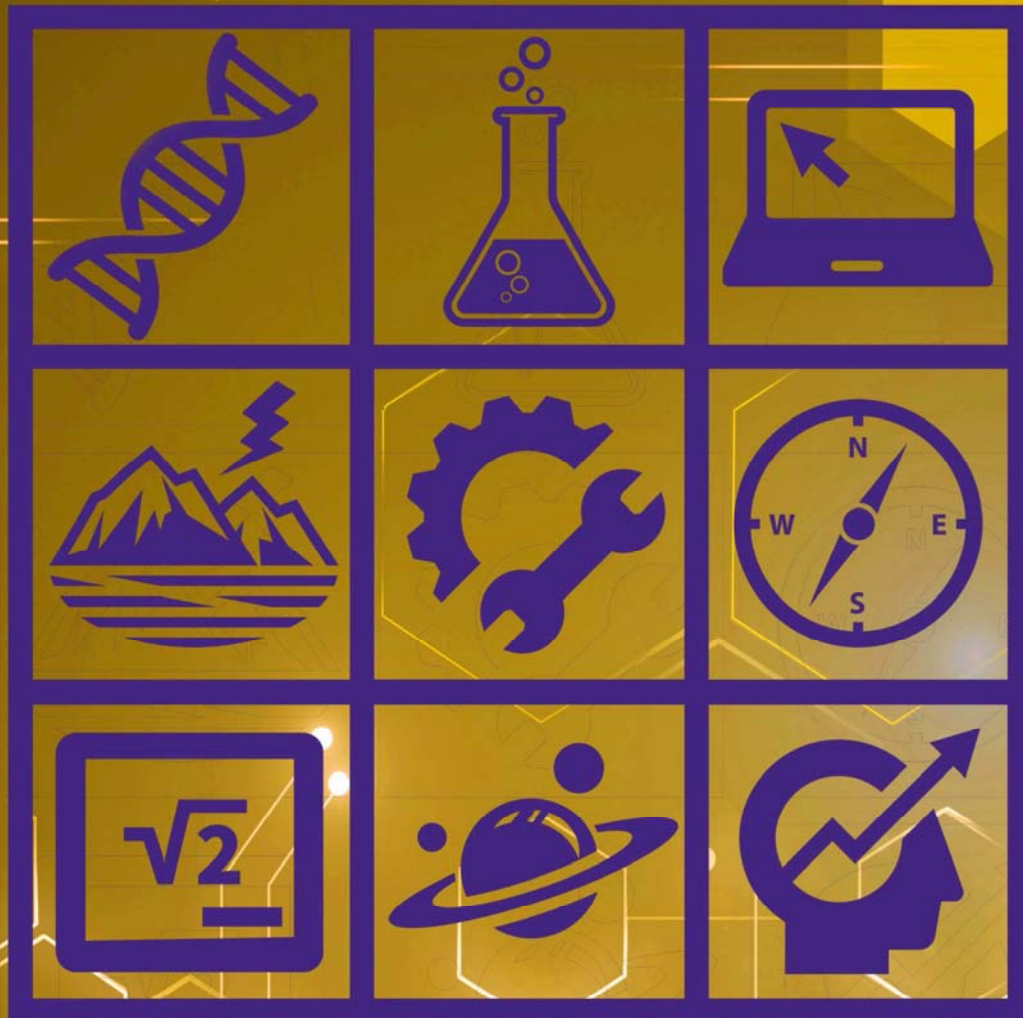




College of Science & Engineering

21st Annual Student Project Showcase & Alumni Reception



Friday, May 3, 2019

2 p.m. - 6:30 p.m.

**SF State University
Student Life Events Center
(ANNEX I)**



LIST OF 2019 WINNERS

GRADUATE BEHAVIORAL SCIENCE DIVISION

FIRST PLACE – \$400

Entry Number: 18 GB

TIME AND TREPIDATION: ARE ADOLESCENTS' THOUGHTS AND FEELINGS ABOUT TIME RELATED TO THEIR ANXIETY?

By: Julia Moon

Social Psychology

Faculty Advisor: Dr. Zena R. Mello

SECOND PLACES – \$300

Entry Number: 24 GB

LABCADEMY: AN INTERACTIVE LAB DISCUSSION PLATFORM

By: Alia Edington, Christen Kinney, Chimara Stancill, and Selena Hernandez

Cell & Molecular Biology

Faculty Advisor: Dr. Anagha Kulkarni

Entry Number: 21 GB

STUDENTS' SENSE OF BELONGING IN INTRODUCTORY PHYSICS LABS: DOES GTA TRAINING MATTER?

By: Caitlin Kepple

Astronomy

Faculty Advisor: Dr. Kimberly Coble

THIRD PLACE – \$300

Entry Number: 20 GB

HE WAS ELECTED AND NOW WE WILL CHANGE THE WORLD: A MIXED METHODS STUDY EXAMINING ADOLESCENTS' REACTIONS TO THE ELECTION OF DONALD TRUMP

By: Lindsey Seril, Jennifer Wahleithner, Jack Chase, and Stephanie Kirkman

Social, Personality, and Affective Psychology

Faculty Advisor: Dr. Zena R. Mello

GRADUATE LIFE SCIENCE DIVISIONS

GROUP GL1

FIRST PLACE – \$400

(KENSON VENTURES EXCELLENCE AWARDS)

Entry Number: 46 GL1

**BETTER LIVING THROUGH HGT! EVIDENCE FOR METABOLIC OPTIMIZATION
THROUGH HORIZONTAL GENE TRANSFER OF A FUSED GENE**

By: Steven Sun

Cell & Molecular Biology

Faculty Advisor: Dr. Scott W. Roy

SECOND PLACE – \$300

Entry Number: 39 GL1

**DEVELOPMENT OF A SPLIT-GFP REPORTER TO VISUALIZE
FILOPODIA-MEDIATED WNT1 SIGNALING ACTIVATION**

By: Frederick R. Santana

Cell & Molecular Biology

Faculty Advisors: Dr. Laura W. Burrus and Lisa M. Galli

THIRD PLACE – \$200

Entry Number: 47 GL1

**FEATURES OF HISTONE H2A VARIANT HIS-35 INCORPORATION BEFORE AND
AFTER FERTILIZATION**

By: Wesley Huang

Cell & Molecular Biology

Faculty Advisor: Dr. Diana Chu

GROUP GL2

FIRST PLACE – \$400

Entry Number: 52 GL2

**GLOBAL PATTERNS OF VARIABILITY AMONG THERMOPHILIC
AMMONIA-OXIDIZING ARCHAEA**

By: Brittany A. Baker

Microbiology

Faculty Advisor: Dr. Jose R. de la Torre

SECOND PLACE – \$300

Entry Number: 57 GL2
**EUPRYMNA SCOLOPES-VIBRIO FISCHERI SYMBIOSIS: EFFECTS OF
EXOGENOUS LIGHT ON SURVIVAL AND BEHAVIOR DEVELOPMENT**

By: Vivien Enriquez
Physiology and Behavioral Biology
Faculty Advisors: Dr. Robyn Crook and Dr. Andy Zink

FOURTH PLACE – \$100

Entry Number: 54 GL2
**MICROGRAVITY EFFECTS ON THE NERVOUS SYSTEM IN
DROSOPHILA MELANOGASTER**

By: Jhony A. Zavaleta
Physiology and Behavioral Biology
Faculty Advisors: Dr. Megumi Fuse and
Dr. Sharmila Bhattacharya (NASA Ames Research Center)

GRADUATE PHYSICAL SCIENCE DIVISIONS

GROUP GP1

FIRST PLACE – \$400

Entry Number: 88 GP1
**AUTOMATED TOPOLOGY OPTIMIZATION PLATFORM FOR DESIGNING
HIGH-RISE STRUCTURES**

By: Alec Maxwell
Structural/Earthquake Engineering
Faculty Advisor: Dr. Zhaoshuo Jiang

SECOND PLACE – \$300

Entry Number: 80 GP1
**APPLICATIONS OF DATA MINING TO STUDENT PERFORMANCE
PREDICTION AND CURRICULUM DESIGN**

By: Paul Previde
Computer Science
Faculty Advisor: Dr. Hui Yang

THIRD PLACE – \$200

Entry Number: 77 GP1

GESTURE RECOGNITION WITH WIFI SENSING IN SMART HOMES

By: Krunal Shah

Computer Science

Faculty Advisors: Dr. Hao Yue and James Wong

GROUP GP2

FIRST PLACE – \$400

Entry Number: 102 GP2

PATTERNED FABRICATION OF NANOWIRE ARRAYS FOR BIOIMAGING APPLICATIONS

By: Patrick DeLear

Astronomy

Faculty Advisor: Dr. Huizhong Xu

SECOND PLACE – \$300

Entry Number: 104 GP2

AN ISOTROPIC PHOTONIC CRYSTAL DESIGN BASED ON “SELF-ORGANIZED” HYPER-UNIFORM DISORDERED PATTERN

By: Bowen Yu

Physics

Faculty Advisor: Dr. Weining Man

THIRD PLACE – \$200

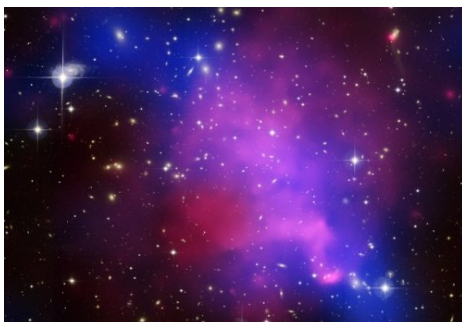
Entry Number: 99 GP2

UNDERSTANDING THE COMPLEXITY OF THE DOMAIN OF APPROXIMATION OF A RATIONAL TUPLE

By: Oliver Knitter

Mathematics

Faculty Advisor: Dr. Yitwah Cheung



UNDERGRADUATE LIFE SCIENCE DIVISIONS

GROUP UL1

FIRST PLACE – \$400

(KENSON VENTURES FONG EXCELLENCE AWARD)

Entry Number: 120 UL1

THE ROLE OF FILOPODIA IN WNT CELL TO CELL COMMUNICATION

By: Rocio Cisneros
Biochemistry

Faculty Advisor: Dr. Laura W. Burrus

SECOND PLACE – \$300

Entry Number: 128 UL1

**SINGLE CELL ANALYSIS OF VACUOLAR SIZE AND pH
USING CONFOCAL MICROSCOPY**

By: Roberto Carlos Segura, Jamie Calma,
and Jean Luke Campos
Cell & Molecular Biology

Faculty Advisor: Dr. Mark Chan

THIRD PLACE – \$200

Entry Number: 115 UL1

**ALTERNATE CATALYTIC SUBUNIT ASSEMBLIES OF WILD-TYPE AND
ACTIVE-SITE CAVITY MUTANTS OF STYRENE MONOOXYGENASE**

By: Benjamin Butler
Biochemistry

Faculty Advisor: Dr. George Gassner

GROUP UL2

FIRST PLACE – \$400

Entry Number: 136 UL2

**FRIENDS OR FOES - THE EFFECT OF PROBIOTIC MICROBIOTA ON
GROUP B STREPTOCOCCUS (GBS)**

By: Jan Mikhale Cajulao
Microbiology

Faculty Advisor: Dr. Lily Chen

SECOND PLACE – \$300

Entry Number: 143 UL2

DRUG-INDUCED MEGALOBlastic ANEMIA IS ASSOCIATED WITH INHIBITORS OF HUMAN THIAMINE TRANSPORTER 1 (THTR-1)

By: Derrick Chatad

Physiology

Faculty Advisors: Dr. Kathleen Giacomini (UCSF) and Dr. Leticia Marquez-Magana

FOURTH PLACE – \$100

Entry Number: 138 UL2

CHARACTERIZING PA3944 and PA3945 Gcn5-related N-acetyltransferases (GNATs) FROM PSEUDOMONAS AERUGINOSA IN VITRO

By: Charles Houseman

Microbiology

Faculty Advisor: Dr. Misty L. Kuhn

UNDERGRADUATE INTERDISCIPLINARY DIVISION

FIRST PLACE – \$400

Entry Number: 165 UI

DO FALSE POSITIVE RATES INCREASE WHEN POLICE WRONGFULLY ASSUME A SUSPECT'S ETHNIC BACKGROUND?

By: Carina Kalaydjian, Maria Flores, and Niquo Ceberio

Applied Mathematics

Faculty Advisor: Dr. Rori Rohlf

SECOND PLACE – \$300

Entry Number: 169 UI

DIFFERENCES IN ACCESS AND QUALITY OF LARC INFORMATION ACROSS US UNIVERSITIES

By: Diana Yu Yu, Risha Shah, Sabrina Gonzaga (Nursing),
Fungai Gora (Creative Writing), and Byron Mills II (Economics)

Computer Science

Faculty Advisors: Dr. Anagha Kulkarni, Dr. Carrie Holschuh (Nursing), and Dr. Venoo Kakar (Economics), Dr. Sepideh Modrek (Economics), and Dr. Anastasia Smirnova (Linguistics)

THIRD PLACE – \$200

Entry Number: 163 UI

ALONE TOGETHER: PARTNER SUPPORT AS A PREDICTOR OF LONELINESS IN ROMANTIC RELATIONSHIPS

By: Melanie Carniglia and Natalie Wong
Psychology

Faculty Advisors: Dr. Sarah Holley and Dr. David Gard

UNDERGRADUATE COMPUTER SCIENCE/ENGINEERING DIVISION

FIRST PLACE – \$400

Entry Number: 175 UCS/E

INFERRING THE LANGUAGE OF ADDICTION

By: Zachary Prince and Deeptanshu Jha
Computer Science

Faculty Advisor: Dr. Rahul Singh

SECOND PLACES – \$300

Entry Number: 172 UCS/E

PROJECT_M

By: Austin Tsang (CS) and Wanzin Yazar (Statistics)
Computer Science and Mathematics

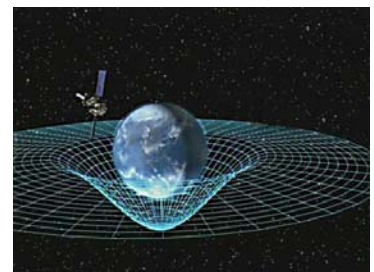
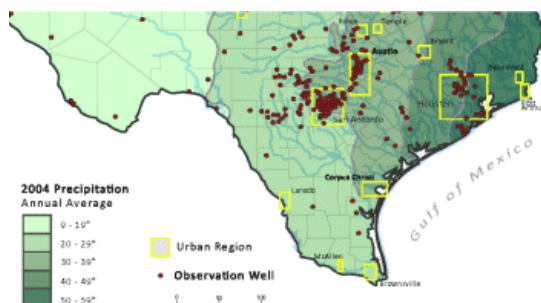
Faculty Advisor: Dr. Isabel Hyo Jung Song

Entry Number: 180 UCS/E

SPIRIT - THE AUTOMATIC BARTENDER

By: Dylan Wright (CompE), Moses Martinez (CompE), and Kyle Henderson (EE)
Engineering

Faculty Advisor: Dr. Tom Holton



THIRD PLACE – \$200

Entry Number: 171 UCS/E

CLARYTY

By: Andy Lai and Mitul Savani
Computer Science

Faculty Advisor: Dr. Minu Kumar (Marketing)

UNDERGRADUATE ENGINEERING DIVISION

FIRST PLACE – \$400

Entry Number: 203 UE

BIO-INSPIRED THREE DIMENSIONAL FALL DETECTION SYSTEM

By: Samuel Benzoni (CE), John Hanson (ME), Lungyuen Lau (Structural),
Batool Zaro (CE), Aishwarya Laturkar (CS), and Gayatri Pise (CS)
Engineering and Computer Science

Faculty Advisors: Dr. Zhaoshuo Jiang (SOE) and Dr. Hao Yue (CS)

SECOND PLACES – \$300

Entry Number: 211 UE

MECHANICALLY ASSISTED ACCESSIBILITY SYSTEM

By: Dawn Bautista, Jenny Huynh, David Kang, Mike Poundstone, and Quinnland Sowell
Mechanical Engineering

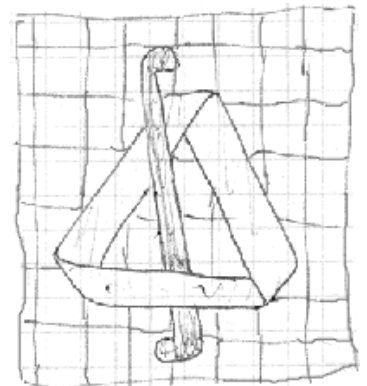
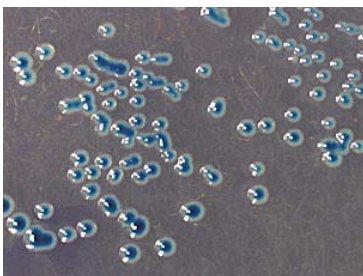
Faculty Advisor: Dr. Manuchehr Shirmohamadi

Entry Number: 225 UE

SOL THERM PURIFIER

By: Zayn Mufti, Melissa Abed, Austin Lockhart, and Tiffany Bermudez
Mechanical Engineering

Faculty Advisor: Dr. Manuchehr Shirmohamadi



THIRD PLACES – \$200

Entry Number: 221 UE

REVOLUTIONARY CNC

By: Noel Herron, Jonathon Hull, and Francis Lee
Mechanical Engineering

Faculty Advisor: Dr. Manuchehr Shirmohamadi

Entry Number: 216 UE

MECHANICAL RIPPLE FLOAT FOR LAYING CEMENT

By: Juan Valdez, Hernan Guzman, Luis Gonzalez, and Danh Le
Mechanical Engineering

Faculty Advisor: Dr. Ed Cheng

