

# 09AIChE®

Spring National Meeting, Tampa, FL



The Energy Plenary panel included (above, l. to r.) Chuck Black, president of Tampa Electric (TECO); Bill Wylie, Cobb Engineering; Reyad Fezzani, CEO of BP Solar International; and Ajoy Banerjee, executive consultant to the nuclear industry. The moderator was Peter Skarzynski (r), president of UTEK-Strategos.



Meeting Program Chair Annette Johnston, introduces the "Developing Energy Strategies" panel discussion held April 29.

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AIChE salutes some of the Institute's most active members and leaders at the Volunteer Recognition Reception.



Fuels and Petrochemicals Div. officer James Turner (l.), observes as Spring Meeting Keynote Speaker Alan Boeckmann, Chairman and CEO of Fluor, Inc., delivers the keynote address, "Restoring Public Trust: Why Ethics and Transparency are Vital to Business Success."



Photo courtesy of Tampa Bay & Co.

The Tampa Bay Convention Center was the site of many of the meeting's events



The panelists at the April 29 Water Sustainability Plenary included (above, l. to r.): Jorge T. Aguinaldo, Doosan Hydro Technology, Inc.; David L. Moore, Southwest Florida Water Management District; and panel moderator Mary Ellen Ternes, of the Environmental Practice Group, McAfee & Taft, and the American Bar Association's Climate Change, Sustainable Development and Ecosystems Committee.

## AIChE History — Caught in a Frame



At the Spring Meeting, AIChE 2008 President Dale Keairns, Executive Director June Wispelwey, and 2009 President H. Scott Fogler (l. to r.) pose with the original AIChE membership certificate once presented to Samuel Philip Sadtler — AIChE's first president, in 1908. The memento was given to AIChE by Traude Stadtler, in memory of her late husband, Philip Sadtler — Samuel Sadtler's grandson.



Meeting attendees reconnect with friends and mingle with exhibitors at the opening reception, Sunday, April 26.

## 2010 Election: Directors



### Monty M. Alger

Our world needs innovative technologies to meet today's challenges. We need new energy sources to reduce greenhouse gas emissions. We need to meet new design standards in product and process developments to abide by environmental performance standards. And we need robust, cost-effective technologies to ensure their wide-

spread adoption.

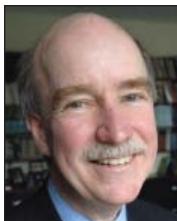
AIChE should play an important role and I believe AIChE should support the following:

- ◆ Promote chemical engineering and the value of careers in it to attract and retain the best and brightest students
- ◆ Support a comprehensive engineering curriculum that includes engineering fundamentals as well as business, finance, and collaborative research. Also, investigate innovative teaching methods, *e.g.*, more effective simulation techniques and web tools
- ◆ Sponsor and promote collaborative research and development involving industry, academia, and government
- ◆ Address the increasing professional development needs of members.

I am VP of Technology and CTO at Air Products and Chemicals, Inc. I received SB and SM degrees from MIT (1978) and a PhD from the Univ. of Illinois Urbana-Champaign (1982) in chemical engineering. Following my PhD, I became Director of the MIT Chemical Engineering Practice School Station at GE. In 1984, I joined GE Corporate Research Center and led technology development programs with several GE businesses. After eight years in R&D, I moved to GE Plastics Business to hold technology positions in process and product development. There I gained experience in financial analysis, business planning, marketing, and e-business. In 2007, I joined Air Products after 23 years with GE.

I serve on engineering advisory councils at UMass-Amherst, Lehigh Univ., and UC Santa Barbara. I am a member of AIChE and a Certified Six Sigma Master Black Belt.

I would appreciate your vote and look forward to working with all AIChE members as we address these challenges together. Thanks!



### Robert C. Armstrong

Having recently served as chair of the workgroup charged with the changing discipline of chemical engineering as part of the strategic planning exercise AIChE undertook in 2007, I have had a great opportunity to reflect on the vast changes taking place in our discipline and the role that AIChE can play in facilitating these changes. The discipline

is blessed with an extraordinarily versatile knowledge and skills base and with the great opportunity to bring that knowledge to bear on humankind's greatest problems: energy, water, health, and security, for example. I would like to work with AIChE to ensure that it plays a vital role in society's future well-being. Among the key challenges:

- ◆ Work with academia in shifting its educational programs to meet these future challenges, *e.g.*, supporting educational reform across the discipline and providing forums for rapidly evolving and new research areas

- ◆ Attract young, new talent into chemical engineering
- ◆ Work with industry to provide the programming it needs in a highly competitive, global market
- ◆ Facilitate interactions between industry, academia, and government to see how we might foster innovation and reduce the time to market in the innovation cycle
- ◆ Provide continuing education and networking opportunities to help our members remain adaptable in our rapidly changing profession.

I am currently the Chevron Professor of Chemical Engineering at MIT and Deputy Director of the MIT Energy Initiative. I previously served for eleven years as the head of the Chemical Engineering Dept. at MIT, during which time I was active in the Council for Chemical Research and served on its Board and Executive Committee and as its Chair in 2005. I received my BScE degree with highest honors in 1970 from Georgia Tech and a PhD in 1973 from the Univ. of Wisconsin-Madison, in chemical engineering. I have received a number of awards, including AIChE's Warren K. Lewis Award and Professional Progress Award, the Bingham Medal from the Society of Rheology, the Univ. of Wisconsin-Madison Distinguished Service Citation, and election to the Georgia Tech Academy of Distinguished Engineering Alumni. My two-volume book, "Dynamics of Polymer Liquids," co-authored with R. B. Bird, O. Hassager, and C. F. Curtiss, has been named a citation classic. I am also a member of the National Academy of Engineering. I have published and lectured extensively in the areas of polymer fluid mechanics, rheology of complex materials, and energy.



### Matt Atkins

Matt Atkins received his MS in chemical engineering from Michigan Technological Univ. in 1999 and his master's in operations and supply chain management in 2007. Matt is currently Engineering Manager within Fluor Corp. and has worked in the oil, petrochemical, and specialty chemical industry for the past 10 years.

Matt has shown commitment to AIChE since 1994 and has actively demonstrated his leadership through service as a local section chair, vice chair and young professionals chair; as a member (since 2004) and chair (2007) of the Young Professionals Advisory Board; on the Membership Committee, Relevancy Team and National Strategy Team; as a national and regional student conference presenter; and in the AIChE-sponsored United Engineering Foundation Emerging Leaders Alliance.

As a Director of AIChE, Matt would focus on centers of value and growth. Matt believes that young professionals play a vital role in the organization and that the organization needs to continue evolving to serve our members as a career and networking hub. He is committed to maintaining AIChE as a technical resource and forum for key areas of focus such as sustainability. Matt also wants to provide more support for the local sections, and to see them better integrated with the national organization.

Here are some of the key issues Matt plans to address:

- ◆ Focus on AIChE's value proposition to its members
- ◆ Enhance offerings to chemical engineering students



To enable members to make informed selections, the candidates have provided overviews of their experience, as well as their plans for future programs and directions for the Institute. These messages are in each candidate's own words. President-Elect and Secretary statements appeared in the May issue of *CEP*. Statements will also be posted at [www.aiche.org/election](http://www.aiche.org/election).

**Voting dates and deadlines:** Ballots will be mailed on Aug. 24. Electronic proxy will also be available on this date. Directions for electronic proxy will be included with the ballot and emailed to members with email addresses on file. All ballots must be received by Sept. 28. The Teller's Committee will meet to verify the results of the election on Oct. 5. Election results will be announced in November at AIChE's Annual Meeting in Nashville, TN, and in the December issue of *CEP*.

- ◆ Promote AIChE involvement in high schools and local communities
- ◆ Revitalize the local sections
- ◆ Work to expand the relevancy of AIChE to its members and industry
- ◆ Provide easily accessible means for members to become actively involved in AIChE at any level of the organization

Matt is looking forward to building on AIChE's framework, expanding its offerings to provide more value to our members, and better meet the demands of our changing professional environment.



### **Pablo G. Debenedetti**

Pablo Debenedetti is the Class of 1950 Professor in Engineering and Applied Science, Professor of Chemical Engineering, and Vice Dean of the School of Engineering and Applied Science at Princeton Univ. He obtained his BS degree in chemical engineering at the Univ. of Buenos Aires, Argentina, and MS and PhD degrees, also in chemical engineering, from MIT.

He joined the Princeton faculty in 1985 and served as Chair of the Chemical Engineering Dept. between 1996 and 2004. His areas of expertise are thermodynamics and statistical mechanics. The author of more than 190 scientific and technical articles and one research monograph, "Metastable Liquids," his honors include AIChE's Professional Progress (1997) and Walker (2008) awards, the American Chemical Society's

Hildebrand Award (2008), and Princeton's President's Award for Distinguished Teaching (2008). He is a member of the National Academy of Engineering and the American Academy of Arts and Sciences.

Chemical engineering is an indispensable discipline for addressing some of the most important challenges facing the world today. These include meeting humanity's energy needs in ways that preserve natural resources and protect the environment for future generations, and providing adequate access to water in order to satisfy the world's drinking, sanitation and agricultural needs. Challenges such as these provide extraordinary opportunities for the creative application of scientific knowledge and technical ingenuity. As an educator, I believe that in order for our profession to respond more effectively to these grand challenges, AIChE should play an important role in:

- ◆ Attracting the best and brightest undergraduate and graduate students to our discipline, and retaining them as members of our profession
- ◆ Supporting the strengthening of a chemical engineering curriculum centered on a solid core of fundamentals and possessing a unifying molecular perspective
- ◆ Supporting the modernization of the chemical engineering curriculum by nurturing the vitality of the interface between engineering and the life sciences, and by making sustainable energy central to our teaching
- ◆ Strengthening the vitality of our student body and professional workforce by attracting more women and underrepresented minorities and retaining them as active members of our profession
- ◆ Strengthening the Institute's international presence.

### **John G. Ekerdt**

John G. Ekerdt is the Dick Rothwell Endowed Chair in Chemical Engineering and the Associate Dean for Research in the Cockrell



School of Engineering at the Univ. of Texas at Austin. John received his BS from the Univ. of Wisconsin-Madison, and his PhD from the Univ. of California, Berkeley, both in chemical engineering, and began teaching at UT-Austin in 1979. He served as department chair for eight years. He has published articles in the areas of catalysis, surface and materials chemistry of metal and dielectric films, and silicon nanostructures, written reaction engineering textbooks, and holds five patents. John has won awards at UT-Austin for teaching and the C. M. A. Stine Award from AIChE's Materials and Engineering Science Div. (MESD).

John's service to AIChE includes several leadership roles. He was a founder of the Balcones Fault Section in central Texas; Meeting Program Chair for the 1991 National Meeting and the 2004 Annual Meeting; and Chair of the MESD in 2002. He currently serves as Chair of the Chemical Technology Operating Council, which has principal oversight of knowledge advancement and dissemination of that knowledge within the Institute.

As a Board member, John would work to increase the relevance of the products, services and programs to the constituents who represent the members and potential members of AIChE. Programs and services must be designed with the career span of members in mind — from students to practicing industrial, government or academic professionals — and need to be compelling enough that memberships will be sustained and there will be active participation in local and national programs. Young professionals need to be engaged and incented to join and sustain their membership because the programs and products are responsive to their evolving needs, and provide for professional and technical growth. Nontraditional methods of meeting programming need to be designed to draw more practicing industrial engineers into the meetings. The value proposition for meeting participation needs to be developed, and the services, programming and costs surrounding meetings need to be commensurate with the proposition.



### **Carol K. Hall**

I am the Camille Dreyfus Distinguished University Professor of Chemical and Biomolecular Engineering at North Carolina State Univ. Originally trained in physics, I have been in chemical engineering since 1977, when I joined Princeton's Chemical Engineering Dept. as one of the first women to be appointed to a ChE faculty in the U.S. In 1985, I

moved to NC State, where I teach thermodynamics and do research by applying molecular modeling and simulations to ChE problems. I have published 190 papers, am an AIChE Fellow, and was elected to the National Academy of Engineering in 2005.

I have been an active member of AIChE for more than 30 years because I like giving back to the community, and because I enjoy the camaraderie. In Fall 2008, I had the pleasure of serving as Meeting Program Chair for the Centennial Meeting in Philadelphia. As part of that activity, I helped create the Industrial Innovation Award, which recognizes the contributions of outstanding companies to industrial practice. In 2006, I gave the Institute Lecture at the Annual Meeting. I have been a member of the area 1a programming committee, served

# Election News

twice on the Executive Board of the National Programming Committee, and was a founding member of COMSEF.

How can AIChE best thread its way through these challenging times, and help its members do the same? I wish I knew. Unfortunately, my crystal ball has never worked properly. I do expect the AIChE Board of Directors to engage in intensive discussions in consultation with the membership to rebalance priorities, search for ways to economize (without throwing the baby out with the bathwater), and seek new sources of revenue. To me, the most important priorities are to:

- ◆ More effectively connect employers with potential employees, and vice versa
- ◆ Better integrate academic, industrial, government and student programming at meetings
- ◆ Develop cost-efficient and innovative ways to meet technical lifelong education needs of all constituencies
- ◆ Find ways to retain our members, including student members, over their careers
- ◆ Recognize that the profession is constantly evolving to include new disciplines and respond proactively to these changes
- ◆ Serve as a more effective resource for ChEs at all career stages
- ◆ Represent, explain and promote the profession to the public.

I hope you give me the opportunity to serve as Director of the Institute during these challenging times.



## Michael R. Poirier

Michael Poirier is a Senior Fellow Engineer at Savannah River National Laboratory, where he develops new processes to treat wastes. He has been active in AIChE for many years, serving on the Professional Development Committee (Chair 2002–2004; Gary Leach Award, 2004), the Career and Education Operating Council (Chair 2008),

and the Education Services, Membership, and Webinar Committees. He is currently working with AIChE staff and volunteers to develop the ChemE on Demand program.

Michael earned a BS at the Univ. of Notre Dame (1984), and an MS (1987) and PhD (1989) at the Univ. of Illinois, all in chemical engineering.

As an AIChE member and volunteer, I wish to help AIChE become a stronger professional society and better serve its members. I recall talking to colleagues a few years ago who told me they were not members, because they did not believe they were receiving value for their membership dues. I believe AIChE has made improvements in the value it gives to members, and I wish to be part of the team that continues to increase value for the members. I have been part of the team working to provide web-based products to the members and will continue that work if elected to the Board of Directors.

AIChE needs to increase its membership. One area where we should focus is students. The ScaleUp program has been a success at bringing students into AIChE. While they are student members, we need to show them what the Institute has to offer, so they will want to continue their membership after graduation. In addition to students, we also need to focus on bringing young professionals into AIChE and keeping them as members.

The local sections are an important part of AIChE. Many members

attend only local section meetings. We must ensure the national AIChE meets the needs of these members.

I believe AIChE's Career Services products are of value to the members, especially those undergoing job changes and career changes. We must continue to offer these products to the members and strive to improve them.



## Charlene A. Wall-Warren

Charlene Wall-Warren drives strategic business initiatives for BASF in North America, in markets including packaging and construction. She leads multi-functional teams to pursue business opportunities for sustainable and innovative technologies, reaching across entire chemical value chains. She previously managed the North

American Eco-Efficiency Analysis program, facilitating the integration of sustainable development into BASF's businesses, and was instrumental in BASF's receipt of the 2005 Presidential Green Chemistry Award. In 2004, she was the inaugural Chair for AIChE's Center for Sustainable Technology Practices, an industry consortium that has created a Sustainable Development Guide for technology development. She spent her early career in project and process engineering roles, including designing the first commercial chiral amines facility, after graduating in 1992 with a BS in chemical engineering from Drexel Univ. She actively contributes to the American Chemistry Council Plastics Division and the Sustainable Packaging Coalition.

Our changing culture has changed the nature of chemical engineering. In the past, the focus was on process design within the factory gates. Regulatory compliance was a necessary add-on. Unwanted byproducts could be "properly disposed of."

Today, engineers look through a wider lens. They consider the product lifecycle. They know that un-utilized waste is merely relocated within the biosphere, and that the long-term fate of discarded substances must be considered. Safety, environment, and economics are all integral parts of a "holistic" design process. These define commercial viability.

Capturing maximum value over the entire product lifecycle will be critical in the future. Our skills are needed to develop and commercialize cost-effective renewable materials and energy, and to develop viable end-of-life alternatives. Survival of business — and the engineering profession — hinges upon innovative and sustainable technologies.

In my vision, AIChE will be the leader in identifying and developing new technologies as they emerge. As AIChE members, engineers will communicate the relevance of our creative function in the grander scheme of things. AIChE will educate engineers about environmental, economic and social impacts. AIChE will foster connections with new organizations and disciplines, including academia, industry, government and non-governmental organizations. We will formulate strategy in the larger context of supply chains and society, considering how we can contribute to new market needs, while engaging those outside of AIChE. We will bring unique value to a sustainable future — new technologies to maximize cost-effectiveness and social benefit, and minimize environmental impacts.



## AICHE Members Elected to American Academy of Arts and Sciences

Three AIChE members will join Nobel Laureate Nelson Mandela and Oscar-winner Dustin Hoffman — as well as other leaders in the sciences, arts, and humanities — when the American Academy of Arts and Sciences inducts its Class of Fellows for 2009.

**James A. Dumesic** is the Steenbock Professor at the Univ. of Wisconsin-Madison. His research addresses topics including kinetics and catalysis, surface and solid-state chemistry, and *in situ* catalysis. Dumesic earned his BS at the Univ. of Wisconsin-Madison, and his MS and PhD at Stanford Univ. He is a member of the National Academy of Engineering, and a past recipient of AIChE's Allan P. Colburn (1983) and R. H. Wilhelm (1997) Awards. He has twice been named to *Scientific American* magazine's "SciAm 50" — for his work pioneering economical catalysts for turning sugars into hydrogen fuels (2003), and for his innovative alternative fuels research (2007).

**Adam Heller** is Research Professor and Professor Emeritus of Chemical Engineering at the Univ. of Texas at Austin. He received his MSc in chemistry and physics and PhD in chemistry from Hebrew Univ., Jerusalem, and performed postdoctoral work at the Univ. of California, Berkeley and Bell Laboratories. His honors include the National Medal of Technology and Innovation (2007) and AIChE's Award in Chemical Engineering Practice (2005). He was AIChE's Institute Lecturer in 2004. Heller and his colleagues invented the FreeStyle self-administered blood glucose monitoring device — more than one billion units of which are produced annually. Among his other inventions are the lithium chloride battery and photochemically self-cleaning windows.

**Matthew V. Tirrell** was recently appointed chair of the Dept. of Bioengineering at the Univ. of California, Berkeley,

after ten years as Dean of Engineering at the Univ. of California, Santa Barbara. He earned his BS in chemical engineering at Northwestern Univ. (1973) and a PhD in polymer science and engineering at the Univ. of Massachusetts, Amherst (1977). His research has been in polymer surface properties, including adsorption, adhesion, surface treatment, friction, lubrication and biocompatibility. He has been a Sloan Fellow and a Guggenheim Fellow, and he has received AIChE's Allan P. Colburn (1985), Professional Progress (1994), and William H. Walker (2007) Awards. He is a member of the National Academy of Engineering.

Founded by John Adams and John Hancock in 1780, the American Academy of Arts and Sciences conducts multidisciplinary studies of complex and emerging problems. The roster of Academy Fellows includes George Washington, Benjamin Franklin, Daniel Webster, Ralph Waldo Emerson, Albert Einstein and Winston Churchill.

The 212 new Academy Fellows will be inducted at a ceremony on Oct. 10, at the Academy's headquarters in Cambridge, MA. The 2009 Class of Fellows consists of scholars, scientists, jurists, writers, artists, civic, corporate, and philanthropic leaders. The complete list is available at [www.amacad.org](http://www.amacad.org).



Dumesic



Heller



Tirrell

## AICHE to Cosponsor Sino-U.S. Chemical Engineering Conference

**Chemical Engineering for Sustainable Development** is the theme of the Fifth Sino-U.S. Conference of Chemical Engineering ([www.sinouschemeng.com](http://www.sinouschemeng.com)), to be held Oct. 13–16, 2009, at the Beijing International Convention Center, in Beijing, China. Cosponsored by the Chemical Industry & Engineering Society of China and AIChE, the conference will emphasize the role of chemical engineers in the development of more sustainable processes, products, and services — and offer an excellent platform for promoting collaborations among engineers from China, the U.S., and other countries.

The conference will assemble scientists and engineers from academia and industry, along with students, to share experiences, new ideas, and research results on all aspects of chemical engineering. Attendees will find many opportunities to discuss the challenges and possible solutions to be adopted in chemical engineering practice.

The technical conference will feature plenary and keynote lectures, oral presentations, and poster sessions. All areas of chemical engineering are welcome, with the following topics as highlights: fossil and nonfossil energy; resources and green technology; materials and nanotechnology; petrochemicals and fine chemistry; separations and environmental technology; particles and fluidization technology; bioengineering and biotechnology; catalysis and reaction engineering; multiscale chemical systems; transport processes; computer simulation and experimental validation; quality and best practices in project management; chemical engineering education; and challenges and opportunities in the chemical industry.

For more details, contact Qingshan Zhu at the Chinese Academy of Sciences at [qs Zhu@home.ipe.ac.cn](mailto:qs Zhu@home.ipe.ac.cn), or G. Glenn Lipscomb at the Univ. of Toledo at [glenn.lipscomb@utoledo.edu](mailto:glenn.lipscomb@utoledo.edu).



## IfS Presents Student Sustainability Project Award

AICHE's Institute for Sustainability (IfS; [www.aiche.org/ifs/](http://www.aiche.org/ifs/)) took part in the U.S. Environmental Protection Agency's (EPA) National Sustainable Design Expo, held in Washington, DC, Apr. 18–20, 2009. A highlight of the annual event is the EPA's People, Prosperity, and the Planet (P<sup>3</sup>) Awards — a student design competition for sustainability, in which teams of cross-discipline undergraduates demonstrate projects that apply technology in innovative ways to address global environmental challenges. Chemical engineering students contributed to several of the team projects.

The Expo showcased alternative energy technologies; water distribution, collection and purification systems; advanced agricultural practices; new technologies for green buildings; and other approaches to improving sustainability. Winners receive funding of up to \$75,000 to commercialize their designs.

In addition to the major prizes, the IfS — through its Youth Council on Sustainable Science and Technology (YCOSTT), and in collaboration with SustainUS — presented its own award at the Expo. The YCOSTT P<sup>3</sup> Award was presented to a team of students from the Univ. of Pittsburgh that developed a system for removing arsenic from groundwater in Inner Mongolia by using iron oxide particles as an adsorbent.

Pittsburgh won the \$1,000 prize for its project's interdisciplinary collaboration, innovative use of locally available materials, and direct benefit to youth.

With a rural population of over 1 million, residents of Inner Mongolia suffer serious health problems as a result of drinking water contaminated with arsenic concentrations as high as 1,800 µg/L, which is 180 times the World Health Organization's

(WHO) drinking water guideline of 10 µg/L. With limited access to clean surface water and electricity, safe drinking water can be supplied only by effective removal of arsenic from groundwater.

In the Pitt students' design, magnetic iron oxide particles are separated using a magnetic drum separator that doubles as a tool to prepare the iron oxide particles created by grinding local and naturally occurring iron ores. The magnetic particles are dispersed in water in a powder or sludge to remove arsenic, and are then separated from the water and recovered by the magnet drum separator after the treatment. The device is designed to operate by human power, and can produce one gallon of water in five minutes.

Each pound of iron oxide particles is able to provide 30 gal of safe drinking water with arsenic concentrations reduced from about 1,800 µg/L to below 10 µg/L.

The students estimate that each device will cost less than \$5, and have a lifespan of at least 20 years. Because the process can be done by one person without the use of electricity or gasoline, and with the price of iron oxide particles in Mongolia about 1.3¢/lb, the

operational cost is estimated to be less than 0.05¢/gal of water.

This research may provide millions of households with affordable arsenic removal systems to gain access to safe drinking water.

Research team members included chemical engineering students Brian Novicki and Liangliang Cao, along with civil engineering student Bradley Harden and international affairs student Allison Hahn. Principal Investigator on the project was Univ. of Pittsburgh professor Di Gao, who also serves as the school's AIChE student chapter advisor.

Among the winners of the major P<sup>3</sup> Awards were several projects that incorporated chemical engineering principles:

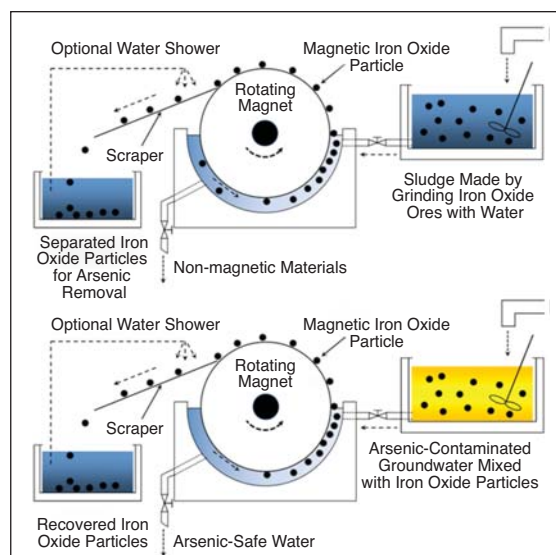
- Massachusetts Institute of Technology students created a novel solar-thermal combined-cycle power generator for distributed power generation in developing countries. The generator employs cogeneration to provide both power and hot water. Excess energy is stored as heat in rocks for later use.

- Columbia Univ. students implemented a multifunction energy platform for rural Uganda by retrofitting existing diesel generators to run

on jatropha biodiesel. Jatropha is a vegetable oil that is widely available in the region. The fuel is preheated to lower its viscosity to a suitable level for a diesel engine.

- A team from Drexel Univ. developed near-infrared-scattering architectural coatings to reflect and scatter radiant energy from the sun. The low-cost glass microsphere coatings improve on TiO<sub>2</sub> coatings by reflecting near-infrared wavelengths of light in addition to visible light.

More than 40 organizations in government, industry, and scientific and technical societies supported the P<sup>3</sup> competition. For more information visit [www.epa.gov/p3/](http://www.epa.gov/p3/).



▲ Pittsburgh's magnetic drum separator impressed the IfS judges.

## AIChE Elects New Fellows

At the Spring National Meeting in Tampa, FL, AIChE's Board of Directors conferred the title of Fellow on 13 Institute members. These members join a growing roster of respected chemical engineers who have left their mark on the profession and the Institute.

The grade of Fellow identifies tenured AIChE members who have made significant contributions to the chemical engineering profession. Candidates for Fellow must have been a chemical engineer for at least 25 years and a member of AIChE for at least 10 years, with at least three years at the Senior Member level.

The following AIChE members were elected to Fellow on April 24, 2009:

- ◆ Yoram Cohen
- ◆ Urmila Murlidhar Diwekar
- ◆ Greg Frank
- ◆ Michael T. Harris
- ◆ Babu Joseph
- ◆ Dan Lambert
- ◆ Steven LeBlanc
- ◆ Howard Littman
- ◆ Georges A. Melhem
- ◆ Larry James Moore
- ◆ Joel L. Plawsky
- ◆ Jan A. Puszynski
- ◆ A. Frank Seibert

Since the 2008 Spring Meeting, 24 other AIChE members became Fellows.

- ◆ Joseph Alford
- ◆ Shannon E. Brown
- ◆ R. Alan Cannon, Sr.
- ◆ Cawas A. Cooper
- ◆ Peter T. Cummings
- ◆ Mary Ann Curran
- ◆ Emmanuel A. Dada
- ◆ Liese Dallbauman
- ◆ Robert H. Davis
- ◆ Anthony G. Dixon
- ◆ Rafiqul Gani
- ◆ Maximilian B. Gorensek
- ◆ Shamsuddin Ilias
- ◆ Sanjeev Katti
- ◆ Stephen A. Kiorpes
- ◆ Eldon R. Larsen
- ◆ John D. McKenna
- ◆ Ponisseril Somasundaran
- ◆ Paul C. Steacy
- ◆ John L. Steimke
- ◆ Kalliat T. Valsaraj
- ◆ Arvind Varma
- ◆ Marten D. Walter
- ◆ Richard L. Zollars

Fellow candidates are nominated by their peers in AIChE membership, and reviewed by the national Admissions Committee.

For more information about AIChE Fellows, visit [www.aiche.org/About/OurMembers/fellow.aspx](http://www.aiche.org/About/OurMembers/fellow.aspx).

## AIChE Calendar

### Conferences



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

**JUNE**  
12–14, 2009

**2009 Leadership Development Conference**  
Marriott Augusta Hotel • Augusta, GA

**AUGUST**  
9–12, 2009

**1st International Congress on Sustainability Science and Engineering**  
Kingsgate Marriott • Cincinnati, OH

**AUGUST**  
23–27, 2009

**8th World Congress of Chemical Engineering**  
Palais des Congrès • Montréal, QC, Canada

**SEPTEMBER**  
13–19, 2009

**54th Safety in Ammonia Plants and Related Facilities Symposium**  
Hyatt Regency Calgary • Calgary, AB, Canada

**OCTOBER**  
1–2, 2009

**2009 AIChE Regional Process Technology Conference**  
Moody Gardens Hotel • Galveston, TX

**NOVEMBER**  
8–13, 2009

**2009 AIChE Annual Meeting**  
Gaylord Opryland Hotel • Nashville, TN



### Webinars

Register and view live and archived webinars at [www.aiche.org/webinars.aspx](http://www.aiche.org/webinars.aspx)

**JUNE 10, 2009**  
2:00–3:00 PM ET

**Networking and Connecting for Chemical Engineers**  
Presented by Dr. Ron Elsdon

**JUNE 17, 2009**  
2:00–3:00 PM ET

**What Does It Take To Be a Successful Consultant?**  
Presented by Dr. David S. Dickey

**JUNE 24, 2009**  
2:00–3:00 PM ET

**Dust Explosions**  
Presented by Dr. Timothy Myers

**JULY 8, 2009**  
2:00–3:00 PM ET

**Six Sigma for Chemical Engineers**  
Presented by Dr. George Liebermann

### OBITUARIES

**Wayne P. Brenckle, 67**  
Mesquite, NV  
**Henry S. Challenger, 87**  
La Verne, CA  
**Robert H. Graf, 67**  
Boynton Beach FL  
**John W. Marshall, 77**  
Middleton, St. George, UK  
**Larry J. Nace, 59**  
Ferndale, WA  
**James M. Robertson, 86,**  
Corpus Christi, TX\*  
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