Thank you for your generous financial support toward the 2011 Student Project Showcase!

Dr. Kenneth (BS ’71, Biology) & Dr. Pamela (BS ’73, Math) F O N G
**FIRST PLACES**
*(Kenneth & Pamela Fong Excellence Awards)*

Entry Number: 8 GL
COINCIDENT MASS EXTERMINATION OF NEOTROPICAL AMPHIBIANS WITH THE EMERGENCE OF THE FUNGAL PATHOGEN, *Batrachochytrium dendrobatidis*

By: Tina Cheng
Ecology and Systematics
Faculty Advisor: Dr. Vance Vredenburg

Entry Number: 29 GL
SUPPRESSION ASSAY DEVELOPMENT: TREG’S ROLE IN SUPPRESSING ANTI-DONOR T CELLS PROLIFERATION IN LIVER TRANSPLANT PATIENTS

By: Mariela Pauli
Cell and Molecular Biology
Faculty Advisor: Dr. Frank Bayliss

**THIRD PLACE**

Entry Number: 26 GL
EVOLUTION AT THE ORIGIN: COMPARATIVE GENOMICS OF THE ARCHAEA

By: Hope M. Gray and Robert M. Theis
Microbiology & Computer Science
Faculty Advisor: Dr. Jose R. de la Torre

**FOURTH PLACES**

Entry Number: 23 GL
ANALYSIS OF THE ROLE OF WNTLESS IN FORMATION OF THE WNT GRADIENT IN THE CHICK NEURAL TUBE

By: Linda Szabo and Lydia Li
Cell and Molecular Biology
Faculty Advisor: Dr. Laura Burrus

Entry Number: 30 GL
MANUFACTURING DONOR-SPECIFIC REGULATORY T CELLS

By: Michelle Wray
Microbiology
Faculty Advisors: Dr. Qizhi Tang (UCSF Dept of Surgery) and Dr. Frank Bayliss
HONORABLE MENTIONS

Entry Number: 1 GL
A NEW HONEY BEE THREAT- THE PARASITIZING PHORID FLY APOCEPHALUS BOREALIS
By: Andrew Core
Ecology and Systematics
Faculty Advisor: Dr. John Hafernik

Entry Number: 6 GL
INVESTIGATING ELEMENTARY SCHOOL STUDENTS' PERCEPTIONS ABOUT THE BENEFITS OF INTERACTING WITH SCIENTISTS IN THEIR CLASSROOMS
By: Lakisha Witzel
Conservation Biology
Faculty Advisor: Dr. Kimberly Tanner

Entry Number: 14 GL
EFFECT OF DIURON AND IMAZAPYR HERBICIDES ON PHYTOPLANKTON IN THE SAN FRANCISCO ESTUARY
By: Sarah Blaser
Marine Biology
Faculty Advisor: Dr. Frances Wilkerson

Entry Number: 17 GL
HISTONE ACETYLATION PROFILE CHANGES IN IFN-BETA PROMOTER REGION DUE TO A
By: Anithah Pillai
Cell and Molecular Biology
Faculty Advisor: Dr. Steve Weinstein

Entry Number: 18 GL
CHARACTERIZATION OF GENOME INSTABILITY IN CDC24 MUTANTS IN S. POMBE
By: Anna Marie Tuazon
Cell and Molecular Biology
Faculty Advisor: Dr. Sally Pasion

Entry Number: 43 GL
A NEW BAFILOMYCIN WITH HDAC INHIBITORY ACTIVITY FROM A MARINE-DERIVED STREPTOMYCES SP.
By: Jing Xiao
Chemistry
Faculty Advisor: Dr. Taro Amagata
Entry Number: 45 GL
SYNTHESIS OF AMINO ACID-SUBSTITUTED TETRAPHENYLPORPHYRINS FOR THE USE IN PHOTODYNAMIC THERAPY OF CANCER
By: Lisa van Diggelen
Biochemistry
Faculty Advisor: Dr. Ursula Simonis
FIRST PLACE
Entry Number: 62 GP
TESTING CHROMOSOME PROXIMITY HYPOTHESIS USING LOG-LINEAR MODELS
By: Tatsiana Maskalevich
Mathematics
Faculty Advisor: Dr. Serkan Hosten

SECOND PLACE
Entry Number: 61 GP
IDENTIFYING AVIAN VOCALIZATIONS THROUGH THE GABOR TRANSFORM
By: Steven Li
Mathematics
Faculty Advisor: Dr. Shidong Li

THIRD PLACES
Entry Number: 47 GP
EFFICIENT FINITE DIFFERENCE-BASED SOUND SYNTHESIS USING GPUS
By: Marc Sosnick
Computer Science
Faculty Advisor: Dr. William Hsu

Entry Number: 68 GP
EXTENSION OF GRAPH POLYNOMIALS TO SIGNED GRAPHS
By: Logan Godkin
Mathematics
Faculty Advisor: Dr. Matthias Beck

FIFTH PLACE
Entry Number: 78 GP
DUALITY VIOLATIONS IN QCD
By: James A. Osborne
Theoretical Particles
Faculty Advisor: Dr. Maarten Golterman
HONORABLE MENTIONS

Entry Number: 53 GP
DESIGN AND OPTIMIZATION OF MEMS IMPLANTABLE PASSIVE SENSOR FOR BIOMEDICAL APPLICATIONS
By: Di Lan
Electrical Engineering
Faculty Advisor: Dr. Hao Jiang

Entry Number: 54 GP
A HIGH-POWER VERSATILE WIRELESS POWER TRANSFER FOR BIOMEDICAL IMPLANT
By: Jimmy Zhang
Electrical Engineering
Faculty Advisor: Dr. Hao Jiang

Entry Number: 58 GP
ANALYZING TNPI SITE-SPECIFIC RECOMBINATION AT HYBRID SITES USING THE TANGLE METHOD
By: Katrina Wono
Mathematics
Faculty Advisor: Dr. Maria Elena Vazquez

Entry Number: 69 GP
A NEW TWO-VARIABLE CHROMATIC POLYNOMIAL FOR SIGNED GRAPHS
By: Mela Hardin
Mathematics
Faculty Advisor: Dr. Matthias Beck

Entry Number: 72 GP
ENUMERATION OF GOLOMB RULERS
By: Tu Trung Pham
Mathematics
Faculty Advisor: Dr. Matthias Beck

Entry Number: 75 GP
GEOCHRONOLOGY AND ZIRCON GEOCHEMISTRY OF GREATER HIMALAYAN LEUCOGRANITES, NW INDIA
By: Forrest Horton, Willie Hassett, and John Sommerfield
Geosciences
Faculty Advisor: Dr. Mary Leech

Entry Number: 80 GP
A SEARCH FOR HELIUM-CORE WHITE DWARFS IN OMEGA CENTAURI
By: Suzanne Hayward
Physics and Astronomy
Faculty Advisor: Dr. Adrienne Cool
FIRST PLACE
(Kenneth & Pamela Fong Excellence Award)
Entry Number: 89 UL
TRACKING CELL MIGRATION DURING MUSCLE FORMATION IN THE X. LAEVIS EMBRYO
By: Armbien Sabillo and Vanja Krneta-Stankic
Physiology
Faculty Advisor: Dr. Carmen Domingo

SECOND PLACE
Entry Number: 85 UL
DEFINING ROLES OF EVOLUTIONARY PP1 PHOSPHATASES IN SPERM FUNCTION AND MALE FERTILITY
By: Thais Cintra, Dr. Jui-ching Wu, Aiza Go, and Dr. Diana Chu
Physiology
Faculty Advisor: Dr. Diana Chu

THIRD PLACE
Entry Number: 95 UL
THE ROLE OF A SECOND SHELL HYDROPHOBIC INTERACTION IN TRYPSIN-FOLD SERINE PROTEASE FUNCTION
By: Anna Batt
Biochemistry
Faculty Advisor: Dr. Teaster Baird, Jr.

FOURTH PLACE
Entry Number: 81 UL
DNA METHYLATION IN THE RED HARVESTER ANT
By: Agni Naidu and W. Cameron Jasper
Physiology
Faculty Advisor: Dr. Christopher Smith

FIFTH PLACE
Entry Number: 82 UL
FRIZZLED10 IS REQUIRED FOR CELL SURVIVAL IN THE CHICK NEURAL TUBE
By: Camila Teng
Cell and Molecular Biology
Faculty Advisor: Dr. Laura Burrus
HONORABLE MENTIONS

Entry Number: 93 UL
MICHAEL AND CONJUGATE ADDITIONS ONTO FULVENES AND 6-VINYLFULVENES
By: Marie Danica Obligacion
Physiology
Faculty Advisor: Dr. Ihsan Erden

Entry Number: 100 UL
IMPROVED METHOD FOR SCREENING LEACHABLE ELEMENTS IN TABLEWARE
By: Jessica Shealor
Biochemistry
Faculty Advisor: Dr. Peter Palmer

Entry Number: 103 UL
HOW CARGOS MOVE TOWARDS THE MICROTUBULE MINUS ENDS IN PLANT CELLS
By: Vedud Purde
Biochemistry
Faculty Advisors: Dr. Ahmet Yildiz (UC Berkeley) and Dr. Teaster Baird
Undergraduate Physical Science Division

FIRST PLACE
Entry Number: 127 UP
RAPID PLASMA-ASSISTED, AMBIENT-PRESSURE DEPOSITION OF
CONFORMAL NANOCRYSTALLINE ZINC OXIDE THIN FILMS FOR SOLAR CELL APPLICATIONS
By: Joachim Pedersen, Heather Esposito, and Mark Brunson
Mechanical Engineering
Faculty Advisor: Dr. Kwok-Siong Teh

SECOND PLACE
Entry Number: 110 UP
USING KNOT THEORY TO IDENTIFY AND ENUMERATE KNOTS OF CIRCULAR DNA MOLECULES
By: Alejandro Samaniego
Mathematics
Faculty Advisor: Dr. Mariel Vazquez

THIRD PLACE
Entry Number: 118 UP
SFSU 2011 EERI SEISMIC DESIGN COMPETITION TEAM
By: Randy Leonard, Oskar Garcia, Qi Ming Zeng, Sean Lennan, Elliot House, Jian Hui Zhou, Shirley Altamirano, Lea Limbo, Luis Rodriguez, Maher Dabit, Khalil Dabit, and Laurent Lindquist
Civil Engineering
Faculty Advisor: Dr. Cheng Chen

FOURTH PLACE
Entry Number: 112 UP
DOUBLE ARCHED BRIDGE
By: Clarence Li, Linh Ly, Nathan Miao, Misty Hasey, Chokri Sakhri, Patrick Babasa, and Leonard Lin
Civil Engineering
Faculty Advisor: Dr. Cheng Chen

FIFTH PLACE
Entry Number: 105 UP
ALKALI METAL DOPED ZEOLITES AS SOLID STATE REDUCING AGENTS
By: Devin Nelson
Physical and Materials Chemistry
Faculty Advisor: Dr. Andrew Ichimura
HONORABLE MENTIONS

Entry Number: 125 UP
THERMOACOUSTIC REFRIGERATION TEST UNIT
By: Daniel Lake and Nathan Taylor
Mechanical Engineering
Faculty Advisor: Dr. Morris Megerian

Entry Number: 126 UP
HUMAN-POWERED FORWARD-PROPELLED ROWING MECHANISM
By: Heather Esposito
Mechanical Engineering
Faculty Advisors: Dr. Morris Megerian and Dr. Thomas Holton