

President's Message AIChE Branches Out on the Web

As AIChE's president for 2009, one of the initiatives that excites me most is the Institute's ongoing expansion of member services via the Internet. A new AIChE peer networking community was launched at the November 2008 Annual Meeting and Centennial Celebration, complementing earlier online resources for membership-related transactions, publications, meetings, and AIChE leadership group activities.

AIChE is now working to present new career resources and technical information for practicing engineers in an online resource center that we are referring to as "ChemE on Demand." Picture a combination of Netflix and YouTube for chemical engineers!

ChemE on Demand will function as a multimedia library and training center, containing archived materials, recorded sessions, and information-exchange opportunities for engineers at all stages of their careers. Initially, ChemE on Demand resources will include selected lectures from AIChE's Annual and Spring Meetings, and live Web sessions (webinars). Over the course of 2009, 50 hours of meeting content, 30 new webinars, and shared content from other organizations will debut on the site. In addition, AIChE will archive searchable "How to..." articles from *CEP* and other publications, as well as provide an advice and information blog where members can interact.

By developing over time a full library of materials relevant to engineers, AIChE hopes that ChemE on Demand will become a primary career resource for AIChE members and all chemical engineers.

A key to the initiative's launch and success will be increasing the variety of and access to webinars. A Webinar Advisory Committee has been formed to identify worthwhile topics and establish standards for presentations. The committee will be surveying Institute members and company leaders to gather suggestions. You'll hear more about how you can help guide us in the next issue of AIChExchange, the member e-mail newsletter.

After the initial live presentation of a webinar, the session will be archived and available for AIChE members to access

at their convenience. Though plans are still in development, we expect that each member will be able to access a set number of webinars as part of their membership dues, with a nominal fee for presentations beyond that number.

Webinar subject matter might include business skills (e.g., team building, leadership); technical skills (e.g., theory and practice of hydrocyclones); updates on fundamentals (e.g., what is being taught today that wasn't taught 10 years ago?); and general overviews of new areas (e.g., what is systems biology?). AIChE members would have access to this content any time, day or night.

Scheduled webinars include:

- Global Warming: Engineering R&D Needed! — presented by Dr. John Plodinec, Mississippi State Univ., Jan. 14, 2009

- Systems Biology: Open Challenges and Opportunities for Chemical Engineers — presented by Dr. Francis J. Doyle III, Univ. of California, Santa Barbara., Jan. 21, 2009

- How to be an Expert Witness in an Adversarial Proceeding — presented by Dr. Joseph J. Cramer, AIChE, Feb. 4, 2009

- Hydrocyclones: Theory and Practice — presented by Dr. Charles A. Petty, Michigan State Univ., Feb. 11, 2009

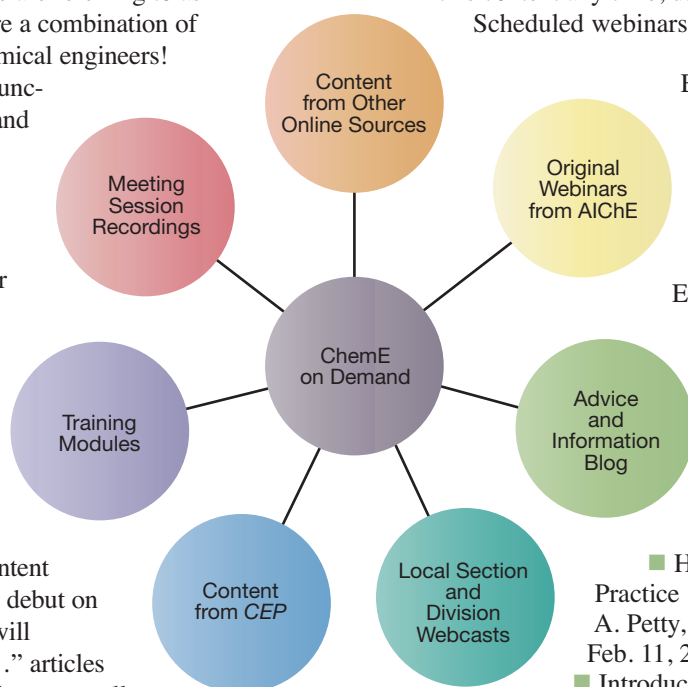
- Introduction to Flammable Materials — presented by Dr. Dan Crowl, Michigan Tech Univ., Feb. 18, 2009

- Gaining Commitment, Not Just Compliance: Effective Leadership Skills — presented by Joel Weldon, Mar. 1, 2009

Information on these sessions is available at: www.aiche.org/webinars.aspx

As AIChE looks to the future, we envision licensed sites for live webcast presentations, training courses with online testing for content delivery, streaming content from AIChE presentations, and virtual meetings, interest group discussions and blogs. I hope that you will help to set the stage for the growth and development of these new venues by logging in to AIChE (www.aiche.org) and getting actively involved with us — in person, and virtually.

— H. Scott Fogler
2009 AIChE President



AIChE Inaugurates Awards to Recognize Achievements in Industry

AIChE's Board of Directors has approved the creation of five new Institute Awards, all targeting the industrial sector. Along with the existing Award in Chemical Engineering Practice, they constitute a new Industrial Awards system, designed to specifically honor member chemical engineers in the industrial community.

The Award in Chemical Engineering Practice: This award, established in 1974, will be the centerpiece of the annual Industrial Awards, and the most prestigious of the six prizes. It recognizes an individual for lifetime achievement in one or more aspects of industrial chemical engineering practice, including management, research, publications, technology development, engineering and construction, operations and supply chain management, sales and marketing, and business development. Non-winning nominations for the Practice award could, with the agreement of the nominator, be redirected and considered for other awards in the system.

The Award for Achievement in Energy Conservation, Sustainability, and New Energy Technologies: This award recognizes individuals or teams from industry who have accomplished significant energy savings, improved the sustainability of chemical processes, or developed innovative technologies for energy generation or delivery that hold significant promise of economic or environmental impact.

The Award for Industrial Research and Development Achievement: This award recognizes individuals or teams working in the chemical enterprise whose work has resulted in the successful commercial development of new chemicals or chemistry-based

products and/or new processes for making useful products.

The Award for Achievement in Engineering and Construction: This award recognizes individuals or teams for achievement in the design and/or construction of process plants or process plant revamps, including the implementation of difficult or unusual projects or the development of engineering or construction techniques for application in the process industries. This includes process engineering, project engineering, project management, equipment design, engineering and/or construction scheduling, and construction management.

The Award for Achievement in Plant Operations and Supply Chain Management: This award recognizes individuals or teams from industry working in the areas of plant operations, process control, and supply chain management that have resulted in significant improvements in the safety, reliability and economics of operating chemical processes.

The Award for Achievement in Industrial Leadership: This award recognizes individuals or teams working in the chemical enterprise for leadership and accomplishments in activities such as: management; sales and marketing; public, community, and industrial relations; commercial and business development; training; or public service.

Nominations for the first three awards (Practice, Energy, and Industrial R&D) are now open, and the prizes will be presented at the Honors Ceremony of the Nov. 2009 Annual Meeting in Nashville, TN. The remaining three awards will be launched during the 2010 awards season.

For 2009 only, the nomination deadline for the Energy and Industrial R&D awards will be May 1, 2009. The nomination deadline for the Practice award — and the normal deadline for Institute Award nominations — is Feb. 15 of each year.

Nomination instructions appear below and at www.aiche.org/awards.

New Electronic Nomination Process for Institute and Board of Directors Awards

Nominations for AIChE's 2009 Institute and Board of Directors Awards are now being accepted. Information on the awards program and the nomination process can be found at www.aiche.org/awards/.

Nominations for these major awards must be submitted in electronic form. Nomination forms, supporting letters, and supplemental materials should be saved as electronic documents and submitted to AIChE on a single CD. Hard copy paper submissions will no longer be required or accepted.

The deadline for most 2009 Institute and Board award nominations is Feb. 15, 2009. The exceptions are the Award for Achievement in Energy Conservation, Sustainability, and New Energy Technologies, and the Award for Industrial Research and Development Achievement, described in the accompanying article. Nominations for those two awards are due on May 1, 2009.

If you have questions about the new nomination process, contact awards@aiiche.org.

3M Receives AIChE's First Industrial Innovation Award

AIChE's November 2008 Annual Meeting and Centennial Celebration provided many opportunities to recognize chemical engineering's contributions to society and industry. One such event was the presentation of AIChE's first Industrial Innovation Award and Lecture, given at a special session on Nov. 20. Sponsored by the National Program Committee, the Innovation Award was presented to 3M Co., in recognition of its history of "outstanding innovation in research and development, new technologies development, and technology transfer."

In a talk titled "What is the Chemical Engineering Footprint in the Innovation Company, 3M?," Dr. Frederick J. Palensky, 3M's Executive Vice President and Chief Technical Officer for Research and Development, presented an overview of the 104-year-old company — from its early years as producer of the first waterproof sandpapers and the development of Scotch brand adhesive and magnetic recording tapes, to its modern portfolio of more than 55,000 products. Palensky highlighted the roles that chemical engineers have played in the leadership and continuing technical innovations at 3M, including work in precision coatings, adhesives and adhesion, polymers, organic chemistry, and imaging.

"3M views innovation not as an accident, but as the prod-



Frederick J. Palensky (left), CTO of 3M, accepts AIChE's first Industrial Innovation Award from AIChE President Dale Keairns (right). Session co-chairs Gintaris (Rex) Reklaitis and D.B. Bhattacharyya (center left and right) look on.

uct of a complex set of principles and practices that support and encourage the coupling of technology and creativity to satisfy customer needs," Palensky said. "This is all accomplished through people like the many chemical engineers that not only played a pivotal role in creating the innovation company, 3M, but that will be critical to our future."

For more information on AIChE's Industrial Innovation Award, visit www.aiche.org/awards/.

Gulari Named to National Science Board

The U.S. Senate has confirmed the appointment of Esin Gulari, dean of the College of Engineering and Science at Clemson Univ., to serve on the National Science Board (NSB). Gulari was one of seven distinguished scientists nominated for the post by President George W. Bush.

The National Science Board is an independent body of advisers to both the president and Congress on national policy issues related to science and engineering research and education. It also serves as an oversight body for the National Science Foundation (NSF). Members are drawn from industry and universities, representing a variety of science and engineering disciplines and geographic areas. Gulari was selected

for her preeminence in research, education and public service. She will serve a six-year term that expires in May 2014.

Gulari is the first woman to serve as dean of Clemson's College of Engineering and Science. Since arriving at Clemson in June 2006, Gulari has created two new units within the college: a School of Computing, which prepares students for all aspects of computing as part of a university-wide emphasis on information technology and high-performance computing; and a department of engineering and science education, designed to improve the methods of teaching science and engineering at the university level and to reach out to K-12 students with innovative

strategies in math, science and engineering education.

Prior to becoming dean, Gulari served as professor and chair of the chemical engineering and materials science dept. at Wayne State Univ. She also has private-sector experience as chief technology officer of nanoSEC, a company formed to manufacture nanocomposites produced using supercritical fluid processing.

From 2000 to 2004, Gulari served at the NSF as director of the Chemical and Transport Systems Engineering Division's Engineering Directorate.



AICHE Centennial Celebration Concludes in Pittsburgh

Founded in June 1908 at the Engineers Club of Philadelphia, AIChE traveled to the other side of the commonwealth, to Carnegie Technical Schools in Pittsburg (no *h* at that time), for its first Annual Meeting. One hundred years later, on Dec. 8, 2008, AIChE's Pittsburgh Section and the Dept. of Chemical Engineering at Carnegie Mellon Univ. (CMU) hosted a special symposium to celebrate that event and to explore the future of chemical engineering and AIChE.

David Hounshell, professor of technology and social change at CMU, kicked off the conference with his talk, "Boundary Work and Boundary Spanning — the AIChE in Historical Perspective." Throughout its history, he said, AIChE has been engaged in boundary work involving demarcations, such as those between the disciplines of chemical engineering and chemistry, and chemical and mechanical engineering. Among the boundaries facing AIChE today are: corporate cutbacks in R&D and design; the competing interests of members and the traditional supporting organizations; technological change; and globalization of R&D, design, production,

and engineering education.

Bob Armstrong, professor of chemical engineering at the Massachusetts Institute of Technology, wrapped up the program with a look to the future. "Chemical engineering is a vibrant discipline," he said, "with a central role in many new and emerging technologies, specifically in the translation of molecular information and discovery into products and processes." He believes chemical engineers are best suited to solving society's energy, health and security problems because "we understand molecular transformations, multiscale analyses, and how to take a systems view ... We can break down problems and analyze the pieces. The goal is to then integrate those analyses back up into a larger system." Toward that end, he advises, "students should be taught to think about integration from the get-go. They also need to understand how molecules behave — they need to learn how to think like a molecule."

After dinner, Dale Keairns, AIChE's 2008 president, reflected on that first meeting and shared highlights of the technical papers, equipment exhibit, plant tours, and Institute business.



2008 President Dale Keairns holds the membership certificate issued in June 1908 to AIChE's first president, Samuel P. Sadtler. Joining him are (from left): outgoing Executive Director John Sofranko; CMU Chemical Engineering Dept. Chair Andy Gellman; 2009 President Scott Fogler; CMU Professor and symposium organizer Jim Miller; President-Elect Hank Kohlbrand; incoming Executive Director June Wispelwey; and MIT Professor Bob Armstrong. Traude Sadtler provided the certificate for the celebration.

1908 ANNUAL MEETING HIGHLIGHTS

Attendance: 50 (based on ballots cast)
Treasurer's Report: Total receipts \$552.16
Membership Committee Report:
101 applications:
88 elected, 9 pending, 4 withheld
Publications Committee Report:
Decision to publish first volume of
Transactions (CEP's predecessor)

10 Papers read and discussed:

- Coal analysis
- Steam power-plant economics
- Boiler scale and corrosion
- Boiler fluegas tests
- Heating furnaces with pulverized fuel
- Electrical resistance pyrometry
- Testing liquefied ammonia gas
- The sanitary condition of Lake Michigan
- Calculations for dryer design

3 Papers read by title only:

- Testing steam-generating apparatus
- Specifications for sulfite pulp
- Making sulfuric acid from smelter fumes

Equipment on display:

- Automatic montejus, automatic eductors, lead-lined valves, syphons, heaters, spray nozzles
- Chemical stoneware, exhaust "Goliath," 1-L plunger pump, reform acid pulsometer, centrifugal pump, vessels
- Temperature recorder in operation, indicators, thermometers
- Welding and cutting of metals by oxyacetylene apparatus
- Pulverizer mill
- Lehigh Car Wheel and Axle Works
- Special acid metal valves
- Small model of round body evaporator

Drawings and photographs on display:

- Cement works plans and layouts
- Vacuum evaporators
- Electric furnace for the production of bisulfide of carbon
- Recently patented evaporators

Excursions:

- Homestead and Duquesne Works of Carnegie Steel Co. at Sharon, PA
- Westinghouse Machine Co.
- The Laboratories and Testing Departments of the Carnegie Technical Schools
- U.S. Government Explosives Testing Laboratory at Pittsburg

Peppas Elected to Institute of Medicine



Nicholas A. Peppas, the Fletcher Stuckey Pratt Chair in Engineering at the Univ. of Texas at Austin, has been elected to the Institute of Medicine (IOM)

of the National Academy of Sciences — the highest recognition a scientist or engineer in the medical sciences can receive in the U.S. Peppas, who is already a member of the National Academy of Engineering (NAE), is one of four chemical engineers and one of eight biomedical engineers to be active members in both the NAE and the IOM. He is the only pharmaceutical scientist in both.

Peppas was cited for “seminal contributions and visionary leadership in pharmaceutical sciences, drug and protein delivery, and biomaterials science, and for pioneering fundamental work on drug delivery that has led to numerous pharmaceutical products or devices.”

Peppas recently received international attention for his development of an insulin capsule to replace insulin injections for diabetics. The same technology has been used for the transmucosal delivery of calcitonin for treatment of osteoporosis in post-

menopausal women, and interferon-alpha for cancer therapy.

Other devices he has developed include intraocular lenses for cataract patients; improved materials for cartilage replacement; new materials for artificial heart linings; materials for vocal cord reconstruction; and biogels for epidermal release of growth factors to improve wound healing. In the past three years, he has founded three biotech companies in Austin, TX, to commercialize some of these biomaterials and drug delivery systems.

Peppas earned his doctorate in chemical engineering from the Massachusetts Institute of Technology in 1973. He joined the faculty at the Univ. of Texas at Austin in 2003, where he directs the Laboratory of Biomaterials, Drug Delivery, Bionanotechnology and Molecular Recognition.

Established in 1970 by the National Academy of Sciences, the Institute of Medicine is a national resource for independent, scientifically informed analysis and recommendations on human health issues. With their election, members make a commitment to devote a significant amount of volunteer time as members of IOM committees, which engage in a broad range of studies on health-policy issues. For more information about the Institute of Medicine, visit www.iom.edu.

Christolini and Gautam Receive UOP Appointments

Two AIChE members have received new assignments at UOP LLC, a Honeywell company.

Ben Christolini

has been named vice president and chief technology officer at UOP's Des Plaines, IL, headquarters. He moves to this role

from the position of director of development for UOP research and development, where he managed process technology, catalysts, and equipment to support UOP's refining, petrochemicals and gas-processing industries.



Christolini replaces **Rajeev Gautam**, who has been appointed vice president and chief technology officer of Honeywell Specialty Materials.

Christolini joined UOP in 1995 as the senior manager of hydroprocessing research and development. He has also served as director of strategic planning and performance in research and development and as the technology director for UOP's catalyst, adsorbents and specialties business. Christolini earned a BS in chemical engineering from the Univ. of Connecticut and an MBA from the Univ. of Chicago.

Gautam joined UOP in 1989. He recently served as UOP's director of development for refining process technology, and previously as director of R&D technology and senior manager of continuous catalytic reforming (CCR) platforming and isomerization technologies. Gautam earned a BS from the Indian Institute of Technology in Kanpur, an MS from Drexel Univ., and a PhD from the Univ. of Pennsylvania — all in chemical engineering. He also holds an MBA from the Univ. of Chicago.

Anthony L. Casciaro

Anthony “Tony” L. Casciaro, of Racine, WI — a member of AIChE for 64 years — died on June 23, 2008, at the age of 93.

Casciaro was a 1940 chemical engineering graduate of the Univ. of Wisconsin, Madison. Upon graduation, he was hired by Rainfair, Inc., a Racine-based apparel company, as chief chemist and chemical engineer. There, he developed his expertise in the application and formulation of rubber and synthetic materials used in the coating of fabrics for making retail and industrial rain gear. He worked for Rainfair for 62 years, until the Racine plant's closing in 2002. Upon retirement, he continued to do consulting work with companies in China, Canada and Colombia.

Casciaro was predeceased by his wife, Angeline, who also worked at Rainfair for more than 40 years.



In Memorium

John A. Tallmadge, Sponsor of AIChE Award for Coatings

John A. Tallmadge, Jr., 80, of Media, PA, professor emeritus of chemical engineering at Drexel Univ., died June 7, 2008.

An authority on the fluid mechanics of precision coatings, Tallmadge performed research for DuPont laboratories in Delaware and North Carolina, and then taught at Yale Univ. for 10 years before joining the Drexel faculty in 1966. He was honored as an outstanding teacher by Drexel's College of Engineering in 1973. He was a visiting professor in the U.S. and at the Imperial College in London, and was a Fulbright lecturer at the Univ. of New South Wales in Sydney, Australia. He retired from Drexel in 1991.

Tallmadge sponsored a biennial award presented by AIChE recognizing contributions to coating technology, and endowed scholarships at Lehigh Univ. and Drexel Univ.

Tallmadge earned a BS from Lehigh, and MS and PhD degrees from Carnegie Mellon Univ. — all in chemical engineering. He served in the Army Reserves from 1948 to 1964.

A baseball fan, he held season tickets for the Philadelphia Phillies, and attended spring training each year.

John E. Cottle

John E. Cottle, 88, of Bartlesville, OK, died on Sept. 24, 2008. He had been an AIChE member since 1949, and was a past chair of the Bartlesville Local Section.

Cottle was employed by Phillips Petroleum Co. (now ConocoPhillips) in Bartlesville for 34 years, and was involved in direct chemical engineering work as well as engineering patent development. During his career, he authored or co-authored 47 U.S. patents and numerous foreign patents.

Cottle earned his BS in chemical engineering at A&M College of Texas (now Texas A&M Univ.) in 1941. He served in the U.S. Army during World War II, and participated in the Battle of the Bulge. He was honorably discharged from the Army at the rank of Captain, and returned to A&M and earned his master's degree in chemical engineering.



Singh is Honored for Greener Products

Rajiv Singh, a senior fellow at Honeywell's Fluorine Products Research Laboratory in Buffalo, NY, has been awarded the Jacob F. Schoellkopf Award by the Western New York Section of the American Chemical Society (ACS). Singh was recognized for developing non-ozone-depleting and low-global-warming-potential refrigerants and blowing agents to replace chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) in automotive, refrigeration and polyurethane foam applications.

Singh helped Honeywell to develop HFO-1234yf, a new material to replace HFC-134a as a refrigerant for mobile air conditioning, and HFO-1234ze, a blowing agent for certain foam and aerosol applications.

Singh received his BS in chemistry from Benares Hindu Univ. in India, and his PhD in chemistry from the Univ. of Tennessee, Knoxville. He holds more than 65 patents, many of which have been commercialized.

Presented annually since 1931, the Schoellkopf Award recognizes contributions to chemistry and chemical technology, and is the the oldest continuously presented ACS section award.

AIChE Conference Calendar

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

SBE's 2nd International Conference on Biomolecular Engineering
January 18–21, 2009 • Fess Parker Doubletree • Santa Barbara, CA

AIChE/SPE 4th Joint Workshop: Practical Strategies for Managing CO₂ Emissions — Where are We Going?
February 22–24, 2009 • Fairmont Sonoma Mission Inn • Sonoma, CA

SBE's 2nd International Conference on Accelerating Biopharmaceutical Development
March 9–12, 2009 • Marriott Coronado • Coronado Island, CA

2009 Spring National Meeting
April 26–30, 2009 • Tampa Convention Center • Tampa, FL

2009 Offshore Technology Conference
May 4–7, 2009 • Reliant Park • Houston, TX

2009 Ammonia Conference
September 13–19, 2009 • Hyatt Regency Calgary • Calgary, AB, Canada

2009 Annual Meeting
November 8–13, 2009 • Gaylord Opryland Hotel • Nashville, TN

OBITUARIES

Robert Aldredge, 86, Broomfield, CO
Michael E. Berry, 73, Commerce Twp., MI
Charles E. Bodington, 78, San Rafael, CA
Russell F. Cahill, 81, Elyria, OH
Paul G. Dalman, 94, Carmichael, CA
Willard E. Hoag, 88, Annandale, VA
William A. Krause, 78, Houston, TX
George H. Michel, 89, Edmond, OK
Thomas R. Mitchell, 90, Brevard, NC
Christopher Russell, 24, Atlanta, GA
John D. Snyder, 81, Greeneville, TN
Kennard L. Wing, 84, Trumbull, CT