

Entry Number 1 GL

**INVESTIGATION OF PRES2 MUTATIONS AS EARLY CLINICAL MARKERS FOR DEVELOPMENT OF SEVERE LIVER DISEASES IN CHRONIC HEPATITIS B INFECTION**

By: Kristen Andreatta

Biomedical Laboratory Science

Faculty Advisor: Dr. Joe Romeo

Entry Number 2 GL

**CHARACTERIZATION OF 2'-C-METHYL ADENOSINE AND 2'-C-METHYL CYTIDINE USING THE HCV SUBGENOMIC REPLICON**

By: Hyunsoon Kang, Dr. Sophie Le Pogam (Roche), Sonal Rajyaguru (Roche), Sharon Jiang (Roche), Dr. Nick Cammack (Roche), and Dr. Isabel Najera (Roche)

Biomedical Laboratory Science

Faculty Advisor: Dr. Lily Chen and Dr. Isabel Najera (Roche)

Entry Number 3 GL

**ANAEROBIC GROWTH BY BACTERIA USING TELLURIUM OXYANIONS AS ELECTRON ACCEPTORS**

By: Shaun Baesman

Microbiology

Faculty Advisor: Dr. Ed Carpenter

Entry Number 4 GL

**ANALYSIS OF THE INTERACTIONS BETWEEN WNT-3A AND WNT-5A/5B SIGNALING PATHWAYS DURING CHICK DEVELOPMENT**

By: Yurixsa Martinez, Katie Sanders, and Marina Meyerzon

Cell and Molecular Biology

Faculty Advisor: Dr. Laura Burrus

Entry Number 5 GL

**PROLIFERATIVE ROLES FOR PAX3 AND PAX7 IN THE DEVELOPING CHICK SOMITE**

By: Rachel Kadzik, Tiffany Barnes, and Lisa Galli

Cell and Molecular Biology

Faculty Advisor: Dr. Laura Burrus

Entry Number 6 GL

**MICRORNA EXPRESSION PROFILING IN HUMAN BREAST CANCER CELL LINES**

By: Molly Klein-McDowell, Dr. Koei Chin (UCSF), Dr. Joe W. Gray (UCSF and Lawrence Berkeley National Laboratory), Dr. Leticia Marquez-Magaña, Dr. Andrei Goga (UCSF), Dr. Chris Benz (Buck Institute), and Dr. Paul Yaswen (Lawrence Berkeley National Laboratory)

Cell and Molecular Biology

Faculty Advisor: Dr. Leticia Marquez-Magaña and Dr. Koei Chin (UCSF)

Entry Number 7 GL

**ISOFORM SELECTIVE PI3-KINASE INHIBITORS IN BREAST CANCER CELL LINES**

By: Antonio Luna Jr and Dr. David Stokoe (UCSF)

Cell and Molecular Biology

Faculty Advisor: Dr. Leticia Marquez-Magaña and Dr. David Stokoe (UCSF)

Entry Number 8 GL

**PREDICTING CIS-ACTING ELEMENTS WITH BIOINFORMATIC METHODS**

By: Tobias Sayre

Cell and Molecular Biology

Faculty Advisor: Dr. Zheng-Hui He

Entry Number 9 GL

**THE ANTI-OXIDANT GLUTATHIONE IS SYNTHESIZED IN SACCHAROMYCES CEREVISIAE IN RESPONSE TO SALINE STRESS**

By: Daniel Bravo and Natasha Liu

Cell and Molecular Biology

Faculty Advisor: Dr. Robert Ramirez

Entry Number 10 GL

**TRANSCRIPTIONAL REPRESSOR ATF3 BINDS TO THE IFN-B PROMOTER IN MACROPHAGES**

By: Roberto M. Barrozo

Cell and Molecular Biology

Faculty Advisor: Dr. Steve Weinstein

Entry Number 11 GL

**ATF3 TRANSCRIPTIONALLY REPRESSES INTERFERON BETA IN MACROPHAGES**

By: Karendip Braich

Cell and Molecular Biology

Faculty Advisor: Dr. Steve Weinstein

Entry Number 12 GL

**EFFECT OF RNA INTERFERENCE-MEDIATED KNOCKDOWN OF ACTIVATING TRANSCRIPTION FACTOR 3 (ATF3) ON INTERFERON-BETA TRANSCRIPTION**

By: Mimi Ly

Cell and Molecular Biology

Faculty Advisor: Dr. Steve Weinstein

Entry Number 13 GL

**MYOTOME PRECURSOR CELL SPECIFICATION AND SOMITIC MYOTOME FORMATION INHIBITED BY LIPID RAFT DISRUPTION IN CHICKEN EMBRYOS**

By: Wendy Rosenthal

Cell and Molecular Biology

Faculty Advisor: Dr. Wilfred Denetclaw, Jr.

Entry Number 14 GL

**ECDYSIS TRIGGERING HORMONE IS ACTIVE IN INTERMOLT LARVAL *Manduca sexta* NERVOUS SYSTEMS**

By: Arianna Tamvacakis and Dr. Megumi Fuse

Physiology and Behavior Biology

Faculty Advisor: Dr. Megumi Fuse

Entry Number 15 GL

**THE ACTIONS OF ECDYSIS TRIGGERING HORMONE ON THE VENTRAL NERVE CORD DURING ECDYSIS IN THE TOBACCO HORNWORM, *Manduca sexta***

By: Hani El Shawa and Dr. Megumi Fuse

Physiology and Behavioral Biology

Faculty Advisor: Dr. Megumi Fuse

Entry Number 16 GL

**SENSITIZATION OF DEFENSIVE RESPONSES INDUCED BY NOXIOUS STIMULI IN THE HORNWORM, *Manduca sexta***

By: Emily Merchasin and Dr. Megumi Fuse

Physiology and Behavioral Biology

Faculty Advisor: Dr. Megumi Fuse

Entry Number 17 GL

**FACTORS AFFECTING MICROHABITAT SELECTION BY THE TIGER BEETLES *CICINDELA HIRTICOLLIS* AND *C. OREGONA* (COLEOPTERA: CICINDELIDAE).**

By: Tara Cornelisse

Conservation Biology

Faculty Advisor: Dr. John Hafernik

Entry Number 18 GL

**PRESIDIO NATIONAL PARK SPIDER BIODIVERSITY ASSESSMENT**

By: Pedro Morgado, Misha Leong, and Theresa Shelton

Conservation Biology

Faculty Advisor: Dr. John Hafernik

Entry Number 19 GL

**CONTROL OF *LEPIDIUM LATIFOLIUM* IN SAN FRANCISCO BAY TIDAL WETLAND**

By: Anya P. Burdick and Dr. Katharyn E. Boyers

Conservation Biology

Faculty Advisor: Dr. Katharyn E. Boyers

Entry Number 20 GL

**AN INTRODUCED COPEPOD IN SF ESTUARY: GENETIC DIVERSITY IN A RECENT INVASION**

By: Allegra Briggs, Dr. Sarah Cohen, and Dr. Wim Kimmerer

Marine Biology

Faculty Advisor: Dr. Wim Kimmerer

Entry Number 21 GL

**A FOOD WEB MODEL OF THE SF BAY ECOSYSTEM TO UNDERSTAND THE IMPACT OF INVASIVE SPECIES**

By: Martin Olson and Rachel Hertog

Marine Biology

Faculty Advisor: Dr. Peter Roopnarine

Entry Number 22 GL

**INCIPIENT SPECIATION IN THE DIAMOND TURBOT (*Pleuronichthys guttulatus*)**

By: Jeff Schinske and Dr. Eric Routman

Ecology and Systematic Biology

Faculty Advisor: Dr. Eric Routman

Entry Number 23 GL

**BIVALVE MORPHOLOGY AND COMMUNITY STRUCTURE IN THE LATE MIOCENE DOMINICAN REPUBLIC**

By: Rachel Hertog and Dr. Peter D. Roopnarine

Ecology and Systematic Biology

Faculty Advisor: Dr. Peter D. Roopnarine

Entry Number 24 GL

**EXPLORING UNDERGRADUATE STUDENT CONCEPTIONS OF ENVIRONMENTAL SCIENCE: WHAT ROLE DOES BIOLOGICAL KNOWLEDGE PLAY IN ENVIRONMENTAL LITERACY?**

By: Briana McCarthy

Ecology and Systematic Biology

Faculty Advisor: Dr. Kimberly Tanner

Entry Number 25 GL

**DO YOU KNOW YOUR BRAIN? UNDERSTANDING NOVICES' VS. EXPERTS' CONCEPTIONS ABOUT LEARNING AND MEMORY**

By: Rebecca Fulop

Cell and Molecular Biology

Faculty Advisor: Dr. Kimberly Tanner

Entry Number 26 GL

**WHAT ARE THE LEARNING STYLES OF PRE-MEDICAL STUDENTS IN LOWER AND UPPER DIVISION SCIENCE COURSEWORK?**

By: Amanda del Rosario, Huy Ngo, and Dave Joun

Microbiology

Faculty Advisor: Dr. Jennifer Breckler

Entry Number 27 GL

**WHAT ARE THE LEARNING STYLES OF PREMED COMPARED TO NON-PREMED STUDENTS?**

By: Pamela Pablico and Huy Ngo

Chemistry and Kinesiology

Faculty Advisor: Dr. Jennifer Breckler

Entry Number 28 GL

**CONFORMATIONAL CHANGES OF NEURONAL NITRIC OXIDE SYNTHASE AS A FUNCTION OF SUBSTRATE AND COFACTOR BINDING**

By: Russ Jensen, Mike Minton, and Chris Bernt

Biochemistry

Faculty Advisor: Dr. Raymond Esquerra

Entry Number 29 GL

**ALKALI-METAL DOPED, NANOSCALE ZEOLITE FILMS AS POTENTIAL OPTOELECTRONIC SENSORS**

By: Georgi Diankov and Dr. Andrew S. Ichimura

Chemistry

Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number 30 GL

**DEVELOPMENT OF NOVEL ANTI-MALARIAL COMPOUNDS THAT TARGET THE P. FALCIPARUM HEAT SHOCK PROTEIN ENZYME**

By: Chris Cornell

Chemistry

Faculty Advisor: Dr. Cliff Berkman

Entry Number 31 GL

**SELENATE REDUCTION BY NANOMETER SCALE ZEROVALENT IRON PARTICLES**

By: Jovilynn Olegario

Chemistry

Faculty Advisor: Dr. Bruce A. Manning

Entry Number 32 GL

**SYNTHESIS OF NOVEL DI-SUBSTITUTED TETRAPHENYLPORPHYRINS AS POTENTIAL AGENTS FOR PHOTODYNAMIC THERAPY OF CANCERS**

By: Lenin Parrales, Meden Isaac, and Dr. Ursula simonis

Chemistry

Faculty Advisor: Meden Isacc

Entry Number 34 GP

**SIMULATING RAD52 REPAIR PROTEIN KINETICS IN RESPONSE TO DNA DOUBLE STRANDED BREAKS**

By: Ari Akerstein

Cell and Molecular Biology

Faculty Advisor: Dr. Javier Arsuaga

Entry Number 35 GP

**PREDICTION OF PROTEIN-LIGAND INTERACTIONS USING COMPUTATIONAL MODELS OF ACTIVE SITES**

By: Joanna Lipinski

Physiology and Behavioral Biology and Computing for Life Sciences

Faculty Advisor: Dr. Rahul Singh and Dr. Jonathon Stillman

Entry Number 36 GP

**MACE: A SIMPLE ALGORITHM FOR LOSSLESS COMPRESSION OF MICROARRAY IMAGES WITHOUT SPOT SEGMENTATION**

By: Robert Bierman

Computer Science

Faculty Advisor: Dr. Rahul Singh

Entry Number 37 GP

**NOVEL BAYESIAN NETWORK EVALUATION ALGORITHM FOR DISCOVERING GENE REGULATORY PATHWAYS FROM MICROARRAY DATA**

By: Arturo Flores, Lala Motlhabi, Rocco Varela, and Elinor Velasquez

Computer Science

Faculty Advisor: Dr. Frank Bayliss, Dr. Hui Yang, Dr. Ilmi Yoon, and Mike Wong

Entry Number 38 GP

**PROTEIN STRUCTURAL ANALYSIS: REALIZING AN AUTOMATIC MAPPING BETWEEN 2D NON-LOCAL PATTERNS AND 3D SUBSTRUCTURES**

By: Lin Han

Computing for Life Sciences

Faculty Advisor: Dr. Hui Yang

Entry Number 39 GP

**MINING TEMPORAL PLACENTAL MICROARRAY DATA**

By: Ben Dalziel

Computing for Life Sciences

Faculty Advisor: Dr. Hui Yang

Entry Number 40 GP

**GENOMEXPLORER: GENOMIC DATA VISUALIZATION**

By: Emmanuel R. Yera

Computing for Life Sciences

Faculty Advisor: Dr. Stanislav V. Volik (UCSF) and Dr. Collin Collins (UCSF)

Entry Number 41 GP

**DENSITY-BASED CLUSTERING OF OPTICAL MOTION CAPTURE DATA**

By: Scott Bishop

Computer Science

Faculty Advisor: Dr. Ilmi Yoon and Dr. Kate Hamel

Entry Number 42 GP

**ONLINE WEB PAGE ALBUM**

By: Anupama Sharma

Computer Science

Faculty Advisor: Dr. Dragutin Petkovic

Entry Number 43 GP

**EXPLORING EHRHART QUASIPOLYNOMIAL PERIODS OF 2-D RATIONAL POLYTOPES**

By: Anastasia Chavez and Chris O'Neill

Mathematics

Faculty Advisor: Dr. Matthias Beck

Entry Number 44 GP

**THE METABOLIC SYNDROME: A PRECURSOR TO CARDIOVASCULAR DISEASE & DIABETES AND ADOLESCENTS - WHO'S AT RISK?**

By: Debbie Lee

Mathematics

Faculty Advisor: Dr. Mohammad Kafai

Entry Number 45 GP

**UNUSUAL WHITE DWARFS IN THE GLOBULAR STAR CLUSTER NGC 6397: SIGNS OF STELLAR COLLISIONS?**

By: Rachel Strickler

Physics

Faculty Advisor: Dr. Adrienne Cool

Entry Number 46 GP

**THE SEARCH FOR BROWN DWARF COMPANIONS AT WIDE SEPARATIONS**

By: Adam Garland

Physics

Faculty Advisor: Dr. Chris McCarthy

Entry Number 47 GP

**ON THE FEASIBILITY OF DETECTING DETACHED WHITE DWARF/MAIN-SEQUENCE BINARIES IN GLOBULAR CLUSTERS**

By: Liliana I. Lopez and Dr. Adrienne Cool

Physics

Faculty Advisor: Dr. Adrienne Cool

Entry Number 48 GP

**PARAMETRIC STUDY ON THE INFLUENCES OF THE SOIL-FOUNDATION-STRUCTURE-INTERACTION ANALYSIS ON A REINFORCED CONCRETE BRIDGE BENT**

By: Matt Lee

Civil Engineering

Faculty Advisor: Dr. Tim D'orazio

Entry Number 49 GP

**COMPARISON OF UBC 1997 AND IBC 2006 USING STEEL BRACED FRAMES AND STEEL MOMENT FRAMES**

By: Tim Le

Civil Engineering

Faculty Advisor: Dr. Wenshen Pong and Dr. Norm Owen

Entry Number 50 GP

**NETWORK MONITORING FOR SECURITY PURPOSES USING NETFLOW-BASED OPEN SOURCE SOFTWARE**

By: Thet Oo

Electrical Engineering

Faculty Advisor: Dr. Hamid Shahnasser

Entry Number 51 GP

**CLOCK GATING AND NEGATIVE EDGE TRIGGERING FOR ENERGY RECOVERY CLOCK**

By: Vishwanadh Tirumalshetty

Electrical Engineering

Faculty Advisor: Dr. Hamid Mahmoodi

Entry Number 52 GP

**NEW METHODS TO MULTICARRIER MODULATION**

By: Donovan Cheuk

Electrical Engineering

Faculty Advisor: Dr. Todor Cooklev

Entry Number 53 GP

**PROFILING OF BIOINFORMATICS APPLICATIONS FOR RECONFIGURABLE COMPUTING SYSTEMS**

By: Akili Anderson

Electrical Engineering

Faculty Advisor: Dr. Ying Chen

Entry Number 55 GP

**LABORATORY SIMULATION OF GRAVEL AUGMENTATION DOWNSTREAM OF DAMS: THE EFFECT OF HYDROGRAPHS ON SEDIMENT PULSE DYNAMICS**

By: Robert Humphries

Applied Geosciences

Faculty Advisor: Dr. Leonard Sklar

Entry Number 56 GP

**TITAN: EXPLORING EARTH-LIKE EROSION MECHANISMS ON A FROZEN MOON**

By: Beth Zygielbaum

Geology

Faculty Advisor: Dr. Leonard Sklar

Entry Number 57 GP

**STEP-POOL SPACING IN A TRAVERTINE SYSTEM, FOSSIL CREEK, ARIZONA**

By: Brian Fuller

Geology

Faculty Advisor: Dr. Leonard Sklar

Entry Number 58 GP

**PREDICTING THE GRAIN SIZE DISTRIBUTION SUPPLIED TO RIVER CHANNELS FROM HILLSLOPES**

By: Jill Marshall

Geology

Faculty Advisor: Dr. Leonard Sklar

Entry Number 59 GP

**AN OPTICAL CHARACTERIZATION OF SAN FRANCISCO BAY WATER**

By: Johnathan Brown

Applied Geosciences and Oceanography

Faculty Advisor: Dr. Newell Toby Garfield, Dr. Dale Robinson, and Dr. Tomoko Komada

Entry Number 60 GP

**QUANTIFYING BEACH RESPONSE TO EPISODIC LARGE WAVE EVENTS, AN EMPIRICAL PREDICTIVE MODEL, OCEAN BEACH, SAN FRANCISCO, CA**

By: Jeff Hansen

Geology

Faculty Advisor: Dr. Newell Toby Garfield

Entry Number 61 UL

**EMBRYONIC CELLS DEPLETED OF MATERNAL BETA CATENIN REMAIN COMPETENT TO DIFFERENTIATE INTO DORSAL MESODERMAL DERIVATIVES**

By: Michael Sanchez, Franchie H. Chu, Bonnie Afonin, and Dr. Carmen Domingo

Cell and Molecular Biology

Faculty Advisor: Dr. Carmen Domingo

Entry Number 62 UL

**CHANGES IN DIURETIC HORMONE IMMUNOREACTIVITY IN TRANSVERSE NERVES OF THE TOBACCO HORNWORM, *Manduca sexta*, SUGGEST A ROLE DURING ECDYSIS**

By: Myra Grace A. dela Pena

Cell and Molecular Biology

Faculty Advisor: Dr. Megumi Fuse

Entry Number 63 UL

**IDENTIFICATION AND CHARACTERIZATION OF SCHIZOSACCHAROMYCES POMBE TELOMERASE RNA GENE**

By: Teresa F. Reyes and Dr. Sally G. Pasion

Cell and Molecular Biology

Faculty Advisor: Dr. Sally G. Pasion

Entry Number 64 UL

**DETERMINATION OF HELICAL ORIENTATION OF APOA-1 HELICAL CORE BUNDLE**

By: Yessica Martinez, Mike Oda , Giorgio Cavigiolio, and Ethan Geiei

Cell and Molecular Biology

Faculty Advisor: Dr. Leticia Marquez-Magaña

Entry Number 65 UL

**MBC DISRUPTION OF LIPID RAFTS REVERSIBLY INHIBITS BREAST MUSCLE CELL CULTURE DIFFERENTIATION VIA NITRIC OXIDE SIGNALING**

By: Izhar Batth, Sannah Ladiwalla, Jared M. Greenberg, and Dr. Wilfred Denetclaw Jr.

Cell and Molecular Biology

Faculty Advisor: Dr. Wilfred Denetclaw, Jr.

Entry Number 66 UL

**NITRIC OXIDE REGULATION OF MYOTOME DEVELOPMENT BY LIPID RAFT CONSTITUENT NITRIC OXIDE SYNTHASE IN CHICKEN EMBRYO**

By: Karen Berry and Natasha Chandiramani

Cell and Molecular Biology

Faculty Advisor: Dr. Wilfred Denetclaw, Jr.

Entry Number 67 UL

**NITRIC OXIDE DYNAMIC MOVEMENT IN EPITHELIAL AND MUSCLE TISSUE CELLS IN CHICKEN EMBRYO BY TIME-LAPSE ANALYSIS**

By: Seung Jong Lee and Dr. Wilfred F. Denetclaw, Jr.

Cell and Molecular Biology

Faculty Advisor: Dr. Wilfred Denetclaw, Jr.

Entry Number 68 UL

**USING PROJECTION MATRIX MODELS TO EXPLAIN PATTERNS OF TURNOVER IN SIERRAN MONTANE BUMBLEBEE COMMUNITIES**

By: Lorna Watt, Brendan Colloran, Dr. Gretchen LeBuhn

Ecology and Systematic Biology

Faculty Advisor: Dr. Gretchen LeBuhn

Entry Number 69 UL

**SALINITY TOLERANCE IN INVASIVE ASCIDIANS**

By: Amelia Rodelo

Ecology and Systematic Biology

Faculty Advisor: Dr. Sarah Cohen

Entry Number 70 UL

**IDENTIFYING AN APPROPRIATE BLOOD SUGAR ASSAY FOR THE TOBACCO HORNWORM, *Manduca sexta***

By: Allison Dias and Dr. Megumi Fuse

Physiology and Behavioral Biology

Faculty Advisor: Dr. Megumi Fuse

Entry Number 71 UL

**EFFECT OF NONENZYMATIC GLYCATION ON THE AUTO-OXIDATION KINETICS OF ADULT HUMAN HEMOGLOBIN**

By: Richelle Raagas and Damon Robles

Biochemistry

Faculty Advisor: Dr. Raymond Esquerra

Entry Number 72 UL

**EFFECT OF NONENZYMATIC GLYCATION AND AGE FORMATION ON THE SECONDARY AND TERTIARY STRUCTURE OF HUMAN SERUM ALBUMIN**

By: Khin Sandi Shine, Khin Oo, Mike Minton, and Kay Saw

Biochemistry

Faculty Advisor: Dr. Raymond Esquerra

Entry Number 73 UL

**INVESTIGATING THE CONTRIBUTION OF THE S1' POCKET OF TRYPSIN TO SUBSTRATE RECOGNITION**

By: Timothy Acker

Biochemistry

Faculty Advisor: Dr. Teaster Baird, Jr

Entry Number 74 UL

**BIOCHEMICAL APPROACHES USED TO STUDY EXTENDED SUBSTRATE SELECTIVITY OF TRYPSIN**

By: Hanine Rafidi

Biochemistry

Faculty Advisor: Dr. Teaster Baird, Jr

Entry Number 75 UL

**A NOVEL APPROACH FOR THE INDEPENDENT SYNTHESIS OF 2[3H]OXAZOLINONES**

By: Helen Lee and Mohamad Azimi

Biochemistry

Faculty Advisor: Dr. Ihsan Erden

Entry Number 76 UL

**MOLECULAR DYNAMICS SIMULATION FOR THE LABORATORY**

By: Heath Kornblum and Dr. Marc Andersen

Biochemistry

Faculty Advisor: Dr. Marc Andersen and Dr. Cliff Berkman

Entry Number 77 UL

**PHOSPHORAMIDATE INHIBITOR OF PROSTATE SPECIFIC MEMBRANCE ANTIGEN**

By: May Lin

Biochemistry

Faculty Advisor: Dr. Cliff Berkman

Entry Number 78 UL

**SYNTHESIS OF RADICOL INSPIRED INHIBITORS OF Hsp90 AS ANTI-MALARIAL AGENTS**

By: Judy Szeto, Dr. Marc Anderson, and Dr. Cliff Berkman

Biochemistry

Faculty Advisor: Dr. Cliff Berkman

Entry Number 79 UL

**SYNTHESIS OF A NEW DIAGNOSTIC AGENT FOR PROSTATE CANCER**

By: Brian Blank and Dr. Cliff Berkman

Chemistry

Faculty Advisor: Dr. Cliff Berkman

Entry Number 80 UL

**ALLOSTERIC ACTIVATION OF SOLUBLE GUANYLATE CYCLASE BY 3-(5<sup>▼</sup>HYDROXYMETHYL-2<sup>▼</sup>-FURYL)-1-BENZYL-INDAZOLE**

By: Alberto Luis, Jasmin Kristianto, Sharon Woo, and Yu His

Chemistry

Faculty Advisor: Dr. Nancy C. Gerber

Entry Number 81 UL

**SEPARATION OF SPIROGRAPHIS AND ISO-SPIROGRAPHIS PORPHYRIN DIMETHYL ESTER ISOMERS VIA NORMAL PHASE HPLC**

By: John Sczepaniak

Chemistry

Faculty Advisor: Dr. Ursula Simonis and Meden Isaac

Entry Number 82 UP

**VISION-BASED DETECTION OF VISUALLY DISSIMILAR OBJECTS**

By: Taeil Goh and Ryan West

Computer Science

Faculty Advisor: Dr. Kaz Okada

Entry Number 83 UP

**GUITAR SYNTHESIZER USING KARPLUS-STRONG PLUCKED STRING SYNTHESIS**

By: Eric Gregory

Computer Science

Faculty Advisor: Dr. William Hsu

Entry Number 84 UP

**LINKING OF CHROMOSOMES DURING INTERPHASE**

By: Trevor Blackstone

Computer Science

Faculty Advisor: Dr. Javier Arsuaga

Entry Number 85 UP

**ESTIMATING BEDROCK INCISION RATES USING COSMOGENIC RADIONUCLIDE CONCENTRATIONS OF STRATH TERRACE GRAVELS ALONG BULLFROG CREEK, UTAH**

By: Jonathan Perkins

Geology

Faculty Advisor: Dr. Leonard Sklar

Entry Number 86 UP

**THE ROLE OF SEQUENCES OF CHANNEL-SPANNING POTHOLES IN THE TRANSIENT EVOLUTION OF A WEAKLY DISSECTED BEDROCK LANDSCAPE, HENRY MOUNTAINS, UTAH**

By: Skye Corbett

Geology

Faculty Advisor: Dr. Leonard Sklar

Entry Number 87 UP

**DNA UNKNOTTING BY TYPE II TOPOISOMERASES**

By: Juliet Portillo and Trevor Blackstone

Mathematics

Faculty Advisor: Dr. Mariel Vazquez

Entry Number 88 UP

**MOVEMENT OF LATTICE KNOTS AND DNA**

By: Andrew Herrmann and Nicholas Normandin

Mathematics

Faculty Advisor: Dr. Mariel Vazquez

Entry Number 89 UP

**GUIDING LIGHT: IN PERIODIC STRUCTURES**

By: Daniel Shuldman and Simon Huang

Physics

Faculty Advisor: Dr. Zhigang Chen

Entry Number 90 UP

**STEEL BRIDGE TEAM**

By: Guy Halperin, Quint Herrmann, Haislip Hayes, Adrian Gotauco, Jeff Quock, Jeremy McGee, David Hungerford, Wendy Zambrano, and Azin Zarei

Civil Engineering

Faculty Advisor: Dr. Norman Owen

Entry Number 91 UP

**STRAIGHT ARCH**

By: Paul Barradas, Dalia Corpus, Chester Gatdula, Consen Cheng, and Marc Guinto

Civil Engineering

Faculty Advisor: Dr. Wenshen Pong

Entry Number 92 UP

**SFSU-LAKE MERCED WOOD BRIDGE**

By: Israel De La Cruz, Jerry Wong, Keith Fang, Yu Rong Zong, and TzeYee Tsang

Civil Engineering

Faculty Advisor: Dr. Wenshen Pong

Entry Number 93 UP

**LAKE MERCED WATER TREATMENT FACILITY DESIGN**

By: Raul Borromeo, Stacey Lee, Jason Tubon, Jasper Recidoro

Civil Engineering

Faculty Advisor: Dr. Elahe Ensanni

Entry Number 94 UP

**HIGH RISE FOUNDATION DESIGN**

By: Warfa Aden, Christopher McAllister, and Awni Taha

Civil Engineering

Faculty Advisor: Dr. Timothy D'Orazio

Entry Number 95 UP

**DESIGN OF COMPETITIVE RACE-KART FRAME**

By: Blake Boyer, Waylan Choy, Sean Estill, and Adrian Hairrell

Mechanical Engineering

Faculty Advisor: Dr. A.S. Ed Cheng and Dr. Dipendra Sinha

Entry Number 96 UP

**SFSU HUMAN POWERED VEHICLE**

By: Alex Polonsky, Jorge Corona, Daniella Dragon, Kevin Morgan, Anthony Truong, Yousef Golsorkhi, Jay Coquilla, and Jose Coto

Mechanical Engineering

Faculty Advisor: Dr. A.S. Ed Cheng and Dr. Michael Holden

Entry Number 97 UP

**CONTINUOUSLY VARYING TRANSMISSION (CVT) PROTOTYPE**

By: Eric Placido, Edward Dizon, Joseph Flores, and Willis Wong

Mechanical Engineering

Faculty Advisor: Dr. A.S. Ed Cheng and Dr. Dipendra Sinha

Entry Number 98 UP

**FUEL GUARD**

By: Gaunt Murdock, James Bottomley, Donald Best III, Estuardo Ramirez, and Conmin Cheng

Mechanical Engineering

Faculty Advisor: Dr. A.S. Ed Cheng

Entry Number 99 UP

**5TH WHEEL**

By: Nikola Kravik, Jesse Lee, Harpreet Singh, and Oluwatoberu Thomas

Mechanical Engineering

Faculty Advisor: Dr. A.S. Ed Cheng

Entry Number 100 UP

**STIRLING ENGINE**

By: Donald Best III and Steven Gong

Mechanical Engineering

Faculty Advisor: Michael Strange

Entry Number 101 UP

**FLASH CANNON**

By: Steven Gong and Donald Best III

Mechanical Engineering

Faculty Advisor: Michael Strange

Entry Number 102 UP

**SMALL-SCALE WIND TURBINE**

By: David Kang, Shadow Moyer, Mark Ritchie, and Matt Suidan

Mechanical Engineering

Faculty Advisor: Dr. Dipendra Sinha

Entry Number 103 UP

**MINI-MILLING MACHINE**

By: Rodolfo Bustos, Henry Jones, Jimmy Xia, Randy Yoshimura, and Greg Zuber

Mechanical Engineering

Faculty Advisor: Dr. Dipendra Sinha and Dr. A.S. Ed Cheng

Entry Number 104 UP

**ANIMAL: THE MIDI CONTROLLED PNEUMATIC DRUMMER**

By: Gong Ye Chen, Anthony Freggiaro, Sang Chul Lee, and Alex Rivera

Mechanical Engineering

Faculty Advisor: Dr. A.S. Ed Cheng and Dr. Michael Holden

Entry Number 105 UP

**R.E.A.C.H. BIOBOT**

By: Marshall Rice, Holly Gothard, and Jesse Gwynne

Mechanical Engineering

Faculty Advisor: Dr. A.S. Ed Cheng and Dr. Michael Holden

Entry Number 106 UP

**DIGITAL IC DESIGN FLOW**

By: Babak A. Sar Ashki

Computer Engineering

Faculty Advisor: Dr. Hamid Mahmoodi

Entry Number 107 UP

**MICROMOUSE**

By: Sampson Ho, Chi Lin, and Chi-Kin Ho

Electrical Engineering

Faculty Advisor: Dr. Hamid Shahnasser

Entry Number 108 UP

**GPS/INU GUIDED AUTONOMOUS VEHICLE**

By: Steve Jain and Mikhail Levitskiy

Computer Engineering

Faculty Advisor: Dr. Ying Chen and Dr. Hamid Mahmoodi

Entry Number 109 UP

**EdinBORG**

By: Lamont Lucas

Electrical Engineering

Faculty Advisor: Dr. Tom Holton

Entry Number 110 UP

**AUTOMATIC VIOLIN TUNER**

By: Edward Mazmanian, Luis Eguizabal, and Juan Carlos Alfaro

Electrical Engineering

Faculty Advisor: Dr. Tom Holton

Entry Number 111 UP

**VIC: VOICE INPUT CAR**

By: Paul Bonilla, Michael Cheung, and Maria Silva

Electrical Engineering

Faculty Advisor: Dr. Tom Holton

Entry Number 112 UP

**CLASS D AUDIO AMPLIFIER**

By: Anton Suryana, Karen Chan, Michael Solivan, and Ricardo Marango

Electrical Engineering

Faculty Advisor: Dr. Tom Holton, Dr. Hamid Shahnasser

Entry Number 113 UP

**THE POWER SHOE**

By: Said Abdelwafi, Prabhjot Kaur, and Aldo Bacuzzi

Electrical Engineering

Faculty Advisor: Dr. Hamid Shahnasser and Dr. Hamid Mahmoodi

Display Only 1

**STRAIN SILICON OPTIMIZATION FOR LOGIC AND MEMORY IN NANO-SCALECMOS.**

By: Rajani Kuchipudi

Computer Engineering

Faculty Advisor: Dr. Hamid Mahmoodi

Display Only 2

**PHOSPHORAMIDATE DERIVATIVES OF HYDROXYSTEROIDS AS INHIBITORS OF PROSTATE-SPECIFIC MEMBRANE ANTIGEN**

By: Lisa Yong Wu, Jacinda Do, Marat Kazak, Helen Page, Yoko Toriyabe

Chemistry

Faculty Advisor: Dr. Marc O. Anderson and Dr. Clifford Berkman

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**SITE DIRECTED MUTAGENESIS OF APOLIPOPROTEINA-1, AT RESIDUES 134-145, RESULT IN LOSS OF LIPID BOUND 7.8NM DISC**

By: Yessica Martinez, Dr. Mike Oda , Dr. Giorgio Cavigiolio, and Ethan Geiei

Cell and Molecular Biology

Faculty Advisor: Dr. Leticia Marquez-Magaña

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