

5 pm on Monday 4/20/09

Entry Number: 1 GL

THE ROLE OF INDIRECT HYDROPHOBIC INTERACTIONS IN SUBSTRATE RECOGNITION

By: Raniel Alcantara

Biology

Faculty Advisor: Dr. Teaster Baird, Jr.

Entry Number: 2 GL

INVESTIGATION OF LOW SALINE RESISTANCE IN SINORHIZOBIIUM MELILOTI

By: Charlene Navarrete

Cell and Molecular Biology

Faculty Advisor: Dr. Joseph Chen

Entry Number: 3 GL

THE EFFECTS OF WNT6 IN SOMITE PATTERNING

By: Eugenel Espiritu

Cell and Molecular Biology

Faculty Advisor: Dr. Laura Burrus

Entry Number: 4 GL

TOWARDS THE STUDY OF A PHYSICAL INTERACTION BETWEEN CDC24 AND THE CDS1 CHECKPOINT KINASE IN SCHIZOSACCHAROMYCES POMBE

By: Noel Cruz

Cell and Molecular Biology

Faculty Advisor: Dr. Sally G. Pasion

Entry Number: 5 GL

UNDERSTANDING THE ROLE OF SWRAA IN SPORULATION IN A SWARMING STRAIN OF *BACILLUS SUBTILIS*

By: Rebecca Garcia

Cell and Molecular Biology

Faculty Advisor: Dr. Leticia Marquez-Magaña

Entry Number: 6 GL

THE ROLE OF P53 IN APOPTOSIS OF GASTROINTESTINAL TISSUE STEM CELLS OF LATE GENERATION TERT  $-/-$  MICE

By: Terry Reyes

Cell and Molecular Biology

Faculty Advisor: Dr. Sally G. Pasion

Entry Number: 7 GL

WNTLESS-DEPENDENT DISTRIBUTION AND ACTIVATION OF WNT1 AND WNT3A

By: Lydia Li

Cell and Molecular Biology

Faculty Advisor: Dr. Laura Burrus

Entry Number: 8 GL

PROTEIN 3D STRUCTURAL MATCHING USING RESIDUE CONTEXTS

By: Jay Kim

Marine Biology

Faculty Advisor: Dr. Rahul Singh

Entry Number: 9 GL

SPHINGOMYELIN IN MEMBRANE RAFTS REGULATES C2C12 MYOBLAST DIFFERENTIATION AND MYOTUBE FORMATION

By: Jung Lim and Yuko Okamoto

Cell and Molecular Biology

Faculty Advisor: Dr. Wilfred Denetclaw

Entry Number: 10 GL

THE ATF3 TRANSCRIPTION FACTOR INDUCIBLY BINDS TO THE IFN- $\beta$  PROMOTER IN MACROPHAGES DURING SIMULATED MICROBIAL INFECTION

By: Marvin J. Sandoval

Cell and Molecular Biology

Faculty Advisor: Dr. Steve Weinstein

Entry Number: 11 GL

THE ROLE OF LEUCOKININ IMMUNOREACTIVITY IN THE TOBACCO HORNWORM, *MANDUCA SEXTA*, IN THE PROCESS ECDYSIS

By: Roth Ea

Cell and Molecular Biology

Faculty Advisor: Dr. Megumi Fuse

Entry Number: 12 GL

ECTODERM PLASMA MEMBRANE SPHINGOMYELIN REGULATES SOMITE MYOTOME FORMATION IN CHICK EMBRYOS

By: Tenzin Bhutia and Dr. Wilfred Denetclaw

Cell and Molecular Biology  
Faculty Advisor: Dr. Wilfred Denetclaw

Entry Number: 13 GL  
DESCRIBING ECDYSIS BEHAVIOR IN STICK INSECTS  
By: Andrew Carriman  
Physiology & Behavioral Biology  
Faculty Advisor: Dr. Megumi Fuse

Entry Number: 14 GL  
DUAL ROLES OF THE CONSERVED GLC7/PP1 PHOSPHATASES, GSP-3 AND  
GSP-4, IN CHROMOSOME DYNAMICS AND SPERM ACTIVATION  
By: Aiza Cathe A. Go, Bernadette Nera, and Mark Samson  
Physiology & Cell and Molecular Biology  
Faculty Advisor: Dr. Diana Chu

Entry Number: 15 GL  
SENSITIZATION IN *MANDUCA SEXTA*  
By: Marissa McMackin and Emily Merchasin  
Physiology and Behavior Biology  
Faculty Advisor: Dr. Megumi Fuse

Entry Number: 16 GL  
DETERMINATION OF THE NEUROTRANSMITTER THAT INHIBITS THE CNS  
DURING ECDYSIS IN THE HORNWORM, *MANDUCA SEXTA*  
By: Laura Mendoza and Sabina Bera  
Physiology and Behavioral Biology  
Faculty Advisor: Dr. Megumi Fuse

Entry Number: 17 GL  
EXPANDING YOUR HORIZON PRE-POST SURVEY ANALYSIS  
By: Chia Teoh  
Cell and Molecular Biology  
Faculty Advisor: Dr. Kimberly D. Tanner

Entry Number: 18 GL

By: Carol Umanzor  
Cell and Molecular Biology and Biological Education  
Faculty Advisor: Dr. Kimberly Tanner

Entry Number: 19 GL  
MOLECULAR SYSTEMATICS OF PHACELIA (BORAGINACEAE).  
By: Genevieve K. Walden  
Ecology and Systematic Biology  
Faculty Advisor: Dr. Robert Patterson

Entry Number: 20 GL  
ARTHROPOD DIVERSITY ON THE CALIFORNIA ACADEMY OF SCIENCES'  
GREEN ROOF  
By: Jessica Van Den Berg and Christopher Quock  
Ecology and Systematic Biology  
Faculty Advisor: Dr. John Hafernik

Entry Number: 21 GL  
DEALING WITH THE GENDER PARTICIPATION GAP IN SECONDARY SCIENCE  
EDUCATION  
By: Thomas Jenkinson and Priscilla Owren (Horace Mann Academic Middle School)  
Ecology and Systematic Biology  
Faculty Advisor: Dr. Kimberly D. Tanner

Entry Number: 22 GL  
METABOLIC RESPONSES TO ENVIRONMENTAL SALINITY IN THE CLAM  
CORBULA AMURENSIS  
By: Adam Paganini and Dr. Jonathon Stillman  
Marine Biology  
Faculty Advisor: Dr. Jonathon Stillman and Dr. Wim Kimmerer

Entry Number: 23 GL  
  
By: Andrea Cayenne  
Marine Biology  
Faculty Advisor: Dr. Jonathon Stillman

Entry Number: 24 GL  
INVESTIGATING BAY AREA FILIPINOS' IDEAS TOWARD ENVIRONMENTAL  
CONSERVATION IN A MUSEUM SETTING  
By: Courtney Scott  
Marine Biology  
Faculty Advisor: Dr. Kimberly D. Tanner

Entry Number: 25 GL

MICROARRAY ANALYSIS OF HEAT STRESS IN SAMOAN CORALS

By: Tyler Waterson and Dr. Jonathon Stillman

Marine Biology

Faculty Advisor: Dr. Jonathon Stillman

Entry Number: 26 GL

EFFECT OF BINDING FATTY ACIDS ON THE GLYCATION OF HUMAN SERUM ALBUMIN

By: April Ranney and Emelia Padilla

Biochemistry

Faculty Advisor: Dr. Raymond Esquerra

Entry Number: 27 GL

ROLE OF CONFORMATIONAL CHANGES IN SOLUBLE GUANYLATE CYCLASE

By: Jasmin Kristianto, Kensuke Yamamoto, Stephanie Wood, and Makena Muchunku

Biochemistry

Faculty Advisor: Dr. Nancy Gerber

Entry Number: 28 GL

S-NITROSYLATION OF SOLUBLE GUANYLYL CYCLASE

By: Kensuke Yamamoto

Biochemistry

Faculty Advisor: Dr. Nancy Gerber

Entry Number: 29 GL

USING TIME-RESOLVED FLUORESCENCE TO LOOK AT PROTEIN CONFORMATION

By: Stephanie Wood

Biochemistry

Faculty Advisor: Dr. Nancy Gerber

Entry Number: 30 GL

PHOTOLYSIS OF SPERM WHALE CARBONMONOXYMYOGLOBIN.

By: Benjamin Lintner and Ignacio Lopez

Chemistry

Faculty Advisor: Dr. Raymond Esquerra

Entry Number: 31 GL

THE EFFECT OF CALMODULIN AND CALCIUM BINDING ON THE REACTIVITY OF THE HEME ACTIVE SITE IN NNOS

By: Mike Minton, Pooncharas Tipgunlakant, Luiz Galdino, and Christopher M. Bernt  
Chemistry  
Faculty Advisor: Dr. Raymond Esquerra

Entry Number: 32 GL  
SOLUTION STRUCTURE OF PROTEINS BY MD SIMULATION  
By: Qiuting Hong  
Chemistry  
Faculty Advisor: Dr. Sergio Aragon

Entry Number: 33 GP  
ORDERED TITANIUM DIOXIDE FILMS GROWN ON SELF-ASSEMBLED  
MONOLAYERS  
By: Shirin M. Usmani, Diana Mars, and Dr. Andrew S. Ichimura  
Chemistry  
Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 34 GP  
XMAS: EXPERIENTIAL VISUALIZATION, MINING, AND ANALYSIS OF TIME-  
SERIES MICROARRAY EXPERIMENTS  
By: Ben Dalziel  
Computer Science  
Faculty Advisor: Dr. Hui Yang and Dr. Rahul Singh

Entry Number: 35 GP  
DIRECTIONAL MEAN SHIFT  
By: Mehran Kafai and Yiyi Miao  
Computer Science  
Faculty Advisor: Dr. Kazunori Okada

Entry Number: 36 GP  
WEB-BASED TOOLS FOR ENHANCING TEACHER PREPARATION PROGRAMS  
By: Xinhang Shao and Ngoc Lam-Miller  
Computer Science  
Faculty Advisor: Dr. Kazunori Okada

Entry Number: 37 GP  
ANALYSIS OF SRAM RELIABILITY UNDER VARIATIONS AND TRANSISTOR  
AGING EFFECTS IN NANO-SCALE  
By: Harwinder Singh  
Electrical and Computer Engineering

Faculty Advisor: Dr. Hamid Mahmoodi

Entry Number: 38 GP

RAIL TRAFFIC CONTROL SIMULATOR FOR MAXIMIZING THROUGHPUT

By: Ko Narita

Electrical Engineering

Faculty Advisor: Dr. V.V. Krishnan

Entry Number: 39 GP

A DRY COMBUSTION METHOD TO DETERMINE NATURAL 13C AND 14C  
ABUNDANCES IN MARINE DISSOLVED ORGANIC CARBON

By: Leah Johnson

Applied Geosciences

Faculty Advisor: Dr. Tomoko Komada

Entry Number: 40 GP

POST-MIDDLE-PLEISTOCENE TECTONIC DEVELOPMENT OF THE  
CONFIDENCE HILLS, SOUTHERN DEATH VALLEY, CALIFORNIA

By: Joshua T. Goodman, Dr. S. John Caskey, Dr. Elmira Wan, Dr. David B. Wahl, and  
Dr. Andrei M. Sarna-Wojcicki

Geology

Faculty Advisor: Dr. S. John Caskey

Entry Number: 41 GP

STUDENT CONCEPTIONS OF WEATHER PHENOMENA ACROSS MULTIPLE  
COGNITIVE LEVELS

By: Elizabeth Polito

Geosciences

Faculty Advisor: Dr. John Monteverdi and Dr. Kimberly Tanner

Entry Number: 42 GP

A 3-D MAP OF THE BARTLETT SPRINGS FAULT, LAKE AND MENDOCINO  
COUNTIES, CALIFORNIA

By: Johnathan Brown

Geosciences

Faculty Advisor: Dr. S. John Caskey

Entry Number: 43 GP

M2K: A SEARCH FOR PLANETS ORBITING LATE K AND EARLY M DWARF  
STARS

By: Kelsey Clubb

Astronomy  
Faculty Advisor: Dr. Debra Fischer

Entry Number: 44 GP  
DECODING DARK MATTER: A DYNAMICAL CODE FOR THE JOINT ANALYSIS  
OF CLUSTER OBSERVATIONS  
By: Alison Mansheim  
Physics  
Faculty Advisor: Dr. Andisheh Mahdavi

Entry Number: 45 GP  
PROVING THE BERNOULLI-DEDEKIND SUM ANALOGUE OF  
POMMERSHEIM'S THREE-TERM DEDEKIND SUM RELATION  
By: Anastasia Chavez  
Mathematics  
Faculty Advisor: Dr. Matthias Beck

Entry Number: 46 GP  
USING HOMOLOGY TO DETECT COPY NUMBER VARIATION ASSOCIATED  
WITH BREAST CANCER RECURRENCE  
By: Daniel DeWoskin  
Mathematics  
Faculty Advisor: Dr. Javier Arsuaga

Entry Number: 47 GP  
A MODEL FOR SOCIAL NETWORKS  
By: Elizabeth Gross  
Mathematics  
Faculty Advisor: Dr. Arek Goetz

Entry Number: 48 GP  
EXIT STRATEGIES FOR STARTUP COMPANIES: A GAME THEORETIC  
APPROACH  
By: Jasdeep Gambhir  
Mathematics  
Faculty Advisor: Dr. Jean-Pierre Langlois

Entry Number: 49 GP  
TANGLESOLVE: A TOPOLOGICAL TOOL USED IN THE ANALYSIS OF SITE-  
SPECIFIC RECOMBINATION

By: Jennifer Lopez, Wenjing Zheng, and Dr. Mariel Vazquez  
Mathematics  
Faculty Advisor: Dr. Mariel Vazquez

Entry Number: 50 GP  
COUNTING STANDARD AND SEMISTANDARD TREES  
By: Jupei Hsiao  
Mathematics  
Faculty Advisor: Dr. Federico Ardila

Entry Number: 51 GP  
TROPICAL ORIENTED MATROIDS  
By: Kristen Freeman  
Mathematics  
Faculty Advisor: Dr. Federico Ardila

Entry Number: 52 GP  
THE STUDY OF DNA PACKING ORGANIZATION OF P4 BACTERIOPHAGE  
By: Mela Hardin  
Mathematics  
Faculty Advisor: Dr. Mariel Vazquez

Entry Number: 53 GP  
AUTOMATED IMAGE-BASED PHENOTYPIC SCREENING FOR HIGH-  
THROUGHPUT DRUG DISCOVERY  
By: Michalis Pittas and Ido Heskia  
Mathematics  
Faculty Advisor: Dr. Rahul Singh

Entry Number: 54 GP  
A SURVEY THE ENTROPY OF SELF-AVOIDING POLYGONS IN THE SIMPLE  
CUBIC LATTICE  
By: Zoe Talbot  
Mathematics  
Faculty Advisor: Dr. Yitwah Cheung, Dr. Rob Scharein, and Dr. Mariel Vazquez

Entry Number: 55 UL  
STUDYING SPOOLING-LIKE CONFORMATIONS FOR DNA KNOTS IN WRITHE-  
DIRECTED ORGANIZATION OF DNA IN PHAGE CAPSIDS OF  
BACTERIOPHAGE P4  
By: Ariff Moolla and Mela Hardin

Biology and Mathematics  
Faculty Advisor: Dr. Sally G. Pasion and Dr. Javier Arsuaga

Entry Number: 56 UL  
ANNOTATION OF SEVERAL DICISTRONIC GENES IN 12 DROSOPHILID SPECIES  
By: Henry Hunter, Teresa Laird, Christina Staubus, Lala Motlhabi, and Dr. Christopher D. Smith  
Cell and Molecular Biology  
Faculty Advisor: Dr. Christopher D. Smith

Entry Number: 57 UL  
CHICKEN EMBRYO DEVELOPMENT: REGIONAL AND TEMPORAL DEVELOPMENT OF SOMITES  
By: Remy Binder and Meghan Lane  
Cell and Molecular Biology  
Faculty Advisor: Dr. Wilfred Denetclaw

Entry Number: 58 UL  
ROLE OF WNT4 ON MYOGENESIS DURING EARLY EMBRYONIC DEVELOPMENT IN THE CHICK  
By: Anthony Eritano  
Cellular and Molecular Biology  
Faculty Advisor: Dr. Laura W. Burrus

Entry Number: 59 UL  
FEEL THE DIFFERENCE: A STUDY OF THE BODY'S RESPONSE TO TACTILE STIMULI  
By: Abraham Reynoso, Joe DeBattista, Ngo Nguyen, and Stephanie Cunningham  
Physiology and Behavior Biology  
Faculty Advisor: Anne Thilges

Entry Number: 60 UL  
THE EFFECTS OF DISSONANT AND CONSONANT MUSIC ON HEART RATE, EEG BRAIN WAVE PATTERNS, AND GALVANIC SKIN RESPONSE  
By: Kristina Millikan, Lisa Wise, and Inara Iskenderova  
Physiology and Behavior Biology  
Faculty Advisor: Anne Thilges

Entry Number: 61 UL

MEMBRANE RAFT DISRUPTION IN CHICKEN EMBRYO SKELETAL MUSCLE  
CELL CULTURES

By: Dianna Baldwin

Zoology

Faculty Advisor: Dr. Wilfred Denetclaw

Entry Number: 62 UL

THE PRESIDIO BEE BIODIVERSITY SURVEY

By: Christopher Quock and Jessica Van Den Berg

Ecology and Systematic Biology

Faculty Advisor: Dr. John Hafernik

Entry Number: 63 UL

COMPARATIVE STUDY OF LDH STABILITY IN RESPONSE TO  
PHYSIOLOGICAL STRESS ON TROPICAL AND TEMPERATE PORCELAIN  
CRABS

By: Haydee Medina

Marine Biology

Faculty Advisor: Dr. Jonathon Stillman

Entry Number: 64 UL

ARE SEA STARS OF THE GENUS LEPTASTERIAS SEPERATED BY HABITAT IN  
THE ROCKY INTERTIDAL OF NORTHERN CALIFORNIA? AN ANALYSIS  
USING MITOCHONDRIAL DNA AND MORPHOLOGY

By: Richard Coleman, Alyssa Lai, and Ashley Smith

Marine Biology

Faculty Advisor: Dr. Sarah Cohen

Entry Number: 65 UL

MEMBRANE COMPOSITION AND GENE EXPRESSION DURING THERMAL  
ACCLIMATION IN PORCELAIN CRABS

By: Daria Ronges

MarineBiology

Faculty Advisor: Dr. Jonathon Stillman

Entry Number: 66 UL

WORK IN PROGRESS

By: Paula Robinson

Physiology and Behavior Biology

Faculty Advisor: Dr. Jonathon Stillman

Entry Number: 67 UL  
SUPER SCIENCE  
By: Gaelen S. Smith and Alyssa Berry  
Physiology and Zoology  
Faculty Advisor: Dr. Kimberly Tanner

Entry Number: 68 UL  
COMPUTATIONAL CHARACTERIZATION OF WATER ACCESSIBLE AREAS IN  
HYDROPHOBIC AREAS IN DISTAL HEME POCKET MUTANTS IN MYOGLOBIN  
By: Ben Rodriguez  
Biochemistry  
Faculty Advisor: Dr. Anton Guliaev

Entry Number: 69 UL  
SYNTHESIS, CHARACTERIZATION, AND SUBCELLULAR LOCALIZATION OF  
MITOCHONDRIA-BASED PORPHYRINIC PIGMENTS  
By: Hnin Khin  
Biochemistry  
Faculty Advisor: Dr. Ursula Simonis and Dr. Meden Issac

Entry Number: 70 UL  
INVESTIGATION OF PROTEIN INTERACTIONS THAT CONTROL THE NITRITE  
REDUCTASE ACTIVITY OF HEME PROTEINS  
By: Lea Lough  
Biochemistry  
Faculty Advisor: Dr. Raymond Esquerra

Entry Number: 71 UL  
NADH AND METAL BINDING EQUILIBRIA OF PHENYLACETALDEHYDE  
By: Levenlou Vender  
Biochemistry  
Faculty Advisor: Dr. George Gassner

Entry Number: 72 UL  
REDUCTION OF SELENIUM OXYANIONS BY ZERO-VALENT IRON SURFACES  
By: Marisa Miller  
Biochemistry  
Faculty Advisor: Dr. Bruce Manning

Entry Number: 73 UL

MECHANISM OF STYRENEOXYGENASE WITH SUBSTRATE ANALOGS AND INHIBITORS

By: Mie Win

Biochemistry

Faculty Advisor: Dr. George Gassner

Entry Number: 74 UL

NEW FIELD METHOD FOR DETERMINATION OF ARSENIC IN WATER USING ION EXCHANGE AND XRF

By: Rene L. Johnson and Peter E. Baker

Biochemistry

Faculty Advisor: Dr. Pete T. Palmer

Entry Number: 75 UL

DESIGN OF A REVERSIBLY ACTIVATED TRYPSIN VIA AN ENGINEERED METAL BINDING SITE

By: Anna Gubeladze

Biochemistry

Faculty Advisor: Dr. Teaster Baird, Jr.

Entry Number: 76 UL

EXPLORING THE REPRODUCIBILITY AND VALIDITY OF COMPARATIVE QUANTITATIVE POLYMERASE CHAIN REACTION

By: Laura Cooper and Yvonne Mak

Biochemistry

Faculty Advisor: Dr. Elizabeth Runquist

Entry Number: 77 UL

INTRODUCING NOVEL SUBSTRATE SELECTIVITY INTO TRYPSIN THROUGH REDESIGN

By: Sayeeda Najibi

Biochemistry & Cell and Molecular Biology

Faculty Advisor: Dr. Teaster Baird, Jr.

Entry Number: 78 UL

SYNTHESIS OF ZEOLITE MFI FILMS VIA HYDROXIDE AND FLUORIDE ROUTES

By: Chris Reaves

Chemistry

Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 79 UL  
THE EFFECTS OF NON-ENZYMATIC GLYCATION ON THE NITRITE  
REDUCTASE ACTIVITY OF HEMOGLOBIN  
By: Damon Robles, Yadiel K, and Kay Saw  
Chemistry  
Faculty Advisor: Dr. Raymond Esquerra

Entry Number: 80 UL  
CHARACTERISTICS OF AN ALUMINUM (III) PHEOPHORBIDE-A SERINE  
DERIVATIVE AS POTENTIAL USE IN PHOTODYNAMIC THERAPY  
By: Diem Huynh  
Chemistry  
Faculty Advisor: Dr. Ursula Simonis

Entry Number: 81 UL  
GROWTH STUDIES OF ORIENTED MFI ZEOLITE FILMS AS A FUNCTION OF  
TIME  
By: Dina Flamik  
Chemistry  
Faculty Advisor: Dr. Andrew S. Ichimura and Dr. Ursula Simonis

Entry Number: 82 UL  
SYNTHESIS AND CHARACTERIZATION OF AMINO ACID SUBSTITUTED  
PHEOPHORBIDES  
By: Kara Cross  
Chemistry  
Faculty Advisor: Dr. Ursula Simonis

Entry Number: 83 UL  
ANAEROBIC DEGRADATION OF ORGANIC CARBON IN AN INTERTIDAL  
SEDIMENT: RELATIVE IMPORTANCE OF MAJOR ELECTRON ACCEPTORS  
By: Mayu Kawaguchi and Jonathon A. Polly  
Chemistry  
Faculty Advisor: Dr. Tomoko Komada and Dr. Ursula Simonis

Entry Number: 84 UL  
SYNTHESIS OF AN ARGININE SUBSTITUTED PHEOPHORBIDE-A AS EFFECTIVE  
PHOTOSENSITIZERS FOR PHOTODYNAMIC THERAPY (PDT)  
By: Soohwan Kim  
Chemistry  
Faculty Advisor: Dr. Ursula Simonis

Entry Number: 85 UL  
SURFACE CHEMISTRY UNDER PHOTOLYSIS  
By: Stéphanie Cherdo  
Chemistry  
Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 86 UP  
SELF-ASSEMBLED MONOLAYERS TO SUPPORT THE GROWTH OF  
INORGANIC FILMS  
By: Diana Mars and Shirin M. Usmani  
Chemistry  
Faculty Advisor: Dr. Andrew S. Ichimura

Entry Number: 87 UP  
THE PLIOCENE RESPONSE TO WARMER THAN MODERN SEA SURFACE  
TEMPERATURES IN COASTAL UPWELLING REGIONS  
By: Zi Zi Searles  
Geology  
Faculty Advisor: Dr. Petra Dekens

Entry Number: 88 UP  
THE AVERAGE CROSSING NUMBER OF EQUILATERAL POLYGONS IN  
CONFINEMENT  
By: Benjamin Borgo, Dr. Rob Scharein, Dr. Yuanan Diao (University of North Carolina,  
Charlotte), and Dr. Javier Arsuaga  
Applied Mathematics  
Faculty Advisor: Dr. Javier Arsuaga

Entry Number: 89 UP  
MITOCHONDRIAL DNA STRUCTURE IN TRYPANOSOME  
By: Chris Keown  
Mathematics  
Faculty Advisor: Dr. Javier Arsuaga

Entry Number: 90 UP  
UNIMODALITY OF ORDER POLYNOMIALS  
By: Christopher O'Neill  
Mathematics  
Faculty Advisor: Dr. Matthias Beck

Entry Number: 91 UP  
CONSTRUCTION OF LATTICE KNOTS FROM THE GAUSS CODE  
By: Nicholas Normandin  
Mathematics  
Faculty Advisor: Dr. Mariel Vazquez

Entry Number: 92 UP  
HECKE OPERATORS ON PALINDROMIC POLYNOMIALS  
By: Whitney Zeldow  
Mathematics  
Faculty Advisor: Dr. Matthias Beck

Entry Number: 93 UP  
GUIDING AND ROUTING LIGHT ALONG DEFECT CHANNELS: FROM  
IMPERFECTION TO PERFECTION.  
By: Ratna Lama  
Physics  
Faculty Advisor: Dr. Zhigang Chen

Entry Number: 94 UP  
FOUNDATION FOR A 20-STORY BUILDING  
By: Adamross Lingad, Kimberly Sindac, Timothy Shu, Raul Verduzco  
Civil Engineering  
Faculty Advisor: Dr. Tim D'Orazio

Entry Number: 95 UP  
TRUSS BRIDGE  
By: Ahlong Shin, Noris Gomez, Vu Le, Charles Njoroge, and Mesfin Agegnehu  
Civil Engineering  
Faculty Advisor: Dr. Norman Owen

Entry Number: 96 UP  
AIR TRAFFIC CONTROL TOWER  
By: Ahmed Thleiji, WenPei Kuang, and Patrick Howell  
Civil Engineering  
Faculty Advisor: Multu Ozer

Entry Number: 97 UP  
BROTHERHOOD WAY STORM WATER REMEDIATION  
By: David Reber, Nick Birth, Adam Krakow, Mingming Yee, and Alvin Yim

Civil Engineering  
Faculty Advisor: Dr. Elahe Enssani

Entry Number: 98 UP  
TIMBER ARCH BRIDGE  
By: Fabian Gomez, Greg Paulson, Lewis Hernandez, Jack Chen, Mikhail Ermakovich,  
Yonata Andemariam, Miguel Escudero, and Jose Reynolds  
Civil Engineering  
Faculty Advisor: Mutlu Ozer

Entry Number: 99 UP  
HIGH SPEED RAIL STATION  
By: Robert Halliday, Colin Kemper, Lucas Zimmer, Marjess Tacoban, Shiraz Muzaffar,  
and Sunia Malolo  
Civil Engineering  
Faculty Advisor: Dr. Wenshen Pong

Entry Number: 100 UP  
NEW SFSU ENGINEERING HALL  
By: Sean Jaime, James Go, Carrie King, and Tiffany Chin  
Civil Engineering  
Faculty Advisor: Dr. Wenshen Pong

Entry Number: 101 UP  
GEOTECHNICAL ENGINEERING OF FOUNDATION DESIGNS  
By: Travis Haft, Radoslaw Stamcher, Devon Crowe, and Stephen Jo  
Civil Engineering  
Faculty Advisor: Dr. Tim D'Orazio

Entry Number: 102 UP  
SMART MAGNETIC CARD READER FOR THE SCIENCE BUILDING  
By: Noppol Setobol, Akeem Abodunrin, and Ronnie Roraldo  
Computer Engineering  
Faculty Advisor: Dr. Hamid Shahnasser and Dr. Hao Jiang

Entry Number: 103 UP  
REAL-TIME IMPACT LOGGER & ANALYSIS  
By: Christina Phan, Teo Limbo, and Eli Lyons  
Electrical Engineering  
Faculty Advisor: Dr. Tom Holton

Entry Number: 104 UP  
SONIC STICK  
By: Danny Azar and Ho Yin Chan  
Electrical Engineering  
Faculty Advisor:

Entry Number: 105 UP  
LOW POWER WIRELESS MEDICAL MONITORING SYSTEM  
By: Di Lan, William Yu, and Dennison Lorenzana  
Electrical Engineering  
Faculty Advisor: Dr. Hao Jiang and Dr. Tom Holton

Entry Number: 106 UP  
DESIGN PROJECT FOR DIGITAL IC DESIGN COURSES IN 90NM CMOS  
TECHNOLOGY  
By: Eli Lyons  
Electrical Engineering  
Faculty Advisor: Dr. Hamid Mahmoodi

Entry Number: 107 UP  
SOLAR TRACKER  
By: Eugene Russiyanov, Jed Hewitt, and Kate Tun  
Electrical Engineering  
Faculty Advisor: Dr. Hao Jiang and Dr. Hamid Shannaser

Entry Number: 108 UP  
ACCEL-O-MOUSE (CODENAME YODA)  
By: Mathew Brady, Victor Mannuel, and Lalesh Sharma  
Electrical Engineering  
Faculty Advisor: Dr. Hao Jiang

Entry Number: 109 UP  
WIRELESS POWER TRANSFER  
By: Mojan Norouzi, David Munguia, Akhil Malik, and Zeeshan Ali  
Electrical Engineering  
Faculty Advisor: Dr. Hao Jiang

Entry Number: 110 UP  
SOLAR POWERED BATTERY CHARGER  
By: Scott Siordia, Yves Fotso, James Carolino, and Kris Quismorio

Electrical Engineering  
Faculty Advisor: Dr. Hao Jiang

Entry Number: 111 UP  
INVERTED PENDULUM ROBOT  
By: Tim Wang and Curtis Hilger  
Electrical Engineering  
Faculty Advisor: George Anwar

Entry Number: 112 UP  
AUTONOMOUS MICROMOUSE  
By: Hailu Keremo, Harrit Bains, and Loon Phang  
Electrical Engineering  
Faculty Advisor: Dr. Hao Jiang

Entry Number: 113 UP  
BEER BOT: AUTOMATIC BEER POURING MACHINE  
By: Jonathan Hughes, Marvic Verzano, and Colin Muschette  
Electrical and Mechanical Engineering  
Faculty Advisor: Dr. Tom Holton

Entry Number: 114 UP  
CNG LAWNMOWER  
By: Christopher Fernandez, Paul Stelter, and Yeygeuiy Shkelev  
Mechanical Engineering  
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 115 UP  
RAPID SYNTHESIS OF HIGH-ASPECT RATIO ZINC OXIDE NANOWIRES BY A  
CATALYST-FREE, LOW-POWER INDUCTIVE HEATING PROCESS  
By: Joachim Pedersen  
Mechanical Engineering  
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 116 UP  
HUMAN POWERED VEHICLE  
By: Michael Diep, Ahmed Hassani, and Kevin Ng  
Mechanical Engineering  
Faculty Advisor: Dr. Kwok-Siong Teh

Entry Number: 117 UP  
THE ELECTRIC MOTORCYCLE PROJECT  
By: Oliver Burke and David Shirling  
Mechanical Engineering  
Faculty Advisor: Dr. Kwok-Siong Teh and Dr. A. S. Ed Cheng

Entry Number: 118 UP  
JET ENGINE  
By: Patrick Moore, Nicholas Ng, and Nick Certo  
Mechanical Engineering  
Faculty Advisor: Dr. Kwok-Siong Teh and Dr. A. S. Ed Cheng

Entry Number: 119 UP  
PROGRESSIVE METAL STAMPING DIE  
By: Richard Moore  
Mechanical Engineering  
Faculty Advisor: Dr. Kwok-Siong Teh