

Mechanical Engineering

Session **L**

Room: 104 Watson

10:30 - 10:50 AM	Marissa Till	Multi-objective optimization for synthetic aviation turbine fuels	Steven Brunton <i>Professor of Mechanical Engineering, University of Washington</i> Ana Larrañaga <i>Acting Assistant Professor of Mechanical Engineering, University of Washington</i> Patricia Garcia Caspueñas <i>Graduate Student in Mechanical Engineering, University of Washington</i> John O. Dabiri <i>Centennial Professor of Aeronautics and Mechanical Engineering</i>
10:50 - 11:10 AM	Atharv Prabhutendolkar	Sparse identification of nonlinear dynamics via Large Language Models (SINDy-LLM)	Steven Brunton <i>Professor of Mechanical Engineering, University of Washington</i> Nick R. Hutzler <i>Professor of Physics</i>
11:10 - 11:30 AM	Yixuan Lin	Python port and evaluation of immersed boundary projection method	Steven Brunton <i>Professor of Mechanical Engineering, University of Washington</i> Ana Larrañaga <i>Acting Assistant Professor of Mechanical Engineering, University of Washington</i> Patricia Garcia Caspueñas <i>Graduate Student in Mechanical Engineering, University of Washington</i> Soon-Jo Chung <i>Bren Professor of Control and Dynamical Systems; Senior Research Scientist, JPL</i>

11:30 - 11:50 AM	Eloise Zeng	AutoMF: Automated ensembles for multifidelity field prediction	Faez Ahmed <i>Associate Professor of Mechanical Engineering, Massachusetts Institute of Technology</i> Nicholas Sung <i>Graduate Student in Generative AI, Massachusetts Institute of Technology</i> Tony Yue Yu <i>Professor of Mathematics</i>
11:50 AM - 1:00 PM	LUNCH		
1:00 - 1:20 PM	Riley E. Foard <i>Toni and Bob Perpall SURF Fellow</i>	Manipulating the domain of Rayleigh-Taylor turbulence: Confined vs. self-similar RT regimes	Guillaume Blanquart <i>Professor of Mechanical Engineering</i>
1:20 - 1:40 PM	Max R. Ismagilov <i>Howell N. Tyson, Sr., SURF Fellow</i>	Impact of turbulent inflow treatment on detonation-turbulence interaction	Guillaume Blanquart <i>Professor of Mechanical Engineering</i> Benjamin R. Breer <i>Graduate Student in Mechanical Engineering</i>
1:40 - 2:00 PM	Brendan J. Rudberg <i>Caltech-University of Iceland Exchange</i>	Physics-based versus learned state-space models for building envelope thermal dynamics under passive excitation	Ólafur P. Pálsson <i>Professor of Mechanical Engineering, University of Iceland</i> Dependra Gautam <i>Researcher in Mechanical Engineering, University of Iceland</i>
2:00 - 2:20 PM	Evan W. Dickson	Designing rigid-soft hinges for microscale Kresling origami metamaterials for future application in micro robotics	Glaucio Paulino <i>Professor of Engineering, Princeton University</i> Chiara Daraio <i>G. Bradford Jones Professor of Mechanical Engineering and Applied Physics; Investigator, Heritage Medical Research Institute</i>
2:20 - 2:30 PM	BREAK		
2:30 - 2:50 PM	Jilly A. Choi <i>Lynn A. Booth and Kent Kresa SURF Fellow</i>	Dexterous five-fingered tendon-driven anthropomorphic robotic hand platform implementing a field-oriented control actuation architecture	Aaron D. Ames <i>Bren Professor of Mechanical and Civil Engineering, Control and Dynamical Systems, and Aerospace</i>
2:50 - 3:10 PM	Yiling Hou <i>DaRin Butz SURF Fellow</i>	Improving object permanence under occlusion in latent video prediction for robot manipulation	Aaron D. Ames <i>Bren Professor of Mechanical and Civil Engineering, Control and Dynamical Systems, and Aerospace</i>

3:10 - 3:30 PM

Rajat V. Bidarkota

Integrated CFD analysis and control design for jet interaction in interceptors

Karen M. Siegrist
*Principal Professional Staff,
Johns Hopkins University
Applied Physics Laboratory*
John O'Neil
*Principal Professional Staff,
Johns Hopkins University
Applied Physics Laboratory*
Walter Maier
*Computational Physicist, Johns
Hopkins University Applied
Physics Laboratory*
Nicholas Fezie
*Senior Research Staff, Johns
Hopkins University Applied
Physics Laboratory*
Joanna M. Austin
Professor of Aerospace

3:30 - 3:50 PM

Delta M. Blendea

Visual anemometry in urban environments using Ned Kahn's *Shimmer Wall* kinetic sculpture

Nathaniel Wei
*Assistant Professor of
Mechanical Engineering and
Applied Mechanics, University
of Pennsylvania*
Gil Refael
*Taylor W. Lawrence Professor
of Theoretical Physics*