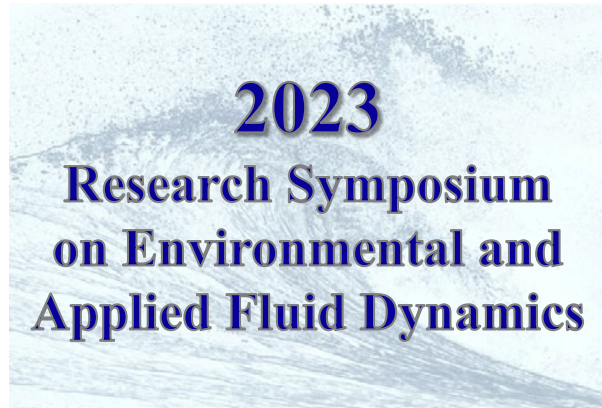




Center for Environmental & Applied Fluid Mechanics

School of Engineering & Applied Science

THE GEORGE WASHINGTON UNIVERSITY



Tuesday, May 30, 2023

8:30 a.m. to 6:00 p.m.

Hackerman Hall B-17

Homewood Campus

Johns Hopkins University

You are cordially invited to this one-day event. Graduate students and post-doctoral fellows will be presenting ongoing research in fluid mechanics with The Johns Hopkins University, The University of Maryland, & The George Washington University.

<https://engineering.jhu.edu/ceafm/>

Center for Environmental & Applied Fluid Mechanics
Barbara Adamson
Johns Hopkins University
3400 N. Charles St. 122 Latrobe Hall
Baltimore, MD 21218

Driving Directions:

From (northbound) I-95: Take exit 53 onto I-395 north toward downtown Baltimore, then take the exit to Martin Luther King Jr. Follow Martin Luther King Boulevard north until it ends at Howard Street (remain in one of the middle lanes of King Boulevard to avoid a premature forced right or left turn). Turn left at Howard Street and proceed about 2 miles. One block past 29th Street, turn left at the traffic island (just before the Baltimore Museum of Art) onto Wyman Park Drive. Take the 3rd Right to enter the visitors parking garage.

Campus Maps and Events:



**2023 Research Symposium on
Environmental and Applied Fluid Dynamics**
May 30, 2023 • Homewood Campus
Symposium Program



8:45am - 9:30am	BREAKFAST – Outside Hackerman Hall B-17
9:30am - 9:35am	WELCOME – Professor Tamer Zaki Johns Hopkins University – Hackerman Hall B-17
9:05am - 9:50am	Keynote Lecture: Prof. Megan Leftwich The George Washington University - Mechanical and Aerospace Engineering Presents: “Locomotion and transitions of a sea lion inspired amphibious system: Biologic to Robotic.”
TECHNICAL SESSION I - Session Chair: Diego Muriel Delgado	
10:10am - 10:30am	Chang Liu (UMD Adviser: Prof. James H. Duncan) <i>“The Effect of Surfactants on Droplet Generation in a Plunging Breaker.”</i>
10:30am - 10:50am	Ayush Saraswat (JHU Adviser: Prof. Joseph Katz) <i>“Reynolds stresses in tip leakage flows of axial compressors.”</i>
10:50am - 11:10am	COFFEE BREAK – Outside Hackerman Hall B-17
TECHNICAL SESSION II - Session Chair: Hanxun Yao	
11:10am - 11:30am	Anik Tarafder (GWU Adviser: Prof. Kausik Sarkar) <i>“Numerical simulation of a rigid body interacting with a viscoelastic soft material in a viscous fluid.”</i>
11:30am - 11:50pm	Mostafa Aghaeijouybari (JHU Advisers: Profs. Rajat Mittal & Charles Meneveau) <i>“Generalized Darcy-Forchheimer law for porous media flows including inertial redirection effects.”</i>
11:50pm - 12:10pm	Mohamed Mohsen Ahmed (UMD Adviser: Prof. Arnaud Trouve) <i>“Simulations of Wildland Fire Spread in Idealized Fuel Beds at Flame Scale.”</i>
12:10pm - 12:30pm	Eirini Florou (GWU Adviser: Prof. Philippe Bardet) <i>“Turbulence statistics in free surface turbulence.”</i>
12:30pm - 1:40pm	LUNCH BREAK – Outside Hackerman Hall B-17
TECHNICAL SESSION III - Session Chair: TBD	
1:40pm - 2:00pm	Kenta Kurosawa (UMD Adviser: Prof. Jonathan Poterjoy) <i>“Blending Gaussian and Non-Gaussian Data Assimilation for State Estimation with High-Dimensional Geophysical Models.”</i>
2:00pm - 2:20pm	Simon Toedtli (JHU Adviser: Prof. Tamer Zaki) <i>“Spectral analysis of the nonlinear terms in stratified wall turbulence.”</i>
2:20pm - 2:40pm	David Russell (UMD Adviser: Prof. Kayo Ide) <i>“A Data Assimilation System for Lake Erie Based on the Local Ensemble Transform Kalman Filter.”</i>
2:40pm - 3:00pm	Samvit Kumar (JHU Advisers: Profs. Gregory Eyink & Charles Meneveau) <i>“Vorticity cascade and turbulent drag in wall-bounded flows.”</i>
3:00pm - 3:20pm	Sara Yousoufi (GWU Adviser: Prof. Elias Balaras) <i>“Numerical Investigation of Subcooling Effects on Pool Boiling Heat Transfer.”</i>
3:20pm - 3:30pm	AFTERNOON BREAK – Outside Hackerman Hall B-17
TECHNICAL SESSION IV - Session Chair: TBD	
3:30pm - 3:50pm	Pompon Mputu Udipabu (UMD Adviser: Prof. Panagiotis Dimitrakopoulos) <i>“Dynamics of Multiple Capsules in a Square Microchannel.”</i>
3:50pm – 4:10pm	Shiyong Tan (JHU Adviser: Prof. Rui Ni) <i>“Dispersion, collision, and coalescence of bubbles in turbulence.”</i>
4:10pm - 4:30pm	Ibrahim Yildiran (GWU Adviser: Prof. Elias Balaras) <i>“Intracardiac Flow Analysis of the Right Ventricle in Pediatric Patients with Repaired Tetralogy of Fallot.”</i>
4:30pm - 4:50pm	Roozbeh H Azami (GWU Adviser: Prof. Kausik Sarkar) <i>“Time Evolution of Ambient Pressure Sensitivity of Microbubbles Subharmonic Response as a Function of Hydrostatic Pressure and the Filling Gas.”</i>
4:50pm - 6:00pm	CLOSING RECEPTION – Outside Hackerman Hall B-17