A Catalyst
FOR IOWA’S BIO FUTURE
The College of Engineering has inducted two new members of its Distinguished Engineering Alumni Academy and placed three former faculty and administrators in the Legacy of Iowa Engineering.

Those joining the Alumni Academy are Hugh D. Guthrie (BS 1943 in chemical engineering), senior management and technical advisor with the Strategic Center for Natural Gas at the National Energy Technology Laboratory; and Robert E. Moulds (BS 1970 in mechanical engineering), recently retired vice president, engineering, for Deere & Company.

The Alumni Academy (www.engineering.uiowa.edu/honor-wall/alumni-academy/index.html), now with 57 members, was created to honor University of Iowa engineering alumni for their personal contribution toward engineering achievement, leadership, and service to the profession and to society. Nominations for 2007 are due December 31, 2006.


The Legacy of Iowa Engineering (www.engineering.uiowa.edu/honor-wall/legacy/index.html) recognizes faculty, staff, alumni, and friends of the College of Engineering who made exceptional historical contributions toward advancing the College in teaching, research, or service during their engagement with the College. There now are 13 members. Nominations for 2007 are due March 1, 2007.

The June 10 induction ceremony can be viewed via video stream at www.engineering.uiowa.edu/events/June10/.

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UI Presidential Search Under Way

With the departure of David Skorton as University of Iowa president, a 19-member search committee is asking community members—including Engineering alumni—to participate in finding the next UI leader.

As the University's chief executive officer, the UI president serves as lead spokesperson for the institution, guides fund raising, and directs the executive leadership team. The president also oversees UI Hospitals and Clinics, athletic programs, and human and financial resources.

The next UI president will demonstrate inspiring leadership, a strategic vision for the University, and a commitment to higher education, advocacy and outreach, diversity, resource development, Iowa's state university system, academic freedom, and shared governance.

Candidates for the job must hold a doctorate, advanced professional degree, or equivalent, as well as other qualifications that would support appointment as a tenured professor. They also must have demonstrated a record of academic success and administrative experience.

For more information about the position and the search process, visit the presidential search web site at www.uiowa.edu/uipresidentialsearch/index.html. The search committee members welcome applications, nominations, and inquiries about the position or process.

Nominations and applications—the latter including a curriculum vitae and letter of interest—should be sent to:

University of Iowa
Presidential Search
Heidrick & Struggles, Inc.
Attn: Ellen E. Brown/
Nathaniel J. Sutton
303 Peachtree Street NE
Suite 4300
Atlanta, GA 30308
Phone: 404-577-1121
Fax: 404-577-4048
E-mail: iowa@heidrick.com
Message from the Dean

In May, Engineering faculty unanimously endorsed a 5-year strategic plan to guide the College through 2010 (www.engineering.uiowa.edu/about/strategic-plan.html). The plan creates a pathway for Engineering education at Iowa to help shape what we proudly call "the engineer... and something more."

This issue of *Iowa Engineer* has several examples that already match some of the ambitious goals in the plan. From Mani Subramanian guiding the UI Center for Biocatalysis and Bioprocessing to the 10th anniversary of the College's Technological Entrepreneurship Certificate to alumni serving as expatriates around the world, you'll find the College is well grounded in providing exceptional leadership.

In the past year, the National Academies published a report titled "Rising Above the Gathering Storm—Energizing and Employing America for a Brighter Economic Future." The report makes a hard-hitting statement about the challenge we face as a nation: "Without high-quality, knowledge-intensive jobs and the innovative enterprises that lead to discovery and new technology, our economy will suffer and our people will face a lower standard of living." The report identifies four high-priority actions we need to address to remain competitive in a growing global economy: i) Increase America's talent pool by vastly improving K–12 science and mathematics education, ii) sustain and strengthen the nation's traditional commitment to long-term basic research, iii) make the United States the most attractive setting in which to study and perform research, and iv) ensure that the United States is the premier place in the world to innovate.

The College of Engineering already actively participates in each. Coupled with our strategic plan and the talented human resource of our alumni, friends, students, faculty, and staff, we are looking forward to making a difference in reshaping America's technological competitiveness.

P. Barry Butler, Dean
A CATALYST FOR IOWA’S BIO FUTURE

With roots in technology as old as civilization, biocatalysis may be powering the twenty-first century.

Text by Gary Galluzzo
Photos by fisheye
If you enjoy an occasional beer and a slice of cheese, you are already familiar with the research field of Mani Subramanian, who joined the college in 2005 as director of the UI Center for Biocatalysis and Bioprocessing (CBB) and professor in the Department of Chemical and Biochemical Engineering.

Add the fact that the same process responsible for beer and cheese also goes into making such products as medicines and ethanol fuels and your picture of the CBB becomes even sharper. In fact, Subramanian points out that biotechnology is simply a modern name for a centuries-old process.

"Biotechnology can be defined very simply as the application of biology to make products beneficial to human life and living," he said. "Biotechnology products like yogurt, bread, wine, beer, and cheese had been in use on a daily basis for a long time before the term 'biotechnology' came into vogue. Insulin, a lifesaving drug, is another great example of the use of biotechnology. This drug used to be made from the pancreas of a pig, but modern biotechnology has enabled us to make human insulin in a non-sacrificial way—from microorganisms grown in fermentation vats.

"So, the pigs are happy, and we are happy to have a more efficient, human-insulin product, at a lower cost," he concluded.
Research assistants Deanna Lettington and Jolene Ehler, and Center director Mani Subramnian discuss findings from a continuous centrifuge, used to harvest large quantities of cells from fermentors.
"For anyone involved in 'discovery research,' the greatest thrill is to see progress all the way from concept to market."

Mani Subramanian, director of the UI Center for Biocatalysis and Bioprocessing

Although the United States is receptive to biotechnology, Iowa has especially welcomed it, at least in part because modern biotechnology has been largely responsible for improving corn and soybean yields since the early 1990s. In turn, the CBB and Iowa's support for biotechnology are major reasons for Subramanian's relocating from California to Iowa. During its more than 2 decades of existence, the CBB has continued to maintain a reputation for being one of the strongest groups of scientists of its kind. Also, prior to joining the UI faculty, Subramanian had been a member of the CBB advisory board for 3 years. "I was familiar with the university and the center, and the opportunity to run the CBB in addition to developing a research program was very attractive to me," he said.

In a sense, it was only natural that he would move to Iowa—drawn by the state's growing biotechnology industry—just as his lifelong interest in the sciences strongly influenced his choosing biotechnology as a career. Even during his high school days, he was attracted to the study of chemistry in a way that few other students can relate to.

"I can recall drawing benzene and other chemical structures as a 'doodling' activity," said Subramanian, who would later earn his doctorate in biochemistry from the Indian Institute of Science.

As it turned out, benzene would play an important role in his career. Derived from petroleum and used extensively in industry for producing drugs, plastics, synthetic rubber, and other materials, benzene is a potent carcinogen that is difficult to break down. However, benzene is vulnerable to microorganisms in the soil that turn it into carbon dioxide under normal conditions, a process he studied along with UI chemistry professor emeritus David Gibson beginning in 1978.

Subramanian said that his interest in a variety of scientific fields has served him well in his chosen field due to the fact that several sciences—including biochemistry, molecular biology, chemistry and others—have come to be woven into the fabric of the modern discipline of biotechnology.

"One has to be very well grounded in the basic sciences to become an expert in biotechnology," he said. "Even today, I am fascinated by many details of the 'mechanisms of life.' Believe me, we still know very little about aspects of life in spite of unbelievable computer-aided progress over the last decade."

Before coming to Iowa, he spent 24 years in biotechnology leadership positions at major corporations, including Dow Chemical and Sandoz Agro, Inc. When asked to describe his proudest accomplishments, he recalls building and leading one agriculture technology group so successful in improving agricultural productivity that eventually it was spun off and sold to another company.

However, he is especially proud of work done at Dow Chemical Company in San Diego, Calif., where he served for 6 years as Global Research and Development Director for Biotechnology/Bioprocessing and led a team of some 50 researchers. At Dow, he helped discover a non-invasive technology to determine and measure the amount of acetone present in human breath. It's a discovery that may one day have positive health effects for thousands of people.

"Acetone in breath is the direct result of burning body fat. Thus, the technology has health and wellness applications in terms of diabetes and obesity, maintaining weight, and determining exactly how much fat we burn while exercising," he said. "This technology was licensed to a small company, that is developing a handheld device for measuring breath acetone for human health applications."
“For anyone involved in ‘discovery research,’ the greatest thrill is to see progress all the way from concept to market,” he said.

Subramanian finds a similar thrill in Iowa’s potential contribution to today’s global energy market. In a February 2, 2006, Daily Iowan article discussing Iowa’s renewable resources, he was quoted as saying that constructing biorefineries in Iowa is viable: “I think it’s practical and doable. I consider Iowa a future Saudi Arabia.” Asked to elaborate, he noted that our current oil-based economy really took off in the 1940s following World War II and with it came changes in the chemical industry, which relies on oil and oil by-products for energy and raw materials.

“Oil, which is derived from fossilized life over thousands of years, will run out. We are burning this precious material at an unbelievable rate. Experts predict that oil will diminish substantially in the next 20–100 years,” he said. We are already seeing some effect of this today with oil prices at an all-time high.

“However, agricultural feedstocks, ranging from starch and vegetable oil to agricultural residue and cellulose residues, are abundant and renewable. They can fill the gap. Producing chemicals from these renewable feedstocks has always been uncompetitive relative to getting them from fossil fuels, until recently. Starch and oil have become forerunners of the agricultural feedstock-based production of ethanol and chemicals.

“This will expand further into the utilization of larger, more...
complex feedstocks like wood and the wood components of cellulose, hemi-cellulose and lignin—currently the most abundant biomaterials available for producing fuels and chemicals,” he said.

The “catch”—and there is a catch—is that wood components are complex carbohydrates and polymers of aromatic compounds that need to be broken down into simple sugars like glucose and other compounds before being fermented into ethanol and other chemicals. For example, starch, a simple carbohydrate derived from corn, is easily converted to glucose using biocatalysis prior to its fermentation into ethanol. But the conversion of wood into glucose is accomplished through chemical treatment and biocatalysis, and the biocatalysts that break down wood make for an expensive “back-end” process. “The challenge is to make the process cost effective using better biocatalysis and chemical processing,” Subramanian said.

“The agriculture-based energy industry needs to spawn an agriculture-based chemical industry in order to create a larger economic gain. Iowa clearly is the leader in starch, soy-oil, corn stover, and other agricultural residues. Iowa is also the leader in bio-ethanol and biodiesel production as well as in several starch and ag-based industrial products,” he said. “Hence, my reference to Iowa as the ‘future Saudi Arabia.’”

For more information on CBB, go to www.uiowa.edu/~biocat/.

energy market. He considers Iowa to be a “future Saudi Arabia.”

laboratory brings together the University of Iowa’s core fermentation facility, laboratory space for conducting industry/university related research, and a first-rate facility for delivering short courses and training associated with the CBB. More than 300 funded projects from academia, industry, and federal agencies have been conducted at the CBB laboratory since 1996.”

Viewed from the perspective of the more than 200 clients with whom the CBB has worked to develop fermentation technology for producing a variety of specific products, the CBB is very much about the science of fermentation. And it’s rather straightforward, according to Subramanian.

“Fermentation is a technology of growing ‘live’ cells in a large tank under very controlled conditions, to make products that improve human life and living,” he said. “These products include pharmaceuticals, food ingredients, fuel alcohol, and many industrial enzymes that are used in our daily lives to make products such as detergents, cheese, etc. The CBB works with a number of clients and develops fermentation technology and recovery products post-fermentation. The technology package is then transferred to the clients for manufacturing.”
Entrepreneurial game pays off

The chess game of David Hensley, executive director of the John Pappajohn Entrepreneurial Center and clinical professor, and John Robinson, professor of electrical and computer engineering and faculty coordinator of the Technological Entrepreneurship Certificate program, is reflected in the boardroom table at the Bedell Center.
Entrepreneurial gambit pays off

Technological Entrepreneurship Certificate
opportunities mirror real-world challenges

Text by Jean C. Florman; photos by fisheye

When Tim Bechen applied for an internship through the College of Engineering's Technological Entrepreneurship Certificate (TEC) program in 1994, he decided not to take the ordinary approach and just complete the application form. Instead, with the creative spirit of a true entrepreneur, he put together a promotional pamphlet to "sell" himself as a worthy candidate for the internship, even though he hadn't yet taken a single business class.

"It was kind of hokey," Bechen said as he looked back on his internship application during his sophomore year, "but apparently it worked."

Bechen, who earned a bachelor's of science degree in electrical and computer engineering with a Technological Entrepreneurship Certificate in 1997, said the training he received through the certificate program also "worked." In fact, he credits the specialized training and mentoring he received through the TEC program with landing his current role as an attorney in one of the country's leading intellectual property law firms.

"It's no exaggeration to say that I wouldn't be where I am today if it weren't for the TEC courses I took," said Bechen, who has returned to campus several times to talk to students in the TEC program and the Engineering Student Leadership Institute.

That is just the kind of success that the program's founders and faculty members hope engineering students will experience through the TEC training. The first of its kind in an American engineering school, the TEC program has awarded certificates to 68 engineering students and offered courses to hundreds more during its first decade. The brainchild of former College of Engineering Dean Richard K. Miller and former Henry B. Tippie School of Business Dean Gary Fethke (now UI interim president), TEC requires 18 semester hours of coursework in entrepreneurship through the engineering and business colleges.

Although the College of Engineering awards the certificate, the John Pappajohn Entrepreneurial Center—housed in the Tippie College of Business—administers the program. Professor of electrical and computer engineering John Robinson serves as faculty coordinator of the TEC program as well as a mentor to engineering students in the program. To earn a certificate, engineering students must take courses specially tailored to help them learn how to position a good engineering idea for success in the real world. They learn how to assess the market, develop a business plan, create marketing concepts, write proposals, and shake loose venture capital. And they have the opportunity to learn from mentors and teachers such as John Buchanan, founder of RBP, a Marsh & McLennan Company, and Ed Moldt, President of Entrepreneurial Learning Systems, Inc.

"Earning a Technological Entrepreneurship Certificate allows engineering
We Need Your Help and Input

The recent changes we’re experiencing at the UI College of Engineering in the past few years have been dramatic—new facilities, growth in both undergraduate and graduate enrollment, new curriculum, and major advances in research excellence. Our students, faculty, and staff are looking forward to the challenges ahead, and we know that, with the support of loyal alumni such as you, we’ll be well prepared to shape a very promising future.

This period of transition is shared by many of our alumni as well. In fact, at least 20 percent of engineering graduates move and change jobs each year. To assure that we continue to meet your needs for career networking, employee recruitment, consultation opportunities, and other ways to stay in touch with the College, we are conducting an important all-alumni survey this summer.

The questionnaire is bound into this issue of Iowa Engineer (see opposite page) along with a convenient stamped, self-addressed envelope. The questionnaire asks you to confirm basic data such as address and business information, and seeks to gauge your interest in such activities as helping students with internships, creating new programs, and establishing closer corporate partnerships. We’re also interested in knowing how you rate the quality of education you received at the College, and how we might better serve the needs of future students, graduates, and the engineering profession as a whole.

Please take a few minutes to complete this survey and return it to us. We would appreciate hearing back from you by October 20, 2006.

Thank you for helping us enhance the value of a UI Engineering education as we prepare our students for successful, globally-aware careers. We value your opinion and your involvement, and we look forward to receiving your response.
# 2006 COLLEGE OF ENGINEERING ALUMNI SURVEY

## NAME AND RESIDENCE ADDRESS

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<th>Preferred title and name (How you'd like us to address you in mailings, honor rolls of contributors, etc.)</th>
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<td>Maiden name/name when in school (If applicable)</td>
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<td>Major and graduation year</td>
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## BUSINESS ADDRESS

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<td>If not, please indicate your mailing address preference: □ Residence □ Business □ Alternate: (from _______ through _______ ) Month Month</td>
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### YOUR DEGREES FROM INSTITUTIONS OTHER THAN THE UNIVERSITY OF IOWA (IF ANY)

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### SPOUSE’S/DOMESTIC PARTNER’S INFORMATION

- **Title (Mr., Mrs., Ms., Dr., etc.)**
- **Spouse’s/domestic partner’s title (e.g., Owner/Partner, Manager, etc.)**
- **First name**
- **Middle name**
- **Maiden name (if applicable)**
- **Suffix (Jr., Sr., III, etc.)**
- **Business address (Line 1)**
- **Business address (Line 2, if needed)**
- **City**
- **State**
- **ZIP+4/Postal Code**
- **Business phone number**
- **Business fax number**
- **Other business phone number**
- **Business e-mail address**
- **Business World Wide Web address**
- **Residence address (Line 1)**
- **Residence address (Line 2, if needed)**
- **Residence address (Line 3, if needed)**
- **City**
- **Residence phone number**
- **Residence e-mail address**
- **Residence World Wide Web address**
- **Does your spouse/domestic partner’s business have a Matching Gift program?**
  - [ ] Yes
  - [ ] No
  - [ ] Don’t know

- **Is your spouse/domestic partner a graduate of The University of Iowa?**
  - [ ] Yes
  - [ ] No
  - [ ] If yes, year of graduation:

### SPOUSE’S/DOMESTIC PARTNER’S DEGREES FROM OTHER INSTITUTIONS (IF ANY)

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### ALUMNI ACTIVITIES AND INTERESTS

1. **Are you currently serving on any corporate boards or directorships?** If so, please list:
   - **Your title/position**
     - (board member, director, trustee, etc.)
   - **Company/organization name and location**
     - (city/state)
   - **Term of office:**
     - From:
     - To:

2. **Are you a licensed engineer?**
   - [ ] Yes
   - [ ] No

3. **What professional engineering societies are you a member of?**
4. Is your company interested in establishing/maintaining a corporate relationship with the UI College of Engineering in the following ways? (Check all that apply.)

☐ Hiring of UI grads (A)  ☐ Technology transfers (F)
☐ Continuing education for employees (B)  ☐ Faculty consulting (G)
☐ Financial support through scholarships (C)  ☐ Laboratory use (H)
☐ Gifts of equipment or product gifts (D)  ☐ Experiential learning (co-ops, internships, etc.) (I)
☐ Research contracts or grants (E)  ☐ Other (please specify): ________________________________ (J)

5. Have you ever established your own company? □ Yes □ No

If so, company name: _______________________________________________________________

6. Please indicate your interest in assisting with the following activities in the UI College of Engineering: (Circle ONE number on each line.)

1 = Much  2 = Some  3 = Little  4 = None

1 2 3 4 Advising students about careers (A)
1 2 3 4 Serving as a contact for student internship or co-op programs (B)
1 2 3 4 Recruiting potential students (C)
1 2 3 4 Corporate mentor for faculty/student projects (D)
1 2 3 4 Facilitating interaction between your company or employer and the College of Engineering (E)
1 2 3 4 Leadership Program (F)
1 2 3 4 Global Awareness (G)
1 2 3 4 Helping coordinate alumni events (H)

7. In your career, have you spent time in other countries? □ Yes □ No

If so, where: ______________________________________________________________________

8. Please indicate your interest in receiving information about: (Circle ONE number on each line.)

1 = Much  2 = Some  3 = Little  4 = None

1 2 3 4 Alumni outreach events (including alumni gatherings at sports events) (A)
1 2 3 4 College activities (B)
1 2 3 4 Continuing education programs (C)
1 2 3 4 Alumni career networking (D)
1 2 3 4 Class reunions (E)

9. How do you learn about events, activities, and achievements of the UI College of Engineering? (Check all that apply.)

☐ College of Engineering web site (A)  ☐ Spectator (UI alumni newsletter) (F)
☐ Newspapers (B)  ☐ Illumine (UI research magazine) (G)
☐ TV/radio (C)  ☐ Iowa Alumni Quarterly (UI Alumni Association magazine) (H)
☐ Letters/mailings from the college (D)  ☐ UI classmates (I)
☐ Iowa Engineer (college alumni magazine) (E)  ☐ Other (please specify): ________________________________ (J)

10. Please rate the quality of education you received at the UI College of Engineering?

☐ Excellent (1)  ☐ Very Good (2)  ☐ Good (3)  ☐ Fair (4)  ☐ Poor (5)

11. Referring to your answer to question #10 above, please indicate how your experience with the following factors influenced your attitude about the College of Engineering. (Circle ONE number on each line.)

1 = Positive Experience  2 = Somewhat Positive  3 = Neutral  4 = Somewhat Negative  5 = Negative Experience

1 2 3 4 5 Professors, instructors from the College of Engineering (A)
1 2 3 4 5 Professors, instructors from other colleges (B)
1 2 3 4 5 Employment opportunities (C)
1 2 3 4 5 Course offerings, curricula (D)
1 2 3 4 5 Student organizations (E)
1 2 3 4 5 Interaction/activities with fellow engineering students (F)
1 2 3 4 5 Engineering Building/Seamans Center (G)
1 2 3 4 5 Academic quality (H)
1 2 3 4 5 Advisors, counselors (I)
1 2 3 4 5 Other (please specify): ________________________________ (J)
12. What is your perception of the strengths and weaknesses of the College of Engineering while you were a student?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

13. Are there specific opportunities you feel the College of Engineering should pursue in the changing engineering field?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

14. In what areas could the College of Engineering be of better service to you and other alumni? (Check all that apply.)

□ Electronic newsletter (A)  □ Returning to the state of Iowa for career opportunities (D)
□ Electronic learning opportunities (telecourses, Internet, etc.) (B)  □ Other (please specify):
□ Career opportunities/networking (C) _________________________________________________________________________ (E)

□ Electronic newletter (A)  □ Returning to the state of Iowa for career opportunities (D)
□ Electronic learning opportunities (telecourses, Internet, etc.) (B)  □ Other (please specify):
□ Career opportunities/networking (C) _________________________________________________________________________ (E)

15. Did you receive scholarship support from the College of Engineering?  □ Yes  □ No

16. Does your will or trust provide for the UI College of Engineering?  □ Yes  □ No

17. Please check below if you would like information on the ways in which you can make charitable contributions through The University of Iowa Foundation to benefit the UI College of Engineering:

□ Current gifts (outright, pledge, etc.) (A)  □ Deferred/estate gifts (wills, trusts, life income plans, etc.) (B)

18. To help evaluate the value of an engineering degree for our students, please indicate your annual income (this information is optional and strictly confidential, and will not be published):

□ Below $25,000 (N)  □ $100,000 - $149,999 (R)  □ $1 million - $4,999,999 (W)
□ $25,000 - $49,999 (O)  □ $150,000 - $199,999 (S)  □ $5 million - $9,999,999 (X)
□ $50,000 - $74,999 (P)  □ $200,000 - $499,999 (U)  □ $10 million and above (Y)
□ $75,000 - $99,999 (Q)  □ $500,000 - $999,999 (V)

The University of Iowa College of Engineering requests this information for the purpose of alumni records accuracy and developing alumni programs and activities. No persons outside the University are routinely provided this information, except for items of directory information such as name, address, and degrees.

Please return this form in the envelope provided or mail to:

College of Engineering Alumni Survey
P.O. Box 4550
Iowa City, Iowa 52244-4550
students to test drive their technical education,” said David Hensley, executive director of the John Pappajohn Entrepreneurial Center and clinical professor. “What they learn and practice during their 18 hours of coursework does more than help them land a good job; it also helps them understand how to commercialize their great ideas, build sustainable companies, and create wealth.”

“Today’s young engineers probably won’t be working in one job for one company for an entire career,” said Robinson. “Earning the TEC can provide Iowa engineering students with specialized entrepreneurial knowledge, skills, and experience that will enable them to take advantage of many job opportunities.”

Robinson said alumni of the program report that companies recognize the value of entrepreneurial education and sometimes offer jobs specifically because a student has earned the Technological Entrepreneurship Certificate.

Hensley noted that the best companies today are entrepreneurial by nature.

“The most successful companies expect their engineers to work as part of a team to identify new opportunities, products, and services,” he said. “They want their employees to be innovative and creative, to assess opportunities, and to act on them.”

With the opening of the new Bedell Entrepreneurship Learning Laboratory, begun with a generous gift from Tom Bedell, chairman of the board of Pure Fishing in Spirit Lake, Iowa, has launched several student startups, including Bio::Neos, a company recently profiled in Iowa Engineer (2005.2).

The Bedell Center didn’t exist when Bechen earned a TEC, but he still credits his entrepreneurial training for his current success as a patent attorney with the renowned New York intellectual property law firm Kenyon & Kenyon LLP.

“In my practice, I work with high-tech startups, and established software, financial, and consulting companies,” Bechen said. “Patent law for these clients means more than just understanding the technical developments and the legal concepts—it also means understanding the business implications of the acquisition and management of their intellectual assets. I am essentially a translator: I speak ‘legal’ for the patent office, ‘engineering’ for the client, and English for the jury.”

Hensley added that encouraging students to cross disciplinary boundaries and “try on” new intellectual perspectives is one of the real strengths of the TEC program.

“The certificate program encourages engineering, business, and liberal arts students to work with and learn from others who have different backgrounds, skills, motivations, and creative abilities,” Hensley said. “It can be a powerful learning experience and will help train engineers of the future to be among the primary drivers of a new, entrepreneurial economy.”

For more information on the TEC, go to www.engineering.uiowa.edu/about/tech-certificate.html.
Engineer Expatriates

BY MELINDA PRADARELLI

They're building factories for John Deere in China, managing investments for General Electric in Ireland, maintaining satellite communications equipment for Lockheed Martin in Japan, and purchasing supplies to power European factories for Caterpillar in France.
As the world economy expands and its boundaries continue to blur, more and more University of Iowa College of Engineering graduates are discovering what it's like to be engineering expatriates.

**There Once Was an Iowan in Ireland**

Glenwood, Iowa, native Andrea Hoffman, who earned her BS degree in chemical engineering at Iowa in 1990 and received an MBA from The University of Chicago in 1995, moved to Limerick, Ireland, three years ago as vice president for risk management for General Electric Commercial Aviation Services. She covered aircraft leasing activities in Europe, the Middle East, and Africa. All told, she managed 31 airline accounts involving more than 110 aircraft and frequently visited customers in the United Kingdom, Iceland, Italy, Egypt, the United Arab Emirates, Senegal, and Nigeria.

In July, Hoffman transferred to GE Energy Financial Services as vice president for portfolio management in the company's Global Equity Portfolio Group. Based in Stamford, Connecticut, the unit invests in the global energy industry, including oil and gas, power production and distribution, renewable energy, and water technology.

Hoffman said her chemical engineering degree equipped her with the technical knowledge and inquisitiveness to communicate with engineers and ensure that technical risks are identified and managed within each deal structure. Living abroad, she said, gave her a more international view of the United States' role on the world stage.

“It forces a greater awareness of international politics, foreign relations, and the history behind the issues,” she said.

**Taking Japan to New Heights**

Since graduating with a BS degree in electrical engineering in 1992, Michael Long has spent 7 years—nearly half his career—overseas. As a systems engineering associate manager for Lockheed Martin, Long currently supervises an eight-person, multinational team that maintains satellite communications equipment and software that his company designed, integrated, and installed for a customer at several locations around Japan. He lives in Kyushu, the southernmost of the 4 main Japanese islands.

Long said he learned early on in his career that the key to being a good engineer has little to do with mastery of particular technologies.

“Technologies come and go,” Long said. “What is important is the learning process and basic approach to problem-solving. At Iowa, I developed those basic technical problem-solving skills that work in approaching any technology, new or old.”

He said that living abroad, including a brief stint in France, has taught him lessons as well.

“It is great to meet and work with people who approach things entirely differently than you do,” he said. “It really opens up all kinds of new ways to think about things and approaches, not just in engineering but with life in general.”
Factoring In China

Thomas Didelot, who received his BS degree in mechanical engineering from Iowa in 1989 and an MBA from the University of Michigan, is offering his expertise as manager of a new factory in China’s Tianjin Economic and Development Area, about 2 hours southeast of Beijing. The factory will supply drivetrains for a global platform agricultural tractor being built by Deere & Company.

His team, which is designing and installing new systems for machining, assembly, and paint operations, hopes to move into the factory this fall and begin producing test units by early 2007.

“My Iowa experience—and not just my degree—helped me with developing project management skills that I used at Ford Motor Company, Allied Signal, and TRW Automotive in progressive positions in design and manufacturing engineering, applications engineering, and program management,” Didelot said, adding that those experiences in turn prepared him well for his current job.

Didelot, who expects to be in China for 2 years, said living abroad has been a professional and personal adventure for him and his family. His wife, Brenda (Gervais) Didelot, a 1989 biomedical engineering graduate of Iowa who went on to work for Intel, Bosch, GM, and Deere & Company, has taken a temporary leave of absence to be with him. And this fall the couple plans to visit Korea, the birthplace of their two adopted children.

“Living in an expatriate community with families from Japan, Switzerland, Taiwan, Malaysia, Germany, Brazil, France, China, and America has been very rewarding,” Didelot said. “My children go to an international school that has children from those countries and more, and the experience is providing us with a much broader view of the world than we had prior to this assignment.”

Dissecting Caterpillar Parts in France

For nearly 3 years, Jody Howard has worked for Caterpillar as a purchasing manager for 3 factories in Europe. Her team is responsible for buying all of the parts and material needed to manufacture construction equipment at these factories. She currently lives in Grenoble, France, with her husband and fellow Iowa alumnus, Javad Hosseini (BS 1982 in electrical engineering, MS 1984 in mathematics), who is an engineering specialist at Caterpillar with expertise in power-train systems.

Howard said few people think of purchasing as a technical field, because most of her work entails developing suppliers and negotiating prices.

“However, we are also responsible for the quality of the suppliers’ manufactured components,” she said. “We work very closely with the supplier to understand their process and to ensure that we receive and use quality components. My technical background is used heavily in data analysis for quality management and for supplier selection.”

Howard said the University of Iowa’s international population gave her an appreciation for other cultures’ approaches to problem-solving—an insight that has proven very useful in the professional world of engineering. It has also opened doors.

“This experience has been incredible,” she said of her time in Europe. “It has been a time of constant discovery.”

Jody Howard
Purchasing manager, Caterpillar, Grenoble, France

“This experience has been incredible. It has been a time of constant discovery.”
Engineering introduced a first-of-its-kind, digitally delivered student recruiting book via the web (www.engineering.uiowa.edu/viewbook). Future students now can learn more about the College, as they consider their options, from the convenience of their computer.

Kate Metcalf was appointed assistant director of development for the College of Engineering at the UI Foundation. In her new role, she will make connections with engineering alumni and corporate partners and work with them to develop charitable gifts to advance the College’s goals and objectives. She will be working with engineering alumni in the eastern portion of the US as well as seeding new development partnerships with alumni in the Asia Pacific region. Metcalf will work with Kevin Collins, senior director of development for the College of Engineering at the UI Foundation.


The Engineering Professional Development Office hosted fall and spring job fairs. The fall career fair held September 21 featured 60 companies. The spring career fair held February 7 drew 43 companies. The fairs provide an opportunity for engineering students and alumni to learn more about companies and agencies seeking full-time employees, as well as co-ops and interns, for their organizations.

The fourth annual Engineering Research Open House was held April 23. The event showcased research activities, capabilities, and accomplishments of the College’s faculty, students, and staff featuring six engineering disciplines and five research programs. More than 100 research posters were displayed.

A patent wall display recognizing patents awarded to College of Engineering faculty, staff, and students during their engagement with the College was installed in the Seaman’s Center for the Engineering Arts and Sciences. Any engineering alumni who received a patent while studying at the College should inform Rebecca Whithaker, rebecca-whithaker@uiowa.edu, or 3100 Seamans Center, Iowa City, IA 52242. Please include the name, US patent number, and the date of issue.

William Easton joined the College of Engineering as webmaster and data manager in April.

Biomedical Engineering

James Ankurn, junior, of Eldora, Iowa, was awarded a 2006 Goldwater Scholarship. Ankurn is an undergraduate researcher in the lab of David Wilder, associate professor.

Krishnan B. Chandran, professor and departmental executive officer, received the Faculty Excellence Award for Research at the May 1 Annual Faculty/Staff Recognition Luncheon.

Edwin L. Dove, professor, received the Faculty Excellence Award for Service at the May 1 Annual Faculty/Staff Recognition luncheon.

Nicole Grosland, assistant professor, received the UI Student Chapter of the American Society for Engineering Education Outstanding Chapter Advisor Award.

Hannah Lundberg, graduate student, received the 2006 Pre-Doctoral Young Scientist Award from the American Society of Biomechanics for her research on wear of total hip replacement implants. The award recognized the nation’s best new investigator entering the field of biomechanics.

Sayyed Farshid Moussavi-Harami, senior, of Iowa City, was awarded a 2006–2007 Tau Beta Pi Fellowship, one of only 55 such fellowships presented nationally. He plans to complete his studies toward a master’s degree in biomedical engineering.

Joseph Reinhardt, associate professor, was elected Fellow of the American Institute for Medical and Biological Engineering. His principal field of research is medical image processing, focusing on cardiovascular projects. Additional research interests are in pulmonary image analysis, cardiovascular imaging, and 3-D medical imaging.

Michelle Sukup, senior, of Malvern, Iowa, won a 2006–07 National Science Foundation (NSF) Graduate Fellowship Award. She will continue her studies toward a master’s degree in biomedical engineering.

Sara Vigmastad, graduate student, received the Hancher-Finkbine Graduate/Professional Student Medalion. Recognition was given for her leadership as president of the Graduate Student Senate. She was also recognized for her research contributions through publication and presentations that have been recognized nationally.

In 2005 she was a recipient of the United States National Congress on Computational Mechanics Student Fellowship.

David Wilder, associate professor, received the M.L. Huit Faculty Award at the 89th Hancher Finkbine Dinner held April 18. Five new members were appointed to the Biomedical Engineering Advisory Council. They are: David Frazee, technical director; SEMS Laboratory, 3M Company, St. Paul, Minnesota; Laura Frey Law (BS 1990 in biomedical engineering), UI assistant professor of physical therapy and rehabilitation; Michael Lowenberg (BS 1988 biomedical engineering), sales representative, Guidant-Cardiac Rhythm Management, Norfolk, Virginia; Pranav Patel (BS 1994 biomedical engineering), practicing radiologist, Advanced Radiology, S.C.; Moline, Ill.; and Douglas Van Daele (BS 1991 biomedical engineering), UI assistant professor of otolaryngology.

Chemical and Biochemical Engineering

A group of College of Engineering researchers received the NASA Group Achievement Award at the annual NASA Honor Awards Ceremony at Ames Research Center, Moffett Field, Calif., for their contribution to one of the most comprehensive environmental studies of its kind. The project, “Intercontinental Chemical Transport Experiment—North America (INTEX-NA),” received a 3-year, $750,000 NASA grant. UI team members include Gregory R. Carmichael, team leader; Karl Kamermeyer Professor of Chemical and Biochemical Engineering, co-director of the Center for Global and Regional Environmental Research (CGRER), and associate dean for graduate programs and research; Bhushan Adhikary, graduate assistant; Benjamin Jelley, US Department of Energy Global Change undergraduate summer research fellow from Texas Tech University; Marcela Mena, graduate assistant in civil and environmental engineering; Youhua Tang, CGRER assistant research scientist; and Narisa Thongboonchoo, graduate assistant.

Jacqueline Alcantar, junior, of Chicago, received a Department of Homeland Security scholarship.

Gregory R. Carmichael, Karl Kamermeyer Professor of Chemical and Biochemical Engineering, associate dean for graduate programs and research, and co-director of the Center for Global and Regional Environmental Research, was a part of the US delegation attending an environmental conference, “Strategic Approaches to Regional Air Quality Management,” October 24–26, 2005, in Beijing. Carmichael was also elected second vice-chair of the environmental division of the American Institute of Chemical Engineers.

Chris Coretsopoulos, adjunct associate professor and director of the Microfabrication Center received the College of Engineering Collegiate Staff Research Award at the May 1 Annual Faculty Staff Luncheon.

Vicki Grassian, professor in analytical chemistry and chemical and biochemical engineering, was awarded the distinction of Fellow of the American Association for the Advancement of Science, 34th annual meeting held October 18–20, 2005, in Washington, D.C. Grassian was one of six faculty members to win a 2006 Regents Award for Faculty Excellence.

Tonya Peeples, associate professor, received the 2006 Distinguished Service Award from the American Institute of Chemical Engineers Minority Affairs Committee. Peeples was named interim director of the College’s Ethnic Inclusion Effort for Iowa Engineering effective January 1.

Venkiteswaran (Mani) Subramanian joined the College of Engineering in November 2005 as professor of chemical and biochemical engineering. He also was named director of the internationally recognized UI Center for Biocatalysis and Bioprocessing (CBB).

John Wiencek, professor and departmental executive officer, received the College of Engineering Excellence Award for Teaching at the May 1 Annual Faculty Staff Luncheon.

The UI Student Chapter of the American Institute of Chemical Engineers (AIChE) and its members received 3 awards at the annual meeting held October 30–November 4 in Cincinnati, Ohio. The chapter received an Outstanding Student Chapter Award, Alexandra (Lexie)
Civil and Environmental Engineering

Ryan Asman, senior, of Earlham, Iowa, was awarded an Engineers for a Sustainable World national SEED program internship in Uganda for Summer 2006. Asman will work on a water harvesting project to better enable the local population to manage their scarce water resources.

Elliott Campbell of Santa Cruz, Calif., and Gabriele Villarini of Rome, Italy, graduate students, each were awarded a $24,000, 3-year NASA Earth Systems Science Fellowship.

William Eichinger, professor, faculty research engineer at IIHR—Hydroscience & Engineering, and researcher in the UI Center for Global & Regional Environmental Research, received a 3-year, $406,000 US Department of Agriculture grant to develop a new approach to rid animal husbandry facilities of methane and other emissions.

The UI chapter of Engineers for a Sustainable World (ESW) will host the group's National Conference September 27–30 in Iowa City. The chapter won an Honorable Mention award in the US Environmental Protection Agency (EPA) 2nd Annual People, Arts and Sciences and assistant professor, was awarded an Engineers for a Sustainable World national competition held May 9–11 in San Francisco, Calif. The paper will be published in Eos, the weekly newspaper of AGU.

William Nixon, professor and faculty research engineer at IIHR—Hydroscience & Engineering, was invited by the Hokkaido Development Engineering Center in Sapporo, Japan, to give a keynote address at the Cold Regions Technology Conference December 4–10. His topic was “Winter Road Maintenance and Management in the US—Current Practice and Future Prospects.”

Michelle Scherer, associate professor, received a 4-year, $1.4 million NSF grant to study the behavior of nanoscale iron oxides in the environment.

Anne Schwarzkopf, graduate student, won a 2006–07 NSF Graduate Fellowship Award. She is working toward her PhD in civil and environmental engineering.

Richard Valentine, professor, researcher in the UI Center for Global and Regional Environmental Research, and environmental assessment investigator in the UI Environmental Health Sciences Research Center, received two grants from the American Water Works Association Research Foundation. In September he received a $150,000 grant for a study of the processes leading to recent increases in lead concentrations in drinking water. In January he received a grant to study environmental contaminants in drinking water systems. Valentine was appointed a member of the National Research Council’s Committee on Public Water Distribution Systems: Assessing and Reducing Risks.

University of Iowa researchers from 4 colleges received a $12 million, 4-year grant from the NIH to establish a Superfund Basic Research Program. Team members from the College are Keri Hornbuckle, associate professor; faculty affiliate at IIHR—Hydroscience & Engineering, and researcher at the UI Center for Global & Regional Environmental Research; Craig Just, adjunct assistant professor and associate research engineer at IIHR; Jerry Schnoor, Allen S. Henry Chair in Engineering, professor; co-director of the UI Center for Global & Regional Environmental Research; and faculty affiliate at IIHR and Ben Van Aken, former UI post-doctorate fellow.

Electrical and Computer Engineering

Er-Wei Bai, professor, was awarded a 2006 President and Provost Award for Teaching Excellence. He also received the College of Engineering Faculty Excellence Award for Teaching at the May 1 Annual Faculty Staff Luncheon.

Thomas Casavant, director of the UI Center for Bioinformatics and Computational Biology, was named the Roy J. Carver, Jr. Chair in Bioinformatics and Computational Biology. The chair is a joint appointment in the UI Carver College of Medicine and the UI College of Engineering; the first time a UI-named endowed chair has been shared by two colleges. Casavant and James Howe, MD, professor of surgery in the UI Roy J. and Lucille A. Carver College of Medicine, were appointed co- holders of the Holden Cancer Center’s Cancer Genetics and Computational Biology Program.

Gary E. Christensen, associate professor, received a 1-year, $142,750 grant from the National Institute of Biomedical Imaging and Bioengineering of the NIH for his “Non-Rigid Image Registration Evaluation Project.” The research attempts to develop better methods for evaluating medical imaging systems.

Milan Sonka, professor with a joint appointment in electrical and computer engineering and applied mathematical and computational sciences, was elected Fellow in the American Institute for Medical and Biological Engineering (AIMBE). His principal field of research is medical image analysis, and he has conducted NIH-funded research to develop imaging analysis tools aimed at better detection of heart disease, including hemodynamics and atherosclerosis.

Mechanical and Industrial Engineering

Christopher Beckermann, professor, was invited to join the Executive Editorial Board of the journal Modeling and Simulation in Material Science and Engineering.

Matthew Brown, senior in industrial engineering, of Iowa City, Iowa, received a Distinguished Student Leader Certificate at the 89th Hancher Finkbine Dinner held April 18. He was recognized for numerous other awards and honors, including Rhodes Dunlap Collegiate Scholar Award and Theta Tau Award of Outstanding Academic Achievement.

L.D. Chen, professor, was appointed departmental executive officer in March.

Yong Chen, assistant professor and researcher at CCAD, received a 3-year, $199,987 NSF grant to help improve manufacturing quality and productivity.

K. K. Choi, Roy J. Carver Professor of Mechanical Engineering and researcher at CCAD, presented a keynote lecture in reliability analysis and design at the III European Conference on Computational Solid and Structural Mechanics June 5–8 in Lisbon, Portugal.

Mike Elgin, senior, of Bankston, Iowa, was named to the ESPN The Magazine Academic All-America first team. He is the 12th Hawkeye football player to earn first-team academic all-America honors. Elgin is an offensive guard for the Hawkeyes.

Ray Han, professor, and five other co-investigators received a 1-year, $99,483 NSF grant for carbon nanotube research useful in microelectronics.

Ching-Long Lin, associate professor and associate faculty research engineer at the UIH—Hydroscience & Engineering, was awarded a 3-year, $916,909 NIH grant to develop a digital human lung for a multi-scale simulation of gas flow in the human lung.

Fred Stern, professor and research engineer at IIHR—Hydroscience & Engineering, and colleagues from three other institutions held a July 14 NSF-supported workshop to improve undergraduate engineering curriculum in computational fluid dynamics.

Geb Thomas, associate professor, was appointed to a 3-year term as program coordinator of industrial engineering.
H.S. Udaykumar, associate professor, was appointed for a 3-year term as program coordinator of mechanical engineering. Udaykumar received a 5-year, $750,000 grant from the US Department of Defense Air Force Research Laboratory to develop computer simulation techniques useful in studying phenomena ranging from high-speed impacts to the operation of heart valves.

Yongli Zhao, graduate student, was named winner of the 2006 Amelia Earhart Fellowship given by Zontas International.

The UI student chapter of the American Society of Mechanical Engineers (ASME) hosted the ASME District C Regional Student Leadership Seminar September 23–24. The event, attended by 100 students and 30 faculty advisors, included a student design competition, seminars, and workshops.

The UI student chapter of Institute for Industrial Engineers received the 2005 Gold Award from the national organization.

Center for Computational Biology and Bioinformatics (CBCB)

The CBCB was selected by the NSF to join a premier supercomputer network, composed of about a dozen US university and government research facilities, and receive some 30,000 hours of computer time. Called TeraGrid™, the system is an open scientific discovery infrastructure combining the resources of a number of institutions to create an integrated computational system.

The CBCB signed a 1-year, $600,000 contract with Alcon Research, Ltd., of Ft. Worth, Texas, to study the genetic causes of two blinding diseases.

The CBCB hosted the National Cancer Institute’s Cancer Biomedical Informatics Grid (caBIG™) meeting November 9–10 at the Seamans Center for the Engineering Arts and Sciences.

Terry Braun, assistant professor of biomedical engineering and director of Coordinated Laboratory for Computational Genomics, gave 2 presentations April 3–4 at the American Association of Cancer Researchers conference in Washington, DC. The meeting, drawing more than 10,000, is the largest assembly of cancer researchers in the US.

Todd Scheetz, researcher and assistant professor of ophthalmology and visual sciences, participated in a caBIG™ Training WS Face-to-Face and Training Module Boot Camp March 23–24 in Rockville, Md.

Center for Computer-Aided Design (CCAD)

The Operation Performance Laboratory (OPL) unveiled its novel portable navigation system for pilots at the 2005 Experimental Aircraft Association AirVenture Convention July 25–31 in Oshkosh, Wis. The Synthetic-Flight-Bag™ (SFB) is a low-cost portable navigation system that pilots can carry in their aircraft to make flying safer. It provides them with a synthetic image of the surroundings and an advanced pathway-in-the-sky guidance, affording an unprecedented level of situation awareness in low visibility conditions, such as fog or at night. The development of the SFB is the culmination of a multi-year research program funded by NASA under the General Aviation Element in the Synthetic Vision Systems Project of the Aviation Safety and Security Program.

Fatih Aktan, former research engineer at the OPL, received a 1-year, $132,445 Federal Highway Administration contract to help determine federal requirements for nighttime visibility of roadway pavement markings. The project will make use of an advanced visibility model Aktan and his colleagues developed called the "Tarvus Model."

The Discovery Channel broadcast a special feature segment on the Virtual Soldier Research (VSR) Project. The feature includes an interview with Steve Beck, senior scientist (www.exn.ca/video/video=exn2005.1202-virtualsoldier-ax.s). Beck also gave a presentation on VSR to about 300 attendees in New York at the December 3 animation conference.

The body armor worn by future US soldiers likely will have a University of Iowa connection, thanks to a $1.6 million, 3-year contract the army has signed with the UI’s VSR. The US Army Soldier Systems Center, located in Natick, Mass., and VSR will use virtual soldiers of varying size, weight, and strength to test armor and determine which configuration is most effective in providing protection while allowing for maximum agility and flexibility.

Rockwell Collins, Inc., of Cedar Rapids, awarded a 6-month, $105,000 unrestricted grant to CCAD for virtual-manufacturing research.

The National Advanced Driving Simulator (NADS) has been transferred from the Office of the Vice President for Research to the College of Engineering. NADS will be a part of the Center for Computer-Aided Design.

IIHR—Hydroscience & Engineering

William Eichinger, faculty research engineer, professor of civil and environmental engineering, and researcher in the UI Center for Global & Regional Environmental Research, received a 2-year, $322,000 NSF grant to investigate the chemical composition of smog in Mexico City. The project, called MIRAGE (Megacity Impacts on Regional and Global Environments), is aimed at measuring the chemical and physical transformations of gaseous and aerosol pollutants in the outflow from Mexico City, currently the world’s second largest metropolitan area. It will involve the use of a mobile lidar (laser radar) system to measure the radiative properties of aerosols at various distances from Mexico City.

Witold F. Krajewski, faculty research engineer; Rose & Joseph Summers Chair in Water Resources Engineering; and Anton Kruger, research engineer; received a 3-year, $413,478 grant from the NSF for testing a Dynamical-Hortonian Scaling Theory for Flood Events on Whitewater Basin, Kansas.

College of Engineering researchers led by Larry J. Weber, director and associate professor of civil and environmental engineering, received $6.7 million in new funding from Public Utility District No. 2 of Grant County, Wash., to study Pacific Northwest salmon. The funding is in addition to a 2004 $1.9 million contract extension from the district. Since the current contract began in 1990, UI researchers have received about $25 million to study how Pacific Northwest salmon can coexist with hydroelectric dams on the Columbia River.

Marian Muscato, associate research engineer and adjunct associate professor of civil and environmental engineering, received a 2-year, $144,909 contract from the Iowa Department of Transportation to design self-cleaning box culverts for use along roadways.

Tatsuki Nakato, research engineer and director of the Lucille A. Carver Mississippi Riverside Environmental Research Station, received the 2006 Hydraulics Structures Medal by the American Society of Civil Engineers.

Imaging Group

College of Engineering faculty researchers are playing a major role in a 5-year, $10 million grant renewal from the NIH to the Iowa Comprehensive Lung Imaging Center and its multidisciplinary research team.

Engineering faculty and graduate students participated in the 2006 Medical Imaging Symposium, held February 1–16 in San Diego, Calif. The symposium is sponsored by the International Society for Optical Engineering. Fourteen papers with authors from the College of Engineering were presented at the meeting.

Milan Sonka, professor of electrical and computer engineering, was chairman for the Symposium.

Joe Reinhardt; professor of biomedical engineering, served as chairman of the Image Processing Conference, and Andreas Wahle, associate research engineer, electrical and computer engineering, served as a technical program committee member for the Image Processing Conference.

A team of researchers led by principal investigator Milan Sonka received a 4-year, $1.3 million National Institutes of Health (NIH) grant to analyze images of the human heart. The project titled, “3-D and 4-D Coronary Hemodynamics and Local Atherosclerosis” will develop a method for predicting atherosclerotic plaque development in patients undergoing treatment for coronary conditions. Team members from the College of Engineering are Andreas Wahle, associate research engineer in electrical and computer engineering; and Kyung Lee, Soydan Cinar, and Richard Downe, electrical and computer engineering graduate students. K.B. Chandran, professor and departmental executive officer of biomedical engineering, will serve as a consultant.
1950s

Luther Smith  (BS 1950 mechanical engineering) of Villanova, Pa., received the 2006 UI Alumni Association Distinguished Alumni Award for Achievement in June. Smith is a retired US Air Force captain who flew 133 combat missions in World War II as an original member of the famed Tuskegee Airmen. After graduating from Iowa, he enjoyed a successful career with General Electric’s Missile and Space Operations in Philadelphia, acquiring 2 patents and publishing many technical documents reflecting special assignments with the US military.


Darrell D. Wyrick  (BS 1956, MS 1957 chemical engineering) was a keynote speaker and recipient of the Hancher Finkbine Alumni Medalion at the 89th Anniversary Finkbine Dinner held April 18.

Jon Janda  (BS 1959 civil engineering) joined Anderson-Bogert Engineers and Surveyors Inc. in Cedar Rapids, Iowa, as senior engineer, providing support for engineering and land surveying projects.

Alumni who attended the October 15 Homecoming Tailgate: Mel Holubar  (BS 1960, MS 1969 mechanical engineering) of Marion, Iowa; Bill Ashston  (BS 1962, MS 1963 mechanical engineering) of Davenport, Iowa; Herm Reininga  (BS 1965 industrial engineering), his wife Dianne, son-in-law Trevor Brunk, and grandson Trent of Cedar Rapids, Iowa; and Jim Rosenam  (BS 1967 civil engineering) and wife, Nancy, of Davenport, Iowa.

1960s

Paul F. Morgan  (BS 1960 electrical engineering) stopped by the College of Engineering for a visit on September 9, 2005. He is assistant chief patent counsel for Xerox Corporation, Rochester, N.Y., and the son of Philip F. Morgan, professor of sanitary engineering from 1948 to 1961.

Donald A. Gurnett  (BS 1962 electrical engineering, MS 1963, PhD 1965 physics and astronomy), James A. Van Allen-Roy J. Carver Professor of Physics in the University of Iowa College of Liberal Arts and Sciences, was awarded the Hannes Alfvén Medal by the European Geosciences Union (EGU) for his contributions to solar-terrestrial and planetary solar system sciences. In April, Gurnett delivered a lecture and received the medal and a certificate during the EGU General Assembly meeting in Vienna, Austria.

Gifford Mast  (BS 1967 industrial engineering) is owner/operator of Keystone View, Costa Rica. The company develops and manufactures professional-quality vision screens, vision diagnostic and training instructions, as well as vision therapy programs for the clinic, office, and home.

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1970s

Donald Palmer  (BS 1971 mechanical engineering) is running for a House seat in the State of Iowa General Assembly, covering most of southeast Cedar Rapids, Iowa.

Mike McClain  (BS 1972 civil engineering) of Anamosa, Iowa, is a Jones County engineer and was installed as the incoming President of the Iowa County Engineers Association for 2006 during the annual conference held December 6-8 in Ames, Iowa.

Stephen Pietsch  (BS 1972 chemical engineering) and wife, Elizabeth, of Naperville, Ill., were at the College to visit their two sons Andrew (junior, mechanical engineering) and Dan (freshman, engineering). Pietsch was also the featured speaker at the Chemical and Biochemical Professional Seminar March 23.

O.H. (Dean) Oskvig  (BS 1972 civil engineering) is chief executive officer, energy unit, Black & Veatch Corporation, Overland Park, Kans. Oskvig joined Black & Veatch in 1975. He also has served as chief operating officer of Black and Veatch-Energy, was president of power delivery, and served on several strategic task forces inside the company. He was named to the company’s board of directors in October.

Obi Slunm  (MS 1975 mechanics and hydraulics) of Oakdale, Minn., is running for the Minnesota 4th Congressional District on November 7, 2006.

Robert Loyd  (BS 1979 mechanical engineering) is founder of Industrial Applications Consulting, Iowa City, Iowa. The company provides expert business assessment, facilitation in strategic operations planning, leadership coaching, development and implementation of a continuous improvement culture, and value stream/process management assistance to industrial as well as non-industrial organizations.

Alumni who attended the October 15 Homecoming Tailgate: David Sidwell  (BS 1971 industrial engineering) of North Liberty, Iowa; Terry Martin  (BS 1971 mechanical engineering) and wife Marcia of Des Moines, Iowa; Stephen Graham  (BS 1973 chemical engineering) of Frankfurt, Ill.; Denny Gannon  (BS 1973 civil engineering) of Iowa City, Iowa; James Kalina  (BS 1974, MS 1977 mechanical engineering) of Cedar Falls, Iowa; and Eric Keen  (BS 1979 civil engineering) with his wife, Julie, and two daughters of Omaha, Neb.

1980s

Ismail B. Celik  (PhD 1980 mechanics and hydraulics) was named Fellow of the American Society of Mechanical Engineers.

Ahmed A. Shabana  (PhD 1982 mechanical engineering) was appointed Richard and Loan Hill Professor of Engineering at University of Illinois at Chicago. Shabana, professor of mechanical and industrial engineering, is a world-renowned researcher dealing with multibody system dynamics and mechanical vibrations.

Hong-Yuan Lee  (MS 1982 civil and environmental engineering and hydraulics, PhD 1984 civil and environmental engineering), professor of civil engineering at National Taiwan University, was appointed deputy governor of Taipei Prefecture, Republic of China. His research interests are in river hydraulics, mechanics of sediment transport, and fluid mechanics. Lee’s term will be 4 years.

1990s

Timothy M. Kortemeyer  (BS 1991 chemical engineering, MBA 2000) was named president at Penford Products, Inc., Cedar Rapids, Iowa. Prior to the promotion, Kortemeyer was general manager and director of the company’s growing specialty products business.

Ranko Vujosevic  (PhD 1992 industrial engineering) founder of Optimal Electronics Corporation, Austin, Tex., serves as its president and chief technology officer.

Paul Schultz  (BS 1993 electrical engineering) is account business manager for Kimball Electronics Group, Tokyo, Japan.

Trina Buhr  (BS 1993 biomedical engineering) of Derry, N.H., was promoted to principal research scientist for Medtronic, Inc. of
2000s

Kristina Kuraitis Kennedy (BS 2000 mechanical engineering) of Dublin, Ohio, is working for the Women in Engineering program (WIE) at Ohio State University. She is responsible for K-12 outreach initiatives.

Kenley G. Kyle (BS 1998, MS 2000 civil engineering) is a sales engineer with Sigler, Commercial Sales, founded by Henry Sigler (BS 1978). He joined the company in 2002 as a software and technical support engineer, and has been promoted to sales engineer.

Kellan Brumback (BS 2001 industrial engineering) is employed with General Mills. He recently relocated to Cedar Rapids from Kansas City.

Chad Donaubauer (BS 2001 industrial engineering) of New York City, N.Y., is employed with Deloitte Consulting.

Jennifer Blackhurst (PhD 2002 industrial engineering) is assistant professor in the Department of Logistics Operations & Management Information Systems at Iowa State University, Ames, Iowa.

Ben Ratcliff (BS 2003 industrial engineering), engineering consultant with Accenture, is working in San Francisco. He stopped by the College for a visit last August.

isaac hodgins (BS 2003 civil engineering) is a civil engineer with the City of Cedar Rapids Engineering Department, Cedar Rapids, Iowa.

Michael F. Smith (BS 2003 electrical engineering), Brian O'Leary (BS 2003, MS 2005 electrical engineering), and Steve G. Davis (BS 2001 computer science, MS 2003 electrical and computer engineering) co-founders and owners of Bio-Neos moved their business into the Bedell Entrepreneurship Laboratory. The tech company is developing software that scans the genetic code to find the genes that are likely to cause diseases.

Greenmaker, established by Ori Sivan (BS 2004 civil engineering) of Chicago, Ill., was featured in the business section of the November 7 Chicago Tribune. Greenmaker is a wholesale and retail supplier of smart, efficient, and healthy building materials for commercial, residential, and mixed-use projects.

Tina Pareka (BS 2004 biomedical engineering) and Natan Phiel (BS 2005 biomedical engineering) are biomedical engineers with Medical Murray, North Barrington, Ill. Componica, LLC, founded by Steven C. Mitchell (BS 1998, MS 2000), PhD 2004 electrical and computer engineering) moved into the UI Technology Innovation Center. Componica has developed state-of-the-art software for language learning and audio/speech processing, initially to be used by English as a Second Language students.

Neil Bryziewicz (BS 2005 biomedical engineering) is an electrophysiologist lab equipment technician at Loyola University Medical Center, Maywood, Ill. He runs and maintains software and hardware used during minimally invasive heart surgery.

Stephen Letsky (BS 2005 civil engineering) is an office engineer at McIntosh & Associates, Bakersfield, Calif.

Rathi Ravikumar (BS 2005 biomedical engineering) is a student at Midwestern University, Downers Grove, Ill., working toward her Doctorate in Bio-Therapeutic and Chemical Engineering.

Samantha Lane (BS 2005 biomedical engineering) of Ridgewood, N.J., was back on campus in April to share information with faculty and students about her employer, Stryker Orthopedics.

Caitlin Kankovsky (BS 2005 industrial engineering) is a production engineer with Stratos Lightwave, Chicago, Ill.

Amy Ashbacker (MS 2005 civil and environmental engineering) leads the land development and civil site design team in the Coralville, Iowa, office of VJ Engineering. A civil engineer, structural, and environmental engineering firm. Students who attended the October Homecoming Tailgate Nick Bettis (BS 2001 civil engineering), and his wife, Branch of Cedar Rapids, Iowa, Kathleen Johnson (BS 2001 civil engineering) of Las Vegas, Nev. Ben Moline (BS 2001 civil engineering) of Concord, Calif; Matt Palmer (BS 2001 civil engineering) of Bellevue, Wash.; and Samantha Lane (BS 2005 biomedical engineering) of Ridgewood, N.J., and her parents Mike and Trudi.

Scott Smeltzer (BS 2000 chemical engineering) and his wife, Stefanie, of Mason City, Iowa, and Karsten Temme (BS 2002, MS 2004 biomedical engineering) of Berkeley, Calif, attended the Family Weekend on October 15. Alumni on campus September 21 to recruit at the Fall 2005 Engineering Career Fair: Darren Williams (BS 1999 industrial engineering); Anna Forken (BS 2003 industrial engineering); Craig Folkers (BS 1992 biomedical engineering and chemical engineering); Lisa Fickenscher (BS 1995 chemical engineering); Darin Farrey (BS 1992 mechanical engineering); Matt Molumby (BS 1999 mechanical engineering); April Privett (BS 1997 civil engineering); Nate Schenkell (BS 1990 electrical engineering); Kendra McCoy (BS 2001 industrial engineering); Curt Caldwell (BS 2003 biomedical engineering); Michelle Berns (BS 1989 mechanical engineering); Steve Reichs (BS 1991 mechanical engineering); Brent Cumberford (BS 2005 biomedical engineering); Jennifer Blauvelt (BS 2001 biomedical engineering); Chris Hruska (BS 2001 biomedical engineering); Rebecca Turner (BS 2005 chemical engineering); Mark Rippe (BS 1993 mechanical engineering); Nick Wagner (BS 1996 mechanical engineering), MS 1998 electrical engineering): Virginia Kimmel (BS 2003 chemical engineering); Kalpesh Parekh (MS 2003 chemical engineering); Cassidy White (BS 2005 chemical engineering); Ann Kirsch (BS 2004 chemical engineering) Jeff Skrentner (BS 2003 chemical engineering); Matt McConville (BS 2003, MS 2005 civil engineering); Aaron Granquist (BS 2000 civil engineering); Nate Kampman (BS 2000 civil engineering); Kent Ellis (BS 1982 civil engineering); Kandy Maldonado (BS 1995 electrical engineering); Anne Ryerson (BS 2000 computer science); Sandra Schultz (BS 1986 industry engineering); Amy Asselin (BS 1997 mechanical engineering); Ben Schneider (BS 2000 indus-
IN MEMORIAM

1930s
Carl T. Anderson (BS 1930 mechanical engineering).
Dale R. Morgan (BS 1931, MS 1933 mechanical engineering) of Des Moines, Iowa, November 7, 2005.
Don R. Voss (BS 1934 mechanical engineering) of Longmont, Colo., January 6, 2005.
William A. Mosow (BS 1935 electrical engineering) of Memphis, Tenn., September 8, 2005.
Frank Chrencik (BS 1937 chemical engineering) of Birmingham, Ala., February 8, 2006.

1940s
Willis F. Perley (BS 1940 civil engineering) of West Linn, Ore., September 28, 2005.
Orham A. Alyurek (MS 1940 mechanics and hydraulics) of Turkey.
Dello W. Brown (BS 1942 mechanical engineering) of North Liberty, Iowa, August 13, 2005.
James S. Guthrie (BS 1942 chemical engineering) of Venice, Fla., August 5, 2005.
Carl P. Strand (BS 1942 chemical engineering) of Arlington, Va., January 8, 2006.
Daniel B. Campbell (BS 1943 electrical engineering) of Bettendorf, Iowa, November 8, 2005.
George E. Johnson (BS 1947 mechanical engineering) of Keokuk, Iowa, February 9, 2006.
Robert R. Sasser, Sr. (BS 1947 chemical engineering) of Atlanta, Ga., June 19, 2005.
G. W. Seiffert (BS 1947 mechanical engineering) of Iowa City, Iowa, October 16, 2005.
Paul R. Jones (BS 1948 mechanical engineering) of Marion, Iowa, March 11, 2006.
R. Wayne Houston (BS 1949 electrical engineering) of Palo Cedro, Calif., August 8, 2005.
Kenneth A. Mulford (BS 1949 electrical engineering) of Iowa City, Iowa, November 9, 2005.
Robert D. Rule (BS 1949 mechanical engineering) of Rockford, Ill., August 1, 2005.

1950s
William F. King (BS 1950 civil engineering) of Lakewood, Colo., December 27, 2002.
Ralph E. Neuber (MS 1950 electrical engineering) of Sylviah, Ohio, February 16, 2006.
Bernard L. J. Flanders (BS 1951 mechanical engineering) of Muscatine, Iowa, October 31, 2005.
Donald D. Snyder (BS 1953 civil engineering) of Palm Desert, Calif., April 2, 2005.
Roy F. Schweiger (MS 1956 mechanical engineering) of Rock Island, Ill., March 8, 2006.

1960s
Larry L. James (BS 1964 electrical engineering) of Kansas City, Mo., August 16, 2005.

1970s
Daniel J. Holmes (BS 1973 civil engineering) of Bettendorf, Iowa, August 27, 2005.

1990s
Margaret H. Mericle (BS 1993 electrical engineering) of Aston, Pa., March 27, 2006.
The Best Stories

We recently closed the chapter on another exciting academic year. The 2005-2006 school year saw the successful completion of Good. Better. Best. Iowa: The Campaign to Advance Our Great University, and the graduation of another tremendous group of engineering students who will become engineers ... and something more.

The entrepreneurs and expatriates that you can read about in these pages are a great illustration of what we mean by “something more.” UI Engineering graduates are citizens of the world—wherever they end up living—and they leave here with a sense of the global importance of engineering and problem-solving. Whatever career path our recent graduates take, one thing is certain: their choices will forever change them and our society for the better. And just like the alumni featured in this issue of Iowa Engineer, new College of Engineering graduates are now out in the world, writing their own success stories.

Stories are often what College of Engineering Dean Barry Butler, Kate Metcalf (assistant director of development), and I hear as we travel to meet our alumni across campus, across the border in Illinois, or across the globe.

Educational experiences create memorable stories that change and motivate people, and in our visits with alumni we hear a lot of stories about life in the College of Engineering and beyond—including the ones that culminate in philanthropic gifts made to the college. The gifts take many forms—honoring a professor with an establishment of an endowed faculty position, memorializing a spouse or family member with an endowed scholarship, or investing in an endowment that challenges us to make engineering education all the more connected to the world. Experiences turn into stories, which then manifest themselves as investments in faculty and students that inspire another generation of story formation, reflection, and sharing that enrich our college.

The philanthropic work we do to advance the college involves hearing stories and sharing stories. We enjoy hearing your stories (humorous, touching, inspiring, and nostalgic) and see them as an important part of the college’s history—and its future. We’d like to continue to be a part of your life, no matter how long ago you graduated. Not only do we want to hear your stories, we’d also like to help you write new ones—stories about legacy, generosity, and the empowerment of future UI engineering students. We look forward to hearing from you.

Help us find Iowa Transits

Early issues of the Iowa Transit have been posted on the Lichtenberger Engineering Library website: www.lib.uiowa.edu/eng/transit.htm. Issues available include 1890, 1893, 1896, 1898, 1900, 1904, 1905, 1906, 1907, 1908, 1911, 1915 and 1921. The College is seeking all other years. We’d appreciate any issues you could give us. Please send them to us so we may add them to the Web site.

Contact Kevin Collins at The University of Iowa Foundation 319-335-3305 toll-free 800-648-6973 kevin-collins@uiowa.edu
2006 Spring Reunion, June 9–10

Clockwise, from right:
Don Madsen (professor emeritus, mechanical engineering) and Jen Madsen.

Warren Pagel (BS 1953 chemical engineering), Colleen Lasar, and Barbara Lasar (BS 1983 mechanical engineering).

Jim Croscheck (BS 1964, MS 1967, PhD 1970 mechanical engineering) and Dick Larew (BS 1953 mechanical engineering, MS 1973 industrial engineering, PhD 1976 industrial and management engineering).