



The College of Science & Engineering

**16th annual**

**STUDENT PROJECT  
SHOWCASE  
& ALUMNI RECEPTION**

**LIST OF WINNERS**



**Friday, May 9, 2014  
San Francisco State University**

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

**Kenson Ventures  
Robert W. Maxwell**



**9 FIRST PLACES – \$400 EACH**

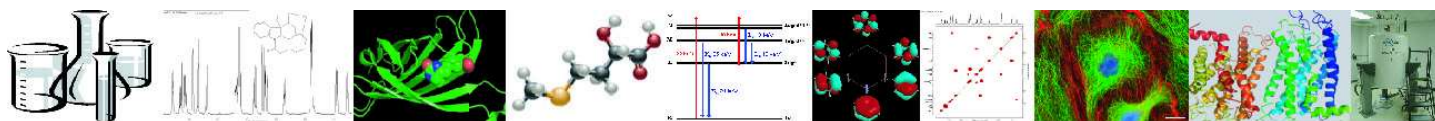
**9 SECOND PLACES – \$300 EACH**

**9 THIRD PLACES – \$200 EACH**

**9 FOURTH PLACES – \$125 EACH**

**14 HONORABLE MENTIONS – \$75 EACH**

**50 PRIZES TOTAL = \$10,275.00**



# Graduate Behavioral Science Division

## FIRST PLACE

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

## SECOND PLACE

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

## THIRD PLACE

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

## FOURTH PLACE

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



# **Graduate Biological Science Division**

## **FIRST PLACE**

### ***(KENSON VENTURES EXCELLENCE AWARDS)***

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

## **SECOND PLACE**

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

## **THIRD PLACE**

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

## **FOURTH PLACE**

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

## HONORABLE MENTIONS

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: 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: 37 GL

### **OPISTHOBRANCH POPULATIONS INSIDE AND OUTSIDE CALIFORNIA'S MARINE PROTECTED AREAS**

By: Victoria Kentner

Ecology & Systematic Biology

Faculty Advisor: Dr. Terry Gosliner



# Graduate Physical Science Division

## FIRST PLACE

Entry Number: 73 GP

### STATISTICAL ANALYSIS OF GLYCOPROTEIN DATA IN BREAST CANCER CELLS

By: Spencer Bowen  
Mathematics

Faculty Advisor: Dr. Alexandra Piryatinska and  
Dr. Leslie Timpe (Chemistry & Biochemistry)

## SECOND PLACE

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

## THIRD PLACE

Entry Number: 77 GP

### MEASURING DARK MATTER IN GALAXY CLUSTERS WITH WEAK GRAVITATIONAL LENSING

By: Angela Berti  
Astrophysics

Faculty Advisor: Dr. Andisheh Mahdavi

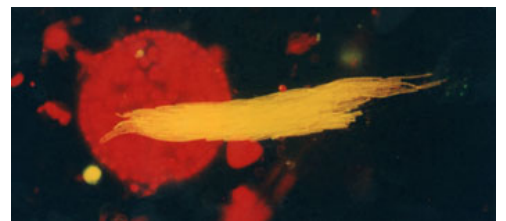
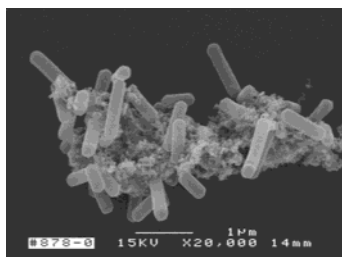
## FOURTH PLACE

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



# HONORABLE MENTIONS

Entry Number: 46 GP

**HYDROTHERMAL SYNTHESIS OF TITANIUM DIOXIDE  
THIN FILMS EXHIBITING PREFERRED  $\langle 001 \rangle$  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: 60 GP

**EMBEDDED WIRELESS SENSOR NETWORK FOR  
ENVIRONMENT MONITORING**

By: Vinay B. Raghavan  
Embedded Electrical & Computer Systems

Faculty Advisor: Dr. Hamid Shahnasser

Entry Number: 69 GP

**TRIANGULATIONS OF GALE DUALS OF ROOT POLYTOPES**

By: Hannah Winkler  
Mathematics

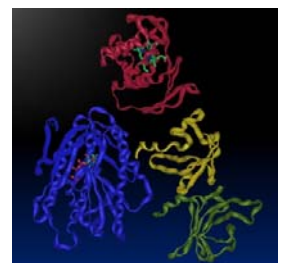
Faculty Advisors: Dr. Federico Ardila and Dr. Matthias Beck

Entry Number: 75 GP

**CALIBRATION AND FIRST IMAGES FROM  
THE REFURBISHED LEUSCHNER 30-INCH TELESCOPE**

By: Adam Fries, Eileen Gonzales, Dr. Adrienne Cool, Nabeel Naqvi, and Dana Zhu  
Astronomy

Faculty Advisor: Dr. Adrienne Cool



# **Undergraduate Behavioral Science Division**

## **FIRST PLACE**

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

## **SECOND PLACE**

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

## **THIRD PLACE**

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

## **FOURTH PLACE**

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





# Undergraduate Biological Science Division

## GROUP 1

### FIRST PLACE

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

### SECOND PLACE

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

### THIRD PLACE

Entry Number: 108 UL

**FLAGELLAR PROTEINS IN NONMOTILE *THERMOMICROBIUM* HL1**

By: Eric Lee  
Microbiology

Faculty Advisor: Dr. José R. de la Torre

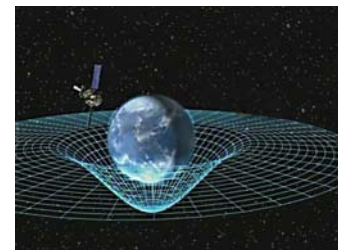
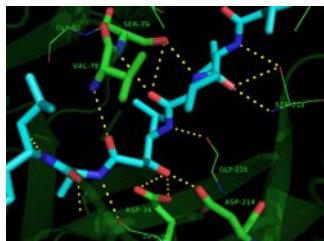
### FOURTH PLACE

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



# HONORABLE MENTIONS

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

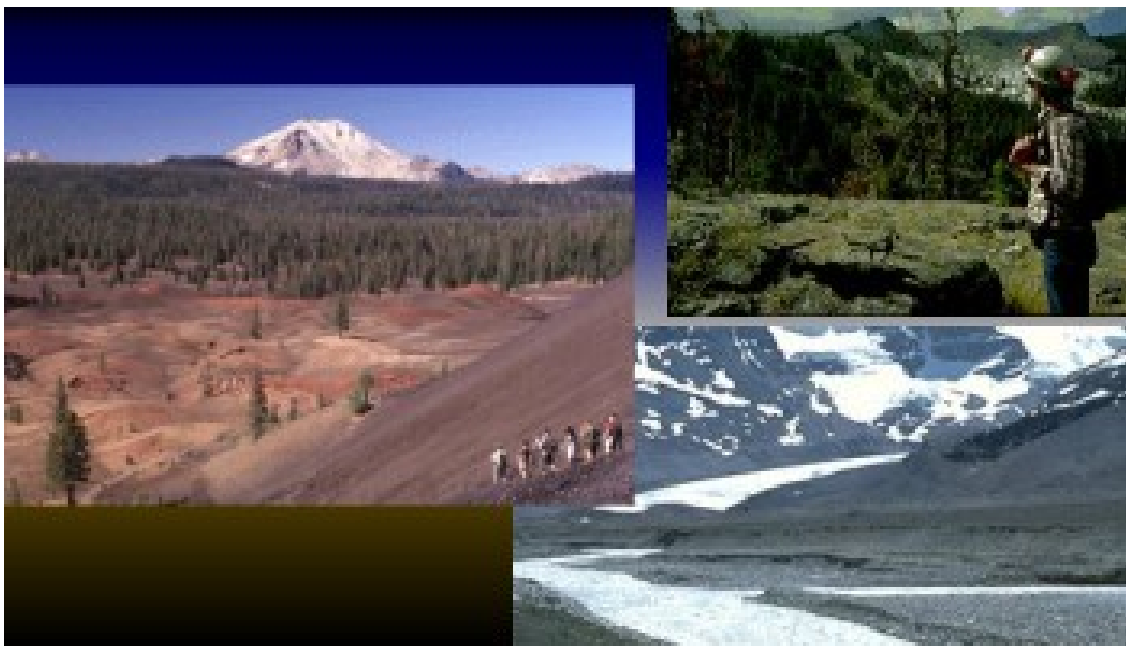
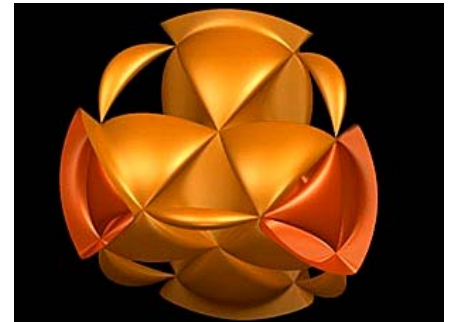
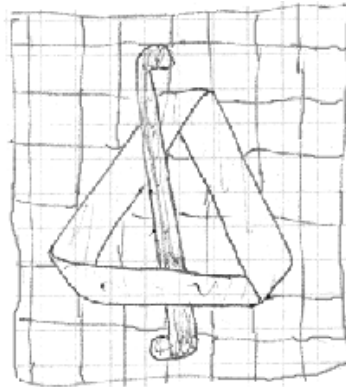
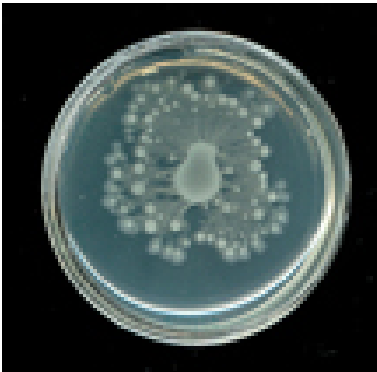
Entry Number: 115 UL

## **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



## GROUP 2

### FIRST PLACE

***(KENSON VENTURES FONG EXCELLENCE AWARD)***

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

### SECOND PLACE

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

### THIRD PLACE

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

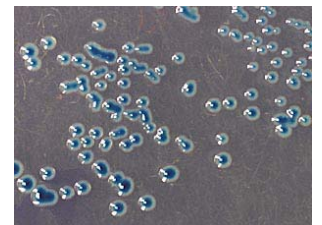
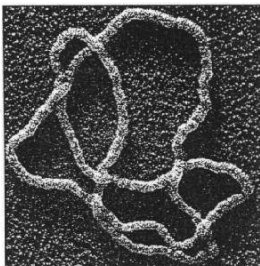
Faculty Advisors: Dr. Claudia Toledo-Corral (USC) and Dr. Frank Bayliss

### FOURTH PLACE

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



# HONORABLE MENTIONS

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

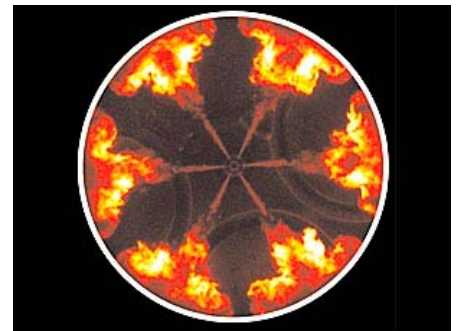
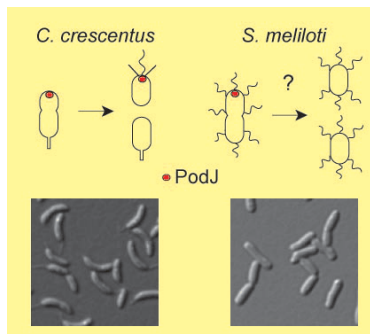
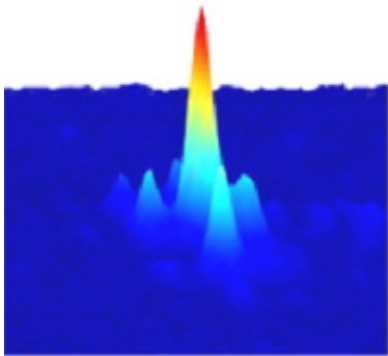
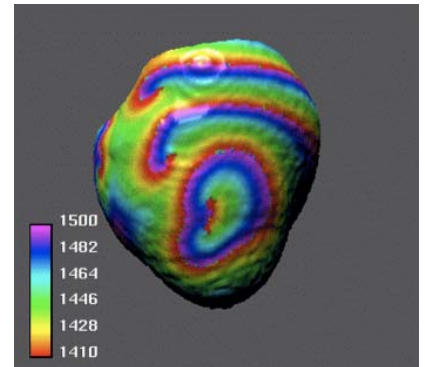
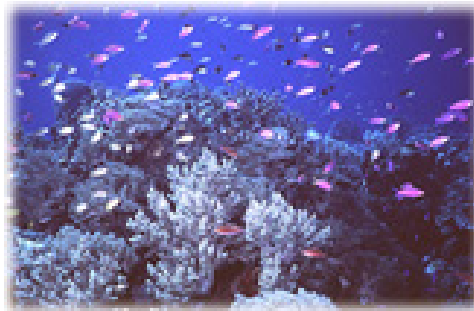
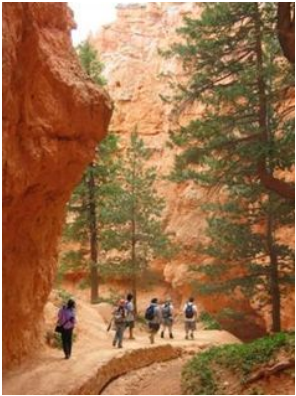
Entry Number: 131 UL1

## 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





## **GROUP 3**



### **FIRST PLACE**

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

### **SECOND PLACE**

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

### **THIRD PLACE**

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.

### **FOURTH PLACE**

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

### **HONORABLE MENTION**

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

# **Undergraduate Physical Science Division**

## **GROUP 1**

### **FIRST PLACE**

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

### **SECOND PLACE**

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

### **THIRD PLACE**

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



## **FOURTH PLACE**

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

## **HONORABLE MENTION**

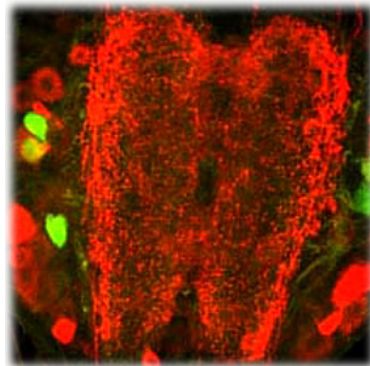
Entry Number: 184 UP1

### **CONCUSSION ANALYZING HELMET**

By: Brandon Boggs, Jose Gudino, Kristopher Ling, and Dr. Thomas Holton

Electrical and Computer Engineering

Faculty Advisor: Dr. Thomas Holton



## **GROUP 2**

### **FIRST PLACE**

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

### **SECOND PLACE**

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. Timothy D'Orazio

### **THIRD PLACE**

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

### **FOURTH PLACE**

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

