| Start | End | Monday, July 29, 2019 | |
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| 8:00am | 8:30am | Registration and Breakfast | |
| 8:30am | 8:45am | Welcome | |
| 8:45am | 10:15am | Session 1A: Wings (Room A); Chair: John Farnsworth | Session 1B: Model Development (Room B); Chair: Brad Smith |
| 8:45am | 9:00am | 1A.1 Pointer: *Fine-Wire Sensor Calibration System for Low Velocity Flows at Stratospheric Conditions* | 1B.1 Glusman: *Initial Verification of a Reduced Combustion Model of Douglas Fir* |
| 9:00am | 9:15am | 1A.2 Gloutak: *Influence of Surging Flow Frequency on Lift Coefficient for Finite Wings* | 1B.2 Collado: *Fast Agglomeration with Permeable Drops* |
| 9:15am | 9:30am | 1A.3 Ringenberg: *Sparse Identification of Non-linear Dynamics for an Unsteady Pitching Wing Section* | 1B.3 Sharifi: *Mechanics and Efficiency of Zebrafish 30HPF Heart* |
| 9:30am | 9:45am | 1A.4 Costantino: *Influence of Aspect Ratio on Lift Coefficient for Finite Wings in Surging Flow* | 1B.4 Kern: *Towards a Reduced Biogeochemical Flux Model for Large Eddy Simulations of the Upper Ocean* |
| 9:45am | 10:00am | 1A.5 Quick: *Capturing a Blade Tip Vortex* | 1B.5 Yearout: *Membrane Distillation Experiments with 3D Printed Spacers* |
| 10:00am | 10:15am | 1A.6 Balin: *Scale Resolving Simulations of Separated Flow over a Bump* | |
| 10:15am | 10:30am | Morning Break | |
| 10:30am | 11:45am | Session 2A: Combustion (Room A); Chair: Bret Windom | Session 2B: Making CFD Work (Room B); Chair: Colin Towery |
| 10:30am | 10:45am | 2A.1 Yun: *Updating High Temperature Methane Absorption Models Using Dual Comb Spectroscopy Data* | 2B.1 Patterson: *Inflow Boundary Conditions for Scale Resolving Simulations* |
| 10:45am | 11:00am | 2A.2 Schulthess: *Transient, High Pressure Oil-gas Dilution Study* | 2B.2 Meehan: *Synthetic Turbulence Generation Method to Simulate Turbulence Generating Plates* |
| 11:00am | 11:15am | 2A.3 Whitman: *Simulation of Bluff-Body-Stabilized Flames Using PeleC, a Combustion Code for Exascale Computing* | 2B.3 Valles Castro: *Computational Fluid Dynamics of a Heavy Hydrocarbon Direct Injected Unmanned Aerial Vehicle* |
| 11:15am | 11:30am | 2A.4 Lucas: *Combustion and Droplet Behavior of JP-8 Surrogates in a Two-Phase Reacting Flow* | 2B.4 Ream: *Numerical Simulations of the Supercritical Carbon Dioxide Round Turbulent Jet* |
| 11:30am | 11:45am | 2A.5 Meyer: *Azeotrope Formation During the Evaporation Process of Fuel Blends* | 2B.5 Karam: *Efficient Multi-Stage Time Integrators For Incompressible Flow Using Pressure Projection Methods* |
| 11:45pm | 1:00pm | Lunch | |
| 1:00pm | 2:00pm | Keynote: "The Role of Fluid Mechanic Instability in Gas Turbine Combustor Operability", Prof. Jacqueline O'Connor, Penn State | |
| 2:00pm | 2:15pm | Afternoon Break I | |
| 2:15pm | 3:30pm | Session 3A: Machine Learning (Room A); Chair: Ryan King | Session 3B: Engineering Applications (Room B); Chair: Ryan Darragh |
| 2:15pm | 2:30pm | 3A.1 Doronina: *On Approximate Bayesian Computation Approach for Turbulence Model Development* | 3B.1 Lapointe: *Efficient Simulation of Complex Fire Phenomena* |
| 2:30pm | 2:45pm | 3A.2 Michelen-Strofer: *New Fluid Flow Data Assimilation Formulations Using Perceptual Loss Networks* | 3B.2 Allen: *Accounting for Complex Terrain to Optimize Wind Farm Layouts Using WindSE* |
| 2:45pm | 3:00pm | 3A.3 Glaws: *Deep Learning for In-Situ Data Compression of Large CFD Simulations* | 3B.3 Appleby: *Rheological Analysis of Conditioned Soil Material for Soft Ground Tunneling* |
| 3:00pm | 3:15pm | 3A.4 Stengel: *Physics-Informed Super-Resolution of Climatological Wind Data* | 3B.4 Towery: *Detonation Initiation by Compressible Turbulence Thermodynamic Fluctuations* |
| 3:15pm | 3:30pm | 3A.5 Sorrells: *A Microfluidic Model of Bleeding to Probe the Fluid Mechanics and Biochemistry of Bleeding Disorders* | 3B.5 Mattson: *Fluid Dynamic Forces Affect the Spatial Distribution of Cellular Injury During the Progression of Ventilator-Induced Lung Injury* |
| 3:30pm | 3:45pm | Afternoon Break II | |
| 3:45pm | 5:00pm | Session 4A: Heat Transport (Room A); Chair: Nils Tilton | Session 4B: Advanced Fluids (Room B); Chair: Michael Calvisi |
| 3:45pm | 4:00pm | 4A.1 Dudley: *Numerical Study of Membrane Heating in a Vacuum Membrane Distillation System* | 4B.1 Coughenour: *Modes of Droplet Breakup in Confined Shearing Flow* |
| 4:00pm | 4:15pm | 4A.2 Isaacs: *Development and Application of a Thin Flat Heat Pipe Design Optimization Tool for Small Satellite Systems* | 4B.2 Darragh: *Particle Pair Dispersion in a High-Speed Premixed Flame* |
| 4:15pm | 4:30pm | 4A.3 Yahia: *Simulation of High Rayleigh Number Natural Convection Flows using a Central Moment Lattice Boltzmann Method on a Rectangular Grid* | 4B.3 Simons-Wellin: *An Efficient Proper Orthogonal Decomposition Algorithm for Adaptively Refined Meshes* |
| 4:30pm | 4:45pm | 4A.4 Johnston: *Direct Numerical Simulation of Unsteady Mixing in Direct Contact Membrane Distillation Systems with Membrane Spacers* | 4B.4 Wallbank: *Fluid Mechanical Forces in a Sepsis Mediated Model of Ventilator-Induced Lung Injury* |
| 4:45am | 5:00pm | 4A.5 Shin: *Simulation of Low-Temperature Helium Flow in a Heated Microchannel* | 4B.5 Mannan: *Modeling the Synchronization of Flagella on the Exterior of a Sphere* |
| 6:00pm | 8:00pm | Dinner at Backcountry Pizza | |