

# **UC Santa Cruz**

## **Graduate Research Symposium 2014**

### **Title**

Tenth Annual Graduate Research Symposium, Program, May 9, 2014

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*10th Annual*  
**Graduate Research  
Symposium**

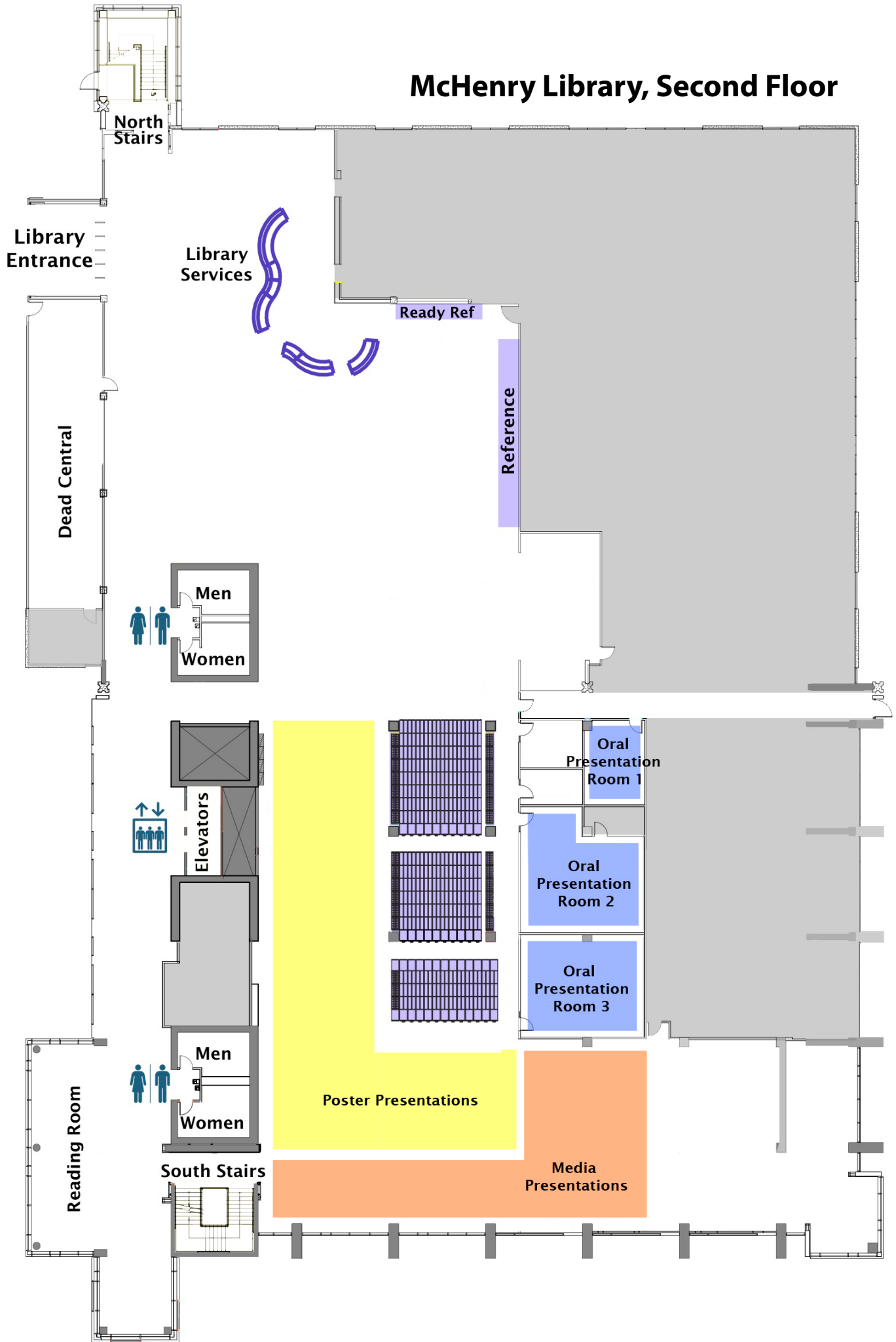
May 9, 2014



*Fiat Lux!*

UC Santa Cruz • Division of Graduate Studies

# McHenry Library, Second Floor



## **Welcome to the 10th 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.

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 for the second time in the recently-renovated McHenry Library. Please use the adjacent map to find the oral, media and poster presentations listed in this program.

Please also 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.



Tyrus Miller  
Vice Provost and Dean of Graduate Studies

# Acknowledgements

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

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## JUDGES

Sarah Arantza Amador *Grad Program Coord, Politics/Latin American & Latino Studies*  
Malika Moutawakkil Bell *Director, STEM Diversity Programs*  
Scott Brandt *Vice Chancellor for Research*  
Hollie Clausnitzer *Department Manager, Philosophy*  
Kyle Eischen *Assistant Dean for Academic Planning & Research, Social Sciences*  
Raja Guha Thakurta *Professor, Astronomy & Astrophysics; UCO/Lick Observatory*  
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Alma Sifuentes *Associate Vice Chancellor for Campus Life; Dean of Students*  
Deanna Shemek *Professor, Literature; Fellow, Cowell College; Co-Director, IDEA*  
Jeffrey Shilling *Associate Vice Chancellor for Strategic Philanthropy*  
Donnae Smith *Diversity & Inclusion Program Coordinator, Coll, Housing & Ed Services*  
David Sonnenberg *Asst Dean for Planning & Resources Management, Social Sciences*  
Ashlee A Tews *Director of Research Development, Social Sciences*

## SPECIAL THANKS

Greg Careaga, Marcus Thayer and Team, McHenry Library, *Location Assistance and Publicity*  
Adam Hoffman, Global Village Café, *Catering Services*  
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Juan Perez and Team, Learning Technologies, *Media Support*  
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Tim Stephens, University Relations, *Publicity*  
Transportation and Parking Services (TAPS), *Parking Assistance*

# Oral/Live Presentations

Presentation Room 1  
Library 2320

- 1:30 pm** HOW TO HARD-BOIL A STAR ON YOUR LAPTOP'S GRAPHICS CARD  
**Hal Cambier**, *Physics*
- 1:40 pm** OF LASERS AND LABIA: AN EXAMINATION OF THE MAJOR PLAYERS, INVESTMENTS, AND STAKES OF FEMALE GENITAL COSMETIC SURGERY IN THE U.S.  
**Jessica Y. Neasbitt**, *History of Consciousness*
- 1:50 pm** CULTURAL INTERSECTIONS: SHEET MUSIC WRITTEN FOR THE GOLDEN GATE INTERNATIONAL EXPOSITION OF 1939/40  
**Elisse La Barre**, *Music*
- 2:00 pm** MEANDERING KEEPS BEDROCK RIVER NETWORKS, AND THEREFORE LANDSCAPES, FROM ACHIEVING A STEADY STATE  
**Kerri Johnson**, *Earth Sciences*
- 2:10 pm** CHILDREN AND THE TRAUMA OF WAR: THE PLACE OF CHILDREN IN MAINLAND CHINA, 1945-1953  
**Melissa Brzycki**, *History*
- 2:20 pm** --BREAK--
- 2:30 pm** WHAT IS MORE IMPORTANT FOR SEAGRASS CONSERVATION? MEASURING ENVIRONMENTAL AND ECOLOGICAL PARAMETERS IN SEAGRASS BEDS WITH DIFFERENT FORMS OF PROTECTION  
**T E Angela Quiros**, *Ecology & Evolutionary Biology*
- 2:40 pm** NUFAN: GENDER, CRIMINALITY AND THE PRISON IN 1930s QINGDAO  
**Stephanie Montgomery**, *History*
- 2:50 pm** TRANSGENERATIONAL TRAUMA AND MENTAL HEALTH: CAMBODIAN AMERICAN COLLECTIVE MEMORY  
**Yvonne Kwan**, *Sociology*
- 3:00 pm** TRANSNATIONAL SOCIAL JUSTICE AND IMPLICATIONS OF DIASPORIC RETURN TO THE REPUBLIC OF ARMENIA  
**Veronika Zablotzky**, *Feminist Studies*
- 3:10 pm** BIGGER IS NOT ALWAYS BETTER: BODY SIZE PREDICTS INDIVIDUAL WINTER FORAGING STRATEGIES OF THICK-BILLED MURRES (URIA LOMVIA) IN THE BERING SEA  
**Rachael Orben**, *Ocean Sciences*

# Oral/Live Presentations

Presentation Room 2  
Library 2353

- 1:30 pm** THERE IS NO GENOME  
**Adam Novak**, *Biomolecular Engineering & Bioinformatics*
- 1:40 pm** CHARACTERIZATION OF NEURONAL ABNORMALITIES IN FRAGILE X MICE  
**Adam Aharon**, *Molecular, Cell, & Developmental Biology*
- 1:50 pm** HISTORICIZING THE LYNCHINGS OF ITALIANS IN 1890s LOUISIANA  
**Jessica Barbata Jackson**, *History*
- 2:00 pm** SHIFT - INDIAN COUNTRY'S CHANGING LANDSCAPE  
**Wayne Marci**, *Digital Arts & New Media*
- 2:10 pm** ROCKS GO BOINK: HOW MUCH DOES RIVER BEDLOAD SHAKE THE BED?  
**Danica Roth**, *Earth Sciences*
- 2:20 pm** --BREAK--
- 2:30 pm** HUMILITY AS A VIRTUE  
**Kyle Robertson**, *Philosophy*
- 2:40 pm** MAGNETAR POWERED SUPERNOVAE  
*Astronomy & Astrophysics\**
- 2:50 pm** HERDING PACKETS: HOW TO GET PACKETS IN A NETWORK TO GO WHERE YOU EXPECT  
**Judith Samson**, *Computer Engineering*
- 3:00 pm** FINDING NEMO USING SOCIAL MEDIA  
**James O'Donnell**, *Ecology & Evolutionary Biology*
- 3:10 pm** AN ETHNOGRAPHIC LOOK AT US "STATE-BUILDING" IN AFGHANISTAN  
**Jim Misencik**, *Sociology*
- 3:20 pm** LATIN AMERICAN INTEGRATION AND THE PAN AMERICAN HIGHWAY: ANTHROPOLOGY ON THE ROAD  
**Rosa Ficek**, *Anthropology*

\* Presenter's name withheld by request

# Oral/Live Presentations

Presentation Room 3  
Library 2359

- 1:30 pm**      d0ntb33vil: THE BUS STOP DISPLACEMENT PROJECT  
**Harris David Harris**, *Digital Arts & New Media*
- 1:40 pm**      TOWARD PARTICIPATORY WATER GOVERNANCE IN THE CENTRAL  
COAST: DISCOURSE, DESALINATION, DROUGHT  
**Stephen Sepaniak**, *Sociology*
- 1:50 pm**      WHY THE WEATHERMAN IS ALWAYS WRONG: A BROKEN LINK IN  
CLOUD MODELS  
**Mikael Witte**, *Earth Sciences*
- 2:00 pm**      BANK AVALANCHE MODEL OF SYSTEMIC RISK  
**Eric Fischer**, *Economics*  
Co-presenter: Judith Samson
- 2:10 pm**      THE HUMAN SPLICEOSOME: AN ESSENTIAL MOLECULAR MACHINE  
**Andrew MacRae**, *Molecular, Cell, & Developmental Biology*
- 2:20 pm**      --BREAK--
- 2:30 pm**      THE SECRET HISTORY OF AMERICAN SHANTYBOATERS  
**Wes Modes**, *Digital Arts & New Media*
- 2:40 pm**      ICE-BOUND: AN INTERACTIVE BOOK ENABLED BY RESEARCH IN  
TECHNOLOGY AND ARTS  
**Aaron Reed**, *Computer Science*
- 2:50 pm**      STRING HOMOLOGY OF SPHERES: THE SEARCH FOR HOLES IN THE  
LOOP SPACE OF SPHERES  
**Felicia Tabing**, *Mathematics*
- 3:00 pm**      SECULARISM'S INSCRUTABLE SUBJECTS: THE "FEMINIST AND  
FAITHFUL" MORMONS  
**Jessica Whatcott**, *Politics*
- 3:10 pm**      RESISTANCE AND TRANSCENDENCE THROUGH THE SON JAROCHO  
MOVIMIENTO: BAY AREA WOMEN, MUSIC AND DANCE  
**Robin Sacolick**, *Music*



# Media Presentations

*Alphabetical by program and last name*

WALKABOUT: A GAME FOR EXERCISING WHILE LEARNING ABOUT EXTANT FLORA AND FAUNA

**Dustin Adams**, *Computer Science*

EXQUISITE CORPSE IN 2.5D

**Danielle Williamson**, *Digital Arts & New Media*

Co-presenter: Lisa Banks

WALKING KIDS OF CHOCO

**Rolando Vargas**, *Film & Digital Media*

FLATLANDS

*Film & Digital Media\**

SPEECH ADVENTURE: USING AUTOMATIC SPEECH RECOGNITION AND MOBILE GAMES FOR SPEECH THERAPY

**Zachary Rubin**, *Games and Playable Media*

THRESHOLDS AND FRAGILE STATES: THE MUSIC OF CHAOS

**David Kant**, *Music*

BREAD OR BLOOD, A DOCUMENTARY FILM THAT FOLLOWS THE ROUTE OF KELLY'S ARMY ACROSS CONTEMPORARY AMERICA

**John (Jack) Chapman**, *Social Documentation*

CRENSHAW

**Lena Jackson**, *Social Documentation*

LEGACY OF RESILIENCE

**Marissa Kitazawa**, *Social Documentation*

AFTER THE CROSSFIRE: MEMORIES OF VIOLENCE AND DISPLACEMENT AMONG THE CIVIL POPULATION OF COLOMBIA'S NORTHERN PACIFIC COAST

**Ricardo Velasco**, *Social Documentation*

PUBLIC/TRANSIT

**Kristin Miller**, *Sociology*

# Poster Presentations

*Alphabetical by program and last name*

LEARNING FROM VETERANS: A CLOSER LOOK AT ELITE CONTROLLERS OF HIV FOR HIV VACCINE DEVELOPMENT

**Rachel Doran**, *Biomolecular Engineering & Bioinformatics*

RESULTS OF THE ALIGNATHON: A COLLABORATIVE COMPETITION TO ASSESS THE STATE OF THE ART IN WHOLE GENOME ALIGNMENT

**Dent Earl**, *Biomolecular Engineering & Bioinformatics*

SEQUENTIAL ANALYSIS OF INDIVIDUAL MULTI-DOMAIN PROTEINS USING CIPX COUPLED TO A NANOPORE

**Logan Mulrone**y, *Biomolecular Engineering & Bioinformatics*

FUNCTIONALIZED NANOPOROUS ARRAYS TOWARD BIO-MARKER DETECTION  
*Biomolecular Engineering & Bioinformatics\**

DYNAMICS OF TRANSLOCATION AND SUBSTRATE BINDING FOR DNA POLYMERASE MUTANTS

**Joseph Dahl**, *Chemistry & Biochemistry*

STEPS TOWARDS SEQUENCING REAL RNA - DETECTION OF INDIVIDUAL tRNA MOLECULES USING A NANOPORE

**Andrew M. Smith**, *Chemistry & Biochemistry*

DESIGN AND EVOLUTION OF A MODULAR TENSEGRITY ROBOT PLATFORM

**Jonathan Bruce**, *Computer Engineering*

\* Presenter's name withheld by request

# Poster Presentations

*Alphabetical by program and last name*

COMPUTING OPTIMAL PUSH BACK TIME  
WINDOWS THAT ENSURE CONFLICT FREE RAMP  
AREA AIRCRAFT TRAJECTORIES

**Jeremy Coupe**, Computer Engineering

AUTOMATING CAMERA CONTROL IN GAMES  
USING GAZE

**Cameron Alston**, Computer Science

ECONOMIC MODELING OF LONG-TERM  
PRESERVATION

**Preeti Gupta**, Computer Science

ADAPTIVE NARRATIVE DISCOURSE GENERATION  
FROM STRUCTURED MODELS OF TIME, ACTION  
AND AGENCY

**Stephanie Lukin**, Computer Science

PERFORMATOLOGY: A COMPUTATIONAL  
FRAMEWORK FOR MODELING ARTISTIC  
GESTURE

**Christopher Maraffi**, Computer Science

IDENTIFYING SIMPLE NARRATIVE STRUCTURE IN  
PERSONAL NARRATIVES

**Elahe Rahimtoroghi**, Computer Science

EVOLVING THE INTERNET BY REDESIGNING THE  
NETWORK STACK

**Spencer Sevilla**, Computer Science

COFFEE: A MISUNDERSTANDING

**Deirdra "Squinky" Kiai**, Digital Arts & New  
Media

A SINGLE CRYSTAL X-RAY INVESTIGATION OF  
TRONA AT HIGH AND LOW TEMPERATURE: A  
POLLUTANT-SEQUESTERING MATERIAL

**Earl O'Bannon**, Earth Sciences

HABITAT FROM TOPOGRAPHY: USING GRAIN  
SIZE TO PREDICT SALMONID SPAWNING  
DISTRIBUTION

**Allison Pfeiffer**, Earth Sciences

IDENTIFYING ENVIRONMENTAL AND  
ANTHROPOGENIC FACTORS ASSOCIATED WITH  
SEA STAR WASTING DISEASE THROUGH LARGE-  
SCALE GEOSPATIAL ANALYSIS

**Monica Moritsch**, Ecology & Evolutionary  
Biology

ECOLOGY AND MANAGEMENT OF AN INVASIVE  
VELDTS GRASS, *EHRHARTA ERECTA*

**Courtenay Ray**, Ecology & Evolutionary Biology

SYNGNATHUS SPECIES WITH VIRTUALLY  
NO INTERSPECIFIC GENETIC VARIATION:  
SUGGESTIONS FOR SYNONYMIZING FOUR  
EASTERN PACIFIC PIPEFISHES

*Ecology & Evolutionary Biology\**

A PEDAGOGY OF COMMUNITY BUILDING:  
RE-IMAGINING PARENT INVOLVEMENT AND  
COMMUNITY ORGANIZING IN POPULAR  
EDUCATION EFFORTS

**Ana Paulina Moreno**, Education

Co-presenter: Linnea Beckett

SUN 2 FIBERS

**Juan Jose Diaz Leon**, Electrical Engineering

PHOTO-EMISSION BLUE SHIFT OF INDIUM  
PHOSPHIDE NANOWIRE NETWORKS WITH  
ALUMINUM OXIDE COATING

**David Fryauf**, Electrical Engineering

RESISTIVE SWITCHING BEHAVIOR OF SiO<sub>2</sub>  
COSPUTTERED WITH PLATINUM

**Kate Norris**, Electrical Engineering

SILICON NANOWIRE NETWORKS FOR  
THERMOELECTRIC APPLICATIONS

**Junce Zhang**, Electrical Engineering

MICROCLIMATE MATTERS: AIRBORNE FUNGAL  
SPORES IN A COASTAL FOREST AND GRASSLAND

**Sharifa Crandall**, Environmental Studies

\* Presenter's name withheld by request

# Poster Presentations

*Alphabetical by program and last name*

OPPONENT STATE MODELING IN RTS GAMES WITH LIMITED INFORMATION USING MARKOV RANDOM FIELDS

**Michael Leece**, *Games and Playable Media*

BEYOND TRANSGRESSIVE PEDAGOGY: A GENDERED ANALYSIS OF THE BLACK PANTHER PARTY'S OAKLAND COMMUNITY SCHOOL

**Kiran Garcha**, *History*

RED GUARDS DO NOT FEAR THE DIFFICULTY OF A LONG MARCH: AUTONOMOUS POLITICAL ACTION AND THE STATE DURING THE CULTURAL REVOLUTION CHUANLIAN MOVEMENT

**Evan Grupsmith**, *History*

THE NATCHEZ DIASPORA: A HISTORY OF INDIGENOUS DISPLACEMENT IN EARLY AMERICA

**Noel E. Smyth**, *History*

THE SYNTAX OF COORDINATION BELOW THE WORD

*Linguistics\**

FIGURES OF VOICE IN EARLY MODERN EUROPE

**Ariane Helou**, *Literature*

“ANHELOS QUE AÚN NO SE HAN REALIZADO”: JEWISH WRITERS AND THE MAKING OF THE JEWISH AMERICAS (1890-1970)

**Joanna Meadvin**, *Literature*

RE-IMAGINING THE SPACES OF BERLIN: CONSTRUCTING A NEW FUTURE

**Erica Smeltzer**, *Literature*

SALINITY-DEPENDENT REGULATION OF VIBRIO CHOLERAE BIOFILMS

**Jenna Conner**, *Microbiology & Environmental Toxicology*

LysR-TYPE TRANSCRIPTIONAL REGULATORS (LTTR) PLAY A ROLE IN VIBRIO CHOLERAE BIOFILM FORMATION

**Jennifer Teschler**, *Microbiology & Environmental Toxicology*

THE ROLE OF VANGL2 IN THE MAMMARY GLAND

**Prestina Smith**, *Molecular, Cell, & Developmental Biology*

RNAseq: ROADMAP TO THE ARSENIC RESPIRATION PATHWAY IN SHEWANELLA sp. ANA-3

**Ruth Watson**, *Molecular, Cell, & Developmental Biology*

EVIDENCE FOR Cu<sub>2</sub>SnS<sub>3</sub> FORMATION: AN IMPORTANT STEP TOWARDS CZTS FOR SOLAR ENERGY APPLICATIONS

**Leila Jewell**, *Physics*

MODELING UNUSUAL VIBRATION MODES IN SKUTTERUDITES CONTAINING “RATTLER” ATOMS

**Trevor Keiber**, *Physics*

MOTIVATION MATTERS: DEVELOPMENT OF A SHORT FORM MEASURE OF SOLITUDE FOR ADOLESCENTS AND EMERGING ADULTS

**Virginia Thomas**, *Psychology*

DO CAPITAL JURORS REPRESENT THE “CONSCIENCE OF THE COMMUNITY”? THE BIASING EFFECTS OF DEATH QUALIFICATION

**Joanna Weill**, *Psychology*

BAYESIAN FLEXIBLE SPECTRAL MODELING AND COMPUTATION FOR THE ANALYSIS OF COMPLEX BRAIN SIGNALS

**Annalisa Cadonna**, *Statistics & Applied Mathematics*

FLEXIBLE INTEGRO-DIFFERENTIAL EQUATIONS FOR SPATIO-TEMPORAL MODELING

**Robert Richardson**, *Statistics & Applied Mathematics*

NONPARAMETRIC BAYESIAN MODELING AND INFERENCE FOR RENEWAL PROCESSES

**Sai Xiao**, *Statistics & Applied Mathematics*

PUBLIC USES: RECONFIGURING RACE, SPACE, AND VISUALITY IN LOS ANGELES

**Mary Thomas**, *Visual Studies*

\* *Presenter's name withheld by request*



