

16th Annual Midwestern Universities
Fluid Mechanics Retreat
April 13-15, 1989
Geneva Center, Rochester, Indiana

Program

Thursday, April 13, 1989

6:00 p.m. - 11:00 p.m. Check-in and Welcoming Party

Friday, April 14, 1989

7:45 a.m. Breakfast
8:30 a.m. Welcoming Remarks
8:40 a.m. Session I
10:00 a.m. Coffee Break
10:20 a.m. Session II
12:00 a.m. Lunch & RR
3:30 p.m. Session III
5:30 p.m. Dinner
6:30 p.m. Session IV
8:10 p.m. Social Hours

Saturday, April 15, 1989

7:45 a.m. Breakfast
8:30 a.m. Session V
9:50 a.m. Coffee Break
10:10 a.m. Session VI
11:50 a.m. Closing Remarks
12:10 p.m. Lunch

Presentation time will be 15 minutes, followed by a five minute discussion. Speakers will be awarded a "FROG" at 15 + ϵ minutes, which entitles the recipient to make a \$1 contribution to the Refreshment Fund.

The Session Chairman will be responsible for starting the session on time; late attendees will be awarded a "FROG".

SESSION I (Friday morning, April 14, 1989)

CHAIRMAN: A. Conlisk
KOTGOF*: W. Schultz

<u>Talk #</u>	<u>TIME</u>	<u>AUTHORS</u>	<u>SCHOOL</u>	<u>TITLE</u>
1.	8:40	R. Mei	UI	"Particle dispersion in isotropic turbulence under Stokes drag and Basset force with gravitational settling."
2.	9:00	E. Olsen	IIT	"Corner singularities in Johnson-Segalman fluids."
3.	9:20	T. Zaki	ND	"Time dependent heating and cooling from sun-lit exterior slabs."
4.	9:40	D. Walker	P	"Concentration and velocity measurements in the injection region of a drag-reducing polymer."

10:00 **** COFFEE BREAK ****

SESSION II (Friday morning, April 14, 1989)

CHAIRMAN: D. Williams
KOTGOF: M. Koochesfahani

<u>Talk #</u>	<u>TIME</u>	<u>AUTHORS</u>	<u>SCHOOL</u>	<u>TITLE</u>
5.	10:20	C. Chmielewski, K. Jayaraman	MSU	"Cross film permeability of a viscoelastic fluid."
6.	10:40	C. Borgnakke	UM	"Higher order upwind compact operator implicit schemes in numerical methods."
7.	11:00	G. Ierley	MTU	"Spectral methods in time."
8.	11:20	R. Brodkey, C. Shoemaker	OSU	"Determination of 3-D fiber orientation in flocks by an imaging technique."
9.	11:40	D. Malkus, M. Johnson	UW	"Spurt and related non-Newtonian shear flow instabilities."

12:00 **** LUNCH & RR ****

* Keeper of time and giver of FROGS

SESSION III (Friday afternoon, April 14, 1989)

CHAIRMAN: S. Kim
KOTGOF: L. Kennedy

<u>Talk #</u>	<u>TIME</u>	<u>AUTHORS</u>	<u>SCHOOL</u>	<u>TITLE</u>
10.	3:30	G. DeZaull	UI	"Fluctuating concentrations in atmospheric dispersion."
11.	3:50	H. Mansy	IIT	"Numerical simulation of the flow in the trapped vortex fluidic flow meter."
12.	4:10	N. Acharya	ND	"Nucleate boiling from capillary tubes."
13.	4:30	C. Petty, K. Glassford	MSU	"A new theory for turbulent boundary layers."
14.	4:50	K. Manya, L. Bernal	UM	"Free surface signature of a submerged turbulent jet."
	5:30	**** DINNER ****		

SESSION IV (Friday evening, April 14, 1989)

CHAIRMAN: G. Tryggvason
KOTGOF: J. Way

<u>Talk #</u>	<u>TIME</u>	<u>AUTHORS</u>	<u>SCHOOL</u>	<u>TITLE</u>
15.	6:30	D. Nelson, M. Ohadi	MTU	"Electrodynamic heat transfer enhancement in gas flows."
16.	6:50	A. Conlisk, M. Foster	OSU	"The flow in a short dwell coater."
17.	7:10	M.-W. Yao	UW	"Error cancellation in the HPBL derivation of elastic hole pressures."
18.	7:30	J. Liljegren	UI	"Predictions of a stochastic model of atmospheric dispersion compared with laboratory and field data."
19.	7:50	C. Amato	IIT	"Control of a cylinder wake by the unsteady bleed technique."
	8:10	**** SOCIAL HOURS ****		

SESSION V (Saturday morning, April 15, 1989)

CHAIRMAN: D. Hubbard
KOTGOF: R. Bouwmeister

<u>Talk #</u>	<u>TIME</u>	<u>AUTHORS</u>	<u>SCHOOL</u>	<u>TITLE</u>
20.	8:30	M. Dusey	ND	"Acoustic radiation from a thin airfoil in nonuniform subsonic flow."
21.	8:50	J. Foss	MSU	"Vorticity, an ode in praise of its beauty."
22.	9:10	L. Olson	UM	"A variational principle for nonlinear free-surface problems."
23.	9:30	R. Kolkka	MTU	"Melt fracture and spurt phenomena for shear flows of viscoelastic liquids."
	9:50	**** COFFEE BREAK ****		

SESSION VI (Saturday morning, April 15, 1989)

CHAIRMAN: R. Johnson
KOTGOF: A. Hellowell

<u>Talk #</u>	<u>TIME</u>	<u>AUTHORS</u>	<u>SCHOOL</u>	<u>TITLE</u>
24.	10:10	T. Gieseke, Y. Guezennec	OSU	"Unsteady vortex breakdown on a pitching delta wing."
25.	10:30	Y. Fuentes, S. Kim	UW	"Parallel computational strategies for hydrodynamic interactions between complex microstructures in a viscous fluid."
26.	10:50	K. Kontomaris	UI	"Effect of molecular diffusivity on turbulent diffusion."
27.	11:10	S. Kusek, T. Corke, H. Nagib	IIT	"Some novel aspects of the NDF design."
28.	11:30	J. Sarazin, A. Hellowell	MTU	"Channel formation in double-diffusive convection systems during solidification."
	11:50	**** CLOSING REMARKS ****		
	12:00	**** LUNCH ****		