

Graduation with Distinction in Biology

Ayham Abdel, The effects of 1,2-Propanediol on early development of zebrafish (*Danio rerio*) (Dr. Richard Di Giulio, Nicholas School of the Environment)

Robin Michelle Blazing, A neural mechanism for re-learning: The role of LMAN in zebra finch song pitch recovery (Dr. Richard Mooney, Department of Neurobiology)

Kristen Buehne, Building Biomaterials: Controlling the self-assembly of polypeptides through linkers and post-translational modifications (Dr. Ashutosh Chilkoti, Department of Biomedical Engineering)

Min Tong (Tannya) Cai, A cortico-striatal pathway in self-stimulation (Dr. Henry Yin, Department of Psychology)

Tim Campbell, Interactions of a secreted *Pseudomonas aeruginosa* aminopeptidase with bacterial outer membrane molecules: Characterization and implications for bacterial pathogenic phenotypes (Dr. Meta Kuehn, Department of Biochemistry)

Alison Chan, Retinal ganglion cell layer as a biomarker of Alzheimer's disease: Evaluation of retinal imaging and pathology (Dr. Eleonora Lad, Department of Ophthalmology)

Rebecca Chen, Genotyping SNPs to investigate association with cranial and spinal neural tube defects in human cohorts (Dr. Allison Ashley-Koch, Department of Medicine)

***Kimberline Chew**, Centromere protein composition and modulation in patient derived and experimentally produced dicentric chromosomes (Dr. Beth Sullivan, Department of Molecular Genetics and Microbiology)

***Hellen Chiou**, Investigation of the molecular mechanisms required for cell sheet morphogenesis using a forward genetic screen in *Drosophila* dorsal closure (Dr. Daniel P. Kiehart, Departments of Biology and Cell Biology)

Erin Choe, Neural correlates of goal priming in anxious and depressed individuals: Are there cumulative effects? (Dr. Timothy Strauman, Department of Psychology & Neuroscience)

Rebecca N. Culver, The design, synthesis, and evaluation of an oxazolidinone-based, RNA-targeted small molecule library (Dr. Amanda Hargrove, Departments of Chemistry and Biochemistry)

Stephen DiMaria, Investigating the role of the MYB7 transcription factor in the evolution of novel morphologies (Dr. Mark Rausher, Department of Biology)

Ayooluwa Douglas, Variable neutralization sensitivity of infant transmitted/founder HIV viruses and maternal non-transmitted viruses to paired maternal plasma neutralizing responses (Dr. Sallie Permar, Department of Immunology; Duke Human Vaccine Institute)

Rory Eggleston, An analysis of avian diversity in western Waorani territory using indigenous habitat designations (Dr. Stuart Pimm, Nicholas School of the Environment)

Jackson Floum, Exploration of unmanned aircraft systems disturbance in a coastal environment (Dr. Douglas Nowacek, Nicholas School of the Environment, Duke Marine Lab)

Jemi Galani, The effect of the TPS1 enzyme on virulence of *Cryptococcus neoformans* (Dr. John Perfect, Department of Medicine/Division of Infectious Diseases)

Shivee Gilja, E-cadherin overexpression in sarcomas leads to anoikis sensitivity mediated by CREB and TBX2 (Dr. Jason Somarelli, Department of Medicine and the Duke Cancer Institute)

Dayton Grogan, Exploring the nature of drug resistance in *C. neoformans* via the FKS1 (1,3)- β -D-glucan synthase (Dr. Andrew Alspaugh, Departments of Medicine and Molecular Genetics and Microbiology)

Lilly Gu, Discovery of a potent chemical inhibitor of mast cell degranulation (Dr. Soman Abraham, Department of Pathology)

Ryan Henry Guzman, Insights into the genetic basis of early-life starvation-induced germline tumorigenesis in *C. elegans* (Dr. Ryan Baugh, Department of Biology)

Emily Helen Hardgrove, Transfer of *Cryptosporidium* between mice and lemurs at the Duke Lemur Center (Dr. Anne Yoder, Department of Biology)

Madison Harman, Adverse effects of climate change induced salinity increases on freshwater *Biomphalaria* snails could reduce Schistosomiasis infections in humans (Dr. Erika Deinert, Department of Biology)

Jessica Huang Hennacy, Examining the role of SCHENGEN3 in *Arabidopsis* endodermal trans-differentiation (Dr. Philip Benfey, Department of Biology)

Rosemary Hinson, Growth effects of fungal endophytes interacting in a shared host: An initial assessment in the model liverwort *Marchantia polymorpha* (Dr. A. Jonathan Shaw, Department of Biology)

Noelani Ho, Understanding the chondrocyte mechanome to identify therapeutic targets for joint diseases (Dr. Amy McNulty, Departments of Orthopaedic Surgery and Pathology)

Nathaniel Wade Hubbs, A study on the induction of torpor in the western fat-tailed dwarf lemur (*Cheirogaleus medius*) (Dr. Peter Klopfer, Department of Biology)

***Samantha Huff**, Age of maturity of Pacific bluefin tuna (Drs. Andre Boustany & Andy Read, Marine Geospatial Ecology lab)

***Anthony Hung**, Identification of genetic loci involved in starvation tolerance through next-generation sequencing (Dr. L. Ryan Baugh, Department of Biology)

***Rachel Hurst**, Identifying and characterizing novel bacterial pathogens of *Drosophila melanogaster* and *D. simulans* (Dr. Eric Spana, Department of Biology)

Morgan Irons, The development of ecological and environmental mechanisms to drive primary succession in the establishment of a closed ecological system on Mars (Dr. Justin Wright, Department of Biology)

Kavita Jain, Bite into this: An analysis of jaw muscle architecture and its relation to performance (Dr. Christine Wall, Department of Evolutionary Anthropology)

David Alexander Jett, Bladder outlet obstruction mediates muscarinic acetylcholine receptor expression in the urothelial layer (Drs. J. Todd Purves & Monty Hughes, Department of Surgery)

Simon Jiang, Generation of a chimeric antigen receptor against T cell cancer (Dr. Weiguo Zhang, Department of Immunology)

James Wheeler Johnson, Muscle contraction alters hemicentin dynamics at the B-LINK: A newly identified basement membrane adhesion system that connects tissues (Dr. David Sherwood, Department of Biology)

Shaq Junaid, Interactions between benzo(a)pyrene and nicotine in neurotoxicology (Dr. Ed Levin, Department of Pharmacology and Cancer Biology)

***Alcida Karz**, DDR1, DDR2-Abl2 signaling axis in breast cancer cell tumorigenicity and chemoresistance (*Dr. Ann Marie Pendergast, Department of Pharmacology and Cancer Biology*)

Samantha Kisare, 3D printed models reveal morphological features that cue mantis shrimp strike locations (*Dr. Sheila Patek, Department of Biology*)

Madison K. Krischak, Quantitative proteomic analysis of EGFR signaling in glioblastoma using Reverse Phase Protein Arrays (*Dr. Madan Kwatra, Department of Pharmacology and Cancer Biology*)

Benjamin Kroger, Characterizing the role of macrophages in tumor recurrence: First signs of possible dormant cancer cell-induced M2 activation (*Dr. James Alvarez, Department of Pharmacology and Cancer Biology*)

Mitchell Lee, Designing a genetic toggle switch for *E. coli* that uses sequestration of a eukaryotic repressor as a mechanism for ultrasensitivity (*Dr. Nicolas Buchler, Department of Biology*)

***Kellie D. LeVine**, Modeling Cartilage-Hair Hypoplasia in zebrafish through modulation of the RMRP locus (*Dr. Erica E. Davis, Department of Cell Biology*)

Joy Li, Silencing of p63 in esophageal submucosal glands using lentiviral transduction (*Dr. Katherine Garman, Department of Medicine*)

Kathryn Loftus, The top-down effects of keystone grazers on benthic macroalgae in eastern salt marshes (*Dr. Brian Silliman, Nicholas School of the Environment, Duke Marine Lab*)

Donovan Loh, Parasite-induced behavior modification to the circatidal rhythm of the Atlantic Mole Crab, *Emerita talpoida* (*Dr. Thomas Schultz, Nicholas School of the Environment, Duke Marine Lab*)

Jade Lu, Patterns of symbiotic associations between Peltigera and Nostoc along a latitudinal transect crossing the circumboreal belt (*Dr. Francois Lutzoni, Department of Biology*)

Sweet Hope Mapatano, Male hormone may be important in the efficacy of Pompe gene therapy (*Dr. Dwight Koeberl, Department of Pediatrics*)

Ryan Meingasner, The role of G9a in the recurrence of Her2+ breast cancer (*Dr. James Alvarez, Department of Pharmacology and Cancer Biology*)

Evan Martin Murray, Mxi1 and Mxi0 create a feedback loop with N-Myc in neuroblastoma (*Dr. Michael Armstrong, Department of Pediatrics*)

Quang Nguyen, Distinct SIV envelope gp120 and gp41-specific IgG antibody responses in SIV-infected African Green and Rhesus Monkeys (*Dr. Sallie Permar, Department of Pediatrics*)

Sarah Nuss, Olfactory receptor neuron connection specificity in *Drosophila melanogaster* (*Dr. Pelin Volkan, Department of Neurobiology*)

Caitlin Penny, Polymorphic variants of Fc receptors and antibodies derived from humans and rhesus macaques exhibit differential binding (*Dr. Tony Moody, Department of Immunology*)

***Yasminye D. Pettway**, Carnitine acetyltransferase deficiency promotes lysine acetylation and alters the mitochondrial unfolded protein response (*Dr. Deborah Muoio, Duke Molecular Physiology Institute; Departments of Medicine and Pharmacology and Cancer Biology*)

Madison Ann Rogers, Potential debilitating mutations in candidate clock genes driving the erythrocytic cycle of lab-adapted *Plasmodium Falciparum* strains (*Dr. Gregory Wray, Department of Biology; Duke Center for Genomic and Computational Biology*)

Kyle Roter, Knockout of cell-cycle inhibitor p27KIP1 leads to a decrease in the threshold of Rb/E2F activation necessary for proliferation (*Dr. Bernard Mathey-Prevot, Department of Pharmacology and Cancer Biology*)

Cristina A. Salinas, Clearance of cutaneous bacterial infections by a wasp venom peptide (*Dr. Soman Abraham, Department of Pathology*)

George Schieder IV, Germination responses to vegetation in maternal and progeny environments (*Dr. Kathleen Donohue, Department of Biology*)

Timothy Shu, The molecular basis of resistance to targeted therapy in recurrent HER2 breast cancers (*Dr. James Alvarez, Department of Pharmacology and Cancer Biology*)

Lauren Sibley, Making a mouth: Elucidating morphogenetic events of mouth development in the sea urchin *Lytechinus variegatus* (*Dr. David McClay, Department of Biology*)

Keaton Stoner, Intra-source and inter-source variability of cryoprecipitate dose-response on *in vitro* clot formation (*Dr. Ian Welsby, Department of Anesthesiology/Division of Cardiothoracic Anesthesiology*)

Melody Su, Cytomegalovirus diversity in glycoprotein B subunit vaccinees and placebo recipients (*Dr. Sallie Permar, Department of Pediatrics*)

Shalini Subbarao, Modeling and morphometric analysis of striatal D2 medium spiny neurons in dopamine transporter knockout (DAT-KO) mice (*Dr. Marc Caron, Department of Cell Biology*)

Elizabeth Tsui, Understanding drug resistance in B-Raf mutant melanoma: Transcription factor c-Myc as a novel common effector of diverse resistance pathways (*Dr. Kris Wood, Department of Pharmacology and Cancer Biology*)

***Brittany Wenger**, Biomarker discovery in host response to viral infectious disease (*Drs. Ashlee Valente & Geoff Ginsburg, Center for Applied Genomics & Precision Medicine*)

Maggie Xing, From Local to Global: The role of Ect2 and Rho in the long-range coordination between the cell cycle and the cytoskeleton in *Drosophila* development (*Dr. Stefano Di Talia, Department of Cell Biology*)

Aiwei Yan, Generation of recombinant antibodies for Ebola diagnostics (*Dr. Michael D. Gunn, Department of Immunology*)

Catherine Y. Yip, The application of collateral sensitivity to EGFR-mutant lung cancer (*Dr. Kris Wood, Department of Pharmacology and Cancer Biology*)

Cassie Jiayi Yuan, Elongating the HIV-1 TAR RNA bulge to seven uridines increases interhelical motions (*Dr. Hashim Al-Hashimi, Department of Biochemistry*)

Lijia Zhang, Very high levels of misincorporated ribonucleotides increase Topoisomerase-1 related genome alterations (*Dr. Thomas Petes, Department of Molecular Genetics and Microbiology*)

Alexander Zhu, Mapping lethal mutations that may correlate with a wg suppressor mutation (*Dr. Amy Bejsovec, Department of Biology*)

**High Distinction*