

11th Annual
**Graduate Research
Symposium**

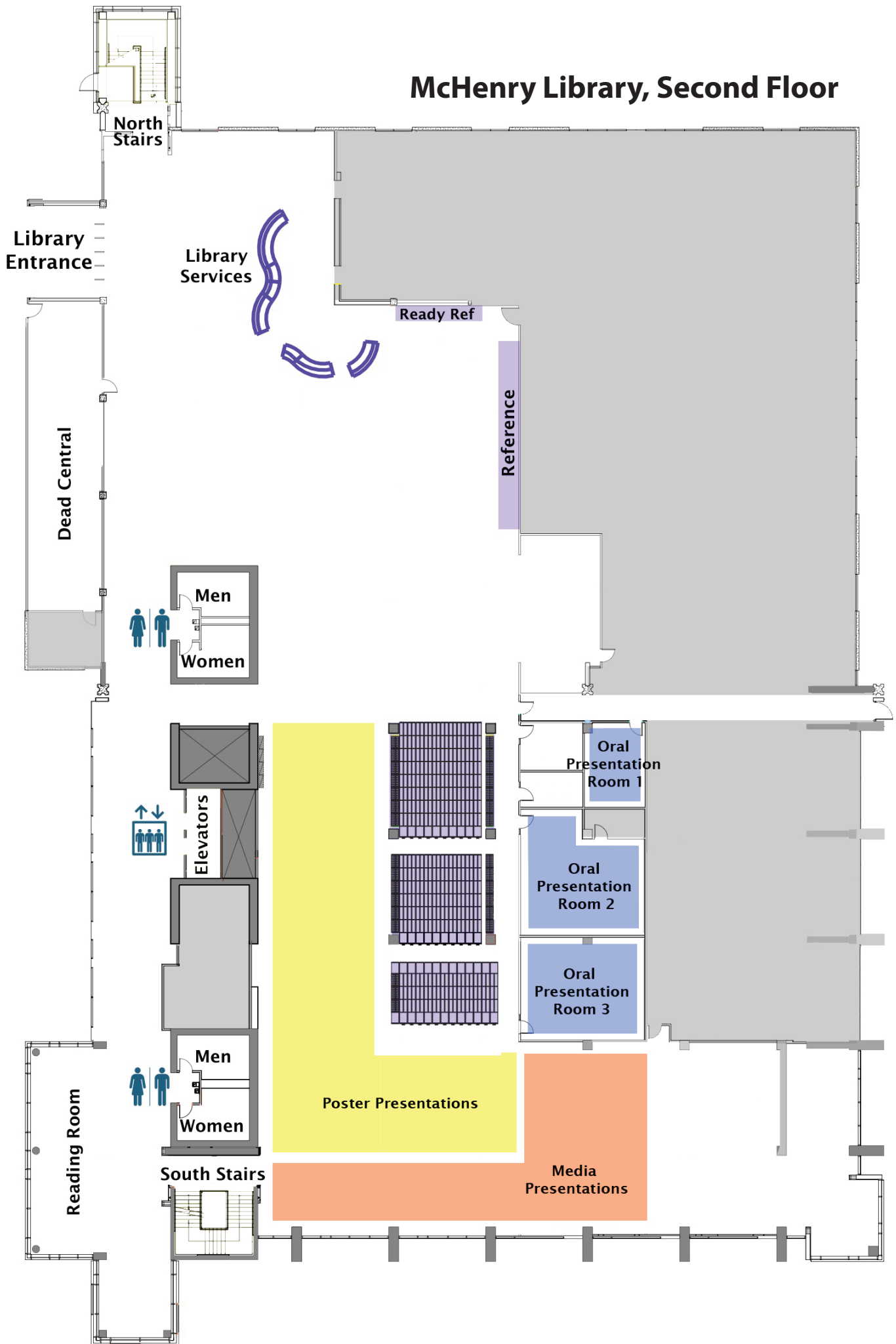
April 24, 2015



UNIVERSITY OF CALIFORNIA
SANTA CRUZ
1965–2015

THE ORIGINAL
AUTHORITY ON
QUESTIONING
AUTHORITY

McHenry Library, Second Floor



Welcome to the 11th 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 for the first time 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.

Past-Winner Profiles

Visit our booth in the Media section to view a slideshow of select Graduate Research Symposium winners from the past. Each talk about their experience presenting their research in the Symposium and the lessons they learned through their participation. Many offer insight and advice for current and future presenters as well.

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, with refreshments provided by the Global Village Café. 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 UC Santa Cruz's 50th year, 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*

Baskin School of Engineering, *Event Sponsor*

Division of Humanities, *Event Sponsor*

Division of Physical & Biological Sciences, *Event Sponsor*

Division of Social Sciences, *Event Sponsor*

Christy Caldwell, Marcus Thayer and Team, McHenry Library, *Location Assistance and Publicity*

Adam Hoffman, Global Village Café, *Catering Services*

Robert Kemp, Staff Receiving Services, *Poster Easels*

Juan Perez and Team, Learning Technologies, *Media Support*

Leslee Nguyen, Diana Rivas and Ted Ziemba, *Event Coordination*

University Relations, *Publicity and Marketing*

Transportation and Parking Services (TAPS), *Parking Assistance*

Media Presentations

Alphabetical by program and last name

CASUAL CREATOR: INVENTIVE AI TOOLS TO
INSPIRE CREATIVITY IN CASUAL USERS

Kate Compton, *Computer Science*

CROWDSOURCING BASED FITNESS
FUNCTIONS IN EVOLUTIONARY GENERATED
GAMES

Afshin Mobraeain Kano, *Computer
Science*

SPECTRAL SANTA CRUZ IN THE AGE OF
DISPLACEMENT

Monica (Nick) Andrade, *Digital Arts & New
Media*

Co-presenter: Stephen Richter

SHIFT - INDIAN COUNTRY'S CHANGING
LANDSCAPE

Wayne Marci, *Digital Arts & New Media*

THE DIGITAL CHORUS (CLASSICAL
ADAPTATION IN A MEDIA RICH WORLD)

Stephen Richter, *Literature and Theater Arts*
Co-presenter: Monica (Nick) Andrade

EL CACAO

Michelle Aguilar, *Social Documentation*

ONCE THE ICE MELTS (SHORT
DOCUMENTARY FILM)

Egill Bjarnason, *Social Documentation*

“OUT OF SIGHT, OUT OF MIND” THE
SHIPMENT OF A CALIFORNIA INMATE TO
A MISSISSIPPI PRIVATE PRISON: SHORT
DOCUMENTARY FILM

Benjamin Garcia Candelaria, *Social
Documentation*

HAJWALAH

Rana Jarbou, *Social Documentation*

Oral/Live Presentations

Presentation Room 1
Library 2320

- 1:30 pm** TWITTER DATA ANALYSIS FOR PROFANITY AND ASSOCIATED TRENDS
USING CROWDSOURCING
Rakshit Agrawal, *Computer Science*
- 1:40 pm** MORALITY AND IDEOLOGY IN SOVIET HOUSING, 1925-1989
Andrei Tcacenco, *History*
- 1:50 pm** SOME RIVERS TRICK LANDSCAPES INTO UNSTEADY EROSION:
WHY CLIMATE, LAND USE AND TECTONICS AREN'T ALWAYS TO BLAME
FOR PULSES OF EROSION
Kerri Johnson, *Earth Sciences*
- 2:00 pm** UNDERGRADUATE WRITING AT UCSC: SKILLS, TRAINING, DEFICITS,
AND SOLUTIONS
Rebecca Feinberg, *Anthropology*
- 2:10 pm** FINDING A VOICE: A MULTI-FACETED LOOK AT THE HUMAN VOICE FROM THE
PERSPECTIVE OF SINGING, SPEAKING SHAKESPEARE, AND GENDER STUDIES
Grace Navaille, *Theater Arts*
- 2:20 pm** --BREAK--
- 2:30 pm** ON-CHIP ATOM PHOTONICS
Jennifer Black, *Electrical Engineering*
- 2:40 pm** DEGEMINATION IN JAPANESE LOANWORDS FROM ITALIAN
Maho Morimoto, *Linguistics*
- 2:50 pm** USING CRATER GRAVITY ANOMALIES TO PROBE THE LUNAR CRUST
Carver Thomason, *Earth Sciences*
- 3:00 pm** VIOLENT REPRESENTATIONS: CLASSIFYING, EXPLAINING,
AND MISUNDERSTANDING CONTENTIOUS POLITICS
Michael Wilson, *Politics*
- 3:10 pm** IMPROVEMENT OF SILICON DIOXIDE RIDGE WAVEGUIDES USING LOW
TEMPERATURE THERMAL ANNEALING
Josh Parks, *Electrical Engineering*

Oral/Live Presentations

Presentation Room 2
Library 2353

- 1:30 pm** TESTING EL NINO'S RESPONSE TO CLIMATE CHANGE IN THE RECENT GEOLOGIC PAST
Sarah White, *Earth Sciences*
- 1:40 pm** THREE RAMAYANAS ON THE WEST COAST OF THE UNITED STATES: CROSS-CULTURAL ADAPTATION IN AMERICAN THEATRE
Jenna Gerdson, *Theater Arts*
- 1:50 pm** TEMPERATURE AND FLUENCE DEPENDENCE OF ALL-OPTICAL SWITCHING IN FeTb FERRIMAGNETS
Cassidy Berk, *Electrical Engineering*
- 2:00 pm** MAKING THE LABORING MEN INVISIBLE: CHANGES IN JOURNALISTIC PRACTICES AND ETHICS IN BELARUS IN THE 1990s
Natalia Koulinka, *History of Consciousness*
- 2:10 pm** STRESS AND THE CHRONICALLY LEAD-EXPOSED CALIFORNIA CONDOR
Zeka Kuspa, *Microbiology & Environmental Toxicology*
- 2:20 pm** --BREAK--
- 2:30 pm** SINKING ARCHAEOLOGICAL TEETH INTO THE DENTAL MODIFICATION ISSUES: AN EXAMINATION OF MIDNIGHT TERROR CAVE
Cristina Verdugo, *Anthropology*
- 2:40 pm** FIVE MILLENNIA OF BIOGEOCHEMICAL VARIATIONS IN THE NORTH PACIFIC SUBTROPICAL GYRE INFERRED FROM PROTEINACEOUS DEEP-SEA CORALS
Danielle Glynn, *Ocean Sciences*
- 2:50 pm** OPTOFLUIDIC BIOMOLECULAR DETECTION BY SPECTRAL MULTIPLEXING
Damla Ozcelik, *Electrical Engineering*
- 3:00 pm** MAKHN AMERIKE / HACIENDO LA AMERICA / MAKING AMERICA: JEWISH IMMIGRANTS WRITE THE AMERICAS
Joanna Meadvin, *Literature*
- 3:10 pm** KELP, COBBLES, AND CURRENTS: BIOLOGIC REDUCTION IN COARSE GRAIN ENTRAINMENT STRESS BY KELP
Claire Masteller, *Earth Sciences*
- 3:20 pm** OLD SAWS AND NEW LAWS: POLICY CHANGE, NEW MANAGEMENT, AND UNFINISHED BUSINESS IN THE REDWOOD FORESTS OF NORTHWESTERN CALIFORNIA
Sarah Carvill, *Environmental Studies*

Oral/Live Presentations

Presentation Room 3
Library 2359

- 1:30 pm** A SECRET HISTORY OF AMERICAN RIVER PEOPLE
Wes Modes, *Digital Arts & New Media*
- 1:40 pm** REAL-TIME EXPERIENCE-DRIVEN PROCEDURAL CONTENT GENERATION
Cameron Alston, *Computer Science*
- 1:50 pm** THE POLITICS OF POWER IN SAN FRANCISCO'S CHINATOWN: TONG AND POLICE RELATIONS FROM 1903-1915
Amanda Wilson Bergado, *History*
- 2:00 pm** VIOLENT INSCRIPTIONS: TRAUMA, TRANSLATION, AND TRANS-NATION IN THE BORDERLANDS
Lisa Schilz, *Literature*
- 2:10 pm** RESOURCE PROCUREMENT AT THE CLASSIC MAYA SITE OF CHINIKIHA (600-900 AD)
Kimberly Salyers, *Anthropology*
- 2:20 pm** --BREAK--
- 2:30 pm** THE GOLDMAN LIE ALGEBRA: THE CREATION OF LOOPS ON A SURFACE FROM INTERSECTION AND CONCATENATION
Felicia Tabing, *Mathematics*
- 2:40 pm** ELECTRO-OPTICAL CONFINEMENT OF MICROPARTICLE IN OPTOFLUIDIC WAVEGUIDE
Anik Duttaroy, *Electrical Engineering*
- 2:50 pm** DEVELOPMENTAL TRAJECTORY OF RELATIVE CLAUSES IN TAGALOG
Jed Pizarro-Guevara, *Linguistics*
- 3:00 pm** ALCHEMICAL ORIENTALISM: LANDSCAPE, EMPIRE, AND THE SUBLIMINAL IMAGININGS OF THE ENGLISH PICTURESQUE TRADITION IN 19TH CENTURY INDIA
Mitchell Winter, *Visual Studies*
- 3:10 pm** ABOLITION FEMINISM CONFRONTING EUGENICS IN CALIFORNIA PRISONS
Jess Whatcott, *Politics*

Poster Presentations

Alphabetical by program and last name

KOJO'S (DIS)ABILITY: INTERPRETING
IMPAIRMENT IN AN 18TH-CENTURY
JAMAICAN MAROON COMMUNITY

David Ingleman, *Anthropology*

PATTERNS OF EARLY PASTORAL LAND-USE
IN KENYA: STRONTIUM ISOTOPE EVIDENCE
FROM LIVESTOCK TEETH

Anneke Janzen, *Anthropology*

PREDICTING GENE FUSION PRODUCTS
USING EXON LEVEL EXPRESSION

David Haan, *Biomolecular Engineering &
Bioinformatics*

tRNA-DERIVED SMALL RNAs MAY RIVAL
MICRORNAs IN CLASSIFYING PROSTATE
CANCERS

Brian Lin, *Biomolecular Engineering &
Bioinformatics*

NANOPIPETTE GLUCOSE SENSOR: ASSAY
DEVELOPMENT

Thomas Matthew, *Biomolecular Engineering
& Bioinformatics*

PROTOTYPING A PERSONALIZED MEDICAL
TREATMENT STRATEGY FOR PATIENTS
WITH METASTATIC CASTRATION-RESISTANT
PROSTATE CANCER

Evan Paull, *Biomolecular Engineering &
Bioinformatics*

SEX-BIASED GENES AND TEMPERATURE-
DEPENDENT SEX DETERMINATION IN THE
AMERICAN ALLIGATOR

Edward Rice, *Biomolecular Engineering &
Bioinformatics*

IDENTIFYING AN INDIVIDUAL THROUGH
ANCIENT MITOCHONDRIAL DNA

Nedda Saremi, *Biomolecular Engineering &
Bioinformatics*

DISSECTING THE BIOCHEMICAL
MECHANISMS GENERATING INTRINSIC
NOISE IN GENE EXPRESSION

Robert Shelansky, *Biomolecular
Engineering & Bioinformatics*

RECOGNITION OF SUGAR BIOMARKERS VIA A
FLUORESCENT PROBE BASED ON BORONIC
ACID APPENDED BIPYRIDINIUM SALTS

Angel Resendez, *Chemistry & Biochemistry*

ANTIBACTERIAL ACTIVITY OF SILVER-
COPPER ALLOY NANOPARTICLES AGAINST
ESCHERICHIA COLI AND STAPHYLOCOCCUS
AUREUS

Mauricio Rojas-Andrade, *Chemistry &
Biochemistry*

ADAPTIVE SOLAR POWERED VISION SENSOR
NETWORKS FOR SMARTER ENVIRONMENTAL
MONITORING

Kevin Abas, *Computer Engineering*

CUBESAT ATTITUDE CONTROL

Dmitriy Rivkin, *Computer Engineering*

RE:IMAGINING ACTIVE NETWORKS

Lincoln Thurlow, *Computer Engineering*

UNRAVELING THE MYSTERIES OF MICROBIAL
DARK MATTER

Natasha Dudek, *Ecology & Evolutionary
Biology*

INTROGRESSION IN THE GENOMES OF
STRONGYLOCENTROTID URCHINS

Christopher Kan, *Ecology & Evolutionary
Biology*

FEDERAL RESERVE ANNOUNCEMENTS AND
INTERNATIONAL BOND FLOWS

Eric Fischer, *Economics*

Poster Presentations

Alphabetical by program and last name

SMART ENERGY ANALYTIC DISAGGREGATION SYSTEM (SEADS) DRIVING THE NEXT GENERATION OF MICROGRID MONITORING.

Ali Adabi, *Electrical Engineering*

NOVEL OPTICAL MATERIALS FOR EFFICIENT ENERGY COLLECTION AND EXTRACTION

Juan Jose Diaz Leon, *Electrical Engineering*

Co-presenters: David Fryauf, Junce Zhang and Kate Norris

PEALD ALUMINUM OXIDE-BASED CORROSION BARRIERS FOR SILVER-BASED TELESCOPE MIRRORS

David Fryauf, *Electrical Engineering*

Co-presenters: Juan Diaz and Junce Zhang

PICOSECOND MAGNETOELASTIC DYNAMICS IN NANOSTRUCTURED MAGNETS

Yu Yahagi, *Electrical Engineering*

PESTICIDE SWITCHING: POLICY IMPLICATIONS OF AGRICULTURAL WATER QUALITY MANAGEMENT IN CALIFORNIA'S CENTRAL COAST

Ann Drevno, *Environmental Studies*

THE BIRDS, THE BEETLES AND THE BEES: CREATING A LONG TERM BIODIVERSITY MONITORING PROGRAM OF THE UCSC FARM

Katherine Ennis, *Environmental Studies*

SCAREDY CATS: HUMAN-INDUCED FEAR ALTERS PREDATOR-PREY INTERACTIONS

Justine Smith, *Environmental Studies*

PROBLEMATIZING CITIZENSHIP: ITALIAN IMMIGRANTS IN THE JIM CROW GULF SOUTH

Jessica Barbata Jackson, *History*

CHILDHOOD AND YOUTH IN SHANGHAI, QINGDAO, AND TIANJIN, 1945-1976

Melissa Brzycki, *History*

POWER OVER SICKNESS: MEDICAL MISSIONARIES, METAPHYSICS, AND PUBLIC HEALTH 1870 - 1914

Rita Jones, *History*

THE IMAGINED DEVIANT: THE UNITED IRISHMEN IN JAMAICAN POPULAR MEMORY, 1795-1801

Muiris MacGiollabhui, *History*

GENDER, CRIMINALITY, AND THE PRISON IN CHINA, 1928-1953

Stephanie Montgomery, *History*

ACTIVISM IN THE ARCHIVES: RADICAL IMAGINARIES IN THE PAPERS OF RUTH-MARION BARUCH, PIRKLE JONES, JOHN THORNE, AND KAREN TEI YAMASHITA

Samantha Williams, *History*

Co-presenter: Crystal Nelson

MILITARIZATION AS URBANIZATION: ANTI-BASE STRUGGLE IN A CHANGING TOKYO

Dustin Wright, *History*

TEXTUALIZING THE VIOLENT: ON JOURNALISM & REPRESENTATION

Isaac Blacksin, *History of Consciousness*

SILVER SUTURES, SPECULUMS, AND LASERS: WHAT THE BIRTH OF U.S. GYNECOLOGY CAN TEACH US ABOUT THE GROWING POPULARITY OF FEMALE GENITAL COSMETIC SURGERY

Jessica Y. Neasbitt, *History of Consciousness*

COVERT HARMONY IN TURKISH

Jennifer Bellik, *Linguistics*

Poster Presentations

Alphabetical by program and last name

GERMAN DOCH DOES NOT SIGNAL
CONTRADICTION, BUT MIGHT DOCH BE
MIRATIVE?

Kelsey Kraus, *Linguistics*

DERIVING A VARIABLE-STRENGTH MIGHT

Deniz Rudin, *Linguistics*

NONHUMAN AGENCY IN SPECULATIVE
FICTION

Sophia Magnone, *Literature*

THE PROTESTANT REFORMATION AND THE
ENGLISH AMATORY SONNET SEQUENCE:
SEEKING SALVATION IN “LOVE POETRY”

Lauren Shufan, *Literature*

DENDRITIC SPINE ABNORMALITIES IN THE
MOUSE MODEL OF FRAGILE X SYNDROME

Adam Aharon, *Molecular, Cell, &
Developmental Biology*

THE ULTIMATE OUTGROUP: HOW SOCIAL
DISTANCE FROM INCARCERATED
INDIVIDUALS PREDICTS ATTITUDES

Joanna Weill, *Psychology*

COMMUNICATING MARINE SCIENCE FOR
CONSERVATION

Leslie Willoughby, *Science Communication*

BAYESIAN STOCHASTIC VOLATILITY MODELS
FOR HIGH-FREQUENCY DATA

Georgi Dinolov, *Statistics & Applied
Mathematics*

A DECISION THEORETIC APPROACH TO
HYPOTHESIS TESTING

Daniel Helkey, *Statistics & Applied
Mathematics*

EFFECTS OF MANAGEMENT ACTIVITIES ON
THE STEELHEAD TROUT IN THE CARMEL
RIVER

Juan Lopez Arriaza, *Statistics & Applied
Mathematics*

MULTIVARIATE STOCHASTIC PROCESS
MODELS FOR JOINT REGRESSION AND
CLASSIFICATION

Tony Pourmohamad, *Statistics & Applied
Mathematics*

FLEXIBLE INTEGRAL DIFFERENTIAL
EQUATIONS FOR SPATIO-TEMPORAL
MODELING

Robert Richardson, *Statistics & Applied
Mathematics*

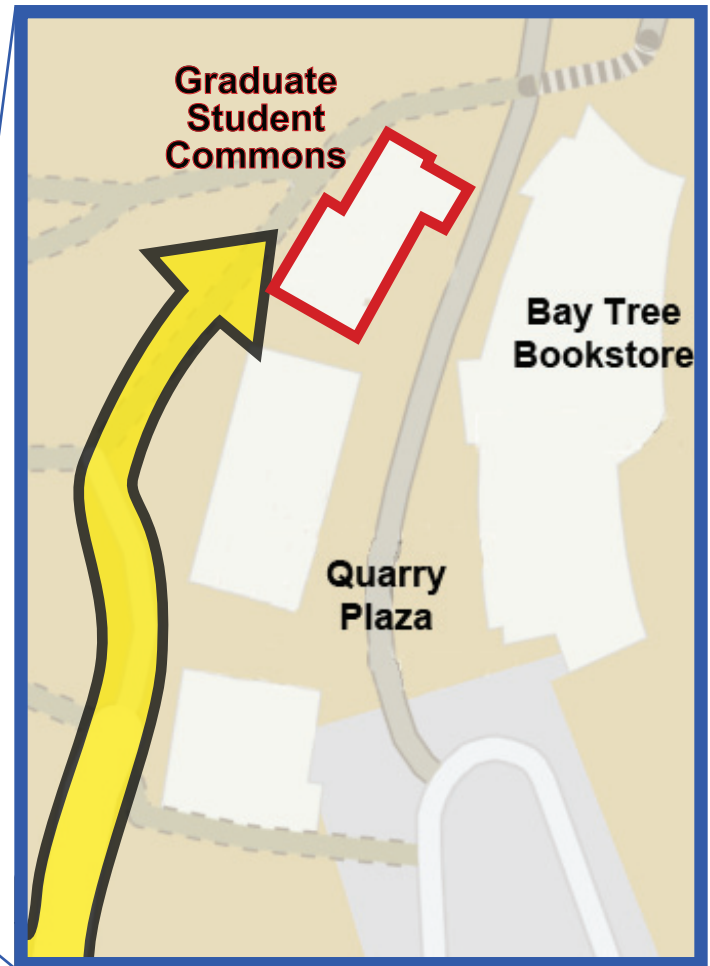
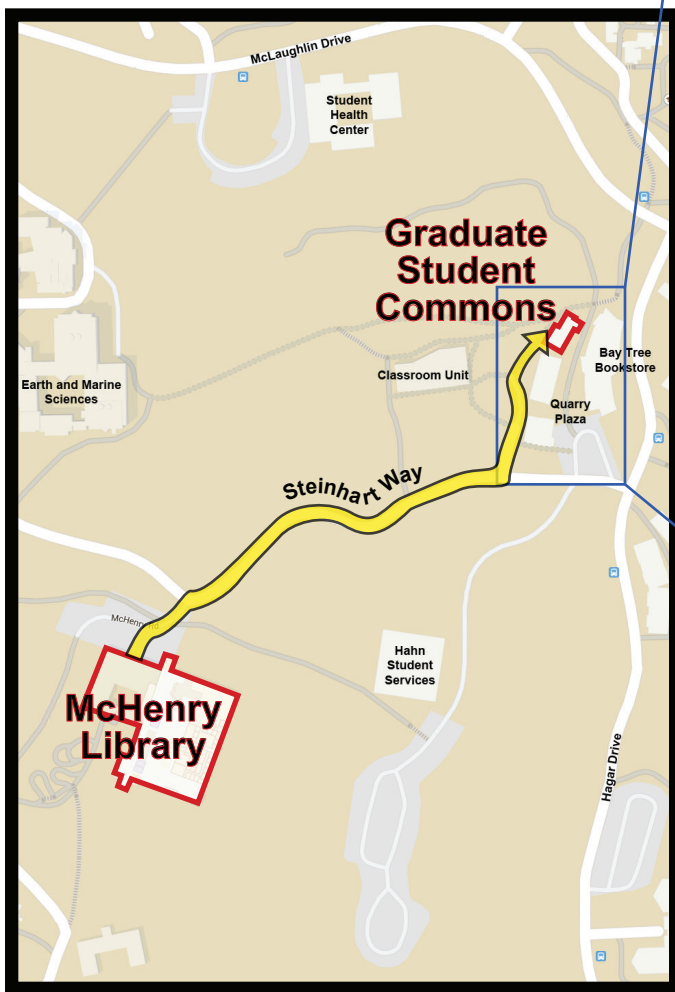
CAUSAL INFERENCE IN LARGE SCALE
OBSERVATIONAL STUDIES

Vadim von Brzeski, *Statistics & Applied
Mathematics*

A NEW FAMILY OF ERROR DISTRIBUTIONS
FOR QUANTILE REGRESSION

Yifei Yan, *Statistics & Applied Mathematics*

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.

