

# 17TH ANNUAL MIWESTERN UNIVERSITIES FLUID MECHANICS RETREAT

1990 APRIL 19, 20, 21

GENEVA CENTER, ROCHESTER, INDIANA

## PROGRAM

### THURSDAY, APRIL 19

6:00 PM to 11:00 PM

Check-in and Welcoming Party

### FRIDAY, APRIL 20

7:30 AM	Breakfast
8:30 AM	Introductory Remarks
8:40 AM	Session I
10:00 AM	Coffee Break
10:20 AM	Session II
12:00 Noon	Lunch
1:30 PM	Session III
3:10 PM	R and R (Coffee and Tea Available)
5:30 PM	Dinner
6:30 PM	Session IV
8:15 to end	Social Gathering at Redwood Lodge

### SATURDAY, APRIL 21

7:30 AM	Breakfast
8:30 AM	Session V
9:50 AM	Coffee Break
10:10 AM	Session VI
12:00 Noon	Lunch

So that as many requests to speak as possible can be included in the program, each speaker will be allowed exactly 15 minutes to communicate uninterrupted. A five minute discussion period will follow. We encourage further discussion at another time during the retreat. FROGs are awarded in the MUFMR tradition for the following infractions.

- \* Speaker exceeds the 15 minutes allotted for speaking
- \* Speaker exceeds the five minutes allotted for discussion
- \* Questioner exceeds the two minutes allotted for discussion
- \* Participants interrupt speaker
- \* Participants refer to other participants using a title such as professor, doctor, waiter, student, or comrade.
- \* Participants mention the names of funding agencies
- \* Participants arrive late for a session
- \* Other infractions deemed worthy by the KOTGOF

Session chairpersons are responsible for starting the sessions on time and maintaining the schedule. The KOTGOF (Keeper of Time and Giver of FROGs) for each session is responsible for awarding FROGs according to the rules stated. Participants awarded FROGs must redeem them by contributing \$1.00 per FROG to the refreshment fund.

SESSION I (FRIDAY MORNING, 1990 APRIL 20)

CHAIRPERSON: L. Olson (UM)

KOTGOF: C. Lawrence (UI)

Talk No.	Time	Speaker(s)	Institution	Title
1	8:40	J. Buckmaster	UI	"The Stabilization of Flame-Balls by Simple Shear or Elongational Straining Flows"
2	9:00	G. Makrides	IIT	"Some Numerical Studies of Chaotic Motions in Tubes Conveying Fluid"
3	9:20	R. Worthing G. Ierley	MTU	"Marginally Stable Upper Bound Predictions for Turbulent Poiseuille Flow"
4	9:40	R. Brodkey K. Russ	TOSU	"Image Processing for Particle Tracking"
	10:00	***** COFFEE BREAK *****		

SESSION II (FRIDAY MORNING, 1990 April 20)

CHAIRPERSON: C. Wark (IIT)

KOTGOF: S. Kim (UW)

Talk No.	Time	Speaker(s)	Institution	Title
5	10:20	Y. Fuentes	UW	"Parallel Computational Strategies for Multi-Particle Systems in Stokes Flow"
6	10:40	M. Schumack	UM	"Spectral Element Studies of Lubrication Flows"
7	11:00	S. Ghosh	ND	"Chaotic Advection in a Thin Film Between Two Rotating Cylinders"
8	11:20	J. Foss J. Bruns	MSU	"Velocity and Vorticity Measurements in a Developing Single Stream Shear Layer"
9	11:40	R. Mei R. Adrian	UI	"Unsteady Particle Dynamics at Finite Reynolds Number"
	12:00	***** LUNCH *****		



### SESSION III (FRIDAY AFTERNOON, 1990 APRIL 20)

CHAIRPERSON: D. Yerg (MTU)  
KOTGOF: Y. Guezennec(TOSU)

Talk No.	Time	Speaker(s)	Institution	Title
10	1:30	J. Bernhardt	IIT	"Proportional Control of Asymmetric Forebody Vortices with the Unsteady Bleed Technique"
11	1:50	D. Malkus	UW	"Spurt, Slip, and Related Phenomena in Viscoelastic Flows"
		J. Nohel	UW	
		M. Johnson	UW	
		R. Kolkka	MTU	
		F. Morrison	MTU	
		T. Rose	MTU	
12	2:10	G. Tryggvason	UM	"Simulations of Multi-Fluid Flows"
13	2:30	A. Narain R. Kamath	MTU	"Two-Phase Condensing Boundary Layer Flows"
14	2:50	I. Wichman	MSU	"Impulsively Started Fluid Flow Over a Semi-Infinite Flat Plate"
	3:10	***** R and R *****		
	5:30	***** DINNER *****		

### SESSION IV (FRIDAY EVENING, 1990 APRIL 20)

CHAIRPERSON: C. Petty (MSU)  
KOTGOF: T. Corke (IIT)

Talk No.	Time	Speaker(s)	Institution	Title
15	6:30	M. Song	UM	"Vortex Interaction with a Free Surface"
16	6:50	J. Xu	ND	"Numerical analysis of Flow Over a Rotatable Cylinder with a Splitter Plate"
17	7:10	M. Yao	UW	"A Study of the Difference Between Capillary and Slit-Die Viscoelastic Spurt Flows"
18	7:30	J. Powers	ND	"Hypersonic Reactive Wedge Flow"
19	7:50	W. Schultz	UM	"Fish Swimming"
	8:15	***** SOCIAL GATHERING *****		

# SESSION V (SATURDAY MORNING, 1990 APRIL 21)

CHAIRPERSON: D. Hubbard (MTU)

KOTGOF: D. Williams (IIT)

Talk No.	Time	Speaker(s)	Institution	Title
20	8:30	T. Prokopiou	ND	"Stability of Two-Dimensional Waves to Sub-Harmonic Disturbances"
21	8:50	Q. Qi R. Johnson	UI	"Viscous Roll Waves"
22	9:10	M. Ghassemi	IIT	"Three-Dimensional Mode Resonance in Far Wakes"
23	9:30	M. Cheng	ND	"The Sideband Instability: A Generalized Theory via Center-Manifold Projection"
9:50	***** COFFEE BREAK *****			

# SESSION VI (SATURDAY MORNING, 1990 APRIL 21)

CHAIRPERSON: H. Nagib (IIT)

KOTGOF: R. Johnson (UI)

Talk No.	Time	Speaker(s)	Institution	Title
24	10:10	D. Stewart	UI	"Discrete Modelling of Propellant Beds"
25	10:30	A. Naguib	IIT	"Convection Velocities and Scaling of the Large-Scale Coherent Structures in a Turbulent Boundary Layer"
26	10:50	M. Johnson	UW	"Lubrication Theory for Non-Newtonian Fluids"
27	11:10	D. Wiggert Z. Bozkus	MSU	"The Hydrodynamics of an Individual Transient Slug Motion in a Voided Tube"
28	11:30	M. Acharya	IIT	"The Unsteady Pressure Field and Vorticity Production at the Suction Surface of a Pitching Airfoil"
11:50	Closing Remarks			
12:00	***** LUNCH *****			