

Mechanical Engineering

Session **K**

Room: 133 Guggenheim

1:00 - 1:20 PM	Krishna Kamalakannan <i>Samuel N. Vodopia and Carol J. Hasson SURF Fellow</i>	Numerical simulations and data generation for learning closure models	Kaushik Bhattacharya <i>Howell N. Tyson, Sr., Professor of Mechanics and Materials Science</i> Lianghao Cao <i>Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences</i> Harkirat Singh <i>Postdoctoral Scholar Research Associate in Mechanical and Civil Engineering</i>
1:20 - 1:40 PM	Kyle Y. Chen <i>Taylor Lawrence SURF Research Fellow</i>	Numerical analysis of low-Mach time-integration schemes for 3D variable density flows	Guillaume Blanquart <i>Professor of Mechanical Engineering</i> Aaron Nelson <i>Graduate Student in Mechanical Engineering</i>
1:40 - 2:00 PM	Lindsay N. Taylor <i>Lynn A. Booth and Kent Kresa SURF Fellow</i>	Extending frequency-based spatiotemporal reduction techniques to periodic systems	Tim E. Colonius <i>Frank and Ora Lee Marble Professor of Mechanical Engineering and Medical Engineering</i> Caroline Cardinale <i>Graduate Student in Mechanical Engineering</i>
2:00 - 2:20 PM	Weihan Zhang <i>Frank W. Wood SURF Fellow</i>	Inverse scattering solution for kidney stone detection	Tim E. Colonius <i>Frank and Ora Lee Marble Professor of Mechanical Engineering and Medical Engineering</i> Chris Zhang <i>Graduate Student in Mechanical Engineering</i>
2:20 - 2:40 PM	Logan A. Smith-Perkins <i>Carol Carmichael SURF Fellow</i>	Improving the modeling of cement carbonation and carbon uptake	Melany L. Hunt <i>Dotty and Dick Hayman Professor of Mechanical Engineering</i> Ricardo A. Hernandez <i>Graduate Student in Mechanical Engineering</i>

2:40 - 3:00 PM	Jacob R. Alderete <i>Caltech-University of Iceland Exchange</i>	Scalable second-life battery management system for stationary energy storage	Runar Unnthorsson <i>Professor of Industrial Engineering, University of Iceland</i>
3:00 - 3:10 PM	BREAK		
3:10 - 3:30 PM	Katelyn S. Waugh <i>Robert J. McEliece and David Rutledge SURF Fellow</i>	Exploring the role of scoured flax fiber concentrations on the printability and structural behavior of 3D-printed <i>Chlorella vulgaris</i> - HEC biocomposites	Chiara Daraio <i>G. Bradford Jones Professor of Mechanical Engineering and Applied Physics; Investigator, Heritage Medical Research Institute</i> Israel Kellersztein <i>Postdoctoral Scholar Research Associate in Mechanical and Civil Engineering</i>
3:30 - 3:50 PM	Kensuke Shimojo <i>Carl F. Braun SURF Fellow</i>	New experimental platform for investigating soliton and wave dynamics in 1D and 2D Polycatenated Architected Materials (PAMs)	Chiara Daraio <i>G. Bradford Jones Professor of Mechanical Engineering and Applied Physics; Investigator, Heritage Medical Research Institute</i> Xiaoxiao Xiong <i>Graduate Student in Physics</i>
3:50 - 4:10 PM	Kyrillos A. Bastawros <i>Nellie Bergen and Adrian Foster Tillotson SURF Fellow</i>	Computational and experimental study of irregular architected metamaterials	Chiara Daraio <i>G. Bradford Jones Professor of Mechanical Engineering and Applied Physics; Investigator, Heritage Medical Research Institute</i> Chelsea Fox <i>Graduate Student in Mechanical Engineering</i>
4:10 - 4:30 PM	Ana S. Jaramillo <i>Carol Casey SURF Fellow</i>	Sensor-integrated head design for robust perception in humanoid robots	Aaron D. Ames <i>Bren Professor of Mechanical and Civil Engineering, Control and Dynamical Systems, and Aerospace</i> Sergio A. Esteban <i>Graduate Student in Mechanical Engineering</i> Adrian Boedtke Ghansah <i>Graduate Student in Control and Dynamical Systems</i>