

32ND ANNUAL
URC



UNDERGRADUATE
RESEARCH
CONFERENCE

May 18th, 2019
8:00 am - 5:00 pm
The Faculty Club

Sponsored by:
Student Affairs
Academic Enrichment Programs
Student Retention and Success

UC San Diego

2019 UC San Diego Undergraduate Library Research Prize

If your student presented at the URC and used any of the Library's resources (including online resources), he or she is eligible to be nominated for the Undergraduate Library Research Prize.

Prizes will be given to four winners:

Life Sciences/Physical Sciences: First prize: \$1,000, Second prize: \$500

Social Sciences/Arts/Humanities: First prize: \$1,000, Second prize: \$500

To be eligible for the prize, students must:

1. Participate in one of the following UC San Diego programs:
 - a. Faculty Mentor Program
 - b. Summer Research Program
 - c. Undergraduate Research Conference
 - d. Triton Research and Experiential Learning Scholars
 - e. Conference for Research in the Arts, Social Sciences, and Humanities
2. Receive a faculty nomination.
3. Submit supporting documentation by May 25, 2019.

For more information and to nominate a student:

<https://library.ucsd.edu/about/undergraduate-research-prize/index.html>

32ND ANNUAL UC SAN DIEGO
UNDERGRADUATE RESEARCH CONFERENCE (URC)

May 18TH, 2019

UC San Diego's Undergraduate Research Conference (URC) supports the engagement of undergraduate students in scholarly research. Academic Enrichment Programs (AEP), a division of Student Affairs, coordinates the URC with support from the Vice Chancellor of Student Affairs and the Office of Research Affairs. AEP has a primary goal of encouraging and supporting undergraduate students in the pursuit of academic advancement and success in their post-baccalaureate endeavors. The URC is a campus-wide recognition of undergraduate research in all fields and encourages increased opportunities for creativity and the intellectual recognition of undergraduate students. Participation in the URC is by nomination only; a faculty member must judge a student's work to be outstanding.

Nominated students who wish to participate are required to register for the conference. The conference is a student panel format, guided by a faculty moderator. Panels run concurrently during morning and afternoon sessions in the Faculty Club and several classrooms. Each panel consists of a maximum of seven presentations, and between five and nine undergraduates. Some students have conducted research in collaboration, thus there are several group presentations. Individual presenters receive 15-minutes to discuss their research, and group presenters receive 20-minutes.

Both individuals and groups receive 5-minutes for questions and answers. After all presentations are complete, there is additional time for group discussion. When students are not on a panel, they may attend the panel of their choice as an audience member. The URC allows students to discuss their research with faculty, and with one another. Each student will receive a certificate to commemorate their experience.

The URC is possible because of support from the Vice Chancellor of Student Affairs, Dr. Allyson Satterlund and Vice Chancellor of the Office of Research Affairs, Dr. Sandra Brown. Panels were created by AEP staff members Dr. Sophia Tsai, Dr. Kirsten Kung, Dr. Thomas Brown, and Jessica Davis, with additional support from the entire AEP staff, including Dr. David Artis, Veronica Bejar, Adana Martinez, and Adele Savage, as well as AEP student workers Diana Morales and Jing Shi. AEP gives a special thanks to the Faculty Club and to our faculty moderators.



Saturday, May 18TH, 2019

8:00 a.m.

Registration • Faculty Club Lobby
Breakfast • Courtyard

8:30 a.m.

Welcoming Remarks • Faculty Club Dining Room
Introduction: Dean David Artis
Chancellor Pradeep Khosla
Executive Vice Chancellor Elizabeth Simmons

9:15 a.m.

Morning Panels

12:00 p.m.

Lunch • Faculty Club Courtyard

1:15 p.m.

Afternoon Panels

4:00 p.m.

Closing Remarks • Faculty Club Dining Room
Dean David Artis
Timothy Chu, Undergraduate Research Library Prize
Keynote Speaker: Dr. Alain Cohen
Opportunity Drawing
Group Photograph

5:00 p.m.

Conference End

2019 URC Panels

Panel #	Moderator	Time	Panel Name	Panel Room
1	Dr. Randy Cowling	AM	Cellular Biology	Room 1
2	Dr. Philip Roeder	AM	People and Politics	Terrace
3	Dr. Elaine Tanaka	AM	Bioengineering	Lounge
4	Dr. John Haviland	AM	Media and Communications	Room 2
5	Dr. Victor Nizet	AM	Drugs and Biomarkers	Atkinson Pavillion
6	Dr. Pei-an (Betty) Shih	AM	Biomedicine	CSB 004*
7	Dr. Luz Chung	AM	Education, Learning, and Society	Seuss Library
8	Dr. Charles Driscoll	AM	Physics and Computational Methods	Peterson 102**
9	Dr. Robina Shaheen	AM	Chemistry and Engineering	CSB 005*
10	Dr. Jonathan Shurin	AM	Marine Biology, Ecology, and Oceanography	Room 3
11	Dr. Andre Der-Avakian	AM	Neuroscience	Room 4
12	Dr. Veronica Gomez	AM	Psychiatry	Room 5
13	Dr. Marsida Kallupi	AM	Cognitive Science, Neuroscience, Psychology, and Psychiatry I	Room 6
14	Mr. Jeremiah J. Minich	PM	Microbiology	Lounge
15	Dr. Zheng Chen	PM	Materials Engineering	CSB 004*
16	Dr. Nisarg Shah	PM	Bioengineering and 3D Reconstruction	Peterson 102**
17	Dr. Amy Non	PM	Social Sciences	Terrace
18	Dr. Adriano de Bernardi Schneider	PM	Computation and Data Analyses	CSB 005*
19	Dr. Robert Sah	PM	Immune Response	Room 1
20	Dr. Katerina Semendeferi	PM	Economics	Room 2
21	Dr. Alain Cohen	PM	Arts and Humanities	Atkinson Pavillion
22	Dr. Ranveer Jayani	PM	Molecular Biology	Seuss Library
23	Dr. Christine Hunefeldt	PM	People and Place	Room 3
24	Dr. Gerardo Arellano	PM	Education and Populations	Room 6
25	Dr. Leslie Carver	PM	Cognitive Science, Neuroscience, Psychology, and Psychiatry II	Room 5

*CSB = Cognitive Science Building

**Peterson = Peterson Hall

Panel 1

Cellular Biology

Moderator: Dr. Randy Cowling

Location: Room 1

Morning Session

Ellamae Armado, Sixth College

Nominated by Dr. Veronica Gomez-Godinez, Institute of Engineering in Medicine

The Elasticity of Chromosome Tethers is Dependent on Phosphorylation State

Teresa Chou, Revelle College

Nominated by Dr. Pamela L. Mellon, Reproductive Medicine

Identification of Estrogen and Progesterone Response Elements on the Kisspeptin Promoter

Elijah Garcia, Revelle College

Nominated by Dr. Thomas Rogers, Medicine

The Association Between Anti-Malaria Circumsporozoite Protein (CSP) Monoclonal Antibody Epitope Specificity and NK-Mediated Antibody-Dependent Cellular Cytotoxicity of CSP-Expressing Hepatocytes

Sohan Patel, Thurgood Marshall College

Nominated by Dr. Philip Gordts, Department of Medicine

Generation and Functional Characterization of Hepatic Triglyceride-Rich Lipoprotein Clearance Receptor Knockout Cell Lines Using CRISPR/Cas Technology

Victoria Shi, Earl Warren College

Nominated by Dr. Pamela L. Mellon, Department of Reproductive Medicine

The Effect of Androgen Receptors in Kisspeptin Neurons on Estrous Cycling in Adult Female Mice

Sherry Zheng, Earl Warren College

Nominated by Dr. Andrew Chisholm, Division of Biological Sciences

Patterning of the Extracellular Matrix: Formation of Cuticle Struts by BLI Collagens in *Caenorhabditis Elegans*

Panel 2

People and Politics

Moderator: Dr. Philip Roeder

Location: Terrace

Morning Session

Robert Baluja, Sixth College

Nominated by Dr. Philip Roeder, Political Science

The Economic Consequences of Ethno-territorial Decentralization

Alex Liebscher, Sixth College

Nominated by Dr. Benjamin Bergen, Cognitive Science

Effects of Battle and Journey Metaphors on Charitable Donations for Cancer Patients

Christiana Moore, Eleanor Roosevelt College

Nominated by Dr. Claire Adida, Political Science

Evaluating the Nuances of Voters' Demand for Female Politicians through Credibility

Adarsh Parthasarathy, Earl Warren College

Nominated by Dr. Philip G. Roeder, Political Science

The Effectiveness of Ethnofederal Arrangements for Combatting Violence in India

Alexandra Samaniego, Earl Warren College

Nominated by Dr. Gregory A Aarons, Psychiatry

The Impact of Team Consensus of Transformational Leadership on Psychological Safety Climate

Bonnie Yu, Eleanor Roosevelt College

Nominated by Dr. Vanesa Ribas, Sociology

Growing Up or Aging Out? Healthcare Access Disparities Among Young Adults

John Collison, Earl Warren College

Nominated by Dr. Philip Roeder, Political Science

Saving a Country without a State: Foreign Intervention and State Capacity in 21st Century Somalia

Panel 3

Bioengineering

Moderator: Dr. Elaine Tanaka

Location: Lounge

Morning Session

Allyn Eaker, John Muir College

Nominated by Dr. Pedro Cabrales, Bioengineering

Polymerized Hemoglobin Toxicity is Determined By its Molecular Size

Lauren Fang, Earl Warren College

Ezechinyere Ukabiala, Sixth College

Nominated by Dr. Robert Sah, Bioengineering

3-D Histology of Skeletal Growth

Gillian Grennan, John Muir College

Nominated by Dr. Adam Engler, Bioengineering

Investigation into the Impact of a Dynamic Turbulent Environment on iPSC-derived Endothelial Cells

Samuel Reyes, Revelle College

Nominated by Dr. Koichi Masuda, Orthopedic Surgery

Improvement of the Intervertebral Disc Height and Spinal Bone Morphology due to Normal Gravitational Conditions after Extended Exposure to Microgravity

Eliot Wong-Toi, Earl Warren College

Nominated by Dr. Rui C. Sá, Medicine

Deep Learning for Lung Segmentation in MRI images

Panel 4

Media and Communications

Moderator: Dr. John Haviland

Location: Room 2

Morning Session

Claudia Duarte Borquez, Eleanor Roosevelt College
Nominated by Dr. Gabriela Caballero, Linguistics
The Sound Patterns of San Juan Piñas Mixtec

Brett Hooke, Thurgood Marshall College
Nominated by Dr. Christina Turner, Sociology
**The Rotting City Upon the Hill: How and Why the People of California
Defunded, Privatized and Limited Access to the University of California**

Heeyoon Jessica Kang, Earl Warren College
Nominated by Dr. Christena Turner, Sociology
Who Am I: Asian American Identity through Ethnic and Racial Labels

Megan Murata, Eleanor Roosevelt College
Nominated by Dr. Christena Turner, Sociology and Japanese Studies
Creativity and Engagement: Media Platforms and Communities in Doujinshi and Fanfiction

Treya Parikh, Eleanor Roosevelt College
Nominated by Dr. Thad Kousser, Political Science
Politicians Tweeting: Social Media and its Affect on Traditional Media

Calvin Tam, Sixth College
Nominated by Dr. Thad Kousser, Political Science
**Natural Language Processing and Multi-Label
Classification of Political Twitter Communication**

Laura Wilson, Eleanor Roosevelt College
Nominated by Dr. Kevin Lewis, Sociology
**Men's Rights Culture and the Power of the Manosphere:
Contradictory Ideologies in the Internet Age**

Panel 5

Drugs and Biomarkers

Moderator: Dr. Victor Nizet

Location: Atkinson Pavilion

Morning Session

Julia Asay, Sixth College

Nominated by Dr. Bradley Moore, Scripps Institution of Oceanography
Discovery and Biosynthetic Studies of Oxazolone Natural Products

Travis Fleming, Earl Warren College

Nominated by Dr. Amro Hamdoun, Marine Biology
Complex CRISPR-Induced Mutations in Sea Urchin ABC Transporters

Michelle Holland, Revelle College

Nominated by Dr. Victor Nizet, Pediatrics
Fluoroquinolone Activity Assessment in Host-Like Conditions

Firouzeh Khoobchehr, Earl Warren College

Nominated by Dr. Partha Ray, Surgery
Characterization of the Anti-KIT Aptamer Binding to Gastrointestinal Stromal Tumor Cells and Its Effect on the Cancer Cell Viability

Christina Li, Sixth College

Nominated by Dr. Partha Ray, Surgery
Characterization of a Murine Specific Anti-KIT Aptamer for Labelling Hematopoietic Progenitor and Stem Cells (HPSC)

Mariela López Valencia, Earl Warren College

Nominated by Dr. Olivia Osborn, Medicine
Models of Antipsychotic-Induced Food Intake and Weight Gain in Mice

Claudia Palomino La Torre, Earl Warren College

Nominated by Dr. Dorota Skowronska-Krawczyk, Ophthalmology
Senolytic Drugs Protect Retinal Ganglion Cells in Mouse Model of Glaucoma

Panel 6

Biomedicine

Moderator: Dr. Pei-an (Betty) Shih

Location: Cognitive Science Building (CSB) 004

Morning Session

Karina Collins, Revelle College

Evelyne Macias, John Muir College

Nominated by Dr. Becky Marquez, Family Medicine and Public Health

Blood Pressure and Medical Check-Ups Among Families at the UCSD Preuss School

Benyamin Dadpey, Revelle College

Nominated by Dr. Shannon Reilly, Medicine

STAT3 Interaction with GPAT3 Suppresses Fatty Acid Re-esterification in Adipocytes

Erikka Linn, Sixth College

Nominated by Dr. Koichi Masuda, Orthopedic Surgery

The Program Development of an Improved Radiographic Evaluation Method for Hip OA

Lana Mamoun, Revelle College

Nominated by Dr. Shannon Reilly, Institute of Diabetes

The Localization and Domain Structure of Metabolically Important Enzymes GPAT3 and GPAT4

Nirosh Matararaarachchi, Revelle College

Nominated by Dr. Farah Sheikh, Medicine

A Novel Platform to Uncover Pro-Arrhythmogenic Pathways Driving Arrhythmogenic Right Ventricular Cardiomyopathy

Nhien Nguyen, Revelle College

Rachel Weber, Revelle College

Nominated by Dr. Betty Shih, Psychiatry

Elevated Erucic Acid Concentration in Women with Anorexia Nervosa

Varsha Rajesh, Revelle College

Nominated by Dr. Marianna Alperin, School of Health Sciences

Indispensable Role of Muscle Stem Cells in Pelvic Floor Muscle Regeneration After Birth Injury in the Rat Model

Panel 7

Education, Learning, and Society

Moderator: Dr. Luz Chung

Location: Seuss Library

Morning Session

Sarah Amiraslani, Revelle College

Nominated by Dr. Emma Harlan Geller, Psychology

Drawing to Learn Abstract Science

Stephanie Ellsworth, Earl Warren College

Nominated by Dr. Leslie Lewis, Urban Studies and Planning Program

Enhancing the Public Realm in a University Setting: The Geisel Library Open Forum

Marisa Felix, John Muir College

Nominated by Dr. Christoforos Mamas, Education Studies

Understanding the Social Participation of Students in Two Highly Diverse Classrooms

Caitlin Ng, Thurgood Marshall College

Nominated by Dr. Akos Rona-Tas, and Professor Christena Turner, Sociology

School as a Second Shift: The Implications of Transfer

Shock at UCSD and the Battle Against Time

Fangzheng Zhao, Sixth College

Nominated by Dr. Emma Harlan Geller, Psychology

The Effect of Feedback on Multimedia Learning with Adjunct Questions

Lesley Guareña, John Muir College

Nominated by Dr. Becky Marquez, Family Medicine and Public Health

Familism and Self-Efficacy of Mexican-American Women in a Weight Loss Intervention

Patricia Vasquez Cabrera, John Muir College

Nominated by Ms. Sue Pearson, Urban Studies and Planning

UC San Diego Public Realm: Transforming Campus Space and Student Life

Panel 8

Physics and Computational Methods

Moderator: Dr. Charles Driscoll

Location: Peterson Hall 102

Morning Session

Ryan Bez, Eleanor Roosevelt College

Nominated by Dr. Saikat Chakraborty Thakur, Center for Energy Research
Characterization of the Magnetic Field and Flux in a High Power Liquid Cooled Helicon Source for Plasma Material Interaction Studies in the CSDX device at UCSD

Bryce Bixler, Earl Warren College

Nominated by Dr. Kam Arnold, Physics
Integration of Rotating Cold Half Wave Plate into Polarbear-2b Receiver

Ethan Bull-Vulpe, Eleanor Roosevelt College

Kaushik Ram Ganapathy, Earl Warren College

Nominated by Dr. Andreas Goetz, San Diego Supercomputer Center
Workflow Infrastructure for Machine Learning of Molecular Properties from Quantum Mechanical Data

Santino Desopo, Sixth College

Nominated by Dr. Daniel H. Dubin, Physics
Resistive Effects on Negative and Positive Energy Pure Electron Plasmas

Alissa Ren, Sixth College

Nominated by Dr. Chung-Kuan Cheng, Computer Science and Engineering
Empirical Study on the Number of Distinct Minimum Cuts in Strongly Connected Directed Random Graphs

Cory Whitcomb, Revelle College

Nominated by Dr. Karin Sandstrom, Physics
Calibration of a Mid-Infrared Star-Formation Rate Tracer with 33 GHz Thermal Radio Continuum Emission

Clara Woods, Revelle College

Nominated by Dr. David Meyer, Mathematics
Evaluating IBM's Quantum Compiler and Quantum Computer Architectures As They Pertain to Quantum Random Walk Simulation Algorithms

Panel 9

Chemistry and Engineering

Moderator: Dr. Robina Shaheen

Location: Cognitive Science Building (CSB) 005

Morning Session

Anne Cardenas, Revelle College

Nominated by Dr. Darren Lipomi, NanoEngineering

Combining High Sensitivity and Dynamic Range: Wearable Thin-Film Composite Strain Sensors of Graphene, Ultrathin Palladium, and PEDOT:PSS

Christopher Cheng, Revelle College

Connie Li, Thurgood Marshall College

Nominated by Dr. Robina Shaheen, Chemistry and Biochemistry

Use of Radioactive Sulfur Isotopes to Assess Transport of Stratospheric Ozone to Free Troposphere

Bang Du, John Muir College

Nominated by Dr. Truong Nguyen, ECE

Synchronized Camera System for 3D Reconstruction

Andrea Gonzalez, Revelle College

Nominated by Dr. Joseph O'Connor, Chemistry and Biochemistry

Synthesis and Cytotoxicity of Light-Activated Benzoyl-Ferrocene Metallotherapies

Xin Yi (Linda) Lei, Revelle College

Nominated by Dr. Prashant Mali, Bioengineering

3D Printed Ex Vivo Vascularized Tissue Models

Michael Mundo, Thurgood Marshall College

Justin Vu, Eleanor Roosevelt College

Nominated by Dr. Robina Shaheen, Chemistry and Biochemistry

Oxygen Triple Isotope Analysis of Sulfate Aerosols and Its Implications for Pollutant Transport

Heidi Busse, Earl Warren College

Nominated by Dr. Vicki Grassian, Chemistry and Biochemistry

Ice Nucleation of Nascent and Heterogeneously Reacted Atmospherically Relevant Aerosols Utilizing Micro-Raman Spectroscopy

Panel 10

Marine Biology, Ecology, and Oceanography

Moderator: Dr. Jonathan Shurin

Location: Room 3

Morning Session

Luke Colosi, Eleanor Roosevelt College

Nominated by Dr. Sarah T. Gille, Scripps Institute of Oceanography

The Seasonal Cycle of Significant Wave Height in the Ocean: Local vs Remote Forcing

Kevin Hsiung, Revelle College

Nominated by Dr. James Nieh, Ecology, Behavior Science, Evolution

The Role of the Inhibitory Stop Signal in Honey Bees and Signal Responsiveness

Veronika Michels, Eleanor Roosevelt College

Nominated by Dr. Andrew J. Lucas, Scripps Institution of Oceanography

Utilizing Autonomous Ocean Profiling to Improve Coastal Ocean Data Interpretation

Emily Paris, Revelle College

Nominated by Dr. Bradley S. Moore, Center for Marine Biotechnology and Biomedicine

Domesticating New Marine Bacteria in Chitosan-Alginate Micro-Orbs

Fisher Price, Thurgood Marshall College

Nominated by Dr. Paul Jensen, Scripps Institution of Oceanography

A Metabolic Survey of how Actinomycete Bacteria Respond to Low Oxygen Conditions.

Stefan Samu, Sixth College

Nominated by Dr. Jon Shurin, Ecology, Behavior, and Evolution

Fear of Fish

Panel 11

Neuroscience

Moderator: Dr. Andre Der-Avakian

Location: Room 4

Morning Session

Summer Joyce Batasin, Eleanor Roosevelt College
Nominated by Dr. Matthew Shtrahman, Department of Neurosciences
**Using In Vivo Two-Photon Calcium Imaging to Investigate
the Validity of the Dentate Gate Hypothesis in Epilepsy**

Benjamin Finander, Revelle College
Nominated by Dr. Satchidananda Panda, Salk Institute, Regulatory Biology
**Intra-retinal Circuit of Intrinsically Photosensitive
Retinal Ganglion Cells in the Mouse Retina**

Brenda Hug, Revelle College
Nominated by Dr. Shauna Yuan, Department of Neurosciences
**How Gamma-Secretase Modulator Affects the
Downstream Pathways of Alzheimer's Disease**

Kyle Kim, Thurgood Marshall College
Nominated by Dr. Jonathan Lin, Pathology
Is PERK/EIF2AK3 a Risk Factor for Alzheimer's Disease?

Huayan Li, Sixth College
Nominated by Dr. Veronica Gomez, Institute of Engineering in Medicine
Intracellular Calcium Spikes Caused by a Single Cell Death

Ana Peng, John Muir College
Nominated by Dr. Nicholas Spitzer, Division of Biological Sciences
Assessing the Role of Neurogenesis in Neurotransmitter Switching

Kaitlyn Quach, Thurgood Marshall College
Nominated by Dr. Shauna Yuan, Neuroscience
Determining the Effect on Synapses in Hypomorphic PERK Risk Variant

Panel 12

Psychiatry

Moderator: Dr. Veronica Gomez

Location: Room 5

Morning Session

Wuji Jiang, Sixth College

Nominated by Dr. Nicholas Spitzer, Division of Biological Sciences
Cellular Basis of Neuroplasticity Involved in PTSD

Jenny Le, Sixth College

Nominated by Dr. Pamela Smith, Rady School of Management
Power and Dependence as Motivators of Empathic Accuracy

Rachel Siretskiy, Eleanor Roosevelt College

Nominated by Dr. Lisa Eyler and Dr. Kyle Mitchell, Psychiatry
The Relationship Between Subjective and Objective Cognitive Functioning in Bipolar Disorder: Evidence from an Ecological Momentary Assessment Study

Iris Ulloa, Revelle College

Nominated by Dr. Natacha Akshoomoff, Psychiatry
Motor Difficulties in Very Preterm Children and The Relationship of Brain Measure Differences

Alejandro Valdivia, John Muir College

Nominated by Dr. Marsida Kallupi and Dr. Olivier George, Psychiatry
Intravenous Self-Administration of Oxycodone Leads to Escalation of Oxycodone Intake in Heterogeneous-Stock (HS) Rats

Ruiyu Yang, Thurgood Marshall College

Nominated by Dr. Amy E. Lansing, Psychiatry
The Role of Environmental and Relational Factors in Predicting Mental Health in Delinquent Girls

Panel 13

Cognitive Science, Neuroscience, Psychology, and Psychiatry I

Moderator: Dr. Marsida Kallupi

Location: Room 6

Morning Session

Yong Hoon Chung, Earl Warren College

Nominated by Dr. Tim Brady, Psychology

**Object Tracking Results in More Perceptual Lag but
More Precise Memory for Continuously Changing Stimuli**

Shealan Cruise, Sixth College

Nominated by Dr. Olivier George, Psychiatry

**Extended Access to Oxycodone Self-Administration Produces Hyperalgesia
and Irritability-like Behavior in Male and Female Wistar Rats**

Olivia Jeffris, Eleanor Roosevelt College

Nominated by Dr. Douglas Nitz, Cognitive Science

**Role of the Posterior Parietal Cortex in Learning the
Shapes of Routes Taken Under Target Pursuit**

Savannah Maw, Thurgood Marshall College

Nominated by Dr. Matthew Shtrahman, Department of Neurosciences

Temporal Pattern Separation in the Hippocampus

Jennifer Ren, Earl Warren College

Nominated by Dr. Marsida Kallupi and Dr. Olivier George, Psychiatry

Sex Differences in Escalation and Motivation of Cocaine Self-Administration

Ranjani Shankar, Eleanor Roosevelt College

Nominated by Dr. Douglas Nitz, Cognitive Science

Spatial Firing Dynamics of Hippocampal Neurons During Rule-Based Navigation

Panel 14

Microbiology

Moderator: Mr. Jeremiah J. Minich

Location: Lounge

Afternoon Session

Jose Camacho, Revelle College

Nominated by Dr. Manuela Raffatellu, Pediatrics

**Probiotic Escherichia coli Nissle 1917 Uses Zinc Transporters
and the Siderophore Yersiniabactin to Acquire Zinc in the Inflamed Gut**

Carla Espinoza, Revelle College

Nominated by Dr. Rachel Dutton, Biology

Horizontal Gene Transfer in the Cheese Rind Microbiome

Allison Kramer, Revelle College

Nominated by Dr. Bradley Moore, Center for Marine Biotechnology and Biomedicine

Optimization of Kainic Acid Production in E. Coli Bacteria

Emily Kunselman, Revelle College

Nominated by Dr. Eric Allen, SIO

Characterization and Variation of the Olympia Oyster (Ostrea lurida) Gut Microbiome

Kien Malarney, John Muir College

Nominated by Dr. Rachel Dutton, Biology

Microbial Siderophores and Iron Acquisition in Cheese Microbiomes

Steven Silva, Revelle College

Nominated by Dr. Manuela Raffatellu, Pediatrics

Phagocytosis Induces the Expression of CCR3 on Neutrophils

Victoria Vasilat, Earl Warren College

Nominated by Dr. Paul Jensen, Center for Marine Biotechnology and Biomedicine

**Micro-Scale Distribution and Diversity of the Marine
Bacterial Genus Salinispora in Marine Sediments**

Panel 15

Materials Engineering

Moderator: Dr. Zheng Chen

Location: Cognitive Science Building (CSB) 004

Afternoon Session

Christopher Bagon, Sixth College

Nominated by Dr. Olivia Graeve, Mechanical and Aerospace Engineering

**Experimental Investigation on the Thermal
Conductivity of Stabilized Al₂O₃-Water Nanofluids**

Amanda Breton, Earl Warren College

Nominated by Dr. Pedro Cabrales, Bioengineering

**Microcirculation Hyperspectral Imaging to Quantify Oxygen Delivery via Analysis
of Hemoglobin Oxygen Saturation During Hypoxia and Anemia**

Benjamin Chang, Earl Warren College

Joseph Chang, Earl Warren College

Nominated by Dr. Truong Nguyen, Electrical and Computer Engineering

Single-View Depth Estimation for Vehicle Collaboration

Kartik Choudhary, Sixth College

Nominated by Dr. Darren Lipomi, Nanoengineering

**Influence of Acceptor Side-Chain Length and Conjugation-Break Spacer Content
on the Mechanical Properties of Semi-Random Polymers**

Natalie Lam, Revelle College

Nominated by Dr. Olivia Graeve, Mechanical and Aerospace Engineering

Fine Tuning Light Emission of Doped ZnO

Brandon Markey, Eleanor Roosevelt College

Iva Robb, Revelle College

Nominated by Dr. Zheng Chen, Chemical Engineering

Recycling and Regeneration of Graphite from Lithium Ion Batteries

Felix Monge, John Muir College

Nominated by Dr. Olivia Graeve, Mechanical And Aerospace Engineering

**A Salt-Assisted Solution Combustion Synthesis of
Lanthanum Hexaboride Powders of Cubic Morphologies**

Panel 16

Bioengineering and 3D Reconstruction

Moderator: Dr. Nisarg Shah

Location: Peterson Hall 102

Afternoon Session

Danylo Drohobytzky, Earl Warren College
Nominated by Dr. Dominique Rissolo, Qualcomm Institute
**Spatially Accurate 3D Reconstruction of an Infant Burial through
Individual Artifacts in Arma Veirana Cave, Liguria, Italy**

MingYuan Li, Eleanor Roosevelt College
Nominated by Dr. Tania K. Morimoto, MAE
Tip Extending Device for Medical Purposes

Leening Liu, John Muir College
Serena Shi, Sixth College
Nominated by Dr. Robert Sah, Bioengineering
Registration of Contralateral μ CT Scans of The Murine Mouse Knee

Keshav Rungta, John Muir College
Nominated by Dr. Truong Nguyen, Electrical and Computer Engineering
3D Scene Reconstruction for VR

Armando Urbina, Earl Warren College
Nominated by Dr. Darren Lipomi, NanoEngineering
**Wearable Thin-Film Composite Strain Sensors Using
Graphene, Palladium, and PEDOT:PSS**

Shinya Wai, Sixth College
Nominated by Dr. Nisarg Shah, NanoEngineering
Immunomodulatory Biomaterials for Localized T-cell Blockade

Yvonne Yee, Eleanor Roosevelt College
Nominated by Dr. Nisarg Shah, NanoEngineering
Sustained Delivery of Small Molecule Immunomodulators of T-cells

Panel 17

Social Sciences

Moderator: Dr. Amy Non

Location: Terrace

Afternoon Session

Mona Abboud, Earl Warren College
Nominated by Dr. John B. Haviland, Anthropology
Racial Disparities in Plea Bargaining

Meredith Anderson, Eleanor Roosevelt College
Katrina Myers, John Muir College
Nominated by Dr. Amy Non, Anthropology
**Epigenetic Embodiment of Everyday Discrimination Among
Latinx Immigrant Mothers and Their Children**

Leonel Perez, Thurgood Marshall College
Nominated by Dr. Daphne Taylor-Garcia, Ethnic Studies
Perspectives in Decolonial Health: Towards Other Paradigm(s)

Taylor Campbell, Eleanor Roosevelt College
Nominated by Dr. Jeff Haydu, Sociology
Severe Mental Illness and the 'Revolving-Door' Mental Health System

Andriana Ferguson, Sixth College
Nominated by Dr. David K Jordan, Anthropology
Creating a Stigma of Mental Illness: Gender and Family in Japanese history

Allison Yatco, Thurgood Marshall College
Nominated by Dr. Rebecca Fielding-Miller, Division of Infectious Disease and Global Public Health
**Rejecting Rape Myths Influences Poor Mental Health Among Collegiate Women
and Sexual Violence Survivors at the University of Eswatini: A Mediation Analysis**

Jodie Koh, Earl Warren College
Nominated by Dr. Kevin Lewis, Sociology
The Culture of Collaboration in Malaysian Work Spaces

Panel 18

Computation and Data Analyses

Moderator: Dr. Adriano de Bernardi Schneider

Location: Cognitive Science Building (CSB) 005

Afternoon Session

David Ahmadian, Sixth College

Gabriel Alon, Sixth College

Nominated by Dr. Virginia de Sa, Cognitive Science

GA2M Interpretable Machine Learning

Bryant Cao, Earl Warren College

Nominated by Dr. Matthew Daugherty, Division of Biological Sciences

**An Evolution-Guided Approach to Discover New Human
Polymorphisms Associated with Host-Pathogen Interactions**

Savannah Fakhouri, Earl Warren College

Nominated by Dr. Satchidananda Panda, Regulatory Biology

A Smartphone App as a Tool for Nutritional Logging in a Clinical Trial

Aditi Gnanasekar, Earl Warren College

Nominated by Dr. Weg Ongkeko, Surgery

**Etiology-Based Differences in the Immune Landscape
of Head and Neck Squamous Cell Carcinoma**

Chinmay Kalluraya, John Muir College

Nominated by Dr. Matthew Daugherty, Division of Biological Sciences

A Novel Method to Infer Horizontal Gene Transfer

Evan Saldivar, John Muir College

Nominated by Dr. Eric Schmelz, Cell and Developmental Biology

**A Bioinformatic Approach to the Untangling of
Maize Isoprenoid Defense Pathways**

Joseph Tsai, Earl Warren College

Lindsay Wong, Revelle College

Nominated by Dr. Weg Ongkeko, Department of Surgery

Immune Landscape of Cancers Caused by Viral Factors

Panel 19

Immune Response

Moderator: Dr. Robert Sah

Location: Room 1

Afternoon Session

Daryl Dorsey, Revelle College

Nominated by Dr. Maripat Corr, Medicine

**Sex Differences and Cell Specificity in the Role of Type I Interferon
Secretion in Chronic Allodynia in Murine Arthritis**

Erin Harryman, Eleanor Roosevelt College

Nominated by Dr. Maripat Corr, Medicine

IRF3 and IRF7 Regulation of Tactile Allodynia in Serum Transferred Arthritis

Anthony Quach, Sixth College

Nominated by Dr. Philip Gordts, Biomedical Sciences

Liver Heparan Sulfate Influence on FGF1 Binding in Adipose Tissue

Lily Quach, Revelle College

Nominated by Dr. Mohit Jain, Biomedical Sciences

**Metabolites Associated With Immune Related Adverse Events (irAEs)
in Cancer Patients of Immunotherapy**

Victor Shen, Revelle College

Nominated by Dr. Dan Kaufman, Medicine

Regulatory Role of IL1-R8 in Natural Killer Cells's Anti-Tumor Activity

Panel 20

Economics

Moderator: Dr. Katerina Semendeferi

Location: Room 2

Afternoon Session

Alyssa Ashmore, Sixth College

Nominated by Dr. Munseob Lee, School of Global Policy and Strategy
High Educational Attainment and High Youth Unemployment In South Korea

Albert Chiu, Thurgood Marshall College

Nominated by Dr. Yiqing Xu, Political Science

**Bayesian Rule Set: An Interpretable Machine Learning Model as an
Alternative to Qualitative Comparative Analysis (QCA)**

Suzanne Golshanara, Eleanor Roosevelt College

Nominated by Dr. Kate Antonovics, Economics

Assessing the Time Cost of Breastfeeding for Women

Brian Japari, Revelle College

Nominated by Dr. Munseob Lee, School of Global Policy and Strategy

Korea's Aging Population: Implications for the Welfare System

Adarsh Parthasarathy, Earl Warren College

Nominated by Dr. Thaddeus Kousser, Political Science

Talking Points: How Politicians Influence Online Conversational Practices on Twitter

Amanda Shu, Sixth College

Nominated by Dr. Eli Berman, Economics

Relationship Between Teaching Experience and Student Approval Ratings in CAPE Data

Sang Bong Song, John Muir College

Nominated by Dr. Munseob Lee, Economics

South Korea's Economic Policy Uncertainty Index and Real GDP Growth Rate

Panel 21

Arts and Humanities

Moderator: Dr. Alain Cohen

Location: Atkinson Pavilion

Afternoon Session

Michael Alvarez, Thurgood Marshall College
Nominated by Dr. Samuel Rickless, Philosophy
Intentions and Reasons for Meaning in Life

Angelina Campos, John Muir College
Nominated by Dr. Amelia Glaser, Literature
**Bittersweet Victories: How McCarthyism Helped
Diversify American Childrens Literature**

Jazmin Cepeda, Eleanor Roosevelt College
Nominated by Dr. Alain J.-J. Cohen, Literature
Justice: The Question of Law and Humanity

Jack Mason-Brase, Eleanor Roosevelt College
Nalani Tran, Sixth College
Nominated by Dr. Dino Dinco, Visual Arts
Queer Resilience Through Media Practices and Performance Art

Melody Schwartz, Thurgood Marshall College
Nominated by Dr. Alain J.-J. Cohen, Literature
Psychoanalysis of a Dream Sequence: Martin Scorsese's Taxi Driver

Theodore Whalen, Eleanor Roosevelt College
Nominated by Dr. Dominique Rissolo, Qualcomm Institute
**Are You a Fool for Choosing a Fu: A Look Into Why
Different Ships Were Used During the Ming Dynasty**

Alexa Wheelan, Sixth College
Nominated by Dr. Zeinabu Davis, Communication
What's The Story, Mother?: A Feminist Film Analysis of the Alien Quadrilogy

Panel 22

Molecular Biology

Moderator: Dr. Ranveer Jayani

Location: Seuss Library

Afternoon Session

Xiaoke Bi, Revelle College

Nominated by Dr. Jonathan Lin, Pathology

**ATF6 Signaling of Unfolded Protein Response
is Essential for Cone Photoreceptor Survival**

Melissa Chow, Thurgood Marshall College

Nominated by Dr. Karl Wahlin, Ophthalmology

Bioinformatic Analysis of Microna Role in Human Retinal Development

Christina Clark, John Muir College

Nominated by Dr. Amy E. Pasquinelli, Molecular Biology, Division of Biological Sciences

**Maintaining Life on a Shorter Level:
The Changing View on Poly(A) Tail Length Dynamics**

Shivani Lakkaraju, Revelle College

Nominated by Dr. Simon Schenk, Orthopedic Surgery

**The Effect of Inhibiting Lysine Deacetylases on Insulin-Stimulated
Glucose Uptake in Skeletal Muscle Cells**

Neya Suresh-Kumar, John Muir College

Nominated by Dr. Karl Willert, Cellular and Molecular medicine

Structure and Function of Frizzled-7(FZD7)

Fan Xu, Revelle College

Nominated by Dr. Brian Zid, Chemistry and Biochemistry

**Importance of DOM34 in Regulating Translation of
Polyproline-Harboring Mitochondrial Proteins**

Ellis Zhang, Sixth College

Nominated by Dr. Dorota Skowronska-Krawczyk, Ophthalmology

ELOVL2 as a Risk Factor in Age-Related Macular Degeneration in Pigeon Model

Panel 23

People and Place

Moderator: Dr. Christine Hunefeldt

Location: Room 3

Afternoon Session

Mateusz Kucz, Earl Warren College
Nominated by Dr. Christine Hunefeldt, History
Agave Distilled Spirits - A Commodity Chain Analysis

Haneen Mohamed, John Muir College
Nominated by Dr. Keith Pezzoli, Urban Studies and Planning
The Black Mosque: The Case for Revival

V. Tarini Naidu, Thurgood Marshall College
Nominated by Dr. Christine Hunefeldt, History [Latin America]
Following the Fiber: An Alpaca Fleece Commodity Chain Analysis

Hung Nguyen, Thurgood Marshall College
Nominated by Dr. Keith Pezzoli, Urban Studies and Planning
Community Food Wall

Enid Partika, John Muir College
Nominated by Dr. Keith Pezzoli, Urban Studies and Planning
**The BioEnergy Project: Creating a Food Waste to Food System
Using Anaerobic Digestion as the Fulcrum**

Will Tanaka, Eleanor Roosevelt College
Nominated by Dr. Keith Pezzoli, Communication, USP
Mushrooms from Campus Waste

Isabell Villasana, John Muir College
Nominated by Dr. Jade d'Alpoim Guedes, Anthropology
**Dung Burning at Harappa? The Origin of "Weeds" Seeds
in the Archaeological Record (3300 B.C-1700 B.C)**

Panel 24

Education and Populations

Moderator: Dr. Gerardo Arellano

Location: Room 6

Afternoon Session

Mariana Carrola, Revelle College

Nominated by Dr. Gerardo Arellano, Raza Resource Centro
Undocumented Students and Access to College Prep

Manuel Duran, Revelle College

Nominated by Dr. Gerardo Arellano, Raza Resource Centro
Indigenous Approaches to Representation and Political Power

Alexandra Gunn, Eleanor Roosevelt College

Nominated by Dr. Jeremy Prestholdt, History
Educational Pathways for Underserved Refugees in Jordan

Araz Majnoonian, Thurgood Marshall College

Nominated by Dr. Jennifer Wagman, Medicine
UC Speaks Up: A Qualitative Study on Campus Violence Prevention

Christine Wenzel, Eleanor Roosevelt College

Nominated by Dr. Jennifer Wagman, Medicine
Let's Talk About Sex [Education]

Jiaye Zhou, Thurgood Marshall College

Nominated by Dr. Kevin Lewis, Sociology
**Chinese International Graduate Students in Distress:
Linguistic, Cultural-linguistic, Cultural Barriers**

Panel 25

Cognitive Science, Neuroscience, Psychology, and Psychiatry II

Moderator: Dr. Leslie Carver

Location: Room 5

Afternoon Session

Hunter Carney, Sixth College

Nominated by Dr. Leslie Carver, Psychology

Anticipation of Social and Non-Social Stimuli in Children

Jairo Chavez, Earl Warren College

Nominated by Dr. Bradley Voytek, Cognitive Science

Connections Between Spiking Activity and LFP Phase Bands in the Avian Brain

Julio Dominguez, Earl Warren College

Nominated by Dr. Bradley Voytek, Cognitive Science

**Electrophysiological Frequency Band-Ratio Measures
Conflate Changes in Periodic and Aperiodic Features**

Shyam Patel, Sixth College

Nominated by Dr. Shelley Halpain, Neurobiology

Electrophysiological Features of Primary Neuron Cultures: Sleeping in a Dish?

Tianzhi Tang, John Muir College

Nominated by Dr. Dhakshin Ramanathan, Psychiatry

**Developing and Optimizing Implantable Device Capable of Performing Single-Unit Recording
and Optogenetic Manipulation in Rodent Brain**

Anna Ward, Sixth College

Nominated by Dr. Leslie Carver, Psychology

Quantifying Adult Social Motivation in Typically Developing Adults

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