vega-Sendino
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NIH Research Advisor: Dr. Sergio Ruiz Macias
University Research Advisor: Dr. Marta Perez Pereira
Graduate University: Universidad Autónoma de Madrid

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Preserved Somatotopic Organisation Following Hand Amputation
Hunter R. Schone, Craig Gerrand, Imad Sedki, Chris I. Baker, Tamar R. Makin
Graduate Student Name: Hunter R. Schone
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NIH Research Advisor: Dr. Chris I. Baker
University Research Advisor: Dr. Tamar R. Makin
Graduate University: University College London

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New Properties of Transcription Factor Binding Revealed by Single Molecule Tracking
Kaustubh Wagh, David A. Garcia, Arpita Upadhyaya, Gordon L. Hager
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University Research Advisor: Dr. Arpita Upadhyaya
Graduate University: University of Maryland, College Park

130

Thrombospondin-1, Platelet Factor 4, and Galectin-1 are Associated with Engraftment in Patients with Sickle Cell Disease who Underwent Haploidentical HSCT
Ahmad A. Shaikh, Arunakumar Gangaplara, Purevdorj Olkhanud, Abdoul Kone, Katherine Almengo, Sajni Patel, Ankit Saxena, Marjan Gucek , J. Philip McCoy, Byung Chung, Courtney Fitzhugh
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A Novel Human Monoclonal Antibody That Is Highly Effective At Preventing Malaria Infection
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Patient Mutation in CHCHD10 Causes Myopathy and OMA1-Dependent Mitochondrial Fragmentation
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RanBP1 Controls the Ran Pathway in Mammalian Cells through Regulation of Mitotic RCC1 Dynamics
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Protein Kinase C and Calmodulin Serve as Calcium Sensors For Calcium-stimulated Endocytosis
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Vesicle-Cloaked Virus Clusters as Emerging Waterborne Pathogens: Persistence in Water and Wastewater and Inactivation by Disinfection
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Induction of Anti-inflammatory Myeloid Cells by Insulin-like Growth Factor 2 Adjuvant in the Macaque Model of SIV Infection
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NAD+ Supplementation Normalizes Neuroinflammation in Alzheimer's Disease
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Does Southern Roots Matter? An Evaluation of Family Health History Usage in Southern Black Populations
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Monoaminergic Function in the Orbitofrontal Cortex
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Developing a Dissolvable Microneedle for Pfs47 Malaria Vaccine Delivery
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