

2010 COSE Student Project Showcase

Alpha Order by Team Members

Entry #	Group	Team Members	Title	Major/Concentration	Advisor	Undergraduate
94	UL	Abdelaziz Mtaoua	PHOTODYNAMIC THERAPY OF CANCER DISEASES SYNTHESIZE OF METHOXY L- LYSYLPYROPHEOPHORBIDE-A AND ITS ZINC METAL	Chemistry	Dr. Uschi Simonis	u
101	UP	Abdirahman Adam, Jennifer Smith, Jennifer Tran, Johnny Hoang, Wubet Woldemichael, and Yue Ming Huang	FOUNDATION DESIGNS	Civil Engineering	Dr. Timothy D'Orazio	u
128	UP	Abigail Elisabeth Reiss	VISIBLE-WAVELENGTH INTEGRATED SPECTROSCOPY OF BINARY ASTEROIDS	Astrophysics	Dr. Adrienne Cool and Dr. Franck Marchis	u
64	GP	Addie Evans	INFERRING TREE TOPOLOGIES USING PHYLOGENETIC INVARIANTS	Mathematics	Dr. Serkan Hosten	g
56	GP	Alan Chan	THE DEVELOPMENT OF WiGig VEHICULAR AD HOC NETWORKS	Engineering	Dr. Hamid Shahnasser	g
102	UP	Alex Osorio, Noor Hasan, Patrick Ledesma, Chor Sum Wong, George Khaelilieh, and Hamed Khan Zadrán	SFSU TIMBER TRUSS BRIDGE	Civil Engineering	Dr. Cheng Chen	u
81	UL	Alex Pankov	GENOMIC SIGNATURES ASSOCIATED WITH RECURRENCE IN BREAST CANCER PATIENTS	Mathematics	Dr. Javier Arsuaga	u

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129	UP	Alexandra Miller	BEAM REFLECTION BY NEGATIVE DEFECTS IN PHOTONIC LATTICES	Physics	Dr. Zhigang Chen	u
119	GL	Andrew Carriman	CHARACTERIZING ECDYSIS BEHAVIOR IN THE STICK INSECT, CARAUSIUS MOROSUS	Physiology and Behavioral Biology	Dr. Megumi Fuse	g
112	GL	Andrew Core, Jonathan Ivers, Chris Quock, Dr. Chris Smith, Travis Siapno, and Dr. John Hafernik	THE EFFECTS OF A NEWLY DISCOVERED PARASITE (<u>APOCEPHALUS BOREALIS</u>) ON THE HEALTH OF HONEY BEE COLONIES	Conservation Biology	Dr. John Hafernik	g
65	GP	Andrew Herrmann	CLASSIFICATION OF EHRHART QUASI-POLYNOMIALS OF HALF-INTEGRAL POLYGONS	Mathematics	Dr. Matthias Beck	g
119	UP	Andrew McBrian Cole, Kayvon Shakeri, Kevin Gee, and Prasith Sip	RACE CAR	Mechanical Engineering	Dr. Kwok-Siong Teh	u
120	UP	Andrew Navarro and Christian Fernandez	DRINK MIXER	Mechanical Engineering	Dr. Tom Holton	u
110	UP	Andy Kwan and Richard Solomon	HYBRID RADIO CONTROL CAR	Electrical Engineering	Dr. Tom Holton	u
20	GL	Anita Yip	EFFECTS OF FOOD AVAILABILITY ON NEUROGENESIS IN THE TOBACCO HORNWORM, MANDUCA SEXTA	Physiology and Behavioral Biology	Dr. Chris Moffatt	g

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93	UL	Anthony Trinh	SYNTHESIS OF TRIMETHYLLYSINE-SUBSTITUTED PHEOPHORBIDE-A SILICON COMPLEX	Biochemistry	Dr. Uschi Simonis	u
50	GP	Anuj Pushkarna	RELIABILITY ANALYSIS OF POWER GATED SRAM UNDER COMBINED EFFECTS OF NBTI AND PBTI IN NANO-SCALE CMOS	Electrical Engineering	Dr. Hamid Mahmoodi	g
76	UL	Ariel Aveo and Tyson Buis	ECDYSIS TRIGGERING HORMONE INDUCES FICTIVE PRE-ECDYSIS AND ECDYSIS IN INTERMOLT PERIOD OF TOBACCO HORNWORM NERVOUS SYSTEMS	Physiology and Behavioral Biology	Dr. Megumi Fuse	u
77	UL	Armbien Sabillo and Vanja Krneta-Stankic	SPATIAL PATTERNING OF MUSCLE FIBERS IN XENOPUS LAEVIS	Physiology and Behavioral Biology	Dr. Carmen R. Domingo	u
55	GP	Avisa Tehrani	ANONYMOUS COMMUNICATION IN MOBILE AD HOC NETWORKS	Engineering	Dr. Hamid Shahnasser	g
111	UP	Billy Hui and Aung Tint	WIRELESS TEMPERATURE DISPLAY AND CONTROL SYSTEM	Electrical Engineering	Dr. Tom Holton, Dr. George Anwar, and Dr. Hao Jiang	u
57	GP	Bitra Nosratieh	CONVEXITY OF DOMAINS OF BEST APPROXIMATION	Mathematics	Dr. Yitwah Cheung	g
121	UP	Brandon Leaupepetele and Hieu Vo	AUTOMATIC BASKETBALL RETURNER	Mechanical Engineering	Dr. Dipendra Sinha and Dr. Kwok-Siong Teh	u

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13	GL	Brennan Wenck	BIODIVERSITY AND PHYLOGENY OF MARASMUIS OF NOR YUNGAS, BOLIVIA	Ecology and Systematics Biology	Dr. Dennis Desjardin	g
78	UL	Camilla Teng	ROLE OF ROR1 IN THE DEVELOPING CHICK NEURAL TUBE	Cell and Molecular Biology	Dr. Laura Burrus	u
1	GL	Cathy Samayoa	FEASIBILITY OF USING SALIVA AS A BIOSPECIMEN FOR BREAST CANCER SCREENING IN WOMEN	Cell and Molecular Biology	Dr. Leticia Marquez-Magana	g
71	GP	Claire Davy, Zach Hoch, and Stephen Pehrson	HUNTING FOR COMPACT GALAXIES	Physics and Astrophysics	Dr. Ron Marzke	g
21	GL	Cleopa Omondi, Sayed Miry, and Louie Vermos	ADENOSINE REGULATES DEVELOPMENT DURING TISSUE REPAIR	Physiology and Behavioral Biology	Dr. Megumi Fuse	g
25	GL	Criseyda Martinez	MOLECULAR BASIS FOR HOST SPECIFICITY IN AVIAN MALARIA	Microbiology	Dr. Ravinder Sehgal	g
122	UP	Curtis Hilger and Joachim Pedersen	CLOSED-LOOP FEEDBACK CONTROL OF A HIGH FREQUENCY INDUCTIVE HEATING SYSTEM FOR NANOMATERIAL SYNTHESIS	Mechanical Engineering	Dr. Kwok-Siong Teh	u
95	UL	Damon Robles and Kay Saw	NITRITE REDUCTASE ACTIVITY OF GLYCATED HEMOGLOBIN	Chemistry	Dr. Raymond Esquerra	u

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72	GP	Daniel Hernandez	OPTICAL TAPPING AND MANIPULATION	Physics	Dr. Zhigang Chen	g
58	GP	David Bangor	A MAXIMUM PRINCIPLE FOR THE WEIGHTED BERGMAN SPACE	Mathematics	Dr. Alex Schuster	g
83	UL	David Canio	DETERMINING THE KINETIC MECHANISM OF STYRENE MONOOXYGENASE REDUCTASE	Biochemistry	Dr. George Gassner	u
2	GL	David Newstrom	THE ROLE OF Nkx2-1 IN THE DEVELOPMENT OF THE VENTROMEDIAL HYPOTHALAMUS	Cell and Molecular Biology	Dr. Carmen R. Domingo	g
127	UP	Diana Mars	THIN FILMS OF IRON II DISULFIDE (PYRITE) FOR PHOTOVOLTAIC APPLICATIONS	Chemistry	Dr. Andrew S. Ichimura	u
59	GP	Dido Salazar-Torres	GENERALIZED ORDER AND CHAIN POLYTOPES	Mathematics	Dr. Thomas Bliem and Dr. Federico Ardila	g
66	GP	Eric Distad	THE IMPORTANCE OF THE LEADOFF BATTER	Mathematics	Dr. Serkan Hosten	g
67	GP	Eric Douglas Miranda	GRAPH OPERATIONS IN TROPICAL GEOMETRY	Mathematics	Dr. Serkan Hosten	g

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112	UP	Farah Soltane and Thomas Pedersen	MOUSE	Electrical Engineering	Mutlu Ozer and Dr. Tom Holton	u
113	UP	Fersan Winardja and William Diep	AN EXTERNALLY CONTROLLED MAGNETIC DISC SCREW DEVICE	Electrical Engineering	Dr. Tom Holton, Dr. Kwok-Siong Teh, and Dr. Hao Jiang	u
53	GP	Gregory S. Kielian, Di Lan, Xiao Wang, Tao Yu, and Shiyu Zhou	VERSATILE NETWORKABLE ROBOT	Engineering	Dr. Seapahn Megerian	g
47	GP	Gurdeep Singh, Sanket Parab, Ravi Soni, and Srijita Shrestha	a-TAT (ELECTRONIC TEAMWORK ASSESSMENT TOOL)	Computer Science	Dr. Dragutin Petkovic, James Wong, and Gary Thompson	g
96	UL	Heather Gregory and Charlie Bupp	RAPID IDENTIFICATION OF COUNTERFEIT DRUGS VIA X-RAY FLUORESCENCE SPECTROMETRY	Chemistry	Dr. Pete Palmer	u
23	GL	Henry Hunter	CONFIRMATION OF DICISTRONIC GENE STRUCTURES IN SEVERAL DROSOPHILID SPECIES	Cell and Molecular Biology	Dr. Chris Smith	g
114	UP	Hezekiel Randolph	RCL METER	Electrical Engineering	Dr. Tom Holton	u
14	GL	Holy Archer, Cagan Sekercioglu, and Chase Mendenhall	EFFECTS OF FOREST FRAGMENTATION ON THE PREVALENCE OF BLOOD PARASITES IN BIRDS OF COSTA RICA	Ecology and Systematics Biology	Dr. Ravinder Sehgal	g

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26	GL	Hope M. Gray, N. Pinel, M.N. Ashby, C.B. Walker, H. Urakawa, C.W. Schadt, L. Sayavedra-Soto, and D.A. Stahl	GENOMIC ANALYSIS OF THE AMMONIA OXIDIZING ARCHAEON NITROSOCALDUS YELLOWSTONII HL72	Microbiology	Dr. Jose R de la Torre	g
84	UL	Ignacio López-Peña and Jasmine Kristianto	DETERMINING THE CONFORMATIONAL EFFECTS CAUSED BY CO AND YC-1 BINDING TO SOLUBLE GUANYLATE CYCLASE	Biochemistry	Dr. Nancy Gerber and Dr. Raymond Esquerro	u
3	GL	Jacquelynn R. Robinson, Ukina Sanford, and Laura N. Bull	Fic1-DEFICIENT MOUSE AS A MODEL OF CHOLESTATIC DISEASE MBRS-RISE GRANT: R25-GM59298	Cell and Molecular Biology	Dr. Frank Bayliss	g
103	UP	James O'Connell, Joshua Tse, Colby Lum, Tony Cheung, and Nik Favretto	ENGR697 GEOTECHNICAL GROUP #4	Civil Engineering	Dr. Timothy D'Orazio	u
15	GL	Jenny Carlson	PREVALENCE OF BLOOD PARASITES IN THE AVIFAUNA OF SOCORRO ISLAND , MÉXICO.	Ecology and Systematics Biology	Dr. Ravinder Sehgal	g
54	GP	Jia Huang	INTELLIGENT VEHICLE MOBILITY TCL SCRIPT GENERATOR FOR NS-2 SIMULATION	Engineering	Dr. Hamid Shahnasser	g
41	GP	Jinesh Lalan	CLOUD COMPUTING FOR DATA INTENSIVE APPLICATION	Computer Science	Dr. Dragutin Petkovic, Mike Wong, and Dr Ljubomir Buturovic	g
123	UP	Joachim Pedersen	ZINC-CATALYZED, RAPID SYNTHESIS OF ULTRA LONG SILICA NANOFIBERS BY	Mechanical engineering	Dr. Kwok-Siong Teh	u

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42	GP	John Collins	THREE DIMENSIONAL RECONSTRUCTION OF KNOTS AND KNOTTED PARTICLES	Computer Science	Dr. Javier Arsuaga	g
115	UP	John Laberinto, Cassidy Louie, and Jeff Constantino	AUDIO SWITCHER	Electrical Engineering	Dr. Tom Holton and Dr. Hao Jiang	u
124	UP	John Wudyts, Shifteh Einollahzadeh, Andrew Damele, Jeremy Martinez, Haris Alijagic, Laith Alawad, Hemel Yahya, and Emerson Malca	POWERED LAZY BOY	Mechanical Engineering	Dr. George Anwar and Dr. Dipendra Sinha	u
60	GP	Jon Yaggie	VARIETY OF FINITARY C-ALGEBRA HOMOMORPHISMS	Mathematics	Dr. Joseph Gubeladze	g
68	GP	Jonathan Terhorst	EFFECT OF COAL-FIRED POWER GENERATION ON VISIBILITY IN A NEARBY NATIONAL PARK	Mathematics	Dr. Serkan Hosten	g
108	UP	Jose Emerson Malca Gutierrez and Hemel Yahya	CARDIO VEST	Computer Engineering	Larry Klingenberg	u
16	GL	Julie S. Miller	THE RELATIONSHIP BETWEEN MATERNAL CARE AND EGG CANNIBALISM IN A COLONIAL EARWIG ANISOLABIS MARITIMA (DERMAPTERA: ANISOLABIDIDAE)	Ecology and Systematics Biology	Dr. Andrew G. Zink	g
61	GP	Juliet Portillo, Rob Scharein, and Dr. Javier Arsuaga	INVARIANCE OF THE SIGN OF THE AVERAGE SPACE WRITHE OF FREE AND CONFINED KNOTTED POLYGONS	Mathematics	Dr. Mariel Vazquez	g

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130	UP	Kazue Matsuyama and Polin Yadak	NON-CRYSTALLINE PHOTONIC BANDGAP MATERIAL STUDY	Physics	Dr. Weining Man	u
32	GL	Kensuke Yamamoto, Jasmin Kristianto, and Stephanie Wood	S-NITROSYLATION OF SOLUBLE GUANYLATE CYCLASE	Biochemistry	Dr. Nancy Counts Gerber	g
33	GL	Lea Lough, Kay Saw, Benjamin Lintner, and Ignacio López-Peña	EFFECT OF THE HEME POCKET ENVIRONMENT ON THE NITRITE REDUCTASE ACTIVITY OF SW MYOGLOBIN	Biochemistry	Dr. Raymond Esquerra	g
34	GL	Lei Zhang	THE SIGNIFICANCE OF SECOND SHELL INTERACTION IN SERINE PROTEASE	Biochemistry	Dr. Teaster Baird, Jr	g
43	GP	Marc Sosnick	EFFICIENT FINITE DIFFERENCE-BASED SOUND SYNTHESIS USING GPUS	Computer Science	Dr. Bill Hsu	g
27	GL	Marilyn Walton and Devi Paulvannan	HPV	Microbiology	Dr. Lily Chen	g
85	UL	Matt Gallagher	DEVELOPMENT OF A BROAD-BASED ASSAY TO MEASURE FLAVIN TRANSFER EFFICIENCY IN THE STYRENE DEGRADATION PATHWAY	Biochemistry	Dr. George Gassner	u
97	UL	Matthew Sanchez	Fe ANALYSIS OF BEER VIA HAND HELD XRF USING CATION EXCHANGE RESINS	Chemistry	Dr. Pete Palmer	u

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11	GL (Display only)	Meghan Bishop	DIET AND FOOD WEBS OF THE CALIFORNIA RED-LEGGED FROG (RANA DRAYTONII)	Conservation Biology	Dr. Robert Drewes	g
116	UP	Michael Arce, David Chin, Cianan Duncan, Javier Fernandez, and John Wudyts	SEARCH ROVER	Electrical and Mechanical Engineering	Dr. Kwok-Siong Teh	u
24	GL	Michael Yee	GLOBAL ANALYSIS OF HISTONE SUBTYPE COMPOSITION IN C. ELEGANS SPERM USING MudPIT MASS SPECTROMETRIC ANALYSIS	Cell and Molecular Biology	Dr. Diana Chu	g
73	GP	Michelle Krok	THE IMPACT OF A 5E CONCEPTUAL CHANGE APPROACH TO ASTRONOMY EDUCATION	Physics	Dr. Adrienne Cool and Dr. Kimberly Tanner	g
28	GL	Michelle Wray	CD8+ CELL NONCYTOTOXIC ANTIVIRAL RESPONSE SUPPRESSES HIV-1 TRANSCRIPTION IN PRIMARY MONOCYTE-DERIVED-MACROPHAGES	Microbiology	Dr. Jay Levy and Dr. Frank Bayliss	g
35	GL	Mie A. Lansang	REFINING THE CATALYTIC MACHINERY OF AN ENGINEERED THREONINE PROTEASE BY SITE-DIRECTED MUTAGENESIS	Biochemistry	Dr. Teaster Baird, Jr.	g
82	UL	Mousa Rebouh	USING THE MATHEMATICS OF TANGLES TO STUDY THE MECHANISM THE CELL EMPLOYS TO MAINTAIN GENETIC STABILITY	Mathematics	Dr. Mariel Vasquez	u
104	UP	My-Elin Nguyen, Christine Hunt, Nick Kim, Lindsay Green, Eoin Sheeran, Alvin Piano, James Esoimeme, Jose Preciado, and Julie Leong	CONCRETE CANOE	Civil Engineering	Dr. Cheng Chen and Dr. Timothy D'Orazio	u

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86	UL	Natalie Davis	COMPARISON OF DEUTERIUM MONOXIDE AND HYDROGEN MONOXIDE SOLVENT EFFECTS ON DIFFERENT SPECIES OF MYOGLOBIN LIGAND REBINDING AFTER CO PHOTOLYSIS	Biochemistry	Dr. Raymond Esquerra	u
17	GL	Natalie Reeder	IS THE PACIFIC CHORUS FROG CARRYING A DEADLY FUNGUS?	Ecology and Systematics Biology	Dr. Vance Vredenburg	g
69	GP	Nguyen Le	A LATTICE POINT ENUMERATION APPROACH TO PARTITION IDENTITIES	Mathematics	Dr. Matthias Beck	g
48	GP	Niranjan Timilsina	DEVELOPMENT OF A STAINED CELL NUCLEI COUNTING SYSTEM	Software Engineering	Dr. Kaz Okada	g
87	UL	Patience Adagba	ANALYTICAL PROTOCOLS FOR DETERMINATION OF PHTHALATES IN TOYS.	Biochemistry	Dr. Pete Palmer	u
74	GP	Polin Yadak and Kazue Matsuyama	PHOTONIC BANDGAP MATERIAL WITH QUASI-CRYSTALLINE SYMMETRY	Physics	Dr. Weining Man	g
44	GP	Pracheer Sehwat, Gemma Lee Fu-Sun, Mandar Modgi, Trevor Blackstone, and Gurgun Tumanyan	IMPROVING FEATURE: ACADEMIC BIOINFORMATICS SOFTWARE FOR STANFORD UNIVERSITY	Computer Science	Dr. Dragutin Petkovic, Dr. Russ Altman, and Mike Wong	g
88	UL	Quynh Nguyen	SERINE PROTEASE: TRYPSIN VARIANT F41A	Biochemistry	Dr. Teaster Baird, Jr. and Mie Lansang	u

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38	GL	Raniel R. Alcantara	EXPLORING INDIRECT HYDROPHOBIC INTERACTIONS IN TRYPSIN	Cell and Molecular Biology	Dr. Teaster Baird, Jr.	g
4	GL	Remy Vianney Binder, Seung Jong Lee, and Dr. Wilfred Denetclaw	ECTODERM CELLS EXPRESS PRIMARY CILIUM AND MECHANOTRANSDUCE CALCIUM AND NITRIC OXIDE SIGNALS	Cell and Molecular Biology	Dr. Wilfred Denetclaw	g
100	UP	Reza Hashemzade, Alisina Oshaghi, Joey Aduviso, Jose Garcia, Leyla Pirnia, and Cristina Aragon	WOODBIDGE DESIGN	Civil and Environmental Engineering	Dr. Timothy D'Orazio and Dr. Cheng Chen	u
125	UP	Rochelle Desamito, Judith Krichke, and Richard Wang	VERTICAL AXIS WIND TURBINE	Mechanical Engineering	Dr. Kwok-Siong Teh	u
79	UL	Romica Kerketta	LOSS OF MEMBRANE RAFTS DEREGULATES INTRACELLULAR FREE CALCIUM IN C2C12 MYOBLASTS/MYOTUBES	Cell and Molecular Biology	Dr. Wilfred Denetclaw	u
70	GP	Ronald Youtz	TORIC IDEALS OF SMALL MATROIDS ARE GENERATED IN DEGREE 2	Mathematics	Dr. Serkan Hosten	g
22	GL	Sabina Bera and Jared Geibig	CHARACTERIZING CGMP REGULATION DURING ECDYSIS IN MANDUCA SEXTA	Physiology and Behavioral Biology	Dr. Megumi Fuse	g
118	UP	Salim Saikaly, Laith Alawad, and Muataz Hamad	MECHANICAL PHOTSENSORY PATIO UMBRELLA	Mechanical and Electrical Engineering	Larry Klingenberg and Dr. Tom Holton	u

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105	UP	Samuel Fitzer, Chris O'Gara, Chris Pioli, Jonathon Tai, Marissa Silvas, John Crain, Julian Jaramillo, Nadia Berumen, Lester Aquino, and Cindy Lu	NATIONAL STUDENT STEEL BRIDGE COMPETITION	Civil Engineering	Dr. Cheng Chen	u
29	GL	Sandra Melloy	INHIBITION OF NITRIFICATION IN AMMONIA-OXIDIZING ARCHAEA	Microbiology	Dr. Jose de la Torre	g
49	(Display Onl)	Saurabh Kumar	PODCASTING IN MOBILE WiMAX: ANALYSIS AND IMPLICATIONS	Electrical Engineering	Dr. Hamid Shahnasser	g
5	GL	Saurabh Subodh Gupte	REGULAR SPATIO-TEMPORAL PATTERNS IN MULTIPLE PROTEIN FOLDING TRAJECTORIES	Computer Science	Dr. Hui Yang	g
89	UL	Sayeeda P. Najibi	INTRODUCING NOVEL SUBSTRATE SELECTIVITY INTO TRYPSIN THROUGH REDESIGN	Biochemistry	Dr. Teaster Baird, Jr	u
6	GL	Seung Jong Lee	DYNAMIC PATTERNS OF ECTODERMAL NO AND Ca ²⁺ LEVELS REGULATE NO SIGNALING ACTIVITIES TO THE PARAXIAL MESODERM FOR MYOGENESIS IN CHICKEN EMBRYOS	Cell and Molecular Biology	Dr. Wilfred Denetclaw	g
31	(Display Onl y)	Sha Huang	HYDROLYSIS OF α -HALO AND α -CYANO PYRIDINIUM: A MODEL FOR OROTIDINE 5'-MONOPHOSPHATE DECARBOXYLASE (OMP DECARBOXYLASE)	Biochemistry	Dr. Weiming Wu	g
7	GL	Shani Chapman	IDENTIFICATION OF A SECOND SITE SUPPRESSOR OF <i>CDC24</i> IN <i>SCHIZOSACCHAROMYCES POMBE</i>	Cell and Molecular Biology	Dr. Sally Pasion	g

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51	GP	Shankar Yanamandram	MAC PROTOCOLS FOR VANETS: ANALYSIS AND THEORETICAL IMPLEMENTATION	Electrical Engineering	Dr. Hamid Shahnasser	g
109	UP	Shawn Yee	PROJECT R.A.M.T.A.P.	Computer Engineering	??	u
98	UL	Shi Choong	PROTEIN DYNAMICS USING COMPUTATIONAL CHEMISTRY APPROACH. STRUCTURAL FEATURES OF THE WILD TYPE SERINE PROTEASE	Chemistry	Dr. Anton Guliaev	u
39	GL	Shirin M. Usmani and Diana Mars	LOW-TEMPERATURE FABRICATION OF ANATASE FILMS WITH TUNABLE THICKNESS AND MORPHOLOGY	Chemistry	Dr. Andrew S. Ichimura	g
80	UL	Shivalee Gujarathi and Seung Jong Lee	EGGODERM EXPRESSED DYNAMIC LEVELS OF Ca ²⁺ AND NO RESULT IN PATTERNS OF CELL DEATH TO COINCIDE WITH SIGNALING ACTIVITY BY THESE MESSENGERS FOR CHICKEN EMBRYO DEVELOPMENT	Cell and Molecular Biology	Dr. Wilfred Denetclaw	u
52	GP	Shreyas Kumar Krishnappa	COMPARATIVE RELIABILITY ANALYSIS OF SRAM CELL DESIGNS IN NANO-SCALE TECHNOLOGIES	Electrical Engineering	Dr. Hamid Mahmoodi	g
36	GL	Sindy Liao	BIOCHEMICAL CHARACTERIZATION OF STYRENE OXIDE ISOMERASE FROM PSEUDOMONAS PUTIDA S12	Biochemistry	Dr. George Gassner	g
75	GP	Srikar Srinath	THE MAIN SEQUENCE BINARY FRACTION IN GLOBULAR CLUSTER NGC6397	Physics	Dr. Adrienne Cool	g

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37	GL	Stephanie M. Wood	CONFORMATIONAL STUDIES OF SOLUBLE GUANYLATE CYCLASE USING TIME-RESOLVED FLUOROMETRY	Biochemistry	Dr. Nancy Counts Gerber	g
106	UP	Steven Chua, Gloria Fernandez, David Dip, Chris Kekicheff, and Diana Loie	BIORADICAL BIOSAND FILTER: AN IMPROVED PERFORMANCE DELIVERY SYSTEM FOR SAFE DRINKING WATER	Civil Engineering	Dr. John Dracup	u
8	GL	Tenzin Bhutia	ECTODERMAL SPHINGOMYELIN IN LIPID RAFTS REGULATE MYOGENESIS IN CHICKEN EMBRYOS IN CONJUNCTION WITH NO SIGNALING	Cell and Molecular Biology	Dr. Wilfred Denetclaw	g
90	UL	Terrence O'Brien	ARYL-HETEROARYL UREAS (AHUs) BASED ON 4-AMINOQUINALDINE AS INHIBITORS OF THE INSULIN-LIKE GROWTH FACTOR RECEPTOR	Biochemistry	Dr. Marc Anderson	u
117	UP	Tim O'Keefe, Brock Roland, and Michael McIntyre	MIDI ACTUATED ROBOTIC VIBRAPHONE	Electrical and Mechanical Engineering	Dr. Tom Holton and Dr. Ed Cheng	u
62	GP	Tim Wertz	INTERPOLATION IN THE UNIT DISK	Mathematics	Dr. Alex Schuster	g
126	UP	Timothy Sullivan, Nicolas Dibenedetto, and Gandiva Moss	SWITCHABLE V.O./V.C. PROSTHETIC HAND	Mechanical Engineering	Dr. Kwok-Siong Teh	u
18	GL	Tina Cheng	ROLE OF A PATHOGENIC FUNGUS IN THE DECLINE OF PLETHODONTID SALAMANDERS IN MEXICO AND GUATEMALA	Ecology and Systematics Biology	Dr. Vance Vredenburg	g

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45	GP	Tingting Sun	AUTOMATIC LESSON PLANNER	Computer Science	Dr. Kaz Okada and Dr. Susan Courey	g
107	UP	Tony Tam, Shiu Mak, Kakiu Ching, Ailin Liu, Jiayi Fu, Nicole Salde, and Shu Feng Yu	2010 NATIONAL TIMBER BRIDGE COMPETITION	Civil Engineering	Dr. Cheng Chen	u
30	GL	Trevor Gokey	THE ROLE OF THE C42-C58 DISULFIDE BRIDGE IN A CATALYTICALLY ACTIVE THREONINE PROTEASE VARIANT BY MOLECULAR DYNAMICS SIMULATION.	CCLS	Dr. Anton Guliaev	g
9	GL	Tyra McCray, Dr. Zeng-Hui He, Hongyun Tong, Xuefeng Sun, Gigi Yen, Huan Jin, Amy Sheldon, Dr. Colin Leasure	GENETIC DISSECTION OF UVB SIGNALING PATHWAYS IN ARABIDOPSIS THALIANA	Cell and Molecular Biology	Dr. Zheng Hui He	g
91	UL	Van Pham	USING A YEAST SCREENING TO IDENTIFY SITRT INHIBITORS FROM MARINE-DERIVED ACTINOMYCETES	Biochemistry	Dr. Taro Amagata	u
10	GL	Vanessa Aguilera	A NEED FOR NEW THERAPIES TO TREAT MYOCARDIAL INFARCTION THROUGH EXPLORATION OF CARDIOPROTECTIVE ELEMENTS FOUND IN BONE MARROW STEM CELLS AND IL-15	Cell and Molecular Biology	Dr. Carmen R. Domingo	g
99	UL	Viviana Cervantes	A CONTRIBUTION TO THE FIGHT AGAINST CANCER: SYNTHESIS AND CHARACTERIZATION OF LYSINE-SUBSTITUTED PHEOPHORBIDE-A IN THE QUEST FOR A SUPERIOR PHOTSENSITIZER	Chemistry	Dr. Uschi Simonis	u

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92	UL	Yadiel Kinfu	INCREASED OXIDATIVE STRESS IN PEOPLE WITH DIABETES: THE EFFECT OF GLYCATION ON THE KINETICS OF THE ADULT HUMAN HEMOGLOBIN	Biochemistry	Dr. Raymond Esquerra	Undergraduate
46	GP	Yang Zhao	MACHINE LEARNING BASED MEDICAL IMAGE REGISTRATION	Computer Science	Dr. Kaz Okada	Undergraduate
40	GL	Yogita Patil	REMEDICATION OF NITROAROMATIC POLLUTANTS BY REDUCTION AND SURFACE ADSORPTION	Chemistry	Dr. Bruce Manning	Undergraduate
63	GP	Zoe Talbot	AN EXPLORATION OF BFACT ENTROPY & BIOLOGICAL APPLICATIONS OF SELF-AVOIDING POLYGONS IN THE SIMPLE CUBIC LATTICE	Mathematics	Dr. Yitwah Cheung, Dr. Rob Scharein, and Dr. Mariel Vazquez	Undergraduate

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		Jessica ???, Megan Montgomery, Phil Swigart, Paul Simpson, Marietta Panningbatan, and Bat Myagmar		Biochemistry	Dr. Teaster Baird, Jr	u

BIOLOGY and CCLS		13
CHEMISTRY & BIOCHEMISTRY		19
	SUBTOTAL LIFE SCIENCES	32
COMPUTER SCIENCE		0
ENGINEERING		26
GEOSCIENCES		1
MATHEMATICS		5
PHYSICS & ASTRONOMY		1
	SUBTOTAL PHYSICAL	33
DISPLAY ONLY		
SEPAL 'DISPLAY ONLY' PROJECTS		
	GRANDTOTAL	65

Entry #	Group	team members	TITLE	Major/Concentration	Advisor	Under
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1. Project Description:

sphingomyelin in lipid rafts
regulate myogenesis in
chicken embryos in conjunction

2. Name: Tenzin Bhutia,
ID# 909135011, email id:
bhuti04@gmail.com

3. Faculty Advisor's Name:
Dr. Denetclaw, Wilfred
(W8109640@sfsu.edu)

4. Department: Biology
(Concentration Cell and
Molecular Biology)

Entry #	Group	Team members	TITLE	Major/Concentration	Advisor	Undergraduate
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5. Level: Graduate

6. Abstract:

abundantly expressed in the embryo ectoderm layer and is enzymatically processed into

Advisor email		Dep		Abstract	Email	Student ID	
		Chemistry and Biochemistry		Scientific studies have shown that successful photodynamic therapy (PDT) is based on an excellent photosensitizer, which can treat cancer and other serious	abdelazi@sfsu.edu ,	906401657	
EJKuczynsk@aol.com ,		Engineering		For our project, our group of engineers is responsible to design multiple options of foundation designs to withstand the structure load requirement that were asked	adam2005@hotmail.com , smith_jennifer_ann@yahoo.com	905005040, 90743307; 905050034; 908298643; 906287244;	
fmarchis@seti.org ,		Physics and Astronomy		Binary asteroid systems consist of two small planetary bodies orbiting a common center of mass. To date, approximately 65 systems have been imaged using	areiss@stars.sfsu.edu ,	901290733	
		Mathematics		explain evolutionary relationships between taxa. Phylogenetic invariants is a burgeoning method	adde@sfsu.edu ,	<i>Addie Evans</i> 908487104	
		Engineering		This paper presents the recently published 60 GHz technology - WiGig. It will introduce the specs of WiGig and discuss some of the characteristics which present a	alanchan831@gmail.com	909877571	
chcsfsu@sfsu.edu ,		Engineering		For our senior design project we designed, constructed and loaded a bridge to enter the 2010 ASCE/FPS National Timber Bridge Design Competition. In	aosono@sfsu.edu , nhasan2004@yahoo.com ,	905-89-8063 PL	
jarsuaga@sfsu.edu ,		Mathematics		Breast cancer is the second most common occurring form of cancer for women and is diagnosed in 1 in 8 women. Therefore, it is essential to properly diagnose the	pankov.alex@gmail.com ,	909008677	

Advisor email		Dep		Abstract	Email	Student ID	
zhigang@sfsu.edu		Physics and Astronomy		we demonstrate both theoretically and experimentally that a beam can be reflected by a negative defect in photonic lattices if the incident angle is below a	apmiller@sfsu.edu	907995028	
fuse@sfsu.edu		Biology		Ecdysis, or the shedding of the cuticle, is a process common to all insects to facilitate growth and development. It is often under circadian control. Ecdysis has	andcarry@sfsu.edu	900478636	
hafernik@sfsu.edu		Biology		Recent loss of honey bee colonies due to Colony Collapse Disorder (CCD) poses a serious threat to honey bee colonies and many agricultural crops. Honey	acore13@yahoo.com	910469981	
beck@math.sfsu.edu		Mathematics		Convex polytopes are particularly nice objects, and are found throughout mathematics. Given a polygon P whose vertices have rational coordinates, we can dilate	aherrman@sfsu.edu	907770765	
ksteh@sfsu.edu		Engineering		we took on the task of building a race car for our senior project. This required the team to implement their understandings of disciplines in the areas of	acoresun@gmail.com , kayvonee@gmail.com , kgtr34@gmail.com	908303700; 909076121; 909243483; 901987598	
tholton@sfsu.edu		Engineering		Our project is called the Drink Mixer. The goal of our project is to design a device that will dispense two different liquids at a ratio set by the user. We have	dru03@sfsu.edu , chrisf@sfsu.edu ,	907287347; 905616522	
		Engineering		Designed radio control car that switches power from solar power and battery power automatically with user indication.	arkwan.erman@gmail.com , kameifan5x@yahoo.com ,	906145466; 905751787	
moffatt@sfsu.edu		Biology		The development and function of the CNS depends on the interplay between the growth and death of neurons in relationship to organism's age and the prevailing	anitayip@sfsu.edu	906299477	

Advisor email		Dep		Abstract	Email	Student ID	
uschi@sfsu.edu		Chemistry and Biochemistry		The localization of photosensitizers into mitochondria is important for cell death by apoptosis rather than necrosis in Photodynamic Therapy (PDT). To	trinha@sfsu.edu	907967364	
mahmoodi@sfsu.edu		Engineering		Transistor aging effects (NBTI and PBTI) impact the reliability of SRAM in nano-scale CMOS technologies. In this research, the combined effect of NBTI and	anujp@sfsu.edu	909232225	
		Biology		Ecdysis triggering hormone (ETH) is a peptide synthesized from peripheral glands lining the body wall of the hornworm, <i>Manduca sexta</i> . Fictive pre-	aaaveo@gmail.com	908132516; 909916753	
cdomingo@sfsu.edu		Biology		mesoderm cells of the early embryo become the muscle fibers of the adult. During embryo development, mesoderm cells elongate into muscle fibers and	vanjakrnet@gmail.com , armbien@sfsu.edu ,	908655844; 900076416;	
hamid@sfsu.edu		Engineering		mobile ad hoc network gets more practical everyday because of easy and quick installation. Security in this kind of network becomes more important due to	tehrani@sfsu.edu	907488522	
ganwar@integratedmotions.com , jianghao@sfsu.edu		Engineering		To design a wireless temperature sensing and control system with 2 main individual parts To build a wireless temperature transmitter with temperature	biny_hui@gmail.com , raymondkho011@yahoo.com ,	909196150; 908624124	
cheung@math.sfsu.edu		Mathematics		The study of domains of best approximation typically involves choosing a real number and finding the set of all rational numbers that are closest to that	beeta@sfsu.edu	908507748	
dsinha@sfsu.edu		Engineering		For our senior project we have proposed to design and build an automatic basketball returner prototype. We set two Goals. Our first objective is to design and	brandonnegr@gmail.com , hieuvo98@hotmail.com ,	901679719; 909120789	

Advisor email	Dep	Abstract	Email	Student ID
ded@sfsu.edu	Biology	It is estimated that there are approximately 1.5 million different species of fungus in the world, only about 10% of which have been described in scientific	brennanwenck@gmail.com	902-444-262
lburrus@sfsu.edu	Biology	Neural tube closure defects, such as spina bifida and anencephaly, cause severe problems in newborn babies. Wnts, a family of secreted signaling proteins,	csteng@sfsu.edu	907308134
marquez@sfsu.edu	Biology	Despite the higher breast cancer incidence in White women, African American women have a higher mortality rate and this disparity is growing. Current	csamayoa@sfsu.edu	907044715
Marzke@sfsu.edu	Physics and Astronomy	rare objects that populate a puzzling gap in the expected continuum of galaxy morphology.	spehrson@stars.sfsu.edu	909806552; 90590153; 909190937
	Biology	Insect imaginal discs are structures in immature insects that will grow into adult structures such as the wings and antennae. When injured, they show a	comond@sfsu.edu , maison_blanche94@sbcglobal.net ,	906949438; ??
	Biology	Malaria is a disease that infects multiple organisms: humans, chimpanzees, reptiles and birds. Malaria is caused by Plasmodium blood parasites and has	criseyda@sfsu.edu ,	910471476
	Engineering	A high frequency inductive heating system is used to heat a nickel process chip to temperatures reaching up to 1200 degrees Celsius. A custom built	chilger@sfsu.edu ,	?
esquerra@sfsu.edu	Chemistry and Biochemistry	Diabetes is a leading cause of mortality and morbidity worldwide, with the number of people who suffer from this disease expected to increase. Diabetics have an	damonrobles@hotmail.com ,	908497322

Advisor email		Dep		Abstract	Email	Student ID	
		Physics and Astronomy		we are exploring existing techniques for optical trapping and manipulation as well as new, novel methods. Specifically, we aim to use optical beams	danh_cuesta@yahoo.com	910078603	
schuster@sfsu.edu		Mathematics		The project considers Korenblum's maximum principle for the weighted Bergman space to help understand the nature of Korenblum's constant.	db212121@gmail.com	90839964	
gassner@sfsu.edu		Chemistry and Biochemistry		Styrene monooxygenase is a two component enzyme consisting of an FAD specific epoxidase and an NADH specific reductase. The enzyme is involved in the	david_canio@yahoo.com	908058871	
		Biology		The homeodomain transcription factor, Nkx2-1, has documented functions in the brain including neuronal migration, differentiation, and patterning. By binding to	david.newstrom@gmail.com	908445998	
ichimura@sfsu.edu		Chemistry and Biochemistry		Photovoltaics (P-V), or solar power, is the generation of voltage at the interface of two materials that are exposed to light. Pyrite, a semiconductor with	dmars@sfsu.edu	909180381	
federico@math.sfsu.edu , bliem@math.sfsu.edu ,		Mathematics		We used generalized order and chain polytopes to give an easier explanation of why the Gelfand-Cetlin and Feigin-Fourier-Littelmann polytopes have the	dusalaza@sfsu.edu	910510359	
		Mathematics		we study the impact of walking the leadoff batter of an inning of a professional baseball game. In addition to comparing the percentage of walked leadoff	distad28@comcast.net	??	
serkan@sfsu.edu		Mathematics		From a connected, loopless and directed graph G we obtain a linear subspace of a vector space V. Through the linear operations of deletion and contraction on G	emiranda@sfsu.edu	906-13-2726	

Advisor email	Dep	Abstract	Email	Student ID
ozzer@sfsu.edu	Engineering	It's a Computer Game	chokaa@hotmail.com , twp@sfsu.edu , u ,	910273499; ???
	Engineering	Our project is consisted of utilizing rare-earth magnetic disc quality to determine the unique property of magnetism and to use the magnetic discs as an externally	fwinardj@sfsu.edu , wtdiep@sfsu.edu ,	missing!
enr844@seapahn.us	Engineering	Certain tasks can be best done by -- fixing global-warming, cleaning the Great Pacific Trash Vortex, and creating a sustainable agricultural system.	gregory.kiernan@gmail.com , landi0420@gmail.com ,	910303033, 907181082; 909781033; 909735260; 910081762
dpetkovic@cs.sfsu.edu , jwong@sfsu.edu , gthomps@sfsu.edu ,	Computer Science	CHAT is an innovative Electronic Teamwork Assessment Tool pioneered at SFSU. It measures collaboration and cooperation within a team undertaking	gurdeep@sfsu.edu , sanket@sfsu.edu , rsoni@sfsu.edu	909752667; 909731347; 909771686; 909927595
	Chemistry and Biochemistry	propagation of counterfeit drugs, there is an urgent need for new analytical methods for rapid	su.edu , cbupp@sfsu.edu ,	907189301; 910480485
smithcd@sfsu.edu	Biology	Encoding multiple genes in a single messenger RNA (mRNA) is a strategy common among prokaryotes and viruses, but not eukaryotic cells. While di- or multi-	hhunter@sfsu.edu ,	905939858
	Engineering	The USB TestBench project serves as a basis for measuring and controlling electronics for the rapid prototyping purposes of hobbyists and engineers.	uniment@gmail.com ,	908329713
sehgal@sfsu.edu	Biology	Using the birds of Costa Rica, we determine how forest fragmentation, landscape mosaics, and the life history characteristics of avian hosts can	hollymarcher@gmail.com ,	909762963

Advisor email	Dep	Abstract	Email	Student ID
idelator@sfsu.edu	Biology	(AOA) are a recently discovered group of microorganisms with an important role in global nitrogen cycling. We have sequenced the genome of Nitrosocaldus	hmgray@sfsu.edu	905868345
ngerber@sfsu.edu	Chemistry and Biochemistry	Soluble guanylate cyclase is a heme-based sensor that binds the gaseous ligands NO and CO. The binding of these ligands starts a signaling cascade by prompting	ilopez88@sfsu.edu	908293482; ??
fbayl@sfsu.edu	Biology	introduction. mutations in ATR-801 (encoding FIC1) result in autosomal-recessive liver disease characterized by intrahepatic cholestasis. Patients with severe	jacquerob@hotmail.com, ReneeRLC@medsfgh.ucsf.edu,	905380689
	Engineering	Our project will entail the analysis and design phases of the construction of a foundation for a building. Our goal is to analyze the soil properties of a pseudo-	jkominbrae@gmail.com, favretton@gmail.com, acoldbee@y	905461933, 903234922; 908678789; 902921830; 909-69-9913
	Biology	The Socorro dove (Zenaidura graysoni), endemic to Socorro Island, was last reported in the wild in 1972. The Island Endemics Foundation is planning the	jennysarac@yahoo.com	909663890
	Engineering	Tcl scripts are widely used in NS-2 simulation tool. We have developed a new Tcl script generator tool to permit users create Tcl script files in a direct	jjah@sfsu.edu	906971798
mikewong@sfsu.edu , ljubomir@sfsu.edu	Computer Science	Research in molecular biology, such as genomics and proteomics, involves the analysis of huge amounts of data. To interpret this massive amount of	jinesh@sfsu.edu	??
	Engineering	synthesis of SiOx nanofibers on a superheated Si(100) surface at high pressure. Using a high	joachimp@sfsu.edu	908912737

Advisor email		Dep		Abstract	Email	Student ID	
		Computer Science		Single Particle Reconstructions are commonly used to elucidate structures of different types of small particles with precision approaching that of x-ray	johnssocks@yahoo.com		
		Engineering		Audio Switcher which will be able to cycle through four audio inputs.	jclabennito@yahoo.com , cjl182@yahoo.com , jconst527@ail.com ,	908152198; 907305495; 904503267	
		Engineering		ones leisure experience. To this end we, for our Materials and Manufacturing process's and our Mecatronics class, propose creating a powered drivable lazy boy recliner via an application	shifteh@sfsu.edu , dameleas@yahoo.com , prqiants22@	908762392; 902580749; 907009095; 909659288; 908422364; 906365413;	
soso@math.sfsu.edu		Mathematics		commutative (unitary) C-algebras. Assume $V \neq A$ and $W \neq B$ are finite dimensional C-linear	jyaggie@sfsu.edu	907616000	
		Mathematics		The Mohave Combined power plant has long been considered a major contributor to visibility impairment in Grand Canyon National Park. The permanent	terhorst@sfsu.edu	909924436	
larryk@sfsu.edu		Engineering		The Cardio vest is a medical device used to train nurses to detect heart anomalies based on heart sounds. It is design to reproduce	emersonmarca@gmail.com , hemel0516@hotmail.com	907876312; 906365413	
zink@sfsu.edu		Biology		Colonial animals often nest in close proximity, balancing the benefits of aggregation with the costs to their own offspring in terms of threats from	jsmiller@sfsu.edu	909763067	
mariel@sfsu.edu		Mathematics		Our group studies topological properties of DNA molecules in solution. We consider highly compacted models of knotted DNA, such as DNA extracted from	joules09@gmail.com	901552189	

Advisor email	Dep	Abstract	Email	Student ID
weining@sfsu.edu	Physics and Astronomy	Photonic band gap materials prevent photons with certain frequency propagating inside them. Their ability to confine and control electromagnetic waves	kazuem@sfsu.edu, polin_y@yahoo.com,	908518096; 907085106
	Chemistry and Biochemistry	Soluble guanylate cyclase (sGC) catalyzes the conversion of GTP to cGMP, a secondary messenger that binds to down stream cGMP-dependent regulators that involve	k_y@me.com	???
	Chemistry and Biochemistry	Deoxygenated hemoglobin in red blood cells supports vasodilatation during hypoxia by converting nitrite (NO ₂ ⁻) to nitric oxide (NO) (1). The nitrite reductase activity	lea02_sweet16@yahoo.com	908084416;??
tbaird@sfsu.edu	Chemistry and Biochemistry	In trypsin, the hydrogen bond between Lys60 and Tyr39 and the hydrophobic interaction between Lys60 and Phe41 appear to fix the position of Phe41 backbone	zl571222@sfsu.edu	909182708
whsu@sfsu.edu	Computer Science	Finite Difference (FD) methods can be the basis for physics-based music instrument models that generate realistic audio output. However, such methods	marcsosnick@mac.com	903-524-536
lilychen@sfsu.edu	Biology	study of information of HPV and best way to present to target audience	indwatornu@comcast.net, pdevi@sfsu.edu,	908633133; 910-47-8444
	Chemistry and Biochemistry	This communication describes a technique to measure coupling efficiency between styrene monooxygenase A and styrene monooxygenase B of the styrene	AdephM@hotmail.com	908583317
palmer@sfsu.edu	Chemistry and Biochemistry	A field method was designed to test the Fe concentration in Beer Via Hand held XRF. Direct analysis of a beer sample via XRF was not possible because the	matt.r.sanchez@gmail.com	907-109-923

Advisor email		Dep		Abstract	Email	Student ID	
rdrewes@calacademy.org		Biology		The California red-legged frog (<i>Rana draytonii</i>) is federally listed as Threatened. Baseline information on diet, prey availability, and food webs of the	meghanrbishop@yahoo.com	909760285	
		Engineering		The collapse of buildings or other structures due to accident, natural disaster, or attack sometimes creates conditions that are inconvenient or impossible for	marce@sfsu.edu	907523910; 900400727; 900060595; 908323811; 907118659	
chud@sfsu.edu		Biology		To investigate <i>C. elegans</i> sperm chromatin composition, specifically with histone H2A, we conducted a global analysis of sperm and embryonic chromatin proteins	mikecye@gmail.com	907918666	
kdtanner@sfsu.edu		Physics and Astronomy		Employing the research-based curricular planning approach called the 5E Model (Engage, Explore, Explain, Elaborate, Evaluate), we developed five	epic_shadow@hotmail.com	908471192	
jay.levy@ucsf.edu		Biology		CD8+ T cells can suppress viral replication in infected CD4+ T cells through the CD8+ T lymphocyte non-cytotoxic antiviral response (CNAR). CNAR is	mchllwray@gmail.com	910474154	
		Chemistry and Biochemistry		In nature, threonine proteases are rarely found and one of the few example is a multiunit protein complex, proteasome, that degrades the damaged proteins	mlansang@sfsu.edu	906481334	
mariel@math.sfsu.edu		Mathematics		Site-specific recombinases perform topological manipulations on cellular DNA in order to mediate a number of biological processes. Occasionally, two	mousa@sfsu.edu	906543032	
		Engineering		A concrete canoe was constructed to participate in the 2010 American Society of Civil Engineering Mid-Pacific Conference	myimin@sfsu.edu , cmh7824@sfsu.edu , nskim@sfsu.edu	908079840; 908-21-3584; 907-37-3342; 908-65-7638; 909-21-0892;	

Advisor email		Dep		Abstract	Email	Student ID	
		Chemistry and Biochemistry		The purpose of this experiment was to determine the ligand rebinding affinity of different species of myoglobin in deuterium monoxide (D2O) and in high alpine lakes of the Sierra Nevada in California the mountain yellow-legged frog is near extinction from infection by a deadly fungus, Batrachochytrium	njdavis@sfsu.edu ,	907 06 2785	
vancev@sfsu.edu ,		Biology		A partition of a positive integer t to be a list of positive integers (a_1, a_2, \dots, a_k) arranged in descending order whose sum is t . The order of a partition gives rise	reeder@sfsu.edu ,	909733635	
		Mathematics		There are already some applications that are designed to be used to count the stained cells in the microscopic image obtained from the light microscope. Those	nle@sfsu.edu ,	908496477	
kazokada@sfsu.edu ,		Computer Science		Phthalates are commonly used in PVC-based consumer products. The US Congress recently passed legislation banning the use of six different phthalates in children's	niranjan@sfsu.edu ,	909446166	
		Chemistry and Biochemistry		Photonic band-gap materials are structured electromagnetic media which affect the motion of photons and possess band gaps. They can be designed and	omoadax@sfsu.edu ,	908008548	
		Physics and Astronomy		PERFORNE is a software suite developed by the Helix Group at Stanford University. Its primary purpose is to characterize the biological functions of unknown	polin_y@yahoo.com , kazuem@sfsu.edu ,	907085106; 908518096	
russ.altman@stanford.edu u ,		Computer Science		My project involves in working with the Serine Protease Trypsin where the phenylalanine at position 41 is replaced with alanine. The protein is expressed,	tyb@sfsu.edu gfsavid@yahoo.com , mandarsmod	908208176; 908498414; 909918417; 907614583	
		Chemistry and Biochemistry			kawaiiqn@yahoo.com ,	908365203	

Advisor email		Dep		Abstract	Email	Student ID	
		Chemistry and Biochemistry		Trypsin is a well-characterized protease which is found in most animals. Trypsin has a broad specificity, cleaving C-terminal to either arginine or lysine. Specific	rael@sfsu.edu ,	906520594	
w8109640@sfsu.edu		Biology		The ectoderm cell layer in the chicken embryo produces dynamic intracellular free calcium (Ca ²⁺) and nitric oxide (NO) activities for subsequent NO	remy@sfsu.edu, seunglee@sfsu.edu, cauarez@gsf.edu,	906006041; 9070513987	
		Engineering		Our intent when planning our bridge was to create a unique and elegant design, without sacrificing strength and efficiency. Though the concept of the arch in nothing	crisargn@sfsu.edu, joey_aduviso@sfsu.edu,	908370089, 908210646; 909548814; 908984549; 907025579;	
		Engineering		Designing, building, and testing a vertical axis wind turbine to see the economics of a small scale wind turbine in the bay area as well as seeing how well practice	girlyengr@gmail.com, rwang@sfsu.	907395754; 909118592; 908050083	
		Biology		Methyl Beta Cyclodextrin (MBCD) is a drug that is known to disrupt lipid membrane rafts by extracting cholesterol from the membranes. Lipid raft disruption leads to	romica15@hotmail.com ,	909718828	
		Mathematics		Neil white has conjectured that the toric ideal associated with a matroid is generated by quadratic binomials associated with double swaps. We prove this conjecture	ryoutz@sfsu.edu ,	909767487	
		Biology		Through investigating behaviors in a simpler model we can better tackle elaborate pathways in more complex species. One such model known as ecdysis (the	sbera@sfsu.edu, jgeibig@sfsu.edu,	909736430; 908951893	
		Engineering		Build a photosensory, electric powered Patio Umbrella to provide shade on a specific area.	muatazhmd@gmail.com, lyuth_84@ya	909001215, 908422364, 907966766	

Advisor email		Dep		Abstract	Email	Student ID	
		Engineering		Bridge Competition (NSSBC) is an annual civil engineering competition where each university has the opportunity to compete in the engineering design, fabrication, construction, and	sfsu.edu, cjogara@sfsu.edu, cpioli@sfsu.edu, jtai@sfsu.ed	908690008; 907900206; 909127614,905729622; 908046586; 908603480;	
		Biology		increasingly apparent that ammonia-oxidizing archaea (AOA) contribute significantly to	sandymelloy@gmail.com ,	909945574	
		Engineering		WiMAX is essentially a metropolitan area network (MAN) wireless technology for providing	saurabhk19s@gmail.com ,	909239960	
huiyang@cs.sfsu.edu ,		Computer Science		Proteins are essential part of all living organisms and participate in virtually every process in the cell. In this project, we present an approach to characterize the	ssgupte@sfsu.edu ,	909738783	
		Chemistry and Biochemistry		The objective of this research was to evaluate how a residue with hydrogen bond capability may affect substrate selection by a previously engineered threonine	phylis_82@yahoo.com ,	??	
		Biology		Nitric oxide is a messenger gas molecule produced by membrane raft associated nitric oxide synthases: nNOS and eNOS (collectively called cNOS) and	seunglee@sfsu.edu ,	9070513987	
wuw@sfsu.edu ,		Chemistry and Biochemistry		The α -halide and α -cyano groups on the pyridinium ring were found to undergo facile substitution in buffer solution to produce corresponding 2-pyridones. On	harey0915@gmail.com ,	909004478	display only
pasion@sfsu.edu ,		Biology		Cdc24 protein in <i>Schizosaccharomyces pombe</i> (fission yeast) is a novel protein that is involved in maintaining genome stability. Even though	chapman@sfsu.edu ,	900075428	

Advisor email		Dep		Abstract	Email	Student ID	
		Engineering		formulating efficient Medium Access Control (MAC) protocols for Vehicular Ad-Hoc Networks	shankaryr@gmail.com,		
		Engineering		Project RAMMART (remote access monitor temperature acquisition program) solves the costly problem of remotely monitoring the temperature of a room or	sbyee@sfsu.edu,	904260101	
guliaev@sfsu.edu,		Chemistry and Biochemistry		Recent progress in computer simulations provides reliable structural insights into the conformational features of the biological molecules. These	shi555@sfsu.edu,	908276101	
		Chemistry and Biochemistry		Titanium dioxide finds extensive environmental applications in oxidative photocatalysis and dye-sensitized solar cells. Applications such as hybrid solar cells utilize	shirin_usmani@yahoo.com,	906998487; 909180381	
		Biology		The ectoderm of chicken embryos provides important signals for the development of the paraxial mesoderm including regulating somite and myotome formation.	seunglee@sfsu.edu, svg@sfsu.edu	909692646; 907051397	
		Engineering		Process (semiconductor manufacture), voltage, and temperature effect in SRAM	shryaskumar@gmail.com,	909292493	
		Chemistry and Biochemistry		Styrene is an important chemical in the petroleum industry where it is used to make plastic, insulators, and rubber-based products. Unfortunately, styrene	laijian@yahoo.com,	908802848	
cool@stars.sfsu.edu,		Physics and Astronomy		cluster that are binary has a major impact on the dynamics and evolution of the cluster. Using	srinath@sfsu.edu,	907929040	

Advisor email		Dep		Abstract	Email	Student ID	
		Chemistry and Biochemistry		we have used time-resolved fluorometry to investigate the decay lifetimes of the four tryptophans in soluble guanylate cyclase (sGC). sGC is a heme	stephmwood@gmail.com	909729475	
dracup@ce.berkeley.edu		Engineering		in Kolkata, India, 1.0 million people die every year from diarrheal diseases due to the lack of safe drinking water caused by crowding, poor sanitation, and	steven.p.chua@gmail.com	910626917	
		Biology		abundantly expressed in the embryo ectoderm layer and is enzymatically processed into	bhuti04@gmail.c	909135011	
marc@sfsu.edu		Chemistry and Biochemistry		The insulin-like growth factor system is an attractive target for the development of new anticancer drugs. The IGF system is composed of two ligands, IGF-1	obriente@sfsu.edu	908769633	
ascheng@sfsu.edu		Engineering		A mechatronic attachment has been designed for an existing musical instrument, the vibraphone (Ref Figure 1). This attachment consists of two	tok@sfsu.edu, broland@sfsu.edu, michaelsmci	908449664; 90105174; 908100549	
		Mathematics		interpolation problems in spaces of analytic functions have a long history. ⁴ While the definition of interpolation is a bit technical, the idea is relatively straightforward.	timwertz@gmail.com	909806448	
		Engineering		There are two main types of body power prosthetic hands: Voluntary opening and voluntary closing; however, there are not many prosthetics that combine both	gandiva.mos s@gmail.co m, mmm.ribs@ gmail.com,	909104721; 909636655; 907981443	
		Biology		Recent amphibian declines have put approximately one-third of the world's amphibians at risk of extinction, and most recently, a pathogenic chytrid fungus,	tlcheng@sfsu.edu	907885724	

Advisor email		Dep		Abstract	Email	Student ID	
scourey@sfsu.edu		Computer Science		The Automatic Lesson Planner is designed as an online teaching system to assist the faculty and students in Special Education Department at SFSU. It aims to	tingtins@sfsu.edu	909789483	
		Engineering		Our focus was the 2010 National Timber Bridge Design Competition. The competition required that each team design, build and test a	drunkenkygrees@hotmail.com , joshthemann1328@yahoo.com	907107988, 905612089; 907286918, 907101707; 907101811;	
		Computer Science/Chemistry and Biochemistry		Genine proteases play an important role in the regulation of most biological processes. Malfunctions in this class of enzyme lead to a variety of	tgokey@sfsu.edu	908581549	
zhe@sfsu.edu		Biology		Ultraviolet B (UVB), an integral part of sunlight, affects all sun-exposed organisms. Typically high fluence-rate (HF) UVB (> 1.0 mole m ⁻² s ⁻¹) causes cellular	censea8@msn.com	???	
amagata@sfsu.edu		Chemistry and Biochemistry		Class III HDACs (SIRT3) have been receiving global attention as anticancer target molecules. Currently, a dozen of classical HDAC inhibitors (classes I and II	thuyvan@sfsu.edu	909926399	
		Biology		Effective therapies targeting repair of myocardial scarring and restoration of contractile ability have been explored but not perfected using cell therapy. During myocardial infarction (MI),	vanessa.aguilera@yahoo.com	??	
		Chemistry and Biochemistry		The quest for a superior photosensitizer is imperative for further developing photodynamic therapy (PDT) as a clinically-feasible modality in the fight against cancer. In pursuit of this	Cer3075@sfsu.edu	902546013	

Advisor email		Dep		Abstract	Email	Student ID	
		Chemistry and Biochemistry		my project focuses on seeing the effect of glycation on the human hemoglobin. If the rate of autoxidation is increased in people with diabetes, then this	yadielk@yahoo.com	909013916	
		Computer Science		learning based feature selection solution for medical image registration. Image registration is	zhaoyang@live.com	909180888	
bmannings@sfsu.edu		Chemistry and Biochemistry		The use of zero valent iron (Fe ⁰) as an effective reducing agent for nitroaromatic compounds (NACs) was investigated in this study. The reaction of 3-nitrotoluene (3-	ypatil@sfsu.edu	909944287	
rob@shaw.ca		Mathematics		DNA, the code of life, sometimes appears as a closed loop, or knot. This work aims to explore the space of conformations adopted by a circular DNA molecule of	znt@sfsu.edu	905 109 899	

Advisor email	Dep	Abstract	Email	Student ID
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Chemistry and Biochemistry

~~Classically, adrenergic receptor antagonists such as carvedilol and propranolol have been used to treat heart failure in order to attenuate cardiac~~

~~mangate@sfu.edu,
megan.montgomery@ucsf.edu~~

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