



# Institute News

## Meet Some of AIChE's New Fellows

In October, at the Annual Meeting in Pittsburgh, PA, AIChE leaders and Fellows will gather at the Fellows Breakfast (Oct. 31) to recognize some of the recently elected AIChE Fellows — who will join the ranks of respected chemical engineers who have made significant contributions to the profession. Fellow candidates are nominated by their AIChE peers, and must have significant chemical engineering practice (generally 25 years) and been a member of AIChE for at least 10 years, with at least three years as a Senior member. Here are some of the Fellows elected in 2012. More will be introduced in future issues of *CEP*.



**David T. Allen** is the Gertz Regents Professor of Chemical Engineering and the Director of the Center for Energy and Environmental Resources at the Univ. of Texas at Austin. He is the author of six books and over 170 papers in areas ranging from coal liquefaction and heavy oil chemistry to the chemistry of urban atmospheres. His work on urban air quality includes a lead investigator role in the Texas Air Quality Studies. Another focus of his work is developing environmental educational materials for engineering curricula. In 2011, he received AIChE's W. K. Lewis Award for Chemical Engineering Education.



**Venkat R. Bhethanabotla** is Professor and Chair of the Dept. of Chemical and Biomedical Engineering at the Univ. of South Florida, where his research focuses on chemical and biological sensors, plasmonics, and computational catalysis. Within AIChE, he has served as director of programming for the Nanoscale Science and Engineering Forum, and frequently chairs meeting sessions devoted to nanomaterials and energy applications. He is also associate editor for the *IEEE Sensors Journal*. He earned his BS from Osmania Univ. (India) and his PhD from Pennsylvania State Univ., both in chemical engineering.



**Veera Mallu Boddu**, P.E., is a senior scientist in the Environmental Processes Branch of the U.S. Army Research and Development Center (Champaign, IL), where he leads the Air Pollution Control and Environmental Processes Laboratories in their work to remediate industrial wastewater and air emissions contaminated with explosives compounds. He also develops nano-composites for blast protection of facilities. He is a Board Certified Environmental Engineer (American Academy of Environmental Engineers) and an adjunct

professor of nuclear science and engineering at the Univ. of Missouri-Columbia. He is chair of AIChE's Central Illinois Section and a registered P.E. in Missouri.



**Denise Chastain-Knight**, P.E., is Process Safety Technology Specialist at CH2M HILL (Augusta, GA), where she leads safety integrity level verification and validation projects and consults on the company's projects across a wide range of technologies. Prior to taking this role in 2001, she had experience as a process engineer at CH2M HILL and as a process improvement engineer in the Chemical Div. of Georgia Pacific Corp. She has been a leader of AIChE's Atlanta Section and of the Institute's Professional Development, Nominating, and Ethics Committees. She is a chemical engineering alumnus of Georgia Tech.



**Miland D. Deo** is a professor of chemical engineering and Associate Dean of Academic Affairs for the College of Engineering at the Univ. of Utah. His research is in flow assurance, reservoir engineering, and enhanced oil recovery, and his research group is working on mitigating the impact of wax, asphaltene, and hydrate deposition in oil pipelines; understanding fluids production in shales; determining the placement and impact of hydraulic fractures in naturally fractured reservoirs; developing *in situ* oil shale production technologies; and identifying risks in underground storage of carbon dioxide. He has chaired sessions on upstream-related topics at AIChE's Annual and Spring meetings.



**P. C. Gopalratnam**, P.E., is a senior professional on the global nylon intermediates businesses team at INVISTA. During his 32-year career with DuPont, and later at INVISTA, he has held key positions in R&D, operations, engineering, and inter-

national startup, as well as leadership roles in compliance and ethics, and is a Six Sigma Master Black Belt. He is a member of AIChE's Publication Committee and its New Books subcommittee, and received AIChE's Gary Leach Award for his work with the Equipment Testing Procedures Committee. He earned his chemical engineering PhD at the Univ. of Louisville.



**Shakeel H. Kadrir** is a director of Global Process Safety and Risk Management at Air Products and Chemicals, Inc. In his 34 years at Air Products, he has worked in engineering, operations, technology, and a variety of technical management roles.

He is also a process owner of Air Products' Corporate Environmental Health and Safety (EH&S) Risk Process Management process, which he helped to develop and implement in 2007. He is dedicated to improving process safety culture in industry, and is a Fellow of AIChE's Center for Chemical Process Safety (CCPS).



**Sang Yup Lee** is Distinguished Professor and Dean of the College of Life Science and Bioengineering at the Korean Advanced Institute of Science and Technology (KAIST), where he directs the centers for Systems and Synthetic Biotechnology, BioProcess Engineering Research, and Bioinformatics Research. He has published more than 410 papers and numerous patents, and is Editor-in-Chief of *Biotechnology Journal*. He is a Fellow of the American Academy of Microbiology, the Society for Industrial Microbiology and Biotechnology, and the Korean Academy of Science and Technology, and is a member of the U.S. and Korean National Academies of Engineering.



**Alexander V. Neimark** is Distinguished Professor of Chemical and Biochemical Engineering at Rutgers Univ. Prior to joining Rutgers in 2006, he served as a research director at TRI/Princeton. His research focuses on thermodynamics and molecular modeling of nanophases and characterization of nanoporous and fibrous materials. He has developed theoretical and multiscale simulation methods to study interfacial equilibria and transport in nanoscale systems, some of which have found practical applications. He earned an MS in mechanical engineering, a PhD in chemical engineer-

ing, and a DSc in physical chemistry at the Lomonosov Moscow State Univ.



**Kimberly Ogden** is a professor in the Dept. of Chemical and Environmental Engineering at the Univ. of Arizona, where her research includes bioreactor design for production of alternative fuels from algae and sweet sorghum, and microbiological water quality. She is also the engineering technical lead for the National Alliance for Advanced Biofuels and Bioproducts. She is involved in the National Science Foundation's Research Experiences for Teachers Program, as well as K-12 outreach initiatives. She is currently Secretary of AIChE, and serves on the managing board of AIChE's Society for Biological Engineering.



**Gregory Stephanopoulos** is the Bayer Professor of Chemical Engineering at MIT, where he leads the Laboratory for Bioinformatics and Metabolic Engineering. His pioneering work in metabolic networks has led to the identification of target enzymes affected by various modulations, such as oncogene expression, diet changes, and other genetic modifications. He is co-author or editor of five books (including the first metabolic engineering textbook) and 50 patents, and is Editor-in-Chief of *Metabolic Engineering* and *Current Opinion in Biotechnology*. He is a member of the National Academy of Engineering, and has received AIChE's Founders Award and the Wilhelm Award for Chemical Reaction Engineering.



**James A. Trainham** is Vice President, Strategic Energy Programs, and Lead and Distinguished Fellow for RTI International. He is also a professor of chemical and biomolecular engineering at North Carolina State Univ., and Executive Director of the Research Triangle Solar Fuels Institute. His current focus is the development of solar fuels, and he recently led the successful pilot demonstration of the first solar thermal biomass gasifier. He was elected to the National Academy of Engineering (1997) and received AIChE's Chemical Engineering Practice Award (2002). He earned his PhD in chemical engineering from the Univ. of California, Berkeley.

More information about AIChE Fellows is available at [www.aiche.org/community/fellows](http://www.aiche.org/community/fellows).

### Frank Bates is Named 64th Institute Lecturer

**F**rank S. Bates, Regents Professor and Head of the Dept. of Chemical Engineering and Materials Science at the Univ. of Minnesota, has been selected as AIChE's 64th Institute Lecturer. Bates will deliver his lecture, "Multiblock Polymers: Panacea or Pandora's Box?," on Wednesday, Oct. 31, 2012, at 11:15 am, during the 2012 AIChE Annual Meeting in Pittsburgh, PA.

Bates will outline the basic principles underpinning multiblock polymer science and engineering, including modern synthesis approaches, the influence of molecular architecture on structure and properties, contemporary characterization methods, and the current state of predictive statistical theories. Commercially successful examples will highlight the opportunities for creating new materials and products presented by this emerging class of polymers.

Bates has acquired an international reputation for his research on a range of topics related to polymers. His approaches to understanding the thermodynamics and dynamics of block copolymers and polymer mixtures include polymer synthesis, chemical modification, and molecular charac-

terization; structural analysis by neutron scattering, X-ray scattering, and light scattering, and by electron microscopy; and dynamic characterization through rheological and processing measurements. His research has been presented in some 300 widely cited publications, and his work as an engineer has led to useful products and processes for drug delivery and other applications.

He is the recipient of numerous awards and recognitions. His recent honors include the Cooperative Research Award from the American Chemical Society; the Sustained Research Prize from the Neutron Scattering Society of America; and the John H. Dillon Medal and the Polymer Physics Prize, both from the American Physical Society (APS). He is a Fellow of the APS and the American Association for the Advancement of Science, and was elected to the National Academy of Engineering and the American Academy of Arts and Science.



### Papoutsakis will Present Bailey Award Lecture at Pittsburgh Annual Meeting

**E**leftherios "Terry" Papoutsakis, the Eugene DuPont Chair in the Dept. of Chemical Engineering at the Univ. of Delaware's Delaware Biotechnology Institute, has been named the recipient of AIChE's Society for Biological Engineering's (SBE) James E. Bailey Award. The award will be presented at the 2012 AIChE Annual Meeting in Pittsburgh, PA, where Papoutsakis will present the Bailey Award Lecture on Tuesday, Oct. 30, at 6:00 pm.

In his lecture, entitled "Generating Complex Biological Traits through Combinatorial and Multigenome Expansion of the Sampling Space," Papoutsakis will discuss the key difficulties that must be overcome when developing the synthetic or semi-synthetic phenotype in the context of synthetic biology and cell engineering.

Papoutsakis' research focuses on interdisciplinary areas of systems biology, metabolic engineering, experimental and computational genomics with applications in stem-cell biology, and prokaryotic biology for the production of biofuels and chemicals from biomass. He serves on the advisory boards of four journals in the field of biotechnology and tissue engineering, and has authored several issued and pending patents. A fellow of the American Academy of Microbiology and the American Association for the Advancement of Science, and a founding Fellow of the American Institute of Medical and Biological Engineers, his honors include AIChE's Alpha Chi Sigma Award for Chemical Engineering Research, as well as the Marvin Johnson Award and the Van

Lanen Award, both from the American Chemical Society.

Endowed by Cytos Biotechnology, the Bailey Award is presented for outstanding contributions to the field of biological engineering, and is presented in memory of biotechnology pioneer Jay Bailey. More information about the award is available at [www.aiche.org/SBE/community/awards](http://www.aiche.org/SBE/community/awards).



#### In Memoriam

- Michel Boudart, 87, Stanford, CA
- David Brown, 95, Key Largo, FL
- Louis J. Colaianni, 71, Pittsburgh, PA
- Gordon A. Fluke, 88, Custer, SD
- David I. Saletan, 83, Houston, TX
- Warren B. Seely, 78, Moss Point, MS
- Patrick J. Span, 80, Eden Prairie, MN
- Charles H. Ware\*, 84, Palm Harbor, FL

\* AIChE Fellow

## AIChE Meetings Calendar

For information and registration details, visit [www.aiche.org/conferences](http://www.aiche.org/conferences) or call Customer Service at 1-800-242-4363 or 1-203-702-7660 (outside the U.S.)

SEPT. 9–13, 2012	<b>57th Annual Safety in Ammonia Plants and Related Facilities Symposium</b> Hyatt Regency Chicago • Chicago, IL
OCT. 4–5, 2012	<b>AIChE Regional Process Technology Conference</b> Southshore Harbour Conference Center • League City, TX
OCT. 28 – NOV. 2, 2012	<b>AIChE Annual Meeting and Student Conference</b> The David L. Lawrence Convention Center • Pittsburgh, PA
NOV. 1–2, 2012	<b>AIChE-A&amp;WMA Joint Workshop: Shale Oil and Gas E&amp;P — Water Challenges and Opportunities</b> The David L. Lawrence Convention Center • Pittsburgh, PA
NOV. 11–14, 2012	<b>Society for Biological Engineering's (SBE) and Institute for Sustainability's (IfS) Sustainability in (Bio)Pharmaceuticals Conference</b> Sheraton Old San Juan • San Juan, PR
DEC. 3–5, 2012	<b>Arctic Technology Conference</b> George R. Brown Convention Center • Houston, TX
APR. 25– MAY 2, 2013	<b>AIChE Spring Meeting and 9th Global Congress on Process Safety</b> Grand Hyatt San Antonio • San Antonio, TX

### Donors Rise to Leadership Challenge

The AIChE Foundation is raising funds through its Leadership Challenge: Volunteer Leaders for the Future — which will subsidize AIChE membership for young engineers who take active roles in the Institute (see p. 72). As of Aug. 15, the following AIChE members had pledged their support:

- Sidney F. Sapakie (initiator and lead donor)
- James B. Porter (lead donor)
- Alfred E. Wechsler (lead donor)
- T. Bond Calloway
- Dianne Dorland
- Basil C. Dumas
- H. Scott Fogler
- Peter B. Lederman
- James F. Mathis
- Syamal K. Poddar
- David A. Rosenthal
- William R. Schowalter
- Warren D. Seider
- Darsh T. Wasan
- Vern W. Weekman
- Phillip R. Westmoreland



For details about the program, visit [www.aiche.org/programs-initiatives](http://www.aiche.org/programs-initiatives).

## AIChE Education Calendar

### Instructor-Led Training

For more information, and to register for AIChE Instructor-Led Training courses, visit [www.aiche.org/education](http://www.aiche.org/education).

SEPT. 10–11, 2012 SAN FRANCISCO, CA	<b>Heat Exchanger Design and Operation</b> Course # CH294 • Instructor: Thomas G. Lestina
SEPT. 10–11, 2012 NEW ORLEANS, LA	<b>Conceptual Development and Capital Cost Estimating</b> Course # CH139 • Instructor: John Williams
SEPT. 12–13, 2012 NEW ORLEANS, LA	<b>Project Evaluation: Operating Cost Estimating and Financial Analysis</b> Course # CH140 • Instructor: John Williams
SEPT. 12–14, 2012 HOUSTON, TX	<b>Chemical and Bioengineering Fundamentals for Technical and Scientific Professionals</b> Course # CH024 • Instructor: Dale Gyure
OCT. 1–3, 2012 LAS VEGAS, NV	<b>CCPS's HAZOP Studies and Other PHA Techniques for Process Safety and Risk Management</b> Course # CH157 • Instructor: Robert Johnson
OCT. 4–5, 2012 LAS VEGAS, NV	<b>CCPS's Advanced Concepts for Process Hazard Analysis</b> Course # CH754 • Instructor: Robert Johnson
NOV. 28–30, 2012 ORLANDO, FL	<b>Essentials of ChE for Non-Chemical Engineers</b> Course # CH710 • Instructor: Jack Hipple

### Webinars

Register and view live and archived webinars at [www.aiche.org/resources/webinars](http://www.aiche.org/resources/webinars).

SEPT. 19, 2012 2:00–3:00 PM ET	<b>Failure Mechanisms in Lithium-Ion Batteries: Opportunities for Materials Development</b> Presented by Dee Strand
OCT. 3, 2012 2:00–3:00 PM ET	<b>Marcellus Shale Gas Wastewater Reuse and Recycle</b> Presented by Jessica Gray
OCT. 17, 2012 2:00–3:00 PM ET	<b>Working Across Distances: The Challenge of Global Teams</b> Presented by Henry Kohlbrand
OCT. 24, 2012 2:00–3:00 PM ET	<b>Critically Thinking About Critical Thinking</b> Presented by Greg Shaffer and Melissa Collins

### Web Forum

For information about Web Forums and AIChE Education, visit [www.aiche.org/education](http://www.aiche.org/education).

SEPT. 12, 2012 2:00–3:30 PM ET	<b>AIChE/A&amp;WMA Web Forum: EPA Greenhouse Gas Reporting Rule — Lessons Learned</b> Presented by Mary Ellen Ternes, Miriam Lev-On, Victoria Evans; Moderator: Richard Siegel
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