

## The Year Past, and the Years to Come

### Reflections from John C. Chen, AICHE President 2006

It has been my privilege to serve as your president this past year. It was a real pleasure to meet and work with the many members, committees, divisions, volunteers, staff and officers. As my term comes to its end, it is appropriate to look at this year past and to consider the years to come.

2006 has been a good year for the chemical engineering profession — with high employment, top salaries, increasing college enrollments and solid profits for the chemical industry. This has also been a good year for AICHE.

In my inaugural address last year, I raised several goals and objectives:

- Maintain sound fiscal management
- Enhance relevancy of programs and activities
- Enlarge the playing field, internationally
- Activate the Institute on the energy/sustainability challenge

All of these objectives have potential beneficial impact on AICHE's most significant concern — improving membership. Let us look at what was accomplished.

#### Fiscal

To note just the bottom lines:

- Operating revenues exceeded expenditures by \$1 million
- Net assets increased by \$1 million, to a total of \$ 2.1 million.

We've done well! But, let me emphasize the need for continued fiscal discipline by noting that the positive margin is just 7% of total expenditures — an amount that can be threatened by inflationary pressure in the coming years. Disciplined fiscal management must remain a characteristic for our Institute going forward.

#### Membership

This remains a central concern for our Institute. In this past year, some improvements were achieved — the number of new members increased to 5,800, the largest figure in 5 years; the number of dropped memberships decreased to 6,200, the lowest amount in 5 years. However, this still reflects a net loss of 400 members. Going forward, it is imperative that we combine strategic program enhancements with strong marketing, to earn the right to growing membership.

#### Initiatives

The other three goals are all initiatives to enhance AICHE's position as a premier chemical engineering society. We know that cost cutting alone does not lead to long-term health. Program enhancements are necessary to increase the value and relevance of membership. Hence, the three initiatives started this year, all of which enjoyed good "take-offs." Board leadership teams worked with various AICHE entities and groups on each of the initiatives. The following describes the charter and just two of the many accomplishments for each initiative.

*1. International developments* — to enhance AICHE's international position with programs that aid the chemical enterprise and professional careers of members in the global economy. Accomplishments include:

- corporate sponsorship for 80 new AICHE members in China
- CCPS process safety management course in China.

*2. Relevance and membership* — to improve relevance of AICHE's portfolio of programs in order to attract and retain a growing membership. Accomplishments include:

- decision to focus on two large, underserved segments — industrial users of technology and young professionals
- design of special format meetings for industrial practitioners and tutorials and training for young professionals at national meetings.

*3. Energy/sustainability initiative* — to develop AICHE's activities in energy/sustainability technology, policy and education. Accomplishments include:

- analysis of needs, suitable programs, and novel ideas for AICHE in this field by a high-level Energy Commission
- special forums and increased programming at conferences — 60 sessions at 2006 Annual Meeting and 80 sessions scheduled for 2007 Spring National Meeting.

Clearly, most of the program initiatives and enhancements have just started and their fruition will take both effort and time. Many entities within the Institute have been responsive to the challenge of the three ini-

tiatives. The Board's leadership teams seek to focus attention, develop strategies, and energize the staff and membership. Ultimately, ownership of the programs and activities must be with our Institute's entities and membership.

In closing, I'd like to say that I am very optimistic for the future of the chemical engineering profession. No other profession has core competencies tailored so well to address the grand challenges that face humanity and society in the coming decades. I am also optimistic for the future of AICHE, so long as we constantly seek improvements in the relevancy of programs for our stakeholders, and simultaneously keep fiscal discipline.

I thank the many individual members, Institute entities, staff, volunteer leaders, and members of the Board who have given me input and guidance, enthusiastic support, and contributed their time and efforts. Finally, I thank the membership for entrusting me with the care and nurture of their Institute this year.

### 2007 ELECTION RESULTS

The Tellers have examined the votes for candidates for Officers and Directors of the Institute and have declared the following to be the results of the ballot:

#### President

Lawrence B. Evans

#### President-Elect

Dale L. Keairns

#### Secretary (2007–2009)

Scott Love

#### Directors (2007–2009)

Liese Dallbauman  
Ignacio E. Grossmann  
Cheryl I. Teich  
Wendy Young

## 2006 AIChE Board of Directors and Institute Awards



**Founders Award for Outstanding Contributions to the Field of Chemical Engineering**

**Norman N. Li**  
NL Chemical Technology, Inc.



**Institute Award for Excellence in Industrial Gases Technology**

*Sponsored by Praxair, Inc.*

**W.S. Winston Ho**  
Ohio State University



**F.J. and Dorothy Van Antwerpen Award for Service to the Institute**

*Sponsored by The Dow Chemical Co.*

**Peter B. Lederman**  
Center of Environmental Engineering and Science (retired)



**Professional Progress Award for Outstanding Progress in Chemical Engineering**

*Sponsored by Air Products and Chemicals, Inc.*

**Joan F. Brennecke**  
University of Notre Dame



**William H. Walker Award for Excellence in Contributions to Chemical Engineering Literature**

*Sponsored by John Wiley and Sons*

**Nicholas A. Peppas**  
University of Texas at Austin



**Award in Chemical Engineering Practice**

**Rakesh Agrawal**

Purdue University



**Allan P. Colburn Award for Excellence in Publications by a Young Member of the Institute**

*Sponsored by E.I. duPont de Nemours & Co.*

**Yeuh-Lin (Lynn) Loo**  
University of Texas at Austin



**R.H. Wilhelm Award in Chemical Reaction Engineering**

*Sponsored by The Exxon-Mobil Research and Engineering Co.*

**Christopher N. Bowman**  
University of Colorado



**Alpha Chi Sigma Award for Chemical Engineering Research**

*Sponsored by the Alpha Chi Sigma Educational Fraternity*

**Rakesh K. Jain**  
Harvard Medical School and Massachusetts General Hospital



**Warren K. Lewis Award for Chemical Engineering Education**

*Sponsored by The Exxon-Mobil Research and Engineering Co.*

**Robert C. Armstrong**  
Massachusetts Institute of Technology

## Darsh Wasan Elected to Indian National Academy of Engineering

Dr. Darsh Wasan, Illinois Institute of Technology's Motorola Chair Professor of Chemical Engineering and Vice President for International Affairs, was recently elected to the Indian National Academy of Engineering for his major advances in research in interfacial engineering and colloidal processing, leadership in chemical engineering education, and contributions to Indian engineering and technology.

The Indian National Academy of Engineering (INAE) includes India's most accomplished engineers, engineer-scientists and technologists working in all disciplines of engineering. No more than 50 new Fellows are elected an-

nually and can only be nominated by the previously elected Fellows of INAE. Founded almost 20 years ago, in 1987, the Academy promotes advances in engineering, technology and the related sciences and disciplines in India and their use in confronting problems of national impact.

Wasan was elected to the U.S. National Academy of Engineering in 2004. He is an AIChE Fellow and a member of the Institute's Foundation Board of Trustees. He received his B.S. and Ph.D. in chemical engineering from University of Illinois-Urbana and University of California-Berkeley, respectively. Wasan has taught and conducted research at IIT since 1964.

## The AIChE Education Services Program: Continuing Education for Chemical Engineers

Contributed by Jim Cobb

Have you thought about taking a continuing education course, but couldn't find one that fit your work schedule, travel budget or information needs? Check out the 2006–2007 catalog of courses offered by the AIChE Education Services Program. Published in the September 2006 issue of *CEP*, the course list and description can be found online at <http://www.aiche.org/CareersEducation/Education/index.aspx>.

More than 30 continuing education courses designed specifically for the chemical engineering profession are available through the Education Services Program. Also offered are nine courses, selected from those developed by the American Society of Mechanical Engineers (ASME) for mechanical engineers, that chemical engineers should find useful. In addition to these public courses, which are taught in person by instructors, are seven courses that are available on CD-ROMs for self-instruction.

A pioneer in continuing education, the AIChE Continuing Education Program had been in existence for 40 years when AIChE suspended it in January 2004 and outsourced day-to-day operations to the ASME Continuing Education Institute. After a hiatus of only eight months, courses resumed in September 2004. Since then, dozens of courses developed by AIChE and ASME have been resumed within AIChE Education Services Program — with oversight by a new Education Services Committee, formed by AIChE to provide quality control of the offerings and technical review of proposals for new courses.

On the calendar, which is current through June 2007, are 21 sessions to be held in 10 cities — Atlanta, Chicago, Houston, Las Vegas, Los Angeles, New York, Orlando, Philadelphia, Pittsburgh and San Francisco. Courses from both AIChE and ASME comprise the sessions.

AIChE members and other prospective attendees will be notified of upcoming sessions several months in advance. Scheduled for February 2007, for example, are courses in power piping design and fabrication, and pump and valve selection, in Las Vegas, NV;

understanding and preventing explosions, in Houston, TX; and HAZOP studies and other PHA techniques for process safety and risk management, essentials of chemical engineering for non-engineers, and bulk pharmaceutical and chemical process development, in Orlando, FL.

All of the public courses are available for in-company training programs. A course can be customized, subject to the specific needs of the facility where the course is offered. For information on in-company programs, contact David Tonn at the ASME Continuing Education Institute (Phone: 212-591-7303; Email: [tonnd@asme.org](mailto:tonnd@asme.org)).

### New courses and training methods

To ensure the quality of its offerings, the AIChE Education Services Committee schedules knowledgeable individuals to periodically review public courses. Courses in the area of chemical process safety are generally based upon guidelines published by the Center for Chemical Process Safety (CCPS) and are reviewed regularly by CCPS. Students are surveyed at the conclusion of every course and their responses are carefully examined for suggestions.

Meanwhile, the AIChE Education Services Committee is actively seeking appropriate new courses for the program. In addition to inviting specific potential instructors to submit proposals, the committee encourages everyone with good concepts for new courses to submit proposals. Interested parties should send a two-page prospectus that outlines a course in AIChE engineering training to David Tonn. Upon favorable technical review of the prospectus, the proposer will be invited to submit a full proposal, using the procedures described on the ASME website [http://www.asme.org/Education/Courses/Teach/Opportunities\\_CEI.cfm](http://www.asme.org/Education/Courses/Teach/Opportunities_CEI.cfm).

For further consideration, the proposal should contain three basic elements:

1. content of the course
2. delivery method for the course, including assessment methods, frequency and location, visual aides and marketing

3. *vita*, references and remuneration details.

The full proposal will be reviewed technically by the AIChE Education Services Committee and operationally by the ASME Continuing Education Institute. If approved, a contract will be negotiated with the proposer. Most instructors will own the intellectual property of the course and follow the remuneration practices of the ASME Continuing Education Institute, which operates the courses. Occasionally the AIChE will own the intellectual property of a specially developed course. In such cases, remuneration will be negotiated between AIChE and the proposer. This remuneration frequently will include an honorarium for course development.

When the instructor is under contract, the Education Services Committee will identify an individual to review the material that the instructor develops specifically for the course. This is an important element of new course development, as it provides a valuable, fresh examination of the material, similar to the editorial referee process common in the publishing world.

It is the Committee's experience that a course that needs little development and experiences a smooth negotiation can be brought onto the schedule of the Education Services Program and offered within six to eight months from the initial contact. A course that needs much development can require a year or more before its first offering.

The seven computer-based CD-ROMs for self-study at home or work are just one example of new methods of training that the ASME Continuing Education Institute is exploring. Others include online courses and webinars. The AIChE Education Services Committee welcomes proposals in this domain, as it will be taking a closer look at all three of these new training methods in the coming years.

---

**JIM COBB** is a retired associate professor emeritus of the Department of Chemical and Petroleum Engineering at the Univ. of Pittsburgh (Phone: (412) 793-2869; Fax: (412) 624-9639; E-mail: [cobb@enr.pitt.edu](mailto:cobb@enr.pitt.edu)) where he taught for 30 years (until 1999). He chairs AIChE's Career and Education Operating Council (CEOC), is chair of the Chemical Engineering (ChE) Subcommittee of the Fundamentals of Engineering Examination Committee, a member of the ChE PE Examination Committee and a consultant for the development of a new Biobased Engineering PE Examination.

### NEED MORE INFORMATION ON AIChE CONTINUING EDUCATION COURSES?

Contact ASME Continuing Education Institute's David Tonn at:  
Phone: (212) 591-7303 or E-mail: [tonnd@asme.org](mailto:tonnd@asme.org).

## AIChE's Centennial Corner: Carroll Hochwalt's Oral History

Carroll Hochwalt was a noted chemical engineer, but not quite popular enough to be a "household name." He may have been, if our spans of memories were sufficiently long and we could think back to the days when automobile engines made knocking noises, and when washing clothes was done manually with scrubbing brushes in a tub.

### Taking the knock out of cars

In 1918, Hochwalt was hired as a laboratory assistant to the famed Charles Kettering at General Motors. A friend's classmate didn't want the job because he could make more money in World War I with companies engaged in war work. Hochwalt called himself the luckiest guy in the world to be able to work with such an inspirational fellow who questioned everything and felt there were always better ways of doing things.

Because Kettering's background was not in chemistry, Hochwalt had free rein to learn how to make large quantities of highly toxic tetraethyl lead. Gasoline back then had few branched paraffins and little aromatics, and so adding tetraethyl lead was a way to increase the "octane" of gasoline. The Houdry catalytic cracking process was still two decades away and Fluid Catalytic Cracking was a World War II triumph, about five years later.

About the time he was to be married (1923), Hochwalt was making tetraethyl lead in gallon quantities. Safety awareness was not then what it is today and he was often nauseated from lead poisoning. General Motors gave Hochwalt a six-week vacation to get away from the lead. That was when he and his wife went on their honeymoon, and such were the times.

Charlie Thomas, Hochwalt's "kindred spirit," worked on eliminating the engine's lead residues, which led to Dow and Ethyl extracting bromine from seawater. In 1926, the two founded the Thomas & Hochwalt Laboratories in Dayton, Ohio. When Roosevelt closed the banks early in the Great Depression, the two made their payroll by rolling dice in a crap game.

### Solving a sudsy problem

In the early 1950s, Westinghouse was working on a mechanical clothes washer, but there was a huge problem — the suds from the washing detergent would flow out of the machine and run all over the floor. At that time, conventional wisdom said good cleansing required large volumes of suds. But, Hochwalt and his company, now a part of Monsanto, had the answer, an ethylene oxide adduct that cleaned, but made no suds at all. When Westinghouse brought him the problem, he didn't propose a research program — instead, because the compound had already been made and studied, he said to them, "Oh, by God, we've got your problem solved already."

Much the way Kettering presented women with the opportunity to drive cars by introducing the automobile

starter, Hochwalt did the same thing with the washing detergent "All." Along with each Westinghouse washing machine came a box of "All," which, in effect, liberated women from this major household chore.

Hochwalt, all tolled, had 92 patents dating from his early days as a chemical engineer at General Motors until retirement from Monsanto in 1964 as director of central research and coordinator of research, patents and developments. During World War II, he worked on the Manhattan Project, which developed the atomic bomb. And later, he led the Atomic Energy Commission study of chemical problems in the field of atomic energy.

A few years before he died in 1987, Hochwalt described his life as "full of discoveries, feeling, seeing and hearing things that no one has felt, seen or heard before." He believed opportunities were just as great as when he came out of school. "But you now have to be a little bit smarter or at least more aware of what is going on and what is needed."

How do we know all this? We know because Jeffrey L. Sturchio and Arnold Thackray interviewed him on July 12, 1985 in Clayton, MO, and recorded it as part of the Chemical Heritage Foundation Oral History initiative.

## 2007 AIChE Conference Calendar

For information and to register visit [www.aiche.org/conferences](http://www.aiche.org/conferences) or call Customer Service at 1-800-242-4363 or 1-212-591-8100 (outside the U.S.)

### SBE's First International Conference on Biomolecular Engineering (ICBE)

January 14–18 • Coronado Island Marriott Resort • Coronado Island, CA

### SBE's Conference on Accelerating Biopharmaceutical Development\*

March 12–19 • Loews Coronado Bay Resort • Coronado Island, CA

### 2007 AIChE Spring National Meeting\*

April 22–26 • Houston Hilton & George R. Brown Convention Center • Houston, TX

### 2007 AIChE-ACS Management Conference

April 25–27 • Houston Hilton • Houston, TX

### SBE's 3rd International Conference on Bioengineering and Nanotechnology (ICBN)

August 12–15 • Biopolis, Singapore

### 2007 Ammonia Conference

September 16–20 • Hyatt Regency, Las Vegas • Henderson, NV

\*Call for papers is now open. Visit [www.aiche.org/conferences](http://www.aiche.org/conferences) for more information.

## OBITUARIES

Gerald W. Alves, 55, Sugar Land, TX  
Saivied A. Hossain, 83, London, UK  
Walter B. Howard\*, 90, Omaha, NE  
Howard J. Johnson, 57, Columbus, OH  
Helmut W. Schultz\*, 94, Harrison, NY  
Frank S. Waters, 91, Denver, CO  
Clyde J. Welcker, 77, New Orleans, LA

\* AIChE Fellow