

Poster Session

Location: Hameetman Multipurpose Room

4:30 - 5:45 PM	Diya Agarwal <i>Howell N. Tyson, Sr., SURF Fellow</i>	Experimentation and development of a snake robot jamming gait	Howie Choset <i>Professor of Robotics, Carnegie Mellon University</i> Andy Vu <i>Graduate Student in Mechanical Engineering, Carnegie Mellon University</i> Bhaskar Vundurthy <i>Project Scientist at The Robotics Institute, Carnegie Mellon University</i> Gunter Niemeyer <i>Teaching Professor of Mechanical and Civil Engineering</i>
4:30 - 5:45 PM	Levi J. Alderete <i>Caltech-University of Iceland Exchange</i>	Comparative analysis of relative earthquake relocation methods: ReSpair and GrowClust3D.jl applied to the Bárðarbunga volcanic region	Elias Heimisson <i>Assistant Research Professor of Earth Science, University of Iceland</i> Ylse Anna De Vries <i>Graduate Student in Earth Sciences, University of Iceland</i>
4:30 - 5:45 PM	Ali S. Almosa <i>John Stauffer SURF Fellow</i>	Chiral allene formation via vinylcation intermediate	Hosea Nelson <i>Professor of Chemistry</i> Yucheng Fu <i>Graduate Student in Chemistry</i>
4:30 - 5:45 PM	Sophia-Marie N. Andrews <i>Brenda and Louis J. Alpinieri SURF Fellow</i>	Design and analysis of a 3D-printed gaseous oxide/liquid nitrogen resonance igniter in a bipropellant engine	Morteza Gharib <i>Hans W. Liepmann Professor of Aeronautics and Medical Engineering</i>
4:30 - 5:45 PM	Ava K. Balanon <i>John Stauffer SURF Fellow</i>	Impact of bacterial community structure on plasmid conjugation efficiency assessed through colony-forming units	Sujit Datta <i>Professor of Chemical Engineering, Bioengineering, and Biophysics</i> Pablo Bravo <i>Postdoctoral Scholar Research Associate in Chemical Engineering</i> Danielle Sclafani <i>Graduate Student in Chemical Engineering</i>
4:30 - 5:45 PM	Jonathan G. Barata <i>Carole and Sidney Meltzner SURF Fellow</i>	A fully integrated optical alignment system for the Andor Spectrometer	George R. Rossman <i>Professor of Mineralogy</i> Helen V. Evans <i>Research Technician in Geology</i>

4:30 - 5:45 PM	<i>Rishi Bhargava</i> <i>Samuel P. and Frances Krown SURF Fellow</i>	Turning light into flow: Active matter driven microfluidic pumps	Matthew W. Thomson <i>Professor of Computational Biology; Investigator, Heritage Medical Research Institute</i> Hao Wang <i>Graduate Student in Bioengineering</i>
4:30 - 5:45 PM	<i>Beatrice K. Cai</i>	Investigating the roles of macrophage sources in mouse digit tip regeneration and scarring	Kai Mesa <i>Assistant Professor of Molecular Biology, Princeton University</i> Emily A. Polk <i>Lab Manager, Princeton University</i> Lea A. Goentoro <i>Professor of Biology</i>
4:30 - 5:45 PM	<i>Ioana M. Caraus</i> <i>John Stauffer SURF Fellow</i>	Structural and functional characterization of the nucleocytoplasmic transport of MAPK14	André Hoelz <i>Mary and Charles Ferkel Professor of Chemistry and Biochemistry; Investigator, Howard Hughes Medical Institute</i> Chia-Yu Chien <i>Graduate Student in Biochemistry and Molecular Biophysics</i>
4:30 - 5:45 PM	<i>Dora Chatterjee</i>	Existence and stability of traveling-wave solutions to a generalized Korteweg-de Vries-Burgers equation	Jared C. Bronski <i>Professor of Mathematics, University of Illinois at Urbana-Champaign</i> Vera Hur <i>Professor and Chair of Mathematics, University of Illinois at Urbana-Champaign</i> Omer Tamuz <i>Professor of Economics and Mathematics</i>
4:30 - 5:45 PM	<i>Shravani A. Deshmukh</i> <i>Arjun Bansal ('05) and Ria Langheim SURF Fellow</i>	Knowledge transfer in ResNet and vision transformers: Investigating asymmetric data distributions and alternative training paradigms for computer vision	Pietro Perona <i>Allen E. Puckett Professor of Electrical Engineering</i> Fengqing Yu <i>Graduate Student in Computation and Neural Systems</i>
4:30 - 5:45 PM	<i>Elizabeth C. Ellison</i> <i>W.E.F.K. SURF Fellow</i>	Optical phase stability in large-scale quantum networks	Maria Spiropulu <i>Shang-Yi Ch'en Professor of Physics</i> Si Xie <i>Visitor in High Energy Physics</i> Andrew Cameron <i>Research Associate, Fermilab</i>
4:30 - 5:45 PM	<i>Jawhara A. Emhemed</i> <i>Dale and Suzanne Burger SURF Fellow</i>	Sparse graphical designs and the Kolm Pollak-EDE: Investigating the equity of spectral geometry	Catherine Babecki <i>Olga Taussky and John Todd/ von Kármán Postdoctoral Scholar Teaching Fellow in Mathematics</i> Drew Horton <i>Graduate Student in Mathematics</i>

4:30 - 5:45 PM	Nerissa A. Finnen	The effect of non-instantaneous switching on time-modulated array performance	Hua Wang <i>Full Professor of Electronics, ETH Zurich</i> Basem Ali <i>Full Professor of Information Technology and Electrical Engineering, ETH Zurich</i> Ali Hajimiri <i>Bren Professor of Electrical Engineering and Medical Engineering</i>
4:30 - 5:45 PM	Sophia E. Gershaft <i>The Associates SURF Fellow</i>	Design and implementation of a drop on demand (DoD) system for automated drop casting of a radiolytic precursor target	Nick R. Hutzler <i>Assistant Professor of Physics</i> Phelan Yu <i>Graduate Student in Physics</i>
4:30 - 5:45 PM	Aryan Gupta Princeton University <i>VURP Fellow</i>	Brown dwarfs in eclipse: A nested sampling approach to inferring internal temperature via broadband photometry	Andrew W. Howard <i>Professor of Astronomy</i> Steven Giacalone <i>NSF Postdoctoral Scholar Fellowship Trainee in Astronomy</i>
4:30 - 5:45 PM	Nikash Gupta	Spectral gap and mixing times in the repeated averages process on graphs	Lingfu Zhang <i>Assistant Professor of Mathematics</i>
4:30 - 5:45 PM	Muhammed Halil	Mueller polarimetry of experimental interstellar dust analogs	Paul M. Bellan <i>Professor of Applied Physics</i> Andre Nicolov <i>Graduate Student in Applied Physics</i>
4:30 - 5:45 PM	Daood I. Hashmi <i>Samuel and Berta Spalter SURF Fellow</i>	Probing substituent influence on reactivity and selectivity in Pd-catalyzed Michael spirocyclization	Brian M. Stoltz <i>Victor and Elizabeth Atkins Professor of Chemistry; Investigator, Heritage Medical Research Institute</i> Christian Strong <i>Graduate Student in Chemistry</i>
4:30 - 5:45 PM	Hanfei Hou Peking University	Rainbow on a chip: High-performance visible and short near-infrared laser sources based on germano-silicate ultra-low-loss photonic integrated circuits	Kerry J. Vahala <i>Ted and Ginger Jenkins Professor of Information Science and Technology and Professor of Applied Physics</i> Haojing Chen <i>Postdoctoral Scholar Research Associate in Applied Physics and Materials Science</i>
4:30 - 5:45 PM	Umran S. Koca <i>Larson Scholar</i>	Investigating improvements to sensitivity of next generation gravitational wave detectors with internal squeezing	Lee P. McCuller <i>Assistant Professor of Physics</i> Sander Vermeulen <i>Postdoctoral Scholar Research Associate in Physics</i>

4:30 - 5:45 PM	Henry B. Lane <i>Arthur R. Adams SURF Fellow</i>	Verifiably correct datasets in first-order logic for large language model reasoners	Matthew W. Thomson <i>Professor of Computational Biology; Investigator, Heritage Medical Research Institute</i> Matthew W. Thomson <i>Professor of Computational Biology; Investigator, Heritage Medical Research Institute</i> Tony Yue Yu <i>Professor of Mathematics</i>
4:30 - 5:45 PM	Raaghav Malik	Dissecting zebrafish hunting behavior using deep reinforcement learning-trained recurrent neural networks	Kanaka Rajan <i>Associate Professor of Neurobiology, Harvard University</i> Markus Meister <i>Anne P. and Benjamin F. Biaggini Professor of Biological Sciences</i>
4:30 - 5:45 PM	Neev Mangal <i>Warren and Katharine Schlinger SURF Fellow</i>	Development of an inducible acoustic biosensor for protease activity using Plum Pox Virus protease and engineered gas vesicles	Mikhail G. Shapiro <i>Max Delbrück Professor of Chemical Engineering and Medical Engineering; Investigator, Howard Hughes Medical Institute</i> Jee Won Yang <i>Graduate Student in Chemical Engineering</i>
4:30 - 5:45 PM	Ama A. Obeng	Investigating thermophoresis and self-thermophoresis of aerosols in microgravity for improved climate modeling	Jeffrey L. Moran <i>Professor of Mechanical Engineering, George Mason University</i> Jacob Velazquez <i>Research Assistant in Mechanical Engineering, George Mason University</i> John O. Dabiri <i>Centennial Professor of Aeronautics and Mechanical Engineering</i>
4:30 - 5:45 PM	Sanvi Pal	Generating synthetic neural data via conditional diffusion for broader applicability of brain-computer interfaces	Nishal Shah <i>Assistant Professor of Electrical and Computer Engineering, Rice University</i> Siyuan Tao <i>Graduate Student in Bioengineering, Rice University</i> Joel W. Burdick <i>Richard L. and Dorothy M. Hayman Professor of Mechanical Engineering and Bioengineering; Research Scientist, JPL</i>

4:30 - 5:45 PM	Joel Kai Chen Pang <i>John Stauffer SURF Fellow</i>	Characterizing redox dependent structural changes of RuBisCO	Karthish Manthiram <i>Professor of Chemical Engineering and Chemistry; William H. Hurt Scholar</i> Luis Burgos <i>Graduate Student in Chemical Engineering</i>
4:30 - 5:45 PM	Guanni Qu University of California, Davis	Stress-testing distributional reinforcement learning: Calibrated risk control and out-of-distribution robustness in Atari under a 1M-step budget	Sergei G. Gukov <i>John D. MacArthur Professor of Theoretical Physics and Mathematics</i> Muhammad A. Shehper <i>Research Scientist in Mathematics</i>
4:30 - 5:45 PM	Ailsa X. Shen <i>Dale and Suzanne Burger SURF Fellow</i>	Sparse autoencoder neural operators: Model recovery in function spaces	Anima Anandkumar <i>Bren Professor of Computing and Mathematical Sciences</i> Bahareh Tolooshams <i>Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences</i>
4:30 - 5:45 PM	Katherine W. Tam <i>Eric T. Fung and Julie A. Buckley SURF Fellow</i>	Dissecting root thermomemory: Heat stress priming and elongation dynamics in <i>Arabidopsis</i> through automated phenotyping	Trevor M. Nolan <i>Assistant Professor of Biology and Biological Engineering</i> Xiaohui Li <i>Postdoctoral Scholar Research Associate in Biology and Biological Engineering</i>
4:30 - 5:45 PM	Miigwan D. Tanner-Wostrel <i>Toshi Kubota Aeronautics SURF Fellow</i>	Cold gas thruster design, analysis, manufacturing, and testing for roll control of a self landing rocket	Morteza Gharib <i>Hans W. Liepmann Professor of Aeronautics and Medical Engineering</i> Jack N. Caldwell <i>Graduate Student in Aerospace</i>
4:30 - 5:45 PM	Madison Elle C. Tongco <i>Mary Vodopia SURF Fellow</i>	Polymer synthesis in <i>Comamonas testosteroni</i> KF-1 under nitrogen depletion	Ludmilla Aristilde <i>Associate Professor of Civil and Environmental Engineering, Northwestern University</i> Xinyu Chen <i>Graduate Student in Civil and Environmental Engineering, Northwestern University</i> Jared R. Leadbetter <i>Professor of Environmental Microbiology</i>
4:30 - 5:45 PM	Samuel W. Xie <i>Dale and Suzanne Burger SURF Fellow</i>	Uncovering prospective planning and subgoal representation in human neurons	John P. O'Doherty <i>Fletcher Jones Professor of Decision Neuroscience</i> Cooper Grossman <i>Postdoctoral Scholar Research Associate in Neuroscience</i>

4:30 - 5:45 PM

Zhehao Zhang
John Stauffer SURF Fellow

Towards building a "toolbox"
for the synthesis of
bicyclo[3.2.1]octanes

Sarah E. Reisman
Bren Professor of Chemistry
Kala Youngblood
Graduate Student in Chemistry