



The 44th Midwest Universities Fluid Mechanics Retreat MUFMECH 2017

April 6-8, 2017

Geneva Center, Rochester, Indiana

PROGRAM

----- Friday April 7 -----

8:00 – 8:45 **BREAKFAST**

Session I (Friday Morning)

Chair: W. Schultz KOTGOF: A. Naguib

Talk	Time	Authors	School	Title
0	8:50	A. Naguib	MSU	Opening Remarks
1	9:00	T. Liu	WMU	Probability Density Function of Stretching Rate in Homogeneous Isotropic Turbulence
2	9:20	J-T Kim L.P Chamorro	UIUC	Jellyfish and Flow Interaction via Particle Tracking Velocimetry
3	9:40	J. Foss K. Bade R. Prevost D. Neal S. Morris	MSU	The VSL of S'SSSL
4	10:00	A. Herescu J. Allen	Purdue/ Calumet	Non-Wetting Annular Films: Morphology and The Shock Condition

10:20 - 10:40 **COFFEE**

Session II (Friday Morning)

Chair: J. Foss KOTGOF: D. Williams

Talk	Time	Authors	School	Title
1	10:40	K. Bellur	Michigan Tech	Neutron Imaging Investigation of Wetting and Liquid-Vapor Phase Change in Cryogenic Propellants
2	11:00	X. An	IIT	Modeling Dynamic Lift Response to Leading Edge Actuation
3	11:20	P. Hammer M. Visbal A. Naguib M. Koochesfahani	MSU	Lift on a Low Reynolds Number Steady Airfoil in Shear Flow
4	11:40	S. Williams	Louisville	Isomotive Dielectrophoresis: Dielectric Spectroscopy from Particle Tracking

12:00 - 1:30 **LUNCH** (Steering Committee Meeting)

Session III (Friday Afternoon)

Chair: K. Tajiri KOTGOF: P. Merati

Talk	Time	Authors	School	Title
1	1:30	B. Worthmann	UM	Visualizing Out-of-Band Acoustic Fields
2	1:50	Y. Tang T. Wu D. Qi	WMU	Cuda based simulation of wet press in a paper machine
3	2:10	A. Safaripour A. Ryabtsev S. Pouya M. Dantus M. Koochesfahani	MSU	A Novel Vorticity Measurement Technique Using Laguerre-Gaussian Laser Beams with Orbital Angular Momentum
4	2:30	L. Watson A. Maxson C. Poore J. Zakin	TOSU	Drag Reduction and Rheology of a Mixed Cationic / Zwitterionic Surfactant System Exhibiting Shear/Dilution Precipitation

2:50 - 5:30 **R & R, Group Photograph, Table Tennis, ...**

5:30 - 6:30 **DINNER**

Session IV (Friday Evening)

Chair: S. Pouya KOTGOF: J. Capecelatro

Talk	Time	Authors	School	Title
1	6:30	H. Jabbar A. Naguib	MSU	Computational Study of a Vortex Ring Interacting with a Constant-Temperature Heated Wall
2	6:50	D. Williams	IIT	Active Flow Control of Some Flows with Hysteresis
3	7:10	T. Samper M. Arthur Dr. Corke	ND	Plasma Flow Control in Centrifugal Bend
4	7:30	B. Schultz L. McCarroll	UM	Spit Happens
5	7:50	M. Samiee M. Zayernouri	MSU	A Fractional PDE Approach to Turbulent Dispersion: an Anomalous Transport Theory

8:15 - 11:00 **Evening Social Gathering at Butler Lodge**

----- **Saturday April 8** -----

8:00 - 8:45 **BREAKFAST**

Session V (Saturday Morning)

Chair: C. Petty KOTGOF: S. Williams

Talk	Time	Authors	School	Title
1	8:50	K. Tajiri	Michigan Tech	Convective and Diffusive Mass Transfer in Proton Exchange Membrane Fuel Cell
2	9:10	B. Patterson E. Johnsen	UM	Dynamics of acoustically driven gas-liquid interfaces
3	9:30	J. MacDonald	WMU	Two-Point Spatial Velocity Correlations in the Near-Wall Region of a Reciprocating Internal Combustion Engine
4	9:50	S. Pouya G. Blanchard M. Koochesfahani	MSU	Development of molecular based optical methods for velocimetry and thermometry in the NASA ZBOT experiment
5	10:10	<i>Multiple Contributions</i>		<i>Sound Bite Presentations (Maximum 4 minutes/3 slides)</i>

10:30 - 10:50 **COFFEE**

Session VI (Saturday Morning)

Chair: A. Ardekani KOTGOF: T. Liu

Talk	Time	Authors	School	Title
1	10:50	S. Aramideh	Purdue	Spatial velocity fluctuations in flow through porous media
2	11:10	L. Chamorro N. Tobin	UIUC	On the potential of windbreaks for wind turbine and wind farm power increase
3	11:30	J. Capecelatro	UM	The peculiar behavior of fluidization and its application in engineering
4	11:50	C. Petty	MSU	What's Wrong With the Analogy Between the Cauchy Stress and the Reynolds Stress?

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

12:15 - 1:00pm **LUNCH**