Institute News

Meet Some of AIChE's New Fellows

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 recently elected Fellows. More information is available at www.aiche.org/community/fellows.

Mikhail Anisimov is a professor in the Dept. of Chemical and Biomolecular Engineering at the Univ. of Maryland (College Park). He has made major contributions in thermodynamics of fluids and fluid mixtures, liquid crystals, polymers, surfactant solutions, and other soft-condensed and nanostructured materials, including crude oils and petroleum fractions. His laboratory uses state-of-the-art photon-correlation spectrometers for nanoparticle characterization and aggregation. He has published more than 250 papers and has written two books and numerous book chapters. He earned his PhD in physical chemistry at Moscow State Univ. (Russia).

Michael P. Harold is the M. D. Anderson Professor of Chemical and Biomolecular Engineering at the Univ. of Houston (UH). His research focuses on chemical reaction engineering, with particular interests in reaction-separation devices and materials, catalytic reaction engineering, and combustion processes. He has published more than 130 papers and has delivered nearly 200 technical presentations, seminars, and invited lectures. Prior to joining UH, he was a faculty member at the Univ. of Massachusetts, Amherst, and held research and supervisory roles at DuPont. He is Editor-in-Chief of *AIChE Journal*.

Enrique Iglesia is the Theodore Vermeulen Chair in Chemical Engineering at the Univ. of California at Berkeley, Faculty Senior Scientist at Lawrence Berkeley National Laboratory, and Director of the Berkeley Catalysis Laboratory. His research addresses the synthesis and characterization of solids used as catalysts for production of fuels and petrochemicals, for conversion of energy carriers, and for improving the sustainability of chemical processes. He has more than 300 publications and 40 U.S. patents. He is president of the North American Catalysis Society and a member of the National Academy of Engineering.

David A. Kofke is the SUNY Distinguished Professor of Chemical and Biological Engineering at the Univ. of Buffalo. His research in methods and applications of molecular simulation has resulted in nearly 130 publications. His current research focuses on rigorous molecular-based free-energy calculations for crystal-structure prediction, and calculation of virial coefficients and other cluster integrals from molecular models. He also develops simulation software for education. He is a trustee and past president of Computer Aids for Chemical Engineering (CAChE). He earned his PhD in chemical engineering at the Univ. of Pennsylvania.

Athanassios Z. Panagiotopoulos is the Susan Dod Brown Professor of Chemical and Biological Engineering at Princeton Univ. His research focuses on polymer-nanoparticle systems, surfactant self-assembly, thermodynamic and transport properties of CO_2- and H_2O-electrolyte systems, polymer electrolyte membranes, and liquid metals as plasma-facing components for fusion applications. He has written more than 200 articles and the textbook *Essential Thermodynamics*. He is a member of the National Academy of Engineering and the American Academy of Arts and Sciences.

Subash N. Shah, P.E., is the Stephenson Chair Professor at the Mewbourne School of Petroleum and Geological Engineering and Director of the Well Construction Technology Center at the Univ. of Oklahoma (OU; Norman). Prior to joining OU in 1994, he worked for 18 years in the oil and gas industry. He is an expert in hydraulic fracturing, horizontal/multilateral well completion and stimulation, onshore and offshore drilling, and emerging coiled-tubing technology. He is a licensed professional engineer in the state of Oklahoma. He earned his PhD in chemical engineering at the Univ. of New Mexico (Albuquerque).

Dumesic, Glotzer, and Stone Elected to National Academy of Sciences

The 2014 class of new members of the National Academy of Sciences (NAS; www.nasonline.org) includes three AIChE members who have been recognized for their distinguished and continuing achievements in original research.

James A. Dumesic is the Steenbock Chair in the College of Engineering and the Michel Boudart Professor of Chemical and Biological Engineering at the Univ. of Wisconsin-Madison. He is a widely recognized researcher in the fields of catalysis and chemical engineering, has co-founded two companies, and has pioneered new processes for creating bio-derived fuels and chemicals. He has published more than 440 papers in peer-reviewed journals and has received a variety of awards and honors. He is a member of the National Academy of Engineering, a Fellow of the American Academy of Arts and Sciences, and a recipient of AIChE's William H. Walker Award for contributions to chemical engineering literature. In 2013, he was elected to the National Academy of Inventors.

Sharon C. Glotzer is the Stuart W. Churchill Collegiate Professor of Chemical Engineering and a professor of materials science and engineering at the Univ. of Michigan (Ann Arbor), where she also holds faculty appointments in physics, applied physics, and macromolecular science and engineering. Her research on computational assembly science and engineering focuses on predictive materials design of colloidal and soft matter, with an emphasis on shape, packing, and assembly pathways. She has more than 180 publications; has presented over 270 invited talks; and has supervised 35 PhD students and 19 postdoctoral researchers. She is a Fellow of the American Physical Society and the American Association for the Advancement of Science, and was elected to the American Academy of Arts and Sciences. She holds a National Security Science and Engineering Faculty Fellowship from the U.S. Dept. of Defense, and is a Simons Investigator.

Dumesic

Glotzer

Stone

Howard A. Stone is the Donald and Elizabeth Dixon Professor in Mechanical and Aerospace Engineering at Princeton Univ. His research has focused on fundamental problems in fluid motion dominated by viscosity and in low-Reynolds-number flow, and has featured a combination of theory, computer simulation and modeling, and experiments to provide a quantitative understanding of flow phenomena. He also investigates heat-transfer and mass-transfer problems involving convection, diffusion, and surface reactions. Prior to joining Princeton in 2009, he spent 20 years at Harvard Univ., where he was named a Harvard College Professor in honor of his service to undergraduate education. He is a member of the American Academy of Arts and Sciences and a recipient of the Batchelor Prize for research in fluid mechanics.

Hatzimanikatis Receives International Metabolic Engineering Award

Vassily Hatzimanikatis, an associate professor of chemical engineering and bioengineering at École Polytechnique Fédérale de Lausanne (EPFL; Switzerland), has been named the recipient of the 2014 International Metabolic Engineering Award. The award is presented by the International Metabolic Engineering Society (IMES), a community within AIChE's Society for Biological Engineering (SBE). Hatzimanikatis is being honored for developing new methods to model and analyze large metabolic networks and for demonstrating how such networks can be used to study biosynthetic pathways.

Hatzimanikatis will receive the Metabolic Engineering Award and present an associated lecture on June 18 at the IMES-sponsored Metabolic Engineering X Conference, June 15–19, in Vancouver, BC, Canada. The biennial Metabolic Engineering Conference is a venue for practitioners around the world to share knowledge and discuss current developments in the field.

Hatzimanikatis, whose research is in the areas of systems biotechnology, bioinformatics, and biological systems, is known for his contributions to the metabolic modeling of many different microorganisms. Prior to joining EPFL, he led a research group at the Swiss Federal Institute of Technology, and was an assistant professor at Northwestern Univ. He also worked in industry at DuPont and Cargill, where he developed biocatalysts for the production of industrial chemicals.

Hatzimanikatis is Editor-in-Chief of *Metabolic Engineering Communications*; Senior Editor of *Biotechnology Journal*; and an associate editor of the journals *Metabolic Engineering*, *Biotechnology and Bioengineering*, and *Integrative Biology*. He is a Fellow of the American Institute for Medical and Biological Engineering and a founding director of the International Metabolic Engineering Society.

AIChE Foundation Raises Over $1 Million in 2013

A successful Annual Gala, strong corporate support for AIChE's ScaleUp student membership program, and a growing roster of people seeking to "give back" to the chemical engineering profession helped to mark a prosperous year for the AIChE Foundation. The Foundation completed its 2013 fundraising endeavors with $1.1 million in donations. These gifts help support AIChE's ability to fulfill its mission and benefit chemical engineers across disciplines and across the globe.

Financial support came from a variety of sources:

• 3,668 people made individual donations, with several of the gifts exceeding $10,000.

• AIChE's Annual Gala celebrated excellence in engineering ethics, and raised approximately $400,000 from corporate and individual donors. These funds are earmarked for ethics training and lifelong-learning.

• AIChE's ScaleUp program, which helps subsidize AIChE membership for 15,000 undergraduates, raised $162,000 from corporate sponsors.

• Members serving on the Institute's Board of Directors and the Foundation's Trustees contributed $100,000.

Details about the funds raised are available at www.aiche.org/community/giving/foundation-2013-financials.

The AIChE Foundation focuses on several objectives:

• *development of future leaders,* through projects such as the Leadership Challenge, which cultivates young professionals as future leaders of the Institute and the profession

• *outreach to underrepresented communities,* including international students and science, engineering, technology, and mathematics (STEM) programs

• *support for virtual-technology advancement,* including AIChE's Global Training Center, eLearning Center, and ChEnected.org

• *improvements to undergraduate curricula and learning methods*

• *support for Grand Challenges* through the Center for Energy Initiatives, the International Society for Water Solutions, and the Society for Biological Engineering's BioCatalyst Fund. Foundation funding also allowed AIChE's Institute for Sustainability to launch an AIChE Credential for Sustainability Professionals, comprised of online assessments, master's-level courses, and a capstone project.

Aside from the Foundation's general fund, AIChE's Endowment Fund rose to $768,000 as of April 2014. Gifts to the Endowment, in the form of bequests, other types of planned giving, and restricted annual gifts, are permanent and provide self-sustaining sources of program funding for future generations of chemical engineers.

In 2013, to accommodate donors who requested that their long-term financial support of AIChE be used for specific projects and philanthropic endeavors, the Institute's Board of Directors approved a new AIChE Foundation policy pertaining to endowments and bequests. Endowment gifts are now assigned to one of two categories:

• *permanently restricted funds* — donations of at least $2,000 reserved for long-term Institute needs, as recommended by the AIChE Foundation's Board of Trustees and approved by the Board of Directors

• *permanently restricted donor-designated funds* — gifts of $50,000 or more dedicated by the donor to be used exclusively to support programs of the donor's choice.

Previously, all gifts to the Foundation were assigned to the general fund.

Donations of any amount can be made to the AIChE Foundation. Information about the Foundation and its activities is available at www.aiche.org/community/giving.

In Memoriam

W. Brian Bedwell, 63, Palo Alto, CA

Einar T. Carlson, 95, The Woodlands, TX

Xuejin Chen, 55, Howell, MI

John E. Chenevey, 97, Houston, TX

Norman E. Cooke*, 92, Magog, Quebec

Robert L. Davidson, III, 90, Marlborough, MA

Charles V. Foster, 93, Tulsa, OK

Eldon L. Graham, 87, Midland, MI

Thomas E. Harms, 58, Port Townsend, WA

Gordon C. Inskeep, 91, Tempe, AZ

S. W. Kapranos, 92, Clearlake, CA

James A. McCall, 88, Santa Rosa, CA

Roland E. Meissner, III, 69, La Canada, CA

Elizabeth L. Ryker, 60, Columbus, OH

Bernard S. Sabreen, 95, Stamford, CT

Edward G. Sevilla, 81, Gaithersburg, MD

*AIChE Fellow

AIChE Financial Statements, Year Ended December 31, 2013

Statement of Activities

Revenue:	
Dues and other membership revenue	$4,481,276
Publication sales and subscriptions	2,429,129
Industry technology alliances	6,346,277
Meetings and technical programming	6,137,888
Education services	1,974,478
Financial services	729,626
AIChE Foundation contributions	686,304
Other revenue	411,678
Total operating revenue and support	**$23,196,656**
Expenses:	
Program-related:	
Membership	$2,754,342
Publications	2,358,202
Industry technology alliances	5,345,805
Meetings and technical programming	3,362,653
Education services	2,290,129
Financial services	160,675
Other program support	1,151,187
Total program-related	**$17,422,993**
Support Services:	
General and administration	$3,591,635
Fundraising	759,350
Total support services	**$4,350,985**
Total operating expenses	**$21,773,978**
Change in net assets from operations	**$1,422,678**
Non-operating Activity:	
Investment return, net	$2,266,873
Pension-related changes other than net periodic pension cost	$1,559,802
Post-retirement-related changes other than net periodic postretirement cost	(291,938)
Office relocation costs	(161,835)
Total Non-operating Activity	**$3,372,902**
Change in total net assets	**$4,795,580**
Net assets at beginning of year	13,155,953
Net assets at end of year	**$17,951,533**

Statement of Financial Position

Assets:	
Cash & cash equivalents	$3,354,687
Investments, at market	19,684,435
Accounts receivable, net	2,366,297
Prepaid expenses and other	330,419
Pledges receivable, net	42,988
Property and equipment, net	2,022,852
Total assets	**$27,801,678**
Liabilities and Net Assets:	
Liabilities:	
Accounts payable	$1,863,264
Deferred revenue: dues, subscriptions and other	4,761,161
Accrued expenses:	
Employee vacation and other benefits	375,476
Pension and other post-retirement benefit costs	1,873,484
Other	976,760
Total liabilities	**$9,850,145**
Net Assets:	
Unrestricted	$16,712,315
Temporarily restricted	471,676
Permanently restricted	767,542
Total net assets	**$17,951,533**
Total liabilities and net assets	**$27,801,678**

This is a condensed version of the 2013 financial statements of the American Institute of Chemical Engineers.

The financial statements and the full audited report are now available at **www.aiche.org/financial**.

AIChE increased its net assets in 2013 by $4.8M, a near-record for the Institute. Operations contributed $1.4M to the total. All of our operating businesses exceeded budget: Meetings ($720K), Industry Technology Groups ($350K), Education ($120K), Publications ($100K), and Membership ($70K). Below the operating line, investment returns in the Permanent Fund contributed $2.3M to the overall results. The Pension Plan also generated positive returns which, coupled with an increase in interest rates, resulted in a favorable adjustment to our Pension Plan liability of $1.6M, bringing our Plan to a 94% funded level at year-end. The strong across-the-board performance raised our net assets to $18.0M at year-end, a level that hasn't been seen since the late 1990s.