

2013 Deans' Summer Research Fellows

Student: Amanda Abrams

Mentor: Mohamed Noor (Biology)

Applications of Haldane's Rule in the *Drosophila affinis* species subgroup

Student: Jania Arcia-Ramos

Mentor: Leslie Digby (Evolutionary Anthropology)

Behavioral Thermoregulation in Lemurs

Student: Mingru Bai

Mentor: Calvin Howell (Physics)

Modeling Sugar Allocations in Plants using Radioisotope Tracer Data

Student: Marcus Benning

Mentor: Raymond Gavins (History)

Black Duke in the 1980s – A Period of Expansion and Transition

Student: Sarah Berman

Mentor: Orin Starn (Cultural Anthropology)

Intersections of Knowledge and Power Through Processes of Previous Informed Consent Among Indigenous Populations in the Ecuadorian Amazon

Student: Cristina Brackeen

Mentor: Dewey McCafferty (Chemistry)

Chemistry Summer Research Program

Student: Federica Brecha

Mentor: Liliana Paredes (Romance Studies)

The Future of Romagnolo: Change Seen Through Generations

Student: John Canty

Mentor: Richard Brennan (Biochemistry)

Structural and Functional Studies of Bacterial Hfq Post-Transcriptional Regulation

Student: Camille Carre

Mentor: Henry Tseng (Ophthalmology)

Effects of optineurin expression on locomotion of *Drosophila melanogaster*

Student: Nan Cheng

Mentor: John Perfect (Molecular Genetics & Microbiology)

Mapping the Connection Between Urea and Capsule Production in *Cryptococcus gattii*

Student: Tiffany Chien

Mentor: Mary Foster (Nephrology)

Sequence analysis of a human Goodpasture autoantibody derived from a humanized mouse model

Student: Edward Chiou

Mentor: Rahima Zennadi (Hematology)

Role of Erythropoietin in Sickle Cell Vasculopathy

Student: Nicole Daniels

Mentor: Harris Solomon (Cultural Anthropology)

Role of Social Networks for Seasonal Migrant Families in India

Student: Neil Delwadia

Mentor: Alfred Goshaw (Physics)

Investigating Decay Products from Proton-Proton Collisions

Student: Qi Dong

Mentor: Fan Li (Statistical Science)

Quantifying the Overlap in the Covariate Distributions between Treatment Groups in Causal Inferences

Student: Emily Du

Mentor: Michael Platt (Neurobiology)

Social learning of food preferences in rhesus macaques

Student: Danzhou Duojie

Mentor: Ralph Litzinger (Cultural Anthropology)

Locals' Adaptability in the Aftermath of Yushu Earthquake

Student: Yvette Dzumaga

Mentor: Rebekah Fleming (Psychology and Neuroscience)

Immediate and lingering effects of isoflurane on ethanol sensitivity of GABA-A Receptors in dentate gyrus granule cells

Student: Jack Fines

Mentor: Reeve Huston (History)

John Quincy Adams and The Dichotomy of Deference & Democracy

Student: Lara Funk

Mentor: Sherryl Broverman (Biology)

Perspectives of Development in two Guatemalan Mayan Villages

Student: Fei Gao

Mentor: Ralph Litzinger (Cultural Anthropology)

New Generation of Migrant Workers: Labor Activism in China across Provincial Borders

Student: Jordyn Gracey

Mentor: Michelle Connolly (Economics)

Narrative as a Commodity

Student: Athidi Guthikonda

Mentor: Henry Tseng (Duke Eye Center)

Processing of Glaucoma-Associated Mutant Optineurin in Neurons

Student: Susan Hilbig

Mentor: Peter Klopfer (Biology)

Understanding Hibernation and its Effects on Primates: Defining the Relationship between Brain Activity and Metabolic Rate in the Fat-Tailed Dwarf Lemur

Student: Alexander Hish

Mentor: Mohamed Noor (Biology)

Characterizing fine-scale functional adaptation during the range shift of *Anolis carolinensis*

Student: Kayla Hudson

Mentor: Barbara Engelhardt (IGSP)

Bayesian Mixture Models of Tissue-Specific Gene Expression

Student: Manoj Kanagaraj

Mentor: Sandeep Dave (IGSP)

Genetic mechanisms underlying Common Variable Immune Deficiency and its association with lymphoma

Student: Lillian Kang

Mentor: Neil Freedman (Cell Biology)

Anti-atherogenic mechanisms of Kalirin in Endothelial Cells

Student: Anastasia Karklina

Mentor: Abdullah Antepli (Religion)

Love For All, Hatred For None: A Comparative Study of Ahmadiyya Muslim Ethics of Non-Violence

Student: Stephen Kirchner

Mentor: Thomas Robisheaux (History)

Preliminary Research into the Relationship of British Alchemy and the Scientific Revolution, from John Dee to Isaac Newton

Student: Marissa Lazo

Mentor: Steve Churchill (Evolutionary Anthropology)

Carnivore Model for Neandertal Territory Size

Student: Daniel Li

Mentor: David Dunson (Statistical Science)

Predicting the Probability of Ovulation Given a Single Act of Intercourse: Implications for Post-Coital Contraception

Student: Melody Xuan Lim

Mentor: Joshua Dijkman (Physics)

Characterizing microscopic bases for nonlinear flow behavior of suspensions

Student: Gracie Lynne

Mentor: Joel Rosch (Public Policy)

Comparative Systems of Child Abuse Reporting Policies: New Zealand and North Carolina

Student: Sofia Manfredi

Mentor: Anne Pusey (Evolutionary Anthropology)

Politics by other means: social networks and the "Four Years' War" in the Chimpanzees of Gombe National Park, Tanzania

Student: David Mayer

Mentor: Gary Hawkins (Documentary Studies)

Grandpa Paul's Diary: A Personal Exploration of the "Mischlinge" Experience in Nazi Germany

Student: Madeline McKelway

Mentor: Anirudh Krishna (Public Policy)

Consumption Smoothing and Health: Evidence from Self-Help Group (SHG) Involvement and Child Nutrition

Student: Audrey Melville

Mentor: Joshua Dijkman (Physics)

Flow Properties of Non-Newtonian Fluids

Student: Rachel Leigh Orfinger

Mentor: Ingrid Byerly (Cultural Anthropology)

Searching for Similarities: A comparison of the music that hallmarked the American Civil Rights movement society and the South African anti-Apartheid society.

Student: Frederick Peng

Mentor: Deborah Muoio (Pharmacology & Cancer Biology)

Transcriptomic and Metabolomic Analysis of Mechanical Load as a Muscle Cell Culture Model of Exercise

Student: Mrinalini Prasanna

Mentor: Cory Adamson (Neurobiology)

Exploring the mechanism of how AJAP1 contributes to migratory capacity in GBM cells via E-Cadherin.

Student: Junmi Saikia

Mentor: Christina Williams (Psychology and Neuroscience)

The Neuroscience of Exercise: a study on the relationship between fitness, exercise and cognition

Student: Anirudh Saraswathula

Mentor: Elizabeth Reap (Surgery)

B-regulatory cell dynamics in glioblastoma vaccine clinical trials

Student: Eugene Senda

Mentor: Paulo Ferreira (Ophthalmology and Pathology)

Molecular bases of degeneration of the retinal pigment epithelium.

Student: Sarah Soltis

Mentor: Kristin Lanzoni (Art, Art History, Visual Studies)

Noble Conceit: The Painted Portraits of Mistresses and Courtesans

Student: Caroline Steiblen

Mentor: Al Goshaw (Physics)

CERN Summer Research Internship

Student: Jenny Su

Mentor: Robert Behringer (Physics)

Classical Single-Particle Tunneling on a Macroscopic Scale

Student: Lillian Sun

Mentor: Jeffrey Rathmell (Pharmacology & Cancer Biology)

The Role of Glycolysis in Chemoresistance of Chronic Lymphocytic Leukemia

Student: Jacob Tobia

Mentor: Robin Kirk (ICS)

Dividing the Rainbow: Race and Class Dynamics in the South African Struggle for LGBT Equality

Student: Benjamin Villacres

Mentor: Brian Coggins (Biochemistry)

Expression, Purification, and Structural Analysis of ALS-linked Misfolded Superoxide Dismutase Protein.

Student: Alissa Wall

Mentor: Erica Davis (Cell Biology)

Dissecting the genetic architecture of two discrete ribosomopathies: Using newly-identified RPL10 and RPL17 variants to develop in vivo functional models for ribosomal dysfunction

Student: Allen Wang

Mentor: Richard Brennan (Biochemistry)

Determining the Structural Role of HipB T27, R21, and N44 Residues in HipBA Gene Regulation

Student: Catherine Wang

Mentor: Hai Yan (Pathology)

Understanding the biological foundation of IDH1-mediated gliomagenesis

Student: Hannah Ward

Mentor: Mark Goodacre (Religion)

Religiosity Measures in Health Research: the Effects of Language in an Increasingly Secular Age

Student: Aaron Webb

Mentor: Alfred Goshaw (Physics)

The Use of Cosmic Ray Detectors and ATLAS Data to Analyze High Energy Particles

Student: Johnny Wei

Mentor: Gerard Blobe (Pharmacology & Cancer Biology)

Investigating Synergistic Effects of HER2 and the type-III TGF-Beta Receptor in Cancer

Student: James Wu

Mentor: Geoffrey Pitt (Cardiology)

New Mutation in LQTS-susceptibility Gene, SNTA1

Student: Danwei Wu

Mentor: Debra Silver (Neurobiology)

RNA binding proteins in neurogenesis.

Student: Yixuan Yao

Mentor: Matt Bradshaw (Sociology)

Gender and Mental Health Disparities in Urban and Rural China

Student: Yuqi Zhang

Mentor: Daniel Kiehart (Biology)

Deciphering the Role of Drosophila Beta-Spectrin and Ankyrin in the morphogenesis of Drosophila melanogaster.

Student: Roger Zou

Mentor: Daniel Kiehart (Biology)

Spatial and Temporal Segmentation Algorithms for Cell Tracking in Drosophila melanogaster