



The 35th Midwestern Universities Fluid Mechanics Retreat
 MUFMECH '08
 April 3-5, 2008
 Geneva Center, Rochester, Indiana
PROGRAM

-----April 4, 2008-----

7:30–8:10 Breakfast

Session I (Friday Morning)

Chair: D. Michalek, KOTGOF: T. Corke

Time	Speaker	School	Title
8:10	W. Schultz	UM	Opening Remarks, "The Frog Meeting Rules"
8:20	P. Mokhasi	IIT	Sequential Approximation of Velocity Fields using Episodic POD
8:40	J. Hernandez J. Allen	MTU	Energy Dissipation Mechanisms in Bislug Flow
9:00	X. Chen E. Fried	WUSL	Strained Spiral Vortex Model for the Navier-Stokes-A and Navier-Stokes-A β Equations
9:20	D. Stephens S. Morris	ND	Interaction between a Rotor and a Turbulent Boundary Layer
9:40	A. Benard	MSU	Application of Topology Optimization to the Design of Porous Media with Flow

10:00–10:20 Coffee Break

Session II (Friday Morning)

Chair: J. Foss, KOTGOF: A. Povitsky

Time	Speaker	School	Title
10:20	D. Qi	WMU	Dynamics of Multi Flexible Fibers
10:40	S. Pouya M. Koochesfahani R. D. Liu	MSU	Effect of Detector Integration Time on the Experimental Determination of Brownian Diffusion Coefficient
11:00	J. Chen	PU	Experiment on wall-bound gravity current and implication in oceanic overflow
11:20	O. Shklyaev Amy Q. Shen E. Fried	WUSL	Evolution Equation of a Disclination Line Located on a Nematic—Isotropic Phase Interface
11:40	A.F. Shinn S.P. Vanka M. Mani A. Dorgan T. Michal	UIUC	Application of BCFD Unstructured Grid Solver to Simulation of Micro-Ramp Control of Shock/Boundary Layer Interactions
12:00	S. Sarpotdar	IIT	Cavity Tone Suppression using Rod in Cross Flow—A Parametric Study

12:20–1:30 Lunch

Session III (Friday Afternoon)

Chair: A. Naguib, KOTGOF: D. Williams

Time	Speaker	School	Title
1:30	J. Stephens T. Corke	ND	Turbine Blade Tip Clearance Flow Control
1:50	H. Gopalan A. Povitsky	Akron	Modeling of Flapping Airfoils for Micro Air Vehicle (MAV) using High-Order Schemes
2:10	P. Anusonti-Inthra	WMU	Progress on the Development and Validations of Fully Coupled CFD and Particle Transport Method for Rotorcraft Wake Capturing
2:30	Y.Q. Peng W.W. Liou P. Parker	WMU	Analytical Modeling of the Flow in Capillaries with Non-Uniform Cross Section
2:50	M. Bennington Scott Morris	ND	Active and Passive Control of Compressor Stall

3:10–5:30 R&R, Group Photograph, Ping pong Open

5:30–6:30 Dinner

Session IV (Friday Evening)

Chair: J. Allen, KOTGOF: C. Wark

Time	Speaker	School	Title
6:30	R. Ranjan C. Pantano	UIUC	Turbulent Flow Simulation in Reactor like Passages
6:50	D. Akcabay W. Schultz D. Dowling	UM	Physics-Based Clothes Washing Simulations
7:10	Q. Yang M. Wang	ND	Computational Study of Roughness Noise in a Boundary Layer
7:30	R. Stacy J. Allen	MTU	Automated Contact Angle Measurements Using the Laplace-Young Equation
7:50	A. Naguib	MSU	Low-Order Estimation and Modeling for Feedback Control of Transient Growth in Boundary Layers

8:10–11:00 Evening Social Gathering at Butler Lodge

----- **April 5, 2008** -----

7:30–8:30 Breakfast

Session V (Saturday Morning)

Chair: S. Morris, KOTGOF: P. Merati

Time	Speaker	School	Title
8:30	B. Monnier	IIT	Study of Flow Regimes in an Urban-Type Boundary Layer Using 3D PIV
8:50	S. Williams	PU	Electrohydrodynamic Flow around Holographically-Induced Optical Landscapes
9:10	D. Williams	IIT	Closed Loop Active Flow Control for Lift Stabilization in an Oscillating Freestream
9:30	N. Chronis T. Chokshi	UM	Microfluidics for Neurobiological Studies in the Nematode <i>C. Elegans</i>
9:50	S. Zhao A. Povitsky	Akron	Boundary Singularity Method for Micro- and Nano- Flows in Partial-Slip and Transition Regimes

10:10–10:30 Coffee Break, Ping-Pong Championship

Session VI (Saturday Morning)

Chair: A. T. Conlisk, KOTGOF: S. Wereley

Time	Speaker	School	Title
10:30	N. Mullenix K. Pathak A. Povitsky D. Gaitonde	Akron	Modeling of Sublimation and Pyrolysis of Thermal Protective Shield (TPS) in Hypersonic Flight
10:50	E. Medici J. Allen	MTU	A Novel Technique to Characterize Porous Media
11:10	S. Makihariju S. Ceccio	UM	Air Layer Drag Reduction
11:30	R. Knaus C. Pantano	UIUC	On the Effect of Heat Release on Turbulence Spectra in Shear Flows
11:50	K. Zhang	MSU	Effect of Cavity Width on the Self-Sustained Oscillation in a Low-Mach-Number Cavity Flow
12:10	N. Chronis	UM	Closing Remarks

12:20–1:30 Lunch