SPRING 2013

Division of Fluid Dynamics Newsletter

DFD News

A Division of the American Physical Society

THE 66TH ANNUAL DFD MEETING

Pittsburgh, Pennsylvania November 24–26, 2013

View of the City of Pittsburgh Skyline (image courtesy of Mehdi B. Nik)

In this Issue

Pittsburgh, PA
November 24-26, 2013

The 66th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD) will be held in Pittsburgh, Pennsylvania from November 24th to 26th, 2013. The meeting will be hosted by the University of Pittsburgh and Northeastern University with participation by Carnegie Mellon University, Natural Energy Technology Laboratory, Pennsylvania State University and Penn State Fluid Dynamics Research Consortium, West Virginia University and Youngstown State University.

Meeting Venue

The meeting will be held at Pittsburgh's green-certified David L. Lawrence Convention Center, considered one of the most beautiful convention centers in the world with balconies and terraces open to river views and cityscapes. The Center is walking distance to five hotels that have been carefully selected for this meeting. Oral and poster presentations will be held on the 3rd and 4th floors of the convention center. Exhibits, the Gallery of Fluid Motion and refreshment breaks will be located on the 2nd floor within the Exhibit Hall.

Pittsburgh

Located at the confluence of three sparkling rivers and banked on all sides by green hills, Pittsburgh has earned its reputation as one of America's "most livable" cities. Whether jogging the tree-lined riverfront trails; taking in the sports action of the Steelers, Penguins or Pirates; discovering a world-class art scene; or exploring the city's jazz legacies, there is something to entertain everyone. Long a center for the production of steel, iron, glass, Pittsburgh's economy is now driven by technology, medicine, finance and tourism.

Located halfway between New York City and Chicago, Pittsburgh is a short flight or a day's drive for more than 70 percent of the U.S. population and 50 percent of the Canadian population. Air travelers arrive at Pittsburgh International Airport, named "Best U.S Airport" by Condé Nast Traveler.

For more information on this city, please visit: **http://ww.visitpittsburgh.com**

Housing and Meeting Registration

Registration for the meeting and housing information is available through the meeting web site: **www.apsdfd2013.pitt.edu/**.

APS/DFD has negotiated discounted hotel rates for meeting attendees. You should make your hotel reservation through Orchid Event Solutions after completing your on-line registration for the meeting or by going to the hotel section of the website (located under the information tab) and clicking on the link provided. Hotel reservations are taken on a first-come, first-served, space available basis. Submit your request as soon as possible for the best opportunity of receiving your hotel choice.

2013 DFD Contracted Hotels

Please Note: It is important to the meeting that you reserve rooms at these hotels.

The WESTIN Convention Center, Pittsburgh
Next door to Convention Center and across the street from the train station
$169.00 Single/Double
$179.00 Triple
$189 Quad

Student Rate (must show student id at check in)
$129.00 Single/Double (only 50 rooms available)
$139.00 Triple
$149.00 Quad

Hampton Inn & Suites Pittsburgh Downtown
Located 2 blocks from the Convention Center
$129.00 Double Queens or King Rooms
$139.00 King Studios

Omni William Penn Hotel
Located 3-4 blocks from the Convention Center
$169.00 Single/Double
$179.00 Triple
$189.00 Quad

Student Rate (must show student id at check in):
$129.00 Single/Double
$139.00 Triple
$149.00 Quad

DoubleTree by Hilton Hotel & Suites Pittsburgh Downtown
Located 3-4 blocks from the Convention Center
$149.00 single/double/triple/quad

Renaissance Pittsburgh Hotel
Located 3-4 blocks from the Convention Center
$154.00 Single/Double
$174.00 Triple/Quad

Registration fees:

Registration is now open! To register go to: **www.apsdfd2013.pitt.edu/**

	Early (thru 9/16)	Regular (9/17–10/22)	Late & On-Site (10/23–11/26)
Full Member	$400	$470	$550
Reciprocal Society Member	$400	$470	$550
Non-Member	$655	$715	$795
Retired (with APS Senior Membership)	$195	$215	$300
Undergraduate Student	$45	$45	$80
Graduate Student	$195	$215	$300
Reception Ticket	$85	$85	$85

Key Dates

Registration Deadlines

Early Registration Rate
on or before Sept 16th 2013

Regular Registration Rate
Sept 17th – Oct 22nd 2013

On-Site Registration Rate
Oct 23rd – Nov 26th 2013

Please note, you will still be able to register on-line up until Friday, Nov 22, however after Oct. 22nd it will be at the on-site rate.

Cancellation Deadline
(no registration refunds past this date):
Nov 7th 2013

Hotels

Reduced Rate Ends
Oct 22nd 2013

Abstract Submission Deadline
Aug 2nd 2013

Travel Grant Application Deadline
Aug 2nd 2013

Child Care Application Deadline
Aug 2nd 2013

Gallery of Fluid Motion (GFM)
Intent to Submit GFM Poster or GFM Video Deadline-
Sept 16th 2013

Video Submission Deadline
Oct 14th 2013

GFM Poster
Bring to meeting

Scientific Program

The scientific program will include four award lectures and eight invited lectures along with minisymposia, focus sessions, contributed papers, poster sessions, exhibits and the Gallery of Fluid Motion poster and video entries. Over 2200 contributed abstracts, divided into more than 33 concurrent sessions, are anticipated.

Awards Program

Each year the APS Division of Fluid Dynamics presents the Fluid Dynamics Prize, the Francois Frenkiel Award, the Andreas Acrivos Dissertation Award, and the Stanley Corrsin Award. The 2013 award winners, each one of whom will give a lecture at the meeting, will be announced in the Fall.

Invited Lectures, Minisymposia, and Focused Sessions

Eight invited lectures on topics of broad interest to the DFD community will be given by experts in each field. The program also includes minisymposia and focus sessions dealing with exciting current research.

Gallery of Fluid Motion

The 31st Annual Gallery of Fluid Motion will be held as part of the meeting. The Gallery 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. Poster and video entries must not duplicate one another. Outstanding posters, selected by a panel of referees, will be recognized during the meeting, will be displayed at the Annual APS meeting in March, 2014 and will appear in the September 2014 issue of the Physics of Fluids. Please see the meeting web site for information on how to submit Gallery of Fluid Motion entries.

Posters

The number of poster research contributions to the Annual DFD Meeting has been growing over the past few years with over 128 posters submitted in 2012. In order to showcase this part of the meeting, DFD launched its first Student Poster Session in 2012 and the meeting will continue this tradition into 2013. The Poster Session will be held during a dedicated time slot prior to the Sunday night reception. Student posters will be judged and awarded 1st and 2nd Prize for "Best Poster" in several categories. Winners in each category will receive award certificates during the meeting reception and will be highlighted in the DFD Newsletter. While the Poster Session of the DFD Meeting is open to all participants, the Poster Competition will constitute a specific opportunity for graduate and undergraduate students to enhance their presentation skills and to build their professional network.

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. A Speaker Ready Room with technicians will be available to help attendees ensure that their presentations work smoothly with the LCD projection equipment.

Exhibitor and Sponsorship Opportunities

Exhibits will be centrally located near the refreshments area on the 2nd floor of the David L. Lawrence Convention Center in Exhibit Hall A.

For more information on exhibits or sponsorship, please email Margaret McDonald at **Margaret2@Meetingsandmore.net**.

Conference Reception

The Conference Reception will be held at the Pittsburgh Convention Center on Sunday evening, November 24, 2013. The reception is included in the registration fee for those who register as APS Members, Nonmembers, Graduate Students, and Retired Members. Additional tickets may be purchased for $ 85 each.

Registration

INTERNET: **http://www.apsdfd2013.pitt.edu**

Questions can be directed to:
help@orchideventsolutions.com

Meeting Hosts

The meeting is hosted by:
University of Pittsburgh
Northeastern University

with participation from:
Carnegie Mellon University
National Energy Technology Laboratory
Pennsylvania State University and Penn State Fluid Dynamics Research Consortium
West Virginia University
Youngstown State University

Meeting Chairs

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Peyman Givi, Ph.D.
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Meeting Information

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Registration

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Exhibiting and Sponsorship Information

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Margaret2@meetingsandmore.net

2013 Meeting Website

www.apsdfd2013.pitt.edu/

Future APS/DFD Meetings

2014: San Francisco, CA
Professor Sanjiva Lele, Meeting Chair
Stanford University

2015: Boston, MA
Professor Triantaphyllos Akylas, Meeting Chair
Massachusetts Institute of Technology

2016: Portland, OR
Professor Raul Cal, Meeting Chair
Portland State University

2017: Denver, CO
Professor Jean Hertzberg, Meeting Chair
University of Colorado, Boulder

APS/DFD 2012 Awards, Prizes, New Fellows, and Gallery Winners

2012 Fluid Dynamics Prize

Professor John Brady, California Institute of Technology, is the recipient of the 2012 Fluid Dynamics Prize which recognizes major contributions to fundamental fluid dynamics made during a career of outstanding work. The citation reads:*"For his seminal contributions to the rheology of "complex fluids", for creating the Stokesian Dynamics technique for predicting the macroscopic properties of concentrated suspensions under shear, and for his services to Fluid Dynamics as Associate Editor and Editor, respectively, of two top journals."*

2012 Stanley Corrsin Award

Professor Daniel Lathrop, University of Maryland, is the recipient of the Stanley Corrsin Award which is given to recognize and encourage a particularly influential contribution to fundamental fluid dynamics. The citation reads: "*For his striking observations of flow in a quantum fluid, including detection of counter-flow that confirmed the two-fluid picture of quantum fluid, observation and characterization of reconnections of quantized vortices, and the discovery of an inverse-cube tail in the velocity distribution of superfluid turbulence.*"

2012 Andreas Acrivos Dissertation Award

William M. Durham, Department of Zoology, University of Oxford, received the Andreas Acrivos Dissertation Award for his thesis entitled "Phytoplankton in Flow." The award recognizes an exceptional young scientist for original, outstanding doctoral thesis work in fluid dynamics done in the United States. The citation reads: "*For innovative work at the interface of fluid mechanics and environmental science, and specifically for demonstrating through a combination of original experiments and modeling that hydrodynamic effects can have a major impact on the spatial distribution of motile plankton in the ocean." Dr. Durham did his doctoral thesis work at Massachusetts Institute of Technology under the direction of Prof. Roman Stocker.*

2012 Francois Frenkiel Award

Professor Thomas Cubaud, SUNY Stonybrook, is the recipient of the Francois Frenkiel award. The award is given in recognition of significant contributions to fluid mechanics that have been published in Physics of Fluids during the preceding year by young investigators.

2012 Division of Fluid Dynamics Fellows

Each year the number of new Fellows is limited to be no more than ½ of 1% of the membership. The new 2012 Fellows are:

P. Henrik Alfredsson
Royal Institute of Technology,
Stockholm, Sweden
For the development of innovative, creative and rigorous experimental methods leading to seminal contributions to our understanding of instabilities, transitional and turbulent flows.

David Dowling
University of Michigan,
Ann Arbor, MI
For conduct and analysis of experiments on turbulent mixing and high—Reynolds number wall—bounded flows, and for contributions to fluids education.

Alfonso Ganan-Calvo
Universidad de Sevilla, Sevilla, Spain
For novel insights, including experiments and theory, for molding fluid jets into micro jets using aerodynamic, hydrodynamic or electrical forces.

Ephraim Gutmark
University of Cincinnati,
Cincinnati, Ohio
For his pioneering contributions to the fundamental flow physics and the development of flow control methodologies to achieve quiet aircraft engines, clean, stable and efficient combustion, and innovative propulsion systems.

Dan Henningson
Royal Institute of Technology,
Stockholm, Sweden
For pioneering contributions to linear and nonlinear hydrodynamic stability and numerical simulations of transitional and turbulent flows, including in—depth understanding of receptivity, bypass transition, and feedback control of these flows.

Anette Hosoi
MIT Lincoln Laboratory,
Cambridge, MA
For innovative work in thin fluid films and in the study of nonlinear interactions between viscos fluids and deformable interfaces including shape, kinematic and rheological optimization in biological systems.

Petros Koumoutsakos
ETH, Zurich, Switzerland
For pioneering contributions in the development of vortex methods, particle methods, and bio-inspired algorithms, and their insightful use to advance fundamental understanding of bluff body flows, biological flows, and nanofluidics.

Norman Lebovitz
University of Chicago, Chicago, IL
For fundamental work on the fluid mechanics of rotating stars and self-gravitating masses, and for the development and use of mathematiand astrophysical fluid dynamics.

Bernd Noack
University of Poitiers,
Poitiers, France
For pioneering contributions to closed-loop turbulence control using methods ranging from reduced-order modeling to numerical and experimental demonstrations.

Neelesh Patankar
Northwestern University,
Evanston, IL
For pioneering contributions to the understanding of superhydrophobicity, the development of computational methods for immersed bodies, and the numerical analysis of electro-osmotic flows.

The 2011 Gallery of Fluid Motion and the Milton Van Dyke Award Winners

As has long been our tradition, the best poster and best videos were chosen from amongst the entries at the 2011 DFD meeting in Baltimore. The top three from each category were awarded the Milton Van Dyke Award for fluid flow visualization.

Milton Van Dyke Award Winners (Poster)

Explosive Boiling?
M. A. J. van Limbeek, H. Lhuissier, C. Sun, A. Prosperetti, D. Lohse

The Mixing of Distant Sources
Mihkel Kree, Emmanuel Villermaux, Jerome Duplat

Dynamics of Perturbed Vortex Pairs Impinging on a Boundary
Daniel Asselin, Charles Williamson

Milton Van Dyke Award Winners (Video)

3D Shock-Bubble Interactions
Babak Hejazialhosseini, Diego Rossinelli, Petros Koumoutsakos

Dynamics of unconfined spherical flames: influence of buoyancy
Louis Leblanc, Maha Manoubi, Kadeem Dennis, Zhe (Rita) Liang, Matei I. Radulescu

Freezing Drops with Powders
Jeremy Marston, Ying Zhu, Ivan Vakarelski, Sigurdur Thoroddsen

Gallery of Fluid Motion Award Winners (Poster)

The spreading of a hydrosoluble surfactant on water
Matthieu Roché, Zhenzhen Li, Ian M. Griffiths, Arnaud St Jalmes, Howard A. Stone

A new angle on water entry
Kyle Bodily, Ken Langley, Jordan Huey, Tadd T. Truscott

Gallery of Fluid Motion Award Winners (Video)

Bubble oscillations and motion under vibration
Tim O'Hern, Sandia National Laboratories; Bion Shelden, John Torczynski

Particle jet formation during explosive dispersal of solid particles
Dave Frost, McGill University; Yann Gregoire, Oren Petel; Sam Goroshin; Fan Zhang

Vortex formation and instability in the left ventricle
Trung Le; Fotis Sotiropoulos, Saint Anthony Falls Laboratory

Floating extensional flows
Roiy Sayag, University of Cambridge; Samuel S. Pegler, M. Grae Worster

Highlights of the 65th Annual DFD Meeting in San Diego, California

The 2012 DFD meeting was held in November at the San Diego Convention Center in San Diego, California. This meeting was once more the largest in DFD history, with over 2,200 contributed papers, 150 Gallery of Fluid Motion entries, and 120 posters from around the world.

In addition to the contributed abstracts, there were twelve invited lectures:

John Brady, the winner of the 2012 Fluid Dynamics prize, gave the lecture *"The Micromechanics of Colloidal Dispersions."*

Daniel Lathrop winner of the 2012 Corssin award, gave the lecture *"Quantum fluid flows: the strange things we see in superfluid helium."*

William Durham, winner of the 2012 Andreas Acrivos Dissertation Prize, gave the lecture *"Phytoplankton in Flow."*

Thomas Cubaud, winner of the 2012 Francois Frenkiel Award, gave the lecture *"Folded Micro-threads: Role of Viscosity and Interfacial Tension."*

Raymond Goldstein, University of Cambridge UK, gave the lecture *"Synchronization of Eukaryotic Flagella."*

Javier Jiménez, Universidad Politécnica Madrid. *"The logarithmic layer of wall-bounded turbulent flows."*

Ugo Piomelli, Queen's University Kingston Canada. *"Boundary layers in favourable pressure gradients."*

Peter Schmid, LadHyX Ecole Polytechnique. *"Control of oscillator and amplifier flows."*

Eckart Meiburg, UC Santa Barbara. *"Numerical Investigations of Turbidity Current."*

Shelley Anna, Carnegie Mellon University. *"Tipstreaming and other methods of producing fine fluid threads."*

Stephen Monismith, Stanford University. *"Waves and wave-driven flow on a coral reef."*

Alison Marsden, UC San Diego. *"Simulation-based planning of surgical interventions in pediatric cardiology."*

There were two Minisymposia:

Complex fluid flows in memory of Daniel D. Joseph.

High-Speed, High-Energy, Multi-Material Flows.

There were two Focus Sessions:

Interfacial Engineering in Thermal-Fluids.

Vortex Dynamics in Fluid-structure Interactions

Notably, this year was the first student poster competition, enabled by the growth of poster presentation from 27 in 2009. The Poster Competition was an opportunity for undergraduates and graduates to refine their presentation skills and develop their network. **Our congratulations to the winners:**

General/Stability

1st **F1.80. Experimental investigation of Richtmyer-Meshkov instability on inclined interface.** Chris McDonald, Jacob McFarland, David Reiley, Brian Reid, Devesh Ranjan.

2nd **F1.69. Dynamics of spheroid particles in channel flow.** Wenbin Mao, Alexander Alexeev

Turbulence/Energy/Geophys

1st **F1.114 Modeling thermophoretic deposition of particles from a hot fluid stream.** Zachary Mills, Wenbin Mao, Alok Warey, Anil Singh Bika, Venkatesh Gopalakrishnan, Alexander Alexeev

2nd **F1.104. An experimental study of the turbulent development do Richtmyer-Meshkov instability with a random initial perturbation.** Vladimir Tsiklashvili, Oleg Lokhatchev, Jeffrey Jacobs.

Microfluidics

1st **F1.8. Resolving distinct conformations of spectrally similar silver-DNA nano clusters using electro kinetic flows.** Jackson Del Bonis-O'Donnell, Deborah Fygenson, Sumita Pennathur

2nd **F1.16. Direct numerical simulation of current-induced convection near an ion-selective surface.** Clara Druzgalski, Mathias Andersen, Ali Mani.

Biofluids

1st **F1.37 Deformation of congenital bicuspid aortic valves in systole**. Kai Szeto, Peter Pastuszko, Vishal Nigam, Juan Lasheras.

2nd **F1.54 Effect of varying angle of attack of the scales on a biomimetic shark skin model on embedded vortex formation.** Jennifer Wheelus, Amy Lang, Michael Bradshaw, Emily Jones, Farhana Afroz, Philip Motta, Maria Habegger.

IN MEMORIAM: TONY MAXWORTHY

Tony Maxworthy
1933–2013

The DFD lost a central and beloved figure when Professor Tony Maxworthy passed away suddenly, at work at the University of Southern California. On many occasions he scoffed at the notion of retirement, saying that he would prefer to work until the end. And so he did.

Tony Maxworthy was well-known to many, partly for the astounding range of his interests in fluid mechanics, and partly for his life of worldwide travel, where he forged collaborations and friendships that would last all his life. A list of topics in which he made significant contributions would span many orders of magnitude in Reynolds number, from the flight of millimeter-scale insects, to the particle laden flows in volcanic eruptions and avalanche slides. But the range of dimensionless numbers themselves would be quite extraordinary, as he worked on partially-miscible fluids, flame propagation and stabilization, liquid sodium flows in magneto-fluid dynamics, the Jovian atmosphere, coastal upwelling and turbulence in salt-stratified and/or rotating flows, capillary wave instabilities on jets and sheets, tidal flows in lakes and rivers, Hele-Shaw flows, sonic boom penetration through wavy interfaces, and more.

Tony Maxworthy was known also for his wide-ranging travels and he forged particularly close relationships with the DAMTP group in Cambridge (with Herbert Huppert), the Grenoble/LEGI group (with Emil Hopfinger), and the University of Western Australia (with Jorge Imberger).

The twin characteristics of wide travel and intellectual interests led to certain signature phenomena. The first followed on from his uncanny ability to identify and perform the first important experiment in, for example, dust devil. The consequences were twofold: first we would all have a new starting point for thinking about the problem, and second, many of us would then spend months or years following up with more detailed and precise measurements, or corollary studies, with the usual result being to confirm what Tony Maxworthy had originally found/proposed. The second set of consequences from his frequent travels was that he was said to have mastered the art of being simultaneously everywhere and nowhere. A starting postdoc at institution X, might discover upon arrival that Tony was in fact at Y, and so there was strong incentive for such people to be self-starters, and then to be even more grateful when he did materialize. Tony, as even his students called him, was very smart and unpretentious, but with good spirit he also assumed that everyone he came in touch with was just as intelligent.

The standard biographical material relates how Tony Maxworthy was born in Ealing, a suburb of London, in 1933, obtaining his B.S. in Mechanical Engineering at Imperial College in 1954, M.S. in Mechanical Engineering at Princeton in 1955, and Ph.D. in Mechanical Engineering from Harvard in 1960. He worked at the Jet Propulsion Laboratory in Pasadena for seven years before coming to USC in 1967, where he remained (in a manner of speaking) for the rest of his career. His career flourished in explosions of creativity and insight that won him international recognition and respect.

He was a Visiting, and then Life Fellow of Clare College, Cambridge, a Fellow of the American Physical Society, a Member of the National Academy of Engineering, and a Fellow of the American Academy of Arts and Sciences. In 1981 & 1982, he was an Alexander von Humboldt Senior Scientist, in 1990 he received the Otto Laporte Award from the APS, in 2005 he was awarded the G.I. Taylor Medal of the Society of Engineering Science, and in 2011 he received the APS Fluid Dynamics Prize. Just one month before his passing, USC announced that he had been appointed a Distinguished University Professor.

These details show the career of an eminent scientist, but they do not reflect how large a figure in life he was for those who knew him. Everyone who has crossed his path has been struck by how gracious a character he was, with a dry wit and quiet and reserved, albeit warm, personality. We will all miss him, but he will remain a role model.

Geoffrey Spedding and Mohamed Gad-el-Hak

IN MEMORIAM: CHIA-CHIAO LIN

Chia-Chiao Lin
1916–2013

The DFD lost a central and beloved figure when Professor Chia-Chiao Lin passed away at the age of 96.

Chia-Chiao Lin, an Institute Professor Emeritus at MIT who played a pivotal role in the development of applied mathematics both in the United States and in China, died Sunday [January 13th] in Beijing.

He was 96. The cause of death was heart failure, Lin's family said.

Lin's broad and seminal research, together with his service to the community, were instrumental in the growth of applied mathematics at MIT and elsewhere in the United States. More recently, he had helped build the field in China as a Distinguished Professor at Tsinghua University since 2002.

Lin joined MIT as an associate professor of applied mathematics in 1947, becoming a full professor in 1953. In 1966, he was named an Institute Professor—MIT's most prestigious faculty appointment. He retired from MIT in 1987.

Real-world applications
Lin was an applied mathematician whose research initially concentrated on fluid mechanics, focusing on hydrodynamics stability and turbulence, and addressing the aerodynamics of gas turbines, oscillating airfoils and shock waves. His doctoral dissertation solved an outstanding problem, stemming from Werner Heisenberg's work, concerning the stability of parallel flows. He also resolved a long-standing problem concerning the theory of asymptotic solutions of ordinary differential equations (of higher order than 2), which are uniformly valid around turning points.

With Theodore von Kármán, his thesis advisor, Lin proposed a spectral theory for homogeneous turbulence, further developing von Kármán's similarity theory and the statistical theory of turbulence. These investigations in hydrodynamic stability and turbulence greatly impacted engineering and science fields dealing with fluid flow, including geophysical fluid dynamics. In 1955, Lin published a monograph titled "The Theory of Hydrodynamic Stability," the first such publication in this developing field.

Lin's research interests then turned to problems in the hydrodynamics of superfluid helium and astrophysics. In 1964, in collaboration with Frank Shu of the University of California at Berkeley, Lin advanced the density-wave theory of galaxy formation (based on the earlier work of Bertil Lindblad) to account for sustained spiral structures. He also contributed to related problems in gravitational collapse and star formation.

In 1974 Lin co-authored, with his former student L. A. Segel, the now-classic treatise, "Mathematics Applied to Deterministic Problems in the Natural Sciences." More recently, in 1996, with Giuseppe Bertin, he published another monograph, "Spiral Structure in Galaxies: A Density Wave Theory."

Contributions in China
For many years, Lin was interested in the development of science and education in China. In 1972, as the deputy leader of a delegation of Chinese-born American scientists, Lin returned to his homeland, receiving a warm welcome from Premier Zhou Enlai and other leaders. He visited China regularly in the ensuing years, inviting many well-known experts to give lectures there. He also facilitated study and research by Chinese scholars at MIT—many of whom have since become leaders in various fields in China.

In 2002, Lin returned to his alma mater, Tsinghua University, as Distinguished Professor. He founded the Zhou Pei-Yuan Center for Applied Mathematics — now an active hub of research in quantitative biology, applied partial differential equations, scientific computation, and other interdisciplinary subjects linking mathematics, natural sciences and engineering — and served as its honorary director, undertaking research on protein folding. He worked tirelessly at Tsinghua University to set an example for young researchers, overseeing the research of more than 10 PhD students.

IN MEMORIAM: CHIA-CHIAO LIN

Lin was also a visiting professor of mathematics at Florida State University from 1994 to 2011.

A celebrated scholar

Lin was born July 7, 1916, in Beijing. He received a BSc in physics from Tsinghua University in 1937 and an MSc in applied mathematics from the University of Toronto in 1941. He then earned his PhD, in aeronautics, from the California Institute of Technology in 1944; Caltech honored Lin with its Distinguished Alumni Award in 1992.

Lin did postdoctoral work at the Jet Propulsion Lab before joining the faculty of Brown University in 1945 as an assistant professor of applied mathematics, becoming an associate professor in 1946. He joined MIT's mathematics faculty the following year.

Twice named a Guggenheim Fellow, in 1954 and 1960, Lin received major recognitions from a variety of professional societies, including the Otto Laporte Award of the American Physical Society. In 1975, he received the Timoshenko Medal of the American Society of Mechanical Engineering "for outstanding contributions to fluid mechanics, especially to hydrodynamic stability and turbulence, superfluid helium, aerodynamics and galactic structures." He received the Award in Applied Mathematics and Numerical Analysis from the National Academy of Sciences in 1977 and the first Fluid Dynamic Prize of the American Physical Society in 1979.

In 1981, the MIT faculty selected Lin for the James R. Killian Jr. Faculty Achievement Award; he delivered the Killian Lecture to the MIT community in the spring of 1982. Lin's Killian Award citation noted that he was highly influential in "developing a more comprehensive approach to applied mathematics."

Within MIT's Department of Mathematics, Lin served as the first faculty chair of the applied mathematics group, from 1961 to 1966. He was president of the Society for Industrial and Applied Mathematics from 1973 to 1974, and a member of its board of trustees from 1978 to 1980.

Lin held honorary doctorates from the Chinese University of Hong Kong (1973), Tsinghua University (1987) and Taiwan's National Tsing Hua University (2005). He was also, his family said, an honorary professor at the Chinese Academy of Sciences and at Nankai University. His professional honors included selection as a fellow of the American Academy of Arts and Sciences (1951), as academician of Academia Sinica (1958), as a member of the National Academy of Sciences (1962), and as a foreign member of the Chinese Academy of Sciences (1994).

Lin was twice a member of the Institute for Advanced Study, in 1959 to 1960 and 1965 to 1966. He was also a member or fellow of the American Astronomical Society, the American Mathematical Society, the American Physical Society, the Society for Industrial and Applied Mathematics, and the Institute of Aerospace Sciences.

Lin is survived by his wife of 66 years, Shouying Liang Lin, of Beijing and Cambridge, Mass.; daughter Lillian Shengjung Lin and her husband, Alan Stephen Crawford, of Decatur, Ga.; sister Xiaoyuan Lin and her husband, Shukai Li; sister Xiaoying Lin and her husband, Junjie Gu; and brother-in-law Hongmo Dong. He is also survived by stepgrandson Scott Crawford and his wife, Shay, and their children; stepgrandson Joshua Taylor and his wife, Sarah, and their children; stepgranddaughter Yolanda Jones and her husband, Darius, and their children; and numerous cousins, nephews, nieces, great-nephews, and great-nieces.

Lin was preceded in death by his son Edward; brother Jiaxin Lin and his wife, Shunzu Huang; brother Jiatian Lin; brother Jiakeng Lin and his wife, Kanghuai Cheng; sister Xiaohua Lin; brother-in-law Shoupan Liang and his wife, He Fu; brother-in-law Shouchu Liang; and sister-in-law Shoubin Liang and her husband, Xiaoshen Chen.

From MITnews: **http://web.mit.edu/newsoffice/2013/obit-chia-chiao-lin.html**

APS/DFD 2013-2014 Leadership & Contact Information

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

EXECUTIVE COMMITTEE

Chair:
James Riley
(11/12 - 10/13)
Univ of Washington

Chair-Elect:
Nadine Aubry
(11/12 - 10/13)
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(11/12 - 10/15)
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COMMITTEES

NOMINATING COMMITTEE
8 MEMBERS, STAGGERED
2-YEAR TERMS

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Roman Stocker
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(12/13)
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(12/13)

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DIVISION WEBSITE DEVELOPMENT OFFICER

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GALLERY OF FLUID MOTION COORDINATOR

Ken Kiger