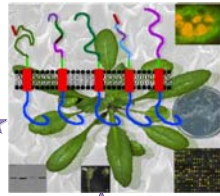
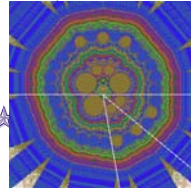




Thank you for your generous financial support toward the 2015 Student Project Showcase!



Kenson Ventures
Robert W. Maxwell



College of Science & Engineering

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Phone: (415) 338-1571; E-mail: science@sfsu.edu
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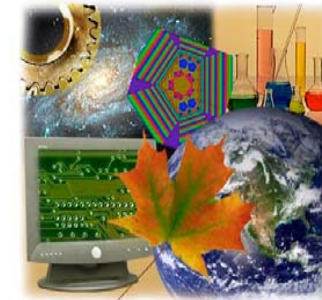


The College of Science & Engineering

proudly presents its

17th annual

STUDENT PROJECT SHOWCASE & ALUMNI RECEPTION



Friday, May 8, 2015

3:00 pm — 7:30 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 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 to our faculty.

In the last ten years, our remarkable faculty have received twelve highly competitive Major Research Instrumentation grants from the National Science Foundation, totaling \$5,212,055. These grants and other resources have enabled us to create state-of-the-art facilities and research centers that offer valuable research experiences to our students. For example, we have a DNA analysis facility, an electron microscope facility, telescopes for research and teaching, a mass spectrometry facility, a molecular biology core facility, and a nuclear magnetic resonance center.



A Setting That's Ideal

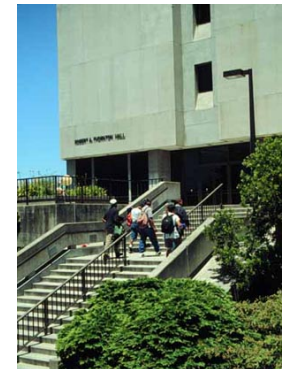
Few places in this country can match the San Francisco Bay Area for the depth and caliber of scientific and technological research.

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!

Alan Shimoide
Ali Shehadeh
Andrew Oliphant
Anna Ureta
Arek Goetz
Barry Shiller
Blake Riggs
Bruce Manning
Candace Low
Charlotte Tate
Cheng Chen
Chun-Kit Lai
Daniel Bravo
Dennis Bua
Dennis Moritz
Gloria Nusse
Hamid Mahmoodi
Hao Jiang
Hugh Hui
Jeff Greensite
Jenna Wong
Jose de la Torre
Joseph Hui

Kevin Eschleman
Kevin Simonin
Linda Chen
Ljubomir Buturovic
Marc Anderson
Marc Coats
Melissa Hagan
Pratap Subrahmanyam
Rachel Cunningham
Ronald Morales
Ryan Howell
Sally Pasion
Sarah Holley
Scott Roy
Sherif Eldash
Teaster Baird
Terry Reyes
Tom Holton
Xiaorong Zhang
Zachary Lauffenburger
Zena Mello
Zhaoshuo Jiang
Zheng-Hui He



PROGRAM

3:00 pm
Student Project Showcase Begins

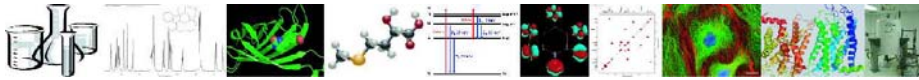
6:00 pm
Reception

6:30 pm
Welcome from Dean Sheldon Axler

6:35 pm
Expository Presentation
Mathematical Tricks
By Dean Sheldon Axler

7:00 pm
Announcement of Showcase Winners





Projects #1 – 92 are from Graduate Students

1 GB DISPLAY ONLY
**EXTRAVERTS SAVOR AND NEUROTICS DAMPEN:
 EXPLORING THE RELATIONSHIPS BETWEEN POSITIVE EMOTION
 REGULATION, PERSONALITY, AND WELL-BEING**

By: Ella Tarnate
 Mind, Brain and Behavior
 Faculty Advisor: Dr. Ryan Howell

2 GB
**THAT'S HOW I KNOW HE LOVES ME: MEASUREMENT CONSISTENCY AND
 VALIDITY OF THE BEHAVIORAL EVIDENCE OF MATTERING SCALE**

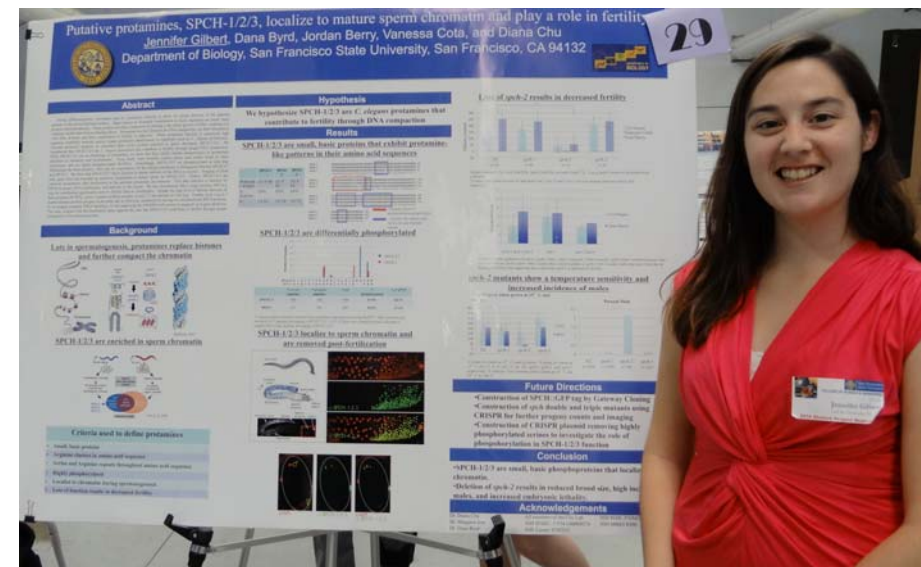
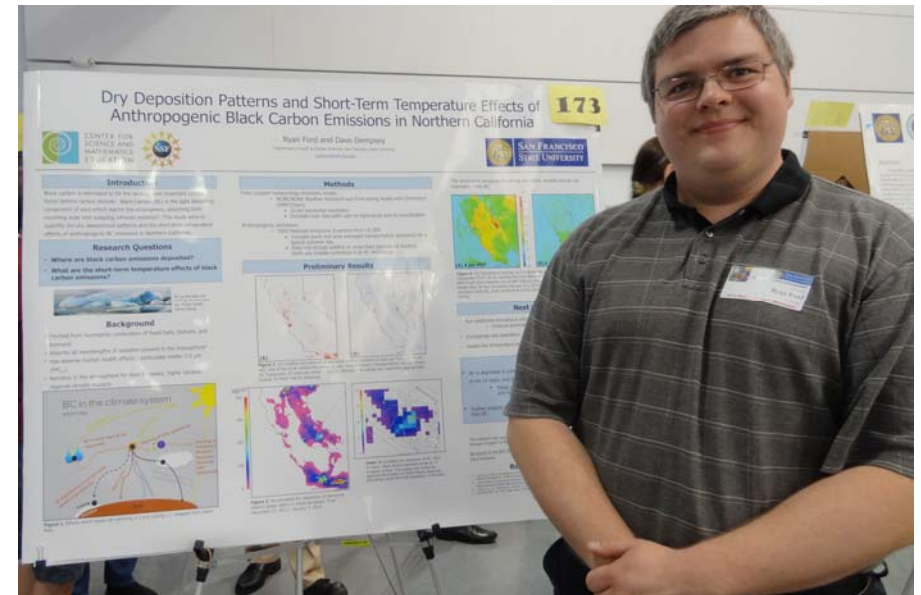
By: Allie Morford
 Developmental Psychology
 Faculty Advisor: Dr. Jeff Cookston

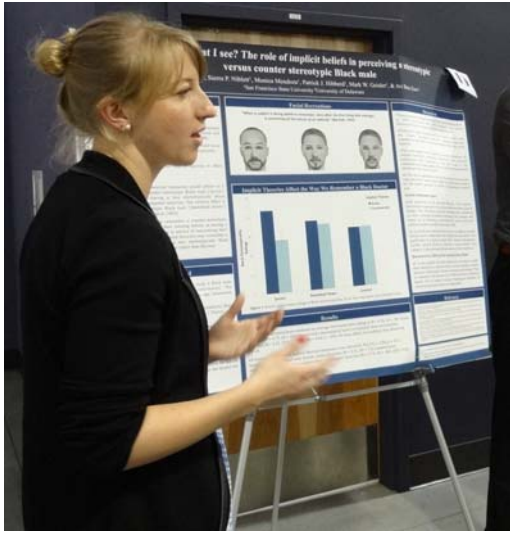
3 GB
TIME PERSPECTIVE AS A PREDICTOR OF ADOLESCENT SUBSTANCE USE

By: Alyssa L. Youngquist and Alexa L Davidson
 Developmental Psychology
 Faculty Advisor: Dr. Zena R. Mello

4 GB
**RESTING STATE EEG IN INDIVIDUALS WITH LOW AND HIGH GENERALIZED
 ANXIETY DISORDER SYMPTOMS**

By: Amanda Ng, Kerry Huynh, and Anar Salayev
 Mind, Brain and Behavior
 Faculty Advisor: Dr. Mark W. Geisler





5 GB
**MALE FACIAL STIMULI EVOKE GREATER
 N170 AMPLITUDES
 IN DIFFERENT CORTICAL REGIONS FOR
 EITHER FEMALE OR MALE PARTICIPANTS**

By: Callan Lujan and Kristina Pfeifer
 Psychology
 Faculty Advisors: Dr. Mark W. Geisler
 and Dr. Avi Ben-Zeev



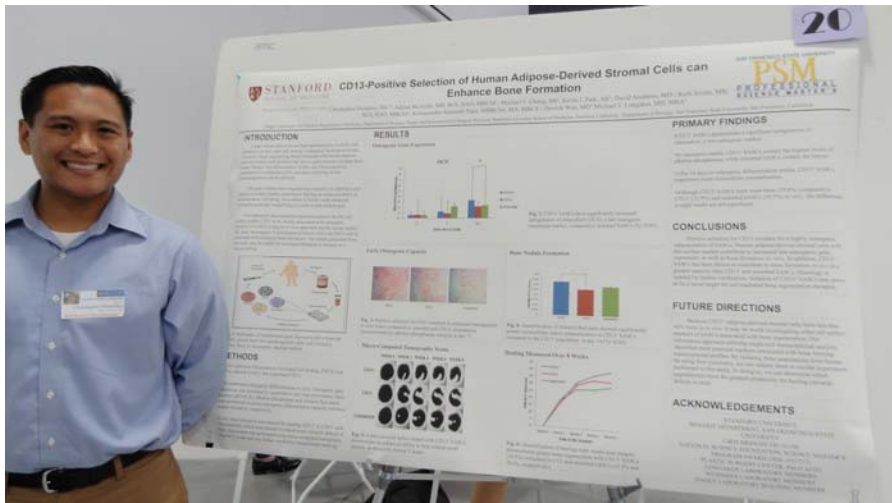
6 GB
**PARENT ATTITUDES REGARDING VACCINATION AND
 PLANS FOR FUTURE VACCINATIONS**

By: Chase Boyer and Dr. Jeff Cookston
 Developmental Psychology
 Faculty Advisor: Dr. Jeff Cookston



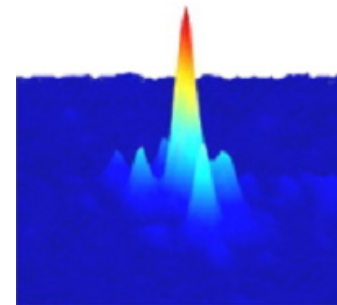
10 GB
**ONE-WAY VIDEO INTERVIEWS: EVALUATING
 CANDIDATE PERFORMANCE AND REACTIONS**

By: Felicia Poh
 Industrial & Organizational Psychology
 Faculty Advisor: Dr. Chris W. Wright



11 GB
**COGNITIVE- VERSUS EMOTION-BASED INVOLUNTARY COGNITIONS:
 AN INFORMATIVE CONTRAST FOR THE REFLEXIVE IMAGERY TASK**

By: Hyein Cho and Anthony Velasquez
 Psychology
 Faculty Advisor: Dr. Ezequiel Morsella



12 GB
**THE EFFECTS OF FACIAL FAMILIARITY ON
 EMOTION RECOGNITION ACCURACY**

By: Jeff Spitzer Jr.
 Social Psychology
 Faculty Advisor: Dr. David Matsumoto



13 GB
**EXECUTIVE FUNCTION IN CHINESE
 PRESCHOOLERS: MATHEMATIC AND
 VOCABULARY OUTCOMES**

By: Jessica Dow and Riley Chu
 Psychology
 Faculty Advisor: Dr. Jae H. Paik

14 GB
**THE EFFECTS OF MINDFULNESS ON
 RECOVERY EXPERIENCES AND JOB RECOVERY**

By: Jessica Lam and Michael Matthieu
 Industrial & Organizational Psychology
 Faculty Advisor: Dr. Kevin J. Eschleman

15 GB
**GENDER & RECOVERY EXPERIENCES:
 IS THERE A DIFFERENCE IN COPING STRATEGIES?**

By: Jocelyn E. Lancaster and Jessica A. Lam
 Industrial & Organizational Psychology
 Faculty Advisor: Dr. Kevin J. Eschleman

16 GB
**WHO ARE YOU? CATEGORIZATION AND
 SOCIAL REPERCUSSIONS AFTER RACIAL COSMETIC SURGERY**

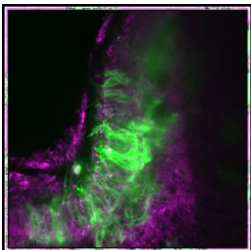
By: Jordan Seliger
 Psychology
 Faculty Advisor: Dr. Avi Ben-Zeev

17 GB
**FOOD, STRESS, AND ACADEMIC MOTIVATION IN
 COLLEGE**

By: Kayla Bowen
 Developmental Psychology
 Faculty Advisor: Dr. Jeff Cookston

18 GB
**EMOTION AND THE EFFECT OF UNCERTAINTY:
 AN INITIAL STUDY IN THE ULTIMATUM GAME PARADIGM**

By: Kodai Kusano
 Social Psychology
 Faculty Advisor: Dr. David Matsumoto



196 UP2
ASSISITIVE SEAT

By: Adolfo Hernandez, Dejene Yimer, Brian Halim, and Weiye Xu
 Mechanical Engineering
 Faculty Advisor: Dr. Thomas Holton

197 UP2
3D PRINTED PROSTHETIC HAND

By: Daniel Pacifico, Chris Lambert, Ryan Hendrickson, and Dzung Nguyen
 Mechanical Engineering
 Faculty Advisor: Dr. Thomas Holton

198 UP2
LINEAR TO ROTATIONAL MOTION FOR A RECIPROCATING ENGINE

By: Daniel Savage, Vincent Fung, Ram Sunwar,
 Abdirazak Jama, and Jamal Alnagem
 Mechanical Engineering
 Faculty Advisor: Dr. Thomas Holton

199 UP2
ADJUSTABLE BIKE SEAT

By: Joshua Kean, Mina Shehata, Yugesh Shakya, and Darron Hein
 Mechanical Engineering
 Faculty Advisor: Dr. Thomas Holton

200 UP2
DISHWASHER IMPROVEMENT PROTOTYPE

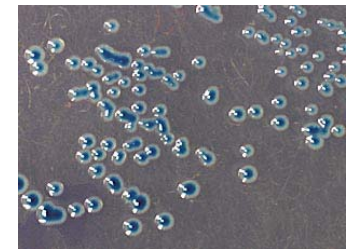
By: Michael Magee, Brett Hendrickson, Erika Reyes, and Ricardo Liceo
 Mechanical Engineering
 Faculty Advisor: Dr. Thomas Holton

201 UP2
LONGBOARD BRAKE SYSTEM

By: Nicholas Breyfogle, Tony Jinook Joo, Jordan Wells, and Mario Lazaro
 Mechanical Engineering
 Faculty Advisor: Dr. Thomas Holton

202 UP2 DISPLAY ONLY
INDUCTIVELY HEATED VACUUM FLASK

By: Deryl Marvive and Kevin Kor
 Mechanical Engineering
 Faculty Advisor: Dr. Thomas Holton





191 UP2
SEISMIC DESIGN

By: Arielle Abdon, Arzhang Derakhshani,
Michael Honeycutt, Yamileth Jimenez, Zihui Ma,
Lyla Marsh, Christopher Sanchez,
Aimée Sylvia, and Fiorella Vasquez
Civil Engineering

Faculty Advisors: Dr. Cheng Chen and Dr. Timothy D'Orazio

192 UP2
**DEVELOPMENT OF REMOTE SHAKE TABLE LABORATORY FOR
ENGINEERING EDUCATION**

By: Lyla Marsh and Alec Maxwell
Civil Engineering
Faculty Advisor: Dr. Zhaoshuo Jiang

193 UP2
**USING SMART WEARABLE DEVICES FOR SEISMIC MEASUREMENTS
AND POST-EARTHQUAKE RESCUE**

By: Jackie Lok, Premdeep Amudala, Vishnu Deep Samikeri,
and Benjamin Lopez
Civil Engineering

Faculty Advisors: Dr. Zhaoshuo Jiang and Dr. Xiaorong Zhang

194 UP2
**SYMBIOTIC STRUCTURAL CONTROL AND
HEALTH MONITORING SYSTEM USING MAGNETO-RHEOLOGICAL
DAMPER FOR SEISMIC MITIGATION**

By: Michael Calder and Omar Plata
Mechanical Engineering
Faculty Advisor: Dr. Zhaoshuo Jiang

195 UP2
O.M.I.S.R.O DEVICE
By: Adam Millman, Jason Mehrens,
Grace Samish, and Jared Vella
Mechanical Engineering
Faculty Advisor: Dr. Thomas Holton



19 GB
**AUTONOMY, RISK PERCEPTION,
AND RISK TAKING IN EMERGING ADULTHOOD**

By: Lanie Anton
Developmental Psychology
Faculty Advisor: Dr. Jeff Cookston



20 GB
**RACIAL ATTITUDES ARE CLASSIST TOO: THE INTERDEPENDENCE OF
RACIAL AND CLASS ATTITUDES IN BLAME JUDGMENTS**

By: Lea Folsom
Social Psychology
Faculty Advisor: Dr. Charlotte Tate

21 GB
**COGNITIVE ABILITIES AND EMOTION KNOWLEDGE AMONG
CHINESE PRESCHOOL CHILDREN**

By: Riley Chu and Jessica Dow
Developmental Psychology
Faculty Advisor: Dr. Jae H. Paik

22 GB
**HABITUATION EFFECTS ON INVOLUNTARY COGNITIONS:
EVIDENCE FROM THE REFLEXIVE IMAGERY TASK**

By: Sabrina Bhangal
Psychology
Faculty Advisor: Dr. Ezequiel Morsella

23 GB
**EXPRESSION OF POSITIVE EMOTIONS MEDIATES THE LINK BETWEEN
EMOTION DYSREGULATION AND LONELINESS**

By: Seyed Pooya Razavi Ghahfarokhi
Social Psychology
Faculty Advisor: Dr. Seung Hee Yoo

24 GB
**YOUR BRAIN ON STEREOTYPES: SOCIAL CONTEXT BIASES
EARLY CORTICAL ATTENTION**

By: Sierra P. Niblett, Jordan M. Seliger, Adam Fogarty,
Rain S. Lee, and Larysa B. Rutkowska
Mind, Brain and Behavior
Faculty Advisors: Dr. Mark W. Geisler and Dr. Avi Ben-Zeev

25 GB
**MEASURING SF STATE'S CORE VALUES:
DEVELOPMENT AND VALIDATION OF A VALUE
STRENGTH ASSESSMENT**

By: Stephanie Aborida, Rylan Charlton,
Zachary DeRossette, Caitlin Eddy, Julia Hind-Smith,
Jessica Lam, Jocelyn Lancaster, Kristopher Romero,
Alyssa Vu, and Danielle Wittorp
Industrial & Organizational Psychology
Faculty Advisor: Dr. Kevin J. Eschleman



26 GB
**THE EFFECTS OF SELF-SELECTED, EMOTIONALLY-VALENCE MUSIC
ON EEG AND PAIN MODULATION**

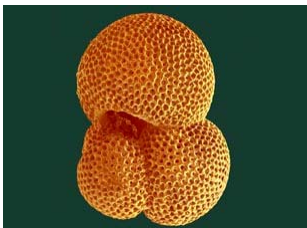
By: Trevor Jackson, Christine Jimenez, and Gavin Dowd
Psychology
Faculty Advisor: Dr. Mark W. Geisler

27 GB
**POSITIVE SELF-TALK DURING CONVERSATIONS:
A BUFFER AGAINST NEGATIVE EMOTIONS**

By: Zaviera Bonita Reyes
Social Psychology
Faculty Advisor: Dr. Seung Hee Yoo

28 GL
**INVESTIGATING HOW SCIENCE STUDENTS AND
FACULTY ORGANIZE THEIR SCIENCE KNOWLEDGE**

By: John Rodriguez
Cellular & Molecular Biology
Faculty Advisor: Dr. Kimberly Tanner



29 GL
**GENETIC INTERACTION BETWEEN
AMINOTRANSFERASES AND QOS1**

By: Jo-Ting Chang
Cellular & Molecular Biology
Faculty Advisor: Dr. Zheng-Hui He

185 UP2
SOIL AND END-BEARING CAPACITY ANALYSIS
By: Kevin Clarke, Dayanne Mirra, and Lusvin Araujo
Civil Engineering
Faculty Advisor: Dr. Timothy D'Orazio

186 UP2
NATIONAL TIMBER BRIDGE DESIGN COMPETITION 2014-2015
By: Marc Salgado, Karan Dhingra, Clayton Collins, Sylvia Romero,
Sam McGuire, John Heflin, and Hasan Wei
Civil Engineering
Faculty Advisors: Dr. Timothy D'Orazio and Dr. Cheng Chen

187 UP2
**SOIL TEXTURE ANALYSIS FOR
THE NEXT GENERATION ECOSYSTEM EXPERIMENT (NGEE)**
By: Robin D. López
Civil Engineering
Faculty Advisors: Dr. Kwok-Siong Teh and
Dr. Tim Kneafsey (Lawrence Berkeley National Laboratory)

188 UP2
20th AVENUE BICYCLE CORRIDOR PROJECT
By: Sam Dosick and Andrew Gin
Civil Engineering
Faculty Advisor: Dr. Muhammed G. Tarakji

189 UP2
**ANALYSIS OF THE CR ALGORITHM FOR
THE RELIABILITY ASSEMENT OF REAL TIME HYBRID SIMUATION**
By: Maryam I. Khan
Civil Engineering
Faculty Advisor: Dr. Cheng Chen

190 UP2
GREY WATER REFUSAL
By: Mildreeth E. Hernandez, Bruno Vieira,
Shayon Imani, and Branum Spliethof
Civil Engineering
Faculty Advisors: Dr. Cheng Chen and
Dr. Elahe Enssani





179 UP1
BEER MACHINE
 By: Travis Smith, Frank Fotos,
 Cole Harrigan, and Jacob Montoya
 Electrical Engineering
 Faculty Advisor: Dr. Thomas Holton

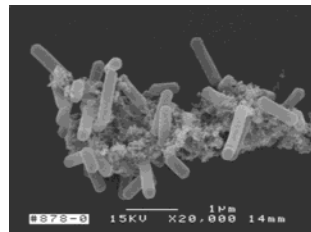
180 UP1
AUTONOMOUS RUBIK'S CUBE SOLVING ROBOT
 By: Victor Tam and Saden Manandhar
 Electrical Engineering
 Faculty Advisor: Dr. Thomas Holton

181 UP2
TRUSS TIMBER BRIDGE TEAM
 By: Andrea Santilena, Kelera Wainiqolo, Yousef Aboqammaz, Andrew Koe,
 Josimar Lawson, Chris Behroozian, Abdul Alhashim, and Jun Liang
 Civil Engineering
 Faculty Advisor: Dr. Cheng Chen

182 UP2
**SEISMIC RELIABILITY OF CODE DESIGNED
 STEEL PLATE SHEAR WALL STRUCTURES**
 By: Benjamin Kean and Shihang Guo
 Civil Engineering
 Faculty Advisor: Dr. Cheng Chen

183 UP2
2015 SFSU ASCE STEEL BRIDGE
 By: David Mohammed, John Maxwell DeAndreis, Hussein Radhi,
 Meejala Maharjan, Aaron Gomez, Ivan A. Reyes, and Efrain P. Ramirez
 Civil Engineering
 Faculty Advisors: Dr. Timothy D'Orazio and Dr. Cheng Chen

184 UP2
TIMBERWOLVES TIMBER BRIDGE TEAM
 By: Derek Akiyama, Christopher Rodriguez, Nino Diano,
 James Tran, Joshua Ybanez, Arca Paulo Magbuhat,
 Wolde Hereno, and Hein Latt
 Civil Engineering
 Faculty Advisor: Dr. Timothy D'Orazio



30 GL
**GENETIC AND FUNCTIONAL ROLE OF QUELL OF
 SUPPRESSOR1(QOS1) IN RUS1-MEDIATED EARLY SEEDLING
 DEVELOPMENT IN *ARABIDOPSIS THALIANA***
 By: Xiao Chang
 Cellular & Molecular Biology
 Faculty Advisor: Dr. Zheng-Hui He

31 GL
**EVOLUTIONARY ORIGINS OF U12 INTRONS AND miRNA IDENTIFICATION
 THROUGH CONSERVATION**
 By: Cameron N. Everson
 Cellular & Molecular Biology
 Faculty Advisor: Dr. Scott Roy

32 GL
NOVEL ANTI-APOPTOTIC TREATMENT AFTER HEART ATTACK
 By: Dulguun Bayardorj, Jianqin Ye, Eric Fuh,
 Richard E Sievers, and Yerem Yeghiazarians
 Cellular & Molecular Biology
 Faculty Advisors: Yerem Yeghiazarians, Dr. Carmen Domingo, and Dr. Diana Chu

33 GL
**THE EFFECT OF HUMAN COMPLEMENT FACTOR H (FH) ON NEISSERIAL
 SURFACE PROTEIN A (NSPA) VACCINE IMMUNOGENICITY**
 By: Eduardo Lujan
 Cellular & Molecular Biology
 Faculty Advisor: Dr. Steve Weinstein

34 GL
**SIGNAL TRANSDUCTION DURING NOCICEPTION IN
 THE HORNWORM, *MANDUCA SEXTA***
 By: Fred E. Arreola and Tyler Deniston
 Cellular & Molecular Biology
 Faculty Advisor: Dr. Megumi Fuse

35 GL
**PHYLOGENY OF DEEP ROOTED THAUMARCHAEOTA
 DS1 ENERGY METABOLISM**
 By: Gilberto H. Gonzalez
 Cellular & Molecular Biology
 Faculty Advisor: Dr. José R. de la Torre



36 GL
**LASERS, ARRAYS, AND INFORMATIC APPROACHES FOR STUDYING
THE HUMAN PLACENTA**
By: Oliver Oliverio
Cellular & Molecular Biology
Faculty Advisors: Dr. Carmen Domingo and Dr. Susan Fisher

37 GL
**STUDYING THE EFFECTS OF STREPTOMYCIN ON
THE GUT MICROBIOME OF *MANDUCA SEXTA***
By: Ryan Marder, Brenda Cisneros, and Raphael Feliciano
Microbiology
Faculty Advisors: Dr. Lily Chen and Dr. Megumi Fuse

38 GL
**EVALUATING THE DND GENE CLUSTER OF
PHOSPHOROTHIOATE SALMONELLA**
By: Beatriz Kowalski and Steven Flammer
Microbiology
Faculty Advisors: Dr. Lily Chen and Dr. Joseph Chen

39 GL
**INFLUENCE OF HOST PHYLOGENY AND ENVIRONMENT ON
THE MICROBIOME OF TERRESTRIAL SALAMANDERS**
By: Alicia Bird
Physiology & Behavioral Biology
Faculty Advisors: Dr. Andrew Zink and Dr. Vance Vredenburg

40 GL
***MANDUCA SEXTA* AS AN INSECT MODEL FOR
MODULATION OF NOCICEPTION**
By: Dennis Tabuena
Physiology & Behavioral Biology
Faculty Advisor: Dr. Megumi Fuse

41 GL
**INVESTIGATING ALUMNI AND
FACULTY PERSPECTIVES ON
UC BERKELEY'S MO'OREA COURSE**
By: Brianna McCoy
Ecology & Conservation Biology
Faculty Advisor: Dr. Kimberly Tanner



172 UP1
AUGMENTED REALITY POOL SIMULATOR
By: Bryan Wong, Dawson Wang, Matthew Ascuncion, and James Cho
Computer Engineering
Faculty Advisor: Dr. Hamid Mahmoodi

173 UP1
iOS MOBILE GAME APP
By: Kimberly Loza, Allan Obregon, Oswaldo Caballero, and Fadi Alhour
Computer Engineering
Faculty Advisor: Dr. Thomas Holton

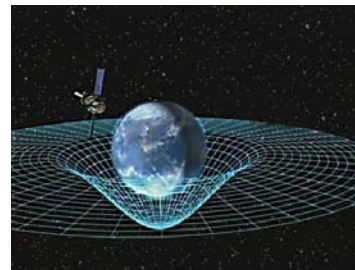
174 UP1
PROJECT THIRSTY
By: Jose Estrada, Jameel Madanat, Colleen Lee, and Stephanie Rosales
Electrical Engineering
Faculty Advisor: Dr. Thomas Holton

175 UP1
BLUETOOTH SAFE
By: Laurence Duong, Marc Tinio, Joel Farfan, and Michael Arimas
Electrical Engineering
Faculty Advisor: Dr. Thomas Holton

176 UP1
GUITAR AMPLIFIER
By: Leonard Gray
Electrical Engineering
Faculty Advisor: Dr. Thomas Holton

177 UP1
MYO ARMBAND MIDI CONTROLLER
By: Mitchell Jones, Tommy Do, and Mustafa Durrani
Electrical Engineering
Faculty Advisor: Dr. Thomas Holton

178 UP1
DIGITAL SHOWER CONTROLLER
By: Mohammad Ali Durrani and Tahir Dar
Electrical Engineering
Faculty Advisor: Dr. Thomas Holton



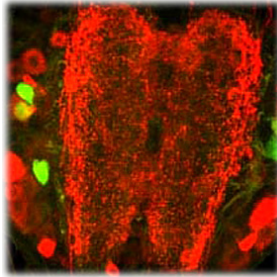
166 UP1
**STATISTICAL EVALUATION OF
HIGH-RESOLUTION NUMERICAL WEATHER
MODEL FORECASTS OF TEMPERATURE IN
THE SAN FRANCISCO BAY AREA**

By: Yilin Lu

Atmospheric and Oceanic Sciences

Faculty Advisors: Dr. Dave Dempsey,

Dr. John Monteverdi, Dr. Leonard Sklar, and Dr. Alexander Stine



167 UP1
GORMANDIZE - A DATA ANALYSIS OF RESTAURANTS

By: Brendan Luna, Michael Smith, and Kevin Soncuya

Computer Science

Faculty Advisor: Dr. William Tsun-yuk Hsu

168 UP1
CHILLSPOT

By: Jordan Schwichtenberg

Computer Science

Faculty Advisor: Dr. William Tsun-yuk Hsu

169 UP1
BEAT

By: Lowell Milliken and Stanley Seeto

Computer Science

Faculty Advisor: Dr. William Tsun-yuk Hsu

170 UP1
MOVES.FM: MUSIC / LOCATION MAPPER

By: Tyler Westerman

Computer Science

Faculty Advisor: Dr. William Tsun-yuk Hsu



171 UP1
**SPIKE NOZZLE ROCKET ENGINE
THRUST CONTROLLER**

By: Alejandro Ortiz, Chukwunyere Iroka,
and Matthew Serna

Computer Engineering

Faculty Advisor: Dr. Hamid Mahmoodi

42 GL
**EXPLORING STUDENT TALK IN ACTIVE LEARNING
BIOLOGY CLASSROOMS**

By: Ellen Young

Ecology & Conservation Biology

Faculty Advisor: Dr. Kimberly Tanner



43 GL
**SOCIAL BEHAVIOR AND BATRACHOCHYTRIUM
DENDROBATIDIS (BD): A DANGEROUS DYNAMIC FOR
BATRACHOSEPS SALAMANDERS**

By: Kendra Ritchie

Ecology & Conservation Biology

Faculty Advisors: Dr. Andrew Zink and Dr. Vance Vredenburg

44 GL
**DIFFERENTIAL SUSCEPTIBILITY TO CHYTRIDIOMYCOSIS IN
TWO CO-OCCURRING TERRESTRIAL SALAMANDERS**

By: Mae Cowgill

Ecology & Conservation Biology

Faculty Advisors: Dr. Andrew Zink and Dr. Vance Vredenburg

45 GL
**INVESTIGATING STUDENT CONCEPTIONS OF ANTIBIOTIC RESISTANCE AND
USE OF INTUITIVE THINKING**

By: Melissa Richard

Ecology & Conservation Biology

Faculty Advisor: Dr. Kimberly Tanner

46 GL
**GENETIC VARIATION ACROSS TROPHIC LEVELS IN
A DIVERSE LIZARD COMMUNITY**

By: Erica Rutherford

Ecology & Conservation Biology

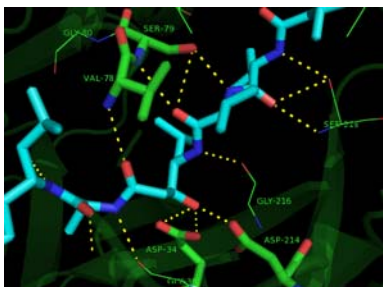
Faculty Advisor: Dr. Eric Routman

47 GL
**DISEASE AND THE SKIN MICROBIOME OF
AN ENDANGERED FROG, RANA SIERRAE**

By: Silas Ellison

Ecology & Conservation Biology

Faculty Advisor: Dr. Vance Vredenburg



48 GL
HOW DOES PARTICIPATION IN THE TEEN ENVIRONMENTAL EDUCATION MENTORSHIP PROGRAM AT NATUREBRIDGE GOLDEN GATE IMPACT TEEM PARTICIPANTS AND THEIR FUTURE?

By: Stephen Kielar
 Marine Biology
 Faculty Advisor: Dr. Kimberly Tanner

49 GL
ENGINEERING TRYPSIN FOR DEVELOPMENT OF INHIBITOR RESISTANT VARIANTS

By: Abriti Sharma
 Biochemistry
 Faculty Advisor: Dr. Teaster Baird Jr.

50 GP1
BIOPHYSICAL CHARACTERIZATION OF HEMOGLOBIN DERIVATIVES UPON PHOTODISSOCIATION OF MOLECULAR OXYGEN FROM A COBALT PEROXO COMPLEX

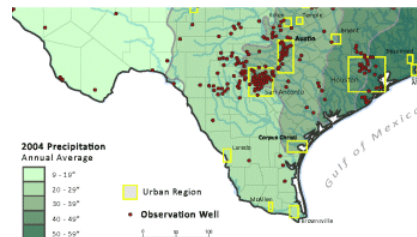
By: Abraham King Cada
 Biochemistry
 Faculty Advisor: Dr. Raymond Esquerra

51 GP1 DISPLAY ONLY
EXPERIMENTAL STUDY OF PARTICLE SIZE REDUCTION IN DEBRIS FLOWS

By: Omid Arabnia
 Earth and Climate Sciences
 Faculty Advisor: Dr. Leonard Sklar

52 GP1
IMPACTS OF CLIMATE VARIABILITY ON CALIFORNIA GROUNDWATER RESOURCES

By: Claudia Corona
 Geosciences
 Faculty Advisor: Dr. Jason J. Gurdak



161 UP1
SMOA INTERACTIONS WITH ARYLALLENES AND FULVENS
 By: Gabriel Cabrera
 Biochemistry
 Faculty Advisor: Dr. George Gassner

162 UP1
KINETIC CHARACTERIZATION OF A PREDICTED PHOSPHINOTHRICIN ACETYLTRANSFERASE (SMC03840) FROM THE PLANT SYMBIONT SINORHIZOBIUM MELILOTI

By: Joseph Dang and Sarah Lewis
 Biochemistry
 Faculty Advisor: Dr. Misty Kuhn

163 UP1
OXIDATION OF Cr(III) to Cr(VI) BY MANGANESE OXIDE SOIL MINERALS

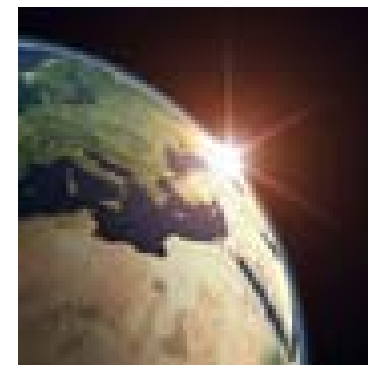
By: Leslie Galvez and Sukhdeep Khatra
 Biochemistry
 Faculty Advisor: Dr. Bruce Manning

164 UP1
THIOESTER HYDROLYSIS AND TRANSTHIOESTERIFICATION REACTIONS OF N-TERMINALLY HISTIDINE-TAGGED PHENYLACETALDEHYDE DEHYDROGENASE (NPADH)

By: Tatiana Ouabo and Iman Tassavor
 Biochemistry
 Faculty Advisor: Dr. George Gassner

165 UP1
CHEMICAL INVESTIGATION OF THE SALTWATER OBLIGATE STREPTOMYCES SP.CP28-49

By: Tiffany Cinev
 Biochemistry
 Faculty Advisor: Dr. Taro Amagata



155 UP1
**SYNTHESIS, CHARACTERIZATION, & BIOCHEMICAL ASSAY OF
HETEROARYL-ARYL THIAZOLE INHIBITORS OF UT-A**

By: Anthony J. Burt
Chemistry
Faculty Advisor: Dr. Marc Anderson

156 UP1
**AN EFFICIENT DOMINO AMINATION-OXIDATION REACTION FOR
THE COPPER-CATALYZED SYNTHESIS OF ANILINES**

By: Christopher Thomas and Marvin Wu
Chemistry
Faculty Advisor: Dr. Kelvin L. Billingsley

157 UP1
**INVESTIGATION OF THE SECONDARY METABOLITES PRODUCED BY
THE MARINE SEDIMENT-DERIVED STREPTOMYCES SP. CP53-67**

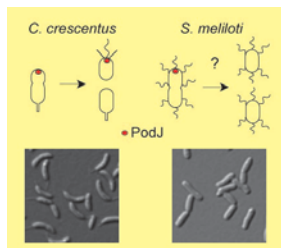
By: Lisa Liu
Chemistry
Faculty Advisor: Dr. Taro Amagata

158 UP1
**UNIQUE ROLES OF DIVALENT METAL IONS IN TUNING
THE MECHANISM OF PYRIDINE NUCLEOTIDE EXCHANGE
IN A PHENYLACETALDEHYDE DEHYDROGENASE**

By: Azeb Teklezgi, Elizabeth Abuhay, Olga Byakina, and Lourin Alayoub
Biochemistry
Faculty Advisor: Dr. George Gassner

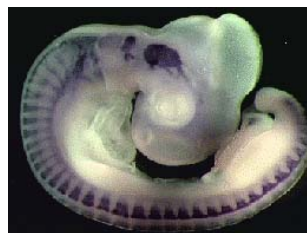
159 UP1
**EVALUATING THE REACTION OF NSMOA WITH ACETYLENE SUB-
STRATES**

By: Chris Cabeza and Jose Diaz
Biochemistry
Faculty Advisor: Dr. George Gassner



160 UP1
**SYNTHESIS AND CHARACTERIZATION OF
TITANOSILICATE (TS-1)**

By: Christopher Stables and Yen Tran
Biochemistry
Faculty Advisor: Dr. Andrew Ichimura



53 GP1
**BIO-HYDRO-MICROMETEOROLOGY OF
A SIERRA NEVADA MONTANE MEADOW**

By: Suzanne Maher
Earth Sciences
Faculty Advisors: Dr. Andrew Oliphant and Dr. Jerry Davis

54 GP1
**DEVELOPING A MINIATURE WEIGHING LYSIMETER
FOR MEASURING PLANT-ATMOSPHERE WATER AND
ENERGY EXCHANGES ON LIVING ROOFS**

By: Rubaya Pervin, Ian Santos, and Sergey Dusheyko
Geographic Information Science
Faculty Advisors: Dr. Andrew Oliphant and Dr. Hao Jiang

55 GP1
**CLASSIFICATION, VEGETATION-ENVIRONMENT RELATIONSHIPS,
AND DISTRIBUTION OF PLANT COMMUNITIES ON
SOUTHEAST FARALLON ISLAND, CALIFORNIA**

By: Jamie Hawk
Resource Management & Env. Planning
Faculty Advisors: Dr. Barbara A. Holzman and Dr. Ellen Hines

56 GP1
RADAR STUDIES OF COHERENT WAVES AT OCEAN BEACH, S.F.

By: Bruce Laughlin
Physics
Faculty Advisor: Dr. Roger Bland

57 GP1
**FABRICATION OF HYPERUNIFORM DISORDERED
PHOTONIC BANDGAP MATERIALS**

By: Francisco Baltazar
Physics
Faculty Advisor: Dr. Weining Man



58 GP1
THE STABILITY OF CIRCUMBINARY PLANETESIMAL DISKS

By: Michael Quinn Parkinson
Physics
Faculty Advisor: Dr. Joseph Barranco

59 GP1
**GUIDING INVISIBLE LIGHT BY PLASMONIC RESONANT SOLITONS
IN METALLIC NANOSUSPENSIONS**

By: Trevor Kelly
Physics
Faculty Advisor: Dr. Zhigang Chen

60 GP1
MINING THE MITELMAN DATABASE TO ANALYZE CANCER KARYOTYPES

By: Angel Pilar
Mathematics
Faculty Advisors: Dr. Javier Arsuaga and Dr. Hernando Martinez Vergara (EMBL)

61 GP1
CLASSIFYING GESTURES USING NEURAL TREES AND RANDOM FORESTS

By: David Rodriguez
Mathematics
Faculty Advisors: Dr. Alexandra Piryatinska and Dr. Xiaorong Zhang

62 GP1
REPRESENTATION VARIETIES

By: Justin Davis
Mathematics
Faculty Advisor: Dr. Joseph Gubeladze

63 GP1
ORIENTED CONNECTED DIGRAPH PROCESSES

By: Mark Rogers
Mathematics
Faculty Advisor: Dr. Serkan Hosten

64 GP1
GENERALIZED PERMUTOHEDRA

By: Matthew Cadier Kim
Mathematics
Faculty Advisor: Dr. Federico Ardila



149 UL2
**THE FORMAL SYNTHESIS OF THE PROTEIN KINASE
C MODULATOR (-)-INDOLACTAM V**

By: Italia Diaz and Jeremy Haynes-Smith
Physiology
Faculty Advisor: Dr. Kelvin L. Billingsley



150 UL2
**THE SHORT- AND LONG-TERM EFFECTS OF CAPSAICIN ON
THE "PAIN" RESPONSE IN AN INSECT**

By: Cody Burns, Eric Arreola, and Dennis Tabuena
Physiology
Faculty Advisor: Dr. Megumi Fuse

151 UL2
**EXAMINATION OF THE POSSIBLE FUNCTION OF A PSEUDOMONAS
AERUGINOSA GCN5-RELATED N-ACETYLTRANSFERASE (PA2578)
USING BIOINFORMATICS AND ENZYME KINETICS**

By: Brian Amsler and Layton Joe
Physiology
Faculty Advisor: Dr. Misty Kuhn

152 UL2
**STRUCTURE ELUCIDATION OF COMPOUNDS EXTRACTED FROM
ACTINOMYCETE STREPTOMYCES CP54-7**

By: Scott Campit
Physiology
Faculty Advisor: Dr. Taro Amagata

153 UL2 DISPLAY ONLY
**PIGMENTED VILLONODULAR SYNOVITIS: A DISSECTION &
PHOTOGRAPHICAL DOCUMENTATION**

By: Scott Campit and John Yassa
Physiology
Faculty Advisors: Ryan Marder and Gloria Nusse

154 UL2 DISPLAY ONLY
SKIN GRAFTS: SKIN SURGERY WITH A MODERN TWIST

By: Nadia Nguyen
Physiology
Faculty Advisors: Gloria Nusse and Ryan Marder

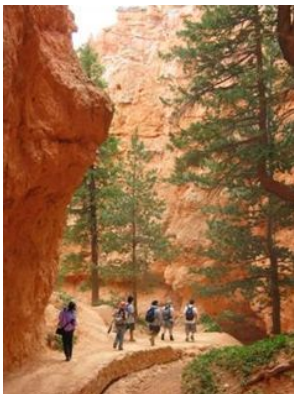


144 UL2
AN ENHANCER / SUPPRESSOR SCREEN FOR THE ENDOPLASMIC RETICULUM MEMBRANE PROTEIN JAGUNAL IN THE DROSOPHILA COMPOUND EYE
 By: Emmanuel Valenciano, Ronnie Marania, and Catherine Lugar
 Physiology
 Faculty Advisor: Dr. Blake Riggs

145 UL2
MODIFIER SCREEN FOR ATLASTIN, THE ER ASSOCIATED GTPASE, IN THE D. MELANOGASTER COMPOUND EYE
 By: Heidi Hoffman, Molly Starkovich, and Zainab Abbas
 Physiology
 Faculty Advisor: Dr. Blake Riggs

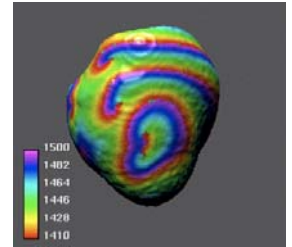
146 UL2
ANDREAS VESALIUS AND THE BIRTH OF MODERN ANATOMY
 By: Charles Barbieri and Catherine Lugar
 Physiology
 Faculty Advisors: Gloria Nusse and Ryan Marder

147 UL2
THE LYMPHATIC SYSTEM: AN IN-DEPTH STUDY OF AN UNDERREPRESENTED SYSTEM
 By: Charles Barbieri and Eunice Manuel
 Physiology
 Faculty Advisors: Gloria Nusse and Ryan Marder



148 UL2
THE DESIGN, SYNTHESIS AND PRELIMINARY EVALUATION OF HYPERPOLARIZED SODIUM [1-¹³C] GLYCERATE AS A PROBE FOR MONITORING GLYCOLYSIS VIA ¹³C MAGNETIC RESONANCE SPECTROSCOPY
 By: Andrew Castillo and Heather Lough
 Physiology
 Faculty Advisor: Dr. Kelvin L. Billingsley

65 GP1
STATISTIC OF TOPOLOGICAL INVARIANT FOR INFERRING CHROMOSOMES POSITIONING
 By: Maxime Pouokam
 Mathematics
 Faculty Advisor: Dr. Federico Ardila

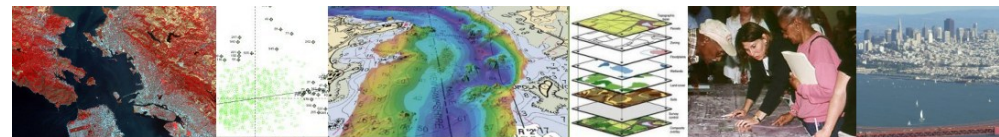


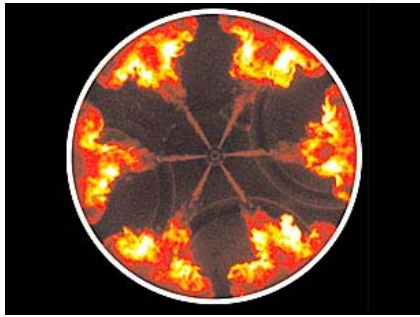
66 GP1 DISPLAY ONLY
AN OVERLAP CRITERION FOR THE TILING PROBLEM OF THE LITTLEWOOD CONJECTURE
 By: Lucy Odom
 Mathematics
 Faculty Advisor: Dr. Yitwah Cheung

67 GP1 DISPLAY ONLY
MULTIDIMENSIONAL CONTINUED FRACTIONS, FAREY TILINGS, AND ROOTS OF UNITY
 By: Therese-Marie B. Landry
 Mathematics
 Faculty Advisor: Dr. Yitwah Cheung

68 GP1
INJECTED DROPLET SIZE EFFECTS ON DIESEL SPRAY RESULTS WITH RANS AND LES TURBULENCE MODELS
 By: Erik Elmtoft
 Energy Systems Engineering
 Faculty Advisors: Dr. A.S. (Ed) Cheng, Dr. Russell Whitesides (Lawrence Livermore National Laboratory), and Dr. Nick Killingsworth (LLNL)

69 GP1
BEHAVIOR OF A FIVE-STORY MOMENT-RESISTING STEEL FRAMED STRUCTURE SUBJECTED TO ELEVATED TEMPERATURES
 By: Michael Duffield
 Structural/Earthquake Engineering
 Faculty Advisor: Dr. Cheng Chen





70 GP2
**REAL-TIME HAND GESTURE RECOGNITION
FOR SIGN LANGUAGE CONVERSION USING
EMG AND ACCELEROMETER**
By: Alex vijay raj Amalaraj
Electrical Engineering
Faculty Advisor: Dr. Xiaorong Zhang

71 GP2
CARBON MONOXIDE SENSING USING MOBILE DEVICES
By: Ashok Mushannavar and Shivanand Aratal
Electrical Engineering
Faculty Advisors: Dr. Hamid Mahmoodi and Dr. Elahe Enssani

72 GP2
**ENHANCING HARDWARE SECURITY USING HYBRID
CMOS/SPIN TRANSFER TORQUE (STT) BASED
LOOK UP TABLE TECHNOLOGY**
By: Darya Almasi
Embedded Electrical and Computer Systems
Faculty Advisor: Dr. Hamid Mahmoodi

73 GP2
WIRELESS AUTONOMOUS CAR
By: Ravi Teja Mamidipaka, Luis Lorenzo Bill Clark, and Siddharth Jankar
Embedded Electrical and Computer Systems
Faculty Advisor: Dr. Xiaorong Zhang

74 GP2
**TOWARDS ANTI-STUTTERING –
UNDERSTAND THE RELATION BETWEEN
STUTTERING AND ANXIETY USING EMERGING
ENGINEERING METHODS**
By: Sarah Shamsi
Embedded Electrical and Computer Systems
Faculty Advisor: Dr. Xiaorong Zhang



138 UL2
**RAPID METHOD TO DETERMINE IRON IN VITAMINS AND
SUPPLEMENTS USING A PORTABLE X-RAY FLUORESCENCE ANALYZER**
By: Swee K. Chew
Biochemistry
Faculty Advisor: Dr. Pete Palmer

139 UL2
REDESIGNING SERINE PROTEASES FOR RESISTANCE TO INHIBITION
By: Weichao Zhuo
Biochemistry
Faculty Advisor: Dr. Teaster Baird Jr.

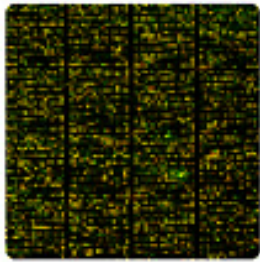
140 UL2
**EFFECTS OF CALORIC RESTRICTION ON NEUROGENESIS IN
THE ADULT BRAIN OF ACHETA DOMESTICUS**
By: Amanda Carbajal, Christopher Duldulao, Mae Calamucha, and Linda Kok
Microbiology
Faculty Advisor: Dr. Christopher Moffatt

141 UL2
**INVESTIGATION OF ANTIBIOTIC RESISTANCE PROFILES
OF ENTEROBACTERIA AT SFSU**
By: Ruth Keoviphone, Mindy Le, Lady Jane Tabalno Pacaldo, and Man Wai Lee
Microbiology
Faculty Advisors: Dr. Lily Chen and Darleen Franklin

142 UL2
**TWO NEW CYTOTOXIC MEROTERPENOIDS PRODUCED BY
THE MARINE SEDIMENT-DERIVED STREPTOMYCES SP. CP26-58**
By: Stephanie Gee
Microbiology
Faculty Advisor: Dr. Taro Amagata

143 UL2
**DETERMINING THE MOLECULAR GENETIC
MECHANISM OF EXTREME DESICATION-TOLERANCE
IN TALBOTIA ELEGANS**
By: Stephanie Parker, Thuy Tran, and Theresa Lahey
Microbiology
Faculty Advisor: Dr. Zheng-Hui He





132 UL2
TMEM16A : CHLORIDE CHANNEL INHIBITORS
By: Eric Truong
Biochemistry
Faculty Advisor: Dr. Marc Anderson

133 UL2
**EXPLORING POTENTIAL KINETIC MECHANISMS FOR
NEWLY IDENTIFIED THREONINE N-ACETYLTRANSFERASES
FROM CLOSTRIDIUM DIFFICILE AND STAPHYLOCOCCUS AUREUS**
By: David Tran
Biochemistry
Faculty Advisor: Dr. Misty Kuhn

134 UL2
DESIGNING A HEME PROTEIN WITHOUT NITRITE REDUCTASE ACTIVITY
By: Jessica Bow
Biochemistry
Faculty Advisor: Dr. Raymond Esquerra

135 UL2
**IMPACT OF HYDROGEN SULFIDE ON THE ENZYMATIC ACTIVITY OF
NEURONAL NITRIC OXIDE SYNTHASE**
By: Lara Manimbao
Biochemistry
Faculty Advisor: Dr. Raymond Esquerra

136 UL2
**TOWARDS ESTABLISHING THE MECHANISM OF PYRIDINE NUCLEOTIDE
RECYCLING IN THE STYRENE CATABOLIC AND DETOXIFICATION PATHWAY**
By: Madison Huynh, Leslie Galvez, and Kyle Kulinski
Biochemistry
Faculty Advisor: Dr. George Gassner



137 UL2
**ROLE OF FLAVINS IN STABILIZING AND
NUCLEATING THE FOLDING OF STYRENE
MONOOXYGENASE REDUCTASE**
By: Natalia Achta-Zadeh and Angelina Motiee
Biochemistry
Faculty Advisor: Dr. George Gassner

75 GP2
**POWER/AREA EFFICIENT CIRCUITS OF
NEUROMORPHIC COMPUTING SYSTEM**
By: Weijie Zhu, Kang Jun Bai, and Shi Jie Chen
Embedded Electrical and Computer Systems
Faculty Advisor: Dr. Hao Jiang

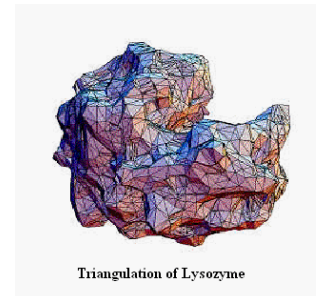
76 GP2
**RELIABILITY ANALYSIS OF SPIN TRANSFER TORQUE BASED
LOOK UP TABLES UNDER PROCESS VARIATIONS AND NBTI AGING**
By: Ragh Kuttappa
Embedded Electrical and Computing Systems
Faculty Advisor: Dr. Hamid Mahmoodi

77 GP2
**HARDWARE IMPLEMENTATION OF EDGE DETECTION AND
FEATURE EXTRACTION FOR REAL TIME APPLICATIONS**
By: Mehrdad Mahdavi
Embedded Electronics and Computer Systems
Faculty Advisor: Dr. Hamid Mahmoodi

78 GP2
**VARIABLE IMPORTANCE IN MICRO-ENVIRONMENT BASED
PROTEIN FUNCTIONAL ANALYSIS**
By: Arthur Vigil
Computer Science
Faculty Advisors: Dr. Dragutin Petkovic, Dr. Kazunori Okada, and Mike Wong

79 GP2
PRIVACY MONITORING IN FIREFOX OS
By: Harsha Cheruku and Sammy Patenotte
Computer Science
Faculty Advisor: Dr. Arno Puder

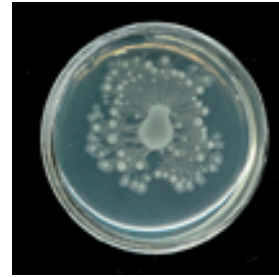
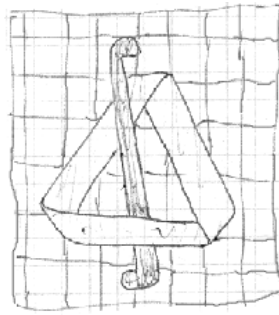
80 GP2
SMART READ
By: Imran Alavi
Computer Science
Faculty Advisor: Dr. Ilmi Yoon



Triangulation of Lysozyme

81 GP2
**GLOBAL MULTIPLE NETWORK ALIGNMENT BY
COMBINING PAIRWISE NETWORK ALIGNMENTS**

By: Juris Puchin and Jakob Dohrmann
Computer Science
Faculty Advisor: Dr. Rahul Singh



127 UL2
**UNDERSTANDING THE EFFECTS OF
HISTONE VARIANTS ON CHROMATIN
COMPACTION IN CAENORHABDITIS ELEGANS**

By: Israel Saucedo
Cellular & Molecular Biology
Faculty Advisors: Dr. Diana Chu and
Dr. Geeta Narlikar (UCSF)

82 GP2
**PREDICTING EFFECTS OF MODIFYING SPECIES' PARAMETERS IN
AN ALLOMETRIC TROPHIC NETWORK MODEL**

By: Justina Cotter
Computer Science
Faculty Advisor: Dr. Ilmi Yoon

128 UL2
**MEASURING CHANGES OF TISSUE DEPTH MARKERS IN
AN EXPRESSIVE FACE**

By: Parham Koohbor
Cellular & Molecular Biology
Faculty Advisor: Gloria Nusse

83 GP2
NEWSPPOINTS

By: Luv Ahuja, Dayvon Dunaway, and Will Carruthers
Computer Science
Faculty Advisor: Dr. Arno Puder

129 UL2
**DETERMINATION OF THE MEMBRANE TOPOLOGY OF
PORCUPINE PROTEIN**

By: Gabriel Fraley
Cellular & Molecular Biology
Faculty Advisor: Dr. Laura Burrus

84 GP2
**SEVERITY QUANTIFICATION OF PEDIATRIC VIRAL RESPIRATORY
ILLNESSES IN CHEST X-RAY IMAGES**

By: Marzieh Golbaz and Bardhyl Ymeri
Computer Science
Faculty Advisor: Dr. Kazunori Okada

130 UL2
**PREDICTED MECHANISM FOR DOMAIN MOVEMENT BETWEEN
TWO CONFORMATIONAL STATES OF**

THE MYCOBACTERIUM TUBERCULOSIS DRUG TARGET fadD32 ENZYME

By: Holland Page
Cellular & Molecular Biology
Faculty Advisor: Dr. Misty Kuhn

85 GP2
LEARNING FROM IMBALANCED DATASET

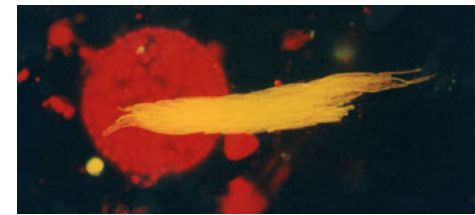
By: Mehari Weldetsion and Jeffrey Hung
Computer Science
Faculty Advisor: Dr. Kazunori Okada

86 GP2
**EBLUNA -- 3RD PARTY CUSTOMER SERVICE SOFTWARE
FOR MID-SIZED EBAY SELLERS**

By: Nathan Luis
Computer Science
Faculty Advisor: Dr. Ilmi Yoon

131 UL2
**PHYLOGEOGRAPHY OF BLOOD
PARASITES IN BIRD'S
OF PAPUA NEW GUINEA**

By: Brett K. Morris
Cellular & Molecular Biology
Faculty Advisor: Dr. Ravinder Sehgal



122 UL1
**FabG-LIKE ENZYME FACILITATES BIOSYNTHESIS OF LIPIDS FOR USE
IN MEMBRANE SYNTHESIS AND QUORUM SENSING IN
THAUMARCHAEOTA ARCHAEON DS1**

By: Steven Chong
Microbiology
Faculty Advisor: Dr. José R. de la Torre

123 UL1
**THAUMARCHAEOTA DS1: NITROGEN METABOLISM THROUGH
LESS ENERGY EXPENDITURE**

By: Vicky Lopez
Microbiology
Faculty Advisor: Dr. José R. de la Torre

124 UL1 DISPLAY ONLY
**DS1; THAUMARCHAEOTA OR NOT THAUMARCHAEOTA?
THAT IS THE QUESTION**

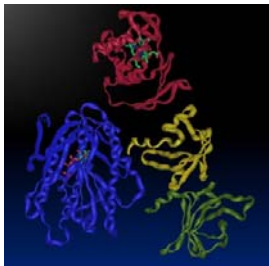
By: Ruth Keoviphone
Microbiology
Faculty Advisor: Dr. José R. de la Torre

125 UL1 DISPLAY ONLY
**THE METALLO-BETA-LACTAMASE ENZYME FACILITATES IN
THAUMARCHAEOTA ARCHAEON DS1(DRAGON THAUMARCHAEON)
ANTIBIOTIC RESISTANCE**

By: Alex Chong
Cellular & Molecular Biology
Faculty Advisor: Dr. José R. de la Torre

126 UL2
**NITRIC OXIDE INVOLVEMENT IN
EARLY CHICKEN EMBRYO MYOGENESIS**

By: Noah Kipper, Alex Chong,
Anders Peterson, and Fernando R. Curiel
Cellular & Molecular Biology
Faculty Advisor: Dr. Wilfred Denetclaw



87 GP2
DO IT YOURSELF: BURGLAR ALARM

By: Pratik Jaiswal
Computer Science
Faculty Advisor: Dr. Arno Puder

88 GP2
FLOCKING BEHAVIOR

By: Robert Moon
Computer Science
Faculty Advisor: Dr. Ilmi Yoon

89 GP2
**STRUCTURING UNSTRUCTURED CLINICAL NARRATIVES IN OPENMRS
WITH MEDICAL CONCEPT EXTRACTION**

By: Ryan Eshleman
Computer Science
Faculty Advisors: Dr. Barry Levine, Dr. Hui Yang, and Dr. Anagha Kulkarni

90 GP2
**BAYESIAN PREDICTION OF ATC CODES FROM INTEGRATION OF
BIOCHEMICAL DATA WITH APPLICATIONS IN DRUG DISCOVERY
AGAINST NEGLECTED DISEASES**

By: Thomas Olson and Rachel Beasley
Computer Science
Faculty Advisors: Dr. Rahul Singh and Dr. Anagha Kulkarni

91 GP2
EXTENSION TO TYPESCRIPT COMPILER

By: Yanxing Wang and Jie Dong
Computer Science
Faculty Advisor: Dr. Arno Puder

92 GP2 DISPLAY ONLY
DEVELOPMENT OF ZOMBEE WATCH IPHONE MOBILE CLIENT

By: Dainius Grimalauskas
Computer Science
Faculty Advisor: Dr. Dragutin Petkovic





116 UL1
**NITROGEN ASSIMILATION AND AMINO ACID
SYNTHESIS OF DS1**

By: Nicholas Kuykendall
Microbiology
Faculty Advisor: Dr. José R. de la Torre



117 UL1
**DETERMINING THE ORIGIN AND ROLE OF XENOBIOTIC BIODEGRADATION
GENES IN THAUMARCHAEOTA ARCHAEON DS1**

By: Paul Ahn
Microbiology
Faculty Advisor: Dr. José R. de la Torre

118 UL1
PREDICTING DS1'S TASTES

By: Reid Griggs
Biology
Faculty Advisor: Dr. José R. de la Torre

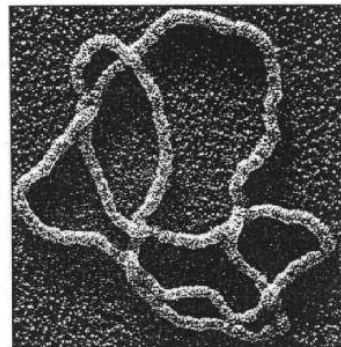


119 UL1
**METAGENOMIC ANALYSIS OF THAUMARCHAEOTA ARCHAEON DS1
(DRAGON THAUMARCHAEON) AND THE POTENTIAL FUNCTION OF
THE FIXC GENE AND ITS ROLE IN THE NITROGEN CYCLE**

By: Roberto Gonzalez
Microbiology
Faculty Advisor: Dr. José R. de la Torre

120 UL1
INVESTIGATION OF ANAEROBIC BEHAVIOR IN THAUMARCHAEOTA DS1

By: Stephanie Sapien
Microbiology
Faculty Advisor: Dr. José R. de la Torre



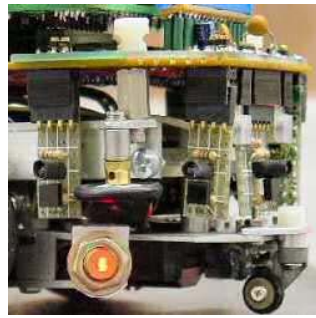
121 UL1
**THE SYNTHESIS OF COBALAMIN (VITAMIN B12) BY
DRAGON SPRING THAUMARCHAEOTA (DS1) AND
ITS BENEFITS TO IT'S SURROUNDING ENVIRONMENT**

By: Stephany Marie Phomkhai
Microbiology
Faculty Advisor: Dr. José R. de la Torre

110 UL1
DS1 AND THE MEVALONATE PATHWAY

By: Jordan Lapeyri
Microbiology

Faculty Advisor: Dr. José R. de la Torre



111 UL1
VITAMIN B12 PRODUCTION IN THAUMARCHAEOTA ARCHEON DS1

By: Kathy Moy
Microbiology

Faculty Advisor: Dr. José R. de la Torre

112 UL1
THAUMARCHAEOTA ARCHAEOON DS1 MOTILITY

By: Luciana Cardenas
Cellular & Molecular Biology

Faculty Advisor: Dr. José R. de la Torre

113 UL1
**DEFENSE ISLANDS IN THAUMARCHAEON DS1:
IDENTIFYING PUTATIVE ANTIVIRAL GENES**

By: Manuela Ovalles
Microbiology

Faculty Advisor: Dr. José R. de la Torre

114 UL1
**METAGENOMIC ANALYSES OF MISSING GENES VITAL TO
DNA REPLICATION PATHWAYS IN THAUMARCHAEOTA ARCHAEOON DS1**

By: Michelle S. Chu
Microbiology

Faculty Advisor: Dr. José R. de la Torre



115 UL1
**METHANE METABOLISM IN
THAUMARCHAEOTA DS1**

By: Michelle Wong
Microbiology

Faculty Advisor: Dr. José R. de la Torre

#93 – 202 are from Undergraduate Students

93 UB
**COMPARING RUNAWAY AND NON-RUNAWAY
ADOLESCENTS' RISK-TAKING BEHAVIOR AND TIME ORIENTATION**

By: Erica B. Walker
Psychology

Faculty Advisor: Dr. Zena R. Mello

94 UB
HOW COLOR AFFECTS MOOD

By: Jessica Burgos, Faye Alvin, and Cindy Osaki
Psychology

Faculty Advisor: Dr. Margaret Lynch

95 UB
**THE ASSOCIATION OF INTRAPERSONAL AND INTERPERSONAL
EMOTION REGULATION PROCESSES WITH DEPRESSION**

By: Kera Mallard and Sarah Wagner
Psychology

Faculty Advisor: Dr. Sarah Holley

96 UB
**DOES EMOTION REGULATION MEDIATE THE LINK BETWEEN
NEUROTICISM AND DEMAND-WITHDRAW?**

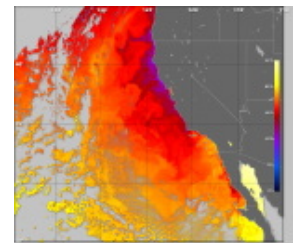
By: Samuel Stark and Alina Belohlavek
Psychology

Faculty Advisor: Dr. Sarah Holley

97 UB
**COGNITIVE FLEXIBILITY AND
TIME PERSPECTIVE IN COLLEGE STUDENTS**

By: Victoria C. Paoloni
Psychology

Faculty Advisor: Dr. Zena R. Mello





98 UB
RACE AND FREE SAMPLES AT SFSU
By: David G. Markstein
and Raghdah Mohamed Algazaly
Psychology
Faculty Advisor: Dr. Margaret Lynch

99 UL
**GENE AND FUNCTION ANALYSIS OF FE-S ASSEMBLY
PROTEIN SUFB WITHIN THAUMARCHAEOTA ARCHAEON DS1**
By: Alejandro Guerra
Microbiology
Faculty Advisor: Dr. José R. de la Torre

100 UL1
FERMENTATION OF ALCOHOL DEHYDROGENASE IN DS1
By: Alireza Khadem Hosseini
Microbiology
Faculty Advisor: Dr. José R. de la Torre

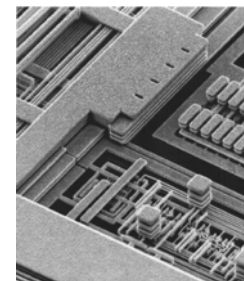
101 UL1
**PHYLOGENETIC ANALYSIS OF CARBON MONOXIDE DEHYDROGENASE
IN THAUMARCHAEOTA DS1**
By: Andrew Eramela
Microbiology
Faculty Advisor: Dr. José R. de la Torre

102 UL1
FLAGELLAR MOTILITY AND STRUCTURE OF THAUMARCHAEOTA DS1
By: Andrew Wong
Microbiology
Faculty Advisor: Dr. José R. de la Torre



103 UL1
**PUNITIVE CONSERVATION OF
THIAMINE IN THAUMARCHAEOTA
ARCHAEON DS1**
By: Austin Lim
Microbiology
Faculty Advisor: Dr. José R. de la Torre

104 UL1
**ASSESSING THE MOTILITY OF
THAUMARCHAEOTA ARCHAEON DS1**
By: Benjamin Ta
Microbiology
Faculty Advisor: Dr. José R. de la Torre



105 UL1
DETERMINING CARBON FIXATION THROUGH THE ENZYME RUBISCO IN DS1
By: Bianca Sapien
Microbiology
Faculty Advisor: Dr. José R. de la Torre

106 UL1
**THE INVESTIGATION AND CLASSIFICATION OF THE CRISPR/CAS SYSTEM IN
THE ACIDOTHERMOPHILIC THAUMARCHAEOTE DS1 FROM DRAGON
SPRING, YELLOWSTONE NATIONAL PARK**
By: Bridget Hansen
Microbiology
Faculty Advisor: Dr. José R. de la Torre

107 UL1
**CYSTEINE DESULFURASE, WHAT IS IT GOOD FOR?
(ABSOLUTELY SOMETHING)**
By: Chelsea Allen
Microbiology
Faculty Advisor: Dr. José R. de la Torre

108 UL1
**OXIDATION OF SULFUR IN THAUMARCHAEOTA ARCHAEON DS1 FOR
ITS THERMOACIDIC ENVIRONMENT**
By: Jamie Huang
Microbiology
Faculty Advisor: Dr. José R. de la Torre

109 UL1
**CHARACTERIZATION OF THE CRISPR/CAS SYSTEM IN
THAUMARCHAEOTA DS1 BY A COMPARATIVE GENOMIC STUDY AGAINST
RELATED THERMOPHILIC ARCHAEA**
By: Jesus Rocha
Cellular & Molecular Biology
Faculty Advisor: Dr. José R. de la Torre