



A Division of the American Physical Society



Downtown Denver skyline and Longs Peak, Rocky Mountains

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The articles in this issue represent the views of the Division of Fluid Dynamics (DFD) publication committee and are not necessarily those of individual DFD members or the APS.



Denver, CO November 19-21, 2017

Nearly 3000 abstracts will be presented at the 70th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD) meeting in Denver, CO, November 19-21, 2017 at the Colorado Convention Center. The meeting is being hosted by the University of Colorado, Boulder with support from the University of Colorado, Colorado Springs; Colorado State University; and Colorado School of Mines.

Denver and the Colorado Convention Center

Located in the heart of downtown Denver, the Colorado Convention Center is situated in one of the most walkable and visitor-friendly downtowns in the country. There are 200 named peaks visible from Denver, including 32 that soar to 13,000 feet (4,000 meters) and above. The mountain panorama visible from Denver is 140 miles (225 km) long. Within a mile radius, downtown Denver has three major sports stadiums, the nation's second-largest performing arts center, three colleges with 30,000 students, an assortment of art and history museums, a mint that produces 10 billion coins a year, a river offering white water rafting, and over 300 restaurants. For more information on Denver and its surrounding areas go to: <https://www.denver.org>

Hotel Accommodations

Book your reservation NOW! Hotels are almost SOLD OUT! Discounted conference rates are available until October 23rd or until the room blocks at the host hotels are sold out. A valid credit card is needed to guarantee your reservation. Reservations need to be cancelled 72 hours prior to arrival to avoid a cancellation fee equal to one night room and tax (14.75%).

You may make a reservation at any one of the contracted hotels by going to our reservation website:

<https://aws.passkey.com/e/49143327>

Or by contacting:

APS DFD Housing Bureau

Hours: Monday - Friday from 8:30am to 5:00pm PT

Toll Free: 1-877-226-1859

Email: housing@apsdfd2017.org

2017 APS DFD Hotel List

Hyatt Regency Denver at Colorado Convention Center (Headquarter Hotel)

650 15th Street, Denver, CO 80202

Rates:

\$149 + Tax: Single/Double Room Occupancy

\$174 + Tax: Triple Room Occupancy

\$199 + Tax: Quad Room Occupancy

Rates include complimentary high speed internet.

Crowne Plaza Denver Downtown

SOLD OUT

Embassy Suites Denver - Downtown Convention Center

SOLD OUT

Hampton Inn & Suites Denver Downtown - Convention Center

SOLD OUT

Hilton Garden Inn Denver Downtown

SOLD OUT

Homewood Suites Denver Downtown - Convention Center

SOLD OUT

Registration

To register for the meeting go to:

<https://aps17.registerat.com>

Registration Type	Received between 10/23 - 11/21
Member	\$730
Reciprocal Society Member	\$730
Non-Member	\$875
Retired Member (with APS Senior Membership)	\$375
Graduate Student Member**	\$370
Undergraduate***	\$150
Additional Reception Ticket	\$100

***Graduate Students who are not APS Members must pay the nonmember rate unless joining at the time of registration. 1st year is free for first time members in the U.S., Canada, or Mexico. Includes (2) free Divisions or Topical Groups for all students.*

****Undergraduate registrations do not include a ticket to the Sunday night reception. Reception tickets may be purchased for \$100.*

Key Dates

Registration Deadlines

On-Site Registration Rate

Oct 23 – Nov 21, 2017

Cancellation Deadline

(no registration refunds past this date)

Nov 7, 2017

Hotel Reduced Rate Ends

Oct 23, 2017 or earlier if block sells out

Gallery of Fluid Motion (GFM)

GFM Poster and Video Submission: PAST

Remember: For those that submitted a video entry the uploading deadline was Oct 6, 2017. For those who submitted a poster, please bring your poster to the meeting.

Awards Program

Each year the APS Division of Fluid Dynamics presents the Fluid Dynamics Prize, the Francois N. Frenkiel Award, the Andreas Acrivos Dissertation Award, and the Stanley Corrsin Award. The 2017 award winners are listed below and each awardee will give a lecture at the meeting.

2017 Fluid Dynamics Prize Recipient

Detlef Lohse, University of Twente
Ultimate Rayleigh-Bénard and Taylor-Couette turbulence

The citation reads, "For profound and wide-ranging contributions to our understanding of fluid turbulence, multiphase flow, and granular flows; for outstanding contributions to the teaching and training of future fluid dynamicists; and for long-standing service to the international fluid dynamics community."

2017 Stanley Corrsin Award Recipient

Jens Eggers, University of Bristol
The role of singularities in hydrodynamics

The citation reads, "For analysis of singularities as a unifying theme for physical and mathematical insights into a wide variety of two-phase fluid mechanics problems involving jets, coalescence, entrainment and wetting."

2017 François N. Frenkiel Award Recipients

Charles Loussert, Anne Bouchaudy, Jean-Baptiste Salmon, Université de Bordeaux
Drying dynamics of confined drops of charged colloidal dispersion

For the paper titled: Drying dynamics of a charged colloidal dispersion in a confined drop PRF_1.084201

2017 Andreas Acrivos Dissertation Award Recipient

Xiang Yang, Stanford University
Modeling drag forces and velocity fluctuations in wall-bounded flows at high Reynolds numbers

Invited Talks

Eight invited talks on topics of broad interest to the DFD community will be given by experts in each field.

Sunday, November 19

Anne-Laure Bianco, Université Lyon
Electricity in foams: from one soapy interface to the macroscopic material

David R. Dowling, University of Michigan
Hidden acoustic information revealed by intentional nonlinearity

Monday, November 20

Matthew Juniper, University of Cambridge
Extreme sensitivity in Thermoacoustics

Jacqueline Chen, Sandia National Laboratories
Direct numerical simulation of turbulent multi-stage autoignition relevant to engine conditions

Kathy Prestridge, Los Alamos National Laboratory
Experimental adventures in variable-density mixing

Jeffrey Morris, Levich Institute, CUNY City College of New York
Shear thickening in suspensions: the lubricated-to-frictional contact scenario

Tuesday, November 21

Sungyon Lee, University of Minnesota
Particle-induced viscous fingering

Dwight Barkley, University of Warwick
Nobody knew turbulent transition could be so complicated

Minisymposia

The 2017 annual meeting will feature the following 5 minisymposia. Each presentation is 26 minutes in duration.

Monday, November 20

Minisymposium: Flying Fish and Diving Birds
Minisymposium: Recent Advancements in Turbulent Mixing in Stratified Geophysical Flows
Minisymposium: Life Processes at Biologically Intermediate Reynolds Numbers
Minisymposium: Tutorial: Modal Analysis Methods for Future Flows

Tuesday, November 21

Minisymposium: Fluid Dynamics of Atmospheric Clouds

Focus Sessions

This year's program includes 14 Focus Sessions. Each presentation is 13 minutes.

Sunday, November 19

Unanswered Questions in Viscous Fingering I
Fluid Dynamics of Fire: From Small to Large Scales
Modeling, Computations and Applications of Wetting/Dewetting Problems I
Unanswered Questions in Viscous Fingering II

Monday, November 20

The Physics of Electrospray and Electrospinning: Current Knowledge and State of the Art I
Modeling, Computations and Applications of Wetting/Dewetting II

Fluid Dynamics of Atmospheric Clouds I
The Physics of Electrospray and Electrospinning:
Current Knowledge and State of the Art II
**Modeling, Computations and Applications of Wetting/
 Dewetting III**
Fluid Dynamics of Atmospheric Clouds II

Tuesday, November 21

Fluid Dynamics of Atmospheric Clouds III
Modal Analysis Methods for Fluid Flows I
**Life Processes at Biologically Intermediate Reynolds
 Numbers**
Modal Analysis Methods for Fluid Flows II

Posters

The number of poster research contributions to the Annual DFD Meeting has been growing over the past few years with over 132 posters submitted this year of which 19 are entered into a Student Poster Competition.

Student posters will be judged and awarded 1st and 2nd Prize for “Best Poster” in the following categories: Category 1: Computational fluid dynamics, Category 2: Experimental fluid dynamics

First and second place winners in each category will receive cash awards and certificates. Awardees will also be highlighted in the DFD Newsletter.

While the Technical Poster Session of the DFD Meeting is open to all participants, the Student Poster Competition will constitute a specific opportunity for graduate and undergraduate students to enhance their presentation skills and to build their professional network.

Gallery of Fluid Motion

The Gallery of Fluid Motion consists of posters or videos submitted by attendees illustrating the science - and very often also the beauty - of fluid motion. Both computational and experimental entries are encouraged. A panel will select outstanding poster and video entries based on artistic value, scientific content, and originality. The winning entries will be published as a special supplement to *Physical Review Fluids*. The top three winners in each category will be presented the Milton Van Dyke Award consisting of a small monetary prize; a copy of the Album of Fluid Motion; and an award certificate. All posters and videos will be accessible on-line at <http://gfm.aps.org>.

Audiovisual Equipment

All rooms will be equipped with an LCD projector, screen, microphone, and pointer. Speakers must provide their own laptop computer to use with the projector.

New this year, all meeting room projectors will have 1920 by 1200 resolution. Please set your laptop resolutions to 1920 by 1200 (16×10 format). Your images will not display properly if your laptop resolution is higher than the projector’s. The projectors are capable of supporting presentations at a lower resolution including presentations in a 4×3 format.

A Speaker Ready Room with technicians will be available to help attendees ensure that their presentations work smoothly with the LCD projection equipment. We suggest all presenters visit the Speaker Ready Room in advance of their presentation.

Exhibitor and Sponsorship Opportunities

Exhibits will be centrally located in the Mile High Ballroom at the Colorado Convention Center.

For more information on exhibits or sponsorship, please email Margaret McDonald at:

margaret2@meetingsandmore.net

Conference Reception

This year the DFD Conference Reception will be held in the Ellie Caulkins Opera House, which is directly adjacent to the Colorado Convention Center, west across Stout Street. **No backpacks will be allowed; please leave them in your hotel room.**

‘The Ellie’ was built in 1908 and beautifully restored in 2005. Food (heavy hors d’oeuvres) and drink will be available throughout the building. You will be able to sit, eat and chat in the main Opera House audience area; other areas will have standing tables and limited seating. Be sure to enjoy the evening’s entertainment, located in these areas of the Opera House:

- Beneath the main lobby, in the Chambers Grant Salon, the Janine Gastineau Ensemble will perform jazz, bossa nova and French chansons.
- In the Studio Loft, above and behind the main Opera House stage, the band Sherefe will perform music from the Balkans and Middle East for listening and dancing.
- In the main lobby area, the acrobatic-yoga troupe Fractal Tribe will offer small scale ‘atmospheric’ performances throughout the space.

Always a highlight of the APS/DFD Meeting, this reception is guaranteed to please as you catch up with old friends and make new ones.

The reception is included in the registration fee for those who register as APS Members, Nonmembers, Graduate Students, and Retired Members. Undergraduate students and guests may purchase tickets for \$100.

Accompanying Visitor Program

An informal program for people accompanying attendees of the meeting in Denver is being assembled by Caryl Kasoy. Events may include a tour of the Denver Art Museum, a meet-up at a local restaurant, etc. Email caryl.kasoy@Colorado.EDU with questions and suggestions. The group will meet at 10 am November 19, inside the Colorado Convention Center, near the big blue bear sculpture.

Other Events

Please visit the meeting website for details on other DFD events taking place over the meeting dates: <http://www.apsdfd2017.org/events>

Saturday, November 18

- Persuasion for Women: Success in Meetings and Negotiations

Sunday, November 19

- Accompanying Visitors Program
- Young Investigator Workshop
- Fluids Education Lunch
- All the Faces of Fluid Dynamics
- APS/DFD Conference Reception

Monday, November 20

- Women in Fluids Networking Lunch
- Student Lunch
- Meet the APS *Physical Review* Journal Editor's Reception

Tuesday, November 21

- APS/DFD Closing Reception & Prize Drawing

2017 Meeting Co-Chairs

Jean Hertzberg

Department of Mechanical Engineering
University of Colorado, Boulder
(303) 817-0967
hertzberg@colorado.edu

Peter Hamlington

Department of Mechanical Engineering
University of Colorado, Boulder
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Abstract Submissions

Vinaya Sathyasheelappa

APS
(301) 209-3266
vinaya@aps.org

Registration

Katie McLaughlin

Orchid Solutions
Phone: (801) 505-4108
katie@orchideventsolutions.com

Housing

Monica Malouf

Meetings and More
Phone: (301) 526-8129
monica@meetingsandmore.net

Exhibiting and Sponsorship Information

Margaret McDonald

Meetings and More
Phone: (240) 355-5608
margaret2@meetingsandmore.net

General Meeting Information

Peggy Holland

Meetings and More
Phone: (301) 641-4150
peggy@meetingsandmore.net

Future APS/DFD Meetings

2018: Atlanta, GA

Professor P.K. Yeung, Meeting Co-Chair
Professor Donald Webster, Meeting Co-Chair
Georgia Institute of Technology

2019: Seattle, WA

Professor Alberto Aliseda, Meeting Co-Chair
Professor Dana Dabiri, Meeting Co-Chair
University of Washington

2020: Chicago, IL

Professor Jon Freund, Meeting Chair
University of Illinois Urbana-Champaign

2021: Phoenix, AZ

Professor Marcus Hermann, Meeting Chair
Arizona State University

Online Job Board

The meeting website now offers an online job board as an extension to the hardcopy board available at the meeting. To submit a job advertisement for posting, please send a short description (100 words or less) including a link for more information to Jean.Hertzberg@colorado.edu.

Newly Elected Executive Committee Members

The following are the newly elected members of the DFD Executive Committee. Their terms will begin immediately after the close of the 2017 APS DFD meeting.



Chair-Elect
Charles Meneveau,
Johns Hopkins University



Vice-Chair
Minami Yoda,
Georgia Institute of
Technology



Member at Large
Sarah Waters,
University of Oxford



Member at Large
David Saintillan,
University of California-
San Diego

APS/DFD 2016-2017 Leadership & Contact Information

DFD members are invited to contact the DFD Leadership with suggestions and concerns.

COMMITTEE

Chair:
Robert Moser
(11/16 - 10/17)
Univ of Texas, Austin

Chair-Elect:
Eckart Meiburg
(11/16 - 10/17)
Univ of California - Santa Barbara

Past Chair:
Ellen Longmire
(11/16 - 10/17)
Univ of Minn - Minneapolis

Councillor:
Ann Karagozian
(01/15 - 12/18)
Univ of California - Los Angeles

Secretary/Treasurer:
Jonathan Freund
(11/15 - 10/18)
Univ of Illinois - Urbana

Member-at-Large:
Paul Linden
(11/16 - 10/17)
Univ of Cambridge

Member-at-Large:
Shelley Anna
(01/15 - 12/17)
Carnegie Mellon Univ

Member-at-Large:
John Dabiri
(01/15 - 12/17)
Caltech

Member-at-Large:
Anette Hosoi
(11/15 - 10/18)
MIT

Member-at-Large:
Detlef Lohse
(11/15 - 10/18)
Univ of Twente

Member-at-Large:
Jeff Eldredge
(11/16 - 10/19)
Univ of California - Los Angeles

Member-at-Large:
Katherine Prestridge
(11/16 - 10/19)
Los Alamos Natl Lab

COMMITTEES

NOMINATING COMMITTEE
8 MEMBERS, STAGGERED
2-YEAR TERMS

Kathy Prestridge
(12/17)
Chair

Bud Homsy
(12/18)
Vice-Chair

Serafim Kalliadasis
(12/18)

Haecheon Choi
(12/18)

Alison Marsden
(12/18)

David Hu
(12/17)

David Saintillan
(12/17)

Daniel Bodony
(12/17)

PROGRAM COMMITTEE
8 MEMBERS, STAGGERED
3-YEAR TERMS

Eckart Meiburg
Chair

Robert Moser
Vice-Chair

Shawn Shadden
(12/18)

Michael Plesniak
(12/18)

Nicholas Hutchins
(12/18)

Patrice Le Gal
(12/17)

Petia Vlahovska
(12/17)

Roseanna Zia
(12/17)

FELLOWSHIP COMMITTEE
8 FELLOWS, STAGGERED
2-YEAR TERMS

James Wallace
(12/17)
Chair

Eckart Meiburg
Vice-Chair

Yoshi Kimura
(12/18)

Ken Christensen
(12/18)

Ching-Long Lin
(12/18)

Ross Griffiths
(12/17)

Z. Jane Wang
(12/17)

Minami Yoda
(12/17)

EXTERNAL AFFAIRS COMMITTEE
8 MEMBERS, STAGGERED
3-YEAR TERMS

Mihailo Jovanovic
(12/18)
Chair

Melissa Green
(12/18)
Vice-Chair

Meredith Metzger
(12/19)

Stephen Morris
(12/19)

Roberto Zenit
(12/18)

Kausik Sarkar
(12/18)

Anya Jones
(12/17)

Jens Fransson
(12/17)

FLUID DYNAMICS PRIZE SELECTION COMMITTEE
8 MEMBERS, STAGGERED
2-YEAR TERMS

Alexander Smits
(12/18)
Chair

Krishnan Mahesh
(12/17)
Vice-Chair

Yukio Kaneda
(12/18)

Sascha Hilgenfeldt
(12/18)

Kathleen Steeb
(12/18)

Michael Brenner
(12/17)

Anne de Wit
(12/17)

Howard Stone
2016 Award Winner

CORRSIN AWARD SELECTION COMMITTEE
8 MEMBERS, STAGGERED
2-YEAR TERMS

Karen Flack
(12/17)
Chair

S. Balachandar
Vice-Chair
(12/18)

Randy Ewoldt
(12/18)

Rajat Mittal
(12/18)

Grae Worster
(12/17)

Stephen Pope
(12/17)

Eckart Meiburg
(12/17)

Ivan Marusic
2016 Award Winner

ACRIVOS AWARD SELECTION COMMITTEE
7 MEMBERS, STAGGERED
2-YEAR TERMS

Satish Kumar
(12/17)
Chair

Mark Stremier
(12/18)
Vice Chair

Mingjun Wei
(12/18)

Nick Ouellette
(12/18)

Carlos Hidrovo
(12/18)

Dennice Gayme
(12/17)

Antonio Ferrante
(12/17)

Robert Martinuzzi
(12/17)

FRENKIEL AWARD SELECTION COMMITTEE
7 MEMBERS, STAGGERED
2-YEAR TERMS

Joe Klewicki
(12/17)
Chair

Joana Austin
(12/18)
Vice-Chair

Carlos Pantano
(12/18)

Peter Schmid
(12/18)

Donald Webster
(12/17)

Emily Ching
(12/17)

Alexi Poludnenko
2016 Award Winner

COMMITTEE ON MEDIA & SCIENCE RELATIONS
6 MEMBERS, STAGGERED
2-YEAR TERMS

Tadd Truscott
(12/17)
Chair

Nicole Sharp
(12/18)
Vice-Chair

Juan Carlos del Alamo
(12/18)

Pavlos Vlachos
(12/18)

Luciano Castillo
(12/18)

Andrew Belmonte
(12/17)

COMMITTEE ON EDUCATIONAL & CAREER OUTREACH
6 MEMBERS, STAGGERED
2-YEAR TERMS

Aline Cotel
(12/17)
Chair

Laura Miller
(12/18)
Vice-Chair

Maciej Balajewicz
(12/18)

Ebenezer Gnanamanickam
(12/17)

Mitul Luhar
(12/17)

Nathalie Vriend
(12/17)

GALLERY OF FLUID MOTION COORDINATOR

Ken Kiger

2015-2019

Beverley McKeon
APS representative on US National Committee for Theoretical and Applied Mechanics