



**2024 Graduate Student/Postdoctoral Fellow Research Symposium on
Environmental and Applied Fluid Dynamics,**

**Wednesday, May 29th, 2024, Zupnik Forum, Rm 1101, A. James Clark Hall,
University of Maryland, College Park, Maryland 20742,**

Hosted by the Burgers Program for Fluid Dynamics

8:45 am - 9:15 am	CONTINENTAL BREAKFAST
9:15 am – 9:20 am	WELCOME – James H. Duncan, Director of the Burgers Program for Fluid Dynamics, Dept. of Mechanical Engineering, University of Maryland.
9:20 am – 10:05 am	Keynote Lecture: Prof. Gretar Tryggvason, The Johns Hopkins University “Numerical Simulations of Complex Multiphase Flow”
TECHNICAL SESSION I - Session Chair: Antonios Gementzopoulos (University of Maryland)	
10:10 am – 10:30 am	Hanxun Yao (JHU Advisors: Charles Meneveau & Tamer Zaki) “ <i>Analysis of forward and inverse energy cascade in isotropic turbulence.</i> ”
10:30 am – 10:50 am	Andre Calado (GWU Advisor: E. Balaras) “ <i>Data driven analysis of bubble fragmentation in turbulent flows.</i> ”
10:50 am – 11:10 am	Coffee Break
TECHNICAL SESSION II - Session Chair: Sophia Relph (University of Maryland)	
11:10 am – 11:30 am	Faraz Burni (UMD Advisor: S. R. Raghavan) “ <i>Self-degrading gels: Solids that transform into liquids after a set time.</i> ”
11:30 am – 11:50 am	Yuhui Lu (Advisor: Joseph Katz) “ <i>Flow-deformation interaction and role of critical layer in a turbulent boundary layer over a compliant surface.</i> ”
11:50 am – 12:10 pm	Caroline Wild (GWU Advisor: M. Plesniak) “ <i>Guardians Against Atherosclerosis?: Deciphering the Role of a Vortex in Carotid Artery Health.</i> ”
12:10 pm – 12:30 pm	Hussain Ibdah (UMD Advisor: E. Tadmor & A. Mellet) “ <i>Non-local perturbation of Burgers equation.</i> ”
12:30 pm – 1:40 pm	LUNCH BREAK
TECHNICAL SESSION III - Session Chair: TBD (University of Maryland)	
1:40 pm – 2:00 pm	Pierluigi Morra (JHU Advisor: Tamer Zaki) “ <i>ML for fast assimilation of wall-pressure measurements from hypersonic flow over a cone.</i> ”
2:00 pm – 2:20 pm	Mehmet Yapar (GWU Advisor: K. Sarkar) “ <i>Dosage Dependent Subharmonic Response and Ambient Pressure Sensitivity of Sonazoid Microbubbles for Subharmonic Aided Pressure Estimation.</i> ”
2:20 pm – 2:40 pm	Vedant Kumar (UMD Advisor: J. Larsson) “ <i>Three-dimensional effects in turbulent shear flows.</i> ”
2:40 pm – 3:00 pm	Jacob Turner (JHU Advisor: Rajat Mittal) “ <i>Sinusoidally Pitching Wings in the Transonic Regime: Insights into Flutter from Time Accurate Simulations.</i> ”
3:00 pm – 3:20 pm	Mark Yamakaitis (GWU Advisor: P. Bardet) “ <i>3D+t velocimetry in FSI with Plenoptic 3.0.</i> ”
3:20 pm – 3:30 pm	AFTERNOON BREAK
TECHNICAL SESSION IV - Session Chair: TBD (University of Maryland)	
3:30 pm – 3:50 pm	Hayley Beltz (UMD Advisor: T. Komacek) “ <i>Atmospheric Modeling of the hottest Exoplanets in 3D.</i> ”
3:50 pm – 4:10 pm	Lei Zeng (JHU Advisor: Gretar Tryggvason) “ <i>Numerical simulations of three-phase flows: The capture of hydrophobic solid particles by bubbles.</i> ”
4:10 pm – 4:30 pm	Yannis Kaminaris (GWU Advisor: E. Balaras) “ <i>Super-structures in rough-wall turbulent boundary layers.</i> ”
4:30 pm – 4:50 pm	Ethan Dudley (UMD Advisor: K. Trivisa) “ <i>K41 Theory on Bounded Domains.</i> ”
4:50 pm – 6:00 pm	CLOSING RECEPTION

(Faculty Advisors indicated in parentheses)