



President's Corner New Business in a New Year

To many of us, a new year signals a fresh start, a new beginning, a time to roll out the old and usher in the new. The reality is that time is a continuum, and there's nothing magical about turning the calendar page to a new number. For me, however, the first day of 2015 is the first day of my AIChE presidency, a role I take on with excitement, awe, and a deep sense of responsibility to the profession and to the global chemical engineering community. AIChE has a tradition of strong, dedicated, leadership that I intend to uphold, and a growing family of chemical engineering professionals who deserve the best I can bring to the AIChE presidency.

You should know that I come to the Institute presidency as a working engineer with 32 years of experience in the traditional chemical process industry. Over that time, the industry, the profession, and the world have changed greatly. My personal journey over that time has taught me that in order to progress in any effort, it's important to finish what has been started and to face and resolve conflict openly and honestly.

How does that translate to my plan of action for 2015? In 2014, at the request of the Board of Directors, AIChE developed a "New Biz" review process, designed to strengthen the Institute's project portfolio. We launched the plan to ensure that the projects AIChE takes on make financial sense, that they are appropriately resourced, and that they support both the Institute's mission and you, the members. The New Biz review process was developed between the Spring and Summer Board meetings, approved by the Board in June, and applied to AIChE's 2015 budget. Our goal is to apply the portfolio management philosophy to AIChE's volunteer activities as well, to use our most valuable resource — our volunteers — most effectively.

I am continually impressed with the level of dedication and service that our volunteer leadership demonstrates. The New Biz development plan is one example of volunteer dedication; its completion is in no small way due to the contributions of Tom Degnan, a 2013–2015 Board Director.

How do we continue to identify, nurture, and support effective leaders in our community? Leadership development is a plank of AIChE's recently updated strategic mission. I know from my own experience how valuable this is to individuals, as well as to the organization. AIChE is currently designing a new Leadership Development

program, and I have been conducting discussions with volunteer leaders to understand how they define leadership. What do you think?

Another key interest for me is ensuring the continuity of traditional chemical engineering fundamentals. Over the past 30 years, chemical engineering has expanded to encompass many nontraditional industries, and the curriculum has expanded accordingly. At the same time, as discussed in the recent *AIChE Journal* article, "Evolving Trends in Chemical Engineering Education" by Arvind Varma and Ignacio Grossmann (*CEP*, Nov. 2014, p. 14), many chemical engineering graduate degrees are awarded to people with undergraduate degrees in other disciplines.

Some members of the industrial community have voiced concern that this has resulted in less of a focus on some of chemical engineering's fundamentals. AIChE began discussing this topic at a 2013 San Francisco Annual Meeting session ("Chemical Engineering Expertise in Academe and as Sought by Industry" chaired by John C. Chen and James C. Hill), and we will continue the discussion at an NSF-funded workshop in March 2015.

Another area near and dear to my heart is the debut of the AIChE Academy, intended to offer training in targeted skills for new engineers. The Academy is an expansion of AIChE's established, successful, continuing education program — and its business model was the test case for the New Biz review process. We recruited a team of seasoned industrial professionals to identify and prioritize the most relevant subject areas for the Academy to develop. The Academy working team is yet another example of volunteer leaders contributing to our profession, and I want to thank them for their dedication and service. I look forward to ensuring the success of the Academy.

The working team identified process safety as Topic Number One for the Academy. While not surprising, this is particularly appropriate for 2015 when AIChE celebrates the 30th anniversary of the founding of the Center for Chemical Process Safety (CCPS). The CCPS anniversary year will be capstoned by the 2015 AIChE Gala, where we will honor contributions and progress in process safety. The 2015 Gala is an event I look forward to in marking what I hope will be a happy, productive, and successful presidency year.

My best wishes to all!

— Cheryl Teich
AIChE 2015 President

AIChE GALA SALUTES CORPORATE LEADERS FOR PROMOTING DIVERSITY IN ENGINEERING, RAISES FUNDS FOR KEY PROGRAMS

The American Institute of Chemical Engineers honored Patricia A. Woertz, Chairman and CEO of Archer Daniels Midland, Ryan M. Lance, Chairman and CEO of ConocoPhillips, and Raj L. Gupta, Executive Chairman of Avantor Performance Materials and retired Chairman and CEO of Rohm and Haas Co., for advancing diversity in the engineering profession, at an AIChE awards gala held in New York City on Friday, Dec. 5.

According to AIChE Executive Director June Wispelwey, the gala, built around the theme “Engineering Diversity in the Profession, the Workplace, and the World,” raised more than \$330,000.

“These funds will support a variety of critically important programs,” she added. These programs include scholarships for engineering students from underrepresented groups; K–12 and public outreach initiatives; support for engineers in international student chapters; and AIChE’s advocacy for recruiting and retaining women in the profession, and supporting their re-entry after family leave.

Organized by the AIChE Foundation, the gala’s chairs were John Y. Televantos, Partner at Arsenal Capital Partners, Todd A. Werpy, Senior Vice President of Research and Development at Archer Daniels Midland, S. Shariq Yosufzai, Vice President for Global Diversity, Ombuds, and University Affairs at Chevron, and Karen A. Fletcher, Vice President for Engineering and Chief Engineer at DuPont. Televantos commended the honorees and their companies for making a diverse corporate culture a core value, and for tangibly demonstrating their commitments to inclusion.

“In a global economy, companies will only prosper if they give equal opportunity and reward, without regard to ethnic background, color, gender, religion, or sexual orientation,” said Televantos. He added that employers must proactively seek, recruit, and nurture talented people with diverse backgrounds and beliefs.

In honoring Woertz and Archer Daniels Midland (ADM) for its diversity leadership in the agricultural processing industry, dinner chair Yosufzai mentioned the company’s recruitment of talented women through its Women’s Initiative Network, its outreach to candidates from underrepresented



At AIChE’s 2014 Gala, the chemical engineering community applauded engineering executives for nurturing a diverse corporate culture and inclusive work environment. From left: honoree Raj L. Gupta (Avantor Performance Materials); honoree Patricia A. Woertz (Archer Daniels Midland); honoree Ryan M. Lance (ConocoPhillips). Photo: G. Ellis.

minority groups through its Campus Partnerships, and its other cross-cultural collaborations. Woertz, who Yosufzai commended for assembling a diverse board of directors and inclusive leadership team at ADM, said that “without the diverse backgrounds, perspectives, and capabilities that define our organization today, it would be extraordinarily difficult — if not impossible — to do our job well.” She added, “diversity is what gives our work so much of its richness and meaning.”

Televantos said that ConocoPhillips and Lance are advancing engineering diversity in the energy industry with a variety of initiatives. Televantos noted the company’s development of cross-cultural employee networking groups; its Jane Phillips Society, which engages in community activities; a Supplier Diversity Program that facilitates inclusion of minority-owned, small, aboriginal, and indigenous businesses in its supply network; and a Patriot Employee Network that supports troops, injured soldiers, and their families.

Televantos also applauded Avantor’s Gupta for his career-long dedication to engineering diversity. At Avantor, Televantos noted, respect is one of five corporate values, and employees are required to treat others with dignity and honesty.

Gupta said that diversity is not only a key component of business success, but also “a moral and business imperative,” adding that diversity for diversity’s sake is not enough. “The real power of diversity,” said Gupta, “comes from a diversity of ideas and perspectives and access to the best talent.” He said that organizations must make bold choices that demonstrate a commitment to diversity and that provide mentorship. Employees, too, said Gupta, “must believe that their individual contributions will be recognized and rewarded.”

Reflecting on the industry’s progress in this area, AIChE Foundation Chair Peter Lederman said that the engineering profession has grown from only a handful of women and minorities working in the field to many women and minorities now in leadership roles, serving as role models and leaders in innovation. “Tonight’s honorees are among those who have led and continue to lead the way to the benefit of our country, industrial partners, and our profession,” Lederman concluded.

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In the Profession, the Workplace, the World

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INSTITUTE AND BOARD AWARD NOMINATIONS DUE FEB. 15

ONLINE NOMINATION PLATFORM LAUNCHED

Nominations are being accepted for AIChE's 2015 Institute and Board of Directors' Awards. These awards, to be presented at the November 2015 AIChE Annual Meeting in Salt Lake City, UT, are the Institute's most prestigious honors, and recognize outstanding contributions across the spectrum of chemical engineering achievement.

Among these high honors are numerous awards that celebrate significant contributions in industrial practice. AIChE's Awards Committee is calling for an increase in the number of nominations in these industrial categories, which, in addition to the long-established Lawrence B. Evans Award in Chemical Engineering Practice, include recently inaugurated awards for achievements in engineering and construction, research and development, leadership, process operations, and energy and sustainability. Leaders of the Awards Committee encourage AIChE members to prepare nominations to recognize talented colleagues, innovators, and mentors in the industrial sectors of the practice.

Details about all of the Institute and Board awards, including eligibility criteria and the nomination process, can be found at www.aiche.org/community/awards, where nominators will use a newly launched online platform to assemble and submit nomination packets.

Nominations must be completed and submitted online by Feb. 15, 2015. Address questions about the awards or the nomination process to awards@aiche.org.

AIChE PARTNERS ON ENGINEERING AND TECHNOLOGY HISTORY WIKI

AIChE is collaborating with its sister engineering societies on an Engineering and Technology History Wiki (ETHW; www.ethw.org) — where engineers from across disciplines will document accomplishments in their fields, and where the general public can come to better appreciate the ways technology has shaped modern life.

Organized by the Institute of Electrical and Electronics Engineers (IEEE) and based on IEEE's former Global Histories Network, the ETHW project is more than a repository for historical artifacts, biographical sketches, and interviews with eminent engineers. The site is designed to be a living document where engineers can contribute their own knowledge and insight to topical articles — in the collaborative manner of the familiar Wikipedia.

AIChE is encouraging chemical engineers from all sectors and experience levels to take part in developing the Wiki. By creating an account on the ETHW, AIChE members can contribute their own perspectives and first-person experiences, and commentary. They can also help build the site by proposing chemical engineering milestones and topics for discussion on the Wiki.

The ETHW was created through a partnership between the United Engineering Foundation and technical societies, including AIChE, IEEE, the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME), the American Society of Civil Engineers (ASCE), the American Society of Mechanical Engineers (ASME), the Society of Petroleum Engineers (SPE), and the Society of Women Engineers (SWE).

The ETHW opens in early January. Visit www.ethw.org to participate. For more information, contact Gordon Ellis at AIChE Communications (gorde@aiche.org).

In Memoriam

H. Curt Blair, 64, Chattanooga, TN

Sean P. Brennan, 48, Westfield, MA

George T. Bruun, 92, Dover, OH

Wilfred H. Charbonnet, 95, Ocean Spring, MS

Lester B. Cundiff, 97, Roanoke, VA

Neville A. Holt, 78, Palo Alto, CA

T. Brockett Hudson, 90, Austin, TX

Theodore A. Koch, 88, Wilmington, DE

Louis M. Magnabosco, 75, Lake Forest, CA

Charles E. McConnell, Jr., 99, Charleston, WV

Ernest W. Neben, 94, Walnut Creek, CA

Gordon R. Nelson, 90, South Hadley, MA

Maurice F. Oxenreiter, 90, Naperville, IL

James C. Petrie, 74, Laramie, WY

Charles B. Ramsey, 69, Alexandria, VA

Salvatore V. Rubini, 90, Wilmington, DE

Chad J. Segura, 55, Houston, TX

Walter L. Sutor, 90, Grand Island, NY

John Wargo, Jr, 90, Florence, AL

Allan P. Weber, 75, Lodi, NJ



14 AICHE

Annual Meeting, Atlanta, GA



▲ The Institute presented its most prestigious awards at the Nov. 16 Honors Ceremony. During the Honors reception, Van Truskett (left) of Canon Nanotechnologies (who received the Industrial Research and Development Award) and Tom Truskett (center) of the Univ. of Texas at Austin were greeted by Bert Diemer, a member of AICHE's Award Nominations Subcommittee.



▲ Stuart Cooper (left) of Ohio State Univ. received the Board of Directors' Founders Award for his innovative research, influential publications, and impact on education. Adam Heller (right) of the Univ. of Texas at Austin was given the Institute's Award for Service to Society, in recognition of his contributions to medicine — in particular his invention of products for self-monitoring of blood glucose.



▲ Zhenan Bao (right) of Stanford Univ. was the first recipient of the Institute's newly renamed Andreas Acrivos Award for Professional Progress, for her work with organic semiconductors and flexible electronics. At left, Kristi Anseth, chair of the Awards Selection Subcommittee, looks on. Bao was one of several AICHE members recognized for their contributions to industrial practice.

The international chemical engineering community gathered in Atlanta, GA, for the 2014 AICHE Annual Meeting, held at the Atlanta Hilton and Atlanta Marriott Marquis, Nov. 16–21. The meeting offered more than 700 sessions across 10 topical conferences and 20 program tracks. Highlights included the debut of a topical conference devoted to sustainable food production; a well-attended new conference on startup engineering and technology entrepreneurship; and a World Café where representatives from international chemical engineering organizations discussed the critical issues at the nexus of food, water, and energy. Other topical conferences addressed developments in nanotechnology and nanomaterials, advanced fossil fuel utilization, systems biology, and more. Strong international participation (more than 1,000 registrants were from outside the U.S.) contributed to the breadth and diversity of the meeting's offerings and opportunities. Receptions, exhibits, and social events rounded out the activities. An archive of news, photos, and video interviews from the meeting is available on AICHE's ChEnected blog (www.aiche.org/chened).

The Annual Student Conference (Nov. 14–17) smashed attendance records with more than 1,800 ChE undergraduates, including many from the Institute's growing network of international student chapters. Hosted by the AICHE Student Chapter at Georgia Tech, the Student Conference offered more than 40 sessions — scholastic and intercollegiate competitions, networking events, outreach activities, and career skills workshops — conducted by students and professionals alike.



▲ 380 ChE students participated in AICHE's largest-ever undergraduate poster session. Here, Milonee Mehta (left) of Johns Hopkins Univ. discusses her design for a freshwater pumping system with Tom Marrero.

Thirty-seven teams — finalists from Spring 2014 regional competitions plus several international AICHE chapters — participated in AICHE's 16th Annual Chem-E-Car Competition®. Students calibrate their chemically powered miniature vehicles to carry a variable load over a variable distance. Students receive safety training, and cars and their operators must pass onsite safety inspections.



Photo: Douglas Clark

▶ "The Dark Knight," Oklahoma State Univ.'s entry, receives starting line instructions from Chem-E-Car rules committee member Robert Ofoli (right).



◀ Students from Lodz Univ. of Technology (Poland) are monitored by Dan Crowl (in blue) of the Chem-E-Car safety committee. The team won an award for the most creative drive system.



▲ The Student Conference Welcome Brunch featured a keynote talk and Q&A with John Brock, CEO of Atlanta's Coca Cola Enterprises.



▲ At a Nov. 16 recruitment fair, students discussed post-graduation plans with representatives from companies and graduate schools.

◀ The team from the Univ. of Utah won the competition with its hydrogen-powered "Helena Handbasket" vehicle. The car won by carrying its payload of 244 mL of water and stopping just 9 cm from the 25.6 m target distance.



Photo: Douglas Clark

▲ Members of the Cornell Univ. team prepare their car, named "AATTVVV."



◀ Edward Cussler of the Univ. of Minnesota was AIChE's 66th Institute Lecturer. He spoke before a capacity crowd about new teaching strategies in his talk, "The Future of the Lecture," on Nov. 19.



▶ Kelvin Lee of the Univ. of Delaware presented the Andreas Acrivos Professional Progress Award Lecture on Nov. 18. He talked about his work with recombinant protein production in "The Past is New Again."

▶ Douglas Clark of the Univ. of California, Berkeley, presented the Society for Biological Engineering's (SBE) James E. Bailey Award Lecture on Nov. 18. He gave his perspectives on biotechnology's progress in a "Golden Age" — and discussed how his mentor, James Bailey, foresaw today's biotech breakthroughs.



Photo: Douglas Clark

▶ On Nov. 17, Nigel Titchener-Hooker of University College London delivered the Danckwerts Lecture on engineering global biological solutions. The lecture is co-sponsored by AIChE, the European Federation of Chemical Engineers (EFCE), the Institution of Chemical Engineers (IChemE), and Elsevier's *Chemical Engineering Science* journal.



▲ At a gathering of AIChE leaders, Director Paula Hammond of MIT (left) welcomed Shakeel Kadri (right), who will become Executive Director of AIChE's Center for Chemical Process Safety (CCPS) in 2015.

▼ On Nov. 16, AIChE President Otis Shelton (left) signed a memorandum of understanding between AIChE and the Nigerian Society of Chemical Engineers (NSChE). Representing NSChE was its immediate past president, N. John Erinne (right).



▲ Wei Dai of the Univ. of Tulsa was one of the presenters at AIChE's new Rapid-Fire Sessions.



◀ Martha Grover of Georgia Tech (left) shared ideas with AIChE Director Diane Spencer during a new workshop on Women's Workplace Retention and Re-Entry. The Nov. 17 session was a collaboration of AIChE's Societal Impact Operating Council and the Women's Initiatives and Minority Affairs committees.



▲ Young AIChE members enjoyed the meeting and the camaraderie.



◀ Meeting Program Chair B. Wayne Bequette of RPI (left photo) and Co-Chair Salvador García-Muñoz of Eli Lilly (bottom photo, left) received the Institute's appreciation from AIChE President Otis Shelton.



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