AIChE Elects New Fellows

At the Annual Meering in Atlanta, GA, AIChE will recognize some of its recently elected AIChE Fellows at a special breakfast on Nov. 18. Fellow candidates are nominated by their peers, and must have significant chemical engineering practice (generally 25 years) and have 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 2014. More will be introduced in future issues of *CEP*.

Jeffrey L. Fox, P.E., is Safety Business Partner at Dow Corning Corp. (Midland, MI), where his focus is occupational and process safety management. His 36 years of industrial experience includes process engineering, manufacturing, and quality management. He has held several session- and symposium-leadership roles for AIChE's Global Congress on Process Safety, is active on numerous Center for Chemical Process Safety (CCPS) project teams, and is Dow Corning's representative on the CCPS Technical Steering Committee. He earned his BS in chemical engineering at South Dakota School of Mines and Technology.

Keith W. Hutchenson, P.E., is a senior research fellow in the Molecular Sciences Div. at DuPont Central R&D (Wilmington, DE), where he works in chemical process development, reaction engineering/catalysis, and supercritical fluid technology. He has prior experience at the U.S. Dept. of Energy's (DOE) Savannah River Plant tritium facility and at the DuPont Experimental Station. He is a co-inventor on 25 U.S. patents and has more than 20 publications, including four book chapters and two books that he edited. He earned his PhD in chemical engineering from Clemson Univ. and is a licensed Professional Engineer in South Carolina.

Carl Lund is SUNY Distinguished Teaching Professor at the Univ. at Buffalo, where his research focuses on sulfur-tolerant, high- and very-low-temperature water-gas shift catalysis, aromatic chlorination using zeolite catalysts, catalytic decomposition of nitrous oxide, and reaction engineering with membrane reactors. He is also developing an online Toolkit for Exceptional Teaching (TExT), which integrates resources for students and instructors. He earned a BS from Purdue Univ. and a PhD from the Univ. of Wisconsin, both in chemical engineering. His early experience at Exxon Corporate Research Science Laboratories involved carbon deposition and carbon gasification.

Chandra Nair is a senior process engineer with Belco Technologies Corp. (Parsippany, NJ). He has expertise in air pollution control, with an emphasis on reducing emissions of SOx, NOx, and particulate matter from a variety of industries. He has previous experience working in Singapore and at several air pollution control companies in the U.S. He has been a longtime leader of AIChE's New Jersey Section and currently serves as its chair. He earned his PhD in venturi scrubbers at Strathclyde Univ. (Glasgow, Scotland) and his BS and MS in chemical engineering from Indian Institute of Technology Madras.

Fabio H. Ribeiro is the R. Norris and Eleanor Shreve Professor of Chemical Engineering at Purdue Univ., where his research centers on the kinetics of heterogeneous catalytic reactions and catalyst characterization under reaction conditions. He received his PhD from Stanford Univ., worked for Catalytica, Inc. (Mountain View, CA), held a post-doctoral fellowship at the Univ. of California, Berkeley, and was on the Worcester Polytechnic Institute faculty before joining Purdue in 2003. He is an editor of the *Journal of Catalysis* and has more than 100 publications. He is a past chair of AIChE's Catalysis and Reaction Engineering Div.

James Turner is Executive Process Director at Fluor (Sugar Land, TX), where he manages the Houston Process Technology and Engineering group. He has more than 25 years of experience in process design for projects in the refining and gas processing industries. He has published articles on process design and project execution, and holds patents for a combined hydrotreater process design. He is a Trustee of AIChE's Foundation, has been a leader of the South Texas Section and the Fuels and Petrochemicals Div., and has served on the Executive Board of the Program Committee.

AIChE Announces 2014 Institute Awards for Industrial Practice

In 2008, AIChE launched a new series of Institute Awards, focusing on achievements in the industrial sector of chemical engineering practice. These awards recognize individual, teams, or companies, and complement other Institute honors that have traditionally recognized contributions in chemical engineering research, literature, theory, and education.

The following Institute awards will be presented on Nov. 16, 2014, at AIChE's Honors Ceremony, held during the Institute's Annual Meeting (Nov. 16–21) in Atlanta, GA. More Institute Awards will be announced in the November issue of *CEP*.

Energy and Sustainability Award

Sponsored by Air Products

This award recognizes individuals, teams in industry, or entire companies that have accomplished significant energy savings, improved the sustainability of chemical processes, or developed innovative technologies for energy generation or delivery.

Presented to **Frank (Xin) Zhu**, Senior Technology Fellow at UOP LLC, A Honeywell Co. (Des Plaines, IL), for the development and application of novel process design and operation optimization methodologies, and computational tools to achieve significant energy savings in the refining and petrochemicals industries.

Frank Zhu's practical methods to improve process design and operational performance have been implemented in refineries and petrochemical complexes worldwide. During his tenure at UOP, Zhu has applied those techniques to numerous projects that achieved typical energy savings of 20–30% — or about $20–30 million per year. He recently applied human factors principles to simplify process design and operations management, which is expected to reduce human errors during operation. He has numerous publications, including the recently published book *Energy and Process Operations for the Process Industries* (Wiley, 2013). He has 17 issued U.S. patents, 31 applications pending, and 59 patents pending in foreign countries. He earned his PhD in chemical engineering at the Univ. of Adelaide.

Engineering and Construction Award

This award recognizes individuals or teams for achievements in the design and/or construction of process plants or process plant revamps.

Presented to the **Bechtel Pueblo Team**, (Pueblo, CO), for the successful completion of design and construction of the Pueblo Chemical Agent Destruction Pilot Plant — an innovative alternative chemical warfare agent elimination system.

Led by Bechtel National, Inc., the Bechtel Pueblo Team's mission was to design, construct, and operate a novel plant to neutralize and destroy the inventory of 2,600 tons of mustard chemical agent stored at the U.S. Army's Pueblo Chemical Depot. Completed in 2012, the Pueblo Chemical Agent Destruction Pilot Plant (PCAPP) represents a multitude of innovations in technology and stakeholder interaction, aimed at safely and effectively replacing incineration as the primary destruction technology. The highly automated PCAPP will use water hydrolysis as the primary means of destroying the chemical agent, in addition to chemical agent processing, energetics processing, and biological treatment. The $4-billion, ten-year project was a significant process engineering challenge from its inception, and the team had to overcome many obstacles to develop a safe destruction process while satisfying the expectations of domestic and international stakeholders.

Industrial Research and Development Award

This award recognizes individuals or teams working in the industries served by chemical engineers for innovations that have resulted in the successful commercial development of new products and/or new processes for making useful products.

Presented to **Van N. Truskett**, Jetting Technology Manager at Canon Nanotechnologies, Inc. (Austin, TX), for development of scalable, sub-1-pL drop-on-demand (DOD) inkjets for the nanoimprint lithography process used in high-volume manufacturing of complementary metal-oxide-semiconductor (CMOS) devices, hard disk drives, and tablets.

Van Truskett earned her PhD in chemical engineering at Johns Hopkins Univ., where she focused on the patterning of small particles using interfacial flows. Her work on patterning continues at Canon Nanotechnologies (formerly Molecular Imprints, Inc.), where she has innovated numerous DOD dispensing methods for the production of high-resolution, low-cost nanoimprint lithography systems for hard disk drives and semiconductor technologies. This technology directly prints nanoscale features onto sub-

strates, and has revolutionized patterned-media production for these high-value applications. Truskett has developed ten different types of imprint lithography tools. Her 59 patents (U.S. and international) constitute her company's core jetting technology and have guided the design and manufacture of every related part of the company's nanoimprinting process. She has an additional 50 patent applications pending. Her scholarship is also reflected by her average citation rate of 48 per paper.

Industry Leadership Award

This award recognizes leadership in activities such as: management; sales and marketing; public and community relations; commercial and business development; training; and public service.

Presented to **Mark W. Pilling**, Manager of Technology at Sulzer Chemtech USA, Inc. (Tulsa, OK), a recognized expert in distillation, who has served the profession by promoting the development of a fundamental understanding of mass-transfer devices.

Mark Pilling's responsibilities at Sulzer Chemtech incorporate research and development of high-performance mass-transfer devices, and construction and evaluation of simulations for numerous processes. He is also responsible for technology transfer within Sulzer Chemtech's global organization and between Chemtech and research organizations such as Fractionation Research, Inc. (FRI), a not-for-profit industry-sponsored shared-research organization that provides distillation expertise to companies in the global chemicals industries. Long active in FRI, and a current member of FRI's Executive Committee, Pilling has made major contributions to distillation technology and literature, sharing his vast experience with countless engineers. He recently helped lead major advances in multipass tray technology, with applications in carbon capture and other large-scale services. He also led the development and sharing of vapor distribution technology for refinery vacuum towers, with important economic implications for crude oil supplies.

Industrial Progress Award

This award recognizes significant contributions by an individual under the age of 40, working in an industry served by chemical engineers.

Presented to **Laura E. Leonard**, Principal Development Specialist in Olefins and Detergents Development at UOP LLC, A Honeywell Co. (Des Plaines, IL), for a consistent track record of technical leadership and innovation, translating fundamental knowledge into commercially relevant engineering solutions.

Laura Leonard's work has impacted multiple refining and petrochemicals technologies, with major contributions to light olefin production, clean fuels technology, and integrated refining-petrochemical complexes. In 2010, Leonard became the senior technology specialist for UOP's Oleflex technology, a catalytic dehydrogenation process for the production of light olefins from their corresponding paraffins. Her leadership on the Oleflex process included technology renewal efforts to enhance process performance by combining fundamental understanding of solids flow and catalyst chemistry. Her effective communication, intelligent risk-taking, and leadership of diverse cross-functional teams impact all 17 announced Oleflex units around the world. She has also contributed to the commercialization of UOP's SelectFining process (a selective FCC naphtha hydrodesulfurization process), and to innovative catalyst and process solutions to the problem of gasoline desulfurization without significant loss of product octane.

Process Operations Award

This award recognizes individuals or teams working in plant operations, process control, and/or supply chain management that have significantly improved the safety, reliability, or economics of process operations.

Presented to **Stephen A. Kiorpes**, Scientific Design Co. and Rust/Raytheon Engineering Co. (retired), for personally directing the field commissioning of five unique first-of-a-kind chemical process plants, all without safety incidents, and for participating in the design and/or startup of a great many others.

Steve Kiorpes is recognized for his work at Scientific Design Co. (SD) from 1957 through 1985. SD, which designed, built, and commissioned large and complex chemical process plants, specialized in new and emerging technologies. Kiorpes' work was a major factor in the company's success and international reputation. As a startup engineer (three years), he worked on plants producing ethylene oxide and ethylene glycol, maleic anhydride, and phthalic anhydride. As a startup director (10 years), he was in technical charge of the startup of nine process plants, five of which utilized first-of-a-kind technologies. During his 14 years as Head of Plant Operations and Safety, Kiorpes led the commissioning of about three dozen plants. Almost all were rapidly developing technologies. He participated personally in every startup done under his general supervision, at locations on four continents.

Professional Progress Award Renamed to Honor Acrivos

AIChE Establishes Endowment for Acrivos Professional Progress Award

Former students of Andreas Acrivos, the Albert Einstein Professor of Science and Engineering, Emeritus, at the City College of New York, are collaborating with the AIChE Foundation to give Acrivos an enduring honor.

The AIChE Foundation has led a successful fundraising effort to endow the Institute's Professional Progress Award for Outstanding Contributions to Chemical Engineering, and to rename the award in honor of the eminent fluid dynamicist. The first presentation of the newly renamed Andreas Acrivos Award for Professional Progress in Chemical Engineering is slated for AIChE's 2014 Honors Ceremony, to be held Nov. 16 at the Institute's Annual Meeting in Atlanta, GA (Nov. 16–21).

The inaugural Acrivos Award will be presented to Zhenan Bao, Professor of Chemical Engineering at Stanford Univ., in recognition of her work to advance the design, processing, and application of organic semiconductors for flexible and stretchable electronics.

Peter Lederman, Chair of the AIChE Foundation, says that the Institute sought to recognize Acrivos for a variety of reasons, from his technical achievements to his philanthropy. "Andy has had a transformative impact on the field of chemical engineering," says Lederman. "His contributions to the profession are profound, especially in the areas of energy production and transport, heat and mass transfer, and the rheology of suspensions. And, he has mentored generations of successful students — his academic children and grandchildren."

The Andreas Acrivos Award for Professional Progress in Chemical Engineering recognizes significant contribution to the science of chemical engineering through theoretical discoveries, the development of new processes, products, or inventions, and other forms of distinguished service. The award recipient must be under the age of 45.

The Award's new name will be formally announced during a special reception prior to the Nov. 16 Honors Ceremony, where Acrivos and other sponsors and recipients of AIChE's major awards will be recognized.

Acrivos earned his PhD in chemical engineering at the Univ. of Minnesota, and began his career as a teacher at the Univ. of California, Berkeley, in 1954. He later spent more than 25 years on the faculty of Stanford Univ. (where he is currently professor emeritus) before moving to City College, where from 1988 to 2000 he served as Director of the Levich Institute. Acrivos is a member of the National Academy of Engineering and National Academy of Sciences, and received the 2001 National Medal of Science, among many international honors. Previous honors from AIChE include the Institute's Allan P. Colburn Award, Professional Progress Award, Warren K. Lewis Award, and the Institute Lectureship.

In recent years, the AIChE Foundation has honored some of the profession's leaders — such as Acrivos — with special "peer-to-peer" fundraising efforts. Examples of these honors include the Society for Biological Engineering's Daniel I. C. Wang Award; the Computing and Systems Technology (CAST) Division's David Himmelblau Award for Innovations in Computing; the Lawrence B. Evans Award in Chemical Engineering Practice; and the Connie Carroll Memorial Award, which subsidized AIChE membership for young professionals.

People who are interested in contributing to the endowment for the Acrivos Award, or in supporting any of the AIChE Foundation's other programs, can find information at www.aiche.org/community/giving/donate.

AIChE Election Ballots Due Oct. 21

The July issue of *CEP* featured the platforms of president-elect and director candidates for the 2015 AIChE Board. This information is available on the web at www.aiche.org/election. Paper ballots were mailed on Sept. 2 to all Fellows, Senior Members, and Members. Members may cast only one vote, and may choose to vote either by paper ballot or by electronic proxy.*

To use the electronic submission option, visit http://aiche.societyelection.com. Your AIChE membership number will serve as your personal identification number. The same rigorous standards guarding your privacy will be applied to both paper ballots and electronic proxies. All paper ballots and electronic proxies must be received by Oct. 21, 2014.

Election results will be announced at AIChE's Annual Meeting in Atlanta, GA, and in the December issue of *CEP*. If you have questions, contact election@aiche.org.

** Electronic Proxy Ballot: Under New York law, a member can vote a proxy by electronic means. A proxy is a limited power of attorney affirmatively given to another person or persons to act in his or her stead. You will authorize President Westmoreland and Secretary Seymour to vote on your behalf for the indicated candidates.*

Eckhardt Makes Gift to AIChE Foundation

Endowment will Fund Northeast Regional Student Conferences

The AIChE Foundation has received a gift to fund annual conferences for chemical engineering undergraduates in the northeastern U.S. and Canada.

David R. Eckhardt and his wife, Karen, along with the Pfizer Foundation Matching Gifts Program, are donating more than $100,000 to create the Northeast Student Regional Conference Endowment Fund. The Northeast Regional Conference is one of nine annual AIChE regional student meetings. The conferences provide scholarly and professional development opportunities for chemical engineering students, and include research paper and poster competitions, as well as annual Chem-E-Car competitions.

Peter Lederman, Chair of the AIChE Foundation, lauded Eckhardt's gift saying, "Dave and Karen's philanthropic leadership sets an example for others to follow, and is a worthwhile investment in the future of our profession."

More than 300 undergraduate chemical engineers attend each year's Northeast Conference, representing AIChE student chapters in the states of Connecticut, Maine, Massachusetts, New Hampshire, New York, and Rhode Island, and in the Canadian provinces of New Brunswick and Quebec.

The 2015 Northeast Student Regional Conference will be hosted by the student chapters from Massachusetts Institute of Technology and Northeastern Univ. Information about the 2015 regional conference series can be found at www.aiche.org/conferences/student.

Eckhardt, an AIChE Fellow and 48-year member, works as a chemical engineering consultant for Irwin Engineers (Natick, MA). During his career, he has had assignments in process development, process design, and plant operations at companies that include CH2M Hill, Monsanto (agricultural chemicals), Pfizer, and DuPont. He earned his BS in chemical engineering at Rensselaer Polytechnic Institute and an MBA at Babson College.

His volunteerism and leadership in AIChE activities include service on AIChE's Board of Directors (1993–1996); Chair of the Admissions Committee; member of the Fellows Council; and leadership of the Saint Louis, Ichthyologists (Boston), and Virtual Local Sections. Other contributions to AIChE have included 12 Leadership Development Conferences and 18 student regional conferences (Northeast and Mid America). He has received four of AIChE's Gary Leach Awards for his innovative contributions to the Institute.

For more information about the AIChE Foundation's Endowment programs, visit www.aiche.org/community/giving/ways-give/endowment-gifts.

Air Products Sponsors Energy & Sustainability Award

Air Products and Chemicals, Inc., the Allentown, PA-based provider of industrial gases and chemicals, has announced that it will sponsor AIChE's Energy and Sustainability Award — one of several recently inaugurated Institute honors that recognize outstanding contributions to industrial practice. Air Products has agreed to support the award with a prize of $7,500 for the recipient.

The 2014 Energy and Sustainability Award recipient is Frank (Xin) Zhu, Senior Technology Fellow at UOP, A Honeywell Co., in Des Plaines, IL. (See related article on p. 52.) The award will be presented on Nov. 16 at AIChE's Honors Ceremony, held in connection with the Institute's Annual Meeting (Nov. 16–21) in Atlanta, GA.

Brian Ferrell, Chief Engineer at Air Products, spoke of his company's gratification in supporting the award, noting that "the Energy and Sustainability Award strongly reflects our corporate values." He added, "I hope that the funding will set a leadership precedent for corporate sponsorship of AIChE's other new awards for industry achievement."

Air Products previously sponsored AIChE's Professional Progress Award, which was recently endowed by the AIChE Foundation. (See the related article on p. 54.)

In Memoriam

Philip S. Calvo, Jr., 90, Williamsburg, VA

Charles W. Conklin, Jr., 83, Springfield, VA

John A. Glass, 91, Akron, OH

Glenn H. Dale, 91, Bartlesville, OK

Robert Hauslein, 89, Huntington, NY

Charles R. Holman, 98, Montgomery, TX

Franklin Kramer, 91, Boynton Beach, FL

Harold C. McCurdy, 93, Oak Ridge, TN

David W. Marshall, Jr., 63, Montgomery, TX

Robert Matysek, 58, Mt. Pleasant, SC

John H. Pashley*, 92, Oak Ridge, TN

Edward A. White, 90, Glenview, IL

* AIChE Fellow