19TH ANNUAL RESEARCH SYMPOSIUM PROGRAM

RESEARCH PRESENTATIONS
July 29, 8:50 a.m. - 5:00 p.m.
July 30, 8:50 a.m. - 4:00 p.m.
July 31, 9:15 a.m. - 2:00 p.m.
Engineering Sciences Building
Room 1001

POSTER PRESENTATIONS
July 30, 4:00 - 5:30 p.m.
Engineering Sciences Courtyard

THE RESEARCH MENTORSHIP PROGRAM cordially invites you to attend the

Luncheon Thursday, August 1, 2013 11:30 a.m.
The Faculty Club
UC Santa Barbara
RSVP by July 25 to hallie.anderson@ia.ucsb.edu or call (805) 893-4337
Please advise us of any needed accommodations
Map on reverse

The UCSB Summer Research Mentorship Program invites high achieving and scholastically accomplished high school students from all over the world to participate in challenging and hands-on interdisciplinary research for six weeks under the guidance of a UCSB research mentor. This experience provides students the kind of academic and first-hand research exposure that leads to more exceptional academic achievement in higher education.
Tuesday, July 29, 2014

8:50am Opening Remarks
Lina Kim, Director of the Research Mentorship Program

9:00am Emma Crusinberry
Chromosomal Mapping of Transdifferentiation Regulating Genes in C. elegans

9:12am Armon Ghodoussi
The Application of Circular Statistics in Stem Cell Behavior

9:24am Megan Handley
Apoptosis in Drosophila Germline Stem Cells

9:36am Scott Voulgaris
The Localization of Polycystin 1 in a Stable Overexpressed Cell Line

9:48am Brendan Lokre
Absence of Soluble Syntaxin-3 Decreases Migration in Caco2 Cells

10:00am Kacie Nelson
Caspase Activity in the Cleaving of Polycystin 1 to Create a p15 Fragment

10:12am Aleesha Hsu
Thermal Testing of Polystyrene Nanoparticles for Particle Display

10:24am Refreshment Break

10:48am David Huang
Microbiological Warfare

11:00am Donghoon Kang
Secretion of Various Effector Proteins in Enterobacter cloacae Type VI Secretion System-2

11:12am Samuel Yang
The Values of Coastline Communities: Knowledge to Promote Sustainable Policy

11:24am Kally Zheng
Predicting Volitional Decisions With Transcranial Magnetic Brain Stimulation

11:36am Audrey Chan
Using Computational Neuroscience to Develop a Model of the Brain's Learning Circuit

11:48am Alexandra Farhangui
Synthetic Underwater Adhesives Inspired by Mussels

12:00pm Lunch Break
On Your Own

1:00pm Andrew Lou
Finding the Origins of Human Cooperation via Agent-Based Modeling
Tuesday, July 29, 2014

1:12pm  Claire Fu
Multi-Generational Effects of Laboratory Stimuli on Drosophila Melanogaster

1:24pm  Hazel Shen
Determining the Existence of Competition-Colonization Trade-Offs in S. cerevisiae

1:36pm  Sijing Ye
Exploring the Effectiveness of the START Program on Treating Adolescents with ASD

1:48pm  Nikash Shankar
Effects of Incubation of Cue-Elicited Cocaine-Craving on Rat dmPFC

2:00pm  Anjali Kumar
Increased Glutamate and Resistance to Binge Drinking

2:12pm  Shirin Herzig
Expectation Violation in the Brain

2:24pm  Jenny Leight
Functional Connectivity of the Dorsomedial Prefrontal Cortex and the Left Ventrolateral Prefrontal Cortex

2:36pm  Kenyon Prater
Designing a Curriculum to Teach Students Computational Thinking

2:48pm  Refreshment Break

3:24pm  Lauren Lang
An Assessment of mfp-1’s Peptide, Adhesive Coating Using Cyclic Voltammetry and Quartz Crystal Microbalance

3:36pm  Matthew Kaufman
Grafting DOPA onto a PDMS Surface for Wet Adhesion

3:48pm  Alexis Rivera
A Case Study about Teaching a Four Year Old Boy Jealousy Through Storytelling

4:00pm  Jeehoon Park
Assessing Ocean Acidification in the Middle Cambrian

4:12pm  Joanna Wang
Chromosomal Mapping of Transdifferentiation-Regulating Genes in C. elegans

4:24pm  Julia Frohling
Phototaxis in Fungal Zoospores

4:36pm  Abigail Jackson-Gain
Chemotaxis in Allomyces Zoospores

4:48pm  Chau Pham
Evolution of Bioluminescence in Ostracods
Wednesday, July 30, 2014

8:50am  **Opening Remarks**  
Lina Kim, Director of the Research Mentorship Program

9:00am  **Aishwarya Natarajan**  
The Effects of Density and Aggregation on Infected Populations

9:12am  **Hannah Posner**  
Fear and Filtering in the Rocky Intertidal

9:24am  **Jennifer Huang**  
Impacts of Density and Aggregation on Barnacle Infection

9:36am  **Anirudh Pennathur**  
Developing an Improved Financial Model to Decrease Contagion in the Financial Network

9:48am  **Margaret Miller**  
Perceiving is Misleading: Perceptions of Social Network Accuracy at Regulating Positive Emotions Predicts Emotion-Regulation Efficacy for Only the Best Regulators

10:00am  **Megan McQueen**  
Social Network Mapping: Historical Figures in the Entertainment Industry (c.1870-1930)

10:12am  **Adrian Peralta**  
Cardiovascular Diseases: Prevention, Impact, and Treatment of a Disease

10:24am  **Refreshment Break**

10:48am  **Grace Hua**  
Fleeing Genocide: The Plight of Refugees from Cambodia and Bosnia and International Responses

11:00am  **Yesenia Terriquez**  
The Legal Constructions of Immigrant Youth

11:12am  **Olivia Seltzer**  
Rainbow Sash: Ritual Resistance in a Queer Faith Movement

11:24am  **Neeja Patel**  
Investigating Ethical Issues in Administering Voluntary Active Euthanasia, Passive Active Euthanasia, and Physician-Assisted Suicide

11:36am  **Sahil Jayaram**  
Spectral Analysis in Computer-Generated Music

11:48am  **Steven Alvarado**  
Relationship Between Decision to Move and Acculturation in Mexican Immigrants

12:00pm  **Lunch Break**  
On Your Own

1:00pm  **Stella Han**  
Building Computer Instruments as Interactive Performers
Wednesday, July 30, 2014

1:12pm  Shijia Yu
Developing a Means of Diffusion for Vibrotactile Music

1:24pm  Jensina Froland
Advancing the Language of Vibrotactile Music: Music That You Can Feel

1:36pm  Helen Lu
Good Americans: Exploring Psychological Identities to Forge New Pathways to Cooperation

1:48pm  Young Cho
Doctor Avoidance and Anxiety Among Women With a History of Cancer

2:00pm  Sophie Brett-Chin
Examining Occupational Segregation and Divisions in Labor Caused by Race and Gender

2:12pm  Omkar Salpekar
Improved Circuit Performance By Geometrically Optimized Common Multi-Gate FinFET Transistors

2:24pm  Refreshment Break

2:48pm  Jonah Rubin
Review Rating Adjustment to Incorporate User Preferences

3:00pm  Jonathan Huang
Density Matrix Renormalization Group Based Algorithms for Quantized Tensor Trains

3:12pm  Michelle Lee
Utilization of a Sharp Computational Method to Simulate the Solidification of an Aluminum-Copper Alloy

3:24pm  Berlin Chen
Seismic Wave Simulation: An Analysis of Serial and Parallel Implementation

3:36pm  Nicolae Christoffersen
Novel Implementation of Maze Solving for BoE-Bots

3:48pm  Break

4:00pm  RMP Poster Symposium
Engineering Sciences Courtyard
Thursday, July 31, 2014

9:15am  **Opening Remarks**  
Lina Kim, Director of the Research Mentorship Program

9:24am  **Lydia Jiang**  
Response of Polymer Solutions to Flow

9:36am  **Maxwell Silverstein**  
The Effects of Deformations on Viscoelastic Fluids

9:48am  **Dillon Azzam**  
Multi-Robot Exploration in Environments with Obstacles

10:00am  **Connor Dotson**  
Droplets and Ditches: An Investigation on the Contact Angle Hysteresis on Self-Assembled Hydrocarbon Monolayers

10:12am  **Daniel Sun**  
Contact Line Deformation Between Water-Polymer Interfaces and Its Impact on Contact Angle Hysteresis

10:24am  **Jake Sutton**  
Mining Sentiments, Lies and Fake Opinions in the Next Generation Web

10:36am  **Refreshment Break**

11:00am  **Lauren Weinberg**  
Acoustic Environment Recognition

11:12am  **Shana Mathew**  
Writing a Servo Algorithm to Optimize Spot Temperature of a Laser by Measuring Correlated Color Temperature and Intensity

11:24am  **Jeffrey Weiner**  
Noise Reduction and Analysis of the Global 21 cm. Hydrogen Line to Understand Cosmological Structure Formation

11:36am  **Justin Bollag**  
Construction and Use of a Digital Balance to Measure the Mass Loss Generated by Laser Ablation

11:48am  **Travis Brashears**  
Testing the Feasibility of Thrust Generation by Laser Ablation for a Directed Energy Planetary Defense System

12:00pm  **Lunch Break**  
On Your Own

1:00pm  **Ishani Ganguly**  
STOMpy: Stock Market Data Mining Using Python
Thursday, July 31, 2014

1:12pm  **John Christian Liang**  
Computational Model Analysis of the Subthalamic Nucleus Due to Deep Brain Stimulation for the Treatment of Parkinson’s Disease

1:24pm  **Carly Larsson**  
The Impact of Mercenaries: How they Affect Political and Reputational Risk

1:36pm  **Ian Tai**  
Avoiding Detection: Analyzing Malware Directly in the Browser

1:48pm  **Ami Thakrar**  
Binding and Uptake of Non-Spherical Nanoparticles in Brain Endothelial Cells

2:00pm  **Closing Remarks**  
Lina Kim, Director of the Research Mentorship Program