2013 BIOLOGY HONORS GRADUATES

Student Name	Research Supervisor	Research Department	Thesis Title
Lauren Aberegg	Jeffrey Scott	Genetics & Development	The role of the *kdr-his* mutation of *Vssc* in pyrethroid resistance in house flies
Camilo Acosta	Timothy DeVoogd	Neurobiology & Behavior	The effects of sublethal levels of polychlorinated biphenyls (PCBs) on memory-related brain regions and song brain nuclei in Zebra finch birds (*Taenipygia guttata*)
Ila Anand	Eric Richards	Genetics & Development	Natural Epigenetic Variation of *Sadhu1-1* and *Sadhu6-1* and the Phenotypic Effect of *Sadhu-1* in *A.thaliana*
David Angeles Albores	Hudson Kern Reeve	Neurobiology & Behavior	Evolutionary Consequences of Transcriptional Noise: A Mathematical Approach
Caleb Arellano	Irby Lovette	Ecology & Evolutionary Biology	Sex Ratio in Relation to Hatch Order in a Population of Ospreys (Pandion haliaetus)
Rachel Ballantyne	Alan Nixon	Animal Physiology	Optimization of Non-Viral Transfection Methods for Equine Mesenchymal Stem Cells
William Barnes	Jocelyn Rose	Plant Biology	The Effects of Abiotic Stress on the Spatial and Temporal Patterns of Suberin Biosynthesis in *Arabidopsis thaliana* roots
Pallavi Basu	Andy Bass	Neurobiology & Behavior	*Drosophila melanogaster* as a novel system for assaying corticosteroid receptor ligand-binding sensitivity

Nipun Bhandari	David Deitcher	Neurobiology & Behavior	Effect of FOXP knockdown in *Drosophila melanogaster* on locomotor activity
Kevin Braunscheidel	David Lin	Animal Physiology	SPOCK2 Protein Forms Heterodimers with SPOCK1 and SPOCK3 Protein that could alter Matrixmetalloprotease Activity and Neurite Outgrowth
Lucas Chang	Michael Goldstein	Neurobiology & Behavior	Distributional Learning of Categories in Infants: From Phonemes to Actions
Brendan Chen	Kenneth Kemphues	Genetics & Development	NPP-22, a nucleoporin and regulator of spindle orientation in the early *Caenorhabditis elegans* embryo
Spencer Chen	Eric Denkers	Animal Physiology	Macrophage Plasticity and Manipulation of Macrophage Activation Pathways by Intracellular Parasite *Toxoplasma gondii*
Steven Chen	Volker Vogt	Molecular & Cell Biology	A Comparison of Equine Infectious Anemia Virus, Human Immunodeficiency Virus Type 1, and Rous Sarcoma Virus Plasma Membrane Binding Requirements for Retrovirus Assembly
Szu-Yu (Tina) Chen	Thomas Cleland	Neurobiology & Behavior	Effect of Learning on Representation of Odor in Odor Space
Alan Chramiec	Joseph Peters	Microbiology	Exploring the functional role of the bacterial protein SeqA and co-occuring genome stability systems in TnsE-mediated Tn7 transposition using the *E.coli* model system
Changik (Charlie) Chung	Gary Whittaker	Biochemistry	Characterization of Hepatocyte Growth Factor Activator Inhibitor Type 2 (HAI-2) As a Potential Protease-based Therapeutic against Influenza Virus

Leslie Decker	Andre Kessler	Ecology & Evolutionary Biology	Herbivore mediated changes in drought stress responses affects plant fitness
Luke DeFisher	David Bonter	Ecology & Evolutionary Biology	Effects of invasive European fire ants (*Myrmica rubra*) on herring gull (*Larus argentatus*) reproduction
Darcy Diago	Chris Schaffer	Neurobiology & Behavior	3D Reconstruction of the Mouse Spinal Cord Vasculature & Topological Analysis: Implications for Spinal Stroke
Joanna Dong	Joseph Fetcho	Neurobiology & Behavior	Rostrocaudal Gradient of Glycinergic and Glutamatergic Spinal Interneurons in the Larval Zebrafish model
Michael Dubreuil	Anna Kukekova	Genetics & Development	Association of the HTR2C gene with selection for behavior in silver foxes (*Vulpus vulpus*)
Amy Ericksen	Andre Kessler	Ecology & Evolutionary Biology	Influence of plant reproductive strategy on herbivore-pollinator interactions in the wild tomato, *Solanum habrochaites*.
Eno-obong Essien	Avery August	Animal Physiology	Characterization of IL-17A expression in AhR Deficient Mice
Celestia Fang	Wojciech Pawlowski	Plant Biology	Natural Variation in Meiotic Recombination Rates in Maize
Lisebeth Forbes	Charles Aquadro	Genetics & Development	Analysis of Selection Patterns in Germline Stem Cell Genes (*Stonewall, Otefin*) in *Drosophila pseudoobscura*
Jennifer Goforth	David Winkler	Ecology & Evolutionary Biology	Factors Influencing Foraging Habitat Use by Tree Swallows (*Tachycineta bicolor*)

Xiaoyun Gong	Thomas Silva	Plant Biology	Auxin and Cytokinin Effects on Elongation and Lateral Root Formation of *P. sativum* Excised Roots in Culture
Crystal Grant	Andrew Clark	Genetics & Development	Effects of the HDAC Inhibitor, Curcumin, on Position Effect Variegation in *Drosophila*
Crystal Han	Christiane Linster	Neurobiology & Behavior	Effect of 17-β Estradiol on Memory in the Olfactory Bulb of Male Mice
Jingpeng He	Jun Kelly Liu	Genetics & Development	Characterization of tetraspanin TSP-21 in the TGFβ Sma/Mab and dauer pathways in *Caenorhabditis elegans*
Elizabeth Hedges	Michael King	Molecular & Cell Biology	Immobilized SDF-1 Modulates Selectin-Mediated Capture of Cancer Cells Under Flow
Tyler Helmann	Alan Collmer	Plant Biology	Evaluating minimal repertoires of *Pseudomonas syringae* pv. *Tomato* DC3000 type III effectors and their impact on host plant specificity
Julian Homburger	Nathan Sutter	Genetics & Development	Body Size Correlates with Phylogeny Among Horse Breeds
Diana Hong	Ronald Harris-Warrick	Neurobiology & Behavior	Immunohistochemical quantification of serotonin and serotonin transporters in the lumbar region of the mouse spinal cord after spinal cord injury
Michael Huang	David Deitcher	Neurobiology & Behavior	Characterization of Pumilio as an enhancer of seizure phenotype in a *Drosophila melanogaster* model of epilepsy and development of a stroboscopic behavioral assay of seizure susceptibility
Evgenia Ivakhnitskaia	Howard Howland	Neurobiology & Behavior	Appreciating the Complexity of Depth Perception: A Review of the Current Knowledge of Stereopsis and Suggestions for Future Research,

			Inspired by Susan Barry's *Fixing my Gaze*
Sharmila Jai Kumar	Joseph Fetcho	Neurobiology & Behavior	Constant Light Alters Behavioral Parameters in Larval Zebrafish (*Danio rerio*)
Deepak Kaji	Jonathan Butcher	Molecular & Cell Biology	Whole organ decellularization of chick embryonic heart for use as an acellular biological scaffold
Nitin Kamath	Keith Perry	Plant Biology	The Evolution of Viruses within the Family, *Secoviridae*
Thomas Kartika	Keith Perry	Plant Biology	Development of a subtractive hybridization method to enrich viral RNA for improved sensitivity of downstream diagnostics
Kirsten Kohagen	Carl Batt	Microbiology	Identification of Organisms of a Potentially Pathogenic Nature Colonizing *Hippocampus erectus* Seahorses
Gbambele Kone	Andrew Bass	Neurobiology & Behavior	The Spatiotemporal Expression of Period1 mRNA in the Brain of Midshipman fish (*Porichthys notatus*)
Katherine Konvinse	Volker Vogt	Molecular & Cell Biology	Application of the phosphatidyl serine-specific C2 domain of lactadherin to aid in the understanding of Rous sarcoma virus Gag membrane binding
Ksenia Kriksunov		Biochemistry	Allosteric modulators of the nicotinic acetylcholine receptor also affect aggregation of beta amyloid peptide, an agent of Alzheimer’s Disease
Min Joon Lee	Claudia Fischbach	Animal Physiology	A Novel Hydroxyapatite-Containing 3-D Model to Study the Effects of Mechanical Loading on Breast Cancer Bone Metastasis

Sujin Lee	Barbara Strupp	Neurobiology & Behavior	Age-dependent performance on visual attention tasks in choline supplemented Ts65Dn mouse model of Down syndrome and Alzheimer's disease
Melissa Lenker	Kelly Zamudio	Ecology & Evolutionary Biology	*Batrachochytrium dendrobatidis* infection dynamics vary seasonally in Upstate New York
Anthony Longo	Klaus Beyenbach	Animal Physiology	The Effects of Small Moleculr VU573 and Barium on Malpighian Tubule Electrophysiology of the Yellow Fever Mosquito *Aedes aegypti*
Elizabeth McDonald	Aaron Rice	Neurobiology & Behavior	Changes in acoustic behavior of sperm whales in the Northern Gulf of Mexico following the Deepwater Horizon oil spill
Max Meneveau	Alan Nixon	Animal Physiology	Mesenchymal stem cells require inflammatory prming to synthesize soluble factors capable of reducing the expression of interleukin-1β and tumor necrosis factor-α in equine chondrocytes and synoviocytes during Ips-induced inflammation
Victoria Morgan	James Morin	Ecology & Evolutionary Biology	Unmasking Species Richness: Cryptic and Undescribed Snapping Shrimp Species in the Coral Triangle
Pavitra Muralidhar	Kelly Zamudio	Ecology & Evolutionary Biology	Kin avoidance at breeding sites increases female inclusive fitness in a tropical frog
Gabriel Ng	Alex Flecker	Ecology & Evolutionary Biology	The effects of water mixing on the zooplankton community in an estuarine river
Sierra Palumbos	David Lin	Animal Physiology	Defining the Combinatorial Cadherin Code

Seokhwan Park		Animal Physiology	The Effects of Small Molecule VU573 on Transepithelial Fluid Secretion in Malpighian Tubules of *Aedes aegypti*
Kelsey Poisson	Robert S. Weiss	Animal Physiology	A Molecular Structure and Function Analysis of the Checkpoint Protein HUS1
Odis Ponce	Marcus Smolka	Molecular & Cell Biology	Coordination of Checkpoint Signaling and DNA Repair via Ddc1, a Member of the 9-1-1 PCNA-like Clamp
Xiaotian Qin	Teresa Pawlowska	Microbiology	Towards understanding interactions between Mucoromycotina and their endobacteria: Endobacteria distribution across Mucoromycotina, the role of endobacteria in fungal nitrogen metabolism, and tools for genetic manipulation of Mucoromycotina
Lauren Rice	Anthony Hay	Microbiology	Characterizing microbial β-glucuronidase activity in human gut microbiota
Ilan Rubin	Stephen Ellner	Ecology & Evolutionary Biology	Spatial Consequences of Plant Induced Resistance to Herbivory
Jonathan Rubin	Chris Schaffer	Neurobiology & Behavior	Blood flow changes following posterior spinal vein occlusion in mice
Michael Shen	Gregory Martin	Microbiology	Manipulation of host immunity by the AvrPtoB E3 ubiquitin ligase domain
Jeffrey Spence	Linda Nicholson	Molecular & Cell Biology	Engineering a mimic of the cis conformation of the amyloid precursor protein cytoplasmic tail using disulfide bonding
			Discrimination on the Basis of Fine Waveform Structure of Electric Organ Discharges in the

Joshua Sperling	Carl Hopkins	Neurobiology & Behavior	Weakly Electric Fish *Paramormyrops kingsleyae* and A Novel, Waveform-Based Platform for the Automated Separation of Electric Organ Discharges in Mormyrid Communication
Lindsay Theodore	Nathan Sutter	Genetics & Development	Whole Genome Sequencing and Locus Fine-Mapping Towards Determining the Causal Variants of Horse Body Size Diversity
Michael Thomsen	Natasza Kuripos	Animal Physiology	Heparan-sulfate proteoglycan Gpc3 and its post-translational modification mediates noncanonical Wnt signaling required to drive asymmetric gut morphogenesis
Hope Ukatu	Thomas Cleland	Neurobiology & Behavior	Generalization of olfactory stimuli across concentrations as a function of high- or low-variance training
James Witten	Alan Nixon	Animal Physiology	Expression of Interleukin-10 by Equine Mesenchymal Stem Cells in Inflammatory and Osteoarthritic Conditions
Yun Xu	Melanie Filiatrault	Microbiology	Evaluation of mRNA targets of the non-coding RNA Spot42 in *Pseudomonas syringae* pv. *Tomato* DC3000
David Yandell	Mike Webster	Neurobiology & Behavior	The effects of historical allopatry and distance on song divergence among populations of Australian fairy-wrens (*Malurus* sp.)
Yasong Yu	Klaus Beyenbach	Animal Physiology	The Effect of Small Organic Moleculr VU573 on Transepithelial Fluid Secretion in Malpighian Tubules of *Aedes aegypti*
Jie Yuan	Siu Sylvia Lee	Genetics & Development	The effect of CEP-1/p53 metabolism-dependent regulation on *C. elegans* lifespan