

Undergraduate Research Symposium

August 13, 2018

- 3:30 **SAFFRON: Targeting Efficiently**
Rucha Kolhatkar, EUREKA
Mentor: Amirhossein Reisizadeh; Faculty Advisor: Ramtin Pedarsani
- 3:45 **Investigating how active fluid flow shapes embryos**
Sebastian Gonzalez, Gorman
Mentor: Dillon Cislo; Faculty Advisor: Sebastian Streichan
- 4:00 **Improvements to single-cell mRNA Sequencing Technology**
Yash Nagpal, Gorman
Mentor: Alex Chialastri; Faculty Advisor: Siddharth Dey
- 4:15 **Identifying 750 Million Year Old Fossils**
Kathryn Foster, EUREKA
Mentor: Leigh Anne Riedman; Faculty Advisor: Susannah Porter
- 4:30 **Perturbation of Uranyl**
Bonny Sanchez, EUREKA
Mentor: Gregory Kent; Faculty Advisor: Trevor Hayton
- 4:45 **Applying Haptic Touch Amplification in Virtual and Mixed Reality Environments**
Erin Woo, EUREKA
Mentor: Anzu Kawazoe; Faculty Advisor: Yon Visell
- 5:00 **Fluid Control System for Hydraulic Actuated Textile**
Xinghao Huang, EUREKA
Mentor: Mengjia Zhu; Faculty Advisor: Yon Visell
- 5:15 **Closing Remarks**



EUREKA

Early Undergraduate Research
Experience & Knowledge Acquisition



Gorman Scholar Program



MARC U*STAR

Maximizing Access to Research Careers
- Undergraduate Student Training in
Academic Research



AIM Photonics

The American Institute for
Manufacturing Integrated Photonics



ComSenTer

Center for Converged TeraHertz
Communications and Sensing



SACNAS

Society for Advancement of Chicanos
and Native Americans in Science

Advancing Chicanos/Hispanics
& Native Americans in Science



UC SANTA BARBARA

- 9:00 **Welcome** Professor Kathy Foltz, MCD Biology
- 9:15 **Investigating Small Open Reading Frames in Kaposi's sarcoma-associated herpesvirus (KSHV)**
Roy Garcia, MARC U*STAR
Faculty Advisor: Carolina Arias
- 9:30 **Designing Markov Chain Algorithms for Enhanced Robotic Surveillance**
Yash Chitgopekar, Gorman
Mentor: Xiaoming Duan; Faculty Advisor: Francesco Bullo
- 9:45 **Robust Autonomous Assignment of Rigid Rotor Molecules**
Lia Yeh, Gorman
Faculty Advisor: Dave Patterson
- 10:00 **Construction of a Tapered Amplifier for Use in Ultracold Atom Experiments**
Max Prichard, EUREKA
Mentor: Kevin Singh; Faculty Advisor: David Weld
- 10:15 **Identifying the Caspases that Initiate Programmed Cell Death in Response to Toxic RNAs**
Neda Ziaei Kajbaf, Gorman
Mentor: Nerea L. Muniozuren; Faculty Advisor: Diego Acosta-Alvear
- 10:30 **Investigating the Mechanism of Action Behind Novel Anti-Cancer Drugs**
Sophia Kekchidou, Gorman
Faculty Advisor: Douglas Thrower
- 10:45 **BREAK**
- 11:00 **Development of a Vine-Inspired Robot for Intestinal Endoscopy**
Ruby Gans, EUREKA
Mentor: Nicholas Naclerio; Faculty Advisor: Elliot Hawkes
- 11:15 **Identifying Proteins Involved Downstream of Rhodopsin 7 Activation**
Ivan Rodriguez, SACNAS
Mentor: Angela Morales; Faculty Advisor: Craig Montell
- 11:30 **Studying the Effectiveness of RNA Riboswitches**
Angie Laguna, EUREKA
Mentor: Gregory Campbell, Faculty Advisor: Irene Chen
- 11:45 **Design of Integrated Phase Shifter for Breakthrough Starshot**
Diane (Do) Kim, AIM Photonics - Future Leaders
Mentor: Paolo Pintus; Faculty Advisor: John Bowers
- 12:00 **Using the Antarctic Rock Record to Better Understand Supercontinent Amalgamation 1.7 Billion Years Ago**
Charusheela Garapaty, EUREKA
Mentor: Elizabeth Erickson; Faculty Advisor: John Cottle
- 12:15 **Synthesizing Bio-Inspired Polymers for Preventing Biomineralization of Calcium Oxalate Monohydrate**
Josue Morales-Santiago, SACNAS
Mentor: Anastasia Patterson; Faculty Advisor: Rachel Segalman
- 12:30 **LUNCH**
- 1:00 **Effects of binge-drinking on motivational valence of methamphetamine addiction in C57BL/6J female mice**
Fred Reitman, EUREKA
Mentor: Leo Jimenez-Chavez; Faculty Advisor: Karen Szumlinski
- 1:15 **Determining proteolysis and sub cellular localization of neurodevelopmental protein, delta-catenin, within neurons**
Celeste Parra Bravo, MARC U*STAR
Mentor: Elmer Guzman; Faculty Advisor: Kenneth Kosik
- 1:30 **Characterization of Integrated Photonic Switches for Scalable Data Center**
Raymond Yu, AIM Photonics- Future Leaders
Mentor: Mitra Saeidi; Faculty Advisors: Luke Theogarajan & Clint Schow
- 1:45 **Confined Epitaxial Lateral Overgrowth in Tunnel Field Effect Transistor**
Jack Liu, ComSenTer
Mentors: Brian Markman & Hsin-Ying Tseng; Faculty Advisor: Mark Rodwell
- 2:00 **Structure Simulation of Heterojunction Bipolar Transistors**
Shibo Zhong, ComSenTer
Mentors: Hsin-Ying Tseng & Yihao Fang; Faculty Advisor: Mark Rodwell
- 2:15 **Developing DNA transformation techniques for non-model anaerobic gut fungi**
Nikola Malinov, Gorman
Mentors: Igor Podolsky & Candice Swift; Faculty Advisor: Michelle O'Malley
- 2:30 **Improving coupling into III-V semiconductor waveguides**
Liam Dougherty, AIM Photonics - Future Leaders
Mentor: Prashanth Bhasker; Faculty Advisor: Nadir Dagli
- 2:45 **Optimal Radio Wave Distance for Interstellar Communication**
Euclid Quirino, EUREKA
Mentor: David McCarthy; Faculty Advisor: Philip Lubin
- 3:00 **BREAK**
- 3:15 **MicroPL Setup Development for Semiconductor Growth Optimization**
George Hutchinson, AIM Photonics - Future Leaders
Mentors: Lei Wang & Simone Suran Brunelli; Faculty Advisor: Jonathan Klamkin