Symposium on Complex Fluid Flows

In Honor of Professor Dan Joseph on the Occasion of His 80th Birthday

May 2-3, 2009, University of Minnesota, Minneapolis

May 2, 2009 (EE/CS Building Room 3-180)

8:30-9:30	Registration
9:30-9:40	Welcoming (IT Dean Steven Crouch, AEM Chairman Gary Balas)
Session I	Chair: Howard H. Hu (University of Pennsylvania)
9:40-10:10	Daniel D. Joseph, University of Minnesota "Complex fluid flows"
10:10-10:40	G.I. Barenblatt, University of California, Berkeley "Laminarization of the turbulent shear flow by suspended heavy particles, a mathematical model and geophysical applications"
10:40-11:00	Coffee Break
Session II	Chair: Kangping Chen (Arizona State University)
11:00-11:30	Yuriko Renardy, Virginia Polytechnic Institute and State University "Numerical simulation of drop retraction after a strain jump"
11:30-12:00	Jung Yoo, Seoul National University, Korea "Recent development in the reinitialization approach of the level set method for solving incompressible two-phase flow problems"
12:00-1:30	Lunch Break
Session III	Chair: Todd Hesla (University of Minnesota)
1:30-2:00	Jimmy Feng, University of British Columbia "Simulating interfacial dynamics in complex fluids"
2:00-2:30	Amitabh Narain, Michigan Technological University "Interfacial Dynamics for Condensing Flows - Results from Computational and Experimental Investigations"
2:30-3:00	Pushpendra Singh, New Jersey Institute of Technology "Redistribution and removal of particles from drop surfaces"
3:00-3:30	Neelesh Patankar, Northwestern University "Fully resolved simulation of self-propulsion"
3:30-4:00	Coffee Break
Session IV	Chair: Michael Arney (Boston Scientific)
4:00-4:30	Michael Renardy, Virginia Polytechnic Institute and State University "Stability of elongational flow of the upper convected Maxwell fluid"
4:30-5:00	Claude Verdier, CNRS and Université Grenoble I "Cell interactions under flow"
5:00-5:30	Nadine Aubry, Carnegie Mellon University "Electric-field induced assembly of particles into adjustable monolayers"
5:30-6:00	Jimmy Wang, University of Minnesota "Airborne particle filtration by nanofiber filters"
6:00-7:00	Break
7:00-10:00	Evening Reception and Dinner (rooms AB&C at the Campus Club, the Fourth Floor of Coffman Union)

May 3, 2009

9:00-10:30: Poster Session (EE/CS, Foyer outside Room 3-180)

- Particle Interaction, Collision and Deformation in Viscous and Viscoelastic Fluids, Arezoo Ardekani and Roger Rangel (University of California, Irvine)
- Effects of Cavitation on High-Pressure Atomization, Sadegh Dabiri, William A. Sirignano and Daniel D. Joseph (University of California, Irvine)
- Dual Durometer Catheters, Mike Arney (Boston Scientific)
- Deformation of Elastic Particles in a Viscous Fluid Flow, Howard Hu and Tong Gao (University of Pennsylvania)
- Drafting, Kissing and Hugging? Luigi Preziosi (Politecnico di Torino, Italy)
- Friction factor correlations for laminar, transition and turbulent flow in smooth pipes, B.H. Yang and D.D. Joseph (University of Minnesota)
- Experimental Study of Diffusion-based Extraction from a Cell Suspension, Clara Mata, Ellen Longmire (University of Minnesota)
- Nonisothermal Melt Spinning of Viscoelastic Materials of Step-like Viscosity Variation with Temperature, Chunfeng Zhou and Satish Kumar (University of Minnesota)
- An Elasto-Visco-Plastic Model for Cell Aggregates, Luigi Preziosi (Politecnico di Torino, Italy) and Claude Verdier (CNRS and Université Grenoble I, France)
- Viscous Potential Flow Analysis of Radial Fingering in a Hele-Shaw Cell, Hyungjun Kim (KAIST, South Korea), T. Funada (Numazu College of Technology, Japan), and D.D. Joseph (University of Minnesota)
- Nonlinear Deformation of an Interface or Free Surface: Breakup of a Drop and Motion of a Steep Wave, Juan C. Padrino and D.D. Joseph (University of Minnesota)
- Stress-induced Cavitation for the Streaming Motion of a Viscous Liquid Past a Sphere, Juan C. Padrino and D.D. Joseph (University of Minnesota)

10:30-12:00 Informal forum discussion on "what I have been doing since graduation" and future research directions in complex fluid flows

(1) Julian E. Mott 1966
(2) T.S. Chen 1966
(3) Ching-Cheng Shir 1967
(4) Tsun Sen Fu 1967
(5) Shlomo Carmi 1968
(6) Bruce R. Munson1970
(7) Eddy Hwang 1971
(8) Wendell Hung 1971
(9) Ved P. Gupta 1972
(10) Skjalg Haaland 1972
(11) Wann-Joe Sun 1973
(12) Leroy D. Sturges 1973
(13) Jung Yul Yoo 1977
(14) Prakash M. Dixit 1979
(15) Steven Arman Trogdon 1980
(16) Jurgen Sanders 1981
(17) Dennis Signier 1982
(18) Hao Anh Tieu 1983
(19) Amitabh Narain 1983
(20) Ky Thanh Nguyen 1984
(21) Antonio F. Fortes 1986
(22) Phuong Than 1987
(23) Luigi Preziosi 1988
(24) Oliver Riccius 1989
(25) Claude Verdier 1990
(26) Kangping Chen 1990
(27) Pushpendra Singh 1991
(28) Howard H. Hu 1992
(29) Michael Arney 1994
(30) Chris Christodoulou 1994
(31) Yijen (Terrence) Liao 1994
(32) Geraldo Spinelli Ribeiro 1994
(33) Adam Huang 1994
(34) Yaoqi (Joe) Liu 1995
(35) Runyuan Bai 1995
(36) James (Jimmy) Feng 1995
(37) Jose L. Guitian 1996
(38) Yijian (Peter) Huang 1997
(39) Harry M. Vinagre 1998
(40) Clara E. Mata 1998
(41) Timothy J. Hall 1999
(42) Taehwan H. Ko 2001
(43) Todd Hesla 2004
(44) Jing (Jimmy) Wang 2005
(45) Haoping (Bobby) Yang 2008
(46) Juan Carlos Padrino 2008
(47) Arezoo Ardekani 2009 (UCI)
(48) Sadegh Dabiri 2009 (UCI)

12:00 Symposium ends

Organizers:

Howard H. Hu (University of Pennsylvania, 215-898-8504, hhu@seas.upenn.edu)
Gary Balas (University of Minnesota, balas@aem.umn.edu)

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