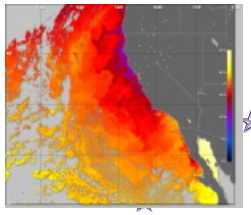
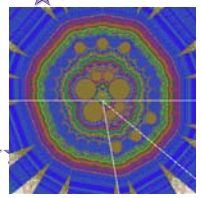


Thank you for your generous financial support toward the 2014 Student Project Showcase!

**Kenson Ventures**
**Robert W. Maxwell**



## College of Science & Engineering

Dr. Sheldon Axler, Dean
Dr. Robert M. Ramirez, Associate Dean

Dr. Michael Goldman, Chair, Department of Biology
Dr. Jane DeWitt, Chair, Department of Chemistry & Biochemistry
Dr. Dragutin Petkovic, Chair, Department of Computer Science
Dr. Wenshen Pong, Director, School of Engineering
Dr. Jerry Davis, Chair, Department of Geography & Environment
Dr. Karen Grove, Chair, Department of Earth & Climate Sciences
Dr. David Bao, Chair, Department of Mathematics
Dr. Susan Lea, Chair, Department of Physics & Astronomy
Dr. Jeffrey T. Cookston, Chair, Department of Psychology
Dr. John Hafernik, Interim Director, Romberg Tiburon Center

Lannie T. Nguyen, Coordinator of Alumni Relations & Student Projects


San Francisco State University

*College of Science & Engineering*
*1600 Holloway Avenue, San Francisco, CA 94132-4163*
*Phone: (415) 338-1571; E-mail: science@sfsu.edu*
www.sfsu.edu/~cse; www.sfsu.edu/~science


# The College of Science & Engineering

proudly presents its

# 16th annual

# STUDENT PROJECT SHOWCASE & ALUMNI RECEPTION

## Friday, May 9, 2014
## 12:00 noon — 4:00 pm
## San Francisco State University

## *A Message from the Dean*

At San Francisco State's College of Science & Engineering, faculty encourage students to break traditional barriers. The faculty of the College are committed to creating and maintaining connections with our students, with other scientists and engineers, and with the scientific community of the Bay Area. In so doing, we act as the vital link connecting students to the world of science.

The college embraces the philosophy that the best education of our students comes through involvement in research and the solution of real-world problems. To carry out that objective, we recruit outstanding scientists and engineers to our faculty. Talented scientists and students are attracted to SF State by our advanced facilities and equipment for scientific exploration.

In addition to our active research faculty, we have many state-of-the-art facilities and research centers that offer unique research experiences for students at all levels, from undergraduate to post-doc: the Romberg Tiburon Center for Environmental Studies, a DNA analysis facility, an electron microscope facility, telescopes for research and teaching, a computational chemistry and visualization laboratory, a molecular biology core facility, and the Nuclear Magnetic Resonance Center.

## A Setting That's Ideal

Few places in this country can match the San Francisco Bay Area for the depth and caliber of scientific and technological research.

The College of Science & Engineering endeavors to help its students benefit from this distinctive environment. Our students learn through research opportunities, internships, cooperative education, and other training placements.

We offer a strong and diverse faculty, including experts from industry and the research community, with a growing staff of minority and women professors and mentors, an important component of an urban university.

Many of our students are first-generation Americans. Many are the first in their families to go to college. More than half of our students are members of minority groups, and one quarter are from groups traditionally underrepresented in engineering and the sciences.

Providing the means for people of exceptionally diverse backgrounds to come into their own is a major part of San Francisco State's identity as an urban university. The College of Science & Engineering has been a leader in increasing the number of underrepresented minority students in science- and mathematics-based fields, from elementary to graduate school.

# THANK YOU

for volunteering your time as
the JUDGES of the COSE
Student Project Showcase!

Alegra Eroy-Reveles
Alexandra Piryatinska
Andrew Oliphant
Anna Bezryadina
Anton Guliaev
Blake Riggs
Byron Dom
Charlotte Tate
Cheng Chen
Darren Guertin
Dave Dempsey
Ed Cheng
Edmund Ye
Eric Hsu
Eric Pouyoul
Hamid Mahmoodi
Hugh Hui
Jane DeWitt
Jose de la Torre
Joseph Chen
Joseph Hui
Ken Paap
Leonard Blesius
Ljubomir Buturovic
Maarten Golterman
Marc Anderson
Margaret Lynch
Mark Geisler
Megumi Fuse
Michelle McCully
Mike Lewis
Mohammed Kafai
Natalia Caporale
Okhtay Azarmanesh
Patrick Mitchell
Quan Ding
Sally Pasion
Sarah Holley
Scott Roy
Shidong Li
Tendai Chitawere
XiaoHang Liu
Zena Mello
Zhigang Chen

# PROGRAM

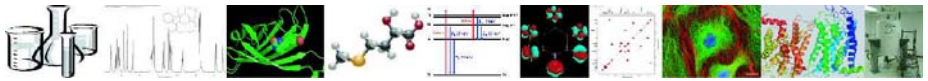
**12:00 noon**
**Student Project Showcase Begins**

**3:00 pm**
**Reception**

**3:30 pm**
**Welcome from Dean Sheldon Axler**

**3:35 pm**
**Expository Presentation**
***Gamification and Science***
**By Dr. Ilmi Yoon**
**Department of Computer Science**

**4:00 pm**
**Announcement of Showcase Winners**



# Projects #1 – 78 are from Graduate Students

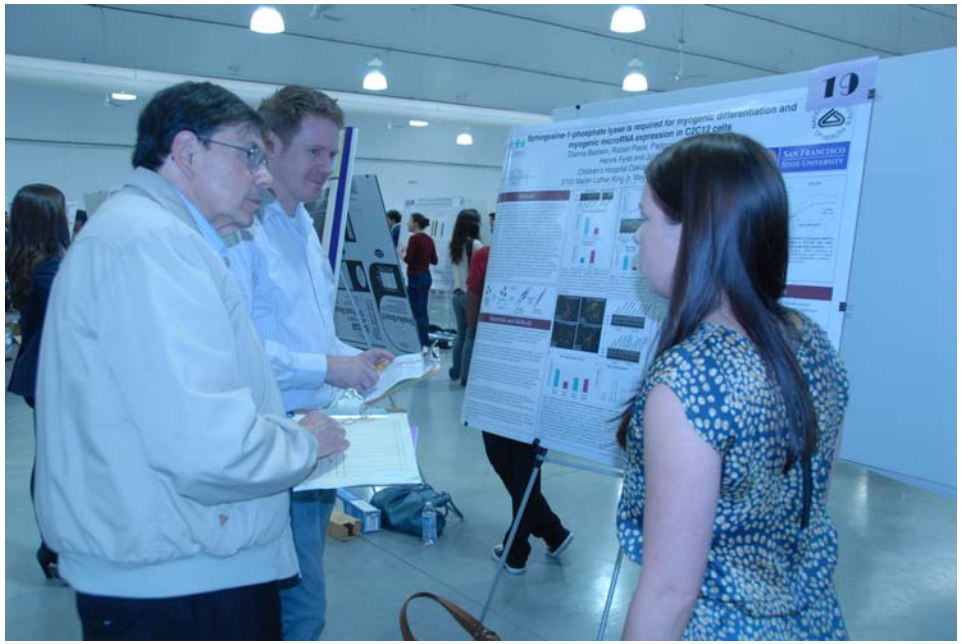
Entry Number: 1 GB Display Only
**DAILY DIARY LINKS AMONG FAMILY STRUCTURE, FAMILY CONTEXTUAL PROCESSES, AND CHILDREN'S PSYCHOLOGICAL WELL-BEING**
By: Yookyung Lee, Alexandria M. Sweet, and Dr. Jeffrey T. Cookston
Developmental Psychology

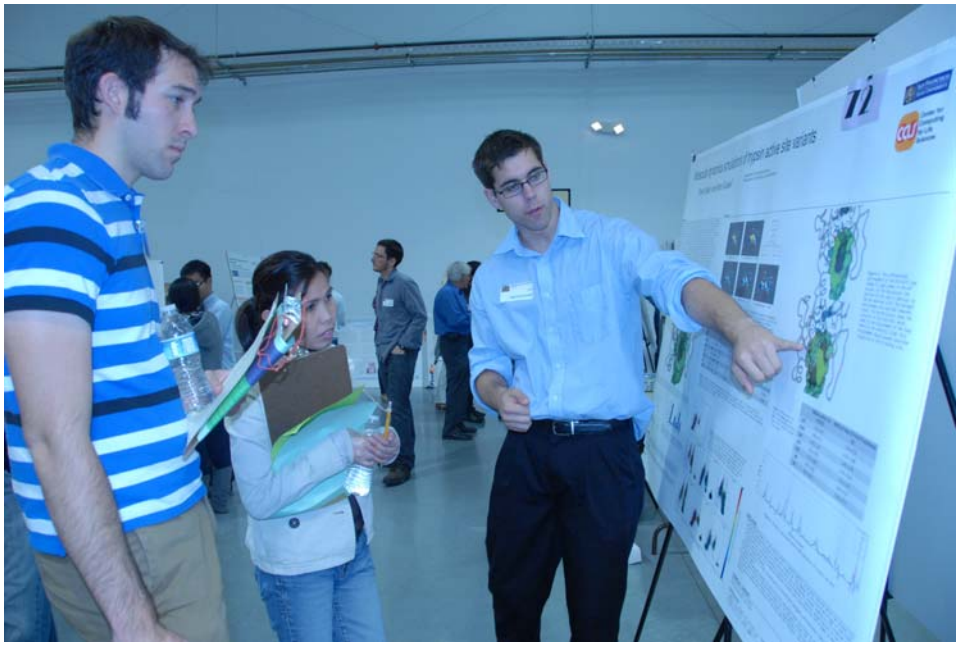
Entry Number: 2 GB
**PARENTIFICATION AND PSYCHOLOGICAL WELL-BEING**
By: Allison O'Leary
Developmental Psychology
Faculty Advisor: Dr. Jeffrey T. Cookston

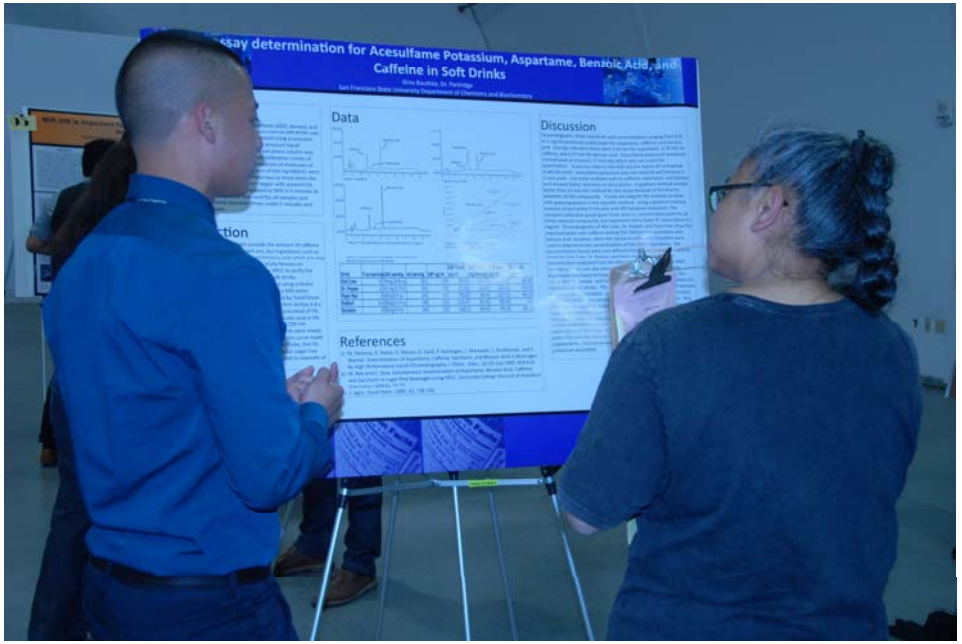
Entry Number: 3 GB
**ARE PARENTS STILL PARENTING? CHANGES IN PARENT BEHAVIOR THROUGH ADOLESCENCE AND EMERGING ADULTHOOD**
By: Kaitlyn Fladeboe
Developmental Psychology
Faculty Advisor: Dr. Jeffrey T. Cookston

Entry Number: 4 GB
**DOES EMOTION REGULATION IMPACT PROBLEM BEHAVIORS AMONG CHINESE ADOLESCENTS?**
By: Lanie Anton, Kaitlyn Fladeboe, and Dr. Jae Paik
Developmental Psychology
Faculty Advisor: Dr. Jae Paik

Entry Number: 5 GB
**SELF-COMPASSION AS A MODERATOR OF THE RELATIONSHIP BETWEEN BULLYING AND DEPRESSION**
By: Susan S. Mauskopf and Dr. Jeffrey T. Cookston
Developmental Psychology
Faculty Advisor: Dr. Jeffrey T. Cookston








Entry Number: 6 GB

**EXTERNAL CONTROL OF THE STREAM OF CONSCIOUSNESS: STIMULUS-BASED EFFECTS ON UNINTENTIONAL THOUGHT SEQUENCES**

By: Christina Merrick, Melika Farnia, Tiffany Jantz, and Dr. Ezequiel Morsella
Mind, Brain & Behavior Psychology
Faculty Advisor: Dr. Ezequiel Morsella

Entry Number: 7 GB

**ONE OF US: HOW CHANGING ONE'S PHENOTYPE TO APPEAR MORE WHITE AFFECTS RACIAL CATEGORIZATION**

By: Jordan Seliger and Jordan McDaniel
Mind, Brain & Behavior Psychology
Faculty Advisor: Dr. Avi Ben-Zeev

Entry Number: 8 GB

**INVOLUNTARY COGNITIONS OF POSITIVE AND NEGATIVE IMAGES: BEHAVIORAL CONSEQUENCES AND EEG CORRELATES**

By: Sheila Pugh, Adam Fogarty, and Hyein Cho
Mind, Brain & Behavior Psychology
Faculty Advisors: Dr. Mark W. Geisler and Dr. Ezequiel Morsella

Entry Number: 9 GB

**FAMILY STRUCTURE AND CONTEXT AND PARENT PSYCHOLOGICAL WELL-BEING: A DAILY DIARY STUDY**

By: Alexandria Sweet and Yookyung Lee
Psychology
Faculty Advisor: Dr. Jeffrey T. Cookston

Entry Number: 10 GB

**KEEPING YOUR COOL IN RELATIONSHIP CONFLICTS: EMOTION REGULATION AND THE DEMAND-WITHDRAW PATTERN**

By: Hiu Man Christine Chiu, Scott Ewing, and Dr. Sarah Holley
Psychology
Faculty Advisor: Dr. Sarah Holley

Entry Number: 11 GB

**INDIVIDUALISM-COLLECTIVISM AND SELF-DISCLOSURE TO INGROUPS AND OUTGROUPS**

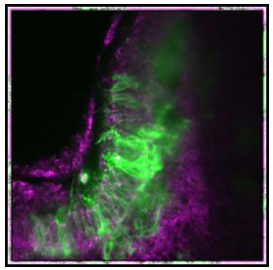
By: JiYeon Seol, Eugene Eusebio, and Dr. Seung Hee Yoo
Psychology
Faculty Advisor: Dr. Seung Hee Yoo

Entry Number: 12 GB
**SUBLIMINAL PRIMING OF SPONTANEOUSLY EXPERIENCED MEMORIES**
By: Lara Krisst, Allison Allen, Meredith Lanska, and Dr. Ezequiel Morsella
Psychology
Faculty Advisor: Dr. Ezequiel Morsella

Entry Number: 13 GB
**THEORY OF MIND DEVELOPMENT IN CHINESE PRESCHOOL CHILDREN: A CLOSER EXAMINATION OF FALSE BELIEF AND HIDDEN EMOTION**
By: Stephanie Chen-Wu Gluck
Psychology
Faculty Advisor: Dr. Jae H. Paik

Entry Number: 14 GB
**PERSON PERCEPTION AND CATEGORY LEVELS: HOW THE BRAIN PROCESSES MALES AND FEMALES DIFFERENTLY**
By: William L. D. Krenzer, Kristina Pfeifer, and Callan Lujan
Psychology
Faculty Advisors: Dr. Avi Ben-Zeev and Dr. Mark W. Geisler

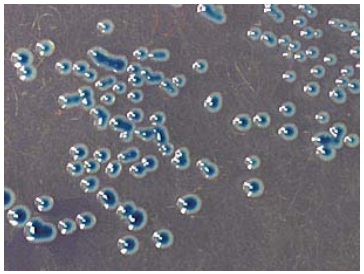
Entry Number: 15 GB
**DO YOU SEE WHAT I SEE? THE ROLE OF IMPLICIT BELIEFS IN PERCEIVING A STEREOTYPIC VERSUS COUNTER STEREOTYPIC BLACK MALE**
By: Sierra P. Niblett, Eric D. Splan, Monica E. Mendoza, Patrick J. Hibberd, Michael I. King, Dr. Avi Ben-Zeev, and Dr. Mark W. Geisler
Cognitive Psychology
Faculty Advisors: Dr. Avi Ben-Zeev and Dr. Mark W. Geisler



Entry Number: 16 GB
**THOUGHT STOPPING THROUGH SUSTAINED IMAGERY: INVOLUNTARY SUBVOCALIZATIONS AND THE SENSE OF AGENCY**
By: Hyein Cho, Allison K. Allen, Christine A. Godwin, Dr. Carlos Montemayor, and Dr. Ezequiel Morsella
Psychology and Philosophy
Faculty Advisors: Dr. Carlos Montemayor (Philosophy) and Dr. Ezequiel Morsella

Entry Number: 200 UP2
**ROLL UP BRIDGE**
By: Erasmo De Luna, Michael J. Bradley, Cristian Fernandez, Eric Agnes, Mersedeh H-Javid, Marco Cruz, Rizwan Satti, Tianlong Liu, Xiaofan Zhang, Pengjie Du, Guodong Xuan, Yang Chao, Chunfeng Xue, and Yi Liu
Civil Engineering
Faculty Advisor: Dr. Timonthy D'Orazio

Entry Number: 201 UP2
**THE ORIGINAL TIMBER BRIDGE**
By: Henry Williams, Robby Becker, Mike Burnfield, Wenxiang Xu, Byrong Ching, Htin Lin, and Travis Wesche
Civil Engineering
Faculty Advisor: Dr. Timonthy D'Orazio

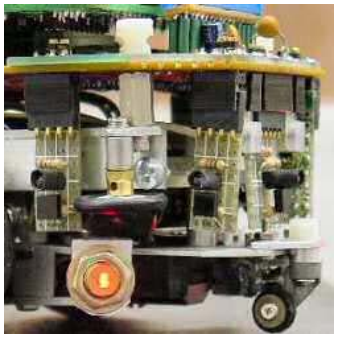


Entry Number: 202 UP2
**NATIONAL TIMBER BRIDGE DESIGN COMPETITION**
By: Kevin Rodriguez, Nadav Djiji, Sara Noii, Jeremiah Pichay, Abraham Reyes, Ephraim Baclagan, and Jesse Sipes
Civil Engineering
Faculty Advisor: Dr. Timonthy D'Orazio

Entry Number: 203 UP2
**TIMBER BRIDGE TEAM 4**
By: Nadia Makoor, Michelle Kwong, Charles Cao, Stephanie Azzolino, Kody Cooper, Elizabeth Dominguez, Aaron Duchi, and Shakila Mohammad Sharif
Civil Engineering
Faculty Advisor: Dr. Cheng Chen

Entry Number: 204 UP2
**GOLDEN CITY (CONCRETE CANOE)**
By: Shauna Fong, Megan Anderson, Maria Aragon, Jerry Chin, Anastastia Disbrow, Gaser Elgendy, Melchor Gutierrez, Felix Wan, and Chao Xu
Civil Engineering
Faculty Advisor: Dr. Timonthy D'Orazio

Entry Number: 205 UP2
**CONCRETE CANOE**
By: Vincent Lee, Sherif Eldash, Ghazi Elayyan, Angelo Racca, Duy Nguyen, Amin Shah, Hazer Ozcan, and Danniel Alexander
Civil Engineering
Faculty Advisor: Dr. Timonthy D'Orazio



Entry Number: 194 UP2
**AUTOMATED LABVIEW CONTROLLED DIP COATER FOR SEMI CONDUCTOR PROCESSING**
By: Rabiah Harrison, Xinyi Xiao, and J. Welch
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 195 UP2
**LOW RPM HATT**
By: Rachel Rybarczyk, Shahab Azizi, and Travis Jackson
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 196 UP2
**AUTOMATIC PH SOIL MAPPING SYSTEM**
By: Patrick Lewis, Davinder Kuqi, Dirajh Singh, Tayfun Selamoglu, and Jesse Cary
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 197 UP2
**ADJUSTABLE WHEELCHAIR SEAT**
By: Lucky Truong, Dexter Maluto, Stephen Gopez, Reese Kolar
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 198 UP2
**RELIABILITY ASSESSMENT OF REAL-TIME HYBRID SIMULATION FOR TIME-DELAYED MDOF STRUCTURES**
By: Frank Sanchez
Civil Engineering
Faculty Advisor: Dr. Cheng Chen

Entry Number: 199 UP2
**SAN FRANCISCO STATE UNIVERSITY'S STEEL-BRIDGE (STEEL-GATORS)**
By: Alan Chan, Noah Nordhoff, Ennya Garcia, Barnabas Negash, Kenneth Escobar, Robin Lopez, Kenneth Escobar, and Dr. Tim D'Orazio
Civil Engineering
Faculty Advisor: Dr. Timonthy D'Orazio

Entry Number: 17 GB
**THE ROLE OF EMOTIONAL EXPRESSIVITY ON THE RELATIONSHIP BETWEEN COLLECTIVISM AND SOCIAL ADJUSTMENT**
By: Frank Du, Amy Tran, and Dr. Seung Hee Yoo
Social Psychology
Faculty Advisor: Dr. Seung Hee Yoo

Entry Number: 18 GB
**ESSENTIALLY CONSERVATIVE: STATE CONSERVATISM DRIVES POLITICIAN ESSENTIALISM IN THE 2012 FEDERAL ELECTIONS**
By: Matthew Kleckner and Dr. Charlotte Tate
Social Psychology
Faculty Advisor: Dr. Charlotte Tate

Entry Number: 19 GL
**IMPROVING THE ISOLATION OF NON-O157 SHIGA TOXIN-PRODUCING *ESCHERICHIA COLI* USING A MODIFIED WASHED BLOOD AGAR**
By: Ninalynn Daquigan, Peng Zhang (California Dept. of Public Health), and David Kiang (California Dept. of Public Health)
Biotechnology
Faculty Advisor: Dr. Lily Chen

Entry Number: 20 GL
**CD13-POSITIVE SELECTION OF HUMAN ADIPOSE-DERIVED STROMAL CELLS CAN ENHANCE BONE FORMATION**
By: Christopher Duldulao and Dr. Michael Longaker (Stanford)
Stem Cell Science
Faculty Advisors: Dr. Lily Chen and Dr. Carmen Domingo

Entry Number: 21 GL
**CHARACTERIZATION OF THE ROLE OF MUSCLE STEM CELLS IN BONE REGENERATION**
By: Jaselle Perry, Frank Yang (UCSF), Dr. Celine Colnot (INSERM, Paris, France), and Dr. Ralph Marcucio (UCSF)
Stem Cell Science
Faculty Advisors: Dr. Lily Chen and Dr. Carmen Domingo

Entry Number: 22 GL
**REGULATION OF BRAIN REJUVENATION BY CREB SIGNALING**
By: Kristopher Plambeck and Dr. Saul Vileda (UCSF)
Stem Cell Science
Faculty Advisors: Dr. Lily Chen and Dr. Carmen Domingo

Entry Number: 23 GL
**MICROTUBULE ACTIVITY IN MITOTIC ENDOPLASMIC RETICULUM REORGANIZATION**
By: Brittany Johnson and Dr. Blake Riggs
Cell & Molecular Biology
Faculty Advisor: Dr. Blake Riggs

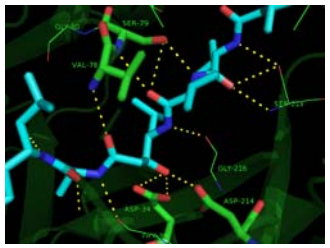
Entry Number: 24 GL
**COMPARATIVE GENOMICS SHEDS LIGHT ON THE MYSTERY OF TRANS-SPLICING**
By: Cameron Soulette and Oliver Oliverio
Cell & Molecular Biology
Faculty Advisor: Dr. Scott Roy

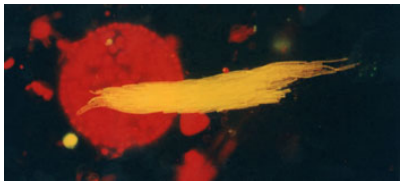
Entry Number: 25 GL
**CHARACTERIZING THE ROLE OF SDF-1A SIGNALING DURING XENOPUS LAEVIS MUSCLE DEVELOPMENT**
By: Ceazar E. Nave, Armbien Sabillo, and Dr. Carmen Domingo
Cell & Molecular Biology
Faculty Advisor: Dr. Carmen Domingo

Entry Number: 26 GL
**POLYMORPHISMS AND SELECTION ON THE APICAL MEMBRANE ANTIGEN-1 (AMA-1) OF THE AVIAN MALARIA PARASITE P. LUCENS**
By: Elvin Lauron
Cell & Molecular Biology
Faculty Advisor: Dr. Ravinder Sehgal

Entry Number: 27 GL
**CHARACTERIZATION OF DNA REPLICATION CHECKPOINT TOXICITY IN SCHIZOSACCHAROMYCES POMBE**
By: Gary M. Guerrero and Dr. Sally G. Pasion
Cell & Molecular Biology
Faculty Advisor: Dr. Sally G. Pasion

Entry Number: 28 GL
**RED-HEADED STEPCHILDREN OF THE EUKARYOTIC GENOME - THE ORIGIN AND EVOLUTION OF THE MINOR SPLICEOSOMAL INTRONS**
By: Graham Larue, Andy Madrid, and Dr. Scott Roy
Cell & Molecular Biology
Faculty Advisor: Dr. Scott Roy





Entry Number: 187 UP1
**PILLARS OF LIGHT**
By: Juan Larin, Stephanie Rosales, and Hytham Abou Youssef
Electrical Engineering
Faculty Advisor: Dr. Xiaorong Zhang

Entry Number: 188 UP1
**SELF-BALANCING PLANE**
By: Lee-Chieh Chou, Yingzhi Lu, and An Dinh
Electrical Engineering
Faculty Advisor: Dr. Thomas Holton

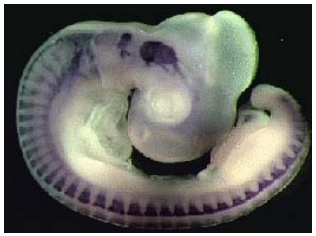
Entry Number: 189 UP2
**LASER HEATING SYSTEM USED IN HIGH PRESSURE X-RAY DIFFRACTION EXPERIMENTS**
By: Aaron Treger
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 190 UP2
**SEMI-AUTOMATIC SUSHI MACHINE**
By: Andrew Kwan, Wan Ching Ho, and Chen Zhao
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 191 UP2
**PNEUMATIC VALVE ACTUATION SYSTEM**
By: Anthony Amador, Michael Lino, and Ivan Narvasa
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 192 UP2
**HANDS-FREE REFRIGERATOR**
By: Michael Lum and Ghaith Alawwad
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 193 UP2
**MAVERIC: MULTIPURPOSE AERIAL VEHICLE WITH EXTENDED RANGE USING AN INTEGRATED SOLAR CIRCUIT**
By: Nicholas Howard, Saul Martinez, Keng Yin Aw, and Bernardo Gonzalez
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh



Entry Number: 181 UP1
**GAMIFICATION: CREATING VIDEO GAMES TO SOLVE SCIENTIFIC PROBLEMS**
By: Steven Taylor Ramzel and Gary Ng
Computer Science
Faculty Advisor: Dr. Ilmi Yoon

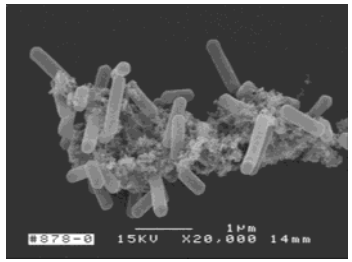
Entry Number: 182 UP1
**INDOOR NAVIGATION SYSTEM FOR THE VISUALLY IMPAIRED**
By: Lowell Milliken, Thinh Nguyen,
David Webster, and Alon Reich-Zilberman
Computer Science and Computer Engineering
Faculty Advisors: Dr. Ilmi Yoon (CS), Dr. Arno Puder (CS),
and Dr. Sunggye Hong (Special Education)

Entry Number: 183 UP1
**ROBOTICS WITH HAPTIC FEEDBACK**
By: Harold Co, Nabil Hamid, and Wilson Wong
Computer Engineering
Faculty Advisor: Dr. Thomas Holton

Entry Number: 184 UP1
**CONCUSSION ANALYZING HELMET**
By: Brandon Boggs, Jose Gudino, Kristopher Ling, and Dr. Thomas Holton
Electrical and Computer Engineering
Faculty Advisor: Dr. Thomas Holton

Entry Number: 185 UP1
**RASCAL – RAIL ACCELERATION SYSTEM – COMPACT AUGMENTED LAUNCHER**
By: Brian Gluss
Electrical Engineering
Faculty Advisor: Dr. Thomas Holton

Entry Number: 186 UP1
**I.S.A.T. (INTEGRATED STUDENT ATTENDANCE TRACKER)**
By: Carlbert Fuertes, Joshua Hernandez,
and Jessy Aquino
Electrical Engineering
Faculty Advisor: Dr. Thomas Holton




Entry Number: 29 GL
**PUTATIVE PROTAMINES, SPCH-1/2/3 PLAY A ROLE IN FERTILITY**
By: Jennifer Gilbert, Dana Byrd, Jordan Berry, Vanessa Cota, and Dr. Diana Chu
Cell & Molecular Biology
Faculty Advisor: Dr. Diana Chu

Entry Number: 30 GL
**A MYSTERIOUS ENZYME IS KEY IN UNCOVERING THE PATHWAY BEHIND ARCHAEAL AMMONIA OXIDATION**
By: Donne Estipona, Dr. Robert Yen, and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 31 GL
**INVESTIGATING UNDERGRADUATE BIOLOGY MAJORS' PERFORMANCE ON THE BIOLOGY CARD SORTING TASK**
By: Elijah Combs and Dr. Kimberly Tanner
Microbiology
Faculty Advisor: Dr. Kimberly Tanner

Entry Number: 32 GL
**THE CRISPR/CAS ADAPTIVE IMMUNE SYSTEM OF *THERMOMICROBIUM SP.* HL1**
By: Sean King and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 33 GL
**MARASMIUS OF SÃO TOMÉ OR PRÍNCIPE**
By: Chris L. Grace
Ecology & Systematic Biology
Faculty Advisor: Dr. Dennis Desjardin

Entry Number: 34 GL
**EFFECTS OF OCEAN WARMING AND ACIDIFICATION ON THE EARLY DEVELOPMENT OF AN ANTARCTIC FISH, *GYMNODRACO ACUTICEPS***
By: Erin Flynn and Dr. Anne Todgham
Ecology & Systematic Biology
Faculty Advisor: Dr. Anne E. Todgham

Entry Number: 35 GL
**LIFE UNDER THE TREES: INVESTIGATING THE ROLE OF THE ENVIRONMENT IN SHAPING PATTERNS OF DIVERSITY IN THE FOREST UNDERSTORY**
By: Kimberly Drewiske
Ecology & Systematic Biology
Faculty Advisor: Dr. V. Thomas Parker

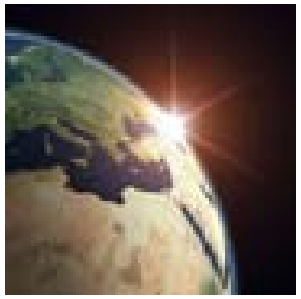
Entry Number: 36 GL
**INVESTIGATING NOVICE AND EXPERT EXPLANATIONS OF GMOS: *HOW DO UNDERGRADUATE STUDENTS CONCEPTUALIZE MACROSCOPIC BIOLOGICAL PHENOMENA ENCOUNTERED IN DAILY LIFE?***
By: Lisa Turk and Dr. Kimberly Tanner
Ecology & Systematic Biology
Faculty Advisor: Dr. Kimberly Tanner

Entry Number: 37 GL
**OPISTHOBRANCH POPULATIONS INSIDE AND OUTSIDE CALIFORNIA'S MARINE PROTECTED AREAS**
By: Victoria Kentner
Ecology & Systematic Biology
Faculty Advisor: Dr. Terry Gosliner

Entry Number: 38 GL
**EFFECTS OF THERMAL STRESS DURING EMERSION AND IMMERSION ON THE HEAT-SHOCK PROTEIN 70 RESPONSE OF AN INTERTIDAL LIMPET**
By: Madeline Kinsey, Brittany Bjelde, and Dr. Anne Todgham
Marine Biology
Faculty Advisor: Dr. Anne E. Todgham

Entry Number: 39 GL
**DEVELOPMENT OF A TOOL TO INVESTIGATE INSTRUCTOR AND STUDENT PERCEPTIONS OF COMMUNITY COLLEGE BIOLOGY CLASSROOMS**
By: Stephanie Malmgren and Dr. Kimberly Tanner
Marine Biology
Faculty Advisor: Dr. Kimberly Tanner

Entry Number: 40 GL
**GROWTH AND PHYSIOLOGICAL RESPONSE OF JUVENILE TIDEWATER GOBY TO INTERSPECIFIC COMPETITION**
By: Daniel Chase and Dr. Anne Todgham
Physiology & Behavioral Biology
Faculty Advisor: Dr. Anne E. Todgham



Entry Number: 175 UP1
**INVESTIGATING THE URBAN HEAT ISLAND EFFECT IN BLACK ROCK CITY, NV DURING THE BURNING MAN FESTIVAL 2013**
By: Malori Redman
Atmospheric & Oceanic Sciences
Faculty Advisors: Dr. Andrew Oliphant and Dr. Dave Dempsey

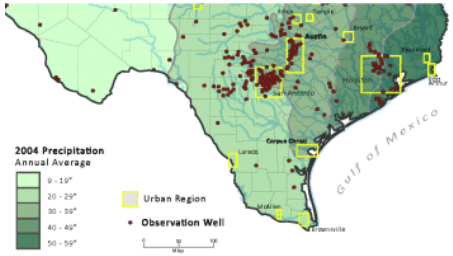
Entry Number: 176 UP1
**ASSESING THE IMPACT OF WATER DEFICITS ON PREPAREDNESS FOR CLIMATE CHANGE IN THE BAY AREA**
By: Michael Sanchez
Environmental Studies
Faculty Advisor: Dr. Nancy Wilkinson

Entry Number: 177 UP1
**COMPARING RESTORED AND REMNANT DUNE HABITAT IN THE SAN FRANCISCO PRESIDIO**
By: Amy Ellevold and David Zimmerman
Environmental Studies and Natural Resource Management
Faculty Advisor: Dr. Barbara Holzman

Entry Number: 178 UP1
**RESEARCH DESIGN: BAY AREA LIFESTYLE RESPONSES TO CLIMATE CHANGE**
By: Sophia V. Rodriguez
Geography
Faculty Advisor: Dr. Tendai Chitewere

Entry Number: 179 UP1
**MAPPING SITE-SPECIFIC RECOMBINATION IN CIRCULAR DNA**
By: Robert Stolz and Dr. Mariel Vazquez
Applied Mathematics
Faculty Advisor: Dr. Mariel Vazquez

Entry Number: 180 UP1
**EXPLORATION OF MOBILE GAME DESIGN BEST PRACTICE**
By: Nicu Listana
Computer Science
Faculty Advisor: Dr. Ilmi Yoon




Entry Number: 169 UP1
**NMR ANALYSIS OF TIF-4 SOLUTIONS**
By: Domanick Contreras
Chemistry
Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 170 UP1
**VISIBLE LIGHT ABSORPTION OF PROTON IMPLANTED [001] ORIENTED TIO2 FILMS**
By: Marissa Martinez
Chemistry
Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 171 UP1
**METHANE PRODUCTION IN ANOXIC CONTINENTAL MARGIN SEDIMENTS: INSIGHTS FROM ISOTOPE PROFILES OF DISSOLVED INORGANIC CARBON (DIC)**
By: Abraham King Cada, Huan Lei Li, David J. Burdige, and Dr. Tomoko Komada
Chemistry
Faculty Advisor: Dr. Tomoko Komada

Entry Number: 172 UP1 Display Only
**DETECTING CLIMATE SIGNALS IN PRECIPITATION RECORDS**
By: Leia Gaten
Geology
Faculty Advisor: Dr. Jason Gurdak

Entry Number: 173 UP1
**DRY DEPOSITION PATTERNS AND SHORT-TERM TEMPERATURE EFFECTS OF ANTHROPOGENIC BLACK CARBON EMISSIONS IN NORTHERN CALIFORNIA**
By: Ryan Ford and Dr. Dave Dempsey
Geology
Faculty Advisor: Dr. Dave Dempsey

Entry Number: 174 UP1
**OBSERVATIONS OF LIVING-ROOF CARBON, WATER VAPOR AND HEAT EXCHANGES USING EDDY COVARIANCE**
By: Ryan Thorp, Siobhan Lavender, and Kendra Hauser
Atmospheric Sciences and Geography
Faculty Advisor: Dr. Andrew Oliphant

Entry Number: 41 GL
**DETERMINING THE REASONS WHY SFSU STUDENTS DECIDE TO CHANGE THEIR MAJORS FROM BIOLOGY**
By: Hibba Ashraf and Dr. Kimberly Tanner
Physiology & Behavioral Biology
Faculty Advisor: Dr. Kimberly Tanner

Entry Number: 42 GL
**PSPACE: INTERACTIVE VISUALIZATION AND EXPLORATION OF PROTEIN STRUCTURE SPACE**
By: Daniel Asarnow
Biochemistry
Faculty Advisor: Dr. Rahul Singh (Computer Science)

Entry Number: 43 GL
**EXPLORING CLASS III HDAC INHIBITORS FROM MARINE-SEDIMENT DERIVED ACTINOBACTERIA**
By: Hana Martucci
Biochemistry
Faculty Advisor: Dr. Taro Amagata

Entry Number: 44 GL
**ENGINEERING NEW SUBSTRATE SPECIFICITY INTO THE ACTIVE SITE OF STYRENE MONOOXYGENASES**
By: Phu Truong and Dr. George T. Gassner
Biochemistry
Faculty Advisor: Dr. George T. Gassner

Entry Number: 45 GP
**VISIBLE LIGHT ABSORPTION BY NITROGEN DOPED TITANIUM DI-OXIDE FILMS WITH {001} FACETS FOR PHOTOCATALYSIS**
By: Mana Moarrefzadeh
Chemistry
Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 46 GP
**HYDROTHERMAL SYNTHESIS OF TITANIUM DIOXIDE THIN FILMS EXHIBITING PREFERRED <001> ORIENTATION ON FLUORINE-DOPED TIN OXIDE FOR DYE-SENSITIZED SOLAR CELL APPLICATIONS**
By: Peter F. Slattery
Chemistry
Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 47 GP
**L1 NORMALIZED GRAPHICAL MODELS OF RESIDUE INTERACTION NETWORKS FOR ENGINEERED PROTEINS**
By: Trevor Gokey
Computing for Life Science
Faculty Advisor: Dr. Anton Guliaev (Chemistry)

Entry Number: 48 GP
**CITY-TO-CITY: REAL-TIME ANIMATION AND SONIFICATION OF WEB TRAFFIC**
By: Lee Periolat, Paula Levine (Art), Dr. William Hsu, and Magee Mooney (Mathematics)
Computer Science
Faculty Advisor: Dr. William Hsu

Entry Number: 49 GP
**MICROENVIRONMENT-BASED PROTEIN FUNCTION ANALYSIS BY RANDOM FOREST**
By: Lorenzo Flores, Kazunori Okada, Mike Wong, Dr. Dragutin Petkovic, and Kazunori Okada
Computer Science
Faculty Advisors: Dr. Dragutin Petkovic and Dr. Kazunori Okada

Entry Number: 50 GP
**ANALYSIS OF ACCURACY OF QUEUING MODELS**
By: Ping Xiao and Dr. Jozo Dujmovic
Computer Science
Faculty Advisor: Dr. Jozo Dujmovic

Entry Number: 51 GP Display Only
**SMART-READ: CREATING NEW SERVICES BY ASSESSING E-BOOK USER ACTIVITIES**
By: Selman Kahya, Dr. Ilmi Yoon, and Anagha Kulkarni
Computer Science
Faculty Advisors: Dr. Ilmi Yoon and Anagha Kulkarni

Entry Number: 52 GP
**SETAP: SOFTWARE ENGINEERING TEAMWORK ASSESSMENT AND PREDICTION USING MACHINE LEARNING**
By: Swati Arora, Lorenzo FLores, Shihong Huang, Rainer Todtenhoefer, Sonal Dubey and Ramasubramanian Sreenivasen, Dr. Kazunori Okada, Dr. Dragutin Petkovic, and Marc Sosnick-Perez
Computer Science
Faculty Advisors: Dr. Dragutin Petkovic and Marc Sosnick-Perez

Entry Number: 162 UL2
**EVALUATION OF BENZOIC ACID DERIVATIVES AS SIRTUIN INHIBITORS USING AN HDAC-BASED YEAST ASSAY**
By: Nhu Tran, Stephanie Gee, Jeannette Bowler, Shaun Chan, Eric Suon, Dr. Weiming Wu, and Dr. Taro Amagata
Biochemistry
Faculty Advisors: Dr. Weiming Wu and Dr. Taro Amagata

Entry Number: 163 UL2
**TRYPSIN-VARIANT Y39S: SERINE SUBSTITUTION'S AFFECT ON ENZYMATIC ACTIVITY**
By: Riley Statham
Biochemistry
Faculty Advisor: Dr. Teaster Baird Jr.

Entry Number: 164 UL2
**TRYPSIN MUTANT EFFECTS ON INHIBITION RESISTANCE**
By: Shangheng Sit
Biochemistry
Faculty Advisor: Dr. Teaster Baird Jr.

Entry Number: 165 UL2
**EFFECTS OF THE F41L SUBSTITUTION ON SERINE PROTEASE INHIBITION**
By: Weichao Zhuo
Biochemistry
Faculty Advisor: Dr. Teaster Baird Jr.

Entry Number: 166 UL2
**ADSORPTION BEHAVIOR OF ARSENIC (III) AND (V) ON SOIL**
By: Lucas Alameda and Yan Zhao
Biochemistry and Chemistry
Faculty Advisor: Dr. Bruce Manning

Entry Number: 168 UP1
**CONTRASTING PATTERNS OF ORGANIC CARBON ACCUMULATION IN TWO CONTINENTAL MARGIN BASINS REVEALED FROM DEPTH PROFILES OF NATURAL 14C**
By: Ashley Grose
Chemistry
Faculty Advisor: Dr. Tomoko Komada

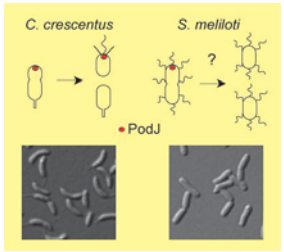
Entry Number: 156 UL2
**SYNTHESIS OF URIC ACID NUCLEOTIDES**
By: Kristen Decker and Ronald Tan
Biochemistry
Faculty Advisor: Dr. Weiming Wu

Entry Number: 157 UL2
**CAN A DOUBLE MUTANT IN TRYPSINOGEN'S S1 PRIME POCKET AFFECT ITS REACTIVITY IN ITS ACTIVE SITE?**
By: Krystal Rogers
Biochemistry
Faculty Advisor: Dr. Teaster Baird Jr.

Entry Number: 158 UL2
**COMBINED BILAYER OF ZEOLITE MFI AND ANATASE TIO2 THIN FILMS FOR DEGRADATION OF ORGANICS**
By: Kyle Kulinski
Biochemistry
Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 159 UL2
**THE ROLE OF THE GTP BINDING FOR THE FORMATION OF THE RAS-RAF COMPLEX**
By: Ma. Lorena Duhaylungsod and Dr. Anton Guliaev
Biochemistry
Faculty Advisor: Dr. Anton Guliaev

Entry Number: 160 UL2
**NITRIC OXIDE AND ITS ROLE IN PHOTODYNAMIC THERAPY**
By: Marco Monroy, Pooncharas Tipgunlakant, Dr. Raymond Esquerra, and Dr. Ursula Simonis
Biochemistry
Faculty Advisor: Dr. Raymond Esquerra




Entry Number: 161 UL2
**USING TITANOSILICATE (TS-1) ZEOLITE TO MAKE LIGHT HYDROCARBONS FROM WATER AND CARBON DIOXIDE**
By: Navid Singhrao and Dr. Andrew S. Ichimura
Biochemistry
Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 53 GP
**LSP SUITABILITY MAP BASED ON ARCGIS**
By: Yufei Zhuang and Dr. Jozo Dujmovic
Computer Science
Faculty Advisor: Dr. Jozo Dujmovic

Entry Number: 54 GP
**LOW-POWER COMPARATOR CIRCUIT FOR SWITCH BASED WIRELESS POWER TRANSFER IN IMPLANTS**
By: Casey Hardy and Dr. Hao Jiang
Electrical Engineering
Faculty Advisor: Dr. Hao Jiang

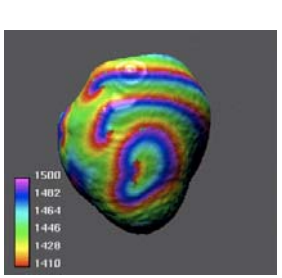
Entry Number: 55 GP
**ADVANTAGES OF NDN DATA NAMING OVER TCP/IP FOR V2V COMMUNICATIONS**
By: Madura Balasubramanian
Electrical Engineering
Faculty Advisor: Dr. Hamid Shahnasser

Entry Number: 56 GP
**MINIATURIZED RFID TAG FOR BIOMEDICAL IMPLANTS**
By: Shi Jie Chen and Lok Kee Loh
Electrical Engineering
Faculty Advisor: Dr. Hao Jiang

Entry Number: 57 GP
**MEETING CHALLENGES OF LTE ADVANCED THROUGH SMALL CELL DEPLOYMENT**
By: Juhi Bagaria
Embedded Electrical & Computer Systems
Faculty Advisor: Dr. Hamid Shahnasser

Entry Number: 58 GP
**AN ULTRALOW-INPUT-VOLTAGE RF TO DC BOOST CONVERTER FOR WIRELESS POWERED BIOMEDICAL IMPLANTS**
By: Kang J. Bai
Embedded Electrical & Computer Systems
Faculty Advisor: Dr. Hao Jiang

Entry Number: 59 GP
**WIRELESS NAVIGATION AND REMOTE CONTROL OF A ROBOT USING AN EMBEDDED ACCELEROMETER**
By: Pinku Xavier
Embedded Electrical & Computer Systems
Faculty Advisor: Dr. Hamid Shahnasser




Entry Number: 60 GP
**EMBEDDED WIRELESS SENSOR NETWORK FOR ENVIRONMENT MONITORING**
By: Vinay B. Raghavan
Embedded Electrical & Computer Systems
Faculty Advisor: Dr. Hamid Shahnasser

Entry Number: 61 GP
**ANALOG INTEGRATE-AND-FIRE CIRCUIT FOR NEUROMORPHIC SYSTEMS**
By: Weijie Zhu and John Laberinto
Embedded Electrical & Computer Systems
Faculty Advisor: Dr. Hao Jiang

Entry Number: 62 GP
**HEAVY RAIL RETROFIT: PRIORITIZING POST-EARTHQUAKE STRATEGIES FOR NETWORK RESTORATION**
By: Brenton Santos-Smith
Structural/Earthquake Engineering
Faculty Advisor: Dr. Cheng Chen

Entry Number: 63 GP
**EVALUATING EFFECTS OF ACTUATOR DELAY IN REAL-TIME HYBRID SIMULATION INVOLVING STRENGTH AND STIFFNESS DEGRADATION**
By: Hezareigh Ryan
Structural/Earthquake Engineering
Faculty Advisor: Dr. Cheng Chen

Entry Number: 64 GP
**APPLICATION OF A VERY-LOW-COST UNMANNED AERIAL VEHICLE (UAV) AND CONSUMER GRADE CAMERA FOR THE COLLECTION OF RESEARCH GRADE DATA: PRELIMINARY FINDINGS**
By: Peter Christian, Dr. Jerry David, and Dr. Leo Blesius
Geography
Faculty Advisors: Dr. Jerry David and Dr. Leo Blesius

Entry Number: 65 GP
**P-T-T-D HISTORY OF THE GREATER HIMALAYAN SEQUENCE IN THE ZANSKAR SHEAR ZONE, NW INDIA**
By: Emma Beck
Geology
Faculty Advisor: Dr. Mary L. Leech

Entry Number: 149 UL2
**CHARACTERIZING THE EFFECT OF PORCUPINE ON NEURAL TUBE CLOSURE**
By: Shea Feeney, Lisa Galli, Gina Pay, and Dr. Laura Burrus
Biochemistry and Cell & Molecular Biology
Faculty Advisor: Dr. Laura Burrus

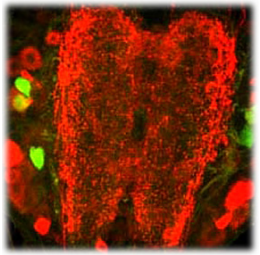
Entry Number: 150 UL2
**UNDERSTANDING HOW THE DISTAL POCKET ENVIRONMENT AFFECTS THE LIGAND BINDING AFFINITY OF NITRITE TO HEME PROTEINS**
By: Adriana Garcia, Rocio Gomez, Sylvia Wojdyla, Bushra Bibi, Lea Lough, and Raymond Esquerra
Biochemistry
Faculty Advisor: Dr. Raymond Esquerra

Entry Number: 152 UL2
**DETERMINING THE ROLE(S) OF PRIME-SIDE RESIDUES IN MACROMOLECULAR INHIBITION OF TRYPSIN-FOLD SERINE PROTEASES**
By: Commodore St. Germain and Anna Batt (USC)
Biochemistry
Faculty Advisor: Dr. Teaster Baird Jr.

Entry Number: 153 UL2
**CONFORMATIONAL DYNAMICS OF HUMAN ALKYLADENINE GLYCOSYLASE BY MD SIMULATIONS**
By: Gabrielle Garcia and Dr. Anton Guliaev
Biochemistry
Faculty Advisor: Dr. Anton Guliaev

Entry Number: 154 UL2
**DISRUPTION OF INTERACTIONS BETWEEN TRYPSIN AND BOVINE PANCREATIC TRYPSIN INHIBITOR AT THE S1' SITE**
By: Hanh Huynh
Biochemistry
Faculty Advisor: Dr. Teaster Baird Jr.

Entry Number: 155 UL2
**SYNTHESIS AND CHARACTERIZATION OF PURE SILICA BEA AND TITANOSILICATE BEA (TI-BEA)**
By: Heather-Rose Lacy
Biochemistry
Faculty Advisor: Dr. Andrew S. Ichimura



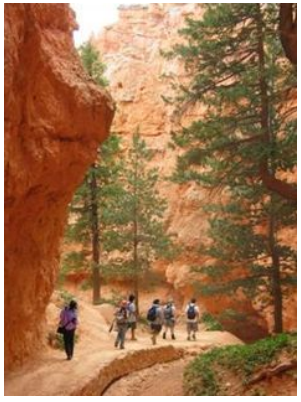
Entry Number: 144 UL1
**CORRECTING MISCONCEPTIONS ABOUT HEART ATTACKS: A NOVEL APPROACH TO DEMONSTRATE THE ANATOMY OF A HEART ATTACK**
By: Eryk Hakman
Physiology & Behavioral Biology
Faculty Advisor: Gloria Nusse

Entry Number: 145 UL1
**CLIMATE CHANGE EXPECTED TO INCREASE PATHOGEN INVISIBILITY IN ASIA**
By: Laurence Cyril Henson
Physiology & Behavioral Biology
Faculty Advisors: Dr. Vance Vredenburg
and Dr. Tendai Chitwere

Entry Number: 146 UL1
**SELECTIVE DEFICITS IN SOCIAL BEHAVIOR IN ADULT MICE AFTER TRAUMATIC BRAIN INJURY AT ADOLESCENCE**
By: Pingdewinde N. Sam, Dr. Bridgette Semple (UCSF),
and Dr. Linda Noble (UCSF)
Physiology & Behavioral Biology
Faculty Advisor: Dr. Linda Noble

Entry Number: 147 UL1
**EXPOSITION OF MÜLLER AO CLASSIFICATION OF TIBIAL FRACTURES USING CADAVERIC BONE MODELS**
By: Victor Abdullatif
Physiology & Behavioral Biology
Faculty Advisor: Gloria Nusse

Entry Number: 148 UL2
**SYNTHESIS OF CONFORMATIONALLY-RESTRICTED GLUTAMATE BIOISOSTERES VIA A FURAN RING SCAFFOLD**
By: Sean Patrick Cleary, Elizabeth Mazza, and Ryan Hromyak
Biochemistry and Physiology
Faculty Advisor: Dr. Jean-Louis Etoga



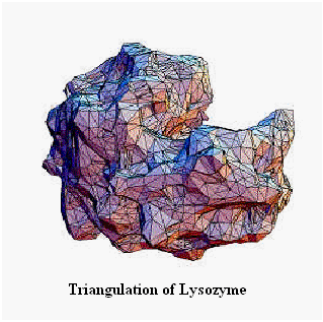
Entry Number: 66 GP
**THE TECTONOMETAMORPHIC EVOLUTION OF THE GREATER HIMALAYAN SEQUENCE ALONG THE ZANSKAR SHEAR ZONE, NW INDIA**
By: Seniha Ozum Basta, Theodore D. Burlick, Emma N. Beck,
and Dr. Mary L. Leech
Geology
Faculty Advisor: Dr. Mary L. Leech

Entry Number: 67 GP
**PRODUCTIVITY ALONG THE CALIFORNIA MARGIN THROUGH THE LAST 5 MILLION YEARS**
By: Valerie Schwartz and Dr. Petra Dekens
Geosciences
Faculty Advisor: Dr. Petra Dekens

Entry Number: 68 GP
**EULERIAN NUMBERS IN UNIT CUBES**
By: Emily McCullough
Mathematics
Faculty Advisor: Dr. Matthias Beck

Entry Number: 69 GP
**TRIANGULATIONS OF GALE DUALS OF ROOT POLYTOPES**
By: Hannah Winkler
Mathematics
Faculty Advisors: Dr. Federico Ardila and Dr. Matthias Beck

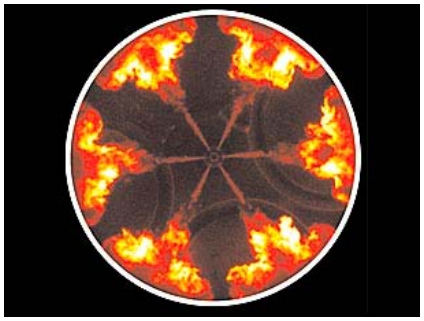
Entry Number: 70 GP
**ESTIMATING THE FRACTAL DIMENSIONS OF SETS ARISING IN DYNAMICAL SYSTEMS**
By: Joseph Squillace
Mathematics
Faculty Advisor: Dr. Yitwah Cheung



Triangulation of Lysozyme

Entry Number: 71 GP
**A GEOMETRIC APPROACH TO THE LITTLEWOOD CONJECTURE**
By: Kyla Quillin and Dr. Yitwah Cheung
Mathematics
Faculty Advisor: Dr. Yitwah Cheung

Entry Number: 72 GP
**PROPER COLORINGS OF BIDIRECTED GRAPHS**
By: Nina Cerutti
Mathematics
Faculty Advisor: Dr. Matthias Beck



Entry Number: 73 GP
**STATISTICAL ANALYSIS OF GLYCO-PROTEIN DATA IN BREAST CANCER CELLS**
By: Spencer Bowen
Mathematics
Faculty Advisor: Dr. Alexandra Piryatinska and Dr. Leslie Timpe (Chemistry & Biochemistry)

Entry Number: 74 GP Display Only
**COMBINATORIAL APPROACH TO MULTIPLE ZETA FUNCTIONS**
By: Leonardo Bardomero
Mathematics
Faculty Advisor: Dr. Matthias Beck

Entry Number: 75 GP
**CALIBRATION AND FIRST IMAGES FROM THE REFURBISHED LEUSCHNER 30-INCH TELESCOPE**
By: Adam Fries, Eileen Gonzales, Dr. Adrienne Cool, N abeel Naqvi, and Dana Zhu
Astronomy
Faculty Advisor: Dr. Adrienne Cool

Entry Number: 76 GP
**TESTING THE REFURBISHED LEUSCHNER 30-INCH TELESCOPE AND ITS ABILITY TO DETECT PLANETS AROUND OTHER STARS**
By: Eileen Gonzales, Adam Fries, and Dr. Adrienne Cool
Astronomy
Faculty Advisor: Dr. Adrienne Cool

Entry Number: 77 GP
**MEASURING DARK MATTER IN GALAXY CLUSTERS WITH WEAK GRAVITATIONAL LENSING**
By: Angela Berti
Astrophysics
Faculty Advisor: Dr. Andisheh Mahdavi

Entry Number: 78 GP
**USING OPTICAL TWEEZERS TO STUDY BACTERIAL TOXICOLOGY**
By: Chensong Zhang
Physics
Faculty Advisor: Dr. Zhigang Chen

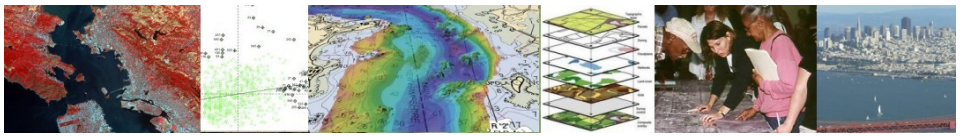
Entry Number: 139 UL1
**DIFFERENTIAL GROWTH RATES OF CHLORELLA SP. AS A FUNCTION OF NITROGEN SOURCE**
By: Maribel Albarran
Marine Biology
Faculty Advisor: Dr. William P. Cochlan

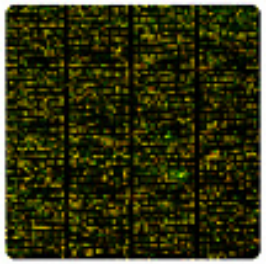
Entry Number: 140 UL1
**DECREASING B-CELL FUNCTION IN OVERWEIGHT LATINO CHILDREN WITHIN NORMAL FASTING GLUCOSE PARAMETERS**
By: Monet Jimenez, Dr. Claudia Toledo-Corral (USC), and Dr. Micheal Goran (USC)
Cell & Molecular Biology
Faculty Advisors: Dr. Claudia Toledo-Corral (USC) and Dr. Frank Bayliss

Entry Number: 141 UL1
**CREATING A COMPARATIVE MAP OF THE FACIAL NERVE: A CADAVERIC STUDY**
By: Ashley Jenkinson and Dr. Gloria Nusse
Physiology & Behavioral Biology
Faculty Advisor: Gloria Nusse

Entry Number: 142 UL1
**INVESTIGATION ON THE METASTATIC CHANGES TO THE LIVER AS A CONSEQUENCE OF METASTATIC BREAST CANCER, ONE CADAVER'S STORY**
By: Christian Gallegos
Physiology & Behavioral Biology
Faculty Advisor: Gloria Nusse

Entry Number: 143 UL1
**THE ECDYSTEROID AGONIST RH 5992 REDUCES DAMAGE-INDUCED DEVELOPMENTAL DELAYS IN THE HORNWORM, *MANDUCA SEXTA***
By: Erica Mai, Mitchell Lopez, and Dr. Megumi Fuse
Physiology & Behavioral Biology
Faculty Advisor: Dr. Megumi Fuse





Entry Number: 133 UL1

**TALK MATTERS: AN ANALYSIS OF *EXPLICIT INSTRUCTOR TALK* IN A LARGE INTRODUCTORY BIOLOGY COURSE**

By: Amanda Reggi, Shannon Seidel, Jeff Schinske, Dr. Laura Burrus, and Dr. Kimberly Tanner
Microbiology
Faculty Advisor: Dr. Kimberly Tanner

Entry Number: 134 UL1

**POSSIBLE SPECIATION IN ARTHROLEPTIS DUE TO CLIMATIC CHANGE IN SUB-SAHARAN AFRICA**

By: Gina Geiselman, Sonia Ghose, and Dr. David Blackburn
Ecology
Faculty Advisor: Dr. David Blackburn

Entry Number: 136 UL1

**DOES THE EVOLUTION OF MANZANITAS FROM ONE CLADE FOLLOW GLACIAL RETREAT? A PHYLOGENY USING A SINGLE NUCLEAR GENE LOCUS, RPB2.**

By: Heather Lough and Craig Reading (Grand Canyon College)
Ecology
Faculty Advisors: Dr. V. Thomas Parker and Frank Cipriano

Entry Number: 137 UL1

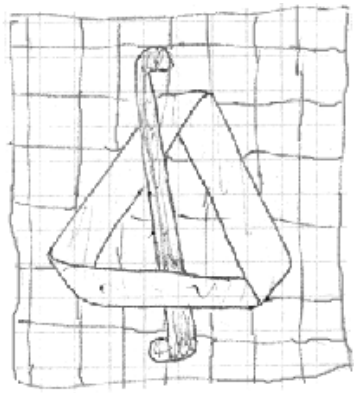
**THE SECRET OF THE MERMAID'S PURSE: PHYLOGENETIC AFFINITIES WITHIN THE RAJIDAE AND THE EVOLUTION OF A NOVEL REPRODUCTIVE STRATEGY IN SKATES**

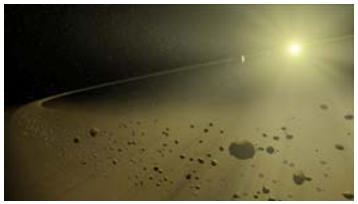
By: Kelcie Chiquillo
Marine Biology
Faculty Advisor: Dr. Karen D. Crow

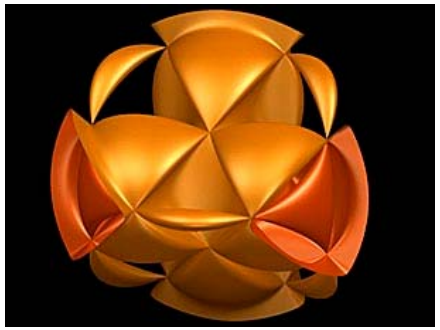
Entry Number: 138 UL1

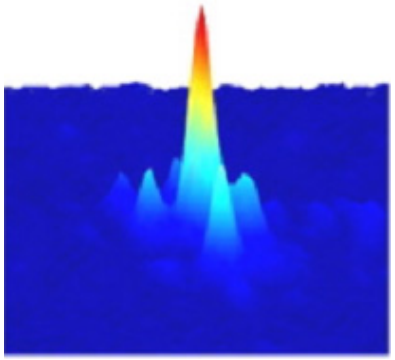
**EFFECTS OF ELEVATION CHANGE ON SURVIVORSHIP OF *PRISTIMANTIS PLATYDACTYLUS* INFECTED BY *BATRACHOCHYTRIUM DENDROBATIDIS* (BD)**

By: Linett Rasmussen
Marine Biology
Faculty Advisor: Dr. Vance Vredenburg









Entry Number: 127 UL1

**DOES A RAD2Δ OR POLΔ-TS1(POL3) SECOND SITE MUTATION SUPPRESS THE CDS1-CDC24 CDC PHENOTYPE IN S. POMBE?**

By: Eirish Norielle S. Sison, Gary Guerrero, and Dr. Sally G. Pasion

Cell & Molecular Biology

Faculty Advisor: Dr. Sally G. Pasion

Entry Number: 128 UL1

**TESTING THE CONTRIBUTION OF CHROMOSOME ANCHORING TO EFFICIENT DNA TRANSPORT DURING SPORULATION IN *BACILLUS SUBTILIS***

By: Tanisha Saini

Cell & Molecular Biology

Faculty Advisors: Dr. Briana Burton and Dr. Frank Bayliss

Entry Number: 129 UL1

**EPOTHILONE B AND PACLITAXEL DISPLAY SYNTHETIC LETHAL INTERACTIONS WITH SAC COMPROMISED CELLS WITHIN THE D. MELANOGASTER COMPOUND EYE**

By: Torey Jacques and Dr. Blake Riggs

Cell & Molecular Biology

Faculty Advisor: Dr. Blake Riggs

Entry Number: 130 UL1

**CDC24 CHROMATIN ASSOCIATION AND LOCALIZATION IN REPLICATION MUTANT BACKGROUNDS**

By: Eduardo Lujan, Eirish Sison, Alex Cabrera, and Dr. Sally G. Pasion

Cell & Molecular Biology

Faculty Advisor: Dr. Sally G. Pasion

Entry Number: 131 UL1

**FACTORS REGULATING EPS-I PRODUCTION CONFER A COMPETITIVE ADVANTAGE DURING SYMBIOSIS BETWEEN *SINORHIZOBIUM MELILOTI* AND ALFALFA**

By: Julian Bustamante and Dr. Joseph Chen

Microbiology

Faculty Advisor: Dr. Joseph Chen

Entry Number: 132 UL1

**STRUCTURAL-FUNCTIONAL CHARACTERIZATION OF RUS1 SUPPRESSORS IN ARABIDOPSIS**

By: Arthur Liu, HongYun Tong, Lisa Ly, and Dr. Zheng-Hui He

Microbiology

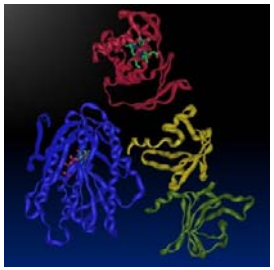
Faculty Advisor: Dr. Zheng-Hui He

Entry Number: 122 UL
**CAROTENOID SYNTHESIS PROTEINS IN *THERMOMICROBIUM* SP. HL1 AND ITS ROLE IN MEMBRANE STABILIZATION FOR THERMOPHILIC SPP.**
By: Yuji Gomikawa and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 123 UL Display Only
**BIASES IN AMINO ACID COMPOSITION AS A GENETIC FACTOR FOR SPECIES EVOLUTION IN THE DIVERSE *CHLOROFLEXI* PHYLUM**
By: Julian Bustamante and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 124 UL Display Only
**CRISPR ASSOCIATED DNA: BACTERIAL PATHOGENESIS & THE EVOLUTION OF *THERMOMICROBIUM* HL1**
By: Eduardo Lujan and Dr. José R. de la Torre
Cell & Molecular Biology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 125 UL Display Only
**THE DIVERGENCE OF *T. ROSEUM* AND THHL1 FROM PHOTOSYNTHETIC CHLOROFLEXI MAY BE DIRECTLY ATTRIBUTED TO ISOPRENOID BIOSYNTHESIS PATHWAY BIAS**
By: Arthur Liu and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre



Entry Number: 126 UL1
**IDENTIFYING THE ROLE OF WNT LIGANDS IN NEURAL TUBE CLOSURE**
By: Carl Grim, Christopher Pineda, Shea Feeney, Lisa Galli, and Dr. Laura Burrus
Cell & Molecular Biology
Faculty Advisor: Dr. Laura Burrus

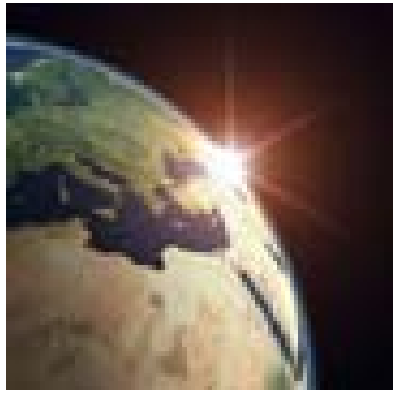
# #79 – 205 are from Undergraduate Students

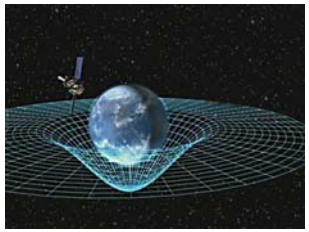
Entry Number: 79 UB
**EXTERNAL CONTROL OF THE STREAM OF CONSCIOUSNESS: STIMULUS-BASED EFFECTS ON INVOLUNTARY THOUGHT SEQUENCES**
By: Sabrina Bhangal, Christina Merrick, Melika Farnia, Tiffany Jantz, and Dr. Ezequiel Morsella
Mind, Brain & Behavior Psychology
Faculty Advisor: Dr. Ezequiel Morsella

Entry Number: 80 UB
**EVENT-RELATED POTENTIALS (ERP'S) REVEAL WHITE PARTICIPANTS REDUCE ATTENTION TOWARDS COUNTER-STEREOTYPIC OUT-GROUP MEMBERS**
By: Alfredo D. Bolanos, Sierra P. Niblett, Trevor Jackson, Jocelyn Miller, Dr. Avi Ben-Zeev, and Dr. Mark Geisler
Psychology
Faculty Advisors: Dr. Avi Ben-Zeev and Dr. Mark W. Geisler

Entry Number: 81 UB
**THE ASSOCIATION OF EMOTION REGULATION STYLE AND CONFLICT BEHAVIORS IN RELATIONSHIPS**
By: Alina Belohlavek and Donish Cushing
Psychology
Faculty Advisor: Dr. Sarah Holley

Entry Number: 82 UB
**RESPONSE INTERFERENCE DURING WORKING MEMORY-BASED ACTION CONTROL: A NEW INTERFERENCE PARADIGM FOR NEUROIMAGING**
By: Andrew C. Garcia, Dr. Mark W. Geisler, and Dr. Ezequiel Morsella
Psychology
Faculty Advisors: Dr. Mark W. Geisler and Dr. Ezequiel Morsella





Entry Number: 83 UB
**CREATIVITY AND WELL-BEING: HOW YOUR ENGAGEMENT IN CREATIVE ACTS CAN MAKE YOU HAPPIER**
By: Jacqueline Diggs and Jessica Lam
Psychology
Faculty Advisor: Dr. Ryan T. Howell

Entry Number: 84 UB
**THE EFFECTS OF TELEVISION VIOLENCE ON MEMORY**
By: James Sculthorp
Psychology
Faculty Advisor: Dr. Margaret F. Lynch

Entry Number: 85 UB Display Only
**CHARACTERISTICS FOSTERING EFFECTIVE TEAMWORK IN ASYNCHRONOUS SPACE FLIGHTS**
By: Kathy Gonzalez and Dr. Kathleen Mosier
Psychology
Faculty Advisor: Dr. Kathleen Mosier

Entry Number: 86 UB
**MEASURING GENDER BIAS THROUGH HELPING BEHAVIOR**
By: Le Nguyen, Carly Clapham, and Mason Marruffo
Psychology
Faculty Advisor: Dr. Margaret F. Lynch

Entry Number: 87 UB Display Only
**THE DAILY BEHAVIORS AND WELL-BEING OF GRATEFUL INDIVIDUALS**
By: Eric Nestingen
Psychology
Faculty Advisor: Dr. Ryan T. Howell

Entry Number: 88 UB Display Only
**TO SMELL OR NOT TO SMELL**
By: Jeanna Marie Ross and Marc Nunez
Psychology
Faculty Advisor: Dr. Margaret F. Lynch
Abstract: Body odor and psychological and interpersonal relationships.

Entry Number: 89 UB
**JESUS IN THE CLOUDS: CONTEXT AND PRIMING EFFECTS ON THE PERCEPTION OF AMBIGUOUS STIMULI**
By: Lyndsey Wallace
Psychology
Faculty Advisor: Dr. Margaret F. Lynch

Entry Number: 116 UL
**A STUDY OF DISSIMILATORY NITROGEN METABOLISM IN *THERMOMICROBIUM* HL1**
By: Saramarie Hage and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 117 UL
***THERMOMICROBIUM* SP. HL1, A POSSIBLE CARBON MONOXIDE CHEMOTROPH**
By: Stanley Lin and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 118 UL
**EVOLUTION OF 1,2-DIOLS IN *THERMICROBIUM R*OSEUM AND *THERMOMICROBIUM* HL AND HOW IT SUPPORTS THE SURVIVAL AT HIGH TEMPERATURE**
By: Ting Shen and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 119 UL
**CARBON MONOXIDE METABOLISM IN *THERMOMICROBIUM* SP. HL1**
By: Travis Doty and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 120 UL
**CARBON FIXATION IN *THERMOMICROBIUM* HL1**
By: Victor Luu and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 121 UL
**CONSERVATION OF PYRUVATE DEHYDROGENASE COMPLEX IN CHLOROFLEXI PHYLUM**
By: Xuan Trang Luu and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 110 UL

**PHYLOGENETIC ANALYSIS OF FLAGELLAR ASSEMBLY PROTEINS IN *THERMOMICROBIUM* SP. HL1**

By: Jorreca Mangonon and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 111 UL

**RECONSTRUCTION OF THE DIVISOME COMPLEX IN *THERMOMICROBIUM* SPEC. HL1 WITH COMPARATIVE GENOMIC STUDIES OF THL1, ITS CLOSEST RELATIVES AND E.COLI**

By: Julia Philipp and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 112 UL

**DOES *THERMOMICROBIUM* SP. HL1 PERFORM CARBON FIXATION?**

By: Mary Jean Padilla and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 113 UL

**AN ATYPICAL OUTER MEMBRANE IN *THERMOMICROBIUM* HL-1 INHIBITS FORMATION OF FLAGELLA**

By: Rachel Bhaskar and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 114 UL

**GENOMIC ANALYSIS OF POSSIBLE AEROBIC CARBON MONOXIDE METABOLISM IN *THERMOMICROBIUM* HL1 SPP.**

By: Rolan Ginete and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 115 UL

**HOW DOES *THERMOMICROBIUM* SP. HL1 MOVE?**

By: Ryan Wicorek and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 90 UB

**THE UNHAPPY HEDONIST: EXPLORING THE TENDENCY TO SACRIFICE FOR PLEASURE**

By: Masha Ksendzova, Ravi Iyer, Graham Hill, and Dr. Ryan Howell
Psychology
Faculty Advisor: Dr. Ryan T. Howell

Entry Number: 91 UB

**HOW MATERIALISTIC IS YOUR SUBCONSCIOUS? INVESTIGATING AN IMPLICIT MEASURE OF MATERIALISTIC DESIRES**

By: Patrick Kerwin, Masha Ksendzova, and Dr. Ryan Howell
Psychology
Faculty Advisor: Dr. Ryan T. Howell

Entry Number: 92 UB

**GENDER DIFFERENCES IN MULTITASKING**

By: Rachel Gonzalez, Daniel Feeney, and Gabrielle Lectora
Psychology
Faculty Advisor: Dr. Margaret F. Lynch

Entry Number: 93 UB

**AUTHORITY PERCEPTION AND GENDER**

By: Rachel Hurd and Isela Garcia
Psychology
Faculty Advisor: Dr. Margaret F. Lynch

Entry Number: 94 UB

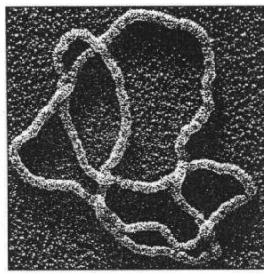
**WHO IS MORE OBLIVIOUS TO THE EMBARRASSING FAUX PAS OF OTHERS?**

By: Regina Anders and Haley Rose
Psychology
Faculty Advisor: Dr. Margaret F. Lynch

Entry Number: 96 UB

**HOW HAPPY IS YOUR SUBCONSCIOUSNESS? DEVELOPING AN IMPLICIT MEASURE OF HAPPINESS**

By: Samuel Stark, Masha Ksendzova, and Dr. Ryan Howell
Psychology
Faculty Advisor: Dr. Ryan T. Howell



Entry Number: 97 UB

**DENTAL ANXIETY, DENTAL AVOIDANCE AND DENTAL DRILLS**

By: Victoria Paoloni
Psychology
Faculty Advisor: Dr. Margaret F. Lynch

Entry Number: 98 UB
**ATTITUDES TOWARDS E-CIGARETTES VERSUS NICOTINE PATCHES AS TOOLS FOR SMOKING CESSATION**
By: Vincent Miller and Joseph Moglia
Psychology
Faculty Advisor: Dr. Margaret F. Lynch

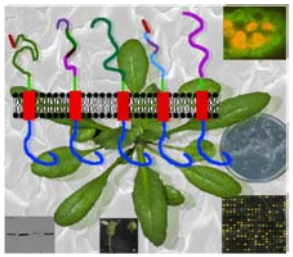
Entry Number: 99 UL
**METABOLIC PATHWAYS OF NOVEL PROKARYOTE *THERMOMICROBIUM* HL1**
By: Gerid Ollison and Dr. José R. de la Torre
Cell & Molecular Biology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 100 UL
**IN WINE THERE IS WISDOM, IN BEER THERE IS FREEDOM, IN WATER THERE IS *THERMOMICROBIUM* HL1: A STUDY OF CO AND H2 UTILIZATION**
By: Amanda Gomez and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 101 UL
**"LONG LOST TWINS: A SEARCH FOR GENE DUPLICATION IN *THERMOMICROBIUM* HL1 AND RELATIVE SPECIES"**
By: Andy Madrid
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 102 UL
**COMPARATIVE GENOMIC ANALYSIS OF SEPTATION PROCESS IN *THERMOMICROBIUM* HL1**
By: Anita Setiawan and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 103 UL
**_THERMOMICROBIUM_ SP. HL1 SYNTHESIZES COENZYME A THROUGH AN ALTERNATIVE PATHWAY: COMBINING L-VALINE AND SPERMIDINE METABOLISM**
By: Austin Spencer Lee and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre



Entry Number: 104 UL
**POSSIBLE CARBON FIXATION IN *THERMOMICROBIUM* SP. HL1**
By: Christine Quach and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 105 UL
**THE SEARCH FOR CARBON MONOXIDE OXIDATION IN *THERMOMICROBIUM* SP. HL1**
By: Connie Jang and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 106 UL
**YOU ARE WHAT YOU EAT: FORMATE METABOLISM IN *THERMOMICROBIA***
By: Curtis Halpin and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 107 UL
**COMPARATIVE GENOMIC ANALYSIS OF FLAGELLAR PROTEINS IN *THERMOMICROBIUM* AND *SPHAEROBACTER THERMOPHILES***
By: Ellen Lin and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 108 UL
**FLAGELLAR PROTEINS IN NONMOTILE *THERMOMICROBIUM* HL1**
By: Eric Lee
Microbiology
Faculty Advisor: Dr. José R. de la Torre

Entry Number: 109 UL
**THE RELATIONSHIP OF BETA-LACTAMASE**
By: Jia Qi Fang and Dr. José R. de la Torre
Microbiology
Faculty Advisor: Dr. José R. de la Torre