

Recently, the AIChE website underwent a facelift, re-launching a site that is not only more appealing to the eye, but much more user friendly and easy to navigate. And to add a personal touch, photographs taken of members at the 2006 Spring National Meeting (Apr. 23–27, Orlando, FL) have begun rotating on the home page, starting in July. At the Spring Meeting, more than 500 iTunes were given away as incentive to take a photograph, so the many faces of chemical engineers will be well represented.

The changes to the Web, however, are not only skin deep. Through AIChE's revitalized website, key volunteer leaders, such as those who are involved with local sections, student chapters, divisions and forums, will soon be equipped with state-of-the-art tools for quicker and broader communications within their groups. Also, by using the Web, AIChE will expand its reach to remote or expansive geographic locations, whether in the U.S. or overseas, where there is potential to set up virtual local sections.

Some of the tools have either already been released or are currently under development and slated for availability by the end of this year. The following are some key highlights:

Webcasting

The first installment, which became available this past April, is the ability to webcast live. Developed with the help of the Computing & Systems Technology (CAST) Div., this complimentary service enables users to conduct a full-featured, rich-media Web meeting with up to 25 attendees. Webcasting has already been successfully done from the 2006 Spring Meeting, where a tutorial on functionalized nanoparticles was broadcast via the Web.

AIChE offers training to all local sections and divisions that use this tool. For more information, visit www.aiche.org/webcast.

Webhosting

For groups that don't have time to develop and maintain their own website, AIChE now offers webhosting services for a nominal fee. Beta sites, such as the New Orleans local section (www.aiche.org/neworleans), were launched back in May. Webhosting clients get a laundry list of features, including:

- an expanded cyber footprint — no limit on the number of pages on the site, coupled with an unlimited bandwidth

AIChE Gets More Web Savvy

New features facilitate leadership and extend AIChE's geographical reach

A Host of New Features

Many of the enhancements to the web are not only for volunteer leaders, but also for the general membership. Below is six-month outlook on web-development activities:

April

- Webcasting — For more information, visit www.aiche.org/webcast

July

- Webhosting — To learn more, go to www.aiche.org/webhosting
- Seamless login to the Knovel e-Library, which contains a wealth of technical information

August/September

- Blogs — Topic blogs will be set up; Members can create personal blogs or build an online community
- RSS news feed
- Member center redesign — Will highlight a "member of the month"

September/October

- Podcasts/Videocasts available for downloading
- SharePoint project collaboration

November

- Discussion threads and forums

- a powerful content management system (CMS) — users can update or make changes with a highly intuitive interface that has Word-like features

- enhanced security — users can password protect all of their site or just part of it
- webcasting — conduct one-on-one, spur-of-the-moment meetings or large, scheduled webinars. First-class features include text chat, VoIP audio, video, screen sharing, PowerPoint presentations, record and playback, and automatic meeting-data capture.

- up-to-date content — news and announcements from the national organization is updated automatically.

Plus, there's Member Directory access for AIChE members and a direct link to AIChE's exclusive job site, Career Engineer. For more information about webhosting, contact Anette Ngijol at (212) 591-7478 or anets@aiiche.org or visit www.aiche.org/webhosting.

Podcasting

Podcasting, a method of distributing multimedia files over the Internet for playback on mobile devices and personal computers, has grown exponentially in popularity over the past couple of years. Keeping up with the times, AIChE is going to make downloads

available from its site starting in the fall. AIChE plans to podcast a variety of sessions that will be presented at the 2006 Annual Meeting (Nov. 12–17, San Francisco, CA).

Project collaboration

Also coming this fall is the ability to virtually collaborate on projects via Windows SharePoint Services. SharePoint provides a secure, scalable, enterprise-level portal environment for group collaboration. It aggregates and organizes information in one place so that users can efficiently find relevant information. All project members have password-protected access to the SharePoint site and can work together on tasks, projects, documents and announcements. Site managers can coordinate site content and user activity.

SharePoint has numerous attractive features that will help AIChE leaders to successfully complete projects. For instance, SharePoint can automatically notify users of page and document changes. It also uses common document collaboration tools, thus eliminating version control problems that are often associated with e-mails.

A handful of select projects have been started in May. SharePoint will be made available to local sections, student chapters, divisions and forums at the end of September.

Local Section Update:

Terry McMahon,
McMahon Technology Associates

The New York Renaissance

Over the years, major process manufacturers (Union Carbide, Exxon, Mobil, Texaco, Shell, International Paper, Westvaco, Kennecott Copper, Texas Gulf Sulfur) have moved out of Manhattan, along with their engineering contractors (Kellogg, Chemico, Lummus, Scientific Design) and other supporting suppliers. Remember that New York was a key link in the development of the chemical process industries in the U.S. At the outbreak of WW I, the U.S. was denied access to Germany's chemical production and supporting infrastructure. The first Chem Show in 1915 was held at the Grand Central Palace in New York and featured Arthur D. Little and Thomas A. Edison among other exhibitors.

Now, outside of a very few larger employers (Pfizer, Con Ed, NYC DEP), New York's chemical engineering population is widely scattered among a range of service providers including legal, securities, banking, marketing/advertising, broadcasting and many others. Appealing to such a diverse group is difficult, and a core of dedicated individuals is necessary to keep the Section alive. The New York Local Section was probably the first to face such drastic changes in its member base, but may be a harbinger of what's in store for the rest of the nation if the chemical engineering profession is to survive and flourish, as traditional chemicals manufacturing and closely associated supporting functions shrink in relevance to the national economy.

For the New York Local Section, a small group, including Howard Jaeger, Ariel Czemerinski, Joel Kirman and David Deutsch, kept the flame lit during the lean years of transition. In 2005, Brenda Lando and Brian Deutsch stepped forward to assume leadership roles and the Section has been rejuvenated under the new regime.

Recent Section meetings have frequently included the option of getting continuing education (CEU) credits needed for professional registration (PE). An additional meeting fee of \$10 is added for those seeking these credits. This is to cover the costs of seeking NY Professional Board approval of the meeting agenda/contents. In addition to CEU credits, meeting topics are intended to attract attendance from other AIChE Sections in the metropolitan area as well as other New York engineering societies (box, below).

These changes are a good start, but, like all local professional groups, AIChE Sections rely on a continual flow of volunteer effort for inspiration and survival. The NY Renaissance is no different.



Engaging speakers and avid leaders are helping to rejuvenate the NY Local Section. (Left to right) Ty Smith, Herb Cooper, David Deutsch, Brian Deutsch and Terry McMahon.

Past and present line up

In March, James Corrigan, a professor in the Biology Dept. at St. Francis College, discussed chemical warfare agents, based on his experiences in the U.S. Army Chemical Corps. Corrigan reviewed the major classes of chemical agents, their effects and potential defenses.

In May, Herb Cooper, president/founder of Dynalitics Corp., examined the technical challenges and economic viability of obtaining electricity from fuel cells. The discussion included the variety of fuel cell configurations, their environmental performance, efficiency, reliability and energy density. Cooper's presentation attracted over 50 attendees, an unusually high turnout for a recent NY Section event.

In June, Ty Smith, president/founder of Cemtek Systems, analyzed continuous emissions monitoring system (CEMS) applications, describing the complicating factors involved in complying with these regulations (federal and state). Smith discussed the variety of types of CEMS, selection of an CEMS vendor, technician/operator training and adapting to changing regulatory policy. He noted that impending rules of mercury emissions will impact coal-fired

boiler operators, as well as users of coal-based chemical feedstocks.

The trend of appealing topics continues on *September 11, 2006*, when Brian Ozero will address the Section on his experiences in "A Half Century of International Design Engineering." This meeting will be held at the Academy's historic brownstone facility at 2 East 63rd Street.

Meanwhile, AIChE president-elect, Larry Evans, will share his insights on the subject of short-term and long-term entrepreneurial opportunities for engineers at a dinner meeting slated for *November 6, 2006*. He will focus on issues our country, our companies and each of us face in the energy and environmental fields. Both realistic opportunities and dead-ends will undoubtedly be aired during the question-and-answer period. Evans has a unique background in that he is the corporate founder and successful leader of Aspen Technology Inc., as well as a university professor and a research contractor. The meeting will be held at Pfizer's Corporate Conference Center (150 East 42nd St.) across from Grand Central Station at 5:30 PM. Building access is restricted, so advance reservations are necessary — contact co-chair Brenda Lando at BrendaLando@yahoo.com or (917) 575-4537.

Words of Wisdom:
Student Ambassadors
Program

AIChE is kicking off an exciting new venture — the Student Ambassadors Program. Volunteer AIChE members from industry will visit student chapters across the country to share their career experience, as well as the value and numerous benefits of AIChE professional membership.

The Student Ambassadors will come from all segments of AIChE membership: Local Sections; Divisions; Forums; Young Professionals; Minority Affairs; and more. In turn, AIChE will provide student chapter advisors and student presidents with a list of Student Ambassadors in their chapter's region. The Student Ambassador and Student Chapter will coordinate the speaking engagements.

Student members are the future leaders of AIChE and the chemical engineering industry. Student Ambassadors will encourage them to take advantage of the AIChE benefits that are available to them by choosing AIChE as their professional home. This is a wonderful opportunity for students to discover the various fields chemical engineers can pursue and how AIChE can help secure a network of colleagues and enhance their professional development.

If you would like to volunteer to become a Student Ambassador, please send an e-mail to studentchapters@aiche.org with your name, company, industry segment, region and e-mail address. AIChE will provide you with sample presentations to customize your presentation and any related materials.

Chem-E-Car Competition — Bringing Safety to the Forefront

Gordon Ellis,
AIChE Member Activities

In the late 1990s, leaders of AIChE sought to bring public recognition to chemical engineering by creating a novel, high-profile annual event — in the style of the egg drop competitions and cement canoe races conducted by engineers in other disciplines.

Undergraduates and their professors devised a competition involving model autonomous vehicles — no larger than a shoe box — that student engineers would fuel to carry a variable load over a prescribed distance, powered by a precisely controlled chemical reaction. Thus, the first AIChE “Chem-E-Cars” rolled into view.

AIChE’s Chem-E-Car Competition series, consisting of nine spring regional events and a national final competition each fall, has since become a highlight of the Institute’s activities for students. Its notoriety within AIChE and in the general public increases each year, and in each community where the competition is held. The Competition has even gone international — with student chemical engineers from Europe and Australia picking up on this creative, educational and entertaining concept. Some of these schools competed against AIChE’s top teams at the June 2005 World Congress of Chemical Engineering in Glasgow, Scotland.

In addition to the spirit of healthy competition between schools and the energy drawn from the public spectacle, the Chem-E-Car Competition is foremost a multi-beneficial learning experience for engineers in training. Sixty teams participate in the regional events each year (with the top 30 qualifying for the national competition), and many instructors use the Competition in classroom teaching, as examples of real engineering situations.

Now, a new learning opportunity is emerging, in which the Competition can help students to confront another reality — *safety* — an area of instruction where some teachers admit the current curriculum often falls short. The Competition may help jump-start students’ expertise in safety.

This fall, AIChE will require students and their advisors to adopt a focused, safety-first approach to the Competition. To help instill a culture of safety, AIChE’s Center for Chemical Process Safety (CCPS), Safety and Education in Chemical Engineering (SACHE), and the Student Chapters Committee have collaborated on new pre-



requisites for schools that wish to compete in Competitions. These policies go into effect this summer in preparation for the national Competition, to be held November 12 at AIChE’s Annual Meeting and National Student Conference in San Francisco, CA.

Design instructors will be required to file documents — including job safety analysis forms — attesting that students are receiving safety instruction and supervision as they approach the design stage of the Competition. Students must demonstrate to the advisor that they have a safety, construction and operation plan that addresses competition rules (*e.g.*, chemical reactivity, pressure vessel design and calculations, chemical storage and transport, etc.), while the car is still on the drawing board.

A training workshop, coordinated by CCPS and SACHE, will now be offered annually to potential Chem-E-Car participants. The first of these sessions will be held November 11 at the Annual Meeting. One-time attendance will be required for an advisor and student captain from each team who wish to participate at subsequent spring regional Competitions. Alternatives to this in-person training, including self-teaching modules, are under consideration for the future.

Further, a network of industry safety ex-

perts is being recruited to assist judges of the Competition with car inspection and design safety assessments at each Competition site. In early 2006, the Student Chapters Committee made substantial changes to the Competition rules (especially those pertaining to vehicle construction and drive systems), and continues to refine the rules to address safe design and practices. For the current rules, visit: www.aiche.org/Students/Conferences/chemecar.aspx.

Chem-E-Car Competition supporters, like R. Russell Rhinehart, chair of the School of Chemical Engineering at Oklahoma State University, believe that this increased attention to safety is an important development. “As the Chem-E-Car Competition evolved, chemical engineering instructors began to recognize the environmental aspects of polluting effluents, and, now, they are realizing the concerns for safety,” says Rhinehart. “I am pleased that the Competition is making this awareness real for professors and their students.”

Rhinehart says that, while students may always regard the Competition as a source of fun and public recognition, it contains elements that reflect how chemical engineers must practice in industry and business. “Chemical engineers in the real world must make processes that work within a multitude of constraints, from federal and state regulations on pollution, resource conservation and recovery, and safety, to business. Engineers have to understand and defend choices in risk management, reproducibility, and the fundamental chemical engineering sciences involved in their designs,” he says.

As a mentoring organization for all engineers, AIChE would like engineers to appreciate that being smart about safety is part of smart engineering. Students’ success in their future jobs will depend not only upon doing good engineering, but doing it safely.

National Competition Details

Top finishers at the regional Competitions will compete in the finals, to be held Sunday afternoon, Nov. 12, at the San Francisco Hilton. A poster session will be conducted that morning, during which safety inspections will be conducted by leaders of SACHE and other safety experts. Cars that pass inspection will be allowed to enter the performance competition. Students learn the target distance and calculate the needed reaction just prior to the start time. The current slate of participants can be found at <http://webpages.sdsmt.edu/~ddixon/National-ChE-Car-Competition.html>. For more information about the national competition, contact Gordon Ellis at gorde@aiche.org.

Emeritus Professor Warren E. Stewart (1924–2006)

Warren E. Stewart, McFarland-Bascom professor emeritus of chemical and biological engineering at the Univ. of Wisconsin, died on March 27, after a long and distinguished career. He was born in Whitewater, WI, on July 3, 1924 to Earl and Avis Stewart. He received both B.S. and M.S. degrees at Wisconsin in 1945 and 1947, and a ScD in 1951 at the Massachusetts Institute of Technology (MIT). All of the degrees were in chemical engineering. While an undergraduate at Wisconsin, he became famous as the first student in the history of the College of Engineering to graduate with a straight-A academic record. His MIT experience introduced him to numerical analysis and computational techniques, essential subjects at the dawn of the electronic computer age.

Stewart joined the faculty in the Dept. of Chemical Engineering at Wisconsin in 1956 and taught there for 40 years until 1997. While serving as chairman of the department, he recruited and nurtured several young faculty members who went on to become international leaders. He supervised many PhD students and postdoctoral fellows, who today hold responsible positions in universities and industry.

Among Stewart's most important technical contributions are his development of new mathematical and computational methods for modeling chemical phenomena and chemical processes. His work in this area led to better design and safer operation of chemical processes involving chemical reactions, transport of heat and mass, and the complex flow of fluids. His research results, which have been globally adopted, increased

the fundamental understanding of chemical phenomena and influenced industrial practice.

Beyond influencing his own research students, he was an inspiring teacher and valuable consultant for many students and professors in the Chemical Engineering Dept. Furthermore, Stewart was a coauthor of the 1958 green paperback *Notes on Transport Phenomena*, which served as a preliminary edition for the 1960 textbook, *Transport Phenomena* (published by John Wiley & Sons in New York). This textbook changed the direction of chemical engineering teaching everywhere in the world. A second edition appeared in 2002 and has been translated into Chinese and Portuguese. In the preparation of this textbook, Stewart displayed important characteristics that were invaluable — very high standards for writing technical material, a photographic memory of the technical literature, and an insistence that there be no spelling or grammatical errors (this last quality earned him the nickname "gimlet eye").

MAJOR ACHIEVEMENTS

- 1973** Elected Fellow of American Institute of Chemical Engineers (AIChE)
- 1981** Alpha Chi Sigma Research Award of AIChE
Benjamin Smith Reynolds Award for Excellence in Teaching (UW)
- 1983** Chemical Engineering Division Lectureship Award, ASEE
Elected Honorary Member of Phi Beta Kappa
Named McFarland-Bascom Professor
- 1984** Computing in Chemical Engineering Award, CAST Div. of AIChE
- 1989** E. V. Murphree, American Chemical Society
- 1991** Byron Bird Award for Outstanding Research Publication (UW)
- 1992** Elected to the National Academy of Engineering

Stewart was given honorary membership in Phi Beta Kappa because of his exceptional level of scholarship and his extensive contributions to chemical engineering in Mexico and South America. He was a visiting professor at the Universidad Nacional de La Plata in Argentina in 1962, at the Universidad Nacional Tecnológico de Celaya in Mexico in 1983, and at the Universidad Autónoma de México in 1985. At these institutions, he lectured in Spanish. For 18 years he served as editorial advisor for the *Latin-American Journal of Chemical Engineering and Applied Chemistry*. Following that, he held a similar position at the journal *Latin-American Applied Research*.

Stewart's hallmark throughout his career was understated excellence in his work and unfailing kindness to students and colleagues. He was also well known for his sly sense of humor and his ability to produce — instantly — jokes on just about any topic. He loved puns and had a warning sign on his desk given to him by colleagues: "Incorrigible punster — don't incorrigle."

Gerald K. Ryan (1931–2006)

On June 18, Gerald K. Ryan died at home in Sonoma, CA. Born in Schenectady, NY, in 1931 to Albany natives, he was raised and largely educated in Schenectady. He graduated from Union College in 1954 with a B.S. Chem. After graduation, Ryan joined Allied Chemical and Dye Corp. in Baton Rouge, LA, where he worked in the field of fluorine chemistry. After three years, he left Allied for a teaching assistantship at Louisiana State Univ. and begin studies in mathematics.

Ryan re-joined Allied at their Central Research Laboratories in Morristown, NJ, working in various assignments in process engineering. In the late 1960s, he made a career change to manufacturing management and was appointed works manager at one of Allied's then flagship operations, its Frankford Works in Philadelphia, and later to a post of director of operations at Allied's corporate headquarters. In 1979, he left Allied to join the Bechtel Corp. in San Francisco, CA, where he was program manager on some of its coal-based synthetic fuels programs under the U.S. Dept. of Energy. In 1984, Ryan became an independent consultant. While always keeping his residence in San Francisco, he spent a large part of the next 20 years overseas (China, Bangladesh, Chile and Egypt) doing contract work for engineering-and-research companies, and for government and international agencies, such as USAID and the World Bank. During this period, he took time out to earn a certificate in language studies at Madrid's Instituto de Idiomas Concorde. Ryan became semi-retired in 1998 after his final overseas assignment in Baghdad, with the title "expert", under UN Security Council Resolution (UNSCOM) 687.

OBITUARIES

Herbert A. Epstein, 47, Houston, TX

Morris E. Karp, 79, Houston, TX

J. F. Moser, 82, Baton Rouge, LA

Gerald Ryan, 74, Sonoma, CA

Edward E. Slowter*, 94, Columbus, OH

Warren E. Stewart*, 82, Madison, WI

James Westwater*, 87, Champaign, IL

* AIChE Fellow