Students Graduating with Distinction in Biology

***Rishav Adhikari**, Integrated control of blood pressure by the renin-angiotensin system in the kidney, *(Dr. Susan Gurley, Department of Medicine/Nephrology)*

***Chaarushi Ahuja**, Exploring the relationship between depression and hypothyroidism: a mathematical model, *(Dr. H. Frederik Nijhout, Department of Biology)*

Kimberly Arena, The role of NFAT5 and solute carrier genes in the inflation of notochord vacuoles, *(Dr. Michel Bagnat, Department of Cell Biology)*

Benjamin Thomas Balin, Examining if intra-specific variation exists in the asexual reproductive success of the peat moss genus *Sphagnum*, *(Dr. Jonathan Shaw, Department of Biology)*

***Erik Bao**, Bronchopulmonary dysplasia impairs L-type amino acid transporter-1 expression in human & baboon lung, *(Dr. Richard Auten, Department of Medicine/Pediatrics)*

Audra Caroline Bass, An analysis of the correlation between cortisol levels and anxious behavior of captive Aye-Ayes (*Daubentonia madagscariensis*) at the Duke Lemur Center, *(Dr. Anne Yoder, Department of Biology and Duke Lemur Center)*

Stella Belonwu, Hs-27, a novel Hsp90 inhibitor, exhibits diagnostic and therapeutic potential in triple negative breast cancer, *(Dr. Nimmi Ramanujam, Departments of Biomedical Engineering and Pharmacology and Cancer Biology)*

Haylee Bergstrom, Developing iPSC-derived neuronal cell lines for studying the effect of synuclein overexpression in the context of synucleinopathies, *(Dr. Ornit Chiba-Falek, Department of Medicine/Neurology)*

Okechi Boms, Electrophysiology of Gαz protein as a mediator for seizure susceptibility, *(Dr. Kafui Dzirasa, Department of Medicine/Psychiatry and Behavioral Sciences)*

Ilea Josette Chau, Transgenerational induction of defense in response to herbivory in *Boechera stricta*, *(Dr. Thomas Mitchell-Olds, Department of Biology)*

Catherine Chen, Advertisement signals of cleaner shrimp in the genus *Lysmata*, *(Dr. Sönke Johnsen, Department of Biology)*

James Cho, Roles of biogeography and physicochemical conditions in zooplankton colonization, *(Dr. Justin Wright, Department of Biology)*

Alison Choi, Investigating the induction of autophagy by transforming growth factor beta (TGF-β) in trabecular meshwork cells, *(Dr. Paloma B. Liton, Department of Medicine/Ophthalmology)*

Peter Ciaccia, Evolution of function in the periplasmic binding protein superfamily, *(Dr. Homme Hellinga, Department of Biochemistry)*

Prashanth Surya Ciryam, Effects of neuron stimulation on amyloid-beta aggregation in *C. elegans*, *(Dr. L. Ryan Baugh, Department of Biology)*

Matthew Alexander Garcia Crain, Impact of early life stress on neural network dysregulation and major depressive disorder in adulthood, *(Dr. Moria Smoski, Department of Medicine/Psychiatry and Behavioral Sciences)*

Victoria Diggs, Do ribosomal introns affect desiccation tolerance and growth in the lichen *Cladonia grayi*? *(Dr. Daniele Armaleo, Department of Biology)*

Andrew W. Eaton, Receptor trafficking and cell phenotype: a Cas9-induced gene knockout study of LGR5 internalization in vitro, *(Dr. Marc G. Caron, Department of Cell Biology)*

Katharine Ellis, Characterization of drosophila wing curvatures in relation to the IP3 signaling pathway, *(Dr. Eric Spana, Department of Biology)*

Toyokazu Endo, Bridging the gap in spinal cord regeneration: investigating the role of connective tissue growth factor in spinal cord injuries in zebrafish, *(Dr. Kenneth Poss, Department of Cell Biology)*

Michael Elizabeth Fall, Evolution of mammalian growth rates, *(Dr. V. Louise Roth, Department of Biology)*

***Matthew Farnitano**, One gene or many? Different genetic mechanisms drive convergent evolution in monkey flowers, *(Dr. John Willis, Department of Biology)*

Christine Lynne Farrell, The effect of an anti-PD-1 monoclonal antibody on dendritic cell-tumor fusion vaccine efficacy in a murine melanoma model, *(Dr. Walter T Lee, Department of Medicine/Surgery)*

***Ashley Kaitlynn Gartin**, Cowpox virus v204 gene is necessary for maximal viral induction of host interleukin-10 expression, *(Dr. David Pickup, Department of Molecular Genetics and Microbiology)*

Vinay Giri, Identification and characterization of transcription factors required for the survival of *C. neoformans* in the central nervous system, *(Dr. John Perfect, Department of Medicine/Infectious Diseases)*

Lisa Guo, Male overweight/obesity and sperm epigenome disturbances at differentially methylated regions of imprinted genes, *(Dr. Susan Murphy, Department of Medicine/Obstetrics and Gynecology)*

Corinne E. Hayes, Molecular insights into immune response to *Cryptosporidium* in a non-model primate, *(Dr. Anne D. Yoder, Department of Biology)*

Frederick Heller, Linking epigenetic machinery to estrogen-dependent processes: foundations for next-generation therapeutics, *(Dr. Dewey McCafferty, Department of Chemistry)*

Alexander J. Hish, Mesenchymal-epithelial transition and stemness in sarcoma, *(Dr. William Eward, Department of Medicine/Orthopaedic Surgery)*

Grace Hsu, Identifying transcription factors responsible for *Cryptococcus neoformans* copper sensitivity, *(Dr. Dennis Thiele, Department of Pharmacology and Cancer Biology)*

Brie Jackson, The troubles of being female: investigating the relationship between social status and stress levels in a population of adult female yellow baboons, *(Dr. Susan C. Alberts, Department of Biology)*

Ritujith Jayakrishnan, The genomics of adaptation during selection for invasive growth in yeast, *(Dr. Paul Magwene, Department of Biology)*

David Eric Kantrowitz, CDK8 mediates adaptive resistance to MAP kinase inhibition in pancreatic cancer, *(Dr. Daniel P. Nussbaum, Department of Pharmacology & Cancer Biology)*

Jaclyn Karasik, Genetic regulation of endothelin 2 in zebrafish cardiomyocyte regeneration, *(Dr. Kenneth Poss, Department of Cell Biology)*

Julian O. Kimura, Probing the regenerative capabilities of sea urchin embryos, *(Dr. David McClay, Department of Biology)*

Stephen Kirchner, Examining the roles of Mxi1 and Mxi0, putative N-Myc antagonists in neuroblastoma, *(Dr. Michael Armstrong, Department of Medicine/Pediatrics)*

***Maria Anne Kohlbrenner**, The role of a novel *Cryptococcus* gene, MAR1, in regulating cell wall integrity, *(Dr. Andrew Alspaugh, Department of Medicine)*

Eric Lakey, Expression and purification of chorismate synthase in *Plasmodium, (Dr. Emily Derbyshire, Department of Molecular Genetics and Microbiology)*

Emily Cracchiolo Laub, Mud snail (*Illyanasa obsoleta*) responses to environmental odors and peptide mimics across seasons, *(Dr. Dan Rittschof, Duke Marine Lab)*

***Hui Yi Grace Lim**, Identification and characterization of novel regulators of cell invasion in *Caenorhabditis elegans, (Dr. David Sherwood, Department of Biology)*

Alexis L Lo, Using light to control protein-protein interactions: optogenetics in *Drosophila melanogaster, (Dr. Daniel P. Kiehart, Department of Biology)*

Elizabeth Mansfield, An assessment of visual tagging methods for sea turtles using unoccupied aircraft systems (UAS*), (Dr. David Johnston, Duke Marine Lab)*

***Thomas Meister**, O-linked glycosylation mediates protein-protein interactions during vesicle trafficking, *(Dr. Michael Boyce, Department of Biochemistry)*

Briana Erin Mittleman, Genetic architecture of variation in sex comb tooth number in *Drosophila subobscura, (Dr. Mohamed Noor, Department of Biology)*

William K. Nesbitt, Elucidation of the evolutionary origin of the neural crest: searching for neural crest genes in sea urchins, *(Dr. David McClay, Department of Biology)*

Vanessa Osman, ABL kinases' role in cell membrane regulation: implication in angioedema treatment, *(Dr. Ann Marie Pendergast, Department of Pharmacology and Cancer Biology)*

***Rebecca Passman**, Molecular and behavioral differences in striatum- and forebrain-Shank3 knockout mouse models of autism spectrum disorders, *(Dr. Yong-Hui Jiang, Departments of Neurobiology and Pediatrics)*

Lauriane Pinto, Molecular characterization of Alzheimer's candidate gene TOMM40 in non-model primates, *(Dr. Anne Yoder, Department of Biology)*

Vikram Ponnusamy, The effects of homologous recombination proteins on RNA mediated silencing in *Cryptococcus neoformans, (Dr. Joseph Heitman, Department of Molecular Genetics and Microbiology)*

Surabhi Reddy, Visual tracking in mantis shrimp, *(Dr. Sheila Patek, Department of Biology)*

Michael Rogers, The secret behind "silent" nucleotide changes: novel tools to uncover cell and tissue-specific differences in codon bias, *(Dr. Don Fox, Department of Pharmacology and Cancer Biology)*

Sayoni Saha, Appetite and weight loss symptoms in late life depression predict dementia outcomes, *(Dr. Guy Potter, Department of Medicine/Psychiatry)*

Caroline Schanche, Proteomic analysis on EGFR signaling and its modulation by novel EGFR inhibitor AZD9291 in U-373 glioblastoma cells, *(Dr. Madan Kwatra, Department of Medicine/Anesthesiology)*

Kelly Shen, Stressed and buried: what's changing leaf litter decomposition in urban streams? *(Dr. Emily Bernhardt, Department of Biology)*

Patricia Shi, Identification of diagnostic single chain recombinant antibodies for *Salmonella enterica, (Dr. Michael Dee Gunn, Department of Medicine)*

Arielle Shkedi, Understanding the role of the signal recognition particle pathway in protein secretion, *(Dr. Christopher Nicchitta, Department of Cell Biology)*

Mary Skapek, Evaluating the role of soil microbes in the evolution of a genetic locus for defensive chemistry in *Boechera stricta, (Dr. Tom Mitchell-Olds, Department of Biology)*

Philippa Tanford, Fungal endophytes in moss: host or site specific? *(Dr. Jonathan Shaw, Department of Biology)*

Brian Taylor, Tool use by a predatory worm, *(Dr. Daniel Rittschof, Duke Marine Lab)*

Annalese Williams, Is rapid adaptation to new environments fueled by old mutations? A case study of copper tolerance on *Mimulus guttatus, (Dr. John Willis, Department of Biology)*

Rosa O. Yang, Aging in budding yeast: examining chronological lifespan extension in response to nutrient limitation, (*Dr. Paul Magwene, Department of Biology)*

Helena You, The role of receptor transporting proteins RTP1 and RTP2 in odorant receptor repertoire bias and gene choice, *(Dr. Hiroaki Matsunami, Department of Molecular Genetics and Microbiology)*

Jonah Yousif, HASF, a novel stem cell factor, promotes cardiomyocyte proliferation, *(Dr. Victor Dzau, Department of Medicine)*

Lillian Zerihun, Ependymal planar cell polarity in the SVZ neurogenic niche, *(Dr. Chay Kuo, Department of Neurobiology)*

June Zhang, Identifying the protein kinase that phosphorylates Crz1 in *Cryptococcus neoformans, (Dr. Joseph Heitman, Department of Molecular Genetics and Microbiology)*

Emma Zhao, Silica induces formation of iBALT, a tertiary lymphoid tissue, in genetically distinct murine backgrounds, *(Dr. Mary Foster, Department of Medicine/Nephrology)*

**High Distinction*