APS-DFD MEETINGS

The 58th Annual DFD Meeting - Chicago, Illinois November 20-22, 2005

The 58th Annual DFD Meeting will be held at the Hilton Chicago, Illinois, November 20-22, 2005. The meeting is hosted by the Illinois Institute of Technology, Northwestern University and the University of Illinois at Urbana-Champaign.

DEADLINES

Abstract Submission .................. 5 August 2005
Gallery of Fluid Motion
Entry Forms .................. 7 October 2005
Video Entries to Gallery
of Fluid Motion .................. 7 October 2005
Hotel Reservations
(reduced rate) .................. 11 October 2005
Early Registration
(reduced rate) .................. 21 October 2005

ABOUT THE PROGRAM

Scientific Program
This year's scientific program will include three award lectures, eight invited lectures, five mini-symposia, contributed papers, poster sessions, exhibits, and the Gallery of Fluid Motion. The invited lectures are selected to illustrate the richness of topics, techniques, and applications inherent in the study of fluid dynamics. More than 1200 contributed abstracts, divided into 16 concurrent sessions, are anticipated.

Awards Program
Each year the APS Division of Fluid Dynamics presents several awards: the Fluid Dynamics Prize, the Francois Frenkiel Award, and the Andreas Acrivos Dissertation Award. Winners of these awards will be announced in the fall. A lecture by each award winner will be given at the meeting.

Invited Lectures
Howard Baum, NIST, The Fluid Mechanics of Fires
Henk Dijkstra, Colorado State University, Stability of the Thermohaline Ocean Circulation
James Grotberg, University of Michigan, Respiratory Fluid Mechanics
Elisabeth Guazzelli, Polytech Marseille, Sedimentation of Small Particles
Nicolas Hadjiconstantinou, MIT, Hydrodynamics Beyond the Navier-Stokes Description: Modeling and Simulation of Small Scale Flows
Charles Meneveau, Johns Hopkins University, Progress in Scale-Invariance Models for Complex Turbulent Flows
Charles Williamson, Cornell University, New Phenomena in Vortex-Induced Vibrations
Grae Worster, University of Cambridge, Dynamics of Premelted Liquid Films
Conference Reception
A highlight of the meeting will be the Conference Reception on Sunday evening, November 20, 2005. The Reception will be held at the world famous Field Museum of Natural History. All paid attendees receive a ticket to this event.

The Field Museum of Natural History was founded to house the biological and anthropological collections assembled for the World's Columbian Exposition of 1893. These objects form the core of the Museum's collections which have grown through world-wide expeditions, exchange, purchase, and gifts to more than twenty million specimens. The museum is home to many unique exhibits including Sue, the world’s largest, most complete, and best preserved Tyrannosaurus rex.

Website: http://www.fieldmuseum.org/

General Information

Meeting Venue
The 58th Annual DFD Meeting will be held at the Hilton Chicago, a historic grand hotel located on South Michigan Avenue overlooking Grant Park and Lake Michigan. The hotel is within easy walking distance of the Chicago Loop, Lake Michigan, Symphony Hall, the Chicago Art Institute, the Magnificent Mile, the Sears Tower, and the Chicago Museum Campus including the Field Museum of Natural History, where the conference reception will be held.

Chicago
As one of the world’s great cities, Chicago provides wonderful cultural and leisure attractions: spectacular shopping, incredible dining, internationally renowned museums, exciting nightlife and much more, all set on beautiful Lake Michigan.
- Fantastic shopping on the beautiful Magnificent Mile and legendary State Street.
- Incredible dining, ranging from elegant four-star restaurants to every authentic ethnic cuisine imaginable.
- Internationally renowned museums, including the Art Institute of Chicago, the Field Museum of Natural History, the Museum of Science and Industry, the Adler Planetarium, and the Shedd Aquarium.
- Exciting nightlife with critically acclaimed theater district, live blues and jazz clubs, one of the world’s best symphony orchestras, and more.

Website: http://www.choosechicago.com (Chicago’s Convention and Tourism Bureau)

Exhibitors
Do not miss this opportunity to reach over 1200 attendees of the APS/DFD Annual Meeting! For more information on exhibiting or sponsorship, please contact Meetings And More at (301) 229-1037 or mtgs911@aol.com.

Audiovisual Equipment
All rooms will be equipped with an LCD projector, overhead projector, screen, microphone, and pointer. Speakers planning to use the LCD projector must provide their own laptop computer. A Speaker Ready Room will be available to run through the presentation to ensure that it goes smoothly with the LCD projection equipment.

Meeting Hosts
The Illinois Institute of Technology
Northwestern University
The University of Illinois at Urbana-Champaign

Program Organizers
Richard M. Lueptow, Lead Organizer
Northwestern University
Department of Mechanical Engineering
Phone: 847-491-4265
Email: r-lueptow@northwestern.edu

Hassan Nagib, Illinois Institute of Technology, Co-Organizer
Robert Moser, University of Texas at Austin, Co-Organizer

General Meeting & Exhibiting Information
Meetings And More
5257 River Road, PMB 905
Bethesda, MD 20816
Tel.: (301) 229-1037
Fax: (301) 229-0206
Email: mtgs911@aol.com

Conference Website
http://www.dfd2005.northwestern.edu/ (or http://www.aps.iit.edu/)
HOUSING

The Hilton Chicago Hotel overlooks Grant Park and Lake Michigan and is in the heart of Chicago’s cultural core with easy access to the Art Institute, Field Museum of History, John G. Shedd Aquarium, Chicago Symphony Orchestra Hall, Civic Opera House, and Auditorium Theater. Born in 1927, the grand tradition continues today with recent renovations to guest rooms, public space, and restaurants. A city-within-a-city, the Hilton Chicago offers amenities such as internet access, a full business center, a state-of-the-art athletic club, diverse dining options including as Kitty O’Shea’s Irish Pub, Buckingham’s Signature Steak and Seafood Restaurant, Lakeside Green Cocktail Lounge, and bistro-like fare at The Pavilion Restaurant. Richly appointed guest rooms provide spectacular views of Grant Park and Lake Michigan. Many double rooms include two beds and two baths along with features including individual climate control, remote control cable TV, pay per view movies, radio with alarm, direct dial phone, modem internet access, automated voicemail, fax hook-up capabilities, complimentary newspaper (M-F), 2-line phones, and coffee service with complimentary coffee and tea.

Hilton Chicago (Meeting Site)
720 South Michigan Avenue
Chicago, IL 60605
Tel: 1-800-HILTONS or 1-312-922-4400
Fax: 1-312-663-6538
Rates: (identify yourself as APS/DFD prior to 21 October 2005)
$145 single plus tax (currently 14.9%)
$175 double plus tax (currently 14.9%)
$25 per additional person

UPCOMING DFD MEETINGS

2006, Tampa, Florida. Contact: Tony Ladd, University of Florida
2007, Salt Lake City, Utah. Contact: Pat McMurtry, University of Utah

Highlights of the 57th Annual Meeting, Seattle

by Jim Riley, Chair

The November 2004 DFD meeting in Seattle concluded with more than 1,310 registrants, 1,012 contributed and invited lectures, along with 49 poster and 19 video submissions to the Gallery of Fluid Motion, and 18 exhibitors.

The meeting events began early Sunday morning with the opening sessions of the technical program and the Awards Ceremony in the afternoon. The 2004 Fluid Dynamics Prize recipient was George M. Homsy of the University of California, Santa Barbara, who presented his lecture entitled “Interfacial Fluid Mechanics: Past, Present and Future”. The 2004 Andreas Acrivos Dissertation Award was presented to Jacqueline Ashmore of the University of Cambridge, who did her doctoral thesis work at Harvard University under the direction of Howard A. Stone. The 2004 Francois Frenkiel Award was presented to Michael D. Graham of the University of Wisconsin, Madison. Sunday evening was topped off with the conference reception at the Museum of Flight, where attendees could sample local Seattle cuisine while admiring 54 of the world’s most awe-inspiring airplanes.

The meeting included outstanding invited lectures by Edward M. Greitzer, Julio M. Ottino, Thomas Daniel, Philippe Spalart, Ellen K. Longmire, Peter B. Rhines, and Morteza Gharib. Most of the invited and award lectures are available on the APS/DFD web site (www.aps.org/units/dfd). In addition, there were mini-symposia on Particle Suspensions, Surface Wave Breaking, Swimming Micro-Organisms, the Incorporation of Particle-Turbulence Interactions in Geophysical Suspensions, and Supersonic Flow. On Sunday, graduate students attending the meeting had the opportunity to participate in the Graduate Student Luncheon. The students received free box lunches and had the choice of two parallel sessions: “How will you do when the tables are turned, and you are the faculty mentor?” presented by Bruce Finlayson (University of Washington) and chaired by Anne Cattla (Northwestern University, and Chair of the APS Forum on Graduate Student Affairs); and “Why should I change the way I teach? Fluid and dynamic learning in engineering courses” presented by Angela Linse (Temple University) and chaired by Dana Dabiri (University of Washington). The two sessions were a big success as over 95% of the allotted space was filled. In addition to the Graduate Student Luncheon, an event was organized to introduce Seattle-area high school science teachers to fluid dynamics and suggest ways for them to bring our field into their classroom. John Foss (Michigan State University) developed a handout for the teachers with descriptions of concepts and experiments and presented it during the session. Bud Homsy (UC Santa Barbara) provided complimentary copies of Multimedia Fluid Mechanics and introduced the teachers to it, and Howard Stone (Harvard University) performed experiments that could easily be used in the classroom. Twelve science teachers from area high schools participated and were joined for a walk through the Gallery of Fluid Motion by members of the Division.

The 22nd Annual Gallery of Fluid Motion included 49
poster and 19 video entries presenting research from academia, government laboratories and private companies in the United States and several foreign countries. This year’s entries exhibited an outstanding display of experimental and numerical results that presented combined artistic beauty and physical insight into a wide range of fluid mechanics phenomena. A panel of six distinguished experts in the fluid dynamics community served as judges for the poster and video entries.


Highlights from all winning poster and video entries will be published in a special Gallery of Fluid Motion article in the September 2005 issue of Physics of Fluids.

The local organizing committee at the University of Washington, Washington State University, University of Oregon, University of British Columbia, Northwest Research Associates, and Boeing Commercial Airplanes thanks the participants for their contributions to a very successful meeting.

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**Fellowships, Prizes and Awards**

**2004 DFD Fellows**

Fellows are elected based on nominations considered by the DFD Fellowship Committee, review by the APS Fellowship Committee, and approval by the APS Council. Only 0.5% of the APS membership is selected for Fellowship in the Society each year.

**Michael P. Brenner, Harvard University**

For his creative, stimulating, and seminal contributions to various subjects in Fluid Dynamics, namely to fluid singularities, single bubble sonoluminescence, electrohydrodynamics, and sedimentation.

**Clarence Forbes Dewey, Jr., Massachusetts Institute of Technology**

For experimental and theoretical studies of high-speed and separated flows, innovations in flow measurement techniques and technology, and the understanding of the biological response of living cells to fluid-mechanical forces.

**Harindra Joseph Fernando, University of Arizona**

For contributing greatly to fundamental and applied environmental fluid mechanics, including notable discoveries for how turbulence interacts with stably stratified inversion layers via waves, instabilities and mixing events.

**Herbert E. Huppert, University of Cambridge**

For pioneering work in geological fluid mechanics including gravity currents, magmas, double-diffusive convection, and solidification.

**George Em Karniadakis, Brown University**

For his innovative developments and his insightful applications of the spectral-element method in computational fluid dynamics.

**Ann R. Karagozian, University of California, Los Angeles**

For extensive contributions in the fluid mechanics of combustion systems, including the study of jets in crossflow, strained flames distorted by complex flows, acoustically driven reactive cavity flows, and detonation phenomena.
Annick Pouquet, National Center for Atmospheric Research
For her many contributions to the development and application of statistical methods and numerical simulations in turbulent hydrodynamic and magnetohydrodynamic flows for viscous, inviscid, and compressible fluids.

William M. (“Mel”) Roquemore, Air Force Research Laboratory
For his outstanding contributions to development of laser-based diagnostic techniques, the JP-8+100 jet fuel additive, a revolutionary Trapped Vortex Combustor, and CFD modeling for understanding fundamental combustion and fluid dynamics phenomena.

2004 Prizes & Awards

2004 Fluid Dynamics Prize

George M. Homsy of the University of California, Santa Barbara
was awarded the 2004 Fluid Dynamics Prize in recognition of his many important contributions in multiphase flows, interfacial phenomena, polymeric flows, and convection including the stability of fluidized beds, viscous fingering in porous media, and thin film behavior. The Fluid Dynamics Prize is awarded for outstanding contributions to fundamental fluid dynamics research. The prize was established in 1979 with support from the Office of Naval Research. In 2004, the Otto Laporte award was combined with the Fluid Dynamics Prize so that the Division of Fluid Dynamics would have a single major prize – the Fluid Dynamics Prize. The prize is now supported by the Division of Fluid Dynamics, friends of Otto Laporte and the American Institute of Physics journal, Physics of Fluids.

2004 Andreas Acrivos Dissertation Award

Jacqueline Ashmore of the University of Cambridge
is the recipient of the 2004 Andreas Acrivos Dissertation Award for her thesis entitled “Free-surface and Coating Flows.” The award recognizes an exceptional young scientist for original, outstanding doctoral thesis work in fluid dynamics done in the United States. Dr. Ashmore did her doctoral thesis work at Harvard University under the direction of Howard A. Stone.

2004 Frenkiel Award

Michael D. Graham of the University of Wisconsin, Madison,
is the recipient of the 2004 Francois Frenkiel Award, which recognizes significant contributions to fluid mechanics that have been published in the Physics of Fluids during the preceding year by young investigators. The award paper is titled “Interfacial hoop stress and instability of viscoelastic free surface flows” [Phys. Fluids 15, 1702 (2003)].

Prize, Award, and Fellowship Nominations for 2006

For information about the nomination process and requirements, please see the announcements posted at www.aps.org.

Call for Nominations for the APS/DFD Nominating Committee

The DFD Nominating Committee is calling for nominations for the following upcoming vacancies:

- Vice Chair (2 candidates)
- Two Members-at-Large (4 candidates).

Please send your nominations to the chair of the Committee, Nadine Aubry aubry@njit.edu, with the name of the nominee, his or her affiliation, the position for which the person is nominated, and a short statement supporting your nomination. The deadline for nominations is 20 May, 2005.

The DFD Nominating Committee thanks you in advance for your nominations.
Personal Notes Regarding DFD Members

Joel H. Ferziger (1937-2004)
Joel Ferziger died of pancreatic cancer on August 16, 2004, at the age of 67. Joel was a fellow of APS and for many years was an active member of DFD, serving on numerous committees of the Division. Starting as an assistant professor at age 24, Joel was a member of Stanford’s Mechanical Engineering faculty for 43 years. His research focused on the development and application of computational methods for complex turbulent flows encountered both in engineering and the environment. He was a pioneer of the method of large-eddy simulation. This research is described in over 100 archival publications, in over 50 Ph.D. theses, and in several books including the influential *Computational Methods for Fluid Dynamics*, coauthored by Milovan Peric and published in 1996. Among the honors that Joel received are NSF and Fulbright fellowships, the Alexander von Humboldt Award (1987) and the Max Planck Research Prize (1991). Joel will be remembered as a brilliant and congenial intellectual leader of the field.

Gerard M. Faeth (1936-2005)
JerryFaeth, a Fellow of APS and an active member of DFD, died suddenly at home on January 24th, 2005, at age 68. Since 1985 Jerry was the Arthur B. Modine Professor of Aerospace Engineering at the University of Michigan, having previously been on the faculty at Penn State. Through over 230 archival publications, Jerry made substantial original contributions to the fields of fluid dynamics, combustion and heat transfer. In fluid dynamics he contributed to our understanding of droplet and spray breakup, and of turbulence in jets, plumes and multiphase flows. In addition to APS, he was a fellow of AIAA, ASME and AAAS, and a member of the National Academy of Engineering. He served the research community in numerous ways, including as being editor of three major journals (AIAA Journal, Combustion & Flame and ASME Journal of Heat Transfer). He will be remembered for the quality and breadth of his scientific contributions, for the positive impact he had on many careers, and for his boundless energy and enthusiasm.

William W. Willmarth 1924-2005
The fluid dynamics community mourns the passing of William W. Willmarth, Professor Emeritus at The University of Michigan. He passed away on 21 January 2005 at the age of 80. Bill was a student of H.W. Liepmann at CalTech where he earned his M.S. and Ph.D. degrees. He joined the faculty of the Department of Aerospace Engineering at The University of Michigan in 1958 and served until his retirement in 1990. He was a Fellow of both the American Institute of Aeronautics and Astronautics and the American Physical Society. In 1989 he was awarded the Fluid Dynamics Prize by the APS Division of Fluid Dynamics.

Bill was best known for his innovative high-resolution measurements in turbulent wall-bounded flows. His turbulent boundary layer wall pressure measurements in the 1960s, his ‘quadrant technique’ for turbulent burst detection in the 1970s, and his high-resolution hot-wire and LDV turbulent channel flow measurements into the 1980s are still widely referenced to this day. Toward the end of his career, he also examined vortex interactions with free surfaces.

In addition to his outstanding career as a fluid dynamicist and engineer, Bill is remembered by his colleagues and students as a mentor and a friend. He is remembered for the hours he spent in the lab with his students, and the thoughtful advice he extended to his junior colleagues.
Fluid Dynamics in the News

A summary of highlights in physics from last year is provided in Physics News in 2004 (www.aps.org/apsnews). Those relating to Fluid Dynamics include:


Some Upcoming Meeting in Fluid Dynamics

**International Conference on Parallel Computational Fluid Dynamics 2005**
May 24-27, 2005
University of Maryland, College Park, MD
Contact: Anil Deane

**ScArt4: Science and Art 4th International Symposium**
June 9-12, 2005
Hyatt Regency Hotel, New Brunswick, NJ
Website: www.mechanical.rutgers.edu/scart4/

**Fourth International Symposium on Turbulence and Shear Flow Phenomena (TSFP4)**
June 27-29, 2005

**The Sixth International Symposium on Particle Image Velocimetry Conference (PIVO5)**
September 21-23, 2005
California Institute of Technology, Pasadena, CA
Website: www.piv05.caltech.edu

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Hilton Chicago, Chicago IL

**IUTAM Symposium on Interactions for Dispersed Systems in Newtonian and Viscoelastic Fluids**
March 26-31, 2006
D.F. 04510 Mexico, Mexico
Symposium Chairman: Prof. G.M. (George) Homsy

**IUTAM Symposium on Computational Physics and New Perspectives in Turbulence**
September 11-14, 2006
Nagoya, Japan
Symposium Chairman: Prof. Y. (Yukio) Kaneda

**59th Annual Division of Fluid Dynamics**
November 18-21, 2006
Tampa, Florida

**IUTAM Symposium on Flow Control with MEMS 2006**
London, UK
Symposium Chairman: Dr. J.F. (Jonathan) Morrison

**IUTAM Symposium on Hamiltonian Dynamics, Vortex Structures, Turbulence 2006**
Moscow, Russia
Symposium Chairman: Prof. V.V. (Valery) Kozlov

Please send additional items to Steve Pope (pope@mae.cornell.edu) for the Fall Newsletter.
DFD members are invited to contact the DFD Leadership with suggestions and concerns.

EXECUTIVE COMMITTEE
Chair
Jerry P. Gollub (11/06)
Chair-Elect
Howard A. Stone (11/07)
Vice Chair
Stephen B. Pope (11/08)
Past-Chair
James M. Wallace (11/05)
Secretary/Treasurer
James H. Duncan (11/06)
Division Councilor
Harry L. Swinney (11/06)
Member-at-Large
Robert P. Behringer (11/05)
Ellen K. Longmire (11/05)
John Foss (11/06)
Gretar Tryggvason (11/06)
Werner Dahm (11/07)
Sandra Troian (11/07)

NOMINATING COMMITTEE
Nadine Aubry (12/05), Chair
Mory Gharib (12/06), Vice-chair
Robert Ecke (12/05)
William Schulz (12/05)
Hassan Aref (12/06)
Dwight Barkley (12/06)
Kenny Breuer (12/06)
Leslie Smith (12/06)

PUBLICATIONS AND MEDIA COMMITTEE
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Gretar Tryggvason (12/06), Vice-Chair
Gareth McKinley (12/05)
Emmanuel Villermaux (12/05)
Werner Dahm (12/05)
Detlef Lohse (12/07)
Aline Cotel (12/07)

PROGRAM COMMITTEE
Chair + 7 members for 3-year terms
Howard Stone (12/05), Chair
Ivan Marusic (12/05)
Zellman Warhaft (12/05)
Sandrine Troian (12/05)
David Kassoy (12/06)
Melany Hunt (12/06)
Paul Steen (12/06)
Igor Mezic (12/06)

FELLOWSHIP COMMITTEE
(4 fellows & Vice-Chair, staggered 2 year terms)
Steve Pope (12/05), Chair
Helen Reed (12/05)
Hermann Riecke (12/05)
Robert Behringer (12/06)
Juan Lasheras (12/06)
Jean-Marc Chomaz (12/06)
Chih-Ming Ho (12/06)

EXTERNAL AFFAIRS COMMITTEE
Mohamed Gad-el-Hak, (12/05), Chair
John Foss (12/06), Vice-Chair
Stavros Tavoularis (12/05)
Werner Dahm (12/07)
Joe Fernando (12/06)
Mike Reischman (12/06)
Steve Morris (12/06)
Laurette Tuckerman (12/06)

SELECTION COMMITTEE FOR 2005 FLUID DYNAMICS PRIZE
Marvin Goldstein (12/05), Chair
Joel Koplik (2/06, Vice-Chair
Ann Karagozian (12/05)
Bud Homsy (’04 prize, 12/05)
Patrick Huerre (12/06)
Tony Maxworthy (12/06)
Philip Morrison (12/06)

SELECTION COMMITTEE FOR 2005 ACRIVOS AWARD
James Brasseur (12/05), Chair
Paul Neitzel (12/06, Vice-Chair
Ellen Longmire (12/05)
Ken Melville (12/05)
Marc Perlin (12/05)
Peko Hosoi (12/06)

FRENKIEL AWARD
Don Koch (12/05), Chair
John Hinch (12/06), Vice-Chair
Robert Moser (12/05, Physics of Fluids)
Candace Wark (12/05)
Dan Lathrop (12/06)
Yuriko Renardy (12/06)
Marc Smith (12/06)

DFD Website Development Officer
Ken Kiger

Membership Coordinator
Timothy Wei

Richard Leighton (12/06)

AMERICAN PHYSICAL SOCIETY
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