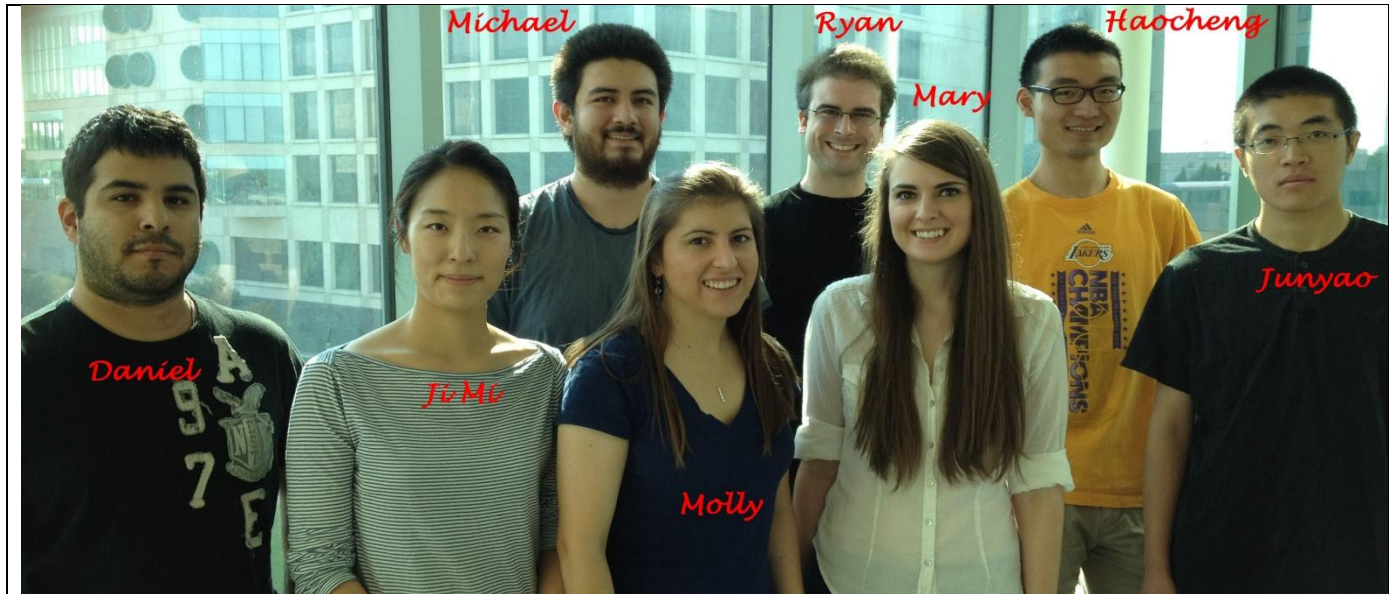


## Mechanisms of Disease and Translational Science Track – Our 2012 HHMI *Med into Grad* Scholars



**Daniel Araujo**, Neuroscience Graduate Program; graduated: Summer 2017

- Dissertation research: Utilizing several genetic strategies to investigate the role of Foxp1 in brain development and function (G. Konopka)
- Summer clinical immersion: Establish and characterize neuronal cell lines derived from reprogrammed fibroblasts that are taken from both psychotic (psychotic-bipolar and schizophrenic) and normal control probands (C. Tamminga)
- Bench to Bedside: Autism (M. Mosconi)

**Haocheng Cai**, Immunology Graduate Program; graduated: Fall 2017

- Dissertation research: Mechanism of a novel Toll-like receptor in sensing bacterial RNA (Z. Chen)
- Summer clinical immersion: Phase II clinical trial of “hippocampal-avoiding whole brain irradiation with simultaneous integrated boost for treatment of brain metastases” (R. Timmerman)
- Bench to Bedside: Multiple sclerosis (O. Stuve)

**Molly Hardebeck**, Cancer Biology Graduate Program; graduated: Summer 2016

- Dissertation research: Role of MET amplification in altering the DNA damage response in GBM (S. Burma)
- Summer clinical immersion: Phase II clinical trial of “hippocampal-avoiding whole brain irradiation with simultaneous integrated boost for treatment of brain metastases” (R. Timmerman)
- Bench to Bedside: Develop an understanding of how gliomas of varying stages are treated; learn how to analyze different types of scans to determine how treatment decisions are made (E. Pan)

**Ji Mi Kim**, Cancer Biology Graduate Program; graduated: Summer 2016

- Dissertation research: Investigating selective dependency of NSCLC cell lines on nuclear transport machinery and unraveling target independent effect of siRNA (M. White)
- Summer clinical immersion: Current therapies for lung cancer and their side effects (J. Schiller)
- Bench to Bedside: Lung cancer, targeted therapies and current interventions (J. Schiller)

**Ryan Laranger**, Genetics, Development and Disease Graduate Program; graduated: Summer 2017

- Dissertation research: Engineering a universal donor skin graft (J. Shay, W. Wright)
- Summer clinical immersion: Characterize resident T cells in the skin of Lupus patients to identify disease and progression biomarkers for systemic lupus erythematosus (B. Chong)
- Bench to Bedside: Present a comparison of different skin constructs, develop an understanding of scar formation (T. Chong)

**Michael Ramirez**, Cancer Biology Graduate Program; graduated: Fall 2015

- Dissertation research: On the evolution of drug-resistant lung cancer subpopulations (S. Altschuler, L. Wu, M. Cobb)
- Summer clinical immersion: Clinical course of sporadic colorectal cancer (S. Gupta)
- Bench to Bedside: Lung cancer (D. Gerber)

**Junyao Ren**, Genetics, Development and Disease Graduate Program; graduated: Summer 2018

- Dissertation research: Dissecting the mechanisms of IRF5 activation in innate immunity (Z.J. Chen)
- Summer clinical immersion: Analysis of endothelial cells in rheumatoid arthritis (D. Karp, E. Blair Solow)
- Bench to Bedside: Pathogenesis and treatment of cutaneous lupus (B. Chong)

**Mary Topalovski**, Cancer Biology Graduate Program; graduated: Summer 2016

- Dissertation research: Fibulin-5 as a regulator of integrin-induced ROS in pancreatic cancer (R. Brekken)
- Summer clinical immersion: Gastrointestinal and pancreatic cancers (M. Beg)
- Bench to Bedside: Pancreatic cancer utilizing a genetic mouse model to find novel targeted therapies to combat this disease (J. Monsour, A. Yopp, G. Balch)



## Mechanisms of Disease and Translational Science Track – Our 2013 HHMI *Med into Grad* Scholars



**Curtis Allred**, Cancer Biology Graduate Program; graduated: Summer 2018

- Dissertation research: Identification of the receptor for cancer-specific Peptide 15.2 (K. Brown)
- Summer clinical research: Participate in writing the IRB protocol and consent form for a new study in the field of gastro-intestinal cancers (M. Beg)

**Sarah Elkin**, Cell and Molecular Biology Graduate Program; graduated: Summer 2017

- Dissertation research: The role of dynamin in invadopodia (S. Schmid)
- Summer clinical immersion: To determine if extracellular volume and vascular resistance contribute to intradialytic hypertension in patients undergoing hemodialysis (R. Toto, P. Van Buren)
- Bench to Bedside: Understanding the challenges in the clinic in treating lung cancer (D. Gerber)

**Julia Hankins**, Immunology Graduate Program

- Dissertation research: Utilization of haploid embryonic stem cells for identification of novel genes or interactions (B. Beutler)
- Summer clinical immersion: To determine the gene frequency of polymorphisms that are associated with increased impulsivity among acetaminophen acute liver failure patients compared to population controls (W. Lee)

- Bench to Bedside: Bedside care of patients with hematological/rheumatological diseases (D. Karp, S. Kazi)

**Jessica Hicks**, Integrative Biology Graduate Program; graduated: Summer 2017

- Dissertation research: RNAi in the mammalian cell nucleus (D. Corey)
- Summer clinical immersion: To analyze demographic and clinical characteristics of type 2 diabetes patient from a Ploglitazone clinical trial and correlate the patient clinical characteristics with metabolic parameters (I. Lingvey)
- Bench to Bedside: Fuchs' Endothelial corneal dystrophy (FECD) (V. Mutha)

**Hema Manjunath**, Genetics, Development and Disease Graduate Program

- Dissertation research: Investigation of the regulation and function of non-coding RNAs in cancer (J. Mendell)
- Summer clinical immersion: To gain exposure to clinical medicine and clinical research regarding hepatocellular carcinoma (A. Singal)
- Bench to Bedside: Pediatric malignancies, specifically Wilms tumor (J. Wickiser)

**Xiaolei Shi**, Cancer Biology Graduate Program; graduated: Summer 2017

- Dissertation research: Metabolomics investigation of metastatic and non-metastatic melanomas (R. DeBerardinis); Committee: G. Pearson, S. Morrison, R. Wang
- Summer clinical immersion: To study the molecular evolution of neurofibroma tumorigenesis (L. Le)
- Bench to Bedside: Pathophysiological features of melanoma, adjuvant and targeted therapies for distant melanoma (R. Wang)

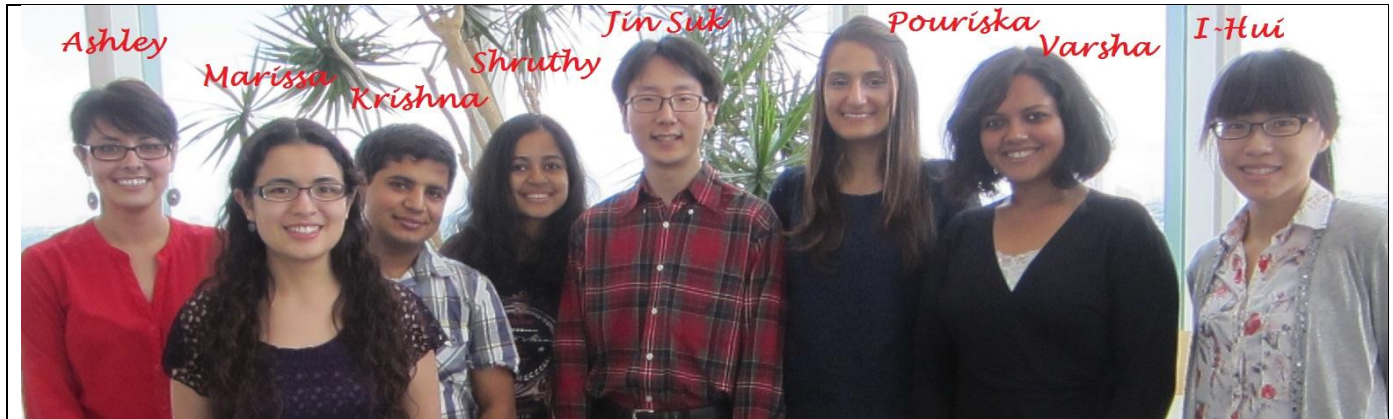
**Alexandra Willcockson**, Integrative Biology Graduate Program; graduated: Fall 2017

- Dissertation research: The molecular mechanisms of infection-mediated preterm birth (M. Mahendroo)
- Summer clinical immersion: 17 progesterone and preterm labor; prospective MRI evaluation of cardiac function in pregnancy; comparison of regional analgesia in length of labor (K. Leveno and group)
- Bench to Bedside: Clinical issues surrounding preterm birth (D. Nelson)

**Paul Yenerall**, Cancer Biology Graduate Program

- Dissertation research: RNAi of nuclear receptors, their coregulators, and chromatin remodeling enzymes in lung cancer (R. Kittler, J. Minna)
- Summer clinical immersion: Examining the role of ALK in anaplastic thyroid cancer (S. Khan)
- Bench to Bedside: Determine the percent of non-small cell lung cancer cell lines that response to PPARG agonists (L. Pelosof)

## Mechanisms of Disease and Translational Science Track – Our 2014 Scholars



### **Varsha Bhargava**, Genetics, Development and Disease Graduate Program

- Dissertation research: Characterization of Rbfox1 mediated translational regulation (M. Buszczak)
- Summer clinical immersion : Clinical presentation and management of patients with Cystic Fibrosis (R. Jain)
- Bench to Bedside: Genitourinary malignancies, with an emphasis on prostate and kidney cancer (K. Courtney)

### **Marissa Co**, Neuroscience Graduate Program

- Dissertation research: Role of FOXP2 in brain development and Autism Spectrum Disorder (G. Konopka)
- Summer clinical immersion: Linking visuomotor deficits to cognitive impairments in patients with Autism Spectrum Disorder (M. Mosconi, S. White)
- Bench to Bedside: Review current understanding of ASD ‘subtypes’ by genetics, neuronal and phenotypes, as well as efforts to connect these levels of dysfunction (P. Tsai)

### **Pouriska Kivanany**, Biomedical Engineering Graduate Program; graduated: Spring 2018

- Dissertation research: Rho inhibitor on corneal scarring (M. Petroll)
- Summer clinical immersion: To study the efficacy and safety of 10 mg Lampalizumab intravitreal injections in treating patients with geographic atrophy secondary to age-related macular degeneration (R. Ufret-Vincenty)
- Bench to Bedside: Clinical perspective on corneal scarring (HD Cavanagh)

### **Ashley Lakoduk**, Cell and Molecular Biology Graduate Program

- Dissertation research: Dynamics of Integrin recycling in metastatic lung cancer cells (S. Schmid)
- Summer clinical immersion: Expose the institutional barriers to cancer clinical trials by identifying studies differentially opened at Simmons Comprehensive Cancer Center and other UTSW-affiliates with the affiliated safety-net County hospital, Parkland Health and Hospital System, as well at the rationale for the disparity and barriers (D. Gerber)
- Bench to Bedside: Identify current gaps in translational science for breast cancer with current therapeutics and clinical trials (B. Haley)

### **Krishna Luitel**, Cancer Biology Graduate Program

- Dissertation research: Proton irradiation increases invasive carcinoma in the LA1 K-ras mutant mouse: Dissecting underlying molecular mechanisms (J. Shay, W. Wright)



- Summer clinical immersion: Clinical and translational concepts in genitourinary malignancies (K. Courtney)
- Bench to Bedside: To understand how lung cancer is treated in the clinic (D. Gerber)

**Jin Suk Park**, Cancer Biology Graduate Program

- Dissertation research: Modulation of cancer cell signal transduction and metabolism in respect to heterogeneous morphogenesis and gene expression through external manipulation of single cell chemistry and mechanics (G. Danuser)
- Summer clinical immersion: Understanding the clinical research involving C13-labelled sodium acetate infusion and cancer metabolism analysis on a case-by-case basis (E. Maher)
- Bench to Bedside: Interaction between healthcare providers and patients suffering from mineral metabolism disorders (O. Moe)

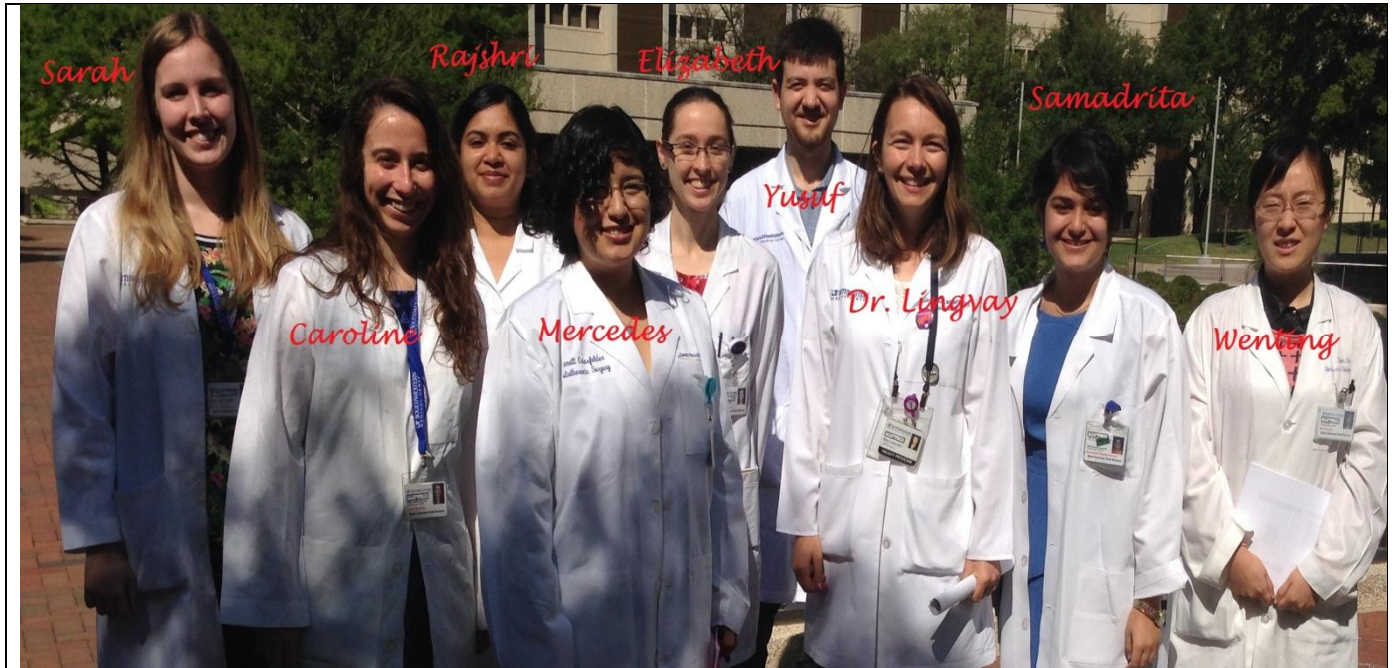
**Shruthy Suresh**, Cancer Biology Graduate Program

- Dissertation research: Unraveling the molecular mechanism of tumor suppressive activity of nuclear receptor coactivator 1 in hepatocellular carcinoma (K. O'Donnell)
- Summer clinical immersion: The clinical and genetic implications of Lynch Syndrome (M. Begg)
- Bench to Bedside: Lung cancer pathogenesis and to study lung cancer treatment responses to immunotherapy targeting PD-L1 (D. Gerber)

**I-Hui Wu**, Cancer Biology Graduate Program

- Dissertation research: Regulation of aberrant protein production in cancer (P. Thomas)
- Summer clinical immersion: Gain exposure to clinical medicine of patients with neurofibromatosis (L. Le)
- Bench to Bedside: The role of overexpression of ribosome-associated chaperons in tumors (R. Collins)

## Mechanisms of Disease and Translational Science Track – Our 2015 Scholars



### **Sarah Addams**, Genetics, Development and Disease Graduate Program

- Dissertation research: 1. Identifying kinases upstream of necrosome formation; 2. Using both yeast and mammalian cells to screen for proteins involved in necrosis which are downstream of necrosome formation (Z. Wang)
- Summer clinical research: Determine patient adherence to physician recommended surveillance after the treatment of lung cancer and if there are any predictors of adherence (D. Gerber)

### **Samadrita Bhattacharyya**, Genetics, Development and Disease Graduate Program

- Dissertation research: Identifying gene regulatory networks that regulate normal development and function of the cardiac conduction (N. Munshi)
- Summer clinical research: Define the mode of maladaptive cardiac remodelling in patients with neuromuscular disorders & role of functional capacity in the development of maladaptive cardiac remodelling in patients with Duchenne Muscular Dystrophy vs Myotonic Dystrophy (DM) (P. Mammen)
- Bench to Bedside: Heart function analysis, interpret EKG/Echo data in arrhythmic patients (N. Munshi, P. Mammen)

### **Wenting Du**, Cancer Biology Graduate Program

- Dissertation research: Investigating the mechanism of collagen signaling to enhance tumor progression after anti-VEGF therapy in pancreatic cancer. Study anti-VEGF resistance in lung cancer (R. Brekken)
- Summer clinical research: Assess the feasibility of using physical activity monitoring (PAM) devices to assess physical activity and functional status in subjects receiving systemic therapy for cancer (M. Beg)
- Bench to Bedside: Study the traditional chemotherapies, combination of surgery, chemotherapy/radiation treatment as well as novel therapy strategies for pancreatic/liver cancers (A. Yopp)

### **Caroline Gillis**, Molecular Microbiology Graduate Program

- Dissertation research: The utilization of microbiota derived nutrients for anaerobic respiration by *Salmonella enterica* Typhimurium in the inflamed gut (S. Winter)
- Summer clinical research: Process of treating inflammatory bowel disease (IBD) patients, to understand the process of conducting translational research with pediatric IBD patients, and to understand the role of mutated secretagogin secreted by enteroendocrine cells in a cohort of early onset IBD patients (E. Burstein)
- Bench to Bedside: Understand how bacteria are distinguished from one another on a metabolic basis, become familiar with how clinical laboratories operate and explore clinical microbiology as a career (E. McElvania Tekippe)

**Rajshri Iyer**, Molecular Microbiology Graduate Program

- Dissertation research: Characterization of bacterial effector proteins and subsequent infections in host cells/mice (N. Alto)
- Summer clinical immersion: Understand the clinical presentation, therapy and treatment of Cystic Fibrosis in adult patients, and to understand the cause for gender disparity of the disease in female patients (R. Jain)

**Elizabeth Luper**, Molecular Microbiology Graduate Program

- Dissertation research: Studying the mechanisms which cause dysbiosis (changes in microbial population dynamics) during gut inflammation (S. Winter)
- Summer clinical immersion: To gain knowledge of gastroenterology, especially of the clinical setting of inflammatory bowel disease (IBD) diagnosis and treatment (A. Patel)
- Bench to Bedside: Gastrointestinal diseases, treatment strategies, challenges and on-going research (E. Burstein)

**Mercedes Quintana Serrano**, Cell and Molecular Biology Graduate Program; MS degree Spring 2017

- Dissertation research: Cardiovascular development and disease (J. Hill)
- Summer clinical immersion: On heart failure prevention, prognosis and research (A. Rohatgi)

**Yusuf Tamer**, Molecular Biophysics Graduate Program

- Dissertation research: Studying genetic and enzymatic constraints driving evolution of antibiotic resistance (E. Toprak)
- Summer clinical immersion: Understanding the infection types and treatment regimens for immunosuppressed patients with organ transplantation. Effects of secondary structure elements of mRNAs in designing peptide conjugated phosphorodiamidate morpholino oligomer treatment in vitro (D. Greenberg, J. Le)
- Bench to Bedside: Design an observational study using gut microbiota to modulate the immune system of pediatric cancer patients (A. Koh)



## Mechanisms of Disease and Translational Science Track – Our 2016 Scholars



### **Zachary Gallegos**, Cell and Molecular Biology Graduate Program

- Dissertation research: Determining the function in Cancer/Testis Antigens in cancer (A. Whitehurst)
- Summer clinical immersion: To detect the presence of MAGE antigens before, during and after treatment with SBRT and immunotherapy (R. Hannan, Y-X Fu)

### **Ricardo Irizzary-Caro**, Immunology Graduate Program

- Dissertation research: Innate immune response in infections and autoimmune diseases such as SLE, AGS, etc.; investigating an ER-retention and ERGIC/Golgi-trafficking mechanism of STING regulation that is subverted by bacterial pathogens and deregulated in human genetic disease (N. Yan)
- Summer clinical immersion: Autoimmune diseases in Cutaneous Lupus Erythematosus (B. Chong)

### **Brittany Johnson**, Biological Chemistry Graduate Program

- Dissertation research: Metabolic regulation/ubiquitination of HMGCoA Reductase and other enzymes in the cholesterol biosynthetic pathway (R. DeBose-Boyd)
- Summer clinical immersion: Gain an understanding of how atherosclerosis and congestive heart failure is treated in the clinical setting (A. Rohatgi)
- Bench to Bedside: Clinical relevance of elucidating underlying mechanisms that regulate cholesterol metabolism (R. Infante)

### **Minghao Li**, Immunology Graduate Program

- Dissertation research: Innate immunity response triggered by retroviruses, both HIV in human cell lines and murine retroviruses in mouse models (Z. Chen)
- Summer clinical immersion: Bone-marrow transplant, graft-versus-host disease, connections between changes in the microbiota and metabolic changes in post-transplant patients (A. Koh)

- Bench to Bedside: Understanding the mechanism behind caspase regulation of cGAMP production; lupus and inflammatory autoimmune diseases that are possibly related to cGAS (D. Karp)

**Margaret McDaniel**, Immunology Graduate Program

- Dissertation research: Host-pathogen interactions in infectious disease (C. Pasare)
- Summer clinical immersion: To verify that the new drug ceftazidime-avibactam which is currently used for intra-abdominal gastrointestinal infections MDR-PA will also be beneficial for cystic fibrosis patients (R. Jain)

**Anu Thomas**, Genetics, Development and Disease Graduate Program

- Dissertation research: Functional characterization of long noncoding RNA *NORAD* (J. Mendell)
- Summer clinical immersion: Chemotherapeutic treatment and targeted therapies of lung cancer patients (D. Gerber)
- Bench to Bedside: Multidisciplinary treatment option and management of brain and spinal cord tumor of pediatric patients (T. Dan)

## Mechanisms of Disease and Translational Science Track – Our 2017 Scholars



### **Sushobhna Batra**, Immunology Graduate Program

- Dissertation research: Neuroimmunology and neurodegeneration (M. Diamond)
- Summer clinical research: Neurodegeneration-focused clinical studies (K. Womack)

### **Divya Bezwada**, Cancer Biology Graduate Program

- Dissertation research: Cancer metabolism, metastasis in renal cell carcinoma (R. DeBerardinis)
- Summer clinical research: Metabolic profiling of clear cell renal carcinoma in human patients (K. Courtney)
- Bench to Bedside: Infuse acetate in human ccRCC patients to determine if the building block from fatty acids is incorporated into lipids (V. Margulis)

### **Joseph Bower**, Cancer Biology Graduate Program

- Dissertation research: Utility of low-density lipoprotein (I. Corbin)
- Summer clinical research: Gastrointestinal cancer therapy (Muhammad Beg)

### **Wesley Burford**, Molecular Microbiology Graduate Program

- Dissertation research: Host pathogen interactions (N. Alto)
- Summer clinical research: Healthcare associated infections at Parkland Hospital (P. Sreeramoju)

### **Rachael Chanin**, Molecular Microbiology Graduate Program

- Dissertation research: Colitis and the microbiota (S. Winter)
- Summer clinical research: Translating microbial metabolism to treatment of inflammatory bowel disease (IBD) (E. Turer)

### **Josiah Flaming**, Cancer Biology Graduate Program

- Dissertation research: TBD (J. Minna)
- Summer clinical research: Ewings Sarcoma (D. Gerber)

### **Matthew Lanahan**, Molecular Microbiology Graduate Program

- Dissertation research: Host pathogen interactions (J. Pfeiffer)



- Summer clinical research: A potential therapy for biofilm infection of Prosthetic joints (D. Greenberg, R. Chopra, A. Schmalstieg)

**Lilyana Quigley**, Neuroscience Graduate Program

- Dissertation research: Molecular mechanisms underlying age-specific synaptic deficits associated with Schizophrenia (L. Volk)
- Summer clinical research: Biomarkers of psychosis: Evaluating spine morphology in hippocampal CA3 neurons from schizophrenic postmortem tissue (C. Tamminga, Chunfeng Tan)

**Anne Ryan**, Genetics, Development and Disease Graduate Program

- Dissertation research: Kidney development and regeneration (O. Cleaver)
- Summer clinical research: Kidney stones in patients with chronic kidney disease (O. Moe)

**Amy Zwierzchowski-Zarate**, Neuroscience Graduate Program

- Dissertation research: Tau-RNA interactions; implications for disease propagation and therapeutics (M. Diamond)
- Summer clinical research: Mapping treatment for memory disorders (J. Hart)

## Mechanisms of Disease and Translational Science Track – Our 2018 Scholars



### **Lindsay Johnson**, Biomedical Engineering Graduate Program

- Dissertation research: Materials chemistry approach for cancer therapy/diagnosis (D. Siegwart)
- Summer clinical research: Hepatocellular Carcinoma (HCC) and treatment options (A. Singal)

### **Samantha Johnson**, Genetics, Development and Disease Graduate Program

- Dissertation research: MIRNA and siRNA function in cells (D. Corey)
- Summer clinical research: Evaluate various methods for peripheral blood mononuclear cell (PBMC) isolation and freezing (R. Hannan)

### **Chelsea Karacz**, Cancer Biology Graduate Program

- Dissertation research: Lung and breast adenocarcinomas - latent metastasis (S. Malladi)
- Summer clinical research: Lung Cancer; Metastatic Latency (D. Gerber)

### **Mary Klosterman**, Cancer Biology Graduate Program

- Dissertation research: Myc-driven cancers; retinoblastoma and neuroblastoma (M. Conacci-Sorrell)
- Summer clinical research: Understanding the molecular basis of Gliomagenesis (E. Maher)

### **Yu-Hsuan Lin**, Genetics, Development and Disease Graduate Program

- Dissertation research: Liver regeneration/Cancer (H. Zhu)
- Summer clinical research: Liver Cirrhosis (N. Rich)

### **Ana Ortiz**, Neuroscience Graduate Program

- Dissertation research: Autism spectrum disorders (G. Konopka)
- Summer clinical research: Investigating Hippocampal SME (B. Lega)

### **Chandresh Patel**, Biomedical Engineering Graduate Program

- Dissertation research: Idiopathic scoliosis/next generation genomics (C. Wise)
- Summer clinical research: Childhood-onset rheumatic diseases (T. Wright)

### **Ann (Virginia) Ray**, Molecular Microbiology Graduate Program

- Dissertation research: Gut microbiome and inflammatory bowel disease (S. Winter)
- Summer clinical research: X-linked reticulate pigmentary disorder (E. Burstein)

**Natalia Rodriguez-Sosa**, Neuroscience Graduate Program

- Dissertation research: Addiction and depression (S. Shabel)
- Summer clinical research: The importance of studying depression (M. Trivedi)

**Jonathan Wilhelm**, Biomedical Engineering Graduate Program

- Dissertation research: Nanomedicine and imaging (J. Gao)
- Summer clinical research: Gynecologic Oncology Surgery and Potential of pH Sensitive Nanoparticles (J. Lea)

**Yichi (Tony) Zhang**, Genetics, Development and Disease Graduate Program

- Dissertation research: Development and muscle regeneration (E. Olson)
- Summer clinical research: Understanding the specialized care for patients with various genetic myopathies at the Neuromuscular Cardiomyopathy Clinic (P. Mammen)