

Graduates with Distinction in Biology

Edwin J. Allen, Her2 isoforms intrinsically bias receptor signaling to control metastatic behavior, (Dr. Joshua Snyder, Department of Surgery)

Afreen Ashraf, Role of mechanosensing channel Piezo-1 in intestinal stem cell homeostasis and function, (Dr. Jatin Roper, Department of Medicine - Gastroenterology)

Alexandra Jeannette Bennion*, Visualizing and quantifying tumor-macrophage interactions: Real-time imaging of inflammatory breast cancer and macrophages in the local tumor microenvironment, (Dr. Gayathri Devi, Department of Surgery)

Jessica Bullock*, p.R183Q *Gnaq* mutation affects angiogenic gene expression in vivo: evaluating a mouse model of a rare vascular disease, Sturge Weber Syndrome, (Dr. Douglas Marchuk, Department of Molecular Genetics and Microbiology)

Grace Chow*, The contribution of a conserved amino acid to the molecular function of auxin response factors (ARFs), with implications for developmental biology, (Dr. Lucia Strader, Department of Biology)

Meng-Chun Grace Chung, The effects of temperature on cavitation bubble dynamics of snapping shrimp (*Alpheus heterochaelis*), (Dr. Sheila N. Patek, Department of Biology)

Isabella Costanzo, Novel drug targets in the nitrogen catabolism repression pathway in *Cryptococcus neoformans*, (Dr. John Perfect, Department of Molecular Genetics and Microbiology)

Emily Duerr*, Evaluation of blood glucose trends in non-progressive hepatic glycogen storage disease IV, (Dr. Priya Kishnani, Department of Molecular Genetics and Microbiology)

Jacob Egol*, The mRNA decay protein CNOT3 is crucial for proper neurogenesis in the mammalian cerebral cortex, (Dr. Debra Silver, Department of Molecular Genetics and Microbiology)

Alina Shi Feng, Crucial role of diacylglycerol kinases during B cell development, (Dr. Xiaoping Zhong, Department of Immunology)

Sophie Finkelstein, Clonality and tumor cell-intrinsic factors contribute to metastasis in a mouse model of sarcoma, (Dr. David Kirsch, Department of Pharmacology and Cancer Biology)

Samuel Gruber*, MCB-613 specifically targets secondary resistant EGFR activated non-small cell lung cancer through a KEAP1 dependent mechanism, (Dr. Kris Wood, Department of Pharmacology and Cancer Biology)

Ella Gunady*, Testing the soil bacterium *Pseudomonas stutzeri* for the ability to degrade plastic, (Dr. Jason Somarelli, Department of Medicine)

Rebecca Siyuan He*, Comparative transcriptomics demonstrate an intimate connection between the stress response and hypoxia tolerance across species, (Dr. Jason Somarelli, Department of Medicine)

Xavier Heidelberg*, Density-dependent plasticity of dispersal traits in *Arabidopsis thaliana*, (Dr. Kathleen Donohue, Department of Biology)

Hana Hendi, Characterizing response of central nervous system-resident cells to *Cryptococcus* infection, (Dr. Mari Shinohara, Department of Immunology)

Chloe Hicks*, Discovering novel GPCR signaling partners with ACKR3-APEX2 proximity labeling, (Dr. Sudarshan Rajagopal, Department of Medicine)

Sophie Holtzman, Studying the stool: effects of a high fibrous diet on gray mouse lemurs (*Microcebus murinus*), (Dr. Anne Yoder, Department of Biology)

Matthew Huang*, Superfund site pollution remediation drives genome changes in PAH resistant killifish, (Dr. Thomas Schultz, Marine Science and Conservation)

Lucas Aslam Lewis Humayun, Designing a stronger immune system: refining CRISPR-Cas epigenetic regulation technologies in primary T cells, (Dr. Charles Gersbach, Department of Biomedical Engineering)

Ashley Y. Jones, Investigating the mechanosensitivity of cellular membranes' phosphatidylinositol 4-phosphate component, (Dr. Brenton D. Hoffman, Department of Biomedical Engineering)

Nick Kaney, Behavioral impacts of extended viewership on Florida manatees (*T. m. latirostris*) by ecotourist watercraft, (Dr. Douglas Nowacek, Nicholas School of the Environment)

Emily Joohyun Kang, AAV8 & AAV9 directed evolution and transduction of human cortical slice cultures, (Dr. Aravind Asokan, Department of Surgery)

Tessa Ann Kanjiramkuzhey, The antitumorigenic and protumorigenic roles of Fas receptor isoforms in BRAF mutant melanoma cells, (Dr. Kris Wood, Department of Pharmacology and Cancer Biology)

Ava Katz*, Radiation sensitivity CRISPR screens reveal microenvironment-specific radiosensitizing factors functionally validated in novel glioma models, (Dr. Scott Floyd, Department of Radiation Oncology)

Lara Marie Kohlenbach*, Molecular determinants of signaling bias at the mouse ghrelin receptor, (Drs. William C. Wetsel & Dr. Lawrence S. Barak, Department of Cell Biology)

David Kong*, The *Atxn1* gene inhibits CXCR3 chemokine expression in Epstein-Barr Virus infected atypical memory B-cells, (Dr. Micah Luftig, Department of Molecular Genetics and Microbiology)

Natalie Kubicki*, Understanding cellular adaptations to low oxygen conditions in deep diving marine mammals, (Dr. Jason Somarelli, Department of Medicine)

Thanaporn "Mie" Kusupholnand, Investigating the phenotypes and roles of mutant *pey* and *zip* alleles in *Drosophila melanogaster* process of dorsal closure, (Dr. Dan Kiehart, Department of Biology)

Pooja Lalwani, Alterations in mitochondrial lead (Pb²⁺) toxicity with co-exposures to a mitochondrial uncoupler and a mitochondrial calcium uniporter (MCU) inhibitor, (Dr. Joel Meyer, Nicholas School of the Environment)

Huizhong Li, Evaluation of phospho-rab pharmacodynamic responses, (Dr. Andrew West, Department of Pharmacology and Cancer Biology)

Rebecca Li, Autism spectrum disorder relevant mutations in Kdm6b affect its role as a chromatin regulator in brain development, (Dr. Anne West, Department of Neurobiology)

Emma Lofgren, Non-essential plasmid genes *pgp3* and *pgp4* promote pathogenicity of *Chlamydia muridarum*, (Dr. Raphael Valdivia, Department of Immunology)

Andrew LoPolito, Comparing droplet digital PCR with alternative assays for resolving complex structural variations: a case study in the C4 gene, (Dr. Greg Wray, Department of Biology)

Shibani Mallik, Determining the contribution of glia to spastin mutant neuronal pathogenesis, (Dr. Nina Sherwood, Department of Biology)

Jason McBane*, The effects of mitochondrial damaging reagents on membrane potential and mitophagy induction, with implications in neurodegeneration, (Dr. Chantell Evans, Department of Cell Biology)

Seo Ho (David) Moon, Targeting glutamine utilization inhibits proliferation and tumor growth of therapy-resistant prostate cancer, (Dr. Jiaoti Huang, Department of Pathology)

Alec Morlote, Exploring the relationship between neuronal activity and gene expression for male courtship behaviors of *Drosophila* with different social experiences, (Dr. Pelin Volkan, Department of Biology)

Jiung Nam, Targeting STK3 mitigates chemotherapy-induced cardiotoxicity, (Dr. Everardo Macias, Department of Pathology)

Dinachi Okonkwo*, Three repeated domains regulate the activity of deubiquitinase Ubp2 during oxidative stress recovery in *Saccharomyces cerevisiae*, (Dr. Gustavo Silva, Department of Biology)

Sung Ho Park, Effects of aging on retinal morphology and gene construct expression following AAV injection, (Dr. Catherine Bowes Rickman, Departments of Ophthalmology and Cell Biology)

Mihir Patel, Genetic regulation of STIM1 gene in human and mice muscle, (Dr. Paul B. Rosenberg, Department of Medicine - Cardiology)

Magdalena Phillips*, Collective navigation of talitrid amphipods, (Dr. Sonke Johnsen, Department of Biology)

Adrienne Pink, Evaluating microbial community ecology dynamics of an activated sludge enrichment culture in degrading

volatile organic compounds, (Drs. Marc Deshusses & Kelsey Deaton, Department of Civil and Environmental Engineering)

NiQuava Pope, Diabetes increases cholinergic neurotransmitter-mediated contractions in the type 1 diabetic female Akita mouse due to inflammation mediated by the NLRP3 inflammasome, (Dr. Francis "Monty" Hughes, Department of Surgery)

Orianna Poteete, Serum susceptibility of *Escherichia coli* and its association with patient outcomes, (Dr. Joshua Thaden, Department of Medicine - Infectious Diseases)

Pratamesh Ramasubramanian*, Tackling HIV-1 with synergistic monoclonal antibody configurations, (Dr. Guido Ferrari, Department of Molecular Genetics and Microbiology)

Nicolas Rey Liemann, Evaluating the off-target effects of a novel mRNA editing technology, (Dr. Aravind Asokan, Department of Molecular Genetics and Microbiology)

Emily Schewe, Contractile capacity: the role of STIM1 in successful labor and delivery among mice, (Dr. Paul Rosenberg, Department of Medicine - Cardiology)

Rachel A. Solecki, Investigating the interactome of RNA-binding protein EIF4A3 during early and mid-neurogenesis, (Dr. Debra L. Silver, Department of Molecular Genetics and Microbiology)

Caitlin Su*, Characterizing basement membrane compositional changes during aging, (Dr. David Sherwood, Department of Biology)

Shawin Vitsupakorn*, In vitro synergy of amphotericin B and other antifungal drugs against *Talaromyces marneffeii*, (Dr. Thuy Le, Department of Molecular Genetics and Microbiology)

Caleb Andrew Watson*, Integrative analysis identifies LCP1 (Lymphocyte Cytosolic Protein 1) as a regulator of cell motility in metastatic chondrosarcoma, (Dr. Julia Visgauss, Department of Orthopaedic Surgery)

Emily Weil, Investigating a potential hotspot of naturally-occurring lethal mutations in the *D. melanogaster* genome, (Dr. Mohamed Noor, Department of Biology)

Kaitlyn Winters*, Production and characterization of engineered immunogens for pan-coronavirus vaccine development, (Dr. Mihai Azoitei, Duke Human Vaccine Institute)

Naim Wright*, Neuropeptide Y Receptors and the alpha-2 Adrenoceptor in Primate Locus Coeruleus, (Dr. Anita Disney, Department of Neurobiology)

Haipei Yao*, Roles of the bis(monoacylglycerol)phosphate pathway in maintaining glioblastoma stemness, (Dr. Yiping He, Department of Pathology)

Larry Zheng, Behavioral analysis of coastal North Carolina sharks using drones and machine learning, (Dr. David Johnston, Marine Science and Conservation)

***High Distinction**