



School of Chemical and Biomolecular Engineering at Cornell
News Update March 2008

from Paulette Clancy, Professor and William C. Hoey Director

Dear Alumni:

I'm glad to have the opportunity to let you know what's new in the school and in Olin Hall. As I write this, I'm always astonished at how quickly my update letters become out of date, which means—I hope—that we are keeping the students busy with new educational initiatives that will make them more productive and fulfilled members of society.

Classes are in full session, and many students are looking forward to Spring Break. We have a winter storm today and the trees are like white fractal sculptures outside the warm brick exterior of Olin Hall. The students are studying hard (and struggling mightily) with problem sets and prelims as they journey toward graduation.

Olin Hall Renovation. Our top priority at the moment is to finalize construction documents for the renovation of Olin Hall. The \$14 million project will modernize the infrastructure and facilities in Olin to make sure that our facilities entice and support faculty and students in their endeavors. The university and college have contributed \$8.5 million, leaving us with \$5.5 million to find from our friends. As a result of the renovation, we will have our first central air-conditioning systems, new windows to replace the 1941 originals, a major power upgrade, and new safety systems. We are also setting up the infrastructure to support a new laboratory wing and a new chemical engineering student center in phase two of the plan. We have carefully chosen options that represent the best energy stewardship that we can. Renovation began in December with the removal of asbestos. Olin Hall alumni have already responded magnificently to the introduction of this fund-raising priority. We will announce several major gifts in the next Olin Hall News.

Undergraduate Program. Enrollment in chemical engineering continues to be very high. There are more than 250 affiliated students in the school: 76 seniors, 85 juniors, and more than 100 sophomores. We also have 140 freshmen (pew!) indicating an interest in chemical engineering as their major. Female enrollment in the program remains very high (50 percent vs. 28 percent in the college). Under-represented minorities at Cornell remain a small but vibrant fraction of the class of around 6 percent.

AIChE Student Chapter. The chemical engineering undergraduates representing the student chapter of AIChE had a strong performance at the National AIChE Chemical Car competition at the annual meeting in Salt Lake City in November 2007. They placed 11th out of 29 teams, which is their best performance to date. The photo below shows some of the 16 team members preparing for the national competition. Some teams (not Cornell) have had their cars explode, so safety protection is *de rigueur*.



Graduate Students. Thirty new graduate students arrived at Cornell this fall, split equally between M. Eng. and PhD students. Several ChE alumni have provided us with funds to sponsor graduate fellowships, which have been an invaluable aid in raising the reputation of the graduate program by allowing us to recruit the best students. *Dow Chemical* is the latest company to also help in this regard, joining companies like *Corning, Shell, Kodak, IBM, and Intel*.

Energy Economics and Engineering. Industrial Practitioner *Andrew Hunter's* new "Energy Economics and Engineering" M. Eng. concentration has a booming enrollment. From a dozen students in semester one to 25 semester two, we now have around 50 students (undergraduate and M. Eng.) learning how to think about global energy engineering solutions!

Alumnus *Samir Somaiya* returned to Cornell from India to give a one credit, three-week module on renewable energy from sugar cane that drew a broad-based audience, including MBA candidates. The course showed students how technology, markets, and public policy shape a company's strategy to derive value from feedstocks. We are especially interested in giving the students international perspectives on energy, and, to do this, *we'd like to offer more one credit modules on energy-related topics. If you have an idea, please contact us!*

Faculty News. Two new faculty started this fall: *Susan Daniel*, a Lehigh graduate, will study membrane biophysics, the development of novel biosensors and diagnostic tools, and biomolecular separations in membranes. Susan is our first female hire in 20 years. *Tobias Hanrath*, a University of Texas-Austin graduate, specializes in the "bottom up" synthesis of nanostructured materials. He completed a post-doctoral appointment at the University of Eindhoven in the Netherlands where he has been developing high-efficiency solar cells. At Cornell, he will focus on photovoltaic materials for solar cells and batteries, as a key part of a new strategic direction for the school. *Yong Joo* was promoted and given tenure; he is now in South Korea at Samsung for his sabbatical leave.

Awards. Associate Director *T. Michael Duncan* was named New York State's Professor of the Year for 2007—a great honor. Interestingly, in Cornell's history, only engineers have won this award (three times before). *Matt DeLisa* was given a College of Engineering teaching award for outstanding teaching of undergraduate courses in biomolecular engineering and in Plant Design. All our other faculty awards, too many to name here, will be listed in the next issue of the Olin Hall News.

Company-Sponsored Awards. *Nicholas Hoh* ('08) was named the winner of the Genentech-Scheele Outstanding Junior Award, which is supported by *Genentech* and honors the memory of Professor *George Scheele*. The inaugural *Rohm & Haas Rodriguez* Award was made to *Debra Audus* ('07) for her outstanding research in the areas of polymers, complex fluids, or electronic materials. The Genentech-Scheele and Rohm & Haas awards each carry a \$5,000 prize of which \$3,500 is given to the student.

Corning Inc. gave a new PhD fellowship award for the next three years. This year's Corning Fellow is *Tobias Wheeler* whose work involves developing an artificial tree using a microfluidic design. His "trees" pull water the equivalent of over 100 feet—not redwood caliber perhaps, but a first in microfluidic history.

Julian Smith Lecturer. The 2008 J. C. Smith Lectures will be given on April 21 and 22 by Carol K. Hall, Camille Dreyfus Professor at North Carolina State. The subjects of her two talks will be: "Thermodynamic and Kinetic Origins of Alzheimer's and Related Diseases: A Chemical Engineers Perspective" (April 21) and "Self Assembly of Dipolar Particles: Designing Smart Materials Using Computer Simulation" (April 22).

Both talks will be given at 4 p.m. in 155 Olin Hall and are free and open to the public. The lectures on both days will be preceded by a 3:15 p.m. reception in the Fred H. Rhodes Lounge in 128 Olin Hall.

Industrial Practitioner Program. Our signature "Industrial Practitioner" program brings alumni back to Cornell to lead capstone experiences in the senior year Unit Operations Laboratory and Design courses. The dedication of our two resident practitioners, *Al Center* '65 and *Andrew Hunter*, and regular visitors, *Brian Earl* (an academic from Canterbury, New Zealand) and *Bob Ferguson* (leader of the Chevron-Texaco Energy Conservation Team for Australasia), has transformed the courses with a modern treatment of economics and incorporation of state-of-the-art technology. They lead the students to make the transition from learning academic fundamentals to professional practice. This year, Corning generously allowed one of its current employees and an alumnus of Olin Hall, *Bill Cleary*, to teach in the UO Lab course. Many other alumni contribute to the Design course through their assessment of the teams. See below for their names.

We have raised more than \$1.3 million in gifts and estate-planned commitments to endow the Industrial Practitioner Program, and the income generated is helping to secure its future. I am hopeful that we will be able to fully endow the program at the \$2 million level within the next year.

Alumni Giving Back. Our grateful thanks go to many alumni who contributed to our educational programs with the valuable gift of their time this year. Several of these folks have served in multiple capacities: Bill Cleary (Corning), Bob Ganz (ret., Exxon), Steve Kirk (Lubrizol), Peter Velez (Shell), Charles Grimm (Shell), Christine

Hewitt (Amgen), Howard Greenberg (BMS), Diana Berkery (L'Oreal), Fazeela Rashid (Solera Capital), Mike DiPaola (Procter & Gamble), Lisa Walker (Korn Ferry), Donna Giandomenico (Genentech), Ann Lee (Genentech), Gus Noojin (ret., Shell), Martha Jones (Intel), Carol Boyd Amos (DuPont), Kent Göklen (Merck), Charlie Shafran (Pfizer), Jeff Tester (MIT), Jim Staid (ret., Exxon), Chris Wolcott, Martin Schwartz (ret.), Terry Yamada (Lone Star Industries), Carrie Shearer (ret., Caltex), Steve Elkins (ret., Bank of NY), Claudia Elkins (Wells College alumna, Azko Nobel Research), Tom Dill (ret., Amoco), Lowell Youngquist (ret., Dow), Kyle Mork (Energy Corp. of America), Kelly Bland (Shell), Jennifer Carrano (Shell), Brock Tuczynski (Kraft), Kristina (Bullard) Phipps (Clorox), Serena Schlake (Clorox), Samir Somaiya, and others.

Alumni Support. We remain grateful for the generous support of our alumni. Unrestricted gifts to CBE of any size provide us with the flexibility to fund opportunities that enhance student life and learning initiatives. Gifts aimed at specific funding needs are equally important. Current fundraising priorities include the **Olin Hall Renovation Fund** (stay tuned for naming opportunities), the **Industrial Practitioner Program**, and the **Ray Thorpe Chair**. We also need graduate student fellowships and endowed faculty chairs to help us retain newly promoted research stars and to attract new talent to the school. These priorities are crucial to enhancing the quality of our undergraduate and graduate programs and constitute our largest financial commitments.

The class of '75 responded to a recent challenge from classmate Peter Wright to raise funds for the **Ray Thorpe Chair**. Their combined gifts of close to \$100,000, coupled with donations from *Peter Wright* and *Bob and Linda Ganz*, total just over \$650,000. With the help of other generous alumni, we hope to reach our target of \$2 million by December. Once completed, this chair will honor Ray Thorpe for his years of teaching excellence and advising.

To help us meet these and other challenges, the College of Engineering has added a new development officer to assist with fundraising efforts specific to CBE. I am pleased to announce that Lauren Schler '00 (Human Ecology) joined us in late January. She looks forward to meeting and getting to know CBE alumni on campus and through her travels. You may reach her at (607) 229-5775 or lkp8@cornell.edu with questions about any of CBE's fundraising goals or priorities.

Several alumni have recently chosen to include CBE in their estate and financial plans. Cornell's Office of Trusts, Estates & Gift Planning offers free help aimed at meeting donors' financial and philanthropic objectives through flexible life income arrangements such as charitable gift annuities and charitable remainder unitrusts. Including Cornell in your will or as a beneficiary of your retirement or IRA account is simple and effective. For more information, please contact Ian Garrett in the Office of Trusts, Estates & Gift Planning by phone (800) 481-1865 or e-mail irg2@cornell.edu. Or, visit their website: www.alumni.cornell.edu/gift_planning

Contact Us. *We'd love to hear from you. Call the department at (607) 255-6331 (Janice McBride, Assistant to the Director), e-mail cbe_director@cornell.edu, or browse our website: <http://www.cheme.cornell.edu>.*