

To find what # your project is listed under, click [here](#)

PROGRAM FINAL updated as of Sunday 05/01/05 2 pm

### Graduate Projects 1-65

1GL

**INVESTIGATING THE ROLE OF HEDGEHOG PROTEIN DURING *DROSOPHILA MELANOGASTER* EMBRYONIC DEVELOPMENT**

By: Jamie Lemus and Dr. Felipe-Andres Ramirez-Weber  
Cell and Molecular Biology  
Faculty Advisor: Dr. Felipe-Andres Ramirez-Weber

2GL

**IDENTIFICATION OF A CANDIDATE MYOSIN INVOLVED IN TRAFFICKING OF THE DECAPENTAPLEGIK RECEPTOR TKV IN DEVELOPING *DROSOPHILA MELANOGASTER* WING IMAGINAL DISCS**

By: Laurence Meloty-Kapella  
Cell and Molecular Biology  
Faculty Advisor: Dr. Felipe-Andres Ramirez-Weber

3GL

**ROLE OF LIPID MODIFICATION IN WING TRANSPORT AND LOCALIZATION AND SECRETION IN *DROSOPHILA MELANOGASTER* EMBRYONIC TISSUE**

By: Ouma Onguka  
Cell and Molecular Biology  
Faculty Advisor: Dr. Felipe-Andres Ramirez-Weber

4GL

**COMPARISON OF mRNA AND PROVIRAL SEQUENCES OF HIV-1 TAT IN THE VIRAL LATENT RESERVOIR**

By: Alvaro Galvis  
Cell and Molecular Biology  
Faculty Advisor: Dr. Joseph Romeo

5GL

**INVESTIGATING XA21-SPECIFIC RESISTANCE AT THE POST-TRANSCRIPTIONAL LEVEL IN RICE**

By: Alain Oyafuso  
Cell and Molecular Biology  
Faculty Advisor: Dr. Maureen Whalen

6GL

**CONSTRUCTION OF A PLASMID REPORTER TO FACILITATE MEASUREMENT OF GSH1 EXPRESSION, A NOVEL RESPONSE TO OSMOTIC STRESS IN *SACCHAROMYCES CEREVISIAE***

By: Daniel Bravo, Nilu Prasad, Patti Lugowski, and Dr. Robert M. Ramirez

Cell and Molecular Biology  
Faculty Advisor: Dr. Robert M. Ramirez

7GL

**DERMOMYOTOME FILOPODIA CONTACTS SURFACE ECTODERM DURING EARLY EPAXIAL MYOTOME DEVELOPMENT IN THE CHICKEN EMBRYO**

By: Gustavo Gomez and Emi Okada  
Cell and Molecular Biology  
Faculty Advisor: Dr. Wilfred Denetclaw

8GL

**COMPARATIVE ANALYSIS OF RAT SCIATIC NERVE BIOMECHANICS, GAIT AND HISTOLOGY AFTER MILD COMPRESSION INJURY**

By: Leela Satyendra (UCSF), Benjamin Boyd (UCSF), Jerylin Gan (UCSF), Angeles Rios, and Dr. Kimberly Topp (UCSF)  
Cell and Molecular Biology  
Faculty Advisor: Dr. Wilfred Denetclaw

9GL

**METHYL- $\beta$ -CYCLODEXTRIN SHORT TERM *IN OVO* INCUBATION BLOCKS EARLY MYOTOME FORMATION REVEALING A FIRST WAVE OF SOMITIC MYOGENESIS IN CHICKEN EMBRYOS**

By: Wendy Rosenthal  
Cell and Molecular Biology  
Faculty Advisor: Dr. Wilfred Denetclaw

10GL

**INTEGRATED MANAGEMENT TECHNIQUES FOR THE CONTROL AND ERADICATION OF *LEPIDIUM LATIFOLIUM* (PERENIAL PEPPERWEED) IN THE SAN FRANCISCO ESTUARY**

By: Anya Perron-Burdick  
Conservation Biology  
Faculty Advisor: Dr. Katharyn Boyer

11GL

**THE EFFECTS OF RESOURCE FLUCTUATIONS ON THE RELATIONSHIP BETWEEN ALGAL DIVERSITY AND PRODUCTIVITY**

By: Johanna Kertesz, Dr. Katharyn Boyer, and Dr. John Bruno  
Conservation Biology  
Faculty Advisor: Dr. Katharyn Boyer

12GL

**THE IMPACTS OF COASTAL DUNE RESTORATION ON TERRESTRIAL ARTHROPOD ASSEMBLAGES**

By: John Doudna  
Ecology and Systematics Biology  
Faculty Advisor: Dr. Edward F. Connor

13GL

**DETERMINANTS OF SEASONAL ABUNDANCE IN KEY ZOOPLANKTON OF THE SAN FRANCISCO ESTUARY**

By: John Durand

Ecology and Systematics Biology

Faculty Advisor: Dr. Wim Kimmerer

14GL

**QUANTIFICATION OF GLUTAMINE SYNTHETASE GENE EXPRESSION IN DIATOMS**

By: Laila Barada, Misaki Takabayashi, and Dr. Frances Wilkerson

Marine Biology

Faculty Advisor: Dr. Frances Wilkerson

15GL

**MESOZOOPLANKTON PREDATION ON PROTISTS IN SUISUN BAY, NORTHERN SAN FRANCISCO ESTUARY**

By: Scott M. Gifford

Marine Biology

Faculty Advisor: Dr. Gretchen Rollwagen Bollens and Dr. Steve Bollens

16GL

**BIODIVERSITY AND HABITAT COMPLEXITY: GASTROPODS IN AN AFRICAN RIFT LAKE**

By: Brittany Huntington

Marine Biology

Faculty Advisor: Dr. Katharyn Boyer

17GL

**GEOGRAPHIC VARIATION IN AGE COMPOSITION OF THE KELP ROCKFISH, *SEBASTES ATROVIRENS***

By: Lisa Krigsman

Marine Biology

Faculty Advisor: Dr. Ralph Larson

18GL

**ROCKY INTERTIDAL HABITAT MAPPING AND CHARACTERIZATION AT FITZGERALD MARINE RESERVE, MOSS BEACH**

By: Aura DeMare

Marine Biology

Faculty Advisor: Dr. Thomas Niesen

19GL

**ASSESSING PRIMARY PRODUCTION IN DIATOMS USING GENETIC (REAL-TIME PCR) AND BIOGEOCHEMICAL (<sup>14</sup>C FIXATION) TECHNIQUES**

By: Allison Lorenzi

Marine Biology and Limnology

Faculty Advisor: Dr. Frances Wilkerson

20GL

**CLINICAL LABORATORY SCIENTIST REVIEW SEMINARS DIRECTED TOWARD CALIFORNIA LICENSURE**

By: Dora W. Goto  
Clinical Laboratory Science  
Faculty Advisor: Dr. Linda Blackwood

21GL

**MOLECULAR CHARACTERIZATION OF ENTEROPATHOGENIC BACTERIA**

By: Patricia Lin and Sawsan al Nimri  
Clinical Laboratory Science  
Faculty Advisor: Dr. Lily Chen

22GL

**REAL TIME PCR ANALYSIS OF THE TYPE III SECRETION GENES IN *P. AERUGINOSA***

By: Tanya Gannon  
Microbiology  
Faculty Advisor: Dr. Britta Swanson

23GL

**DETERMINING THE TRANS-CELLULAR TRANSACTIVATION POTENCY OF TAT, A HIV-1 PROTEIN THAT REGULATES THE VIRAL GENE TRANSCRIPTION**

By: Lawrence Wong  
Microbiology  
Faculty Advisor: Dr. Joseph Romeo

24GL

**GENETIC AND PHYSICAL INTERACTIONS BETWEEN *cdc24* AND *rad2* IN FISSION YEAST**

By: Dennis Bua  
Microbiology  
Faculty Advisor: Dr. Sally Pasion

25GL

**THE EFFECTS OF DIFFERENT SUBSTRATES ON THE FORAGING BEHAVIOR, GROWTH RATE, AND LIPID CONTENT OF LARVAL GREEN STURGEON, *ACIPENSER MEDIROSTRIS***

By: Rosalee M. Nguyen  
Physiology and Behavioral Biology  
Faculty Advisor: Dr. Carlos Crocker

26GL

**NOCTURNAL EMERGENCE AND FORAGING OF THE TOAD, *BUFO BOREAS BOREAS***

By: Dawn LoBaugh  
Biology  
Faculty Advisor: Dr. Lisa Eby (University of Montana, Missoula)

27GL

**THE STRUCTURE/FUNCTION OF ECDYSIS TRIGGERING HORMONE (ETH) IN *MANDUCA SEXTA***

By: Arthur Salmon  
Physiology and Behavioral Biology  
Faculty Advisor: Dr. Megumi Fuse

28GL

**IDENTIFYING CELLULAR AND VIRAL PARTNERS OF L4-100K**

By: Estrellita delaVega

Cell and Molecular Biology

Faculty Advisor: Dr. Wilfred Denetclaw

29GL

**KINETIC STUDIES OF BOVINE KIDNEY DIAMINE OXIDASE**

By: Creobelle Guzman and David Elgart

Biochemistry

Faculty Advisor: Dr. George Gassner

30GL

**ISOLATION AND INTERCONVERSION OF TWO STATES OF BOVINE DIAMINE OXIDASE**

By: David M. Elgart, Creobelle Guzman, and Dr. George Gassner

Biochemistry

Faculty Advisor: Dr. George Gassner

31GL

**EVIDENCE FOR THE ACTIVATION OF CYTOCHROME P450 2C9 BY SELECTED PYRETHROIDS**

By: Hung Tieu

Biochemistry

Faculty Advisor: Dr. Nancy Counts Gerber

32GL

**CONSTRUCTION, ISOLATION AND CHARACTERIZATION OF CYTOCHROME P450FAS AND P420FAS**

By: Yu Wang, Mayra Pastore, and Ayako Suzuki

Biochemistry

Faculty Advisor: Dr. Nancy Counts Gerber and Dr. Raymond M. Esquerra

33GL

**NITRIC OXIDE AND HEMOGLOBIN: SPECTROSCOPIC INVESTIGATIONS OF THE LINK BETWEEN GLYCOSYLATED HbA<sub>1c</sub> AND CARDIOVASCULAR COMPLICATIONS OF DIABETES**

By: Laura McElroy, Hal Patterson, and Marlisa Pillsbury

Biochemistry

Faculty Advisor: Dr. Raymond M. Esquerra

34GL

**SYNTHESIS AND ANALYSIS OF DEAZA-PYRIDOXAL**

By: Chi Ho

Biochemistry

Faculty Advisor: Dr. Weiming Wu

35GL

### **PSMA PROJECT**

By: Jack Maung, Lisa Y. Wu, Bo Tan, Tammy Y. Campbell, Jennifer A. Rowley, and Dr. Clifford E. Berkman  
Chemistry  
Faculty Advisor: Dr. Clifford Berkman

36GL

### **RING EXPANSIONS OF ALPHA-FORMYL CYCLOBUTANONES TO NITROGEN CONTAINING HETEROCYCLES**

By: Colin Mercer  
Chemistry  
Faculty Advisor: Dr. Ihsan Erden

37GL

### **MASS SPECTROMETRIC STUDIES OF OXIDATIVE DAMAGE IN PROTEINS**

By: Ani Temple  
Chemistry and Biochemistry  
Faculty Advisor: Dr. Scott Gronert

38GP

### **IMAGE ANNOTATION SYSTEM FOR HEDGEHOG SIGNALING PATHWAY WEBSITE**

By: Frank Chen  
Computer Science  
Faculty Advisor: Dr. Dragutin Petkovic

39GP

### **MAKING FAVORITES USEFUL**

By: John Roberts, Jaime Ruiz, and Jun Murakawa  
Computer Science  
Faculty Advisor: Dr. Edward Lank

40GP

### **DESIGN DATA ACQUISITION TOOL FOR FIELD BIOLOGISTS**

By: Kevin Pan and Ken Withee  
Computer Science  
Faculty Advisor: Dr. Edward Lank

41GP

### **AUTOMATED BEHAVIORAL PHENOTYPE DETECTION AND ANALYSIS USING COLOR-BASED MOTION TRACKING**

By: Alan Shimoide  
Computer Science  
Faculty Advisor: Dr. Ilmi Yoon

42GP

### **WEBS ON THE WEB: A 3D VISUALIZATION OF ECOLOGICAL FOOD WEBS**

By: Tracie Hong and Jun Murakawa  
Computer Science  
Faculty Advisor: Dr. Ilmi Yoon

43GP

**HETEROGENEOUS DATA TRANSFER USING WEB SERVICES**

By: Sorna Vincent

Computer Science

Faculty Advisor: Dr. Marguerite Murphy

44GP

**FREEFLOW: DATABASES AND INTERFACES FOR ENABLING DRUG DISCOVERY**

By: Jody Vandergriff, Tammy Chan, Preeti Malik, Dr. Joseph DeRisi (UCSF), and Jennifer Weisman (UCSF)

Computer Science

Faculty Advisor: Dr. Rahul Singh

45GP

**DESIGNING SYSTEMS TO FACILITATE INTERACTIONS WITH PERSONAL MULTIMEDIA**

By: Juan Camilo Pinzon

Computer Science

Faculty Advisor: Dr. Rahul Singh

46GP

**MINING MEDLINE TO COMPLEMENT BIOLOGICAL EXPERIMENTS**

By: Naureen Moon

Computer Science

Faculty Advisor: Dr. Rahul Singh

47GP

**RETHINKING THE PRESENTATION OF RESULTS FROM WEB SEARCH**

By: Dil Chitaur, Ya-Wen Hsu, Wen-Cheng Sun, and Liu Yan

Computer Science

Faculty Advisor: Dr. Rahul Singh

48GP

**P5MIDI - EXPLORING VIRTUAL REALITY CONTROLLERS AS PERFORMANCE ART INSTRUMENTS**

By: Mike Wong

Computer Science

Faculty Advisor: Dr. William Hsu

49GP

**FIXTURE TO MEASURE SETTLING TIME OF FAST LINEAR INTERGRATED CIRCUITS**

By: Wai F. Wong

Electrical Engineering

Faculty Advisor: Dr. Sergio Franco

50GP

**SUB-BAND CODING OF POSTIONAL DATA OVER LOCALIZED COMMUNICATIONS**

By: Lisseth Villareal

Engineering

Faculty Advisor: Dr. Todor Cooklev

51GP

**OPTIMAL DAMPER CONFIGURATION**

By: Murat Bozkurt

Civil Engineering

Faculty Advisor: Dr. Wenshen Pong

52GP

**FITTING ASTROMETRIC DATA WITH MARKOV CHAIN MONTE CARLO: A TOOL FOR  
DETECTING PLANETARY SIGNALS**

By: Peter Driscoll

Physics

Faculty Advisor: Dr. Debra Fischer

53GP

**SPECTRAL ANALYSIS OF KGIANTS: REFERENCE STARS FOR THE SPACE  
INTERFEROMETRY MISSION**

By: K. L. Tah, Chris McCarthy, and Dr. Debra Fischer

Physics and Astronomy

Faculty Advisor: Dr. Debra Fischer

54GP

**A TEST OF THE EQUIVARIANTLY GAUGE-FIXED YANG-MILLS THEORY ON THE LATTICE**

By: Leah Zimmerman

Physics

Faculty Advisor: Dr. Maarten Golterman

55GP

**MULTIWAVELENGTH MAPPING OF YOUNG STELLAR OBJECTS AND THEIR OUTFLOWS**

By: Jason E. Ybarra, Dr. Mary Barsony, Karl Haisch (Utah Valley State College), Tom Jarrett (IPAC/Caltech), Raghvendra Sahai (JPL)

Physics and Astronomy

Faculty Advisor: Dr. Mary Barsony

56GP

**ARTIFICIAL INTELLIGENCE: PROBABILISTIC REASONING**

By: Inho Choi

Mathematics

Faculty Advisor: Dr. Arek Goetz

57GP

**MATHEMATICAL MODEL OF CURRENT DISTRIBUTION BY LAYERS IN AN ELECTRIC  
CABLE DURING A PHASE SHORTAGE**

By: Dmitriy Zhiv

Mathematics

Faculty Advisor: Dr. David Ellis

58GP

**MATHEMATICS AND STUDENT PERFORMANCE IN ECONOMICS**

By: Victor Contini

Mathematics

Faculty Advisor: Dr. Eric Hsu

59GP

**GRADED RETRACTIONS IN THE STANLEY-REISNER RING OF A SIMPLICIAL COMPLEX**

By: John Fisher

Mathematics

Faculty Advisor: Dr. Joseph Gubeladze

60GP

**HOM-POLYTOPES: CONSTRUCTION AND CATEGORIZATION**

By: Mark Contois

Mathematics

Faculty Advisor: Dr. Joseph Gubeladze

61GP

**CODING THEORY**

By: Andrew Beyer

Mathematics

Faculty Advisor: Dr. Matthias Beck

62GP

**HAMILTONIAN PATHS ON TOURNAMENT GRAPHS**

By: Daniel Antonetti

Mathematics

Faculty Advisor: Dr. Matthias Beck

63GP

**APPLICATIONS OF THE OMEGA OPERATOR**

By: Dorothy Moorefield

Mathematics

Faculty Advisor: Dr. Matthias Beck

64GP

**SIMULATION STUDIES AND IMPLEMENTATION OF BOOTSTRAP MULTIPLE TESTING PROCEDURES TO CONTROL FOR TYPE I ERROR RATE**

By: Vera Klimkovsky

Mathematics

Faculty Advisor: Dr. Mohammad R. Kafai

65GP

**COLORING INVARIANT AND DETERMINANTS IN KNOT THEORY**

By: Candice Price

Mathematics

Faculty Advisor: Dr. Thomas Mattman (CSU Chico)

Undergraduate Projects 66-129

66UL

**CHARACTERIZATION OF EXPRESSION LEVELS OF TWO ACETYL-CoA CARBOXYLASE ISOFORMS USING QUANTITATIVE REAL-TIME PCR**

By: Cynthia Holsclaw

Cell and Molecular Biology

Faculty Advisor: Dr. Elizabeth Runquist

67UL

**THE HEDGEHOG SIGNALING PATHWAY DATABASE**

By: Kieran Hervold, K Laventall, F Chen, Anthony Fergoso, A Hsieh, J Maag, Alma Marquez, R Manchanda, Sandeep Pathuri, Cenk Pekiner, Sushma Raghavendra, Roger Kirkpatrick. Dr.

Edward Lank, Dr. Dragutin Petkovic, and Dr. Felipe-Andres Ramirez-Weber

Cell and Molecular Biology

Faculty Advisor: Dr. Felipe-Andres Ramirez-Weber

68UL

**A PHOTO-SWITCHABLE FLUORESCENCE PROTEIN AS A REAGENT FOR THE VISUALIZATION OF PROTEIN DYNAMICS IN *DROSOPHILA MELANOGASTER* EMBRYONIC TISSUES**

By: Ratika Chopra and Dr. Felipe-Andres Ramirez-Weber

Cell and Molecular Biology

Faculty Advisor: Dr. Felipe-Andres Ramirez-Weber

69UL

**POST-TRANSLATIONAL MODIFICATION OF HEDGEHOG N-TERMINAL MAY DETERMINE MORPHOGEN LOCALIZATION AND DISTRIBUTION IN *DROSOPHILA MELANOGASTER* DEVELOPING TISSUES**

By: Shiho Kawamura, Rosa Uribe, and Dr. Felipe-Andres Ramirez-Weber

Cell and Molecular Biology

Faculty Advisor: Dr. Felipe-Andres Ramirez-Weber

70UL

**HUMAN BLOOD MONONUCLEAR CELL SUBSTRATE FOR EXPANSION OF PRIMARY HIV-1 PREVALENT IN THE POPULATION**

By: Chris Lai Hipp

Cell and Molecular Biology

Faculty Advisor: Dr. Girish Vyas (UCSF)

71UL

**ANALYSIS OF THE INTERACTIONS BETWEEN Wnt-3a AND Wnt-5b SIGNALING PATHWAYS DURING CHICK DEVELOPMENT**

By: Katie Sanders

Cell and Molecular Biology

Faculty Advisor: Dr. Laura W. Burrus

72UL

**RFDD-DISPLAY**

By: Alexander Sun and Audrey Parangan  
Cell and Molecular Biology  
Faculty Advisor: Dr. Leticia Marquez-Magana

73UL

**TRANSCRIPTIONAL ARCHITECTURE OF THE *FLA/CHE* OPERON OF *BACILLUS SUBTILIS***

By: Joyce Cueto  
Cell and Molecular Biology  
Faculty Advisor: Dr. Leticia Marquez-Magana

74UL

**DEVELOPMENTAL CHARACTERIZATION OF A CHH-LIKE NEUROPEPTIDE IN THE HORNWORM, *MANDUCA SEXTA***

By: Myra Grace A. dela Pena and Anna Drexler  
Cell and Molecular Biology  
Faculty Advisor: Dr. Megumi Fuse

75UL

**CANNABINOIDS IN THERAPEUTICS**

By: Jahan Marcu  
Cell and Molecular Biology  
Faculty Advisor: Dr. Steven Weinstein

76UL

**CHOLESTEROL RICH LIPID RAFTS REGULATE MYOBLAST FUSION AND EXPRESSION OF MUSCLE SPECIFIC MARKERS IN CHICKEN EMBRYO SKELETAL MUSCLE CULTURES**

By: Andrei Odobescu, Anthony Luna, Jared Greenberg, and Dr. Wilfred Denetclaw  
Cell and Molecular Biology  
Faculty Advisor: Dr. Wilfred Denetclaw

77UL

**NUCLEAR AND MITOCHONDRIAL DNA VARIATION BETWEEN ONSHORE AND OFFSHORE POPULATIONS OF AMERICAN LOBSTERS, (*HOMARUS AMERICANUS*) BETWEEN LONG ISLAND AND THE GULF OF MAINE**

By: Ellen Kosman  
Marine Biology  
Faculty Advisor: Dr. Sarah Cohen

78UL

**VIDEO ANALYSIS OF ECDYSIS BEHAVIORS IN THE TOBACCO HORNWORM, *MANDUCA SEXTA***

By: Alba Gutierrez, Alex Vaughan, Alan Shimoide, Dr. Ilmi Yoon, and Dr. Rahul Singh  
Physiology and Behavioral Biology  
Faculty Advisor: Dr. Megumi Fuse

79UL

**SYNTHESIS OF N-PHOSPHORYL AMINO ACIDS USING BIS(9-FLUORENYLMETHYL)  
PHOSPHITE**

By: Lisa Wu

Biochemistry

Faculty Advisor: Dr. Clifford Berkman

80UL

**THE OPTIMIZATION OF REVERSED-PHASE HPLC SEPARATIONS OF BIOLOGICALLY  
ACTIVE EXTRACTS**

By: David Chen and Dr. Eugene Fujinari

Biochemistry

Faculty Advisor: Dr. Eugene Fujinari, Dr. Gary Takeoka of USDA, and Christopher Hobbs, L.Ac.,  
A.H.G

81UL

**QUANTITATIVE PCR ON MOUSE RNA**

By: Jeffrey Ung

Biochemistry

Faculty Advisor: Dr. Elizabeth Runquist

82UL

**CLONING AND EXPRESSION OF A CYTOCHROME P-450 REDUCTASE AND REDOXIN  
FROM *RHODOCOCCUS ERYTHROPOLIS***

By: Jaime Batt

Biochemistry

Faculty Advisor: Dr. Nancy Counts Gerber

83UL

**EXPRESSION OF P450FAS IN E. COLI: ROLE IN THE BIOSYNTHESIS OF PLANT CYTOKININ  
ZEATIN**

By: Mayra Pastore, Yu Wang, and Dr. Nancy Gerber

Faculty Advisor: Dr. Nancy Counts Gerber

84UL

**DOES COEXPRESSION WITH CALMODULIN IMPROVE THE PURITY AND ALTER THE TIME  
RESOLVED PHOTOLYSIS KINETICS OF NITRIC OXIDE SYNTHASE EXPRESSED IN E. COLI?**

By: Marlisa Pillsbury

Biochemistry

Faculty Advisor: Dr. Raymond M. Esquerra

85UL

**PURIFICATION AND THERMOSTABILITY OF Cys42A/Cys58A TRYPSIN MUTANT**

By: Allan Rey Gopez

Biochemistry

Faculty Advisor: Dr. Teaster Baird

86UL

**THEORETICAL STUDIES OF 1-D CESIDE CHAINS**

By: Phil Morganelli

Chemistry  
Faculty Advisor: Dr. Andrew Ichimura

87UL

**ALKALI-METAL-DOPED ZEOLITES: NANO-SCALE REACTION CHAMBERS**

By: Seth Campbell  
Chemistry  
Faculty Advisor: Dr. Andrew Ichimura

88UL

**MODELING HEXAVALENT CHROMIUM REACTIONS WITH SOIL**

By: Jovilynn Olegario and Anvi Parikh  
Chemistry  
Faculty Advisor: Dr. Bruce Manning

89UL

**A NEW HPLC METHOD FOR REVERSED-PHASE SEPARATIONS WITH MULTI-SOLVENT, MULTI-COLUMN SELECTIVITY, AND MULTI-WAVELENGTH SPECTROPHOTOMETRIC UV DETECTION**

By: Michel Lau  
Chemistry  
Faculty Advisor: Dr. Eugene Fujinari

90UL

**PORTABLE X-RAY FLUORESCENCE SPECTROPHOTOMETER FOR THE DETERMINATION OF TOXIC HEAVY METALS IN FOOD PRODUCTS**

By: Kelly Ferguson  
Chemistry  
Faculty Advisor: Dr. Pete Palmer

91UL

**DETERMINATION OF UBIQUITIN D<sub>t</sub>**

By: Jared Thompson  
Chemistry  
Faculty Advisor: Dr. Sergio Aragon

92UL

**SYNTHESIS AND CHARACTERIZATION OF TETRAPHENYLPORPHYRINS**

By: Shahrzad Farokhzad and Lenin Parrales  
Biochemistry  
Faculty Advisor: Dr. Ursula Simonis

93UL

**CONFORMATIONAL CHANGES OF sGC**

By: Bess-Carolina Dolmo  
Chemistry  
Faculty Advisor: Dr. Nancy Counts Gerber

94UP

**WATER TREATMENT SYSTEM FOR LAKE MERCED**

By: Jenson Lam, Raymond Lam and Regina Woo

Civil Engineering

Faculty Advisor: Dr. Elahe Enssani

95UP

**DESIGN OF A MULTI-STORY OFFICE BUILDING**

By: Kevin Peng, Sammi Huang, and Wai-Hong Cheng

Civil Engineering

Faculty Advisor: Dr. Norman Owen

96UP

**WOOD BRIDGE DESIGN FOR NATIONAL COMPETITION**

By: Damon A. Armstrong, Nidia Barrios, Tina Edwards, Maria Flores, Jennifer Navarro, and Tam Nguyen Jr

Civil Engineering

Faculty Advisor: Dr. Norman Owen

97UP

**FOUNDATION AND RETAINING WALL DESIGN**

By: Kenneth Murphy, Marc Coats, Bashar Sudah, and Richard Stockand

Civil Engineering

Faculty Advisor: Dr. Timothy D'Orazio

98UP

**STEEL BRIDGE 2005**

By: George Kavaivanov, Alondra Trevino, Rene Jimenez, Christian Iguban, Emaneab, Wondwosen Walemaye, David Chen and Pavel Guevarra

Civil Engineering

Faculty Advisor: Dr. Wenshen Pong

99UP

**WOOD BRIDGE I DESIGN FOR 2005 NATIONAL TIMBER BRIDGE DESIGN COMPETITION**

By: Rana Bayadi, Jim Chilton, Thomas Richardson, Faris Salfiti, Bopha Sok, and Catherine Stout

Civil Engineering

Faculty Advisor: Dr. Wenshen Pong

100UP

**SFSU CONCRETE CANOE TEAM**

By: YiuTak Wong and Doug Lee

Civil Engineering

Faculty Advisor: Dr. Wenshen Pong

101UP

**PORTALIFE**

By: Wahiba Chair, Shane Chang, and Fernando Recoder

Electrical & Computer Engineering

Faculty Advisor: Dr. Hamid Shahnasser

102UP

**M.A.D. (MINI-AUTO DRUMMER)**

By: Tyrone Hillman, Joab Orowe, and Peter Naylor

Electrical Engineering

Faculty Advisor: Dr. Hamid Shahnasser

103UP

**LOUDSPEAKERS AND DEVICE TESTING**

By: R. Miloh Alexander and Vladislav Temnov

Electrical & Computer Engineering

Faculty Advisor: Dr. Hamid Shahnasser

104UP

**MICROMOUSE (RED RAT)**

By: Efreem Gebre, Minh Nguyen, and Thai Pham

Electrical Engineering

Faculty Advisor: Dr. Hamid Shahnasser

105UP

**MICROMOUSE**

By: John Aromin, Edgardo Felix, and Mekonen Hadgu

Electrical Engineering

Faculty Advisor: Dr. Hamid Shahnasser

106UP

**NATCAR: THE AUTONOMOUS RACECAR**

By: Oscar Buenaventura, Jose Escobar, Zach Nosker, and Sami Sirhan

Electrical Engineering

Faculty Advisor: Dr. Hamid Shahnasser

107UP

**PATHFOLLOWER**

By: Asif Khan, Ram Shrestha, and Kent K. Trinh

Electrical Engineering

Faculty Advisor: Dr. Hamid Shahnasser

108UP

**RFID TOLLING SYSTEM**

By: Ken Huang, Johnny Ho, and Steven Lau

Electrical Engineering

Faculty Advisor: Dr. Thomas Holten

109UP

**SNAKE FOOD THE MICROMOUSE**

By: Bopamo Osaisai, Juanita Flores, and Yu-Tsu Cheng

Electrical Engineering

Faculty Advisor: Dr. Hamid Shahnasser, Dr. Michael Holden, and Mike Strange

110UP

### **HYDROELECTRIC STORAGE BATTERY**

By: Charles Norona, Shane Chang, Starsky Dias, Heriberto Grande, and Matt Sieling  
Electrical Engineering

Faculty Advisor: Dr. Thomas Holton and Dr. Michael Holden

111UP

### **HANDS FREE OBSTACLE FINDER**

By: Joe Chen, YanFen Huang, and Luis Trelles  
Electrical Engineering

Faculty Advisor: Dr. Thomas Holten

112UP

### **SEAT RISING WHEELCHAIR**

By: George Parada and Willie Hernandez  
Mechanical Engineering

Faculty Advisor: Dr. Anthony Wheeler

113UP

### **ASME HUMAN POWERED VEHICLE FOR SPRINT**

By: Reynaldo Barrera, Roberto DeVera, Vin Duong, David Garcia, Andy Feng, Zeeshan Khan, Erik Ko, and Ronald Morales

Mechanical Engineering

Faculty Advisor: Dr. Anthony Wheeler

114UP

### **MINI CHOPPER MOTORCYCLE**

By: Willie Hernandez, Alan Ho, Chandra Lai, and Carmen Picar  
Mechanical Engineering

Faculty Advisor: Dr. Dipendra Sinha

115UP

### **CRACK PROPAGATION IN TITANIUM ALUMINIDE(TIAL) AS INVESTIGATED BY SPECKLE INTERFEROMETRY WITH ELECTRON MICROSCOPY**

By: Oluwatoberu Thomas

Mechanical Engineering

Faculty Advisor: Dr. Fu-Pen Chiang (Stony Brook University)

116UP

### **FOLDING MODULAR SIDE PANEL SYSTEM WITH INTEGRATED HIGH-LIFT TAILGATE FOR USE ON FLATBED TRUCKS EQUIPPED WITH DUMP HOISTS**

By: Ian Andersen, James Gingras, Josh Lowery, Jonathan Meier, Rochelle Underwood, and Crystal Vines

Mechanical Engineering

Faculty Advisor: Michael Strange and Dr. Mamdouh Abo-El-Ata

117UP

### **MODERN LIVE SAVING ROBOT FIRE FIGHTER**

By: Ivan Zhao, Min Lat Yin, Tuen Kwan, and Lawrence W. Nti

Mechanical Engineering

Faculty Advisor: Dr. Michael Holden

118UP

**WALKOMATIC THERAPY (KNEE-ASSIST DEVICE)**

By: Tina Leong, Susan O' Grady, and Wutichai Chanhong

Mechanical Engineering

Faculty Advisor: Dr. Michael Holden and Dr. Mamdouh Abo-El-Ata

119UP

**THERMAL SIPHONING**

By: Ronald Morales and Paul Kwan

Mechanical Engineering

Faculty Advisor: Greg King

120UP

**STREAMLINED 50cc LAND SPEED RECORD ATTEMPT MOTORCYCLE**

By: Matt Hamilton, Pete Husing, and Peter Kreiden

Mechanical Engineering

Faculty Advisor: Dr. Mamdouh Abo-El-Ata and Dr. Ed Cheng

121UP

**LIQUID WARRIORS - A 3D FIGHTING GAME**

By: Daniel Anderson and Steven Ginn

Computer Science

Faculty Advisor: Dr. Lawrence S. Kroll

122UP

**PERIODICTY OF CHANNEL-SPANNING POTHOLES IN NAVAJO SANDSTONE, HENRY MOUNTAINS UTAH: IMPLICATIONS FOR BEDROCK EROSION IN CHANNELS WITH LIMITED SEDIMENT SUPPLY**

By: Curtis Barnes

Geology

Faculty Advisor: Dr. Leonard Sklar

123UP

**MAPPING THE EXISTENCE AND EXTENT OF MID-CRUSTAL REFLECTORS IN THE SAN GABRIEL MOUNTAINS OF SOUTHERN CALIFORNIA**

By: Dave Schumaker

Geology

Faculty Advisor: Dr. Karen Grove

124UP

**ADVENTURES IN OPTIMAL SAMPLING DESIGN: THE QUDARAT DILEMMA - IS IT STILL HIP TO BE SQUARE?**

By: Anastasia Chavez and Lucas Bohnett

Mathematics

Faculty Advisor: Dr. Edward F. Connor

125UP

**CATAclysmic VARIABLES AND ACTIVE BINARIES IN OMEGA CENTAURI**

By: Tersi Arias, Michelle Brochmann, M. Vivian White, and Jason Dorfman

Physics and Astronomy

Faculty Advisor: Dr. Adrienne Cool

126UP

**SPECTROSCOPIC ANALYSIS OF VOLATILE ELEMENTS**

By: Elizabeth Manrao

Physics

Faculty Advisor: Dr. Debra Fischer

127UP

**FINDING SUPERNOVA IN A SLICE OF PI**

By: Dennis Lamenti and Dr. Fritz DeJongh (Fermi National Accelerator Laboratory, Batavia, IL)

Physics and Astronomy

Faculty Advisor: Dr. Ron Marzke

128UP

**CONTROLLING LIGHT IN PHOTONIC LATTICES**

By: Jack Young

Physics

Faculty Advisor: Dr. Zhigang Chen

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**OPTICAL SPATIAL SOLITONS AND WAVEGUIDES IN ORGANIC PHOTOREFRACTIVE GLASS**

By: Ryan Phelan

Physics

Faculty Advisor: Dr. Zhigang Chen

DISPLAY ONLY POSTERS!!!!

**UNDERSTANDING THE CELLS BEHAVIORS UNDERLYING MUSCLE FORMATION IN XENOPUS LAEVIS**

By: Minh Ho and Dr. Carmen Domingo

Cell and Molecular Biology

Faculty Advisor: Dr. Carmen Domingo

**THE BEAT MACHETE: AMPLITUDE-BASED TRANSIENT DETECTION**

By: Jensen R. Galan

Computer Science

Faculty Advisor: Dr. William Hsu

**EXTERNAL TANK FOAMS INVESTIGATION: RELATING MICROSTRUCTURAL ELEMENTS TO MACROSTRUCTURAL PHYSICAL RESPONSE**

By: Steven Diaz (San Jose State University), Brooke Cole, and James Williams (NASA Ames Research Center)

Engineering

Faculty Advisor: James Williams (NASA Ames Research Center) and Dr. Wenshen Pong

**FEEDING PREFERENCES AND DIETARY SHIFTS AMONG TREEFISH (*SEBASTES SERRICEPS*)**

By: Ellen Kosman

Marine Biology

Faculty Advisor: Dr. Ralph Larson

**IS THE NIGHT TIME THE RIGHT TIME: NIGHT AND DAY BLOOMING DISCRETE GENE IN SUBSPECIES OF *LINANTHUS DICHOTOMUS* (*POLEMONEACEAE*)**

By: Mariela Pauli and Dr. Gretchen LeBuhn

Cell and Molecular Biology

Faculty Advisor: Dr. Gretchen LeBuhn

**HEART MONITOR (ELECTRONIC STETHOSCOPE)**

By:

Electrical Engineering

Faculty Advisor: Dr. Thomas Holten