

Presentations in Alphabetical Order by Student

H.II - Chemical Engineering 237 Baxter 1:20 - 1:40 PM	<i>Ioana L. Aanei</i> <i>Joanna Wall Muir</i> <i>SURF Fellow</i>	The Cell Surface Display of Peptides Modified at Non-Canonical Amino Acids Residues	David A. Tirrell <i>Ross McCollum-William H. Corcoran Professor and Professor of Chemistry and Chemical Engineering</i> James A. Van Deventer <i>Graduate Student in Chemical Engineering</i>
E.III - Chemistry 127 Baxter 2:30 - 2:50 PM	<i>Abdul T. Ahad</i> <i>Amgen Scholar</i>	Synthesis of Branched-Peptide Capture Agents	James R. Heath <i>Elizabeth W. Gilloon Professor and Professor of Chemistry</i> Heather D. Agnew <i>Graduate Student in Chemistry</i>
U.III - Physics 306 Thomas 2:30 - 2:50 PM	<i>Alexander A. Alemi</i>	Nonlinear Oscillators	Michael L. Roukes <i>Professor of Physics, Applied Physics, and Bioengineering</i>
D.II - Chemistry 125 Baxter 2:00 - 2:20 PM	<i>Anguel T. Alexiev</i> <i>John and Maria Laffin Trust SURF Fellow</i>	Investigations on the Biosynthesis of the Transtaganolide Natural Products	Brian M. Stoltz <i>Ethel Wilson Bowles and Robert Bowles Professor of Chemistry</i> Hosea Nelson <i>Graduate Student in Chemistry</i>
N.III - Electrical Engineering/Applied Physics 080 Moore 2:30 - 2:50 PM	<i>Aamir M. Ali</i> <i>Richter Scholar</i>	Playback Wavelength Modulation for Red and Near Infrared Wavelengths in Optical Phase Conjugation for Turbidity Suppression	Changhuei Yang <i>Assistant Professor of Electrical Engineering and Bioengineering</i> Emily J. McDowell <i>Graduate Student in Bioengineering</i>
J.I - Applied and Computational Mathematics 218 Baxter 10:40 - 11:00 AM	<i>Mutaz Alsayegh</i> University of California, Riverside <i>JPLUS SURF Fellow</i>	Automated Surface Fitting via Least Squares	Oscar P. Bruno <i>Professor of Applied and Computational Mathematics</i> Akash Anand <i>Scientist in Applied and Computational Mathematics</i>
K.III - Caltech Energy Conservation Projects 210 Baxter 3:10 - 3:30 PM	<i>Daniel A. Alvarez</i> <i>Robert I. and Winifred E. Gardner SURF Fellow</i>	Improving Data Center (Server Room) Energy Efficiency at Caltech	Melany L. Hunt <i>Professor of Mechanical Engineering</i> Jim Cowell <i>Associate Vice President for Facilities</i>

J.II - Applied and Computational Mathematics 218 Baxter 1:40 - 2:00 PM	Anuj A. Arora	Path Prediction for an Earth-Based Demonstration Flight	Jerrold E. Marsden <i>Carl F Braun Professor of Engineering and Control and Dynamical Systems</i> Claire Newman <i>Associate Research Scientist in Planetary Science</i>
D.I - Chemistry 125 Baxter 10:40 - 11:00 AM	Vadim Baidin	The Search for Optimal Polyamide-Biotin Linkers	Peter B. Dervan <i>Bren Professor of Chemistry</i> Michelle E. Farkas <i>Graduate Student in Chemistry</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Neal Bansal <i>Rachel F. Gray SURF Fellow</i>	Fabrication of Large-Diameter, Ultra High-Q Planar Whispering-Gallery Mode Silicon Microtoroid Cavity Resonators for Single-Molecule Chemical Detection	Scott E. Fraser <i>Anna L. Rosen Professor of Biology and Professor of Bioengineering</i> Judith Su <i>Graduate Student in Chemistry</i>
V.III - Mathematics 111 Keck 2:30 - 2:50 PM	Christopher T. Beck <i>Richter Scholar</i>	Polynomial Calculus Proofs of Graph Non-Isomorphism	Richard M. Wilson <i>Professor of Mathematics</i>
F.II - Chemistry 128 Baxter 1:00 - 1:20 PM	Donatela E. Bellone	Electrochemical and Photochemical Monitoring of Halogenated Porphyrin Complexes: Tuning Catalyst Performance for Hydrogen Gas Production in Acidic Solutions	Harry B. Gray <i>Arnold O. Beckman Professor of Chemistry</i> Bryan D. Stubbert <i>Postdoctoral Scholar in Chemistry</i>
R.I - Humanities and Social Sciences 228 Baxter 10:20 - 10:40 AM	Yaear BenAssa <i>SURF Board SURF Fellow</i>	Reading the Mind From the Gaze: Machine Learning and Classification of Cognitive States and Autism	Ralph Adolphs <i>Bren Professor of Psychology and Neuroscience and Professor of Biology</i> Michael L. Spezio <i>Visiting Associate in Psychology</i>
R.I - Humanities and Social Sciences 228 Baxter 11:00 - 11:20 AM	Juan L. Benitez <i>Frank W. Wood SURF Fellow</i>	Einstein Papers Project: The Spanish Reception of Einstein and Relativity	Ze'ev Rosenkranz <i>Editor, Einstein Papers</i> Diana Kormos Buchwald <i>Professor of History</i>
J.III - Applied and Computational Mathematics 218 Baxter 2:30 - 2:50 PM	Daniel J. Beylkin <i>Kiyo and Eiko Tomiyasu SURF Scholar</i>	Path Optimization for an Earth-Based Demonstration Flight	Jerrold E. Marsden <i>Carl F Braun Professor of Engineering and Control and Dynamical Systems</i> Claire Newman <i>Associate Research Scientist in Planetary Science</i>

H.I - Chemical Engineering 237 Baxter 11:20 - 11:40 AM	<i>Ekta N. Bhojwani</i> <i>Warren and Katharine Schlinger SURF Fellow</i>	Investigation of Novel Cellulases From <i>Clostridium</i> <i>thermocellum</i>	Frances H. Arnold <i>Dick and Barbara Dickinson</i> <i>Professor of Chemical Engineering and Biochemistry</i> Kevin T. Boulware <i>Postdoctoral Scholar in Chemical Engineering</i>
Q.III - Geological and Planetary Sciences 101 Guggenheim 2:30 - 2:50 PM	<i>Garrett A. Blake</i> Pitzer College	Sulfur Isotope Fractionation in Biological and Abiotic Systems	Victoria J. Orphan <i>Assistant Professor of Geobiology</i> David A. Fike <i>Postdoctoral Scholar in Geobiology</i>
J.I - Applied and Computational Mathematics 218 Baxter 11:00 - 11:20 AM	<i>Anton M. Bongio Karrman</i> <i>Caltech-HKU Exchange</i>	Environmental Microbe Forecast: Predictive Algorithm for Blooming Species	Madeline C.S. Wu <i>Visiting Professor of Biology, Hong Kong University of Science and Technology</i> Ming-chung Chu <i>Professor of Physics, The Chinese University of Hong Kong</i>
U.II - Physics 306 Thomas 2:00 - 2:20 PM	<i>Michael A. Borisov</i>	Developing an Automated Microfluidic System for Cell Culture and Extended Cell Viability	Michael L. Roukes <i>Professor of Physics, Applied Physics, and Bioengineering</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	<i>Nathaniel L. Borneman</i>	Carbon in the Rand Schist of the San Emigdio Mountains	Jason B. Saleeby <i>Professor of Geology</i> Alan D. Chapman <i>Graduate Student in Geology</i>
D.III - Chemistry 125 Baxter 2:50 - 3:10 PM	<i>Pradeep Bugga</i> <i>Rose Hills Foundation SURF Fellow</i>	Progress Toward the Syntheses of HIV Integrase Inhibitors Integrastatins A and B	Brian M. Stoltz <i>Ethel Wilson Bowles and Robert Bowles Professor of Chemistry</i> Pamela Tadross <i>Graduate Student in Chemistry</i>
E.II - Chemistry 127 Baxter 2:00 - 2:20 PM	<i>Vanessa M. Burns</i>	Synthesis of Bovine Carbonic Anhydrase II Associated Triligands as an Alternative Capture Agent to Antibodies	James R. Heath <i>Elizabeth W. Gilloon Professor and Professor of Chemistry</i> Heather D. Agnew <i>Graduate Student in Chemistry</i>

F.I - Chemistry 128 Baxter 10:20 - 10:40 AM	Rose Bustos East Los Angeles College	Measuring the Reduction Potential of Superoxide Dismutase	Harry B. Gray <i>Arnold O. Beckman Professor of Chemistry</i> Michael G. Hill <i>Professor of Chemistry, Occidental College</i> Kevin Sea <i>Occidental College</i>
O.I - Computer Science 139 Moore 10:00 - 10:20 AM	Rishi J. Chandy <i>Richter Scholar</i>	Wikiganda: Identifying Propaganda Through Text Analysis	K. Mani Chandy <i>Simon Ramo Professor and Professor of Computer Science</i> Virgil Griffith <i>Graduate Student in Computation and Neural Systems</i>
N.I - Electrical Engineering/Applied Physics 080 Moore 10:20 - 10:40 AM	Arthur H. Chang <i>The Aerospace Corporation SURF Fellow</i>	Near-Field Modulation Technique Using Antenna Reflector Switching at 2.4GHz	Ali Hajimiri <i>Professor of Electrical Engineering</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Stephanie S. Chang <i>Rose Hills Foundation SURF Fellow</i>	Quantitative Analysis of Directed Cell Migration on Novel Surfaces With Micropatterned Ligands	Anand R. Asthagiri <i>Assistant Professor of Chemical Engineering</i> Keiichiro Kushiro <i>Graduate Student in Chemistry</i>
U.III - Physics 306 Thomas 2:50 - 3:10 PM	Daniel S. Chao <i>Soli Deo Gloria SURF Fellow</i>	Optical Fiber Tapering Using a Microheater	H. Jeff Kimble <i>William L. Valentine Professor and Professor of Physics</i> Cindy A. Regal <i>Robert A. Millikan Postdoctoral Scholar in Experimental Physics</i>
U.II - Physics 306 Thomas 1:00 - 1:20 PM	Edward H. Chen <i>Rose Hills Foundation SURF Fellow</i>	Vortex Interactions in a Rotating, Multi-Flavored Bose-Einstein Condensate	Gil Refael <i>Associate Professor of Theoretical Physics</i> Ryan Barnett <i>Sherman Fairchild Postdoctoral Scholar in Theoretical Physics</i>
H.III - Chemical Engineering 237 Baxter 2:50 - 3:10 PM	Fei Chen <i>William H. and Helen Lang SURF Fellow</i>	Bacteriophage Pathogen Defense System	Christina D. Smolke <i>Assistant Professor of Chemical Engineering</i> Joshua K. Michener <i>Graduate Student in Bioengineering</i>

T.III - Physics 301 Thomas 3:10 - 3:30 PM	Justin G. Chen <i>David L. Goodstein</i> <i>SURF Fellow</i>	Characterization of a One-Half Scale Modified 30-Turn Cos θ Coil for Use in a New Search for the Neutron Electric Dipole Moment	Brad W. Filippone <i>Professor of Physics</i> Brad Plaster <i>Postdoctoral Scholar in Physics</i>
L.I - Aeronautics/ Mechanical Engineering 306 Firestone 10:40 - 11:00 AM	Kevin K. Chen <i>Kirk and Marjory Dawson</i> <i>Family SURF Fellow</i>	Interior Baffling in a Titan Montgolfiere	Timothy E. Colonius <i>Professor of Mechanical Engineering</i> Jeffery L. Hall <i>Senior Engineer, JPL</i>
V.I - Mathematics 111 Keck 11:00 - 11:20 AM	William B. Chen <i>Richter Scholar</i>	An Analogue of the Gallai-Edmonds Structure Theorem for Nonzero Roots of the Matching Polynomial	Cheng Yeaw Ku <i>Harry Bateman Research</i> <i>Instructor in Mathematics</i>
B.I - Biology 25 Baxter 11:20 - 11:40 AM	Connie Y. Cheng Pomona College	Identifying Protein Substrates for Cdc48/p97: A Proteomic Screen Using High Throughput Microscopy	Ray J. Deshaies <i>Professor of Biology;</i> <i>Investigator, Howard Hughes</i> <i>Medical Institute</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Justine X. Chia <i>Nellie Bergen and Adrian</i> <i>Foster Tillotson SURF Fellow</i>	Genetic Mapping of the T Cell Beta-Selection Checkpoint Violation in Non-Obese Diabetic (NOD) Mice	Ellen Rothenberg <i>Albert Billings Ruddock</i> <i>Professor of Biology</i> Mary A. Yui <i>Senior Research Fellow in</i> <i>Biology</i>
O.II - Computer Science 139 Moore 1:00 - 1:20 PM	Eric M. Chin <i>Richter Scholar</i>	<i>In vivo</i> MRS Spectra of Murine Hepatic Dynamics	Alan H. Barr <i>Professor of Computer Science</i>
D.III - Chemistry 125 Baxter 2:30 - 2:50 PM	Maria I. Chiriac <i>Ernest R. Roberts SURF Fellow</i>	Synthesis of a CS-D Polymer	Linda C. Hsieh-Wilson <i>Associate Professor of</i> <i>Chemistry; Investigator,</i> <i>Howard Hughes Medical</i> <i>Institute</i> Song-Gil Lee <i>Postdoctoral Scholar in</i> <i>Chemistry</i>
T.I - Physics 301 Thomas 10:40 - 11:00 AM	Abhiram Chivukula <i>Richter Scholar</i>	Infrared Flux Analyses of Bootes Field DOGs	B. Thomas Soifer <i>Professor of Physics</i> Jason L. Melbourne <i>Postdoctoral Scholar in</i> <i>Astrophysics</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Evelyn S. Chou	Visualizing the Spatial and Temporal Expression of Transcription Factors in the Sea Urchin	Eric H. Davidson <i>Norman Chandler Professor of</i> <i>Cell Biology</i> Joel Smith <i>Postdoctoral Scholar in Biology</i>

Q.II - Geological and Planetary Sciences 101 Guggenheim 1:20 - 1:40 PM	Christian D. Clanton	Searching for Families in the Kuiper Belt	Michael E. Brown <i>Richard and Barbara Rosenberg Professor of Planetary Astronomy</i> Darin A. Ragozzine <i>Graduate Student in Planetary Science</i>
I.II - Materials Science 142 Keck 1:00 - 1:20 PM	Emmet M. Cleary	Conductivity of Strained Nanosized Gold Pillars	Julia R. Greer <i>Assistant Professor of Materials Science</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Daryl B. Coleman <i>The Aerospace Corporation</i> <i>SURF Fellow</i>	"Click" Chemistry Attachment of Alkyne Terminated Organic Molecules to Silicon (1 1 1) Surfaces	James R. Heath <i>Elizabeth W. Gilloon Professor and Professor of Chemistry</i> Peigen Cao <i>Graduate Student in Chemistry</i>
O.II - Computer Science 139 Moore 1:40 - 2:00 PM	Michael J. Comstock	Sentiment Analysis of Financial Blogs Using Evolutionary Algorithms	Alan H. Barr <i>Professor of Computer Science</i> K. Mani Chanday <i>Simon Ramo Professor and Professor of Computer Science</i>
P.I - Computer Science 239 Moore 11:00 - 11:20 AM	Michael A. Conley <i>Richter Scholar</i>	NanoDB: Relational Database Management System for Educational Use	Donald H. Pinkston <i>Lecturer in Computer Science</i> Mathieu Desbrun <i>Associate Professor of Computer Science</i>
H.I - Chemical Engineering 237 Baxter 10:00 - 10:20 AM	Nathan C. Crook <i>The Associates SURF Fellow</i>	Directed Evolution of Cytochrome P450 _{BM3} Towards Demethylation of Permethylated Nucleosides	Frances H. Arnold <i>Dick and Barbara Dickinson Professor of Chemical Engineering and Biochemistry</i> Andrea Rentmeister <i>Postdoctoral Scholar in Chemical Engineering</i>
N.II - Electrical Engineering/Applied Physics 080 Moore 1:40 - 2:00 PM	Matthew J. Czubakowski <i>The Aerospace Corporation</i> <i>SURF Fellow</i>	Metal-Insulator-Metal Plasmon Waveguides for Color Filtering Applications	Harry A. Atwater <i>Howard Hughes Professor and Professor of Applied Physics and Materials Science</i>
T.I - Physics 301 Thomas 10:20 - 10:40 AM	Steven R. Dabic Massachusetts Institute of Technology	Inside-Out Disk Growth in Spiral Galaxies	B. Thomas Soifer <i>Professor of Physics</i> Jason L. Melbourne <i>Postdoctoral Scholar in Astrophysics</i>

A.III - Biology 19 Baxter 2:50 - 3:10 PM	Martina DeSalvo University of California, Berkeley <i>Amgen Scholar</i>	Development of an Assay to Quantify the Percent Recombination of the <i>Huntingtin</i> Gene and to Measure the Down-Regulation of the <i>Huntingtin</i> Protein in a New Inducible <i>Huntingtin</i> Knock-Out Mouse Model	Mary B. Kennedy <i>Allen and Lenabelle Davis Professor of Biology</i> Edoardo Marcora <i>Postdoctoral Scholar in Biology</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Martina DeSalvo University of California, Berkeley <i>Amgen Scholar</i>	Development of an Assay to Quantify the Percent Recombination of the <i>Huntingtin</i> Gene and to Measure the Down-Regulation of the <i>Huntingtin</i> Protein in a New Inducible <i>Huntingtin</i> Knock-Out Mouse Model	Mary B. Kennedy <i>Allen and Lenabelle Davis Professor of Biology</i> Edoardo Marcora <i>Postdoctoral Scholar in Biology</i>
J.II - Applied and Computational Mathematics 218 Baxter 1:20 - 1:40 PM	Fabian J. Dias <i>Samuel P. and Frances Krown SURF Fellow</i>	A Partition Function Algorithm for Two-Stranded Pseudoknots	Niles A. Pierce <i>Associate Professor of Applied and Computational Mathematics and Bioengineering</i>
E.I - Chemistry 127 Baxter 11:00 - 11:20 AM	Tina X. Ding <i>Class of '36 SURF Fellow</i>	Determining Orientation of M-Domain in the Signal Recognition Particle	Shu-ou Shan <i>Assistant Professor of Chemistry</i> Vinh Q. Lam <i>Postdoctoral Scholar in Chemistry</i>
P.III - Computer Science 239 Moore 2:30 - 2:50 PM	Sherwin Doroudi <i>Rose Hills Foundation SURF Fellow</i>	Efficiency of Non-Cooperative Resource Allocation With Applications to the Sensor Coverage Problem	Adam C. Wierman <i>Assistant Professor of Computer Science</i>
H.III - Chemical Engineering 237 Baxter 2:30 - 2:50 PM	Diana R. Dou <i>Amgen Scholar</i>	Correlation of SID-1 Expression to Spread of siRNA	Mark E. Davis <i>Warren and Katharine Schlinger Professor of Chemical Engineering</i> May P. Xiong <i>Postdoctoral Scholar in Chemical Engineering</i>
U.III - Physics 306 Thomas 3:30 - 3:50 PM	Garrett K. Drayna <i>David Goodstein SURF Fellow</i>	Towards Increasing the Coherence Time of an Atomic Ensemble by Magnetic-Field Stabilization	H. Jeff Kimble <i>William L. Valentine Professor and Professor of Physics</i> Kyung S. Choi <i>Graduate Student in Physics</i> Scott Papp <i>Postdoctoral Scholar in Quantum Optics</i>

I.I - Environmental Science and Engineering/ Materials Science 142 Keck 11:20 - 11:40 AM	<i>Ning Du</i> <i>Caltech-NUS Exchange</i>	Formation of New Particles in the Tropical Atmosphere: A Case Study	Balasubramanian Rajasekhar <i>Associate Professor of Environmental Science and Engineering, National University of Singapore</i>
Q.III - Geological and Planetary Sciences 101 Guggenheim 3:10 - 3:30 PM	<i>Andrea R. Dubin</i> <i>Kiyo and Eiko Tomiyasu SURF Scholar Caltech-University of Iceland Exchange</i>	Deformation of Icelandic Volcanoes and the Role of Magma Compressibility	Freysteinn Sigmundsson <i>Research Professor, Institute of Earth Sciences, University of Iceland</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	<i>Omer Durak</i> <i>Howard Hughes Medical Institute EXROP Fellow</i>	The Role of cdk5 in Hippocampal-Dependent Memory Formation	Li-Huei Tsai <i>Picower Professor of Neuroscience; Investigator, Howard Hughes Medical Institute, Massachusetts Institute of Technology</i>
O.II - Computer Science 139 Moore 1:20 - 1:40 PM	<i>Luke D. Durant</i> <i>W.H. Halpenny SURF Fellow</i>	Fast Inverse Dynamics	Alan H. Barr <i>Professor of Computer Science</i>
D.II - Chemistry 125 Baxter 1:00 - 1:20 PM	<i>Ali Ebrahim</i> <i>Reed and Ruth Brantley SURF Fellow</i>	Sequence Specific Detection of Proteins With a Multiplexed DNA Array	Jacqueline K. Barton <i>Arthur and Marian Hanisch Memorial Professor and Professor of Chemistry</i> Alon Gorodetsky <i>Graduate Student in Chemistry</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	<i>Jonathan Einav</i>	Exploring Social Contracting in Simulated Job Markets	Colin F. Camerer <i>Robert Kirby Professor of Behavioral Economics</i> Sera Linardi <i>Graduate Student in Economics</i>
O.I - Computer Science 139 Moore 10:20 - 10:40 AM	<i>Daniel M. Erenrich</i>	Wikiscanner: Automated Conflict of Interest Detection of Anonymous Wikipedia Edits	K. Mani Chandy <i>Simon Ramo Professor and Professor of Computer Science</i> Virgil Griffith <i>Graduate Student in Computation and Neural Systems</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	<i>Nnoduka C. Eruchalu</i>	Testing the Use of L-Band InSAR to Measure Ice Flow Velocities in Iceland	Mark Simons <i>Professor of Geophysics</i> Eric Hetland <i>Postdoctoral Scholar in Geophysics</i>

R.I - Humanities and Social Sciences 228 Baxter 10:40 - 11:00 AM	Garrett T. Ervin <i>J. Kent Clark SURF Fellow</i>	Three Uncertainties of Dream in Shakespeare	George W. Pigman <i>Professor of English</i>
U.I - Physics 306 Thomas 10:00 - 10:20 AM	Benjamin J. Faber <i>Robert L. Blinkenberg SURF Fellow</i>	Diffusion Limited Growth of Faceted Crystals Using Localized Cellular Automata	Kenneth G. Libbrecht <i>Professor of Physics</i>
N.I - Electrical Engineering/Applied Physics 080 Moore 10:00 - 10:20 AM	Eythan Familier <i>Class of '52 SURF Fellow</i>	Employment of the Stieltjes Transform to Analyze Adaptive Filtering Problems	Babak Hassibi <i>Professor of Electrical Engineering</i>
S.III - Astrophysics 206 Thomas 3:10 - 3:30 PM	Daniil Feldman	Design of Young Star Cluster Database	Lynne Hillenbrand <i>Associate Professor of Astronomy</i>
P.III - Computer Science 239 Moore 3:10 - 3:30 PM	Benjamin J. Flora	SMART Online Multiobjective Scheduling	Adam C. Wierman <i>Assistant Professor of Computer Science</i>
S.I - Astrophysics 206 Thomas 11:20 - 11:40 AM	John C. Forbes <i>Flintridge Foundation SURF Fellow</i>	The Effect of Distortions in the Lyman-Alpha Profile on Recombination	Christopher M. Hirata <i>Assistant Professor of Astrophysics</i>
N.III - Electrical Engineering/Applied Physics 080 Moore 2:50 - 3:10 PM	Jian Y. Fung <i>The Associates SURF Fellow</i>	Characterizing Pressure-Driven and Electrokinetic Flow of Cells	Changhuei Yang <i>Assistant Professor of Electrical Engineering and Bioengineering</i> Jigang Wu <i>Graduate Student in Electrical Engineering</i>
A.II - Biology 19 Baxter 2:00 - 2:20 PM	Calyani Ganesan <i>Larson Scholar</i>	Determining the Potential Role of Myosin X in Neural Crest Cell Migration Using <i>Xenopus</i> Embryos	Marianne Bronner-Fraser <i>Albert Billings Ruddock Professor of Biology</i> Shuyi Nie <i>Postdoctoral Scholar in Biology</i>
M.I - Applied Physics 070 Moore 11:00 - 11:20 AM	Adi Wijaya Gani <i>Arthur E. Lamel Memorial SURF Fellow</i>	Electrical Impedance Biosensor Using Gold Nanoparticle and Silver Enhancer as Signal Amplifiers to Sensitively Measure Ultra-Low Matrix Metalloproteinase-9 (MMP-9) Concentrations	Axel Scherer <i>Bernard Neches Professor of Electrical Engineering, Applied Physics, and Physics</i> Sameer Walavalkar <i>Graduate Student in Applied Physics</i>
J.II - Applied and Computational Mathematics 218 Baxter 1:00 - 1:20 PM	Connie W. Gao <i>Richter Scholar</i>	Characterization of DNA Hairpin Motifs for Molecular Programming	Niles A. Pierce <i>Associate Professor of Applied and Computational Mathematics and Bioengineering</i>

J.II - Applied and Computational Mathematics 218 Baxter 2:00 - 2:20 PM	Evan S. Gawlik <i>The Aerospace Corporation</i> <i>SURF Fellow</i>	Titan Mission Trajectory Design	Jerrold E. Marsden <i>Carl F Braun Professor of Engineering and Control and Dynamical Systems</i>
C.I - Biology 33 Baxter 11:00 - 11:20 AM	Matthew J. Glassman <i>Rose Hills Foundation</i> <i>SURF Fellow</i>	Hemagglutinin Stability and the Evolution of Antibody Escape in Influenza	David Baltimore <i>Robert Andrews Millikan Professor of Biology; Nobel Laureate; President Emeritus</i> Jesse D. Bloom <i>Postdoctoral Scholar in Biology</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Brian D. Go <i>Samuel P. and Frances Krown</i> <i>SURF Fellow</i>	Automated Reliability Checking of Distributed Systems in PVS	K. Mani Chandy <i>Simon Ramo Professor and Professor of Computer Science</i> Concetta Pilotto <i>Graduate Student in Computer Science</i>
M.III - Applied Physics 070 Moore 2:30 - 2:50 PM	Mark D. Goldberg California State University, Los Angeles <i>NSF Center for the Science and Engineering of Materials</i> <i>MURF Fellow</i>	Generation of Microfluidic Channels in Silica	Axel Scherer <i>Bernard Neches Professor of Electrical Engineering, Applied Physics, and Physics</i> Frank Gomez <i>Professor, Department of Chemistry and Biochemistry, California State University, Los Angeles</i>
Q.II - Geological and Planetary Sciences 101 Guggenheim 2:00 - 2:20 PM	Bryan M. Gonzalez Los Angeles Mission College <i>NASA USRP Fellow</i>	Cryogenic, Mechanical, and Thermophysical Property Measurements on Solid Icy Compositions With Relevance to Solar System Satellites	Martin Barmatz <i>Principal Member of the Technical Staff, JPL</i>
O.II - Computer Science 139 Moore 2:00 - 2:20 PM	Scott L. Goodfriend <i>Richter Scholar</i>	DNA Nanotechnology Design System Using Inverse Dynamics	Alan H. Barr <i>Professor of Computer Science</i>
S.II - Astrophysics 206 Thomas 2:00 - 2:20 PM	Deepthi Gopal	Identification of Blazars in Data From the Palomar-Quest and Catalina Sky Surveys	S. George Djorgovski <i>Professor of Astronomy</i> Eilat Glikman <i>Postdoctoral Scholar in Astronomy</i>
T.III - Physics 301 Thomas 2:50 - 3:10 PM	Derek A. Goto <i>Dr. and Mrs. Lew Allen, Jr.,</i> <i>SURF Fellow</i>	Comparative Analysis of X-ray and Sunyaev-Zel'dovich Effect Measurements of Galaxy Clusters	Sunil Golwala <i>Assistant Professor of Physics</i>

T.III - Physics
301 Thomas
3:30 - 3:50 PM

Matthew C. Grau
Richter Scholar

Implementation of a Laser
System for Trapping and
Cooling Potassium-40

Brian DeMarco
Assistant Professor of Physics,
University of Illinois, Urbana-
Champaign
Gil Refael
Associate Professor of
Theoretical Physics

I.I - Environmental
Science and Engineering/
Materials Science
142 Keck
10:40 - 11:00 AM

Sarah D. Griffis
Marcella Bonsall SURF Fellow

Processes Controlling the
Fate of Trace Metals in
Freshwater Lake Sediments

Janet G. Hering
Professor of Environmental
Science and Engineering;
Director, EAWAG, Swiss
Federal Institute of Technology
Claire Farnsworth
Graduate Student in
Environmental Science and
Engineering

L.I - Aeronautics/
Mechanical Engineering
306 Firestone
10:00 - 10:20 AM

Marshall C. Grinstead
Larson Scholar

The Mechanics of Muscle:
Theoretical and Numerical
Modeling of Sarcomeres

Kaushik Bhattacharya
Professor of Mechanics and
Materials Science
Sefi Givli
Postdoctoral Scholar in
Engineering and Applied
Science

U.I - Physics
306 Thomas
11:20 - 11:40 AM

Cameron T. Gross

Optoelectronic Control of
Coherent Spins in Diamond

Michael E. Flatté
Professor, Department of
Physics and Astronomy,
University of Iowa
Dale I. Pullin
Theodore von Kármán
Professor of Aeronautics

O.I - Computer Science
139 Moore
10:40 - 11:00 AM

Sonal Gupta

WIKIGANDA

K. Mani Chandy
Simon Ramo Professor and
Professor of Computer Science
Virgil Griffith
Graduate Student in
Computation and Neural
Systems

M.II - Applied Physics
070 Moore
1:40 - 2:00 PM

Thomas O. Gwinn
William Hassenzahl Family
SURF Fellow

Micro-Platinum Light
Emitters for On-Chip
Infrared Spectroscopy

Axel Scherer
Bernard Neches Professor of
Electrical Engineering, Applied
Physics, and Physics
Michael D. Henry
Graduate Student in Applied
Physics

K.III - Caltech Energy
Conservation Projects
210 Baxter
3:30 - 3:50 PM

Tyler J. Hannasch
*Shirley and Carl Larson
SURF Fellow*

Energy Conservation
Programs (Development and
Implementation)

Melany L. Hunt
*Professor of Mechanical
Engineering*
Jim Cowell
*Associate Vice President for
Facilities*

Poster Presentations
San Pasqual Mall
3:45 - 5:00 PM

Stella Hartono
*California State Polytechnic
University, Pomona
Howard Hughes Medical
Institute MURF Fellow*

Time Dependent
Characteristics of Focal
Adhesion Formation in
Correlation to Various
Fibronectin Concentrations

Anand R. Asthagiri
*Assistant Professor of Chemical
Engineering*
Ehsan Jabbarzadeh
*Postdoctoral Scholar in
Chemical Engineering*

F.II - Chemistry
128 Baxter
1:40 - 2:00 PM

Steve S. He
*Sung-Hsien Chen Shih
SURF Fellow*

Electrical Characterization of
Hydrogen Terminated
Amorphous 30nm Silicon
Nanoparticles

Nathan S. Lewis
*George L. Argyros Professor and
Professor of Chemistry*
David C. Gleason-Rohrer
Graduate Student in Chemistry

S.II - Astrophysics
206 Thomas
1:40 - 2:00 PM

Brandon S. Hensley
*Harold and Mary Zirin
SURF Fellow*

Generating the Priors and
Preliminary Work Leading to
the Probabilistic Classification
of Transients and Variables in
Digital Synoptic Sky Surveys

S. George Djorgovski
Professor of Astronomy
Ashish Mahabal
*Staff Scientist in
Computational Astronomy*

K.III - Caltech Energy
Conservation Projects
210 Baxter
2:50 - 3:10 PM

Silas J. Hilliard
*Kiyo and Eiko Tomiyasu
SURF Scholar*

Energy Conservation via
Fume Hood Usage

Melany L. Hunt
*Professor of Mechanical
Engineering*
Jim Cowell
*Associate Vice President for
Facilities*

N.II - Electrical
Engineering/Applied Physics
080 Moore
1:20 - 1:40 PM

Anna M. Hiszpanski
*Toni and Bob Perpall
SURF Fellow*

Fabrication and
Characterization of
Plasmonic Core-Shell
Nanowire Resonators for
Molecular Sensing
Applications

Harry A. Atwater
*Howard Hughes Professor and
Professor of Applied Physics
and Materials Science*

J.I - Applied and
Computational Mathematics
218 Baxter
10:20 - 10:40 AM

Fan Huang

Fast, Preconditioned Fourier
Continuation for Evaluation
of Non-Periodic ODE
Solutions and Application to
ADI PDE Solvers

Oscar P. Bruno
*Professor of Applied and
Computational Mathematics*
Nathan Albin
*Postdoctoral Scholar in Applied
and Computational
Mathematics*

B.III - Biology
25 Baxter
2:50 - 3:10 PM

Julie Y. Huang
*Rose Hills Foundation
SURF Fellow*

Mucus Binding: A Possible
Mechanism of Colonization
That Selects for Multiple
Polysaccharide Expressing
Bacteroides fragilis

Sarkis K. Mazmanian
Assistant Professor of Biology

J.III - Applied and Computational Mathematics 218 Baxter 3:10 - 3:30 PM	Alexander C. Hudson <i>Amgen Scholar</i>	Compiler for Biomolecular Function	Niles A. Pierce <i>Associate Professor of Applied and Computational Mathematics and Bioengineering</i> Peng Yin <i>Senior Postdoctoral Scholar in Bioengineering and Computer Science</i>
B.I - Biology 25 Baxter 10:40 - 11:00 AM	Amy M. Hurwitz University of Southern California <i>Amgen Scholar</i>	Effects of Nicotine on the Interactions Between RIC-3 and nAChR Subunits	Henry A. Lester <i>Bren Professor of Biology</i>
E.III - Chemistry 127 Baxter 3:10 - 3:30 PM	Michael Huynh <i>Sidney R. and Nancy M. Petersen SURF Fellow</i>	Simulation of Water and TiO ₂ Interactions With the ReaxFF Reactive Force Field	William A. Goddard III <i>Charles and Mary Ferkel Professor of Chemistry, Materials Science, and Applied Physics</i> Adri C. van Duin <i>Senior Staff Member in Chemistry</i>
D.II - Chemistry 125 Baxter 1:20 - 1:40 PM	Misha Imtiaz	Conformational Analysis of 3-Guanidinopropionic Acid	John D. Roberts <i>Institute Professor of Chemistry, Emeritus</i>
R.III - Humanities and Social Sciences 228 Baxter 2:50 - 3:10 PM	Lozan M. Ivanov	Some Testable Implications of Collective Choice Theories	Federico M. Echenique <i>Associate Professor of Economics</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Ning-Jiun Jan	Engineering Neutralizing Antibodies Against HIV	Pamela J. Bjorkman <i>Max Delbrück Professor of Biology; Investigator, Howard Hughes Medical Institute</i> Anthony P. West <i>Senior Research Specialist in Biology</i>
R.II - Humanities and Social Sciences 228 Baxter 2:00 - 2:20 PM	Sean W. Jezewski <i>Richter Scholar</i>	Inferring Economic Value From Brain Activity Using fMRI	Antonio Rangel <i>Associate Professor of Economics</i>
E.I - Chemistry 127 Baxter 10:40 - 11:00 AM	Tony Z. Jia <i>Richter Scholar</i>	The Function of cpSRP43 and the Structure of cpSRP54•cpSRP43 and cpSRP54•cpFtsY in the Chloroplast SRP Pathway	Shu-ou Shan <i>Assistant Professor of Chemistry</i> Peera Jaru-Ampornpan <i>Graduate Student in Chemistry</i>

U.I - Physics 306 Thomas 11:00 - 11:20 AM	W. Max Jones	Automated Noise Budgeting for the LIGO 40m Test Facility	Alan J. Weinstein <i>Professor of Physics</i> Rana Adhikari <i>Assistant Professor of Physics</i>
I.II - Materials Science 142 Keck 2:00 - 2:20 PM	Georg Kaltenboeck <i>Robert T. Herzog SURF Fellow</i>	Mechanical Testing of Iron- Based Bulk Metallic Glass Wires	William L. Johnson <i>Ruben F. and Donna Mettler</i> <i>Professor of Engineering and</i> <i>Applied Science</i> Marios D. Demetriou <i>Postdoctoral Scholar in</i> <i>Materials Science</i>
T.III - Physics 301 Thomas 2:30 - 2:50 PM	Kirit S. Karkare <i>Richter Scholar</i>	Removing Contaminating Extragalactic Point Sources From SZ Images	Sunil Golwala <i>Assistant Professor of Physics</i>
Q.III - Geological and Planetary Sciences 101 Guggenheim 2:50 - 3:10 PM	Robert B. Kaspar <i>Kiyo and Eiko Tomiyasu</i> <i>SURF Scholar</i>	Antarctic Ozone Hole: Comparison of Data and Model Simulations	Yuk L. Yung <i>Professor of Planetary Science</i>
R.III - Humanities and Social Sciences 228 Baxter 2:30 - 2:50 PM	Brett H. Kassof	Random Consumption: Simulations and Analysis	Federico M. Echenique <i>Associate Professor of</i> <i>Economics</i>
U.I - Physics 306 Thomas 10:40 - 11:00 AM	Michael W. Kaye	The Effect of a Massive Graviton on Gravitational Waves Detectable by LIGO From Binary Inspirals	Alan J. Weinstein <i>Professor of Physics</i>
H.I - Chemical Engineering 237 Baxter 10:20 - 10:40 AM	Christopher T. Kennelly	Efficient Search for Low Energy Packing Solutions	Frances H. Arnold <i>Dick and Barbara Dickinson</i> <i>Professor of Chemical</i> <i>Engineering and Biochemistry</i> Christopher Snow <i>Postdoctoral Scholar in</i> <i>Chemical Engineering</i>
S.III - Astrophysics 206 Thomas 2:30 - 2:50 PM	Aditya Khosla <i>Flintridge Foundation</i> <i>SURF Fellow</i>	Automated Transient Classification Using a Bayesian Event Classifier (BEC)	S. George Djorgovski <i>Professor of Astronomy</i> Ciro Donalek <i>Postdoctoral Scholar in</i> <i>Astronomy</i>
G.II - Chemical Engineering 210 Baxter 2:00 - 2:20 PM	Heejae Kim	Using Fast-Switching Side Group Liquid Crystal Polymers for Sensors at Air- Liquid Crystal Interfaces	Julia A. Kornfield <i>Professor of Chemical</i> <i>Engineering</i>

M.I - Applied Physics 070 Moore 10:20 - 10:40 AM	Daniel W. Kolodrubetz <i>Richter Scholar</i>	Electron Gun Focusing and the Applications in Energy Analysis	Paul M. Bellan <i>Professor of Applied Physics</i>
A.I - Biology 19 Baxter 10:40 - 11:00 AM	Simon J. Kornblith <i>Ray Owen SURF Fellow</i>	Features and Temporal Dynamics of Single Neuron Responses in the Medial Temporal Lobe	Christof Koch <i>Lois and Victor Troendle Professor of Cognitive and Behavioral Biology and Professor of Computation and Neural Systems</i> Florian Mormann <i>Postdoctoral Scholar in Biology</i>
R.III - Humanities and Social Sciences 228 Baxter 3:10 - 3:30 PM	Natalya S. Kostandova <i>Mary Vodopia SURF Fellow</i>	Court Writers: Exploration of Works by Prominent Literary Figures in European Courts During the Renaissance	Kristine L. Haugen <i>Assistant Professor of English</i>
G.I - Chemical Engineering 210 Baxter 11:20 - 11:40 AM	Jessie C. Ku	Dynamic Behavior of Calcium and Magnesium Borohydrides Studied by Solid State NMR Spectroscopy	Sonjong Hwang <i>Member of the Professional Staff in Chemical Engineering; Lecturer in Chemistry</i> Chul Kim <i>Postdoctoral Scholar in Chemical Engineering</i>
U.II - Physics 306 Thomas 1:20 - 1:40 PM	Andrew P. Lai <i>Richter Scholar</i>	Scanning Tunneling Microscopy on the Density of States in Graphene	Nai-Chang Yeh <i>Professor of Physics</i> Marcus Teague <i>Graduate Student in Physics</i>
I.III - Bioengineering 142 Keck 3:10 - 3:30 PM	Amy T. Lam <i>Arthur R. Adams SURF Fellow</i>	Spontaneous Polarization of Yeast Cells in Homogeneous Environment	Chin-Lin Guo <i>Assistant Professor of Bioengineering and Applied Physics</i> Yenyu Chen <i>Postdoctoral Scholar in Bioengineering</i>
S.I - Astrophysics 206 Thomas 10:40 - 11:00 AM	Anson C. Lam	Weak Lensing and Measurements of Multiband Galaxy Morphologies	Jason D. Rhodes <i>Scientist, JPL</i> Riva A. Vanderveld <i>Postdoctoral Scholar, JPL</i>
P.I - Computer Science 239 Moore 10:00 - 10:20 AM	Hailey A. Lam <i>Northern California Associates SURF Fellow</i>	MaxNet: Understanding the Internals of a Max-Min Fair TCP Congestion Control Algorithm	Lachlan L. Andrew <i>Senior Research Engineer in Computer Science</i>
E.III - Chemistry 127 Baxter 3:30 - 3:50 PM	Thomas J. Lampo <i>Richter Scholar</i>	Structural Studies of PglI, a Glycosyltransferase	William M. Clemons <i>Assistant Professor of Chemistry</i> Justin W. Chartron <i>Graduate Student in Chemistry</i>

Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	<i>Ji Young Lee</i>	Air Quality at Caltech Indicated by Particulate Matter (PM) Level and Effect of Air Filters on Improving Air Quality	John C. Doyle <i>John G Braun Professor of Control and Dynamical Systems, Electrical Engineering, and Bioengineering</i>
B.III - Biology 25 Baxter 2:30 - 2:50 PM	<i>Jinwoo Lee</i> <i>Rachel F. Gray SURF Fellow</i>	Role of Intestinal Flora in Experimental Allergic Encephalomyelitis	Sarkis K. Mazmanian <i>Assistant Professor of Biology</i>
B.II - Biology 25 Baxter 2:00 - 2:20 PM	<i>Lauren G. Lee</i>	Computationally Analyzing and Annotating the Sea Urchin Genome Using Predicted Sequence Data	R. Andrew Cameron <i>Senior Research Associate in Biology</i>
C.III - Biology 33 Baxter 2:30 - 2:50 PM	<i>Daniel H. Leighton</i>	The Correlation of Let-7 and HMGA2 in Human Breast and Liver Cancer	Yun Yen <i>Chief of Biochemical Pharmacology, City of Hope</i> David Baltimore <i>Robert Andrews Millikan Professor of Biology; Nobel Laureate; President Emeritus</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	<i>Brian J. Lester</i> <i>Edward C. and Alice Stone SURF Fellow</i>	Development and Testing of the LED Calibration System for the Daya Bay Antineutrino Detectors	Robert D. McKeown <i>Professor of Physics</i> Jianglai Liu <i>Postdoctoral Scholar in Physics</i>
E.I - Chemistry 127 Baxter 11:20 - 11:40 AM	<i>Changyi Li</i> <i>Caltech-HKU Exchange</i>	Synthesis and Characterization of 1,1-Dialkyl-3,4-Diphenyl-2,5-Bis(ethynylaryl)siloles and Their Related Polymers	Ben Z. Tang <i>Professor of Chemistry, Hong Kong University of Science and Technology</i>
B.I - Biology 25 Baxter 10:00 - 10:20 AM	<i>Flora M. Li</i>	Interspecies Dauer Pheromone Responses in Nematodes	Paul W. Sternberg <i>Thomas Hunt Morgan Professor of Biology; Investigator, Howard Hughes Medical Institute</i> Oren Schaedel <i>Graduate Student in Biology</i>
S.I - Astrophysics 206 Thomas 11:00 - 11:20 AM	<i>Gongjie Li</i> <i>Alain Porter Memorial SURF Fellow</i>	Comparison Between Simulated and Observational Results of Galaxy Formation	Nicholas Z. Scoville <i>Francis L. Moseley Professor of Astronomy</i> Peter Capak <i>Staff Scientist in Astronomy</i> Lin Yan <i>Staff Member in IPAC</i>

G.I - Chemical Engineering 210 Baxter 10:00 - 10:20 AM	Lily Li	Quantitative Analysis of Focal Adhesion Formation in Fibroblasts	Anand R. Asthagiri <i>Assistant Professor of Chemical Engineering</i> Ehsan Jabbarzadeh <i>Postdoctoral Scholar in Chemical Engineering</i>
V.III - Mathematics 111 Keck 3:30 - 3:50 PM	Yingkun Li <i>John and Maria Laffin Trust SURF Fellow</i>	Distribution of the Powers of the Partition Function Modulo l^j	Jim L. Brown <i>Olga Taussky and John Todd Instructor in Mathematics</i>
D.II - Chemistry 125 Baxter 1:40 - 2:00 PM	Benjamin Lin <i>Amgen Scholar</i>	Synthesis of Purine Analogue p97 ATPase Inhibitors	Brian M. Stoltz <i>Ethel Wilson Bowles and Robert Bowles Professor of Chemistry</i> Amanda C. Jones <i>Postdoctoral Scholar in Chemistry</i>
M.II - Applied Physics 070 Moore 2:00 - 2:20 PM	David H. Lin <i>Chung Ip Wing-Wah Memorial SURF Fellow</i>	Microfluidic Fluorescence Immunoassays in Human Plasma Samples for Point-of-Care Biomedical Diagnostics	Axel Scherer <i>Bernard Neches Professor of Electrical Engineering, Applied Physics, and Physics</i> Emil P. Kartalov <i>Visiting Associate in Electrical Engineering</i>
T.I - Physics 301 Thomas 11:00 - 11:20 AM	Han-Hsuan Lin <i>Dr. and Mrs. Lew Allen, Jr., SURF Fellow</i>	Infinite Randomness Fixed Points in One-Dimensional Anyon Spin Chains	John P. Preskill <i>John D. MacArthur Professor of Theoretical Physics</i> Lukasz Fidkowski <i>Postdoctoral Scholar in Theoretical Physics</i>
G.I - Chemical Engineering 210 Baxter 11:00 - 11:20 AM	Jack J. Lin <i>William N. Lacey SURF Fellow</i>	Measuring Atmospheric Nanoparticles	Richard C. Flagan <i>Irma and Ross McCollum-William H. Corcoran Professor of Chemical Engineering and Professor of Environmental Science and Engineering</i> Harmony Gates <i>Graduate Student in Chemical Engineering</i>
E.III - Chemistry 127 Baxter 2:50 - 3:10 PM	Joy Lin <i>Ms. Jane Chen SURF Fellow</i>	Coarse Grain Modeling of Proteins	William A. Goddard III <i>Charles and Mary Ferkel Professor of Chemistry, Materials Science, and Applied Physics</i> Andres Jaramillo-Botero <i>Staff Scientist in Chemistry</i>

E.II - Chemistry
127 Baxter
1:40 - 2:00 PM

Chao Liu
Victor Neher SURF Fellow

An Integrated Platform to
Detect Protein and
MicroRNA Biomarkers in
Tumor Cells

James R. Heath
*Elizabeth W. Gilloon Professor
and Professor of Chemistry*
Rong Fan
*Postdoctoral Scholar in
Chemistry*

M.I - Applied Physics
070 Moore
11:20 - 11:40 AM

John Liu
Richter Scholar

Three-Dimensional
Autoregulatory Elastomeric
Microfluidic Devices and
Their Application in Building
Analog Fluidic Logic
Components

Axel Scherer
*Bernard Neches Professor of
Electrical Engineering, Applied
Physics, and Physics*
Emil P. Kartalov
*Visiting Associate in Electrical
Engineering*

F.II - Chemistry
128 Baxter
2:00 - 2:20 PM

Xueliang Liu
*Carol Carmichael
SURF Fellow*

Conductive Polymer/Silicon
Junctions for Wire Array Solar
Cells

Nathan S. Lewis
*George L. Argyros Professor and
Professor of Chemistry*
James R. Maiolo
Graduate Student in Chemistry

U.II - Physics
306 Thomas
1:40 - 2:00 PM

Guglielmo P. Lockhart
*Dr. and Mrs. Lew Allen, Jr.,
SURF Fellow*

Optimization and
Employment of a Novel
Cryogenic, Ultrahigh Vacuum
Scanning Tunneling/
Scanning Electron
Microscope to Study
Nanoscale Systems and
Devices

Nai-Chang Yeh
Professor of Physics
Andrew D. Beyer
Graduate Student in Physics

J.III - Applied and
Computational Mathematics
218 Baxter
2:50 - 3:10 PM

Po-Ling Loh
The Associates SURF Fellow

The Effect of Small
Perturbations on Stochastic
Switching Circuits

Jehoshua Bruck
*Gordon and Betty Moore
Professor of Computation and
Neural Systems and Electrical
Engineering*

I.II - Materials Science
142 Keck
1:40 - 2:00 PM

Josue Lopez
East Los Angeles College

Towards Studying Mechanical
Deformation Effects on the
Electrical Properties of
Graphene-Based Devices

Julia R. Greer
*Assistant Professor of Materials
Science*

R.II - Humanities and
Social Sciences
228 Baxter
1:40 - 2:00 PM

Dingchao Lu

Effects of Visual Attention on
Price Elasticity of Demand

Colin F. Camerer
*Robert Kirby Professor of
Behavioral Economics*

H.II - Chemical Engineering 237 Baxter 1:40 - 2:00 PM	Helen Y. Luo <i>David S. Koons SURF Fellow</i>	Chemical Synthesis of Engineered Antibody Structures	David A. Tirrell <i>Ross McCollum-William H. Corcoran Professor and Professor of Chemistry and Chemical Engineering</i> Alison T. Glazier <i>Postdoctoral Scholar in Chemistry</i>
R.I - Humanities and Social Sciences 228 Baxter 11:20 - 11:40 AM	Yiwen Ma National University of Singapore	Einstein's Trip to the Far East	Diana Kormos Buchwald <i>Professor of History</i> Ze'ev Rosenkranz <i>Editor, Einstein Papers</i>
L.II - Aeronautics/ Mechanical Engineering 306 Firestone 1:00 - 1:20 PM	Erik R. Madsen <i>Lester Lees Aeronautics SURF Fellow</i>	A Finite Difference Method for Two-Dimensional Viscous Fluid Flows	Mohamed M. Hafez <i>Professor of Mechanical and Aeronautical Engineering, University of California, Davis</i> Anthony Leonard <i>Theodore von Kármán Professor of Aeronautics, Emeritus</i>
B.I - Biology 25 Baxter 10:20 - 10:40 AM	Elizabeth M. Mak <i>Rossum Family SURF Fellow</i>	Impact of Gut Bacteria on <i>Drosophila</i> Health and Longevity	Paul W. Sternberg <i>Thomas Hunt Morgan Professor of Biology; Investigator, Howard Hughes Medical Institute</i> William W. Ja <i>Postdoctoral Scholar in Biology</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Han Bin Man <i>Fred and Jean Felberg SURF Fellow</i>	Titan Wind Analysis Using Lagrangian Coherent Structures	Jerrold E. Marsden <i>Carl F Braun Professor of Engineering and Control and Dynamical Systems</i> Philip C. Du Toit <i>Graduate Student in Control and Dynamical Systems</i>
V.II - Mathematics 111 Keck 1:40 - 2:00 PM	Fedor Manin <i>Richter Scholar</i>	Stable Commutator Length in Free Groups	Danny C. Calegari <i>Richard Merkin Distinguished Professor of Mathematics</i>
M.II - Applied Physics 070 Moore 1:00 - 1:20 PM	Radhika A. Marathe <i>Richter Scholar</i>	Experimental Characterization and Theoretical Modeling of Pushup Pneumatic Microvalves in Elastomeric Microfluidic Devices	Axel Scherer <i>Bernard Neches Professor of Electrical Engineering, Applied Physics, and Physics</i>

S.II - Astrophysics 206 Thomas 1:20 - 1:40 PM	Sean M. Marney	Automated Classification Incorporating an External Knowledge	S. George Djorgovski <i>Professor of Astronomy</i> Ciro Donalek <i>Postdoctoral Scholar in Astronomy</i>
S.I - Astrophysics 206 Thomas 10:20 - 10:40 AM	Michael V. Maseda	Galaxy Intrinsic Alignments in the COSMOS Survey: An Upper Limit on the Contamination of Weak Lensing Measurements	Jason D. Rhodes <i>Scientist, JPL</i> Joel Berge <i>Postdoctoral Scholar, JPL</i>
P.III - Computer Science 239 Moore 2:50 - 3:10 PM	Matthew R. Maurer	Energy Use Reduction via Power Modeling	Adam C. Wierman <i>Assistant Professor of Computer Science</i>
H.I - Chemical Engineering 237 Baxter 10:40 - 11:00 AM	Maral Mazrooei <i>Edward W. Hughes SURF Fellow</i>	Cytochrome P450 Enzyme Chimeras: A Modular Crystallographic Approach	Frances H. Arnold <i>Dick and Barbara Dickinson Professor of Chemical Engineering and Biochemistry</i> Christopher Snow <i>Postdoctoral Scholar in Chemical Engineering</i>
T.I - Physics 301 Thomas 11:20 - 11:40 AM	Gabriel J. Mendoza <i>Hannah Bradley SURF Fellow</i>	Implementation of Measurement-Based Quantum Operations Using Photon Polarization-Spatial States	Jeremy L. O'Brien <i>Associate Professor of Physics, University of Bristol</i> John P. Preskill <i>John D. MacArthur Professor of Theoretical Physics</i>
U.I - Physics 306 Thomas 10:20 - 10:40 AM	Eric T. Mintun	Development of a Digital Camera Network and Associated Analytical Tools for the Caltech 40m LIGO Prototype	Rana Adhikari <i>Assistant Professor of Physics</i>
F.III - Chemistry 128 Baxter 3:30 - 3:50 PM	Deepak Mishra <i>Ernest H. Swift SURF Fellow</i>	Overexpression, Purification, and Characterization of a Hypothetical Metal-Binding Protein From <i>Prochlorococcus marinus</i> MED4	John S. Magyar <i>Assistant Professor of Chemistry, Barnard College</i> Harry B. Gray <i>Arnold O. Beckman Professor of Chemistry</i>
H.II - Chemical Engineering 237 Baxter 2:00 - 2:20 PM	Karthik Narsimhan	The Effects of Quantitative Incorporation of Methionine Analogues in Chloramphenicol Acetyltransferase on Activity and Stability	David A. Tirrell <i>Ross McCollum-William H. Corcoran Professor and Professor of Chemistry and Chemical Engineering</i> Frank Truong <i>Graduate Student in Chemical Engineering</i>

H.I - Chemical Engineering 237 Baxter 11:00 - 11:20 AM	Albert H. Ng	Expanding the Energy Function of the CHOMP Protein Structure Prediction Package	Frances H. Arnold <i>Dick and Barbara Dickinson</i> Professor of Chemical Engineering and Biochemistry Christopher Snow Postdoctoral Scholar in Chemical Engineering
C.I - Biology 33 Baxter 11:20 - 11:40 AM	Caleb E. Ng <i>Franz and Anne Nierlich</i> SURF Fellow	Engineering Enhanced Production of Antibody- Producing Plasma B Cells	David Baltimore <i>Robert Andrews Millikan</i> Professor of Biology; Nobel Laureate; President Emeritus Xin M. Luo Postdoctoral Scholar in Biology
G.II - Chemical Engineering 210 Baxter 1:00 - 1:20 PM	Viet Anh Nguyen Huu	Myopia and Keratoconus: Transport of Drugs Into the Eye for Crosslinking Treatment	Julia A. Kornfield Professor of Chemical Engineering Joyce Huynh Graduate Student in Chemical Engineering
L.I - Aeronautics/ Mechanical Engineering 306 Firestone 10:20 - 10:40 AM	Nam P. Nguyen <i>Rose Hills Foundation</i> SURF Fellow	Designing a Surface Environmental Data Sampling Method for a Dirigible on Titan	Joel W. Burdick Professor of Mechanical Engineering and Bioengineering Pablo Abad-Manterola Graduate Student in Mechanical Engineering
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Kevin A. Noerthner <i>John and Barbara Gee</i> SURF Fellow	Tethered Planetary Sampling for Difficult Terrain	Joel W. Burdick Professor of Mechanical Engineering and Bioengineering Pablo Abad-Manterola Graduate Student in Mechanical Engineering
L.II - Aeronautics/ Mechanical Engineering 306 Firestone 1:40 - 2:00 PM	Noele R. Norris <i>Thomas E. Everhart</i> SURF Fellow	Planning Under Sensing Uncertainty for a Mobile Autonomous Robot	Richard M. Murray <i>Thomas E. and Doris Everhart</i> Professor of Control and Dynamical Systems
O.I - Computer Science 139 Moore 11:00 - 11:20 AM	Daniel S. Obenshain <i>Arthur Rock SURF Fellow</i>	Optimizing Sensor Placement in a Distributed Detection System	K. Mani Chandy <i>Simon Ramo Professor and</i> Professor of Computer Science Annie Liu Graduate Student in Computer Science

N.I - Electrical Engineering/Applied Physics 080 Moore 10:40 - 11:00 AM	Akinyinka O. Omigbodun <i>Brenda and Louis J. Alpinieri</i> SURF Fellow	Quantitative Analysis of Focal Adhesion Formation in Fibroblasts	Azita Emami-Neyestanak <i>Assistant Professor of Electrical Engineering</i>
V.I - Mathematics 111 Keck 10:40 - 11:00 AM	Saurabh K. Pandey <i>Caltech-IIT Kanpur Exchange</i>	A Probabilistic Approach to the Random Matching Problem	Neeraj Misra <i>Professor of Mathematics, Indian Institute of Technology, Kanpur</i>
A.III - Biology 19 Baxter 3:10 - 3:30 PM	Soyoung Park	Study of Primate Olfactory System and Septum Pellucidum Connectivity via Diffusion-Tensor Imaging	John M. Allman <i>Frank P. Hixon Professor of Neurobiology</i>
C.II - Biology 33 Baxter 1:40 - 2:00 PM	Atanu K. Paul	Understanding External Controls Over Master Pluripotency Genes in Mouse Embryonic Stem Cells	Michael B. Elowitz <i>Assistant Professor of Biology and Applied Physics; Bren Scholar</i> Frederick Tan <i>Graduate Student in Biochemistry and Molecular Biophysics</i>
S.III - Astrophysics 206 Thomas 2:50 - 3:10 PM	Liuyi Pei	Measuring Mass Distribution of Galaxy Clusters Using Strong Lensing	Richard S. Ellis <i>Steele Family Professor of Astronomy</i> Johan Richard <i>Postdoctoral Scholar in Astronomy</i>
F.III - Chemistry 128 Baxter 2:30 - 2:50 PM	Yiwen Peng <i>Jack and Edith Roberts</i> SURF Fellow	CBS-ZnS Buffer Layers for Zn ₃ P ₂ Photovoltaics	Nathan S. Lewis <i>George L. Argyros Professor and Professor of Chemistry</i> Gregory M. Kimball <i>Graduate Student in Chemistry</i>
Q.III - Geological and Planetary Sciences 101 Guggenheim 3:30 - 3:50 PM	Sierra V. Petersen <i>Samuel P. and Frances Krown</i> SURF Fellow	Thermobarometry of the Rand Schist in the San Emigdio Mountains	Jason B. Saleeby <i>Professor of Geology</i> Alan D. Chapman <i>Graduate Student in Geology</i>
K.III - Caltech Energy Conservation Projects 210 Baxter 2:30 - 2:50 PM	Stanislava Y. Pethkova <i>Rossum Family SURF Fellow</i>	Measuring Carbon Footprint	Melany L. Hunt <i>Professor of Mechanical Engineering</i> Jim Cowell <i>Associate Vice President for Facilities</i>
N.II - Electrical Engineering/Applied Physics 080 Moore 1:00 - 1:20 PM	Jan A. Petykiewicz <i>The Aerospace Corporation</i> SURF Fellow	Optical Absorption in Silicon Nanowire Arrays	Harry A. Atwater <i>Howard Hughes Professor and Professor of Applied Physics and Materials Science</i>

T.II - Physics 301 Thomas 2:00 - 2:20 PM	<i>Eugeniu S. Plamadeala</i>	ATLAS, CERN	Emlyn Hughes <i>Visiting Associate in Physics</i>
D.I - Chemistry 125 Baxter 10:00 - 10:20 AM	<i>Diane J. Plummer</i> <i>Rose Hills Foundation SURF Fellow</i>	Regioselectivity in Cleavage of Model Peptides Containing Multiple Aspartic Acid Residues by Protonated Arginine, the Guanidinium Ion, and Metal Cations	Jesse L. Beauchamp <i>Mary and Charles Ferkel Professor of Chemistry</i>
F.III - Chemistry 128 Baxter 2:50 - 3:10 PM	<i>Andrey D. Poletayev</i> <i>Richter Scholar</i>	Secondary Functionalization of Alkylated Si(111) Surfaces via Electroless Metal Deposition	Nathan S. Lewis <i>George L. Argyros Professor and Professor of Chemistry</i> Lars Erik Thomas Johansson <i>Postdoctoral Scholar in Chemistry</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	<i>Sedona H. Price</i> <i>Larson Scholar</i>	Simulating Background Radiation to Establish NuSTAR Detection Limits	Fiona A. Harrison <i>Professor of Physics and Astronomy</i> Kristin K. Madsen <i>Postdoctoral Scholar in Physics</i>
I.III - Bioengineering 142 Keck 2:30 - 2:50 PM	<i>Arthur B. Prindle</i> <i>Amgen Scholar</i>	Biological Circuit Design: Construction of a Digital Clock for Molecular Computing	Richard M. Murray <i>Thomas E. and Doris Everhart Professor of Control and Dynamical Systems</i>
F.II - Chemistry 128 Baxter 1:20 - 1:40 PM	<i>Yoon J. Ra</i> California State University, Los Angeles <i>NSF Center for the Science and Engineering of Materials MURF Fellow</i>	Electron Transfer in Fluorinated Glasses and for Hydrogen Evolution	Harry B. Gray <i>Arnold O. Beckman Professor of Chemistry</i> Alec C. Durrell <i>Graduate Student in Chemistry</i> Matthias Selke <i>Associate Professor, Department of Chemistry and Biochemistry, California State University, Los Angeles</i>
C.II - Biology 33 Baxter 2:00 - 2:20 PM	<i>Kasra Rahbar</i>	Stochastic, Recurring Fluctuations in Yeast Protein Localization	Michael B. Elowitz <i>Assistant Professor of Biology and Applied Physics; Bren Scholar</i> Long Cai <i>Postdoctoral Scholar in Biology</i>

<p>E.II - Chemistry 127 Baxter 1:20 - 1:40 PM</p>	<p>Pradeep Ramesh <i>Caltech-NUS Exchange</i></p>	<p>Cobalt(II)-bis-(1,10 Phenanthroline)-MB29 Dye Complex and Its Application in Sensitization of Nanoparticle and Nanowire- Based Photovoltaic Devices</p>	<p>Kian P. Loh <i>Associate Professor of Chemistry, National University of Singapore</i></p>
<p>Q.II - Geological and Planetary Sciences 101 Guggenheim 1:40 - 2:00 PM</p>	<p>Jessica E. Roberts <i>Karen and James Cutts SURF Fellow</i></p>	<p>Titan's Clouds: Studying the General Trend and the North-Polar Knots</p>	<p>Michael E. Brown <i>Richard and Barbara Rosenberg Professor of Planetary Astronomy</i> Emily L. Schaller <i>Graduate Student in Planetary Science</i></p>
<p>M.I - Applied Physics 070 Moore 10:40 - 11:00 AM</p>	<p>Robert A. Rosenberg <i>Richter Scholar</i></p>	<p>Optimizing Synthesis of PbS Quantum Dots</p>	<p>Anupam Madhukar <i>Kenneth T. Norris Professor of Engineering and Professor of Materials Science, Biomedical Engineering, and Physics, University of Southern California</i> Zachary R. Lingley <i>Graduate Student in Materials Science, University of Southern California</i> Sossina M. Haile <i>Professor of Materials Science and Chemical Engineering</i></p>
<p>S.I - Astrophysics 206 Thomas 10:00 - 10:20 AM</p>	<p>Jacqueline D. Rousseau</p>	<p>Optical Tests of an Image Slicer for Integral Field Spectroscopy for the Thirty Meter Telescope</p>	<p>Anna M. Moore <i>Instrument Scientist in Astronomy</i></p>
<p>L.III - Aeronautics/ Mechanical Engineering 306 Firestone 3:10 - 3:30 PM</p>	<p>Maritza Ruiz <i>Larson Scholar</i></p>	<p>Chemical Reagent Storage and Mixing for <i>in situ</i> Microfluidic Applications</p>	<p>Peter A. Willis <i>Member of the Technical Staff, JPL</i></p>
<p>T.II - Physics 301 Thomas 1:00 - 1:20 PM</p>	<p>Rebecca L. Russell <i>Rose Hills Foundation SURF Fellow</i></p>	<p>Identification of Electron Neutrino Charged Current Events in the MINOS Detectors</p>	<p>Harvey B. Newman <i>Professor of Physics</i> Ryan B. Patterson <i>Richard Chace Tolman Postdoctoral Scholar in Experimental Physics</i></p>
<p>N.I - Electrical Engineering/Applied Physics 080 Moore 11:20 - 11:40 AM</p>	<p>Jared J. Sacco <i>Los Angeles City College JPLUS SURF Fellow</i></p>	<p>Characterization of Semiconductors for Photovoltaic Devices Using Earth Abundant Elements</p>	<p>Harry A. Atwater <i>Howard Hughes Professor and Professor of Applied Physics and Materials Science</i></p>

P.I - Computer Science
239 Moore
10:40 - 11:00 AM

Peter J. Sadowski

Measuring Similarity in
Context

Maya R. Gupta
*Assistant Professor of Electrical
Engineering, University of
Washington*
Christopher M. Umans
*Associate Professor of Computer
Science*

F.I - Chemistry
128 Baxter
10:00 - 10:20 AM

Allison J. Saltzman

Powering the Planet:
An Attempt to Mimic
Photosystem II

Harry B. Gray
*Arnold O. Beckman Professor of
Chemistry*
Kyle M. Lancaster
Graduate Student in Chemistry

A.I - Biology
19 Baxter
10:00 - 10:20 AM

Karthik V. Sarma
Richter Scholar

Computational Analysis of
Ephaptic Interactions in a
Realistic Neuronal
Environment

Christof Koch
*Lois and Victor Troendle
Professor of Cognitive and
Behavioral Biology and
Professor of Computation and
Neural Systems*
Constantinos Anastassiou
Postdoctoral Scholar in Biology

T.II - Physics
301 Thomas
1:40 - 2:00 PM

Cameron A. Sato

Search for Anomalous Gauge-
Boson Couplings Using $Z\gamma$
Production at the LHC

Harvey B. Newman
Professor of Physics
Marat I. Gataullin
*Assistant Scientist in
Experimental High Energy
Physics*
Jan Veverka
Graduate Student in Physics

M.III - Applied Physics
070 Moore
2:50 - 3:10 PM

Kee W. Scholten

Microfluidic Immunoassay
Utilizing Optical Biosensor

Axel Scherer
*Bernard Neches Professor of
Electrical Engineering, Applied
Physics, and Physics*
George M. Maltezos
*Visitor in Electrical
Engineering*

C.III - Biology
33 Baxter
2:50 - 3:10 PM

Rebecca L. Scholz
*Thomas Hunt Morgan
SURF Fellow*

Identification of Dorsal-Twist-
Snail Network Targets During
Embryonic Development of
the *Drosophila*

Angelike Stathopoulos
Assistant Professor of Biology
Anil Ozdemir
*Scientific Research Assistant in
Biology*

A.III - Biology
19 Baxter
2:30 - 2:50 PM

John D. Schulman
Amgen Scholar

Understanding Hippocampal
Phase Precession and Phase
Relationships Using Phase
Response Curves

Athanassios G. Siapas
*Assistant Professor of
Computation and Neural
Systems; Bren Scholar*

F.I - Chemistry 128 Baxter 11:00 - 11:20 AM	Stephanie E. Schulze <i>Professor Fredrick H. Shair SURF Fellow</i>	Structure of the C-Terminus of α -Synuclein With Diseased Mutants	Harry B. Gray <i>Arnold O. Beckman Professor of Chemistry</i> Bert T. Lai <i>Graduate Student in Chemistry</i>
T.I - Physics 301 Thomas 10:00 - 10:20 AM	Nicholas E. Scianmarello	Physics of the Metal-Metal Contacts in Nanomechanical Devices	Philip X.L. Feng <i>Senior Staff Scientist in Physics</i>
B.I - Biology 25 Baxter 11:00 - 11:20 AM	Kimberly M. Scott <i>Richter Scholar</i>	Effects of Nicotine on Neuronal Firing Patterns in Human Subthalamic Nucleus	Henry A. Lester <i>Bren Professor of Biology</i>
A.I - Biology 19 Baxter 10:20 - 10:40 AM	Ayon Sen <i>Axline SURF Fellow</i>	Investigating Modulatory Effects of Balanced Inputs and Their Underlying Neural Mechanisms	Christof Koch <i>Lois and Victor Troendle Professor of Cognitive and Behavioral Biology and Professor of Computation and Neural Systems</i> Alireza Soltani <i>Postdoctoral Scholar in Biology</i>
A.II - Biology 19 Baxter 1:20 - 1:40 PM	Ilya Y. Shadrin <i>Dr. Vincent A. Marinkovich '55 Memorial 2008 SURF Fellow</i>	Role of the Neural Crest in Patterning the Early Dorsal Forebrain	Sophie E. Creuzet <i>Researcher in Biology, CNRS</i> Marianne Bronner-Fraser <i>Albert Billings Ruddock Professor of Biology</i>
M.II - Applied Physics 070 Moore 1:20 - 1:40 PM	Nitin Sharma <i>Robert J. McEliece and David Rutledge SURF Fellow</i>	Magnetic Sensor Contact Point	Axel Scherer <i>Bernard Neches Professor of Electrical Engineering, Applied Physics, and Physics</i> Mladen Barbic <i>Visiting Associate in Physics</i>
I.I - Environmental Science and Engineering/ Materials Science 142 Keck 10:00 - 10:20 AM	Joy Y. Sheng <i>Rita A. and Øistein Skjellum SURF Fellow</i>	Fabrication of $\text{PtI}_2\text{Sr}_2\text{MgMoO}_{6,\delta}\text{Pt}$ Bars for AC Impedance Measurements	Sossina M. Haile <i>Professor of Materials Science and Chemical Engineering</i> William C. Chueh <i>Graduate Student in Materials Science</i>
O.I - Computer Science 139 Moore 11:20 - 11:40 AM	Mason H. Smith <i>Robert L. Blinkenberg SURF Fellow</i>	Simulating Networked Sensors for Radiation Detection	K. Mani Chandy <i>Simon Ramo Professor and Professor of Computer Science</i> Min-Hao Wu <i>Graduate Student in Computer Science</i>

V.II - Mathematics 111 Keck 1:20 - 1:40 PM	Michael T. Smith <i>Richter Scholar</i>	Computing the Heegaard- Floer Homology and Knot Floer Homology on Arbitrary Three-Manifolds	Jiajun Wang <i>Olga Taussky-John Todd</i> <i>Instructor in Mathematics</i>
I.I - Environmental Science and Engineering/ Materials Science 142 Keck 11:00 - 11:20 AM	Cherrie Soetjito <i>James J. Morgan SURF Fellow</i>	Probing the Acidity of Interstitial Microfluids in Frozen Electrolyte Solutions	Agustin J. Colussi <i>Senior Research Associate in</i> <i>Environmental Science and</i> <i>Engineering</i> Jie Cheng <i>Graduate Student in</i> <i>Environmental Science and</i> <i>Engineering</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Da Hye Song <i>Richter Scholar</i>	The Charge Transport Mechanism for the Repair System of DNA: A Study via Mathematical Modeling	Chin-Lin Guo <i>Assistant Professor of</i> <i>Bioengineering and Applied</i> <i>Physics</i> Pak-Wing Fok <i>von Kármán Instructor in</i> <i>Applied and Computational</i> <i>Mathematics</i>
M.I - Applied Physics 070 Moore 10:00 - 10:20 AM	Dan Song <i>Richter Scholar</i>	Quantitative Measurement of Lac Repressor at the Single- Cell Level	Robert B. Phillips <i>Professor of Applied Physics</i> <i>and Mechanical Engineering</i> Hernan G. Garcia <i>Graduate Student in Physics</i>
C.II - Biology 33 Baxter 1:20 - 1:40 PM	Benjamin C. Steele <i>J. Weldon Green SURF Fellow</i>	Regulation of FcRn Trafficking by Phosphorylation	Pamela J. Bjorkman <i>Max Delbrück Professor of</i> <i>Biology; Investigator, Howard</i> <i>Hughes Medical Institute</i> Devin Tesar <i>Graduate Student in Biology</i>
G.II - Chemical Engineering 210 Baxter 1:20 - 1:40 PM	Wilson C. Sung <i>Heather and Paul Haaga</i> <i>SURF Fellow</i>	Optimizing the Formation of Ofloxacin Nanoparticles Used in Eye Drops	Julia A. Kornfield <i>Professor of Chemical</i> <i>Engineering</i> Bahar Bingol <i>Postdoctoral Scholar in</i> <i>Chemical Engineering</i>
P.II - Computer Science 239 Moore 1:20 - 1:40 PM	Tamas Szalay <i>Hugh F. and Audy Lou Colvin</i> <i>International SURF Fellow</i>	Towards Ten Billion: The Interactive Visualization of Large Datasets	Volker Springel <i>Research Group Leader,</i> <i>Max-Planck Institute for</i> <i>Astrophysics</i> Julian J. Bunn <i>Member of the Professional</i> <i>Staff in CACR</i>

U.III - Physics 306 Thomas 3:10 - 3:30 PM	Ming E. Tai <i>Richter Scholar</i>	Optical Pumping in an Atomic Cloud	H. Jeff Kimble <i>William L. Valentine Professor and Professor of Physics</i> Dalziel J. Wilson <i>Graduate Student in Physics</i>
L.III - Aeronautics/ Mechanical Engineering 306 Firestone 2:30 - 2:50 PM	Daniel R. Talancón <i>Rose Hills Foundation SURF Fellow</i>	Airfoil Pressure Drag Into Pressure Thrust: A Computational Study	Beverley J. McKeon <i>Assistant Professor of Aeronautics</i> Adam Norman <i>Graduate Student in Aeronautics</i>
B.III - Biology 25 Baxter 3:10 - 3:30 PM	Dalia B. Taylor	Notch-Delta Modulation of PU.1 Transcriptional Activity Throughout T-Cell Development	Ellen Rothenberg <i>Albert Billings Ruddock Professor of Biology</i> Marissa Morales <i>Graduate Student in Biology</i>
R.II - Humanities and Social Sciences 228 Baxter 1:20 - 1:40 PM	Daniel E. Thai <i>David C. Elliot SURF Fellow</i>	Applying Information Aggregation Theory to Sequential Committee Voting in a Practical Setting	Matias J. Iaryczower <i>Assistant Professor of Economics and Political Science</i>
B.II - Biology 25 Baxter 1:40 - 2:00 PM	Christina V. Theodoris <i>Richard T. Jones SURF Fellow</i>	Determining the Factors Governing <i>hox11/13b</i> Expression to Understand Its Role Within a Spatially Dynamic Cohort of Regulatory Genes	Eric H. Davidson <i>Norman Chandler Professor of Cell Biology</i> Joel Smith <i>Postdoctoral Scholar in Biology</i>
V.III - Mathematics 111 Keck 2:50 - 3:10 PM	Matthew D. Thill <i>The Associates SURF Fellow</i>	Advancing the Inverse Galois Problem Over \mathbb{Q}_p	Elena Mantovan <i>Assistant Professor of Mathematics</i> Eric Wambach <i>Olga Taussky and John Todd Instructor in Mathematics</i>
B.II - Biology 25 Baxter 1:20 - 1:40 PM	Elaine E. To <i>Rachel F. Gray SURF Fellow</i>	Isolation and Characterization of ScFvs That Bind to the Amyloid Beta Pyro Peptide	Paul H. Patterson <i>Anne P. and Benjamin F. Biaggini Professor of Biological Sciences</i> Ali Khoshnan <i>Senior Research Fellow in Biology</i>
A.II - Biology 19 Baxter 1:40 - 2:00 PM	Leslie M. Tong <i>Laurence J. Stuppy SURF Fellow</i>	Exploring the Potency of and Searching for Blimp-1 Homologue in Lamprey Neural Crest Cells	Marianne Bronner-Fraser <i>Albert Billings Ruddock Professor of Biology</i> Natalya V. Nikitina <i>Postdoctoral Scholar in Biology</i>

G.I - Chemical Engineering 210 Baxter 10:20 - 10:40 AM	Gloria E. Tran	Surface Adhesivity Regulates the Formation of Epithelial Cell Aggregates by Modulating Cell Motility	Anand R. Asthagiri <i>Assistant Professor of Chemical Engineering</i> Melissa D. Pope <i>Graduate Student in Bioengineering</i>
C.I - Biology 33 Baxter 10:20 - 10:40 AM	Jonathan M. Tsai <i>Amgen Scholar</i>	Engineering Immunity Against HIV: 2A Linker Screen for BCR Antibody Chimera	David Baltimore <i>Robert Andrews Millikan Professor of Biology; Nobel Laureate; President Emeritus</i> Kenneth K. Yu <i>Graduate Student in Biology</i>
B.II - Biology 25 Baxter 1:00 - 1:20 PM	Doris Y. Tse University of California, Riverside	Maternal Influenza Infection Alters Cerebellar and Hippocampal Development in the Embryo	Paul H. Patterson <i>Anne P. and Benjamin F. Biaggini Professor of Biological Sciences</i> Limin Shi <i>Staff Member in Biology</i>
F.I - Chemistry 128 Baxter 10:40 - 11:00 AM	Debbie G. Tseng <i>Doris Everhart SURF Fellow</i>	Characteristics and Structure of the C-Terminal Tail of α -Synuclein	Harry B. Gray <i>Arnold O. Beckman Professor of Chemistry</i> Bert T. Lai <i>Graduate Student in Chemistry</i>
A.II - Biology 19 Baxter 1:00 - 1:20 PM	Benjamin R. Uy Occidental College	Sox Family Genes in Lamprey Neural Crest Development	Marianne Bronner-Fraser <i>Albert Billings Ruddock Professor of Biology</i> Tatjana Sauka-Spengler <i>Postdoctoral Scholar in Biology</i>
V.III - Mathematics 111 Keck 3:10 - 3:30 PM	Ila K. Varma <i>Samuel P. and Frances Krown SURF Fellow</i>	Class Numbers of Abelian Extensions Over Imaginary Quadratic Fields	Matthias Flach <i>Professor of Mathematics</i>
A.I - Biology 19 Baxter 11:20 - 11:40 AM	Harish Vasudevan <i>Donald S. Clark SURF Fellow</i>	Visual Mask Reactivation Using Transcranial Magnetic Stimulation (TMS) of the Occipital Cortex	Shinsuke Shimajo <i>Professor of Biology</i> Neil S. Halelamien <i>Graduate Student in Computation and Neural Systems</i>
D.I - Chemistry 125 Baxter 10:20 - 10:40 AM	Alexandra Velian <i>Hannah Bradley SURF Fellow</i>	Toward Bimetallic Systems Supported by Rigid Terphenyl Ligand Frameworks	John E. Bercaw <i>Centennial Professor of Chemistry</i> Theodor Agapie <i>Assistant Professor of Chemistry</i>

N.I - Electrical Engineering/ Applied Physics 080 Moore 11:00 - 11:20 AM	Narain K. Vijayashanker <i>Captain Pradeep B. Suklikar Memorial SURF Fellow</i>	Modeling and Measurement of High Speed Chip-to-Chip Data Communication System	Azita Emami-Neyestanak <i>Assistant Professor of Electrical Engineering</i>
D.III - Chemistry 125 Baxter 3:10 - 3:30 PM	Tyler J. Volkoff <i>Dr. and Mrs. Daniel C. Harris SURF Fellow</i>	An Efficient Total Synthesis of Aplysin Through a Claisen Rearrangement	Brian M. Stoltz <i>Ethel Wilson Bowles and Robert Bowles Professor of Chemistry</i> Andrew McClory <i>Postdoctoral Scholar in Chemistry</i>
L.II - Aeronautics/ Mechanical Engineering 306 Firestone 2:00 - 2:20 PM	Glenn S. Wagner <i>Howell N. Tyson, Sr., SURF Fellow</i>	Improved Tracking of Dynamic Obstacles From an Autonomous Vehicle	Richard M. Murray <i>Thomas E. and Doris Everhart Professor of Control and Dynamical Systems</i>
G.II - Chemical Engineering 210 Baxter 1:40 - 2:00 PM	Muzhou Wang	Characterization of Hydrogel Adhesives	Julia A. Kornfield <i>Professor of Chemical Engineering</i> Joyce Huynh <i>Graduate Student in Chemical Engineering</i>
C.III - Biology 33 Baxter 3:10 - 3:30 PM	Pengcheng Wang <i>Bristol-Myers SURF Fellow</i>	Fas I Interaction With RPTPs in <i>Drosophila</i> Motor Axon Guidance	Kai G. Zinn <i>Professor of Biology</i> Peter H. Lee <i>Postdoctoral Scholar in Biology</i>
L.III - Aeronautics/ Mechanical Engineering 306 Firestone 2:50 - 3:10 PM	Richard Y. Wang <i>Toshi Kubota Aeronautics SURF Fellow</i>	Characterization of the Mechanical Properties of Polyacrylamide (PAAm) Gels	Guruswami Ravichandran <i>John E. Goode, Jr., Professor of Aeronautics and Mechanical Engineering</i> Christopher Kovalchick <i>Graduate Student in Aeronautics</i>
P.II - Computer Science 239 Moore 1:40 - 2:00 PM	William A. Webb	On the Computational Complexity of epsilon-NASH	Christopher M. Umans <i>Associate Professor of Computer Science</i>
L.II - Aeronautics/ Mechanical Engineering 306 Firestone 1:20 - 1:40 PM	Kevin T. Welch	Improving the Accuracy and Robustness of Biological Oscillatory Circuits	Richard M. Murray <i>Thomas E. and Doris Everhart Professor of Control and Dynamical Systems</i>
C.I- Biology 33 Baxter 10:40 - 11:00 AM	Qing Yu Weng	The Use of Immunohistochemistry Techniques to Study the Cellular Interactions of Immunotherapy Regimens for Melanoma	David Baltimore <i>Robert Andrews Millikan Professor of Biology; Nobel Laureate; President Emeritus</i> Lili Yang <i>Scientist in Biology</i>

I.I - Environmental Science and Engineering/ Materials Science 142 Keck 10:20 - 10:40 AM	Stephen K. Wilke <i>Arthur R. Adams SURF Fellow</i>	Fabrication and Characterization of Electrodes With Controlled Microstructures for Use in Solid Oxide Fuel Cells	Sossina M. Haile <i>Professor of Materials Science and Chemical Engineering</i> Evan C. Brown <i>Graduate Student in Materials Science</i>
N.II - Electrical Engineering/Applied Physics 080 Moore 2:00 - 2:20 PM	Dahvyd A. Wing <i>Frederick W. Drury, Jr., SURF Fellow</i>	Design of Multiple Back Panel Grooves in Plasmon Enhanced Solar Cells	Harry A. Atwater <i>Howard Hughes Professor and Professor of Applied Physics and Materials Science</i>
D.III - Chemistry 125 Baxter 3:30 - 3:50 PM	Stephanie M. Wuerth <i>Edward W. Hughes SURF Fellow</i>	Comparison of Single-Step and Multi-Step Charge Transport in DNA	Jacqueline K. Barton <i>Arthur and Marian Hanisch Memorial Professor and Professor of Chemistry</i> Joseph Geneureux <i>Graduate Student in Chemistry</i>
P.I - Computer Science 239 Moore 10:20 - 10:40 AM	Patrick J. Xia	Implementation of Integrators Utilizing Differential Forms	Mathieu Desbrun <i>Associate Professor of Computer Science</i> Ari J. Stern <i>Graduate Student in Applied and Computational Mathematics</i>
I.II - Materials Science 142 Keck 1:20 - 1:40 PM	Antu Xie <i>Arthur R. Adams SURF Fellow</i>	Compression of FIB-lessly Fabricated Nanopillars	Julia R. Greer <i>Assistant Professor of Materials Science</i>
I.III - Bioengineering 142 Keck 2:50 - 3:10 PM	Jenny Z. Xiong	Comparison of the Control of Saccades in Species of <i>Drosophila</i>	Michael H. Dickinson <i>Esther M. and Abe M. Zarem Professor of Bioengineering</i> Rosalyn W. Sayamen <i>Research Technician in Bioengineering</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Alice S. Xu	Essential Genes for Zebrafish Heart Valve Development	Scott E. Fraser <i>Anna L. Rosen Professor of Biology and Professor of Bioengineering</i> Julien Vermot <i>Postdoctoral Scholar in Biology</i>
I.III - Bioengineering 142 Keck 3:30 - 3:50 PM	Benjamin H. Yang	Scanning Two-Photon Microscope for Observing the Dynamics of β -Actin and E-Cadherin in Cell-Cell and Cell-Matrix Interactions	Chin-Lin Guo <i>Assistant Professor of Bioengineering and Applied Physics</i> Yenyu Chen <i>Postdoctoral Scholar in Bioengineering</i>

L.I - Aeronautics/ Mechanical Engineering 306 Firestone 11:00 - 11:20 AM	Fei Yang <i>Mary P. and Dean C. Daily SURF Fellow</i>	Harvesting Energy From Fluctuating Wind in an Urban Environment	John O. Dabiri <i>Assistant Professor of Aeronautics and Bioengineering</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Lili Yang	Economics and the Size of Nations	Philip T. Hoffman <i>Rea A. and Lela G. Axline Professor of Business Economics and Professor of History</i>
R.I - Humanities and Social Sciences 228 Baxter 10:00 - 10:20 AM	Sophia Yang Pomona College	How Does the Brain See a Face in Autism?: Explorations of Facial Feature Specificity in the Fusiform Facial Area and Amygdala of Persons With Autism	Ralph Adolphs <i>Bren Professor of Psychology and Neuroscience and Professor of Biology</i> Michael L. Spezio <i>Visiting Associate in Psychology</i>
G.I - Chemical Engineering 210 Baxter 10:40 - 11:00 AM	Yang Yang <i>Rose Hills Foundation SURF Fellow</i>	Crosstalk of Wnt- and EGF- Mediated β -Catenin Signaling	Anand R. Asthagiri <i>Assistant Professor of Chemical Engineering</i> Jin-Hong Kim <i>Graduate Student in Bioengineering</i>
T.II - Physics 301 Thomas 1:20 - 1:40 PM	Andy L. Yen <i>Rose Hills Foundation SURF Fellow</i>	Analysis of Prompt Diphoton Production at the Large Hadron Collider	Harvey B. Newman <i>Professor of Physics</i> Marat I. Gataullin <i>Assistant Scientist in Experimental High Energy Physics</i>
N.III - Electrical Engineering/Applied Physics 080 Moore 3:10 - 3:30 PM	Wing-Hin J. Yeung <i>Caltech-HKU Exchange</i>	Optimization of Gallium Nitride Light Emitting Diodes Grown on Silicon: Comparison of Device Performance With and Without Substrate Transfer	Kei May Lau <i>Chair Professor, Department of Electronic and Computer Engineering, Hong Kong University of Science and Technology</i>
N.III - Electrical Engineering/Applied Physics 080 Moore 3:30 - 3:50 PM	Feiqiao Yu <i>Robert K. and Alice L. Roney SURF Fellow</i>	Parylene Dual-Valve Glaucoma Drainage Device	Yu-Chong Tai <i>Professor of Electrical Engineering and Mechanical Engineering</i> Chun-Hui Lin <i>Graduate Student in Electrical Engineering</i>
Poster Presentations San Pasqual Mall 3:45 - 5:00 PM	Matthew C. Yu	Measurement of Dielectric Properties of Ice and Interpretation of Radar Sounder Observations	Oded Aharonson <i>Associate Professor of Planetary Science</i> Julie C. Castillo <i>Visitor in Planetary Science</i>

D.I - Chemistry 125 Baxter 11:00 - 11:20 AM	Wesley Y. Yu	Towards Effective Drug Design: A Chemical Scale Study of Memantine Antagonism of the NMDA Receptor	Dennis A. Dougherty <i>George Grant Hoag Professor of Chemistry</i> Walrati Limapichat <i>Graduate Student in Chemistry</i>
V.II - Mathematics 111 Keck 2:00 - 2:20 PM	Gjergji Zaimi	On Graphs With the Liouville Property and Their Harmonic Functions	Richard M. Wilson <i>Professor of Mathematics</i>
E.I - Chemistry 127 Baxter 10:20 - 10:40 AM	Lisa D. Zang <i>Dr. Paraskeva N. Danailov</i> <i>SURF Fellow</i>	Structural and Functional Studies of the MetNI Transporter	Douglas C. Rees <i>Roscoe Gilkey Dickinson</i> <i>Professor of Chemistry;</i> <i>Investigator, Howard Hughes</i> <i>Medical Institute</i> Oded Lewinson <i>Postdoctoral Scholar in</i> <i>Chemistry</i>
P.II - Computer Science 239 Moore 2:00 - 2:20 PM	Benjamin M. Zax <i>Richter Scholar</i>	Finding Groups for the Efficient Embedding of Matrix Multiplication	Christopher M. Umans <i>Associate Professor of Computer Science</i>
F.III - Chemistry 128 Baxter 3:10 - 3:30 PM	Qinren Zhen <i>Hannah Bradley SURF Fellow</i>	The Construction of a Hall Instrument for Characterization of Metal Oxide Semiconductors	Nathan S. Lewis <i>George L. Argyros Professor and</i> <i>Professor of Chemistry</i>
A.I - Biology 19 Baxter 11:00 - 11:20 AM	Leif Zinn-Bjorkman University of California, San Diego	Performance, Confidence, and Reaction Time in an Apparent Motion Task	Christof Koch <i>Lois and Victor Troendle</i> <i>Professor of Cognitive and</i> <i>Behavioral Biology and</i> <i>Professor of Computation and</i> <i>Neural Systems</i> Claudia Wilimzig <i>Postdoctoral Scholar in Biology</i>