



The Thirty-Ninth MUFMECH 2012 Schedule

Annual Midwestern Universities Fluid Mechanics Retreat

April 19-21, 2012

Geneva Center, Rochester, Indiana

7:45am, Friday April 20, **BREAKFAST**

Session I, 8:25am-10:10am, Friday, April 20

Chair: A. Naguib, KOTGOF: A. Cotel

Talk	Time	Authors	School	Title
0	8:25	S. Wereley	PU	Opening Remarks
1	8:30	J. Riley, S. Shadden	IIT	Comparing attracting Lagrangian coherent structures from ocean models to satellite imagery in the Gulf of Mexico
2	8:50	C. Petty	MSU	Beyond Boussinesq, 1842-1929
3	9:10	K. Pierson, T. Snyder, A. Povitsky	UA	Drag force computation using vorticity confinement.
4	9:30	J. Ho, T. Corke	ND	Experimental Investigation of Wall Suction in a Rotating Disk Boundary Layer
5	9:50	J. Gao, J. Chen	PU	Applications of Digital Holography on Spray Diagnostics and in vivo Measurement in Zebrafish Embryos

10:10-10:30 **COFFEE**

Session II, 10:30am-12:10pm, Friday, April 20

Chair: A. Povitsky, KOTGOF: S. Morris

Talk	Time	Authors	School	Title
1	10:30	E. Green, A. Demond, A. Cotel	UM	Mixing characterization of ethanol-based solutions and water
2	10:50	P. Merati, C.H. Leong	WMU	Fluid Dynamics of Biopsy Preparation Processes in Histology
3	11:10	A. Basu	WS	Optofluidic Tweezers
4	11:30	A. Arzani, S. Shadden	IIT	The flow topology in patient-specific abdominal aortic aneurysms studied by Lagrangian coherent structures
5	11:50	M. Alaweni, A. Naguib	MSU	Simultaneous Flow Visualization and Unsteady-Surface-Pressure Measurements in Normal and Oblique Impinging Jets

12:10-1:30 **LUNCH** Steering Committee Meeting

Session III, 1:30pm-3:10pm, Friday, April 20

Chair: A. Basu, KOTGOF: N. Key

Talk	Time	Authors	School	Title
1	1:30	L. Pittman and S. Morris	ND	Temperature Measurements in the Rim-Seal Cavity of a High-Speed, Low-Pressure Turbine
2	1:50	N. Smith, N. Key	PU	Vane Clocking Effects on Stall Margin in a Multistage Compressor
3	2:10	Zambrano, T. Conlisk	OSU	MD simulations of Electroosmotic Transport of a KCl solution in a sub-10nm channel
4	2:30	S. Makiharju	UM	Time resolved 2D x-ray densitometry for multiphase flows
5	2:50	T.S. Liu, J. Nink, P. Merati	WMU	Deposition of Micron Liquid Droplets on Wall in Impinging Turbulent Air Jet

3:10-5:30 **R and R**

5:30-6:30 **Dinner**

Session IV, 6:30pm-8:10pm, Friday, April 20

Chair: J. Foss, KOTGOF: J. Chen

Talk	Time	Authors	School	Title
1	6:30	A.B. Guada, D. Rempfer	IIT	Computation of Unsteady Aerodynamics of a Rigid Flat Plate for MAV Applications
2	6:50	R. Nehe	MSU	Effect of flow perturbation on mixing in a low Reynolds number shear flow
3	7:10	G. Kamalakshakurup, A. Basu	WS	Particle Concentration in Microfluidic Plugs
4	7:30	J. Cooney, T. Corke, R. Nelson, T. Williams	ND	Increasing Wind Energy Capture through Induction Factor Optimization
5	7:50	R. Thakur, S. Wereley	PU	Software Programmable Microfluidic Platform For General Purpose Lab-on-a-Chip Applications

8:15 **EVENING SOCIAL GATHERING AT BUTLER LODGE**

******Sleep******

7:45am, Saturday, April 21, **BREAKFAST**

Session V, 8:30am-10:10pm, Saturday, April 21

Chair: P. Merati, KOTGOF: T. Conlisk

Talk	Time	Authors	School	Title
1	8:30	E. Eagle, J. Driscoll	UM	Stereo-PIV Database for Three Dimensional Inlet Shockwave Boundary Layer Interactions
2	8:50	Dewei Qi	WMU	Efficiency of a Flexible Flapping Wing
3	9:10	S. Williams	UL	Electrokinetic Microfluidics with Embedded Resistive Heaters
4	9:30	B. Monnier	TBA	Vortex arrangement in the wake of rigid and flexible rapidly pitching airfoils at low Reynolds number
5	9:50	A. Cawood, J. Foss	MSU	$p'(t)$ at the surface of a CD Airfoil

10:10-10:30 **COFFEE**

Session VI, 10:30am-12:10pm, Saturday, April 21

Chair: S. Williams, KOTGOF: D. Rempfer

Talk	Time	Authors	School	Title
1	10:30	S. Wang, A.M. Ardekani	ND	Unsteady swimming of small organisms
2	10:50	B. Patterson, E. Johnsen	UM	Numerical modeling of microbubbles subjected to ultrasound pulses
3	11:10	M. Mikhaylenko, A. Povitsky	UA	Application of Boundary Singularity Method (BSM) to Micro- and Nano- scale Particulate Flows
4	11:30	J. Montefort, N. Pohl, T.S. Liu	WMU	Thin Wing Flutter Control Using Flexible Fins
5	11:50	R.C. Ramachandran, G. Raman	IIT	Localization of noise on a GE 1.5 MW wind turbine at an Invenergy wind farm using a compact microphone array

12:10-12:15 **CLOSING**

12:15 – 1:00 **LUNCH - Pizza!**