John K. Hoopepe Undergraduate Honors Research Symposium
April 3 - April 6, 2017

DEPARTMENT OF BIOLOGY - 215 Coker Hall
University of North Carolina at Chapel Hill

Presentation Schedule for Monday, April 3

12:00  Welcome and Opening Remarks by Dr. Amy Shaub Maddox - Assistant Professor and Biology Honors Director and Dr. Victoria Bautch - Beverly Long Chapin Distinguished Professor and Chair of Biology

12:05  INTRODUCTION TO GENE EXPRESSION REGULATION

12:10  Tina Xiang  
“Insertion of Transgene arls92 Promotes Progressive Sterility in C. elegans Strain GS3582”

12:27  Melodie Noel  
“Developing Small Molecule Probes to Inhibit Transcriptional Repression by Long Noncoding RNAs”

12:44  Blake Wall  
“Gene Position Affects Protein Concentration in a 2A Polycistrionic Vector System”

1:01 - 1:10  BREAK

1:10  INTRODUCTION TO PROTEIN AND LIPID STRUCTURE AND METABOLISM

1:15  Audra Goldstein  
“Translocation of GPAT4 from the Endoplasmic Reticulum to the Mitochondria May Alter Efficiency of TAG Synthesis in Liver Cells”

1:32  Liliya Veliko  
“Validation of Spatiotemporal Image Correlation Spectroscopy (STICS) for Diffusion Analysis in Sub-pixel Flow using Simulated Datasets”

1:49  Cameron Worden  
“Combinations of Variable Active Site Residues Interact to Influence Response Regulator Reaction Kinetics”

2:06 - 2:15  BREAK

2:15  INTRODUCTION TO ECOLOGY

2:20  Tara McKinnon  
“Effect of Avian Predation on Arthropod Density and Herbivory Across Tree Species and Regions”

2:37  Tracie Hayes  
“The Effects of Temperature and Green-up on the Timing of Arthropod Abundance and Avian Migration”

2:54  Anita Simha  
“Arrival Order Affects Coinfecting Plant Pathogens”

3:11  Josh Hanover  
“The Role of Magnetite-Based Magnetoreception in the Seasonal Migratory Behavior of Spotted Salamanders (Ambystoma maculatum)”

We invite you to enjoy refreshments in the back of the room before, during, and after the symposium.
2:00 Welcome and Opening Remarks by Dr. Amy Shaub Maddox - Assistant Professor and Biology Honors Director and Dr. Victoria Bautch - Beverly Long Chapin Distinguished Professor and Chair of Biology

2:05 INTRODUCTION TO SIGNALING AND IMMUNOLOGY
2:10 Will Harris “TAM RTK Inhibition Causes Contrasting Effects in Myeloid-Derived Suppressor Cells and Dendritic Cells”
2:27 Brittney Allyn “G-protein Signaling Modulator-3 Regulates Monocyte Survival”
2:44 Caellaigh Kimpston “DXS+ Endoneurial Cells And Extracellular Periostin are Upregulated in Chronic Inflammatory Demyelinating Polyneuropathy”

3:01 - 3:10 BREAK

3:10 INTRODUCTION TO NEUROBIOLOGY
3:15 Shay Daji “Binge Alcohol Consumption Behavior Does Not Induce IL-10 Immune Response in the Ventral Tegmental Area of the Mouse Brain”
3:32 Jennifer Jensen “Prepronociceptin-expressing Neurons in Central Amygdala Mediate Palatable Food Reward Independent of Anxiety”
3:49 Nadia Mishal “Transcranial Current Stimulation Increases the Alpha Wave Power of Norepinephrine Treated Mouse Cortical Slices In Vitro”

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UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL  

PRESENTATION SCHEDULE FOR WEDNESDAY, APRIL 5  

12:00 Welcome and Opening Remarks by Dr. Amy Shaub Maddox - Assistant Professor and Biology Honors Director and Dr. Victoria Bautch - Beverly Long Chapin Distinguished Professor and Chair of Biology

12:05 INTRODUCTION TO CELL BIOLOGY  

12:10 Ben Lowe  
“Mini Spindles TOG1 Is Required to Promote Microtubule Polymerization and Mitotic Spindle Bipolarity”

12:27 Danielle Spitzer  
“Development and Production of shRNA Lentiviruses Targeting Nectin-2 and -4”

12:44 - 12:55 BREAK

12:55 INTRODUCTION TO INTERCELLULAR SIGNALING  

1:00 Katy Citrin  
“The Inhibitory Protein PMEPA1, but not SMAD7, Inhibits BMP Signaling in Endothelial Cells”

1:17 Nicole Chang  
“Identifying Novel Cytokinin Signaling Components by a Second-Site Modifier Mutation Screen in Arabidopsis thaliana”

1:34 Leah Johnson  
“1-Aminocyclopentane-1-Carboxylic Acid Signals Independently of Ethylene in the FEI Cellulose Synthesis Pathway in A. thaliana”

1:51 - 2:00 BREAK

2:00 INTRODUCTION TO STEM CELLS AND REGENERATIVE MEDICINE  

2:05 Jeet Patel  
“Rare Label Retaining Cells in Palatal Epithelia Display Characteristics of Reserve Stem Cells”

2:22 Jacqueline Poston  
“Dynamic Changes in the Function of Apoptotic Genes During Differentiation and Development”

2:39 Sahar Alimohamadi  
“Autophagic Factor Beclin1 Inhibits Direct Cardiac Reprogramming”

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1:00  Welcome and Opening Remarks by Dr. Amy Shaub Maddox - Assistant Professor and Biology Honors Director and Dr. Victoria Bautch - Beverly Long Chapin Distinguished Professor and Chair of Biology

1:05  INTRODUCTION TO THERAPEUTICS
1:10  Snigdha Das  “Variation in Nasal Morphology Affects Particle Deposition and Air Conditioning”
1:27  Lucas Nielsen  “Inhibiting JNK in Combination with FOLFOX Chemotherapy Synergistically Suppresses Pancreatic Cancer Cell Growth”
1:44  Austin Sun  “Disruption of Water Homeostasis Affects AAV Transport Across the Blood-Brain Barrier”

2:01 - 2:10  BREAK

2:10  INTRODUCTION TO MICROBIOMES AND DRUG RESISTANCE
2:15  Julia Shen  “Repression of Microbially-induced Phosphate Starvation Response in Arabidopsis thaliana is Systemic”
2:32  Sam Kerr  “A Missense Mutation in the acnB Gene Indirectly Affects the Growth, Metabolism and Biological Fitness in a Spontaneous Compensatory Mutant of Antibiotic-resistant Neisseria gonorrhoeae”
2:49  Smrithi Valsaraj  “Commensal Gut Bacteria Regulate Paneth Cell Function Putatively Via Signaling Through the Sub-epithelial Tissue”

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