

Theses for Honors in Biochemical Sciences 2013

Leandra Barnes

Investigating the Mechanism of SpoIIIE Mediated End-loop Resolution in Sporulating Bacillus subtilis.

Professor Briana Burton, Laboratory Sponsor

Kayla Berry

Investigating the Binding of Diverse Fragments to NFkB1 (p50) and Biophysical Study of NFkB1 and the NFkB1-DNA Complex

Dr. Damian Young, Laboratory Sponsor

Christine Choi

Knockdown of Maternal Embryonic Leucine Zipper Kinase and the Effects on Ovarian Cancer Cells in vitro: Assessing the Potential of MELK as a Therapeutic Target in Ovarian Cancer

Dr. Jean Zhao, Laboratory Sponsor

Aaron Deutsch

~ Recipient of a Hoopes Prize

Modification of Stress Granule Assembly During Caspase-Mediated Apoptosis

Professor Judy Lieberman, Laboratory Sponsor

Jacob Dockterman

Induction of Autoinflammatory Signaling in Genomically Unstable Cells by Perturbations in the Endogenous Nuclease DNase2

Dr. Nir Hacohen, Laboratory Sponsor

Andrew Gonzales

Primordazine Induces Translational Repression via a 120 Nucleotide Response Element in the Zebrafish Nanos1-3'UTR

Dr. Randell Peterson, Laboratory Sponsor

Peter Hadar

Translation without a poly(A) tail

Dr. Lee Gehrke, Laboratory Sponsor

Andrew Kennard

Genome-wide Characterization of the Regulation of the High-Light Stress Response in the Cyanobacterium Synechococcus elongatus PCC 7942

Professor Erin O'Shea, Laboratory Sponsor

Seungsoo Kim

~ Recipient of a Hoopes Prize

Alternating Antibiotic Therapy Can Slow the Evolution of Resistance Through Negative Cross-Resistance

Professor Roy Kishony, Laboratory Sponsor

Shimwoo Lee

Guiding Osteogenic Differentiation of Mesenchymal Stem Cells Using a Collagen-I Peptide Mimic

Professor David Mooney, Laboratory Sponsor

Amy Lin

The Effect of Neostriatal Dendritic and Synaptic Alternations on Glutamate Toxicity in a Huntington's Disease Knock-in Mouse Model

Dr. Marian DiFiglia, Laboratory Sponsor

Carol Lin

Examining the mechanism by which liver-specific microRNA-122 modulates apolipoprotein B-100

Dr. Raymond Chung, Laboratory Sponsor

Carol Liu

*BACE, the β -secretase of Amyloid Precursor Protein-Like, is Required for Long-Term Memory in *Drosophila melanogaster**

Professor Samuel Kunes, Laboratory Sponsor

Jesus Luevano

Interactions Between Host Genetics, Host Diet, and the Gut Microbiota in Response to Diet Shifts

Dr. Peter Turnbaugh, Laboratory Sponsor

Reshma Lutfali

Effects of Translation on Mitotic Spindles

Dr. Michael Blower, Laboratory Sponsor

James Meixiong

~ Recipient of both a Henderson and a Hoopes Prize

The critical role of host lipid metabolism in determining the infectivity of Hepatitis C virus

Dr. Raymond Chung, Laboratory Sponsor

Yale Michaels

Improving the efficiency and fidelity of RNA-catalyzed polymerization: Implications for 2-thio-uracil in the RNA world

Professor Jack Szostak, Laboratory Sponsor

Sachin Patel

Mitochondrial and Reactive Oxygen Species Intracellular Asymmetry During Neutrophil Chemotaxis

Dr. Daniel Irimia, Laboratory Sponsor

Sarvagna Patel

α -secretase and γ -secretase associate together during regulated intramembrane proteolysis of APP

Dr. Dennis Selkoe, Laboratory Sponsor

Yakov Pechersky

Investigation of the Biosynthetic Origins of Cremeomycin

Dr. Emily Balskus, Laboratory Sponsor

Laura Persson

The Role of Sonic Hedgehog in the Development and Maintenance of the Mammalian Olfactory System

Dr. Rosalind Segal, Laboratory Sponsor

Benjamin Philipson

Sensory Transient Receptor Potential Channels as Targets of Nature's Defenses

Professor David Clapham, Laboratory Sponsor

William Polachek

Shigella effector OspC3 enhances intracellular replication in minimally type 3 secretion competent bacteria

Dr. Cammie Lesser, Laboratory Sponsor

Allen Shih

Discovery and Applications of Naturally Supercharged Human Proteins

Professor David Liu, Laboratory Sponsor

Alicia Smart

~ Recipient of a Hoopes Prize

Identification of CEP-701 as a Small Molecule Regulator of Satellite Cell Proliferation through High-Content Screening

Professor Lee Rubin, Laboratory Sponsor

Janet Song

Investigation of candidate molecular controls over segmental specificity of corticospinal motor neurons during development

Dr. Jeffrey Macklis, Laboratory Sponsor

Elliot Stein

~ Recipient of a Hoopes Prize

The transcription factor BATF3 may be a novel regulator of angiogenesis and breast cancer progression: An in vitro and in vivo study

Dr. Marsha Moses, Laboratory Sponsor

Stephanie Wang

The Impact of HSP72 and IL-6 on the Regenerative Ability of Skeletal Muscle in Aged Mice

Professor Amy Wagers, Laboratory Sponsor

Fan Xia

Evaluation of small-molecules for abilities to reverse the effects of leflunomide on neural crest progenitors

Professor Leonard Zon, Laboratory Sponsor

Katherine Xue

Ploidy-Specific Variation of ASYNAPSIS1 in Arabidopsis arenosa

Professor Kirsten Bomblies, Laboratory Sponsor

David Yang

An experimental approach to exploring the relationship between protein stability and evolvability

Professor David Liu, Laboratory Sponsor

Lisa Yao

Identification, sequencing and characterization of four putative systemic RNAi proteins

Professor Craig Hunter, Laboratory Sponsor

Paul Yarabe

Transcriptional control of hair follicle regeneration by p63

Dr. Leif Ellisen, Laboratory Sponsor