



Students Graduating with Distinction in Biology

Murillo Adrados, Studies of conformational dynamics of neuronal nitric oxide synthase: a fluorescence spectroscopy approach, (Dr. Dipak Ghosh, Department of Medicine, Duke University School of Medicine)

Alanna Hope Ahlers, Neuronal Differentiation of Adipose Derived Stem Cells, (Dr. Bentley Cheatham, Zen-Bio Inc., Research Triangle Park; Thesis Supervisor: Dr. Kam Leong, Department of Biomedical Engineering)

Teresa Ai, Genetic regulation of outer membrane vesiculation in *Escherichia coli*, utilizing a novel genome-saturating approach, (Dr. Meta Kuehn, Department of Biochemistry, Duke University Medical Center)

Jared A. Blau, Heterochromatin and GFP: Flipping the Light Switch on Green Fission Yeast, (Dr. Huntington F. Willard, Department of Biology/IGSP)

Christina Chang, The role of miR-34a in EBV-transformed cell growth, (Dr. Micah Luftig, Department of Molecular Genetics and Microbiology, Duke University Medical Center)

Charles Chen, Genetic dissection of light signaling in *Arabidopsis thaliana*, (Dr. Meng Chen, Department of Biology)

Irving Chung, Experimental evaluation of a novel binding-energy based algorithm for computational prediction of microRNA targets, (Dr. Bryan Cullen, Department of Molecular Genetics and Microbiology, Duke University Medical Center)

Benjamin Contrella*, Essential role of ATP binding and hydrolysis in Gp93 chaperone function, (Dr. Christopher Nicchitta, Department of Cell Biology, Duke University Medical Center)

Sarah Diehl, *Microstegium vimineum*, an invasive grass, affects tree germination, soil communities and nitrogen cycling in a riparian system, (Dr. Justin Wright, Department of Biology)

Anne L. Donato, Breast cancer risk and progestin dosage: Low-dose progestins induce the expression of genes and proteins that regulate the cell cycle in breast cancer cells, (Dr. Donald McDonnell, Department of Pharmacology and Cancer Biology, Duke University Medical Center)

Karin English, Toxicity of Mountaintop Removal Mining Contaminants in West Virginia, (Dr. Richard Di Giulio, Nicholas School of the Environment)

Taylor Gullet, Body Size Evolution in the Deep Sea: A Case Study on the Class Bivalvia, (Dr. Craig McClean, The National Evolutionary Synthesis Center)

Natasha Gupta, The avidin shift assay: a novel method to quantitatively identify proteins oxidized by nitric oxide, (Dr. Richard Whorton, Department of Pharmacology and Cancer Biology, Duke University Medical Center)

Albert Ha, Identification of Signal Transduction Networks Associated with the CD133 (Cancer) Stem Cell Marker, (Dr. Wei Chen, Division of Gastroenterology, Department of Medicine, Duke University School of Medicine)

Megan Hall, Recruitment of *Callinectes sapidus* Rathburn (blue crab) megalopae in an estuary, (Dr. Richard Forward, Duke University Marine Lab)

Monica Hamilton*, Meiotic chromosome segregation in *Saccharomyces cerevisiae* triploids, (Dr. Thomas D. Petes, Department of Molecular Genetics and Microbiology, Duke University Medical Center)

Zach Harvanek, Effects of the Trinucleotide AAG/TTC Repeat Sequences on Meiotic Recombination in *Saccharomyces cerevisiae*, (Dr. Thomas D. Petes, Department of Molecular Genetics and Microbiology, Duke University Medical Center)

Kathryn S. Hinchee*, Towards structural analysis of human telomerase: a novel method for cloning, overexpressing, purifying and crystallizing the RNA-binding domain, (Dr. Lorena S. Beese, Department of Biochemistry, Duke University Medical Center)

Chris Hoersting, Construction of an adeno-associated viral vector containing human glycogen branching enzyme and its use to induce expression in wild-type mice, (Dr. Dwight Koeberl, Department of Pediatrics, Duke University School of Medicine)

Lee K. Hong, A Loss-of-Function Genetic Screen Identifying kat60 Interactors in *Drosophila melanogaster*, (Dr. Nina Tang Sherwood, Department of Biology)

Chenchen Huang, The role of a novel transcription factor network in regulating the timing of cell-cycle events in *Saccharomyces cerevisiae*, (Dr. Steve Haase, Department of Biology)

Grace Huang, Oncogenic determinancy of LMO2 in B-cells and T-cells, (Dr. Sandeep Dave, Department of Medicine, Duke University School of Medicine)

Justine Jackson-Ricketts, Stormwater Runoff Pond Pollution and Policy: Overview, Problems, and Recommendations for the Future, (Dr. Daniel Rittschof, Duke University Marine Lab)

Linda Yuan Jiang, Mouse lung branching morphogenesis is regulated by the Smad4 protein but not the cell surface receptor TGF β RII, (Dr. Barry Stripp, Department of Medicine, Duke University School of Medicine)

Bonnie Jin, Single Nucleotide Polymorphism Analysis of the EXO1 gene in Normal and Cancer cell lines, (Dr. Victoria Seewaldt, Division of Oncology, Duke University School of Medicine)

Soraya L. Johnson, The role of Bcl-2-associated athanogene-3 (BAG3) in the regulation of endothelial cell responses to hypoxia and nutrient deprivation, (Dr. Christopher Kontos, Division of Cardiology, Duke University School of Medicine)

Vishnupriya Khatri, Testing a dimensionless number model on influenza A viruses in multiple host systems, (Dr. Katia Koelle, Department of Biology)

Andrew J. Kim, Cellular plasticity of cardiogenesis: how fibroblast growth factor 8 (FGF8) influences behavior and fates of secondary heart field progenitors, (Dr. Margaret Kirby, Departments of Pediatrics and Cell Biology, Duke University Medical Center)

Kristin Knouse*, Characterizing the morphogenesis of the intestinal stem cell niche, (Dr. Terry Lechler, Department of Cell Biology, Duke University Medical Center)

Elizabeth Naylor Kuhn, Chemokinetic fibroblast growth factor 8 is a novel modulator of cardiac neural crest migration, (Dr. Margaret L. Kirby, Department of Pediatrics, Duke University School of Medicine)

Alexander Lazarides, Identification and Characterization of Pinwheel Structures Newly Found in Lateral Regions of the 4th Ventricle of the Adult Mouse Brain, (Drs. Chay Kuo and Anne Buckley, Department of Cell Biology, Duke University Medical Center)

Anthony Lee, Survival defects of *Cryptococcus neoformans* mutants in human cerebrospinal fluid results in attenuated virulence in an experimental model of meningitis, (Dr. John Perfect, Infectious Diseases, Duke University School of Medicine)

Stephanie Li, Validation of the Two-Hit Hypothesis: Investigating a Somatic Mosaic Patient with Cerebral Cavemous Malformations, (Dr. Doug Marchuk, Department of Molecular Genetics and Microbiology, Duke University Medical Center)

Fei Lian, Genetic Diversity of an Undescribed Species of Hydrothermal Vent Shrimp (*Chorocaris sp.*) in Manus Basin, Papua New Guinea, (Dr. Cindy Van Dover, Duke University Marine Lab)

Rebecca Liu, The title of your project/thesis: The Persistence of Human Cytomegalovirus Gene Expression in Glioblastoma Multiforme (GBM), (Dr. Duane A. Mitchell, Department of Surgery, Duke University School of Medicine)

Samanthe Lyons, Comparative inter- and intraspecific analysis of chela force in *P. herbstii*, *M. mercenaria*, and *C. sapidus*, (Dr. Daniel Rittschof, Duke University Marine Lab)

David Mlaver*, Regional organization of lens membrane proteins AQP-0, Cx46, and Cx50 into raft and non-raft microdomains: role of protein homo-oligomerization, (Dr. Tom McIntosh, Department of Cell Biology, Duke University Medical Center)

Jessica Nicholson, $\alpha 4\beta 2$ and $\alpha 7$ Nicotinic Receptors in the Thalamus: Effects on Memory in Rats Performing a Radial-Arm Maze Task, (Dr. Edward Levin, Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine)

Xander Nuttle, Human and chimpanzee differential expression of a noncoding RNA gene in the brain, (Dr. Gregory A. Wray, Department of Biology)

Ameel Patel*, The Role of Alternative Splicing in Lymphoma, (Dr. Sandeep Dave, Institute of Genome Science & Policy)

Carolyn Powell, Tick-host interactions revealed through protozoal vector competence and tick burden on the white rhinoceros (*Ceratotherium simum*) in Kruger National Park, South Africa, (Dr. Susan Alberts, Department of Biology)

Katherine M. Rief, Neuroanatomical Commonalities of Deception, False Memory and Memory Errors in Dementia, (Dr. Jeffrey Browndyke, Department of Psychiatry and Behavioral Sciences, Bryan Alzheimer's Disease and Research Center)

Sharmistha Rudra, Identification of Novel Upstream Regulators of SHORT ROOT Transcription Factor in Arabidopsis thaliana, (Dr. Philip Benfey, Department of Biology)

Laura Saucier, Habitat-specific behavioral disparities among *Lemur catta* in Antandroy, Madagascar, (Dr. Anne Yoder, Department of Biology)

Winn Seay, The role of Iroquois homeobox gene *IrxA* in the embryonic development of sea urchin species *Lytechinus vareigatus*, (Dr. David McClay, Department of Biology)

Kelsey Erin Shaw, The stress effects of capture and captivity in white rhinoceroses in Kruger National Park, (Dr. Christine Drea, Departments of Biology and Evolutionary Anthropology)

Amish Sheth, Individual Differences in Mesolimbic fMRI Activation: Common Recruitment by Reward Anticipation and Learning, (Dr. Rachel Alison Adcock, Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine)

Jessica Shuen, Do corticostriatal synaptic transmission abnormalities underlie dystonia? (Dr. Nicole Calakos, Department of Neurobiology, Duke University Medical Center)

Jeffrey Singer, Toward effective nasal vaccination using mast cell activating peptides as novel adjuvants: Does post-translational amidation make a difference? (Dr. Herman Staats, Department of Pathology, Duke University Medical Center)

Jacquelyn Sink, Differential expression of the glycolytic genes HK1 and GPI in selected primate species: Toward understanding the molecular basis for an energetic trade-off during human evolution, (Dr. Gregory Wray, Department of Biology)

Julie A. Sogani*, Role of the type III TGF- β receptor in suppressing collective cancer cell migration through disruption of the Cdc42-mediated polarity pathway, (Drs. Gerard C. Blobe and Karthikeyan Mythreye, Department of Pharmacology and Cancer Biology, Duke University Medical Center)

Sarah Steele, Examining the role of NPR-1/GPCR in the regulation of innate immunity in *Caenorhabditis elegans*, (Dr. Alejandro Aballay, Department of Molecular Genetics and Microbiology, Duke University Medical Center)

Alexandra Todisco†, A Functional Magnetic Resonance Imaging study of the Processing of Irrelevant Information in a Multisensory Conflict Paradigm, (Dr. Marty Woldorff, Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine)

Vivek A. Upadhyay*, Investigating the Relationship Between β -arrestins and the Sodium-Potassium-Chloride Cotransporter Type 1 (NKCC1), (Dr. Robert J. Lefkowitz, Department of Biochemistry, Duke University Medical Center)

Jeffrey Bail Walker, Complex contributions of antibody heavy and light chains to autoreactivity and tolerance in an Ig transgenic mouse model of Goodpasture syndrome, (Dr. Mary H. Foster, Department of Medicine, Duke University School of Medicine)

Irvin Wang, Genomic Signatures of Yeast Laboratory Domestication (Dr. Paul Magwene, Department of Biology)

Isaac H. Warren, Benzo(a)pyrene Metabolism in Chronically Exposed and Naïve Killifish (*Fundulus heteroclitus*) Populations, (Dr. Richard T. Di Giulio, Nicholas School of the Environment)

Guan-Yu Xu, Role of Polymerase β in Somatic Hypermutation, (Dr. Shyam Unniraman, Department of Immunology, Duke University Medical Center)

Divya Yerramilli, Spatial vision in the echinoid *Strongylocentrotus purpuratus*, (Dr. Sönke Johnsen, Department of Biology)

Danielle Zaveta, Population Dynamics of *Pagurus longicarpus* in Beaufort NC: Life Cycle, Growth Rate and "Supermales", (Dr. Daniel Rittschof, Duke University Marine Lab)

*High Distinction

†Distinction in the Interdepartmental Major