

Theses for Honors in Biochemical Sciences 2014

Ian Boothby

Recipient of the Hoopes and Henderson Prizes

Structural Patterns of Synaptic Competition in the Motor Neuron Circuit
Professor Jeff Lichtman, Laboratory Sponsor

Weilin Chen

Computational and experimental investigation of the regulation of the fold change response in TNF-induced NF- κ B activation
Dr. Suzanne Gaudet, Laboratory Sponsor

William Clerx

Impact of Irregular Slee-Wake Patterns and Associated Light Exposure on Entrainment of Circadian Neuroendocrine Rhythms and Physiology in College Undergraduate Students
Dr. Charles Czeisler, Laboratory Sponsor

Jonathan D'Gama

Structural Characterization of the SARS Translational Recoding Mechanism
Professor Victoria D'Souza, Laboratory Sponsor

Richard Ebright

Cancer cells dependent on activating mutations in CTNNB1 are co-dependent on the anti-apoptotic protein Bcl-xL and are hypersensitive to the apoptosis inducer navitoclax
Professor Stuart Schreiber, Laboratory Sponsor

Naomi Genuth

High-throughput analysis of protein-DNA binding using next-generation sequencing
Dr. George Church, Laboratory Sponsor

Nataliya Gorbachuk

*Exploring pathogenicity in the clinical isolate U2504 of *Pseudomonas aeruginosa**
Professor Deborah Hung, Laboratory Sponsor

Yanting Jiang

Evolving a Direct Inhibitor of MYC
Professor Greg Verdine, Laboratory Sponsor

Manjinder Kandola

Where Heart Disease Meets Cancer: A Novel Role of CDKN2A/p16 in Modulating Cardiomyocyte Senescence and Cardiac Regeneration

Dr. Anthony Rosenzweig, Laboratory Sponsor

Daniel Kim

Adaptive apoptotic signaling in cancer limits the efficacy of targeted therapies

Professor David Fisher, Laboratory Sponsor

Charlotte Lee

MEF2D is required for retinal photoreceptor development and regulates genes critical for proper rod architecture

Professor Michael Greenberg, Laboratory Sponsor

Vivian Leung

Investigating the Coordination of Septation and Elongation in Mycobacteria through Characterization of MSMEG_4234, a Potential Cell Division Player

Professor Eric Rubin, Laboratory Sponsor

Yvette Leung

Identification of telomere length regulators in Plasmodium falciparum

Dr. Manoj Duraisingh, Laboratory Sponsor

Kathy Lin

Modeling diffusion through nanoporous structures

Dr. Joanna Aizenburg, Laboratory Sponsor

Jenny Lu

Examining the Role of the Thermodynamic Driving Force on DNA Polymerase Fidelity

Professor Sunney Xie, Laboratory Sponsor

Nicholas Moore

Identifying Mutations That Modulate Drug Sensitivity Using Systematic Single Codon Substitution

Professor Roy Kishony, Laboratory Sponsor

Stewart Pine

PfRACK: A scaffolding protein of unknown function in Plasmodium falciparum

Dr. Jeffrey Dvorin, Laboratory Sponsor

Robert Powers

Recipient of the Hoopes Prize

Structural study of a novel partial Ca²⁺-free linker and a positively selected variation in Protocadherin-15: Implications for hearing and cell adhesion

Professor Rachelle Gaudet, Laboratory Sponsor

Joshua Ra

Adenovirus Serotype 5 (Ad5) Versus Alternative Serotype Adenovirus Vaccine Vectors: Comparative Analysis of CD8 T Cell Responses
Dr. Dan Barouch, Laboratory Sponsor

Kristen Simmons

Slowing Aging and Infertility with the CD38 Inhibitors Apigenin and Luteolin
Dr. David Sinclair, Laboratory Sponsor

David Su

An in vivo Investigation of the Local and Global Dynamics of the Bacterial Chromosome in Escherichia coli
Dr. Xiaowei Zhuang, Laboratory Sponsor

Josephine Volovetz

Screening and Characterization of Novel Regulators of Hepcidin Expression
Dr. Paula Fraenkel, Laboratory Sponsor

Nivanthika Wimalasena

Identification of GW8510 as a Neuroprotective Agent in a Gene-Expression Based Computational Screen for Potential Therapeutics for Parkinson's Disease
Professor Stuart Schreiber, Laboratory Sponsor

Michael Wu

Tumor collagen and cancer-associated fibroblasts hinder cancer immunosurveillance by controlling the localization of tumor-infiltrating T cells
Dr. Shannon Turley, Laboratory Sponsor

Vivian Yeong

Engineering a Light-Sensitive Circadian Clock
Professor Pamela Silver, Laboratory Sponsor

Xinrui Zhang

Core cellular surveillance in C. elegans is coupled to systemic xenobiotic detoxification response via bZIP transcription factor ZIP-2 and p38 MAP-kinase signaling
Professor Gary Ruvkun, Laboratory Sponsor