



Institute News

2015 Board of Directors' and Institute Awards

To be Presented at the Annual Meeting's Honors Ceremony, Salt Lake City

AIChE will honor some of chemical engineering's most accomplished practitioners, researchers, and educators, with the presentation of the 2015 Institute and Board of Directors' Awards. The awards will be given at the annual Honors Ceremony, on Sunday, Nov. 8, at the AIChE Annual Meeting in Salt Lake City, UT.

AIChE members in all areas of practice and academics are encouraged to nominate qualified candidates for future awards. The Awards Committee is especially interested in receiving more nominations from, and on behalf of, members engaged in the industrial practice of chemical engineering. Visit the AIChE website for more information about the Institute and Board awards: www.aiche.org/community/awards. The deadline for 2016 nominations is Feb. 15, 2016.



Founders Award for Outstanding Contributions to the Field of Chemical Engineering

Carol K. Hall, North Carolina State Univ.

"For distinguished contributions to chemical engineering research on polymer and protein solutions, leadership in service, and her pre-eminent role in mentoring women engineers."



F. J. and Dorothy Van Antwerpen Award for Service to the Institute

Sponsor: The Dow Chemical Co.

Jennifer Sinclair Curtis, Univ. of California, Davis

"For exemplary and extensive service to many facets of the Institute — including meetings, the Board of Directors, technical divisions and forums, and the AIChE Journal."



Allan P. Colburn Award for Excellence in Publications by a Young Member of the Institute

Sponsor: E. I. du Pont de Nemours & Co.

Bradley D. Olsen, Massachusetts Institute of Technology

"For transformative advances in the design, synthesis, engineering, and characterization of new protein-based materials and protein-polymer hybrids for technology and human health."



Alpha Chi Sigma Award for Chemical Engineering Research

Sponsor: Alpha Chi Sigma Educational Foundation

James A. Dumesic, Univ. of Wisconsin-Madison

"For conceiving and demonstrating elegant and yet practical reaction paths and chemical processes for the efficient conversion of biomass to a variety of chemicals."



Andreas Acrivos Award for Professional Progress in Chemical Engineering

Endowed by the AIChE Foundation

Samir Mitragotri, Univ. of California, Santa Barbara

"For fundamental research, technological innovation, and translational leadership in novel drug delivery systems."



The Energy and Sustainability Award

Sponsor: Air Products

Urmila Murlidhar Diwekar, Vishwamitra Research Institute

"For leadership in research related to conventional energy, renewable energy, the energy-water nexus, carbon capture, environmental control for energy, pollution prevention, and sustainability."



Industrial Research and Development Award

John Klier, The Dow Chemical Co.

"For seminal contributions to breakthrough technology platforms for novel coatings, polymer dispersions, and low volatile organic compounds technologies."



Industry Leadership Award

Michael R. Resetarits, Consultant

"For exceptional industry leadership in various positions over 40 years, as a globally recognized expert in separation technology and as a mentor for many engineers."



Institute Award for Excellence in Industrial Gases Technology

Sponsor: Praxair, Inc.

Richard Baker, Membrane Technology and Research, Inc.

“For lifetime commitment, sustained excellence and extraordinary achievements in bringing membrane science and technology to commercial reality in industrial gas separation applications.”



Lawrence B. Evans Award for Chemical Engineering Practice

Sponsor: CACHE Corp.

Karl V. Jacob, The Dow Chemical Co.

“For outstanding career-long contributions to solids processing technology — through excellence in industrial R&D, commercial implementation, leadership of the profession, and the education of future engineers.”



R. H. Wilhelm Award in Chemical Reaction Engineering

Sponsor: ExxonMobil Research and Engineering

Harold H. Kung, Northwestern Univ.

“For contributions to the fundamental understanding of heterogeneous catalytic reactions and his creative applications of reaction engineering principles to the invention of materials and processes.”



Warren K. Lewis Award for Chemical Engineering Education

Sponsor: ExxonMobil Research and Engineering

John Falconer, Univ. of Colorado

“For outstanding contributions of a transformative nature in engineering education.”



William H. Walker Award for Contributions to Chemical Engineering Literature

Sponsor: John Wiley and Sons

Lorenz T. Biegler, Carnegie Mellon Univ.

“For pioneering work in optimization of process systems, and its great impact in theory, algorithms, software, and in chemical engineering applications, including large-scale industrial problems.”

SBE ANNOUNCES BAILEY AND WANG AWARDEES

The Society for Biological Engineering (SBE) will present its James E. Bailey Award and D. I. C. Wang Award for Excellence in Biochemical Engineering at the 2015 AIChE Annual Meeting in Salt Lake City, UT.

Martin Fussenegger, Professor of Biotechnology and Bioengineering at ETH Zurich, Switzerland, will receive the 2015 James E. Bailey Award and will deliver the Bailey Award Lecture on Tuesday, Nov. 10, at 6:00 pm. Fussenegger is being recognized for his contributions to metabolic engineering and their applications in the treatment of diseases. In his lecture, “Metabolic Engineering for the Treatment of Metabolic Disease,” he explores the metabolic dynamics of such 21st-century maladies as obesity, diabetes, and cardiovascular disorders, and explains how prosthetic networks inspired by synthetic biology may help meet the treatment needs for those challenges.

Fussenegger studied microbiology and genetics at the Univ. of Basel, Switzerland, and earned his PhD in medical microbiology at the Max Planck Institute of Biology, where he continued his postdoctoral studies on host-pathogen interactions. He then joined the ETH Institute of

Biotechnology, where he became Swiss National Science Foundation Professor of Molecular Biotechnology in 2002 and was awarded a Chair in Biotechnology and Bioengineering at the ETH Institute for Chemical and Bioengineering in 2004. In 2008, he helped launch ETH’s Dept. of Biosystems Science and Engineering. Fussenegger is a Fellow of the American Institute for Medical and Biological Engineering (AIMBE) and a member of the Swiss Academy of Engineering Sciences.

The Bailey Award is endowed by Cytos Biotechnology and recognizes outstanding contributions to the field of biological engineering. It is presented in memory of biotechnology pioneer Jay Bailey.

Wilfred Chen, Gore Professor of Chemical Engineering at the Univ. of Delaware, will receive the 2015 D. I. C. Wang Award for Excellence in Biochemical Engineering and deliver its accompanying lecture on



Fussenegger



Chen

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AICHE and the Society for Biological Engineering Launch *Bioengineering & Translational Medicine* Journal

AICHE and its Society for Biological Engineering (SBE), in partnership with John Wiley and Sons, are launching a new quarterly, peer-reviewed, online, open-access journal, *Bioengineering & Translational Medicine*, in 2016. To be part of the Wiley Open Access portfolio and edited by Samir Mitragotri of the Univ. of California, Santa Barbara, the new journal will focus on ways chemical and biological engineering are driving innovations and solutions that impact clinical practice and commercial healthcare products. The journal will also highlight scientific and technical breakthroughs currently in the process of clinical and commercial translation.

In announcing *Bioengineering & Translational Medicine*, AIChE Executive Director June Wispelwey said that the new journal represents “one of the latest and most significant examples of the strengths that chemical and biological engineers bring to the frontiers of interdisciplinary research and its application.” She added that she was excited that the journal attracted “such an esteemed editor in Dr. Mitragotri, and a very, very distinguished editorial advisory board.”

In discussing his plans for the journal, Mitragotri said, “Converting engineering advances into useful clinical products is a major challenge that requires attention to issues such as safety, manufacturability, regulatory hurdles, cost, and patient acceptance, among others.” These issues,

he pointed out, are not typically considered in fundamental academic research. “Clinical translation also often needs concurrent consideration of commercial translation, with the team and the resources required for clinical translation often assembled during commercial translation,” he explained. He added that this interplay presents its own set of challenges.

Bioengineering & Translational Medicine welcomes manuscripts that provide new insights into translational hurdles, as well as examples of technologies that have demonstrated progress toward clinical or commercial translation. It invites contributions on topics including drug delivery, drug discovery, tissue engineering, synthetic biology, gene therapy, computational modeling, and bioinformatics, among others. The journal will include research reports, reviews, and rapid communications. The fully open access *Bioengineering & Translational Medicine* will be published under the CC-BY license.

Mitragotri concluded: “To researchers who are active, or aspiring to be active, in clinical and commercial translation of biological technologies, I say ‘this is your journal.’ With a stellar advisory board behind us, we are poised for an exciting, quick, and successful launch.”

Additional information is available at www.aiche.org/biotm or biotm@aiche.org

AIChE, Founder Engineering Societies Join Giving Tuesday Challenge

AIChE and its sister societies in the United Engineering Foundation (UEF) are joining together in a campaign to encourage philanthropy among the societies’ members and within their individual professions.

The collaboration — named the United Engineering Giving Tuesday Challenge — embraces the Giving Tuesday social movement, which encourages a more conscientious and philanthropic consumer culture. Giving Tuesday, established in 2012 by a coalition of nonprofit organizations, is observed on the Tuesday immediately following the Black Friday and Cyber Monday consumer holidays, as a way to shift the public’s focus from spending to giving. The inaugural United Engineering Giving Tuesday Challenge will occur on Dec. 1, 2015.

In addition to AIChE, the other groups participating in the Challenge are the American Society of Civil Engineers (ASCE) Foundation; the American Society of Mechanical Engineers (ASME); the Institute of Electrical and Electronics Engineers (IEEE) Foundation; and the Society for Mining, Metallurgy, and Exploration (SME).

Each participating society will pose a challenge to its members — to give the organization a gift of support on Giving Tuesday. Individually and as a group, the participating engineering organizations aim to create a culture of philan-

thropy within each society and in the engineering profession, while raising funds to support the educational programs they conduct. For the Giving Tuesday Challenge, the participating engineering organizations are uniting under the banner “Engineer a Better World.”

In November, AIChE will reach out to its 50,000 members with a message about the value of philanthropy, and provide instructions on how to donate on Giving Tuesday. Collectively, the seven participating societies in the United Engineering Giving Tuesday Challenge will convey this message to nearly one million engineers in more than 150 countries.

Money raised by AIChE in the Giving Tuesday Challenge will be donated to the AIChE Foundation’s Annual Fund, which subsidizes a range of programs that include scholarships; support for students, young professionals, women, and underrepresented minority chemical engineers; education and training initiatives; and K–12 outreach.

This is the second year in which AIChE has promoted giving to engineering causes on Giving Tuesday. In 2014, AIChE raised around \$5,000 on Giving Tuesday. The Institute’s goal for this year’s Challenge is to raise \$7,500.

For information about the Giving Tuesday Challenge and how to support AIChE, visit www.aiche.org/giving.

Discounted Member Products and Services

AIChE members are aware of the many opportunities for learning, networking, and career development that the Institute offers its constituents — virtually, locally, and wherever they live and work. While most members take advantage of at least some of these AIChE products and services, many members may not realize that there are quite a few additional financial perks of being a member that can help you in your day-to-day business and life at home.

In addition to insurance benefits, which were described in *CEP*'s October issue, AIChE members enjoy discounts on office supplies, shipping, legal and travel services, car rentals, hotels, and shopping. Members can also obtain a special AIChE credit card that offers competitive rates and cash back on purchases. Benefits such as these can be especially rewarding to a chemical engineer who is taking on the challenge of starting a business or watching his or her budget.

Reaping the financial benefits of AIChE membership allows you to pay it forward to others. AIChE's Membership Gift program allows Institute members to give one year of membership to a deserving engineer for just \$49. It's a great way to recruit an outstanding employee or colleague, someone just entering the workforce, or a professional who will benefit from a connection to the Institute.

AIChE is working to offer more perks and discounts for its members. To find complete information on the existing ones, visit www.aiche.org/membership. For general questions about your AIChE membership benefits, contact James Abel at 646-495-1384 or jamea@aiiche.org.

AIChE Foundation Honors McKetta with Naming of Honor Society

John J. McKetta, Jr., a Fellow and former president of AIChE, and professor emeritus at the Univ. of Texas at Austin, marked his 100th birthday on Oct. 17, 2015. To celebrate the milestone, and to express the Institute's enduring gratitude for McKetta's contributions to chemical engineering education and the life of the Institute, the AIChE Foundation Board of Trustees is renaming its philanthropic honor society.



The John J. McKetta, Jr. AIChE Lifetime Giving Society — formerly called the Cumulative Giving Society — recognizes the generosity of people who have given major donations to AIChE through the Foundation's giving programs. Funds raised by the Foundation support AIChE's mission to promote excellence in chemical engineering education and global practice.

More than 170 Institute members have made such philanthropic gifts — ranging from \$2,500 to more than \$100,000 — to AIChE through the Foundation's fundraising initiatives. Details about the AIChE Foundation and opportunities to support the Institute are available at www.aiche.org/community/giving.

McKetta is an authority on thermodynamic properties of hydrocarbons. He joined the UT-Austin faculty in 1946, and served as energy advisor to five U.S. presidents. He retired in 1995, but remains involved in UT life. In 2012, UT renamed its chemical engineering department in honor of McKetta. He has been a member of AIChE since 1937.

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Monday, Nov. 9, at 6:00 pm. In his lecture, entitled "Adding Logic to Complex Protein Functions," he will discuss how the versatility of proteins as biological building blocks also complicates and hinders their systematic design and engineering.

Chen joined the Univ. of Delaware in 2011, after holding the Presidential Chair in the Dept. of Chemical and Environmental Engineering at the Univ. of California, Riverside. He has documented his research in synthetic biology and protein engineering in more than 220 journal articles, and he serves on the editorial boards of six publications. He is a Fellow of the American Association for the Advancement of Science (AAAS) and the American Insti-

tute for Medical and Biological Engineering (AIMBE). He obtained his BS from the Univ. of California, Los Angeles, and his PhD from Caltech, both in chemical engineering.

The D. I. C. Wang Award honors Daniel I. C. Wang, a professor of chemical engineering at the Massachusetts Institute of Technology, in appreciation of his contributions to education and research in biochemical engineering, as well as his technological innovations in bioprocessing. It is presented by SBE in collaboration with AIChE's Food, Pharmaceutical, and Bioengineering Div. and the Biochemical Technology Div. of the American Chemical Society.

More information about both awards is available at www.aiche.org/SBE/community/awards.