

School of Engineering & Applied Science

THE GEORGE WASHINGTON UNIVERSITY

2019 Research Symposium on Environmental and Applied Fluid Dynamics May 30, 2019 • Homewood Campus





Symposium Program

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8:30am - 9:00am	BREAKFAST – OUTSIDE GILMAN HALL, ROOM # 50 WELCOME – Professor Rui Ni Johns Hopkins University - GILMAN HALL, ROOM # 50
9:05am - 9:50am	Keynote Lecture: Prof. Kausik Sarkar, George Washington University, Mechanical & Aerospace Engineering Presents: "Bubbles & Sound for Diagnostic Imaging, Therapeutics and Tissue Engineering: Pressure Dependent Subharmonic to Collapsing Jet and Acoustic Streaming."
TECHNICAL SESSION I - Session Chair: Carl Shapiro	
9:50am - 10:10am	Wen Wu (JHU Advisers: Prof. Rajat Mittal & Prof. Charles Meneveau) "Unsteadiness of Pressure-Induced Separating Turbulent Boundary Layer."
10:10am - 10:30am	Ian Carr (GWU Adviser: Prof. Michael Plesniak) "Highly Pulsatile Flow Over a Surface Obstacle."
10:30am - 10:50am	Alex Blumenthal (UMD Advisers: Prof. Dimtry Dolgopyat & Prof. Jacob Bedrossian) "Lagrangian Chaos and Scalar Mixing in Fluid Mechanics."
10:50am - 11:05am	COFFEE BREAK – OUTSIDE GILMAN HALL, ROOM # 50
TECHNICAL SESSION II - Session Chair: Lakshmana Chandrala	
11:05am - 11:25am	Igal Gluzman (JHU Adviser: Prof. Dennice Gayme) "Input-Output Framework for Actuated Boundary Layers."
11:25am - 11:45pm	Akash Dhruv (GWU Adviser: Prof. Elias Balaras) "Gravity Effects on Pool Boiling Heat Transfer."
11:45pm - 12:05pm	Tse-Chun Chen (UMD Adviser: Prof. Eugenia Kalnay) "How to Improve Numerical Weather Forecast by Identifying and Deleting Detrimental Observations?."
12:05pm - 12:25pm	Marco Galvani Cunha (JHU Adviser: Prof. Mark Robbins) "Predicting the Rheology of Fluids at High Rates and Pressures: Changes in Shear Thinning Near the Glass Transition."
12:25pm - 12:45pm	Charles Fort (GWU Adviser: Prof. Philippe Bardet) "Development of Aqueous MTV for Turbulent Flows."
12:45pm - 1:40pm	LUNCH BREAK - GREAT HALL (Located in LEVERING HALL)
TECHNICAL SESSION III - Session Chair: Wen Wu	
1:40pm - 2:00pm	David New (UMD Adviser: Prof. Xin-Zhong Liang) "The Role of Consistent Turbulence Energetics in the Representation of Dry and Shallow Convection."
2:00pm - 2:20pm	Amir Esteghamatian (JHU Adviser: Prof. Tamer Zaki) "Dilute Suspension of Neutrally Buoyant Particles in Viscoelastic Turbulent Channel Flow."
2:20pm - 2:40pm	Abhilash Reddy Malipeddi (GWU Adviser: Prof. Kausik Sarkar) "Shear Induced Hydrodynamic Diffusion in a Suspension of Deformable Particles using Dynamic Structure Factor."
2:40pm - 3:00pm	Yanbin Wang (UMD Adviser: Prof. Siddhartha Das) "Water Flows in 2D Materials."
3:00pm - 3:15pm	AFTERNOON BREAK - OUTSIDE GILMAN HALL, ROOM # 50
TECHNICAL SESSION IV - Session Chair: Taehoon Kim	
3:15pm - 3:35pm	Xinzhi Xue (JHU Adviser: Prof. Joseph Katz) "Formation of Compound Droplets During Fragmentation of Turbulent Buoyant Oil Jet in Water."
3:35pm - 3:55pm	Olivier Mesnard (GWU Adviser: Prof. Lorena Barba) "Reproducible Workflow on the Cloud for CFD."
3:55pm - 4:15pm	Sriram Hariharan (UMD Adviser: Prof. Michael Gollner) "Fire Whirls and Blue Whirls: Emissions Reduction and Vortex Breakdown."
4:15pm - 4:35pm	Ashwanth Salibindla (JHU Adviser: Prof. Rui Ni) "Bubble Rising Velocity in Strong Turbulence."
4:35pm - 4:55pm	Gino Perotta (GWU Adviser: Prof. Megan Leftwich) "Hydrodynamic Significance of Sea Lion Skin Texture."
4:55pm - 5:15pm	Aditya Sangli (UMD Adviser: Prof. David Bigio) "Droplet Deformation in Extensional Flow."
5:15pm - 6:30pm	CLOSING RECEPTION – GILMAN HALL ATRIUM

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

Driving Directions: From (northbound) I-95: Take exit 53 onto I-395

Campus Maps and Events:





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Johns Hopkins University

School of Engineering & Applied Science

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2019 **Research Symposium** on Environmental and **Applied Fluid Dynamics**

> **Thursday, May 30, 2019** 8:30 a.m. to 6:30 p.m. Gilman Hall #50 Homewood Campus **Johns Hopkins University**

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

http://pages.jh.edu/~ceafm/symposium/