Presentations in Alphabetical Order by Student

Q - Mathematics 111 Keck 4:10 - 4:30 PM	***Santiago T. Adams*** *Bob and Carole Chapman Minority SURF Fellow*	Relating Minimal Immersions With Critical Eigenvalue Metrics for Flat Line Bundles on Surfaces	Antoine Song *Assistant Professor of Mathematics*
T - Physics 106 Spalding Laboratory 3:30 - 3:50 PM	***Zofia E. Adamska*** *Robert L. Blinkenberg SURF Fellow*	Time-Like Entanglement From Path Integral	John P. Preskill *Richard P. Feynman Professor of Theoretical Physics* Alexey Milekhin *IQIM Postdoctoral Scholar Research Associate in Theoretical Physics*
C - Biology and Bioengineering 125 Kerckhoff 3:30 - 3:50 PM	***Layla Adeli*** *Fred and Jean Felberg SURF Fellow*	Towards a Minimal Model for Virus Host Interactions Using Synthetic Cells	Richard M. Murray *Thomas E. and Doris Everhart Professor of Control and Dynamical Systems and Bioengineering* Zach Martinez *Graduate Student in Bioengineering*
B - Biology 151 Crellin 3:10 - 3:30 PM	***Joe K. Afful*** *Rossum Family SURF Fellow*	Investigating Weak Domain Mediated Protein-protein Interactions Between PU.1 and ICN-RBPJ-MAML Complex in the PU.1 and NOTCH Transcriptional Regulatory Network	Ellen Rothenberg *Edward B. Lewis Professor of Biology* Boyoung Shin *Postdoctoral Scholar Research Associate in Biology and Biological Engineering*
L - Mechanical Engineering 235 Gates-Thomas 2:40 - 3:00 PM	***Diya Agarwal***	Navigation of the Boston Dynamics Spot Robot in Extraterrestrial Planetary Environments	Dwayne McDaniel *Associate Professor of Mechanical and Materials Engineering, Florida International University* Joel W. Burdick *Richard L. and Dorothy M. Hayman Professor of Mechanical Engineering and Bioengineering; Research Scientist, JPL*
D - Chemistry 147 Noyes 2:20 - 2:40 PM	***Sulaiman Wahdan S W. AlKadi*** *John Stauffer SURF Fellow*	Development of One-and-Two-Photon Radical Sensitizers	Harry B. Gray *Arnold O. Beckman Professor of Chemistry* Jay R. Winkler *Faculty Associate and Lecturer in Chemistry*
R - Physics 107 Downs 1:40 - 2:00 PM	***Yuvan Anand***	Matrix Product Operator (MPO) Representations of Sequential Quantum Circuits to Study the Mapping Between Gapped Phases	Xie Chen *Eddleman Professor of Theoretical Physics* Nathanan Tantivasadakarn *Sherman Fairchild Postdoctoral Scholar Research Associate in Theoretical Physics*

R - Physics 107 Downs 4:10 - 4:30 PM	***Sophia-Marie N. Andrews***	Searching for Reflected Returning Radiation in Black Hole X-Ray Binaries	Fiona A. Harrison *Harold A. Rosen Professor of Physics* Edward J. Nathan *Postdoctoral Scholar Research Associate in Physics*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Hannah Rakel M. Ang*** Pepperdine University *Amgen Scholar*	Development of an Asymmetric Spirocyclization of Pd-Enolates and Isocyanates	Brian M. Stoltz *Victor and Elizabeth Atkins Professor of Chemistry; Investigator, Heritage Medical Research Institute* Jay P. Barbor *Graduate Student in Chemistry*
J - Computer Science B122 Gates Annex 3:30 - 3:50 PM	***Sahithi Ankireddy***	RadDiff: Describing Differences in Radiology Image Sets With Natural Language	Serena Yeung *Assistant Professor of Biomedical Data Science, Stanford University* Pietro Perona *Allen E. Puckett Professor of Electrical Engineering*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Miina Anvelt***	Accounting for Power Budgeting During Orbital Eclipses for Lunar Trailblazer Mission	Bethany L. Ehlmann *Professor of Planetary Science* Judy S. Adler *Operations Coordinator for IPAC*
S - Physics 269 Lauritsen 4:10 - 4:30 PM	***Katherine A. Avanesov*** *Samuel P. and Frances Krown SURF Fellow*	Search for Long-Lived Particles With HCAL Segmentation in CMS at the Large Hadron Collider	Harvey B. Newman *Professor of Physics* Si Xie *Visitor in High Energy Physics*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Pablo Backer Peral*** *Sampson Carlson SURF Fellow*	Characterization and Demonstration of Quantum Optoelectronic Systems With Squeezed Light	Ali A. Hajimiri *Bren Professor of Electrical Engineering and Medical Engineering* Volkan Gurses *Graduate Student in Electrical Engineering*
G - Applied Physics and Materials Science 104 Watson 3:30 - 3:50 PM	***Alize G. Bakker*** *DaRin Butz SURF Fellow*	Mechanical Behaviour and Failure of 3D-Printed Architected Photopolymers	Julia R. Greer *Ruben F. and Donna Mettler Professor of Materials Science, Mechanics, and Medical Engineering* Cyrus Fiori *Graduate Student in Chemical Engineering*
D - Chemistry 147 Noyes 1:00 - 1:20 PM	***Aadarsh Balaji*** *John Stauffer SURF Fellow*	Synthesis of Novel Anionic Ligands to Access Exotic Metal Oxidation States	Theodor Agapie *John Stauffer Professor of Chemistry* Meaghan Bruening *Graduate Student in Chemistry*

L - Mechanical Engineering 235 Gates-Thomas 1:40 - 2:00 PM	***Kyrillos A. Bastawros***	Hexagonal Growth Algorithms for Irregular Architected Materials	Chiara Daraio *G. Bradford Jones Professor of Mechanical Engineering and Applied Physics; Investigator, Heritage Medical Research Institute* Suyeong Jin *Visitor in Mechanical and Civil Engineering*
S - Physics 269 Lauritsen 1:40 - 2:00 PM	***Adele M. Basturk*** *Carol Casey SURF Fellow*	A Model for the Chemical Kinetics of Cold, Gas-Phase Alkaline-Earth Monofluorides in a Cryogenic Buffer Gas Cell	Nick R. Hutzler *Assistant Professor of Physics* Phelan Yu *Graduate Student in Physics*
E - Chemical Engineering 153 Noyes 1:20 - 1:40 PM	***Jack A. Bernhardt*** *Sung-Hsien Chen Shih SURF Fellow*	Enhancing para-Ethyltoluene Selectivity for Toluene Ethylating Reaction via Hybrid Catalyst Design Strategies	Stephanie Kwon *Assistant Professor of Chemical and Biological Engineering, Colorado School of Mines* Hosea Nelson *Professor of Chemistry*
I - Computer Science 142 Keck 2:20 - 2:40 PM	***Brady S. Bhalla***	A Unified Framework for Multimodal Common Ground Tracking Demonstrations	Nikhil Krishnaswamy *Assistant Professor of Computer Science, Colorado State University* Eric V. Mazumdar *Assistant Professor of Computing and Mathematical Sciences and Economics*
D - Chemistry 147 Noyes 4:10 - 4:30 PM	***Sanzhar Bissenali*** *Reed and Ruth Brantley SURF Fellow*	Enantioselective Palladium-Catalyzed Intramolecular Michael Addition and Its Application in the Synthesis of Clovane	Brian M. Stoltz *Victor and Elizabeth Atkins Professor of Chemistry; Investigator, Heritage Medical Research Institute* Christian Strong *Graduate Student in Chemistry*
P - Astronomy 109 Jorgensen 3:50 - 4:10 PM	***Siddharth Boyeneni*** *Samuel P. and Frances Krown SURF Fellow*	Probing Einstein's Equations Through Analogies With Electrodynamics	Elias R. Most *Assistant Professor of Theoretical Astrophysics* Jiaxi Wu *Graduate Student in Physics*
D - Chemistry 147 Noyes 4:30 - 4:50 PM	***Joshua G. Braun*** *John Stauffer SURF Fellow*	Electrochemical and Spectroscopic Determination of the Charge Compensation Mechanism in Metal-Deficient Sulfides	Kimberly A. See *Assistant Professor of Chemistry* Colin Morrell *Graduate Student in Chemistry*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Daniel Brito Matehuala*** *Frederick W. Drury, Jr., SURF Fellow*	Atwood Number Effects in Statistically Stationary Rayleigh-Taylor Turbulence	Guillaume Blanquart *Professor of Mechanical Engineering*

Q - Mathematics 111 Keck 1:40 - 2:00 PM	***Aman Burman***	Probing LLMs for Encoded Syntactic Features Using Multi-Modal Analytical Techniques	Matilde Marcolli *Robert F. Christy Professor of Mathematics and Computing and Mathematical Sciences*
B - Biology 151 Crellin 3:50 - 4:10 PM	***Beatrice K. Cai***	Quantification of Neural ZENK Expression Patterns in Songbird Brains Associated With the Motor Control of a Context-Dependent Courtship Display	Marc Schmidt *Professor of Biology, University of Pennsylvania* Carlos Lois *Research Professor of Biology*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Luis J. Calyeca*** *Soli Deo Gloria SURF Fellow*	Carbonization of Cement Paste in a Partially Filled Rotating Drum	Melany L. Hunt *Dotty and Dick Hayman Professor of Mechanical Engineering* Ricardo A. Hernandez *Graduate Student in Mechanical Engineering*
G - Applied Physics and Materials Science 104 Watson 3:50 - 4:10 PM	***Arabella E. Camuñez*** *Dr. Frances Arnold SURF Fellow*	Electrochemical Removal of Metal Byproduct From Chlorination of Zirconium Metal in Molten Eutectic LiCl-KCl	Michael Simpson *Professor of Materials Science and Engineering, University of Utah* Jeffrey M. Mendez *Chemistry Laboratory Instructor*
P - Astronomy 109 Jorgensen 1:00 - 1:20 PM	***Chi L. Cap***	Developing a Trigger Readout Mode for USRP Control for KIPM Detector Probes	Daniel Baxter *Adjunct Assistant Professor of Physics, Northwestern University* Jonas Zmuidzinas *Merle Kingsley Professor of Physics*
D - Chemistry 147 Noyes 2:00 - 2:20 PM	***Ioana M. Caraus*** *Sidney and Nancy Petersen SURF Fellow*	Molecular Mechanism of the Nucleocytoplasmic Transport of cGAS	André Hoelz *Mary and Charles Ferkel Professor of Chemistry and Biochemistry* Chia-Yu Chien *Graduate Student in Biochemistry and Molecular Biophysics*
P - Astronomy 109 Jorgensen 4:50 - 5:10 PM	***Joahan O. Castaneda Jaimes***	Revealing Hidden Star Formation and AGN in ESO 148-IG002	Jeffrey A. Rich *Astronomer, Carnegie Observatories* Lee Armus *Senior Research Scientist in IPAC*
G - Applied Physics and Materials Science 104 Watson 2:00 - 2:20 PM	***David A. Castillo*** *The Associates SURF Fellow*	Understanding the Effects of Underlayer Materials on Dry Electron Beam Resists Through the Use of Monte Carlo Simulations	Axel Scherer *Bernard A. Neches Professor of Electrical Engineering, Applied Physics, and Physics; Merkin Institute Professor*

S - Physics 269 Lauritsen 2:20 - 2:40 PM	***Constantin J. Cedillo-Vayson de Pradenne***	Symmetry Reduction and Truncation Techniques in Quantum Spin Systems	Efthimios Kaxiras *John Hasbrouck Van Vleck Professor of Pure and Applied Physics, Harvard University* Xie Chen *Eddleman Professor of Theoretical Physics*
T - Physics 106 Spalding Laboratory 4:30 - 4:50 PM	***Dwaipayan Chanda*** University of Southern California	Detecting the Moving Lens Effect in the Bullet Cluster	Jack Sayers *Research Professor of Physics*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Aditi J. Chandrashekar*** *Arthur Rock SURF Fellow*	Leveraging Transformer Architectures to Learn Biologically Meaningful Cellular Representations	Mariano I. Gabitto *Assistant Investigator, The Allen Institute* Katherine L. Bouman *Associate Professor of Computing and Mathematical Sciences, Electrical Engineering, and Astronomy; Rosenberg Scholar; Investigator, Heritage Medical Research Institute*
A - Biology 101 Schlinger 3:30 - 3:50 PM	***Jacob Chang***	Exploration of Change Detection Within the Periphery	Shinsuke Shimojo *Gertrude Baltimore Professor of Experimental Psychology* Matilda Cederblad *Postdoctoral Scholar Research Associate in Biology and Biological Engineering*
F - Aeronautics 133 Guggenheim 1:20 - 1:40 PM	***Belle L. Chen***	Super-High-Temperature Abrasion of High-Performance Fabrics for Plume-deployed Inflatable for Launch and Landing Abrasive Regolith Shielding (PILLARS)	Soon-Jo Chung *Bren Professor of Control and Dynamical Systems; Senior Research Scientist, JPL*
T - Physics 106 Spalding Laboratory 3:10 - 3:30 PM	***Abhiram Cherukupalli*** *Taylor Lawrence SURF Research Fellow*	Thermal Transport of Interlayer Excitons in a Magnetic Field	Gil Refael *Taylor W. Lawrence Professor of Theoretical Physics*
N - Geological and Planetary Sciences 115 Gates-Thomas 1:20 - 1:40 PM	***Andrew J. Chiang*** *Kiyo and Eiko Tomiyasu SURF Scholar*	Coupled Oscillatory Recurrent Neural Network: Modeling River Basins With Machine Learning	Tapio Schneider *Theodore Y. Wu Professor of Environmental Science and Engineering* Oliver Dunbar *Senior Research Scientist in the Global Environmental Center*
M - Geological and Planetary Sciences 135 Gates-Thomas 3:50 - 4:10 PM	***Maleque Chouayekh*** *Carolyn Ash SURF Fellow*	Investigating the Detection of Asteroids in the Earth-Moon System	Michael E. Brown *Richard and Barbara Rosenberg Professor of Planetary Astronomy*

M - Geological and Planetary Sciences 135 Gates-Thomas 4:10 - 4:30 PM	***Madeline E. Christensen*** *Samuel P. and Frances Krown SURF Fellow*	Magnesite and Phyllosilicates Field Relations Developed During Alteration of Two Alluvial-Lacustrine Sedimentary Analogs for Mars Deposits	Theodore M. Present *Associate Scientific Researcher in Geology and Geochemistry*
R - Physics 107 Downs 3:30 - 3:50 PM	***Thomas P. Cleveland***	Analysis of Simulations for Quasiparticle Physics in Thin Film Superconducting Detectors	Sunil Golwala *Professor of Physics* Karthik Ramanathan *Postdoctoral Scholar Research Associate in Physics*
F - Aeronautics 133 Guggenheim 1:00 - 1:20 PM	***Lily E. Coffin***	Verification and Validation of Lunar Rocket Landing Infrastructure	Soon-Jo Chung *Bren Professor of Control and Dynamical Systems; Senior Research Scientist, JPL*
B - Biology 151 Crellin 2:00 - 2:20 PM	***Anwesha Das*** *Thomas Hunt Morgan SURF Fellow*	Mice in Manhattan Maze: Navigation and Rapid-learning Without a Cortex	Markus Meister *Anne P. and Benjamin F. Biaggini Professor of Biological Sciences* Jieyu Zheng *Graduate Student in Neurobiology*
Q - Mathematics 111 Keck 2:00 - 2:20 PM	***Vinicius A. de Alcantara Nevoa***	Random Surfaces, Non-Commutative Tori, and Their Spectral Geometry	Matilde Marcolli *Robert F. Christy Professor of Mathematics and Computing and Mathematical Sciences*
N - Geological and Planetary Sciences 115 Gates-Thomas 3:30 - 3:50 PM	***Sani A. Deshmukh***	Computer Vision for Airborne Imaging of Antarctica: Creating a 75-year Record of Surface Change	Jay Dickson *Director, Polar Geospatial Center, University of Minnesota* Bethany L. Ehlmann *Professor of Planetary Science*
F - Aeronautics 133 Guggenheim 2:40 - 3:00 PM	***Kevin T. Do*** *Carl F. Braun SURF Fellow*	Revisiting Foundational Transformer Models for Thermal Image Retrieval and Localization	Soon-Jo Chung *Bren Professor of Control and Dynamical Systems; Senior Research Scientist, JPL* Xingxing Zuo *Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences*
O - Humanities and Social Sciences 100 Powell-Booth 4:10 - 4:30 PM	***Jeff X. Duan*** *Citadel Global Fixed Income SURF Fellow*	Data Partitioning in Causal Inference	Frederick D. Eberhardt *Professor of Philosophy*

H - Computer Science 125 Steele 1:00 - 1:20 PM	***Zack L. Dugue*** *Hugh F. and Audy Lou Colvin International SURF Fellow*	DiStruction for Bayesian Machine Unlearning Without Repair	Alexandra Brintrup *Professor of Digital Manufacturing, University of Cambridge* Georgia Gkioxari *Assistant Professor of Computing and Mathematical Sciences and Electrical Engineering; William H. Hurt Scholar*
O - Humanities and Social Sciences 100 Powell-Booth 4:50 - 5:10 PM	***Hudson Kaleb K. Dy*** *Citadel Global Fixed Income SURF Fellow*	Reinforcement Learning-Based Agents to Study Fear and Anxiety Responses in Gamified Environments	Dean Mobbs *Professor of Cognitive Neuroscience*
R - Physics 107 Downs 4:30 - 4:50 PM	***Elizabeth C. Ellison***	Entanglement Swapping With CW-Source	Maria Spiropulu *Shang-Yi Ch'en Professor of Physics* Venkata (Raju) Valivarthi *Research Scientist in Quantum Science and Technology*
N - Geological and Planetary Sciences 115 Gates-Thomas 1:00 - 1:20 PM	***Ethan Feng*** *Karen and James Cutts SURF Fellow*	Detection of Converted Phases With a CNN Trained on Synthetic Traces From Southern California's Seismic Velocity Model	Robert W. Clayton *Professor of Geophysics, Emeritus* Yan Yang *Graduate Student in Geophysics*
J - Computer Science B122 Gates Annex 2:20 - 2:40 PM	***Brendan Q. Flaherty***	Developing Wildlife Behavior Classification Process Using Machine Learning	Devis Tuia *Research Assistant Professor of Environmental Computational Science, EPFL* Katherine Bouman *Associate Professor of Computing and Mathematical Sciences, Electrical Engineering, and Astronomy; Rosenberg Scholar; Investigator, Heritage Medical Research Institute*
R - Physics 107 Downs 2:00 - 2:20 PM	***Jessica L. Fox***	An Analysis of the Hall Probes in, and the Magnetized Solenoid Beneath, the Cryostat	Saptarshi Chaudhuri *Assistant Professor of Physics, Princeton University* Sunil Golwala *Professor of Physics*
R - Physics 107 Downs 1:20 - 1:40 PM	***Ron A. Freeman***	Designing an Updated SuperSpec: A High Instantaneous Bandwidth, Cryogenic, sub-mmWave Spectrometer	Charles M. Bradford *Visiting Associate in Physics*

Q - Mathematics 111 Keck 1:20 - 1:40 PM	***Ania Freymond*** *Doris Everhart SURF Fellow*	Extension and Lifting Properties of Sobolev Maps From $\mathcal{W}^{1,p}$ in the Study of Yang-Mills Connections	Riccardo Caniato *Olga Taussky and John Todd Postdoctoral Scholar Teaching Fellow in Mathematics* Antoine Song *Assistant Professor of Mathematics*
F - Aeronautics 133 Guggenheim 3:10 - 3:30 PM	***Ricardo A. Garcia***	Adapting Gaussian Splatting for Thermal Imagery in Autonomous Robotics	Soon-Jo Chung *Bren Professor of Control and Dynamical Systems; Senior Research Scientist, JPL* Xingxing Zuo *Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Tyler J. Gatewood***	Enhancing Equity in AI: Improving Tools for Inspecting and Mitigating Social Bias in Large Language Models	Anima Anandkumar *Bren Professor of Computing and Mathematical Sciences* Rafal D. Kocielnik *Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences*
E - Chemical Engineering 153 Noyes 4:10 - 4:30 PM	***Dagemawi Getachew*** *William N. Lacey SURF Fellow*	Aqueous Electrochemical Ammonia Synthesis Using a Solid-State Electrolyte	Karthish Manthiram *Professor of Chemical Engineering and Chemistry; William H. Hurt Scholar* Anukta Jain *Graduate Student in Chemistry*
K - Electrical Engineering and Medical Engineering 224 Jorgensen 1:40 - 2:00 PM	***Mark A. Gherghetta***	Developing an Annealing System to Tune Transmon Qubit Frequencies	Mohammad Mirhosseini *Assistant Professor of Electrical Engineering and Applied Physics* Omid Aligholamisoskooee *Graduate Student in Electrical Engineering*
C - Biology and Bioengineering 125 Kerckhoff 1:40 - 2:00 PM	***Akul Goel*** *Dr. Paraskeva N. Danailov SURF Fellow*	Leveraging Open-Source Large Language Models for Encoding Social Determinants of Health Using an Intelligent Router	Matthew W. Thomson *Assistant Professor of Computational Biology; Investigator, Heritage Medical Research Institute*
S - Physics 269 Lauritsen 3:30 - 3:50 PM	***Victor Gomez*** *David L. Goodstein SURF Fellow*	Increasing the Light Output of Extruded Polystyrene Scintillator Bars	David G. Hitlin *Professor of Physics* James Oyang *Guest in Physics*
Q - Mathematics 111 Keck 2:40 - 3:00 PM	***Samuel P. Goodman*** *Shirley and Carl Larson SURF Fellow*	Regular Functions and Arakelov Degree on Formal Analytic Arithmetic Surfaces	Vesselin A. Dimitrov *Professor of Mathematics*

J - Computer Science B122 Gates Annex 3:10 - 3:30 PM	***Isha Goswami*** *Marcella Bonsall SURF Fellow*	Voice vs. Text: Assessing the Persuasive Power of Large Language Models	Diyi Yang *Assistant Professor of Computer Science, Stanford University* Chris M. Umans *Professor of Computer Science*
F - Aeronautics 133 Guggenheim 4:30 - 4:50 PM	***Colin D. Gray*** *Dr. Chandler C. Ross SURF Fellow*	Effect of Molecular Structure on Autoignition Temperature of Jet Fuels	Joseph E. Shepherd *C.L. "Kelly" Johnson Professor of Aeronautics and Mechanical Engineering* Charline Fouchier *Postdoctoral Scholar Fellowship Trainee in Aerospace*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Elisa S. Grillo*** *Laurence J. Stuppy SURF Fellow*	Investigating the Relationship Between Reproduction and Induced Regenerative Responses in *Drosophila melanogaster*	Lea A. Goentoro *Professor of Biology* Yutian Li *Graduate Student in Biology*
J - Computer Science B122 Gates Annex 1:20 - 1:40 PM	***Emily X. Gu*** *Robert K. and Alice L. Roney SURF Fellow*	Concept-based Explanations for Video Models: An Extension of CRAFT	Pietro Perona *Allen E. Puckett Professor of Electrical Engineering* Markus Marks *Postdoctoral Scholar Research Associate in Electrical Engineering*
S - Physics 269 Lauritsen 4:30 - 4:50 PM	***Pranit S. Gunjal***	Optimization of Programmable Computer Networks Using Machine Learning	Harvey B. Newman *Professor of Physics* Eric V. Mazumdar *Assistant Professor of Computing and Mathematical Sciences and Economics* Mariam Kiran *Computer Networking and AI Scientist, Oak Ridge National Laboratory*
H - Computer Science 125 Steele 2:40 - 3:00 PM	***Arushi Gupta*** *Northern California Associates SURF Fellow*	Multi-Modal Self-Supervised Learning for Surgical Feedback Effectiveness Assessment	Anima Anandkumar *Bren Professor of Computing and Mathematical Sciences* Jiayun Wang *Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences*
P - Astronomy 109 Jorgensen 4:10 - 4:30 PM	***Michael A. Gutierrez*** *Class of '52 70th Reunion SURF Fellow*	An Analog Front-End for CASATTA: Caltech All-Sky All the Time Array	Vikram Ravi *Assistant Professor of Astronomy*

A - Biology 101 Schlinger 1:00 - 1:20 PM	***Jadon E. Hale*** *Arthur R. Adams SURF Fellow*	Vision-Language Transformer for Prediction of Homeostatic States and Behavior in Mice	David J. Anderson *Seymour Benzer Professor of Biology; Investigator, Howard Hughes Medical Institute* Aditya Nair *Graduate Student in Computation and Neural Systems*
P - Astronomy 109 Jorgensen 2:40 - 3:00 PM	***Blake W. Hawkins***	Probing the Weak Interaction With Intermediate Mass Sterile Neutrinos in the Early Universe	Chad Kishimoto *Associate Professor of Physics and Biophysics, University of San Diego* Elias R. Most *Assistant Professor of Theoretical Astrophysics*
L - Mechanical Engineering 235 Gates-Thomas 1:00 - 1:20 PM	***Claire L. Hays***	Liquid Shock Absorber Impact Force Attenuation in Helmets for Prevention of Traumatic Brain Injury During Impacts With Free Motion	David Camarillo *Associate Professor of Bioengineering, Stanford University* Wei Gao *Professor of Medical Engineering; Investigator, Heritage Medical Research Institute; Ronald and JoAnne Willens Scholar*
E - Chemical Engineering 153 Noyes 4:30 - 4:50 PM	***Noah S. Hicks*** *Joseph L. Koo and Helen C. Koo SURF Fellow*	Point of Zero Charge Analysis to Compare Oxide Coatings on Copper Electrocatalysts for CO_2 Reduction Reaction	Raffaella Buonsanti *Assistant Professor of Chemistry and Materials Science, EPFL* Nathan S. Lewis *George L. Argyros Professor and Professor of Chemistry*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Hana Hisamune*** *Larson Scholar*	3D Raman Spectroscopy and Laser-annealing for Perovskite/Silicon Tandem Solar Cells	Albert Polman *Scientific Group Leader, Center for Nanophotonics, AMOLF* Harry A. Atwater *Howard Hughes Professor of Applied Physics and Materials Science*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Qianhui Hong*** *James G. and Elaine Peterson SURF Fellow*	Tuning of Human Inferotemporal Cortex Responses in the Latency Domain	Ueli Rutishauser *Professor of Neuroscience, Cedars-Sinai Medical Center* Yingxi Jin *Graduate Student in Computation and Neural Systems*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Renee C. Hsu*** *James H. Milovich SURF Fellow*	Investigating the Flexure Joint's Response to Forces in *Drosophila* and Blowflies	Michael H. Dickinson *Esther M. and Abe M. Zarem Professor of Bioengineering and Aeronautics*

O - Humanities and Social Sciences 100 Powell-Booth 3:50 - 4:10 PM	***Jennifer Y. Hu*** *Larson Scholar*	Creating a Ray-Marching Mesh Renderer in Taichi Lang to Generate Two-Tone Mooney Image Stimuli	Ilker Yildirim *Assistant Professor of Psychology, Yale University* Pietro Perona *Allen E. Puckett Professor of Electrical Engineering*
O - Humanities and Social Sciences 100 Powell-Booth 2:20 - 2:40 PM	***Simon S. Hu*** *Heather and Paul Haaga SURF Fellow*	Investigating Amygdala Function With Naturalistic Movie-fMRI	Ralph Adolphs *Bren Professor of Psychology, Neuroscience, and Biology* Zach Diamandis *Graduate Student in Computation and Neural Systems*
L - Mechanical Engineering 235 Gates-Thomas 2:20 - 2:40 PM	***Gavin Hua***	A Model Predictive Control Framework for Legged Robotics Systems	Aaron D. Ames *Bren Professor of Mechanical and Civil Engineering and Control and Dynamical Systems* Zachary Olkin *Graduate Student in Control and Dynamical Systems*
P - Astronomy 109 Jorgensen 1:40 - 2:00 PM	***Zachary W. Huang*** *Alain Porter Memorial SURF Fellow*	Image-Plane Correction for the OVRO-LWA Radio Telescope	Gregg W. Hallinan *Professor of Astronomy* Casey Law *Staff Scientist in Radio Astronomy*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Amir Ibrahim*** *The Associates SURF Fellow*	A Hartree-Fock Study of Quenched Disorder in Sachdev-Ye-Kitaev Models	Siddharth Parameswaran *Professor of Physics, University of Oxford* Olexei I. Motrunich *Professor of Theoretical Physics*
T - Physics 106 Spalding Laboratory 3:50 - 4:10 PM	***Jun Ikeda***	Exploring New Constructions of Quantum Codes With Low-weight Measurements	John P. Preskill *Richard P. Feynman Professor of Theoretical Physics* Nathanan Tantivasadakarn *Sherman Fairchild Postdoctoral Scholar Research Associate in Theoretical Physics*
H - Computer Science 125 Steele 2:00 - 2:20 PM	***Divin Irakiza***	A Type System for LaTeX-Written Proofs in Discrete Mathematics	Adam Blank *Teaching Professor of Computing and Mathematical Sciences*
A - Biology 101 Schlinger 3:50 - 4:10 PM	***Carrie R. Jackson*** University of California, San Diego *Chen Institute BrainWAVE Fellow*	*In utero* Cortical Manipulation Using AAV Mediated CRISPR	Viviana Gradinaru *Lois and Victor Troendle Professor of Neuroscience and Biological Engineering* Elisha D. Mackey *Lab Manager in Biology and Biological Engineering*

C - Biology and Bioengineering 125 Kerckhoff 3:50 - 4:10 PM	***Ritali Jain*** *Arjun Bansal ('05) and Ria Langheim SURF Fellow*	Forward Flux Sampling of DNA Tile Self-Assembly Programmed to Nucleate Combinatorial Search Solutions	Erik Winfree *Professor of Computer Science, Computation and Neural Systems, and Bioengineering* Cameron Chalk *Postdoctoral Scholar Research Associate in Biology and Biological Engineering*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Armeet S. Jatyani***	Accelerated Medical Imaging With One-for-All Neural Operator Models	Anima Anandkumar *Bren Professor of Computing and Mathematical Sciences*
S - Physics 269 Lauritsen 3:50 - 4:10 PM	***Nathan Jay*** *Dr. Fred Shair and Mr. Paul Ré SURF Fellow*	Understanding the Light Dark Matter eXperiment's Sensitivity to Visibly Decaying Axion-Like Particles	David G. Hitlin *Professor of Physics* Bertrand Echenard *Research Professor of High Energy Physics*
P - Astronomy 109 Jorgensen 4:30 - 4:50 PM	***Thuwaragesh Jayachandran*** *Flintridge Foundation SURF Fellow*	A Deep, Archival Search for Tidal Disruption Events and Rate Constraints	Vikram Ravi *Assistant Professor of Astronomy* Jean Somalwar *Graduate Student in Astrophysics*
F - Aeronautics 133 Guggenheim 3:30 - 3:50 PM	***Ji Hyun Jeon***	Intuitively Teleoperating a Mobile Robot With Eye Gaze Tracking and Brain Computer Interface	Soon-Jo Chung *Bren Professor of Control and Dynamical Systems; Senior Research Scientist, JPL* Yujin An *Graduate Student in Bioengineering*
M - Geological and Planetary Sciences 135 Gates-Thomas 3:30 - 3:50 PM	***Yunha Jo***	Mapping Fragile Geological Features With UAVs	Zachary E. Ross *Assistant Professor of Geophysics; William H. Hurt Scholar* Zhiang Chen *Postdoctoral Scholar Research Associate in Geophysics*
H - Computer Science 125 Steele 1:20 - 1:40 PM	***Krishna Kamalakannan***	Learning Helmholtz Operator for High Frequency Applications	Hossein Salahshoor *Assistant Professor of Civil and Environmental Engineering, Duke University* Mikhail G. Shapiro *Max Delbrück Professor of Chemical Engineering and Medical Engineering; Investigator, Howard Hughes Medical Institute*

N - Geological and Planetary Sciences 115 Gates-Thomas 2:40 - 3:00 PM	***Gautham Kappaganthula*** *Peter A. Lindstrom, Jr., SURF Fellow*	Optimizing Methods for High Resolution Mass Spectral Data Analysis	Paul O. Wennberg *R. Stanton Avery Professor of Atmospheric Chemistry and Environmental Science and Engineering* Katherine Ball *Graduate Student in Chemical Engineering*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Bisrat Kassahun*** *Taylor Lawrence SURF Research Fellow*	Synthesizing and Examining the Quantum Spin Liquid Properties of $Pr_2Ta_6O_{19}$	Linda Ye *Assistant Professor of Physics* Zili Feng *Postdoctoral Scholar Research Associate in Physics*
H - Computer Science 125 Steele 1:40 - 2:00 PM	***Maya E. Keys*** *Carl F. Braun SURF Fellow*	Developing a Machine Learning Powered Semi-Automated Custom Grading Tool for CS Core (CS 2, CS 3, CS 24)	Adam Blank *Teaching Professor of Computing and Mathematical Sciences*
J - Computer Science B122 Gates Annex 1:00 - 1:20 PM	***Daniel P. Khalil*** *Mr. Dong Zhen and Ms. Yong Sun SURF Fellow*	Learning Keypoints for Multi-Agent Behavior Analysis Using Self-Supervision	Pietro Perona *Allen E. Puckett Professor of Electrical Engineering* Markus Marks *Postdoctoral Scholar Research Associate in Electrical Engineering*
K - Electrical Engineering and Medical Engineering 224 Jorgensen 2:00 - 2:20 PM	***Arya Khokhar*** *DaRin Butz SURF Fellow*	Wearable Enzymatic Electrochemical Sensor for Non-Invasive and Continuous Monitoring of Ketone Bodies for Metabolic Syndrome	Wei Gao *Professor of Medical Engineering; Investigator, Heritage Medical Research Institute; Ronald and JoAnne Willens Scholar* Soyoung Shin *Graduate Student in Chemical Engineering*
E - Chemical Engineering 153 Noyes 2:20 - 2:40 PM	***Tuyako R. Khristoforova*** *Professor Fredrick H. Shair SURF Fellow*	Optimization of *Agrobacterium*-mediated Transient Transformation in Different Plant Species	Gözde S. Demirer *Clare Booth Luce Assistant Professor of Chemical Engineering* Yuan Geng *Postdoctoral Scholar Research Associate in Chemical Engineering*
T - Physics 106 Spalding Laboratory 1:20 - 1:40 PM	***Stavros Klaoudatos***	$\boldsymbol{SL}(\mathbf{2},\mathbb{R})$ Symmetries in the JT/SYK Correspondence	Maria Spiropulu *Shang-Yi Ch'en Professor of Physics* George Fleming *Senior Scientist, Fermi National Accelerator Laboratory*

S - Physics 269 Lauritsen 1:00 - 1:20 PM	***Umran S. Koca***	Modeling Interactions of Squeezing With the Laser Interferometer Gravitational Wave Observatory at High Frequencies to Improve Sensitivity	Lee P. McCuller *Assistant Professor of Physics* Sander Vermeulen *Postdoctoral Scholar Research Associate in Physics*
O - Humanities and Social Sciences 100 Powell-Booth 4:30 - 4:50 PM	***George A. Koclanes*** *Citadel Global Fixed Income SURF Fellow*	Creating Predictive Knee Injury Models From Biomechanical Data	R. Michael Alvarez *Flintridge Foundation Professor of Political and Computational Social Science*
A - Biology 101 Schlinger 1:20 - 1:40 PM	***Rohan R. Kolhe*** *Susan S. Murakami SURF Fellow*	Annotation and Unsupervised Discovery of Mouse Social and Innate Behaviors Through Fine-Tuning of a Large Multimodal Language Model	David J. Anderson *Seymour Benzer Professor of Biology; Investigator, Howard Hughes Medical Institute* Aditya Nair *Graduate Student in Computation and Neural Systems*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Elianna G. Kondylis***	Highly Precise Evaluation of Scattering by Means of the Rectangular-Polar Method	Oscar P. Bruno *Professor of Applied and Computational Mathematics* Sabhrant Sachan *Graduate Student in Applied and Computational Mathematics*
C - Biology and Bioengineering 125 Kerckhoff 2:40 - 3:00 PM	***Aurelia H. Kuester*** *Samuel P. and Frances Krown SURF Fellow*	Wearable Nanocomposite Kinesiology Tape for Characterizing Ankle Movement During Running	Kenneth J. Loh *Professor of Structural Engineering, University of California, San Diego* Wei Gao *Professor of Medical Engineering; Investigator, Heritage Medical Research Institute; Ronald and JoAnne Willens Scholar*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Henry B. Lane*** *Ernest H. Swift SURF Fellow*	Modeling Polymer-based Bacterial Aggregation for Treatment of Intestinal Bacterial Overgrowth	Rustem F. Ismagilov *Ethel Wilson Bowles and Robert Bowles Professor of Chemistry and Chemical Engineering; Merkin Institute Professor* Kathyayini Gopalakrishna *Postdoctoral Scholar Research Associate in Chemical Engineering*

J - Computer Science B122 Gates Annex 2:40 - 3:00 PM	***Jonayet H. Lavin***	Fairaccord: Balancing Fairness With Accuracy to Automate Bias Mitigation in Deep Learning Models	Gias Uddin *Assistant Professor of Computer Science, York University* Ricardo Baptista *von Karman Instructor in Computing and Mathematical Sciences*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Ai-Dan P. Le*** *Ray F. Jurgens SURF Fellow*	A Systematic Search for Ultraluminous X-Ray Transients in Nearby Galaxies in SWIFT/XRT Observations	Murray Brightman *NuSTAR Science Operations Specialist*
Q - Mathematics 111 Keck 3:50 - 4:10 PM	***Ryan J. Leal*** *W.H. Halpenny SURF Fellow*	Log-concavity and the Lorentzian Condition for Alexander Polynomials of 2 and 3-bridge Links	Yi Ni *Professor of Mathematics*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Eric C. Lee***	Active Learning of Molecular Properties	Sarah E. Reisman *Bren Professor of Chemistry* Yisong Yue *Professor of Computing and Mathematical Sciences* Raul Astudillo Marban *Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences* Jules Schleinitz *Postdoctoral Scholar Research Associate in Chemistry*
L - Mechanical Engineering 235 Gates-Thomas 2:00 - 2:20 PM	***Steven Lei*** *Mary P. and Dean C. Daily SURF Fellow*	Development and Improvement of an Open-Source Motor Controller Package for Brushless Direct Current Motors Used in AMBER Lab Robots	Aaron D. Ames *Bren Professor of Mechanical and Civil Engineering and Control and Dynamical Systems* Lizhi Yang *Graduate Student in Mechanical Engineering*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Haorui Li*** Huazhong University of Science and Technology *VURP Fellow*	A Geometry-Aware Text-Structure Multimodal Framework for Molecule Discovery	Anima Anandkumar *Bren Professor of Computing and Mathematical Sciences*
R - Physics 107 Downs 3:10 - 3:30 PM	***Richard Y. Li*** *Timothy Ryan SURF Fellow*	Investigating the Radiation Pattern of a Millimeter Wave Hierarchical Phased Array Antenna	Sunil Golwala *Professor of Physics* Jean-Marc C. Martin *Postdoctoral Scholar Research Associate in Physics*

Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Sarah Yuan Ni Liaw*** *Arthur R. Adams SURF Fellow*	Monte Carlo Neural PDE Solver to Learn PDEs With Probabilistic Representation	Anima Anandkumar *Bren Professor of Computing and Mathematical Sciences* Julius K. Berner *Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences*
S - Physics 269 Lauritsen 2:40 - 3:00 PM	***Erik A. Lindeman***	Rotational Diffusion of Dipole Emitters: Improving Accuracy via Physical Theory and Computational Imaging	Matthew D. Lew *Assistant Professor of Electrical and Systems Engineering, Washington University of St. Louis* Sunil Golwala *Professor of Physics*
H - Computer Science 125 Steele 3:30 - 3:50 PM	***Christina Liu*** *Anne and Ray Destabelle SURF Fellow*	Expressive Variational Inference With Score-based Priors	Katherine L. Bouman *Associate Professor of Computing and Mathematical Sciences, Electrical Engineering, and Astronomy; Rosenberg Scholar; Investigator, Heritage Medical Research Institute* Berthy Feng *Graduate Student in Computing and Mathematical Sciences*
C - Biology and Bioengineering 125 Kerckhoff 4:30 - 4:50 PM	***Jiun You Liu***	Leveraging Language Model-enabled Image Grammar for Real-Time Semantic Video Editing and Counterfactual Generation in Cancer Therapeutics	Matthew W. Thomson *Assistant Professor of Computational Biology; Investigator, Heritage Medical Research Institute*
F - Aeronautics 133 Guggenheim 2:20 - 2:40 PM	***Marcel Z. Liu***	Simulating Rocket Exhaust to Inform Design and Testing of 1/10 Scale Plume-deployed Inflatable for Launch and Landing Abrasive Regolith Shielding (PILLARS)	Soon-Jo Chung *Bren Professor of Control and Dynamical Systems; Senior Research Scientist, JPL*
B - Biology 151 Crellin 2:40 - 3:00 PM	***Kara Z. Lo*** *Carl F. Braun SURF Fellow*	Optimization of Conditional Guide RNA (cgRNA) Circuits for Monitoring Microbial Gene Expression in the Undisturbed Rhizosphere	Niles A. Pierce *John D. and Catherine T. MacArthur Professor of Applied and Computational Mathematics and Bioengineering* Eric Lei *Graduate Student in Bioengineering*

C - Biology and Bioengineering 125 Kerckhoff 4:10 - 4:30 PM	***Stephen T. Lo***	Revealing Possible Microtubule/Mitochondria Interaction With CryoVIT Segmentation Method	Wah Chiu *Wallenberg-Bienenstock Professor of Bioengineering, Stanford University* Zhen Chen *Assistant Professor of Biology and Biological Engineering*
H - Computer Science 125 Steele 2:20 - 2:40 PM	***Gregory Lubashev***	Natural Language Automated Proof-Checking Assistant	Adam Blank *Teaching Professor of Computing and Mathematical Sciences*
K - Electrical Engineering and Medical Engineering 224 Jorgensen 1:20 - 1:40 PM	***Antonio Victor Machado de Oliveira***	Electrical Impedance Tomography in 65 nm CMOS With On-Chip Cavities and Electrodes	Ali A. Hajimiri *Bren Professor of Electrical Engineering and Medical Engineering* Debjit Sarkar *Graduate Student in Electrical Engineering*
I - Computer Science 142 Keck 4:10 - 4:30 PM	***Thomas I. MacLean*** *William H. and Helen Lang SURF Fellow*	High Accuracy Methods for Computing Gravitational Potential and Gravitational Force Fields Near the Surface of Irregularly Shaped 3-Dimensional Bodies	Alan H. Barr *Professor of Computer Science*
A - Biology 101 Schlinger 1:40 - 2:00 PM	***Indeever Madireddy*** *Guo/Zhao Family SURF Fellow*	Mapping Antibody Responses Elicited by Intercladal Sarbecovirus Receptor-Binding Domains	Pamela J. Bjorkman *David Baltimore Professor of Biology and Biological Engineering; Merken Institute Professor* Alexander Cohen *Postdoctoral Scholar Research Associate in Biology and Biological Enginering*
Q - Mathematics 111 Keck 2:20 - 2:40 PM	***Michael N. Manta***	Higher-order Blow-up Finite Elements	Yakov Berchenko-Kogan *Assistant Professor of Mathematics, Florida Institute of Technology*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Priscila Marquez*** *John Stauffer SURF Fellow*	Progress Towards the Total Synthesis of Cassiabudanol A	Sarah E. Reisman *Bren Professor of Chemistry* Katelyn Gallagher *Graduate Student in Chemistry*
I - Computer Science 142 Keck 3:30 - 3:50 PM	***Ishita Mathur***	Assessing the Scalability and Interpretability of the L-Pattern Identification Problem	Pablo A. Moscato *Professor of Computer Science, University of Newcastle Australia* Shinsuke Shimojo *Gertrude Baltimore Professor of Experimental Psychology*

N - Geological and Planetary Sciences 115 Gates-Thomas 3:50 - 4:10 PM	***Mahak Mathur*** *Carl F. Braun SURF Fellow*	Simulating and Mitigating Potential Anomalies in Transit for the Lunar Trailblazer	Bethany L. Ehlmann *Professor of Planetary Science* Judy S. Adler *Operations Coordinator for IPAC*
G - Applied Physics and Materials Science 104 Watson 1:00 - 1:20 PM	***Maverick S. McKown*** *John and Barbara Gee SURF Fellow*	Fabrication of Dual Gated Twisted Bilayer Molybdenum Ditelluride Heterostructures	Stevan Nadj-Perge *Professor of Applied Physics and Materials Science* Hyunjin Kim *Graduate Student in Physics*
T - Physics 106 Spalding Laboratory 2:20 - 2:40 PM	***Jude E. McLean*** *Gary Stupian SURF Fellow*	Sensitivity to CP Violation at the DUNE Far Detector	Ryan B. Patterson *Professor of Physics* Zoya Vallari *Sherman Fairchild Postdoctoral Scholar Research Associate in Physics*
J - Computer Science B122 Gates Annex 1:40 - 2:00 PM	***Aditya A. Mehta***	CellCutLER: Unsupervised Cellular Image Segmentation	Pietro Perona *Allen E. Puckett Professor of Electrical Engineering* Markus Marks *Postdoctoral Scholar Research Associate in Electrical Engineering*
T - Physics 106 Spalding Laboratory 1:00 - 1:20 PM	***Rohan Mehta***	Neural Representations Obey Approximately Conservative Dynamics	Max Tegmark *Professor of Physics, Massachusetts Institute of Technology* Ziming Liu *Graduate Student in Physics, Massachusetts Institute of Technology*
M - Geological and Planetary Sciences 135 Gates-Thomas 4:30 - 4:50 PM	***Divan I. Mejia Gonzalez*** *Carol Carmichael SURF Fellow*	Identifying Phages for Use Against Antibiotic-Resistant Bacteria	Smruthi Karthikeyan *Gordon and Carol Treweek Assistant Professor of Environmental Science and Engineering; William H. Hurt Scholar* Cathryn C. Holmes *Research Laboratory Technician in the Global Environmental Center*
L - Mechanical Engineering 235 Gates-Thomas 3:10 - 3:30 PM	***Aramis J. Mendoza*** *Bill Davis SURF Fellow*	Hollow Cathode Plasma Ion Source Design for Atomic Layer Etching	Austin J. Minnich *Professor of Mechanical Engineering and Applied Physics*
N - Geological and Planetary Sciences 115 Gates-Thomas 2:20 - 2:40 PM	***Mira P. Menezes***	A Primordial Venus Moon Might Explain That Planet's Slow Rotation	David J. Stevenson *Marvin L. Goldberger Professor of Planetary Science, Emeritus*

H - Computer Science 125 Steele 3:10 - 3:30 PM	***Mikhail Mints*** *Samuel P. and Frances Krown SURF Fellow*	Compiling Qunity: Optimized Compilation of a High-Level Quantum Programming Language	Robert Rand *Assistant Professor of Computer Science, University of Chicago* Michael C. Vanier *Teaching Professor of Computing and Mathematical Sciences*
S - Physics 269 Lauritsen 2:00 - 2:20 PM	***Anya B. Mischel*** *Robert L. Blinkenberg SURF Fellow*	Construction and Testing of a Galvo-Based Single Mode Fiber Switcher	Nick R. Hutzler *Assistant Professor of Physics* Madison Howard *Graduate Student in Physics*
B - Biology 151 Crellin 3:30 - 3:50 PM	***Maxwell J. Montemayor*** *Øistein and Rita A. Skjellum SURF Fellow*	Differential Aging of the Degenerative Spine: Characterizing the Functional, Radiographic, and Genetic Features of the Paraspinal Muscle of Patients With Lumbar Back Pain	Michael Safaee *Assistant Professor of Clinical Neurological Surgery, University of Southern California* Shinsuke Shimojo *Gertrude Baltimore Professor of Experimental Psychology*
G - Applied Physics and Materials Science 104 Watson 1:20 - 1:40 PM	***Robert B. Morgan*** *Mary Atwater SURF Fellow*	Investigating RF Harmonic Fluctuations Associated With Ice Grain Formation in a Weakly Ionized Plasma	Paul M. Bellan *Professor of Applied Physics* Andre Nicolov *Graduate Student in Applied Physics*
E - Chemical Engineering 153 Noyes 1:00 - 1:20 PM	***Orna Mukhopadhyay*** *Philip Laipis in Memory of Professor Jerome Vinograd SURF Fellow*	Mutation Transfer for Improved Robustness in Enzymatic Cyclopropanation	Frances H. Arnold *Linus Pauling Professor of Chemical Engineering, Bioengineering, and Biochemistry* Jennifer Kennemur *Postdoctoral Scholar Fellowship Trainee in Chemical Engineering*
R - Physics 107 Downs 2:20 - 2:40 PM	***Giulia Murgia*** *Samuel P. and Frances Krown SURF Fellow*	Full-Sky Maps With SPHEREx for Studies of the Interstellar Medium	James J. Bock *Marvin L. Goldberger Professor of Physics; Senior Research Scientist, JPL* Ari J. Cukierman *Postdoctoral Scholar Research Associate in Physics*
E - Chemical Engineering 153 Noyes 2:40 - 3:00 PM	***Ramona W. Murugu*** *John Stauffer SURF Fellow*	Comprehensive Analysis of Urban Aerosol Pollution Dynamics and Health Impacts at Pico Rivera Using Advanced SMPS Measurements	Richard C. Flagan *Irma and Ross McCollum-William H. Corcoran Professor of Chemical Engineering and Environmental Science and Engineering*

S - Physics 269 Lauritsen 3:10 - 3:30 PM	***Damian R. Musk*** *Larson Scholar*	Supersymmetric Wormhole Teleportation	Joseph D. Lykken *Deputy Director of Research, Fermi National Accelerator Laboratory* Maria Spiropulu *Shang-Yi Ch'en Professor of Physics*
Q - Mathematics 111 Keck 3:30 - 3:50 PM	***Kenji I. Nakagawa*** *Nilo A. and Phylis F. Niccolai SURF Fellow*	Finiteness Problems on Simple CM Abelian Varieties With Rational Field of Moduli	Matthias Flach *Professor of Mathematics*
H - Computer Science 125 Steele 3:50 - 4:10 PM	***Firdavs Nasriddinov*** *Ron Sven Rat and Bfield SURF Fellow*	Deep Learning for Detection of Surgical Feedback Instances in Real World Surgeries	Anima Anandkumar *Bren Professor of Computing and Mathematical Sciences* Rafal D. Kocielnik *Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences*
D - Chemistry 147 Noyes 1:40 - 2:00 PM	***Paulina M. Naydenkov*** *John Stauffer SURF Fellow*	Applying Filtration and MEM to Low Bacterial Load Samples	Rustem F. Ismagilov *Ethel Wilson Bowles and Robert Bowles Professor of Chemistry and Chemical Engineering; Merkin Institute Professor* Roey Lazarovits *Graduate Student in Medical Engineering*
D - Chemistry 147 Noyes 2:40 - 3:00 PM	***Bao T. Nguyen*** *Robb and Eunice Rutledge SURF Fellow*	Mo-Catalyzed N_2 Reduction to NH_3 With SmI_2 and Multidentate Alcohols Towards Photodriven Samarium Turnover	Jonas C. Peters *Bren Professor of Chemistry* Emily Boyd *Graduate Student in Chemistry*
I - Computer Science 142 Keck 1:20 - 1:40 PM	***Thanhthanh V. Nguyen***	Estimating Impacts of Future Change in Extratropical Cyclone Activity on Precipitation Using Machine Learning	Edmund K. Chang *Professor of Atmospheric Sciences, Stony Brook University* Katherine L. Bouman *Associate Professor of Computing and Mathematical Sciences, Electrical Engineering, and Astronomy; Rosenberg Scholar; Investigator, Heritage Medical Research Institute*
M - Geological and Planetary Sciences 135 Gates-Thomas 4:50 - 5:10 PM	***Brayden Noh*** *Arthur R. Adams SURF Fellow*	Tracking and Characterizing Flocculation and Settling Velocity	Michael P. Lamb *Professor of Geology* Kimberly L. Miller *Laboratory Manager in Geology and Geochemistry*

F - Aeronautics 133 Guggenheim 3:50 - 4:10 PM	***Reid D. Nussbaum*** *Frank W. Wood SURF Fellow*	Designing and Implementing Thrust Vectoring Systems for Novel Scale Kerosene-LOX Rocket Engines With the Goal of Application on a Self-Landing Vehicle	Morteza Gharib *Hans W. Liepmann Professor of Aeronautics and Medical Engineering* Jack Caldwell *Graduate Student in Aerospace*
F - Aeronautics 133 Guggenheim 4:10 - 4:30 PM	***Max A. Oberg*** *Lester Lees Aeronautics SURF Fellow*	Variable Area Pintle Injector for Rocket Engine Throttling Applications	Morteza Gharib *Hans W. Liepmann Professor of Aeronautics and Medical Engineering* Jack Caldwell *Graduate Student in Aerospace*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Emma J. Olinger*** *Rossum Family SURF Fellow*	Generating Transgenic *D. melanogaster* by Adult Abdomen Injections With Recombinant Tol2 Transposase and a Target Plasmid	Bruce A. Hay *Professor of Biology*
G - Applied Physics and Materials Science 104 Watson 2:20 - 2:40 PM	***Brian R. Olsen***	Engineering Plasmonic Nanostructures for Azobenzene Molecular Switches, and Predicting Their Reaction Rates	Axel Scherer *Bernard A. Neches Professor of Electrical Engineering, Applied Physics, and Physics; Merkin Institute Professor* Chiyoung Hwang *Graduate Student in Medical Engineering*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***George L. Ore***	Designing an Outward Propagating Relay Network on a Chip	Kwabena Boahen *Associate Professor of Bioengineering, Stanford University* Glen A. George *Teaching Professor of Electrical Engineering*
R - Physics 107 Downs 3:50 - 4:10 PM	***Hanna Park***	Superconducting Quantum Sensors in Dark Matter Search: Improving Phonon Collection Efficiency in Phonon Mediated Kinetic Inductance Detectors (KIDs)	Sunil Golwala *Professor of Physics* Brandon Sandoval *Graduate Student in Physics*
C - Biology and Bioengineering 125 Kerckhoff 2:20 - 2:40 PM	***Deepro F. Pasha***	A Robust MRI Reconstruction Approach for 2D Overlapping (SSFSE) Liver Images to Enhance Usability	Shreyas S. Vasanawala *Professor of Radiology; Director of MRI, Stanford Children's Hospital* Lihong Wang *Bren Professor of Medical Engineering and Electrical Engineering*

O - Humanities and Social Sciences 100 Powell-Booth 3:10 - 3:30 PM	***Ria M. Patel*** *The Associates SURF Fellow*	AI-Generated Images and Messages to Determine Behaviors for Risky Decision-Making in the Stag Hunt Game	Colin F. Camerer *Robert Kirby Professor of Behavioral Economics* Zhenlin Kang *Graduate Student in Social Science*
I - Computer Science 142 Keck 4:30 - 4:50 PM	***Heramba H. Patil*** *Taylor Lawrence SURF Research Fellow*	Leveraging Machine Learning for Source Classification With the NASA ROMAN Telescope	Ashish Mahabal *Deputy Director, Caltech Center for Data-Driven Discovery* Roberta Paladini *Senior Research Scientist in IPAC*
Q - Mathematics 111 Keck 3:10 - 3:30 PM	***Eric Paul*** *Class of '36 SURF Fellow*	Understanding Sums of Linear Orders Through Their Structure	Garrett Ervin *Harry Bateman Postdoctoral Scholar Teaching Fellow in Mathematics*
A - Biology 101 Schlinger 3:10 - 3:30 PM	***Jean Sebastien T. Paul***	Using Protein Language Models to Engineer a Zinc Finger Based Transcriptional Activator as a Dravet's Syndrome Therapeutic	Xiaojing Gao *Assistant Professor of Chemical Engineering, Stanford University* Niles A. Pierce *John D. and Catherine T. MacArthur Professor of Applied and Computational Mathematics and Bioengineering*
L - Mechanical Engineering 235 Gates-Thomas 3:30 - 3:50 PM	***Joseph R. Pieper***	Optimizing and Understanding the Steady Streaming Jet in Relation to the Turbulent Drag Reduction Effect	Cong Wang *Assistant Professor of Mechanical Engineering, University of Iowa* David J. Stevenson *Marvin L. Goldberger Professor of Planetary Science, Emeritus*
N - Geological and Planetary Sciences 115 Gates-Thomas 4:10 - 4:30 PM	***Virginia H. Pistilli*** *Caltech-University of Iceland Exchange*	Impact of Herbivory on the Primary Productivity and Microbial Communities of *Racomitrium lanuginosum* in the Icelandic Heath	Ingibjörg S. Svala Jónsdóttir *Professor of Ecology, University of Iceland* Bastien C. Papinot *Graduate Student in Life and Environmental Sciences, University of Iceland*
A - Biology 101 Schlinger 2:40 - 3:00 PM	***Juni Y. Polansky*** *Larson Scholar*	The Switch From Cell Proliferation to Differentiation in the *Drosophila* Testes	Margaret Fuller *Reed-Hodgson Professor of Human Biology, Stanford University* Lea Goentoro *Professor of Biology*

K - Electrical Engineering and Medical Engineering 224 Jorgensen 1:00 - 1:20 PM	***Christopher G. Pope***	Characterization and Validation of a Fatigue Monitoring Wearable Biosensor	Azita Emami *Andrew and Peggy Cherng Professor of Electrical Engineering and Medical Engineering* Shawn Sheng *Graduate Student in Electrical Engineering*
D - Chemistry 147 Noyes 3:50 - 4:10 PM	***Camilla M. Power*** *Edward W. Hughes SURF Fellow*	Progress in the Total Synthesis of Euphonoid E	Brian M. Stoltz *Victor and Elizabeth Atkins Professor of Chemistry; Investigator, Heritage Medical Research Institute* Adrian de Almenara *Graduate Student in Chemistry*
C - Biology and Bioengineering 125 Kerckhoff 2:00 - 2:20 PM	***Tejas Ram***	Spatial Transformation Capabilities in Image Editing via Diffusion Models	Matthew W. Thomson *Assistant Professor of Computational Biology; Investigator, Heritage Medical Research Institute*
F - Aeronautics 133 Guggenheim 4:50 - 5:10 PM	***Hannah V. Ramsperger*** *Toshi Kubota Aeronautics SURF Fellow*	Ignition of Sustainable Aviation Fuels in Hot Air Atmospheres: Parametric Analysis on the ASTM Injection System	Joseph E. Shepherd *C.L. "Kelly" Johnson Professor of Aeronautics and Mechanical Engineering* Charline Fouchier *Postdoctoral Scholar Fellowship Trainee in Aerospace*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Lillian R. Randall*** *Mary Vodopia SURF Fellow*	Isotopic Measurements to Determine the Origins of the Pala Pegmatites in the Northern Peninsular Ranges Batholith	Claire Bucholz *Professor of Geology* Paolo Sanchez *Graduate Student in Geochemistry*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Juan M. Renteria*** *Robert I. and Winifred E. Gardner SURF Fellow*	Designing Hands for the Humanoid Robot Achilles	Aaron D. Ames *Bren Professor of Mechanical and Civil Engineering and Control and Dynamical Systems* Adrian Boedtker Ghansah *Graduate Student in Control and Dynamical Systems*
D - Chemistry 147 Noyes 4:50 - 5:10 PM	***Aarya D. Riasati*** *John Stauffer SURF Fellow*	The Identification of Strong-Ligand Binders to the Amyloid-Beta 42 Tetramer in Alzheimer's Disease	William A. Goddard III *Charles and Mary Ferkel Professor of Chemistry, Materials Science, and Applied Physics* Soo-Kyung Kim *Director, Biomacromolecular Modeling Center*

Q - Mathematics 111 Keck 1:00 - 1:20 PM	***Eduardo H. Rodrigues do Nascimento*** *Marcella Bonsall SURF Fellow*	The Moduli Space of Stable n-Pointed Curves, Its Grothendieck Class, and Log-Concavity	Paolo Aluffi *Visiting Professor in Mathematics*
I - Computer Science 142 Keck 2:00 - 2:20 PM	***Ashlyn M. Roice***	AI-Driven Prediction of Type 2 Diabetes Mellitus Risk	Rohan Khera *Director of the Cardiovascular Data Science Lab, Yale University* Adam C. Wierman *Carl F Braun Professor of Computing and Mathematical Sciences*
O - Humanities and Social Sciences 100 Powell-Booth 2:40 - 3:00 PM	***Alec Z. Sandroni*** *David C. Elliot SURF Fellow*	Measuring Irrationality of Deterministic Choice	Kota Saito *Professor of Economics* Yi Xin *Assistant Professor of Economics*
P - Astronomy 109 Jorgensen 2:00 - 2:20 PM	***Alianna L. Santisteban***	Commissioning a Muon Detector for Cross-Comparing Radio-Based and Muon-Based Cosmic Ray Detection Techniques at the OVRO-LWA	Gregg W. Hallinan *Professor of Astronomy* Kathryn Plant *NASA Postdoc, JPL*
I - Computer Science 142 Keck 1:40 - 2:00 PM	***Anagha Satish*** *Kirk and Marjory Dawson Family SURF Fellow*	Integrating Selective Gradient Information in Consensus Based Optimization	Franca Hoffmann *Assistant Professor of Computing and Mathematical Sciences* Elizabeth A. Carlson *von Karman Instructor in Computing and Mathematical Sciences*
F - Aeronautics 133 Guggenheim 2:00 - 2:20 PM	***James A. Scott*** *Samuel N. Vodopia and Carol J. Hasson SURF Fellow*	Modeling and Analysis of PILLARS for Off-Nominal Rocket Landings Using LS-Dyna	Soon-Jo Chung *Bren Professor of Control and Dynamical Systems; Senior Research Scientist, JPL*
T - Physics 106 Spalding Laboratory 1:40 - 2:00 PM	***Kristina A. Sevier***	Barrel Timing Layer Assembly in CMS for the High Luminosity Update of the Large Hadron Collider	Maria Spiropulu *Shang-Yi Ch'en Professor of Physics* Adi Bornheim *Research Scientist in High Energy Physics*
E - Chemical Engineering 153 Noyes 1:40 - 2:00 PM	***Faiza N. Shabibi*** *John Stauffer SURF Fellow*	X-ray Microdiffraction Analysis of the Structural Gradient in the Semicrystalline Polymer Poly(L-Lactide) for Improving Bioresorbable Vascular Scaffolds	Julia A. Kornfield *Elizabeth W. Gilloon Professor of Chemical Engineering* Tiziana Di Luccio *Visitor in Chemical Engineering*
D - Chemistry 147 Noyes 3:10 - 3:30 PM	***Sanjana S. Shah*** *Edward W. Hughes SURF Fellow*	Photoreductions of Cr(III) and Ti (IV) Using Various Photosensitizers	Jonas C. Peters *Bren Professor of Chemistry* Christian M. Johansen *Graduate Student in Chemistry*

P - Astronomy 109 Jorgensen 3:30 - 3:50 PM	***Arden J. Shao***	Searching for Circumbinary Planets Through Apsidal Precession	Benjamin Montet *Professor of Astronomy, University of New South Wales* Elias R. Most *Assistant Professor of Theoretical Astrophysics*
P - Astronomy 109 Jorgensen 1:20 - 1:40 PM	***Domani S. Sharkey*** *Arthur R. Adams SURF Fellow*	X-Ray Active Red Giant Stars in the Milky Way	Kareem J. El-Badry *Assistant Professor of Astronomy* Antonio C. Rodriguez *Graduate Student in Astrophysics*
T - Physics 106 Spalding Laboratory 2:40 - 3:00 PM	***Karen I. Shekyan*** *David L. Glackin Memorial SURF Fellow*	Simulating a Charged Particle on a Disordered Discrete Lattice Under a Time-Varying Electric Field for the Purpose of Optimization	Gil Refael *Taylor W. Lawrence Professor of Theoretical Physics*
L - Mechanical Engineering 235 Gates-Thomas 1:20 - 1:40 PM	***Siddhartha R. Shendrikar*** *Dr. David G. Goodwin SURF Fellow*	Rippling Through Fluid Dynamics: Unveiling Collective Motion in Brine Shrimp	John O. Dabiri *Centennial Professor of Aeronautics and Mechanical Engineering* Nina Mohebbi *Graduate Student in Aerospace*
L - Mechanical Engineering 235 Gates-Thomas 4:50 - 5:10 PM	***Dhruv M. Sheth*** *Dr. Jane Chen SURF Fellow*	Real-time 6DOF Pose Estimation With Limited Priors	Joel W. Burdick *Richard L. and Dorothy M. Hayman Professor of Mechanical Engineering and Bioengineering; Research Scientist, JPL* Ersin Das *Postdoctoral Scholar Research Associate in Mechanical and Civil Engineering*
P - Astronomy 109 Jorgensen 2:20 - 2:40 PM	***Ahaan Shetty*** *Homer J. Stewart SURF Fellow*	Exploring, Modeling, and Fitting Spectral Energy Distributions for Young Stellar Objects	Lynne Hillenbrand *Professor of Astronomy*
I - Computer Science 142 Keck 3:50 - 4:10 PM	***Pratyush K. Singh*** *Carl F. Braun SURF Fellow*	An Analysis of Standard Foundation Models for the Modeling of Irregular High-Dimensionality Astronomical Data	Ashish Mahabal *Deputy Director, Caltech Center for Data-Driven Discovery* Lisa Guan *Planetary Protection Engineer, JPL*
N - Geological and Planetary Sciences 115 Gates-Thomas 3:10 - 3:30 PM	***Pritvik Sinhadc***	Search for Gravitational Wave Technosignatures Using Complexity Theory	Yuk L. Yung *Professor of Planetary Science; Senior Research Scientist, JPL* Stuart J. Bartlett *Research Staff in Planetary Science*

A - Biology 101 Schlinger 2:00 - 2:20 PM	***Sophia M. Slora***	Analyzing Potential Regulators of Centriole Number Control	David Glover *Research Professor of Biology and Biological Engineering*
B - Biology 151 Crellin 1:20 - 1:40 PM	***Sam B. Small*** *Eric T. Fung and Julie A. Buckley SURF Fellow*	Characterization of Microbial Metabolites' Disease Pathology and Pathophysiology in α-Synuclein Overexpressing Mice	Sarkis K. Mazmanian *Luis B. and Nelly Soux Professor of Microbiology; Merkin Institute Professor* Manxuan Zhou *Graduate Student in Biology*
L - Mechanical Engineering 235 Gates-Thomas 4:30 - 4:50 PM	***Logan A. Smith-Perkins*** *Taylor Lawrence SURF Research Fellow*	Improving Cement Carbonation Modelling for Cement Carbon Uptake	Melany L. Hunt *Dotty and Dick Hayman Professor of Mechanical Engineering* Ricardo A. Hernandez *Graduate Student in Mechanical Engineering*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Jennifer Solgaard***	Stabilization of Defect Centers in Silicon Carbide	Jelena Vuckovic *Jensen Huang Professor in Global Leadership, Professor of Electrical Engineering, Stanford University* Alireza Marandi *Professor of Electrical Engineering and Applied Physics*
D - Chemistry 147 Noyes 1:20 - 1:40 PM	***Alan Song*** *Janet Lai SURF Fellow*	Development of a Family of Copper-Metallated Bimetallic Molecular Quantum Bits	Theodor Agapie *John Stauffer Professor of Chemistry* Matt R. Espinosa *Postdoctoral Scholar Fellowship Trainee in Chemistry*
N - Geological and Planetary Sciences 115 Gates-Thomas 2:00 - 2:20 PM	***Michael A. Sowell*** *Class of '52 60th Reunion SURF Fellow*	Observations of the Spatial and Power Distributions of Io's Hotspot-Sourced Heat Flux	David J. Stevenson *Marvin L. Goldberger Professor of Planetary Science, Emeritus*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Leyla Sozen-Kohl***	Categorical Fractal Geometry and Homology Theory	Matilde Marcolli *Robert F. Christy Professor of Mathematics and Computing and Mathematical Sciences*
G - Applied Physics and Materials Science 104 Watson 3:10 - 3:30 PM	***Aditya R. Srinivasan*** *Jean J. Dixon SURF Fellow*	Calculating Quasi-Particle Spectra in Mott Insulators Using First-Principles Methods	Marco Bernardi *Professor of Applied Physics, Physics, and Materials Science* Khoa B. Le *Graduate Student in Chemistry*

T - Physics 106 Spalding Laboratory 4:10 - 4:30 PM	***Sage H. Stanton*** *Dr. Judith Goodstein SURF Fellow*	Noise Analysis and Implementation on a Millimeter-Wave Kinetic Inductance Detector Camera for Long-Range Imaging Through Optical Obscurants	Jack Sayers *Research Professor of Physics*
L - Mechanical Engineering 235 Gates-Thomas 3:50 - 4:10 PM	***Alexi Stapf***	Experimental Study of Propeller Flow Air Ventilation From Tip Vortices	Cong Wang *Assistant Professor of Mechanical Engineering, University of Iowa* Morteza Gharib *Hans W. Liepmann Professor of Aeronautics and Medical Engineering*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Elin A. Stenmark*** *Samuel P. and Frances Krown SURF Fellow*	The Origin of Hot Jupiters Revealed Through Their Age Distribution	Andrew W. Howard *Professor of Astronomy* Luke Bouma *51 Pegasi b Postdoctoral Scholar Research Associate in Astronomy*
P - Astronomy 109 Jorgensen 3:10 - 3:30 PM	***Sophia M. Steven***	Adapting Operations of the 3 x 50 cm Colibri Telescope Array for Exoplanet Detection	Stanimir A. Metchev *Professor of Physics and Astronomy, University of Western Ontario* Lynne Hillenbrand *Professor of Astronomy*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Harry K. Stoltz*** University of California, Riverside	Quantum Physics of Real Quadratic Fields	Matilde Marcolli *Robert F. Christy Professor of Mathematics and Computing and Mathematical Sciences*
I - Computer Science 142 Keck 3:10 - 3:30 PM	***Manal Sultan***	Enhancing Traffickcam Search Queries Through Embedding Projection	Robert Pless *Patrick and Donna Martin Professor of Computer Science, George Washington University* Steven R. Quartz *Professor of Philosophy*
T - Physics 106 Spalding Laboratory 2:00 - 2:20 PM	***Kai L. Svenson***	An Extension of CFTs to Non-Riemannian Manifolds	Maria Spiropulu *Shang-Yi Ch'en Professor of Physics*
J - Computer Science B122 Gates Annex 2:00 - 2:20 PM	***Vansh V. Tibrewal***	Unsupervised Identification of Behavior Motifs Linked to Surgical Outcomes in Sheep	Pietro Perona *Allen E. Puckett Professor of Electrical Engineering* Markus Marks *Postdoctoral Scholar Research Associate in Electrical Engineering*

F - Aeronautics 133 Guggenheim 1:40 - 2:00 PM	***Angelina J. Torres***	Pattern-Based Design and Fabrication of PILLARS Inflatable Prototype for NASA BIG Idea Challenge	Soon-Jo Chung *Bren Professor of Control and Dynamical Systems; Senior Research Scientist, JPL*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Matthew W. Torres*** *Saul and Joan Cogen Memorial SURF Fellow*	Evaluating the Influence of Magnetic Field Sweeps on Human Visual Perception	Shinsuke Shimojo *Gertrude Baltimore Professor of Experimental Psychology* Lara Krisst *Postdoctoral Scholar Research Associate in Psychophysics*
B - Biology 151 Crellin 1:40 - 2:00 PM	***Emily Tu*** *Mr. and Mrs. Robert C. Loschke SURF Fellow*	*In vivo* Directed Evolution of a Multi-Protein CRISPR-Associated Transposition System	Kaihang Wang *Assistant Professor of Biology and Biological Engineering* Jolena Zhou *Graduate Student in Chemical Engineering*
N - Geological and Planetary Sciences 115 Gates-Thomas 1:40 - 2:00 PM	***Idil A. Turasi***	Safe Autonomous Mapping of Seagrass Distribution and Health by USV	Victoria J. Orphan *James Irvine Professor of Environmental Science and Geobiology* John S. Magyar *Research Scientist in Geology*
S - Physics 269 Lauritsen 1:20 - 1:40 PM	***Avinash Vadali***	Anomalous Hall Crystal Hosts	Ashvin Vishwanath *George Vasmer Leverett Professor of Physics, Harvard University* Xie Chen *Eddleman Professor of Theoretical Physics*
I - Computer Science 142 Keck 2:40 - 3:00 PM	***Annika S. Viswesh***	A Generative-Based Surrogate Model Framework With Applications to Malaria Transmission Models	Youssef M. Marzouk *Boeing Assistant Professor of Aeronautics and Astronautics, Massachusetts Institute of Technology* Yisong Yue *Professor of Computing and Mathematical Sciences*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Kieran G. Vlahakis*** *J. Weldon Green SURF Fellow*	Waves Resonances and Eigenstates in Periodic Structures	Oscar P. Bruno *Professor of Applied and Computational Mathematics* Manuel Santana *Graduate Student in Applied and Computational Mathematics*

Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Keyu Wan*** *DaRin Butz SURF Fellow*	Integration and Control of Musculoskeletal and Exoskeleton Models for Optimizing Wearable Lower-Limb Exoskeleton Rehabilitation	Aaron D. Ames *Bren Professor of Mechanical and Civil Engineering and Control and Dynamical Systems* Kejun Li *Graduate Student in Computation and Neural Systems*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Jasmine S. Wang***	Enhancing Predictability in RNAi Screening Through Cross-Protein Correlation Integration	Mark Bathe *Professor of Biological Engineering, Massachusetts Institute of Technology* Henry A. Lester *Professor of Biology*
C - Biology and Bioengineering 125 Kerckhoff 3:10 - 3:30 PM	***Olivia Y. Wang*** *DaRin Butz SURF Fellow*	Building a DNA Part Library for Entomopathogenic Nematode Symbiont *Xenorhabdus griffiniae*	Richard M. Murray *Thomas E. and Doris Everhart Professor of Control and Dynamical Systems and Bioengineering* Elin M. Larsson *Graduate Student in Bioengineering*
R - Physics 107 Downs 2:40 - 3:00 PM	***Sylvia X. Wang*** *Carl F. Braun SURF Fellow*	Characterizing Band-Pass Filter Performance in Millimeter-Wave Hierarchical Phased-Array Antennas	Sunil Golwala *Professor of Physics* Jean-Marc C. Martin *Postdoctoral Scholar Research Associate in Physics*
B - Biology 151 Crellin 1:00 - 1:20 PM	***Grace E. Wilson*** *Richard T. Jones SURF Fellow*	Characterization of KLF6 Coding Region and 3' UTR Knockouts in Breast Cancer Cells	Mary Hynes *Associate Research Professor of Biology, Stanford University* Bruce A. Hay *Professor of Biology*
B - Biology 151 Crellin 2:20 - 2:40 PM	***Cherise H. Wong***	Analyzing the Use of Quantitative Susceptibility Mapping for Deep Brain Stimulation Surgery to Treat Parkinson's Disease	Melanie Morrison *Assistant Professor of Radiology and Biological Imaging, University of California, San Francisco* Markus Meister *Anne P. and Benjamin F. Biaggini Professor of Biological Sciences*
E - Chemical Engineering 153 Noyes 3:50 - 4:10 PM	***Sophia J. Wu*** *John Stauffer SURF Fellow*	Constructing Si-Centered Chirality With Biocatalytic Carbene Transferases	Frances H. Arnold *Linus Pauling Professor of Chemical Engineering, Bioengineering, and Biochemistry* Ziqi Li *Postdoctoral Scholar Research Associate in Chemical Engineering*

M - Geological and Planetary Sciences 135 Gates-Thomas 3:10 - 3:30 PM	***Frank Y. Xiao*** *Carl F. Braun SURF Fellow*	A Rapid-Response System for Mapping Earthquake Surface Fractures Zones Using UAVs and Deep Learning	Zachary E. Ross *Assistant Professor of Geophysics; William H. Hurt Scholar* Zhiang Chen *Postdoctoral Scholar Research Associate in Geophysics*
O - Humanities and Social Sciences 100 Powell-Booth 3:30 - 3:50 PM	***Allison Xin***	Enhancing Electoral Predictions With the ElectIt Package: Analyzing Election Dynamics	Jonathan N. Katz *Kay Sugahara Professor of Social Sciences and Statistics* Daniel Ebanks *Visitor in Social Sciences*
L - Mechanical Engineering 235 Gates-Thomas 4:10 - 4:30 PM	***Isabel Xu*** *DaRin Butz SURF Fellow*	Extrusion-Spheronization in Carbon Capture Sorbents	Melany L. Hunt *Dotty and Dick Hayman Professor of Mechanical Engineering* Ricardo A. Hernandez *Graduate Student in Mechanical Engineering*
G - Applied Physics and Materials Science 104 Watson 2:40 - 3:00 PM	***Hongrui Yan*** University of California, Santa Barbara	Photogalvanic Effect and Supercontinuum Generation on Ultralow-Loss Germanosilicate Integrated Waveguide	Kerry J. Vahala *Ted and Ginger Jenkins Professor of Information Science and Technology and Professor of Applied Physics* Kellan Colburn *Graduate Student in Applied Physics*
E - Chemical Engineering 153 Noyes 3:30 - 3:50 PM	***Benjamin Y. Yang*** *John Stauffer SURF Fellow*	I. Subcellular Visualization of Glycogen in Endothelial Cells and Probing Metabolic Switch to Other Carbon Sources Under Glucose Starvation in Endothelial Cells Using SRS Microscopy; II. Highly-Multiplexed Live-Cell Vibrational Metabolic Imaging	Lu Wei *Assistant Professor of Chemistry; Investigator, Heritage Medical Research Institute; Ronald and JoAnne Willens Scholar* Rahuljeet Chadha *Graduate Student in Chemistry*
E - Chemical Engineering 153 Noyes 2:00 - 2:20 PM	***Nicole B. Yang*** *John Stauffer SURF Fellow*	Enhancing Plant Drought Resilience With Engineered Hydrophobic Biofilms for Improved Water Retention	Gözde S. Demirer *Clare Booth Luce Assistant Professor of Chemical Engineering* Catherine Griffin *Graduate Student in Bioengineering*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Zhe Yang*** *Dr. Terry Cole SURF Fellow*	Using PLIF Imaging to Investigate the Dynamics of Weakly Ionized Dusty Plasma	Paul M. Bellan *Professor of Applied Physics* Andre Nicolov *Graduate Student in Applied Physics*

C - Biology and Bioengineering 125 Kerckhoff 1:20 - 1:40 PM	***Jessica L. Yin*** *Franz and Anne Nierlich SURF Fellow*	A Tool for Creating Customized Reference Genomes From VCF Files for Variant-Aware Genomic Analysis	Lior S. Pachter *Bren Professor of Computational Biology and Computing and Mathematical Sciences* Delaney Sullivan *Graduate Student in Biology*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Jonah K. Yoshida*** *The Associates SURF Fellow*	Smooth Knots With Odd Quadratic Term of Their Conway Polynomial Have Inscribed Trefoils	Cole Hugelmeyer *NSF Postdoctoral Fellow in Mathematics, Stanford University* Yi Ni *Professor of Mathematics*
E - Chemical Engineering 153 Noyes 3:10 - 3:30 PM	***Ryan D. Yu*** *Warren and Katharine Schlinger SURF Fellow*	Activation Mechanism of Smoothened G Protein-Coupled Receptor	William A. Goddard III *Charles and Mary Ferkel Professor of Chemistry, Materials Science, and Applied Physics* Soo-Kyung Kim *Director, Biomacromolecular Modeling Center*
K - Electrical Engineering and Medical Engineering 224 Jorgensen 2:20 - 2:40 PM	***Charlotte L. Zhang***	Development of a Wearable Sensor for Real-Time Monitoring of Chronic Wound Biomarkers	Wei Gao *Professor of Medical Engineering; Investigator, Heritage Medical Research Institute; Ronald and JoAnne Willens Scholar* Canran Wang *Graduate Student in Medical Engineering*
A - Biology 101 Schlinger 2:20 - 2:40 PM	***Evan Z. Zhang*** *Donald Voet and Jerome Vinograd SURF Fellow*	Achieving Dosage Compensation With Tunable Protease-Based Incoherent Feed-Forward Loops	Michael B. Elowitz *Roscoe Gilkey Dickinson Professor of Biology and Bioengineering; Investigator, Howard Hughes Medical Institute* Andrew Lu *Graduate Student in Biology*
Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Hongyu Zhang*** *Saul and Joan Cogen Memorial SURF Fellow*	Engineering Exotic Quantum Phases in Twisted Bilayer Graphene Through Floquet-Induced Topological Manipulations	Gil Refael *Taylor W. Lawrence Professor of Theoretical Physics* Iliya Esin *Postdoctoral Scholar Research Associate in Theoretical Physics*
G - Applied Physics and Materials Science 104 Watson 1:40 - 2:00 PM	***Ruijia Zhang***	Investigation of Transition Metal Oxides as Catalysts for Electrochemical Oxidation of Methane to Methanol in Membrane Electrode Assembly	Chengxiang Xiang *Research Professor of Applied Physics and Materials Science* Sol A. Lee *Postdoctoral Scholar Research Associate in Applied Physics and Materials Science*

Poster Presentation Hameetman Multipurpose Room 4:30 - 5:45 PM	***Zhiyi Zheng***	Investigating the Role of Cold Circumgalactic Gas in Galaxy Star Formation With the IllustrisTNG Simulation	Lars Hernquist *Mallinckrodt Professor of Astrophysics, Harvard University* Rana X. Adhikari *Professor of Physics*
D - Chemistry 147 Noyes 3:30 - 3:50 PM	***Luke F. Zhou*** *John Stauffer SURF Fellow*	Investigating the Interaction Between the Hantzsch Ester and Sm^{III} in the Photodriven Generation of Sm^{II}	Jonas C. Peters *Bren Professor of Chemistry* Emily Boyd *Graduate Student in Chemistry*