

# **UC Santa Cruz**

## **Graduate Research Symposium 2016**

### **Title**

Twelfth Annual Graduate Research Symposium, Program, April 29, 2016

### **Permalink**

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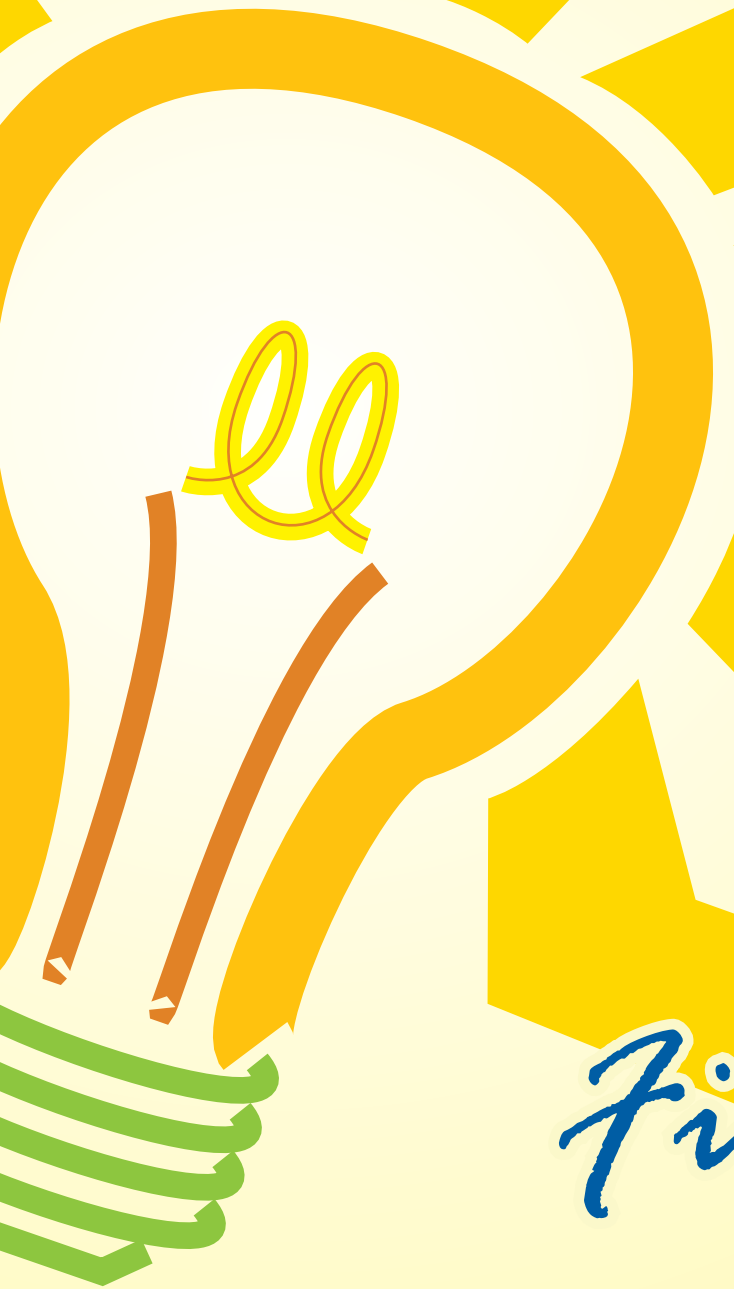
A Division, of Graduate Studies

### **Publication Date**

2016-04-01

*12th Annual*  
**Graduate Research  
Symposium**

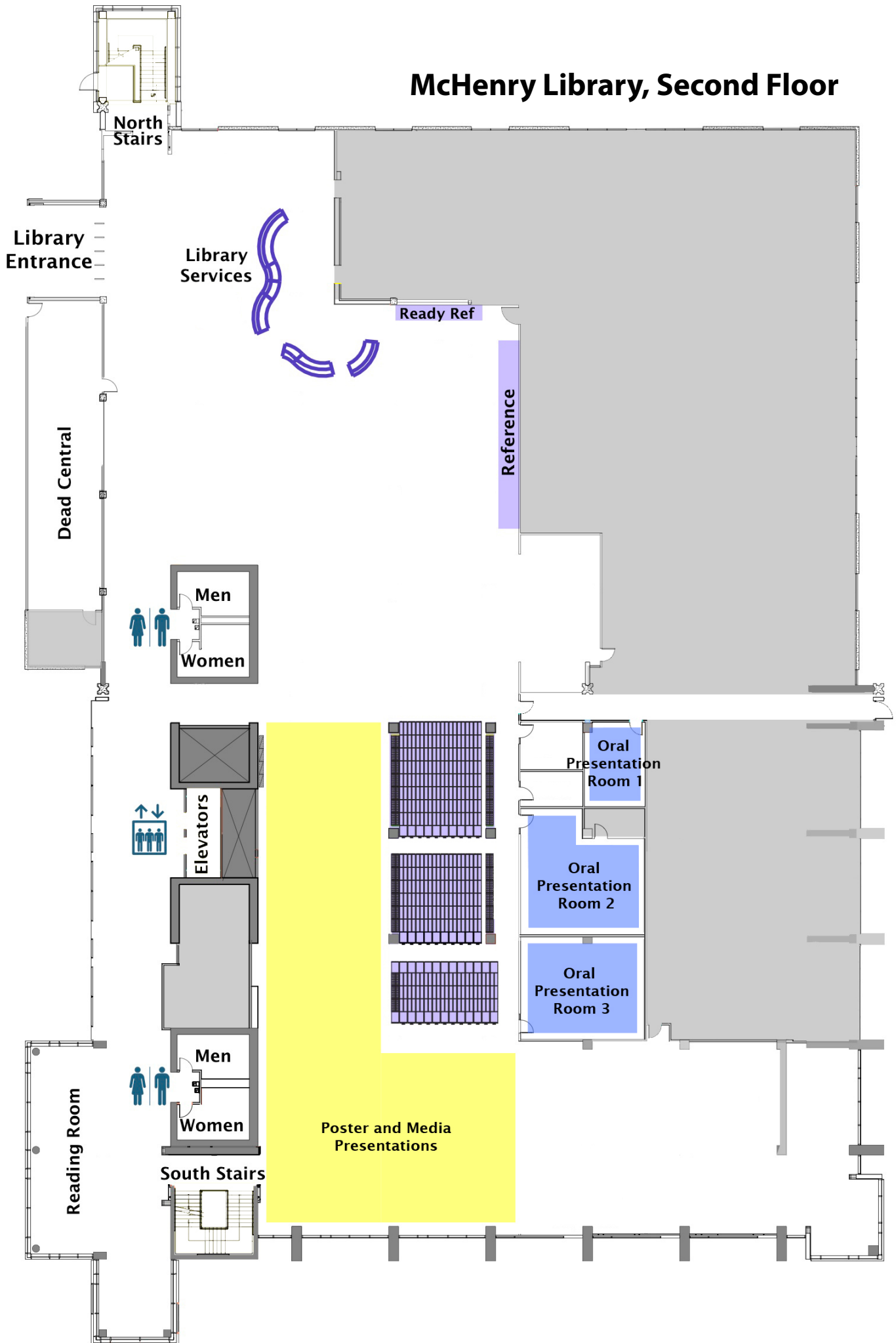
April 29, 2016



*Fiat Lux!*

**UC Santa Cruz • Division of Graduate Studies**

# McHenry Library, Second Floor



## **Welcome to the 12th Annual Graduate Research Symposium!**

UC Santa Cruz is proud to showcase the superb research of our graduate students and to celebrate their academic achievements in the past year. We're especially pleased to be able to hold this event as part of Alumni Weekend.

UCSC's annual Graduate Research Symposium gives us the opportunity to:

- Highlight the most outstanding graduate research across the whole spectrum of disciplines on our campus;
- Recognize advanced graduate research being conducted in a wide range of programs and settings;
- Celebrate the diversity and innovativeness of our graduate community;
- Provide our graduate students with the chance to learn about the research of their colleagues and to encounter research findings in fields of inquiry related to their own;
- Promote interdisciplinary research conversations among our graduate students.

The Division of Graduate Studies is honored to be able to host this annual event in the recently-renovated McHenry Library. Please use the adjacent map to find the oral, media and poster presentations listed in this program.

### **Event Judging**

A panel of judges will score presenters on their ability to convey information in a meaningful manner to a non-expert audience, as well as the relevance/importance of their research and/or project to those in and outside of their field.

### **Awards Reception**

Join us for the Awards Reception immediately following the Symposium on the South Lawn, where light refreshments will be provided. Awards for the best presentations in each academic division will be granted, including gift certificates to the UCSC Bookstore in the amount of \$100, sponsored by the academic Deans, and \$150, sponsored by the UCSC Alumni Association. Two awards recognizing outstanding presentations in any discipline will also be awarded: a \$250 cash Graduate Dean's award, and a \$500 cash award for the Chancellor's Graduate Research Prize.

### **Graduate Alumni Social**

In celebration of Alumni Weekend, a Graduate Alumni Social will be held at the Graduate Student Commons following the Symposium. Please see the walking map on the back page of this program for directions to the GSC. Graduate Alumni and current graduate students are encouraged to come make new friends, reconnect with old friends, and learn more about the GSC while enjoying a refreshing cocktail. Drinks and appetizers will be provided.



Tyrus Miller  
Vice Provost and Dean of Graduate Studies

# Acknowledgements

Thank you to all who contributed to the success of this event...

All of our volunteer judges  
McHenry Library, *Event Sponsor*  
Alumni Association, *Event Sponsor*  
Division of Arts, *Event Sponsor*  
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Marcus Thayer and Team, McHenry Library, *Location Assistance and Publicity*  
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Robert Kemp and Team, Staff Receiving Services, *Poster Easels*  
Juan Perez and Team, Learning Technologies, *Media Support*  
Karen Herrera, Diana Rivas and Dan Oliver, *Event Assistance*  
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## Media Presentation

**Grace Barcheck**, *Earth Sciences*  
THE HEARTBEAT OF AN ICE SHEET: TURNING SCIENCE INTO SOUND  
FROM THE WHILLANS ICE STREAM IN WEST ANTARCTICA

# Oral/Live Presentations

Presentation Room 1  
Library 2320

1:30 pm

**Jess Whatcott**, *Politics*

THE POLITICS OF INFORMED CONSENT IN CALIFORNIA WOMEN'S PRISONS

**Eric Fischer**, *Economics*

MONETARY SURPRISES, PORTFOLIO FLOWS, AND LIQUIDITY:  
A CASE STUDY OF BRAZIL, COLOMBIA, AND MEXICO

**Jeremy Coupe**, *Computer Engineering*

COMPUTING THE OPTIMAL RAMP AREA AIRCRAFT PUSH BACK TIME WINDOWS  
IN THE PRESENCE OF UNCERTAINTY

**Larissa Marinho Eglem de Oliveira**, *Computer Engineering*

CHARACTERIZING USER MOBILITY IN WIFI NETWORKS

**Damla Ozcelik**, *Electrical Engineering*

SPATIALLY MULTIPLEXED BIOPARTICLE DETECTION  
USING MULTIMODE INTERFERENCE

2:30 pm

**Ben Spalding**, *Digital Arts & New Media*

HYDRAS LIKE STORIES: MULTI-PLAYER NARRATIVE DESIGN IN DIGITAL GAMES

**Joshua Parks**, *Electrical Engineering*

DIRECT INTEGRATION OF ACTIVE OPTOFLUIDIC ELEMENTS  
WITH CONVENTIONAL MICROFLUIDICS

**Mike Jaris**, *Electrical Engineering*

ULTRAFAST SPECTROSCOPY OF NANOSCALE SPINTRONIC DEVICES

**Carver Bierson**, *Earth Sciences*

DEEP INSIGHTS FROM SIMPLE OBSERVATIONS OF PLUTO AND CHARON

**Michael Nayak**, *Earth Sciences*

THE EVOLUTION OF GROOVES ON PHOBOS:  
FROM SUSPECTED ALIEN MONOLITH TO SESQUINARY IMPACT FEATURES

# Oral/Live Presentations

Presentation Room 2  
Library 2353

1:30 pm

**Jackson Tolins**, *Psychology*

LISTENING TO THE LISTENER: THE ROLE OF ADDRESSEE BACKCHANNELS  
IN DIALOGUE COMPREHENSION

**Mecaila Smith**, *Education*

PERSONAL STATEMENTS IN COMPETITIVE ENVIRONMENTS:  
INQUIRY INTO AUTHORSHIP USING SOCIOCULTURAL THEORIES OF IDENTITY  
AND THE LENS OF DIALOGISM

**Mary Thomas**, *Visual Studies*

SOCIALLY-ENGAGED ART HISTORY:  
MOVING VISUAL ANALYSIS OUTSIDE OF THE CLASSROOM

**Talia Waltzer**, *Psychology*

WHEN AND WHY IS IT WRONG TO COPY FROM OTHERS?  
VARIABILITY IN STUDENTS' EVALUATIONS OF PLAGIARISM

**Alix Johnson**, *Anthropology*

THE CENTER FOR EMERGING WORLDS:  
PUBLIC-ACADEMIC ENGAGEMENTS BEHIND THE HEADLINES

2:30 pm

**Mitchell Winter**, *Visual Studies*

ADORNING REALITY: THE POSTCOLONIAL POETICS AND PROBLEMS  
OF ALANKARA IN CONTEMPORARY CULTURAL STUDIES OF HINDU VISUALITY

**Sean Lawrence**, *History*

BEGRUDGING EMPIRE: BANKERS, BOURGEOIS SOCIETY,  
AND IMPERIAL GERMANY'S NEW PUBLIC ELITE

**Christina Corfield**, *Film & Digital Media*

INSTANT MESSENGER: THE PONY EXPRESS, MEDIA AND MODERN VIRTUALITY  
BEFORE THE AGE OF THE INTERNET

**Lisa Beebe**, *Music*

FROM OLD HANOI TO THE "HOTEL CALIFORNIA":  
THE TRAVELING TALES OF THE VIETNAMESE DAN BAU MONOCHORD

**Kyuhyun Han**, *History*

PRECIOUS ANIMALS: STATE-WILDLIFE RELATIONS  
IN THE PEOPLE'S REPUBLIC OF CHINA, 1949-1965

# Oral/Live Presentations

Presentation Room 3  
Library 2359

1:30 pm

**Daniel Killam**, *Earth Sciences*

HAPPY CLAMS THROUGH TIME: USING BIVALVE SHELLS  
AS A RECORD OF PHYSIOLOGY AND CLIMATE

**Courtenay Ray**, *Ecology & Evolutionary Biology*

INVADING CALIFORNIA: IMPACTS AND BEST MANAGEMENT PRACTICES  
FOR THE PERENNIAL GRASS, *EHRHARTA ERECTA*

**Claire Masteller**, *Earth Sciences*

HIGHS AND LOWS OF RIVERBEDS: QUANTIFYING THE IMPACT  
OF GRAIN-SCALE TOPOGRAPHY ON SEDIMENT TRANSPORT RATES  
IN AN EXPERIMENTAL RIVER

**Juliano Calil**, *Ocean Sciences*

MULTIDISCIPLINARY APPROACHES TO COASTAL CLIMATE ADAPTATION

2:30 pm

**Carolyn Branecky**, *Earth Sciences*

GEOHERMAL HEAT FLOW IN THE WEST ANTARCTIC RIFT SYSTEM

**Joseph Parks**, *Chemistry & Biochemistry*

MOLECULAR MOTION CAPTURE OF HUMAN TELOMERASE CATALYSIS

**Leah Schwiesow**, *Molecular, Cell, & Developmental Biology*

ISCR-MEDIATED CONTROL OF THE HMURSTUV HEMIN UPTAKE SYSTEM  
IN *YERSINIA PSEUDOTUBERCULOSIS*

**Mauricio Rojas-Andrade**, *Chemistry & Biochemistry*

ANTIBACTERIAL ACTIVITY OF SILVER-COPPER ALLOY NANOPARTICLES:  
IN-VIVO EVIDENCE FOR REACTIVE OXYGEN SPECIES GENERATION

**Cassidy Berk**, *Electrical Engineering*

SELECTIVE CONTROL OF MAGNETIZATION PRECESSION  
IN MAGNETIC MULTILAYERS



# Poster Presentations

*Alphabetical by program and last name*

**David Haan**, *Biomolecular Engineering & Bioinformatics*

IDENTIFYING NOVEL DRIVER GENES OF THE ALTERNATIVE LENGTHENING OF TELOMERES PATHWAY IN PEDIATRIC CANCER

**Yulia Newton**, *Biomolecular Engineering & Bioinformatics*

UCSC TUMORMAP: EXPLORING CANCER SIGNATURES ON AN INTERACTIVE DYNAMIC LANDSCAPE

**Arthur Rand**, *Biomolecular Engineering & Bioinformatics*

CYTOSINE METHYLATION VARIANT CALLING WITH MINION NANOPORE SEQUENCING

**Edward Rice**, *Biomolecular Engineering & Bioinformatics*

HIGHLY-CONTIGUOUS GENOME ASSEMBLY AND RNA-SEQ OF EMBRYONIC GONADS PROVIDE EVIDENCE OF ESTROGENIC REGULATION OF GENE EXPRESSION DURING TEMPERATURE-DEPENDENT SEX DETERMINATION IN THE AMERICAN ALLIGATOR

**Nedda Saremi**, *Biomolecular Engineering & Bioinformatics*

BEAR NECESSITIES: THE GENOME ASSEMBLY AND ANNOTATION OF THE SPECTACLED BEAR

**Staci Adams**, *Chemistry & Biochemistry*  
OPTICAL AND MAGNETIC PROPERTIES OF METAL AND METAL-OXIDE NANOPARTICLES FOR BIOLOGICAL APPLICATIONS

**Tianyu Liu**, *Chemistry & Biochemistry*  
FIRST DEMONSTRATION OF 3D PRINTED PERIODIC MACROPOROUS GRAPHENE AEROGELS AS SUPERCAPACITOR ELECTRODES WITH EXCEPTIONAL RATE CAPABILITY

**Bin Yao**, *Chemistry & Biochemistry*  
FLEXIBLE TRANSPARENT SEMICONDUCTOR NANOPAPER FOR ENERGY STORAGE

**Daniel Alves**, *Computer Engineering*  
TEMPORAL AND GEOGRAPHICAL INFLUENCE IN RTT PATTERNS

**Jun Chai**, *Computer Engineering*  
HYBRID CONTROL ALGORITHMS FOR ROBUST POWER CONVERSION IN SMART GRIDS

**Sam Mansfield**, *Computer Engineering*  
WIRELESS COMMUNICATION OVER TERRAIN

**Sean Phillips**, *Computer Engineering*  
ESTIMATION AND SYNCHRONIZATION FOR MULTI-AGENT SYSTEMS USING TOOLS FOR HYBRID SYSTEMS  
Co-presenter: Yuchen Li

**Sharon Rabinovich**, *Computer Engineering*  
LEADER-FOLLOWER FOR FORMATION TESTING

**Dmitriy Rivkin**, *Computer Engineering*  
MINIMUM ENERGY ATTITUDE CONTROL

**Sean-Ryan Smith**, *Computer Science*  
DYNAMIC ONLINE COMPUTERIZED NEUROPSYCHOLOGICAL TESTING SYSTEM

**Cara Vennari**, *Earth Sciences*  
HIGH PRESSURE RAMAN AND SINGLE CRYSTAL X-RAY DIFFRACTION OF THE ALKALI/CALCIUM CARBONATE, SHORTITE

**Eric Garcia**, *Ecology & Evolutionary Biology*  
GENOMIC ANALYSIS OF DISJUNCT MARINE FISH POPULATIONS OF THE NORTHEASTERN PACIFIC AND SEA OF CORTEZ

# Poster Presentations

*Alphabetical by program and last name*

**Juan Diaz**, *Electrical Engineering*  
HIERARCHICAL MOTH-EYE ANTIREFLECTION  
COATINGS

**David Fryauf**, *Electrical Engineering*  
GROWTH OF ULTRASMooth SILVER THIN  
FILMS DEPOSITED WITH A GERMANIUM  
NUCLEATION LAYER  
Co-presenter: Juan Diaz

**Paulo Quadri**, *Environmental Studies*  
NO WALLS BETWEEN CONIFERS IN MEXICO:  
HOW LOCAL ENVIRONMENTAL CONDITIONS  
MODULATE DISTRIBUTIONAL AND  
PHYSIOLOGICAL RESPONSES OF TREES TO  
CLIMATE CHANGE IN ALPINE MEXICO

**Meg Eppel Gudgeirsson**, *History*  
DEFINE THE CHILD, DEFINE THE  
COMMUNITY: RAISING CHILDREN IN  
NINETEENTH-CENTURY RELIGIOUS  
COMMUNITIES

**Martin Rizzo**, *History*  
NO SOMOS ANIMALES: INDIGENOUS  
SURVIVAL AND PERSISTENCE IN 19TH  
CENTURY SANTA CRUZ, CALIFORNIA

**Amanda Wilson Bergado**, *History*  
RECONSIDERING "THE HATCHET MEN":  
CHINESE AMERICAN CRIMINALITY DURING  
THE ERA OF CHINESE EXCLUSION

**Delio Vasquez**, *History of Consciousness*  
THE REVOLUTION WILL NOT BE LEGALIZED:  
BANK ROBBERIES, EXPROPRIATIONS, AND  
THE BLACK LIBERATION ARMY (1968-1983?)

**Nathaniel Clair**, *Linguistics*  
AN ENRICHED ACCOUNT OF DIFFERENTIAL  
OBJECT MARKING: EVIDENCE FROM  
SPOKEN PERSIAN

**Anna Greenwood**, *Linguistics*  
PHONETICS OR PHONOLOGY?  
INVESTIGATING THE DRIVING FORCE BEHIND  
PHONETICALLY NATURAL PATTERNS

**Chelsea Miller**, *Linguistics*  
LIMITED REACTIVATION IN NOUN PHRASE  
ELLIPSIS

**Maho Morimoto**, *Linguistics*  
LISTENER ADAPTATION TO STRESS  
MISPLACEMENT IN ENGLISH

**Jason Ostrove**, *Linguistics*  
THE PLACEMENT OF AGREEMENT CLITICS IN  
SAN MARTÍN PERAS MIXTEC

**Jed Pizarro-Guevara**, *Linguistics*  
THE ROLE OF TAGALOG VERBAL AGREEMENT  
IN PROCESSING WH-DEPENDENCIES

**Erik Zyman**, *Linguistics*  
ON THE LIMITS OF SYNTACTIC MOVEMENT:  
HYPERRAISING IN P'URHEPECHA

**Kendra Dority**, *Literature*  
READING PRACTICES AND LANGUAGE  
POLITICS IN ANCIENT GREEK AND U.S.  
LATINA/O LITERATURES

**Tsering Wangmo**, *Literature*  
THE RECONSTRUCTION OF CONTEMPORARY  
TIBETAN IDENTITY: TRADITION,  
NATIONALISM, AND FORMS OF BELONGING

**Travis Conley**, *Microbiology & Environmental  
Toxicology*  
MANGANESE AND THE BRAIN: IMPACTS OF  
DEVELOPMENTAL MANGANESE EXPOSURE  
ON CATECHOLAMINERGIC RECEPTORS IN  
THE PREFRONTAL CORTEX

# Poster Presentations

*Alphabetical by program and last name*

**Jaime Hernandez**, *Microbiology & Environmental Toxicology*  
PHOTOARSENOTROPHY IN ACTION

**Zeka Kuspa**, *Microbiology & Environmental Toxicology*  
MEASURING HANDLING STRESS AT MULTIPLE TIME SCALES IN THE CHRONICALLY LEAD-EXPOSED CALIFORNIA CONDOR

**Gisele Miglioranza Rizzi**, *Microbiology & Environmental Toxicology*  
SKELETAL LEAD: IMPLICATIONS FOR EXPOSURE MONITORING IN CALIFORNIA CONDORS

**Elektra Robinson**, *Molecular, Cell, & Developmental Biology*  
CHARACTERIZATION OF LncRNA-Aim2 IN MOUSE MACROPHAGES

**Cameron Soulette**, *Molecular, Cell, & Developmental Biology*  
PAN-CANCER ANALYSIS OF WHOLE GENOME SEQUENCING REVEALS RECURRENT INTRONIC MUTATIONS

**Leila Jewell**, *Physics*  
PROGRESS TOWARD THE SOLAR PANELS OF TOMORROW: LOCAL STRUCTURE STUDIES OF DEGRADATION IN THE PROMISING LEAD IODIDE PEROVSKITE

**Caitlin Johnson**, *Physics*  
SEARCHING FOR SIGNATURES OF NEW PHYSICS: DEEP GAMMA-RAY OBSERVATIONS OF 3C 66A

**Shirin Bakhshay**, *Psychology*  
THE MEDIA'S IMPACT ON THE RIGHT TO A FAIR TRIAL: A CONTENT ANALYSIS OF PRE-TRIAL PUBLICITY IN CAPITAL CASES

**Brandon Balzer Carr**, *Psychology*  
QUEER SLUGS: A QUALITATIVE ANALYSIS OF LGBTQ+ STUDENTS' CHALLENGES AND COMMUNITY BUILDING AT UCSC

**Natalie Jacewicz**, *Science Communication*  
POLITICS IN A PETRI DISH: COVERING NATIONAL ELECTIONS THROUGH SCIENCE COMMUNICATION

**Nadia Roche**, *Sociology*  
IMPACTS OF SEXUAL ASSAULT TRAUMA AND MENTAL HEALTH ON GRADUATE STUDENT ACADEMIC SUCCESS

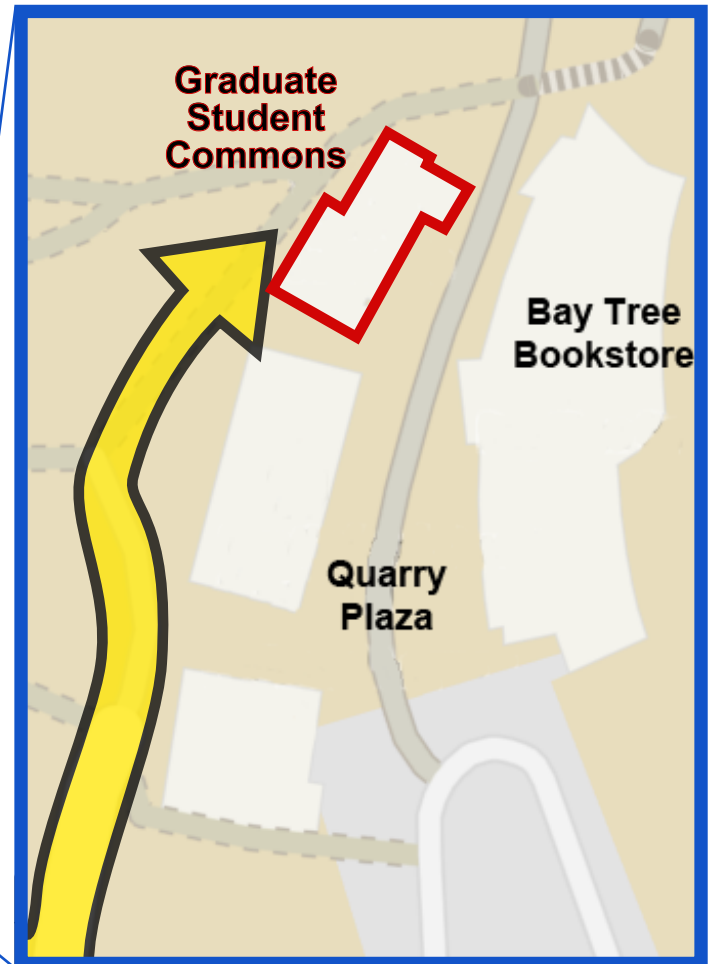
**Daniel Helkey**, *Statistics & Applied Mathematics*  
BAYESIAN DECISION - THEORETIC SAMPLE SIZE COMPUTATION

**Daniel Kirsner**, *Statistics & Applied Mathematics*  
THE JAYNES INFORMATION CRITERION (JIC) AND THE ROLE OF PARSIMONY IN BAYES FACTORS

**Alexander Terenin**, *Statistics & Applied Mathematics*  
ASYNCHRONOUS GIBBS SAMPLING

**Alex Moore**, *Visual Studies*  
READING NATURE, OBSERVING SCIENCE: EXAMINING MATERIAL PRACTICES IN THE KENNETH S. NORRIS AND LICK OBSERVATORY PAPERS  
Co-presenters: Christine Turk and Danielle Crawford

## Walking Map to Graduate Student Commons



Graduate alumni and current graduate students are invited to the Graduate Student Commons from 5 - 7 pm for the Graduate Alumni Social. Come meet new friends, reconnect with old friends, and learn more about the GSC while enjoying a refreshing cocktail. Drinks and appetizers will be provided.

