Start	End	Tuesday, August 6th, 2024	
8:00am	8:30am	Registration and Breakfast: Offered in AERO 120	
8:30am	8:45am	Welcome	
		Room A: AERO 111	Room B: AERO 114
8:45am	10:30am	**Session 1A: Biological Flows (Room A)** **Chair: Aaron True (University of Colorado Boulder)**	**Session 1B: Geophysical Flows (Room B)** **Chair: Nils Tilton (Colorado School of Mines)**
8:45am	9:00am	**1A.1 Nick Rovito:** An In Silico Model of Flow-Mediated Fibrinolysis in Acute Ischemic Stroke	**1B.1 Brianna Undzis:** *Open Water Sediment Dynamics on the Alaskan Beaufort Sea Shelf: A Numerical Modeling Study*
9:00am	9:15am	**1A.2 Josh Gregory:** *Recreating in vivo unsteady blood clot flow dynamics via an imaging-informed in silico model*	**1B.2 Tina Geller:** *Currents in Arctic Alaskan lagoons: a numerical modeling study*
9:15am	9:30am	**1A.3 David Montgomery:** *Modeling shear-dependent platelet aggregation under flow*	**1B.3 Kari Perry:** *Melt dynamics of ice cylinders in a cross-flow*
9:30am	9:45am	**1A.4 Brysen Mitchell:** Vortex Ring Formation through Flexible Bio-Inspired Nozzles	**1B.4 Troy Johnson:** *Approximation of rogue waves using Malmquist-Takenaka functions*
9:45am	10:00am	**1A.5 Laura Sunberg:** *Impact of Transport on Microplastics' Exposure to Biofouling-Favorable Conditions*	**1B.5 Sara Tro:** *Asymptotic approximations for convection onset with Ekman pumping*
10:00am	10:15am	**1A.6 Arkava Ganguly:** *Unified mobility expressions for externally driven and self-phoretic propulsion of particles*	**1B.6 Joseph Pugh:** *Characteristics of Curvilinear Flows Over Tilting Weirs*
10:15am	10:30am	**1A.7 Elle Stark:** *Structures in smells: Coupling fluid dynamic cues to odor signals in olfactory landscapes*	**1B.7 Peter Bevington:** *Large Eddy Simulation of Turbulent Fire Spread in a Douglas Fir Fuel Array*
10:30am	10:45am	Morning Break: Coffee & Food in AERO 120	
10:45am	12:30pm	**Session 2A: Computational Methods & Modeling (Room A)** **Chair: Marc Day (National Renewable Energy Laboratory)**	**Session 2B: Wind Energy & Aerodynamic Flows (Room B)** **Chair: Sarah Morris (Montana State University)**
10:45am	11:00am	**2A.1 Abuajaila Kowas:** *Lattice Boltzmann Method with Nonuniform Grids Based on Orthogonal Coordinate Transformation for Axisymmetric Flow Simulations*	**2B.1 Alexandre Cortiella:** *Generative AI for wind-wave inflows*
11:00am	11:15am	**2A.2 William Schupbach:** *Central Moment Lattice Boltzmann Method for Efficient Simulations of Thermal Convective Flows using Orthogonal Curvilinear Coordinates*	**2B.2 Omar Sallam:** *On the Architecture and Performance of a Variational Autoencoder (VAE) for high-fidelity compression of Offshore Wind-Wave Inflows*
11:15am	11:30am	**2A.3 Kimmo Koponen:** *A second-order, direct forcing, immersed boundary method for conjugate heat transport*	**2B.3 Jaylon McGhee:** *Influence of Wake Turbulence and Atmospheric Stability on the Fatigue Loads of Large-Scale Wind Turbines*
11:30am	11:45am	**2A.4 Julia Ream:** *Computational Fluid Dynamics for Microenvironment Development in Bioreactors*	**2B.4 Cameron Baird:** *Machine Learning for Aeroacoustics of Generalized Wind Turbine Technologies*
11:45am	12:00pm	**2A.5 Daniel Abdulah:** *Adaptive computing: macroscale surrogate modeling with on-the-fly training from microscale simulations*	**2B.5 David Nelson:** *Interaction of Spatially Evolving Vortex Pairs with Perturbed Walls*
12:00pm	12:15pm	**2A.6 Ryker Fish:** *A fast GPU library for fluctuating particle suspensions*	**2B.6 Yunxing Su:** *Bioinspired flapping foils for renewable energy harvesting and underwater propulsion*
12:15pm	12:30pm	**2A.7 Federico Municchi:** *A Multiphase Particle-In-Cell method for simulating particle dispersion in fluidized beds*	**2B.7 Adam Harris:** *3D Printable Phononic Subsurfaces for Passive Tollmien-Schlichting Wave Attenuation*
12:30pm	1:15pm	Lunch: Offered in AERO 120	
1:15pm	2:30pm	**Keynote Presentation (AERO 120): "Modeling and Simulation of Tsunamis", Dr. Marsha Berger, Flatiron Institute** **Professor Emeritus, New York University Courant Institute** **Host: Brennan Sprinkle**	
2:30pm	2:45pm	Afternoon Break: Coffee & Food in AERO 120	
2:45pm	4:30pm	**Session 3A: High Speed, Reacting, & Nonequillibrium Flows (Room A)** **Chair: Ciprian Dumitrache (Colorado State University)**	**Session 3B: Microfluidiucs & Multiphase Flows (Room B)** **Chair: Colin Towery (University of Colorado Boulder)**
2:45pm	3:00pm	**3A.1 Kelsea Souders:** *Evaluation of Sub-Grid Energy Characteristics in a Turbulent Reacting Flow*	**3B.1 Derek Goulet:** *The effects of macro- & micro-scale morphology on drag and odor capture around honey bee antennae*
3:00pm	3:15pm	**3A.2 Denis Aslangil:** *Coupled effects of variable density and isothermal background stratification on compressible Rayleigh-Taylor instability*	**3B.2 Ritu Raj:** *Exploring the chemical and mechanical modes of swimming of a bent rod actuator*
3:15pm	3:30pm	**3A.3 Ahmet Kula:** *Compressible Flow Over a Heated Cylinder with High Surface Temperatures*	**3B.3 Amogh Meshram:** *Modeling DRI Pellet Reduction on Laboratory Scale and Pilot Scale using Multiphysics Modeling*
3:30pm	3:45pm	**3A.4 Elijah House:** *Numerical Modeling of Plasma-Assisted Shock Control in Supersonic Flow*	**3B.4 Bashir Elbousefi:** *Numerical Study of Thermocapillary Flows in Self-Rewetting Drop Impingement over Nonuniformly Heated Fluid Layers and in Enclosed Cavities Using the Lattice Boltzmann Method*
3:45pm	4:00pm	**3A.5 Connor Morency:** *Modeling Thermochemical Nonequilibrium with the Continuous-Galerkin Finite Element Flow Solver PHASTA*	**3B.5 Ward Cereck:** *Simulations of Passive Bubble Separations Analogous to Capillary Nucleate Boiling in Microgravity*
4:00pm	4:15pm	**3A.6 Katie Plese:** *Integration of a High Enthalpy Source in the CSU Indraft Wind Tunnel*	**3B.6 Souradeep Roychowdhury:** *An experimental and numerical investigation of collisions of wet particles*
4:15pm	4:30pm	**3A.7 Mozhdeh Hooshyar:** *Femtosecond Laser-Induced Continuous Optical Discharge in Air: A Numerical Investigation*	**3B.7 Rajarshi Chattopadhyay:** *Dynamics of deformable droplets in a straight rectangular channel: An experimental and numerical study*
4:30pm	4:45pm	Concluding Remarks: AERO 120	