11th Annual Graduate Research Symposium
April 24, 2015
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 Mobramaein 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
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
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<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
<th>Department</th>
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<tbody>
<tr>
<td>1:30 pm</td>
<td>TESTING EL NINO’S RESPONSE TO CLIMATE CHANGE IN THE RECENT GEOLOGIC PAST</td>
<td>Sarah White</td>
<td>Earth Sciences</td>
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<tr>
<td>1:40 pm</td>
<td>THREE RAMAYANAS ON THE WEST COAST OF THE UNITED STATES: CROSS-CULTURAL ADAPTATION IN AMERICAN THEATRE</td>
<td>Jenna Gerdsen</td>
<td>Theater Arts</td>
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<td>1:50 pm</td>
<td>TEMPERATURE AND FLUENCE DEPENDENCE OF ALL-OPTICAL SWITCHING IN FeTb FERRIMAGNETS</td>
<td>Cassidy Berk</td>
<td>Electrical Engineering</td>
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<tr>
<td>2:00 pm</td>
<td>MAKING THE LABORING MEN INVISIBLE: CHANGES IN JOURNALISTIC PRACTICES AND ETHICS IN BELARUS IN THE 1990s</td>
<td>Natalia Koulinka</td>
<td>History of Consciousness</td>
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<td>2:10 pm</td>
<td>STRESS AND THE CHRONICALLY LEAD-EXPOSED CALIFORNIA CONDOR</td>
<td>Zeka Kuspa</td>
<td>Microbiology &amp; Environmental Toxicology</td>
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<td>2:30 pm</td>
<td>SINKING ARCHAEOLOGICAL TEETH INTO THE DENTAL MODIFICATION ISSUES: AN EXAMINATION OF MIDNIGHT TERROR CAVE</td>
<td>Cristina Verdugo</td>
<td>Anthropology</td>
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<td>2:40 pm</td>
<td>FIVE MILLENNIA OF BIOGEOCHEMICAL VARIATIONS IN THE NORTH PACIFIC SUBTROPICAL GYRE INFERRED FROM PROTEINACEOUS DEEP-SEA CORALS</td>
<td>Danielle Glynn</td>
<td>Ocean Sciences</td>
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<td>2:50 pm</td>
<td>OPTOFLUIDIC BIOMOLECULAR DETECTION BY SPECTRAL MULTIPLEXING</td>
<td>Damla Ozcelik</td>
<td>Electrical Engineering</td>
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<td>3:00 pm</td>
<td>MAKHN AMERIKE / HACIENDO LA AMERICA / MAKING AMERICA: JEWISH IMMIGRANTS WRITE THE AMERICAS</td>
<td>Joanna Meadvin</td>
<td>Literature</td>
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<td>3:10 pm</td>
<td>KELP, COBBLES, AND CURRENTS: BIOLOGIC REDUCTION IN COARSE GRAIN ENTRAINMENT STRESS BY KELP</td>
<td>Claire Masteller</td>
<td>Earth Sciences</td>
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<tr>
<td>3:20 pm</td>
<td>OLD SAWS AND NEW LAWS: POLICY CHANGE, NEW MANAGEMENT, AND UNFINISHED BUSINESS IN THE REDWOOD FORESTS OF NORTHWESTERN CALIFORNIA</td>
<td>Sarah Carvill</td>
<td>Environmental Studies</td>
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<td>1:30 pm</td>
<td>A SECRET HISTORY OF AMERICAN RIVER PEOPLE</td>
<td>Wes Modes, Digital Arts &amp; New Media</td>
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<td>1:40 pm</td>
<td>REAL-TIME EXPERIENCE-DRIVEN PROCEDURAL CONTENT GENERATION</td>
<td>Cameron Alston, Computer Science</td>
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<td>1:50 pm</td>
<td>THE POLITICS OF POWER IN SAN FRANCISCO’S CHINATOWN: TONG AND POLICE RELATIONS FROM 1903-1915</td>
<td>Amanda Wilson Bergado, History</td>
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<td>2:00 pm</td>
<td>VIOLENT INSCRIPTIONS: TRAUMA, TRANSLATION, AND TRANS-NATION IN THE BORDERLANDS</td>
<td>Lisa Schilz, Literature</td>
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<td>2:10 pm</td>
<td>RESOURCE PROCUREMENT AT THE CLASSIC MAYA SITE OF CHINIKIHA (600-900 AD)</td>
<td>Kimberly Salyers, Anthropology</td>
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<td>2:30 pm</td>
<td>THE GOLDMAN LIE ALGEBRA: THE CREATION OF LOOPS ON A SURFACE FROM INTERSECTION AND CONCATENATION</td>
<td>Felicia Tabing, Mathematics</td>
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<tr>
<td>2:40 pm</td>
<td>ELECTRO-OPTICAL CONFINEMENT OF MICROPARTICLE IN OPTOFLUIDIC WAVEGUIDE</td>
<td>Anik Duttaroy, Electrical Engineering</td>
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<td>2:50 pm</td>
<td>DEVELOPMENTAL TRAJECTORY OF RELATIVE CLAUSES IN TAGALOG</td>
<td>Jed Pizarro-Guevara, Linguistics</td>
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<td>3:00 pm</td>
<td>ALCHEMICAL ORIENTALISM: LANDSCAPE, EMPIRE, AND THE SUBLIMINAL IMAGININGS OF THE ENGLISH PICTURESQUE TRADITION IN 19TH CENTURY INDIA</td>
<td>Mitchell Winter, Visual Studies</td>
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<tr>
<td>3:10 pm</td>
<td>ABOLITION FEMINISM CONFRONTING EUGENICS IN CALIFORNIA PRISONS</td>
<td>Jess Whatcott, Politics</td>
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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 NANOPIRNTICLES AGAINST ESCHERICHIA COLI AND STAPHYLOCOCCUS AUREUS
Mauricio Rojas-Andrade, Chemistry & Biochemistry

ADAPTIVE SOLAR POWERED VISION SENSOR NETWORKS FOR SMARER 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

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 MAGNETOELECTRIC 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


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 Belilik, Linguistics
Poster Presentations

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 Shufran, 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
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.