

# Graduation with Distinction in Biology

**\*Anika Agarwal**, Development and testing of a CRISPR/Cas9-based lineage tracing system to track metastatic progression and therapeutic resistance, (Dr. Jason Somarelli, Duke Cancer Institute & Dr. So Young Kim, Department of Molecular Genetics and Microbiology)

**Jadesola V. Akinwuntan**, Using ecological niche modeling to predict the future distribution of the rare fern *Gymnocarpium appalachianum* in response to anthropogenic climate change, (Dr. Kathleen Pryer, Department of Biology)

**Ammara Aqeel**, Bacterial multiplexing for high throughput drug screening: Using conjugation for barcoded bacterial library preparation, (Dr. Lingchong You, Department of Biomedical Engineering)

**Ana Vieira de Araújo**, Regulation of cell polarity by the cell cycle in *Saccharomyces cerevisiae*, (Dr. Daniel J. Lew, Department of Pharmacology and Cancer Biology)

**Melanie Bakovic**, High throughput assessment of cardiomyocyte clonal expansion during growth and regeneration, (Dr. Ravi Karra, Department of Medicine-Cardiology)

**Erica Nicole Blair**, Documenting habitat use patterns of sand tiger sharks (*Carcharias taurus*) on North Carolina shipwrecks using photo identification, (Dr. Brian Silliman, Duke Marine Lab)

**Talia Buenrostro**, *Menippe mercenaria* survivorship post-declawing: New mechanical removal method found to increase survivorship over traditional manual removal, (Dr. Brian Silliman, Duke Marine Lab)

**Mikaela Inessa Chandra**, Testing for interactions between Topoisomerase II beta and Nucleoporin 153 in immediate early gene transcription, (Dr. Eda Yildirim, Department of Cell Biology)

**Alex Li Han Chang**, Oxandrolone enhances AAV-vector therapy in female Pompe Mice, (Dr. Dwight Koeberl, Department of Molecular Genetics & Microbiology)

**Charlaine Chen**, The role of optineurin in autophagy and neurodegeneration in glaucoma, (Dr. Henry Tseng, Department of Ophthalmology)

**Serene Cheng**, Investigating the cancer protection mechanisms of tumor suppressor gene TP53 in large marine mammals, (Dr. Jason Somarelli, Duke Cancer Institute)

**Nicholas Cheung**, Investigating the role of DNA methylation on plastic responses in seedlings of *Arabidopsis thaliana* using DNA methyltransferase inhibitors, (Dr. Kathleen Donohue, Department of Biology)

**\*Lilly Chiou**, CRISPR-mediated introduction of lichen rDNA introns into yeast dramatically slows growth and increases desiccation resistance, (Dr. Daniele Armaleo, Department of Biology)

**Sierra J. Cleveland**, Morphometric analysis of an ontogenetic series of dolphin cranial endocasts, (Dr. V. Louise Roth, Department of Biology)

**Elizabeth Delgado**, Methods for generating gonad organoids, (Dr. Blanche Capel, Department of Cell Biology)

**Grahame Evans**, Exploration of *Saccharomyces cerevisiae* genes of unknown function, (Dr. Fred Dietrich, Department of Molecular Genetics & Microbiology)

**Jimshad Ahmad Farooque-Wooden**, Using protein-RNA interactions as a novel approach to investigate specificity, (Dr. Hashim Al-Hashimi, Department of Biochemistry)

**Drew Gerber**, Development of a method to culture and characterize circulating tumor cells from men with metastatic castration-resistant prostate cancer, (Dr. Andrew Armstrong, Department of Pharmacology and Cancer Biology)

**\*Cody Goldberger**, The power of polyketide metabolites: Investigating previously unexplored polyketide synthase domains in the *Toxoplasma gondii* parasite, (Dr. Emily Derbyshire, Department of Molecular Genetics and Microbiology)

**Sydney Grob**, Exploring pediatric brain tumors with a multi-modal genomic and molecular approach, (Dr. Amy Bejsovec, Department of Biology)

**\*Griffin Haas**, A novel therapeutic platform: Replication-competent, 10-segmented influenza viruses, (Dr. Nicholas Heaton, Department of Molecular Genetics and Microbiology)

**Lauren Hale**, Antibiotic resistance beta-lactamase gene prevalence in infants from Pakistan and Botswana, and the rapid growth of associated *E. coli* sequence types, (Dr. Matthew Kelly, Department of Pediatrics - Infectious Diseases)

**Rhiannon Harvey**, Comparative analysis of cetacean eye morphology using micro-computed tomography, (Dr. Sönke Johnsen, Department of Biology)

**Courtney Hill**, Hidden stories of the ground layer: Potential mechanisms driving community changes in invertebrates due to *Microstegium vimineum*, (Dr. Justin Wright, Department of Biology)

**James Hwang**, Knock-out mutagenesis of zebrafish genes using a CRISPR/Cas9 approach, (Dr. Michel Bagnat, Department of Cell Biology)

**Carolyn Im**, Building tools for pathway probing: developing and validating a fluorescent reporter for the E2F1 protein, (Dr. Bernard Mathey-Prevot, Department of Pharmacology & Cancer Biology)

**Othmane Jadi**, Determining the role of DDX3X in Burkitt lymphoma, (Dr. Sandeep Dave, Department of Medicine)

**Megan G. Jiao**, Interactions between oxidative stress and insulin/IGF-1 signaling for starvation resistance in *Caenorhabditis elegans*, (Dr. Ryan Baugh, Department of Biology)

**\*Kushal T. Kadakia**, Metabolic modulators of soft tissue sarcomas, (Dr. David Kirsch, Department of Pharmacology & Cancer Biology)

**\*Melina Keighron**, Small populations could get smaller: The conspecific density of *Hexastylis minor* affects its population growth rate, causing an Allee effect, (Dr. William Morris, Department of Biology)

**Youlim Kim**, "The Blue Devil Resistome": Antibiotic Resistance Transfer from the Environment to the Lab at Duke University, (Dr. Lingchong You, Department of Biomedical Engineering)

**Nadia Kirmani**, Evaluation of phase separation in tardigrade-specific intrinsically disordered proteins: A novel class of proteins that confer desiccation tolerance in tardigrades, (Dr. Ashutosh Chilkoti, Department of Biomedical Engineering)

**Jong Gwan Lee**, Quantitative metrics for persistence and plasticity of goal-directed systems, (Dr. Daniel McShea, Department of Biology)

**\*Peishu Li**, Comparative skeletal anatomy of neonatal ursids and the altricial-precocial spectrum of therian mammals, (Dr. Kathleen K. Smith, Department of Biology)

**Angela Liu**, The development of a high-throughput differential scanning fluorimetry method to identify small molecule probes for the MALAT1 triple helix, (Dr. Amanda Hargrove, Department of Chemistry)

**Esther Liu**, Characterizing the role of BFL-1 and BCL-W in regulating apoptosis in response to chemotherapeutics in melanoma, (Dr. Kris C. Wood, Department of Pharmacology and Cancer Biology)

**Jim Liu**, Analyzing the heritable effects of nicotine exposure on the sperm epigenome, (Dr. Susan Murphy, Department of Obstetrics and Gynecology)

**\*Siera Rene Lunn**, Exploring variability in the skin microbiome by examining hormonal effects in Coquerel's sifakas (*Propithecus coquereli*) and ring-tailed lemurs (*Lemur catta*), (Dr. Christine Drea, Department of Evolutionary Anthropology)

**Kerry Anne Mallinson**, Evaluating rhinovirus prevalence among pneumonia patients in Sarawak, Malaysia, (Dr. Gregory Gray, Department of Medicine)

**\*Jesse Mangold**, Viral evolution and rebound in a preclinical model of pediatric HIV reservoir on ART, (Dr. Sallie Permar, Department of Molecular Genetics and Microbiology)

**\*Parker D Mathews**, Population genetic and functional insights from teratogen tolerant populations of Atlantic killifish (*Fundulus heteroclitus*): A marine science project with human health implications, (Dr. Jason Somarelli, Duke Cancer Institute & Dr. Tom Schultz, Duke Marine Lab)

**Ruolin "Eudora" Miao**, A community survey of symbiotic mine site fungi along a gradient of recovery on the mine sites in the Carolinas, (Dr. Rytas Vilgalys, Department of Biology)

**Murotiwamambo Washington Mudziviri**, The compensatory mechanism(s) utilized by *Cryptococcus tps1Δ* suppressor mutants to survive at 37°C in glucose after the loss of the trehalose pathway, (Drs. Jennifer Tenor & John Perfect, Department of Medicine)

**\*Laura Naslund**, From aquatic food webs into riparian spider webs: The transfer of alkaline mine drainage pollutants into terrestrial ecosystems, (Dr. Emily Bernhardt, Department of Biology)

**Laura Noteware**, Characterization of BCAT1 regulated cancer metabolism, (Dr. James Alvarez, Department of Pharmacology and Cancer Biology)

**\*Kyle Ockerman**, Zona pellucida domain proteins regulate sensory neural circuit formation in *Caenorhabditis elegans*, (Dr. Dong Yan, Department of Molecular Genetics and Microbiology)

**Kelsey O'Donnell**, How do cleaner shrimp decide which client fish to clean? The influence of visual and olfactory cues on the likelihood of cleaning, (Dr. Sönke Johnsen, Department of Biology)

**\*Margo Isabelle Orlen**, Characterization of the dopamine D2 receptor internalization and signaling using BRET, (Dr. Marc Caron, Department of Cell Biology)

**Andrew Padilla**, Identification of chromosome instability resistant genes in the *Drosophila* hindgut via an unbiased genetic screen, (Dr. Don Fox, Department of Pharmacology and Cancer Biology)

**Samuel Pan**, Key DNA repair kinase ATM plays a non-canonical role in modulating cell death via ferroptosis, (Dr. Jen-Tsan Ashley Chi, Department of Molecular Genetics and Microbiology)

**Ivana Premasinghe**, Single-cell analysis and gene expression profiles across Alzheimer's Disease pathology through Fluorescence-Activated Nuclei Sorting (FANS) methods, (Dr. Ornit Chiba-Falek, Department of Neurology)

**Arjun Netuveli Ramesh**, Understanding CFTR expression in heart failure, (Dr. Dawn Bowles, Department of Surgery)

**\*Justine C. Rutter**, Defining and leveraging genetic trade-offs to selectively target drug resistance in acute myeloid leukemia (AML), (Dr. Kris C. Wood, Department of Pharmacology and Cancer Biology)

**\*Blake Sells**, A genetic and metabolic approach to understanding and treating *Cryptococcus neoformans* infection in the central nervous system, (Dr. John Perfect, Department of Medicine)

**Jacob Sumner**, Amyloid precursor protein is associated with Tom40 in mouse model brains, (Dr. William Kirby Gottschalk, Department of Neurology)

**Moises Tacam Jr.**, Development and characterization of chronic exposure models to polycyclic aromatic hydrocarbon (PAH) complex mixture in estrogen receptor-negative and -positive breast cancer cell lines, (Dr. Gayathri Devi, Department of Pathology)

**Claire Thomas**, Mountaintop removal coal mining alters carbon quality in receiving streams, (Dr. Emily Bernhardt, Department of Biology)

**Trevyn Adare Toone**, Trophic relationships at deep-sea Barbados seeps, (Dr. Cindy Van Dover, Duke Marine Lab)

**Skye Tracey**, Exploring the Latrophilin-FLRT interaction, (Dr. Jeremy Kay, Department of Neurobiology)

**Jade Tso**, Analysis of vegfaa-associated regulatory elements during cardiac homeostasis and regeneration in zebrafish, (Dr. Kenneth Poss, Department of Cell Biology)

**Maya Wilson Brown**, Facilitative allele in reproductive isolation between Morning Glories (*Ipomea*), (Drs. Mark Rausher & Kate Ostevik, Department of Biology)

**Shayna Wolery**, Delineating G9a inhibition toxicity in recurrent breast cancer, (Dr. James Alvarez, Department of Pharmacology and Cancer Biology)

**Bohyun Yun**, Conservation of morphogenesis: Analysis of functional homology between mammalian and *Drosophila melanogaster* non-muscle myosin II, (Dr. Daniel Kiehart, Department of Biology)

**Susan Zheng**, Identifying novel regulators of zebrafish heart regeneration, (Dr. Kenneth Poss, Department of Cell Biology)

*\*High Distinction*