The Iowa Genome Team
The College of Engineering inducted three new members into its Distinguished Engineering Alumni Academy June 11. The members were added to the Alumni Academy for contributions toward personal engineering achievement, leadership, and service to the profession and society.

**Luther H. Smith** (BS 1950 in mechanical engineering) of Villanova, Pa., is a retired U.S. Air Force captain who flew 133 combat missions in World War II, and a retired General Electric Co. engineer with 37 years service and two U.S. patents. A native of Des Moines, Iowa, Captain Smith is an original member of the famed Tuskegee Airmen and was awarded the Distinguished Flying Cross, Air Medal with six Oak Leaf Clusters, Purple Heart, eight European and Mediterranean Theaters Campaign Ribbons, and the Prisoner of War Medal after being permanently injured on his final combat mission. After earning his degree at The University of Iowa, Smith worked at GE’s Electric Missile and Space Operations until his retirement in 1988. Since then, he has served on the Engineer Architect Evaluation Board that chose the design for the World War II Memorial and has worked tirelessly to gain recognition for the contributions of the Tuskegee Airmen. He also has contributed significantly to the achievement of racial equality and helped change the face of the U.S. military in a remarkably short period of time.

**Robert P. Stearns** (BS 1960 in civil engineering) is co-founder and chairman of SCS Engineers, Long Beach, Calif. He is recognized nationally for his significant contributions to the environmental engineering profession and advancement of practices of solid waste management. The innovative work performed by SCS forms the basis for many standard industry procedures for investigating and controlling sanitary landfill gas emissions, forecasting emission generation rates, and designing emission extraction and migration controls. Stearns led an effort to improve refuse collection productivity through mechanization, making SCS a present-day bioreactor landfill specialist. He also conducted a pioneering refuse collection privatization project with the city of Phoenix, Ariz., that resulted in an innovative program considered a model for many cities and countries. In 2003, Stearns was inducted into the Environmental Industry Association’s prestigious Hall of Fame. He is a diplomate of the American Academy of Environmental Engineers, chairman of the Environmental Research and Education Foundation, former board member of the Solid Waste Association of North America, and a registered engineer in California, Virginia and Ohio.

**Ahmet Selcuk Uzuner** (MS 1975 in mechanics and hydraulics) is an engineer and entrepreneurial business leader respected throughout the Middle East and internationally. He is a co-founder (along with his brother, Secil, another member of the College’s Distinguished Engineering Alumni Academy) and vice president of UZKA, a leading Turkey contracting firm, and president of UZPA, an international trading company in Turkey and the Middle East. He also is founder and finance manager of BETRA, partnering with an Austrian company to produce concrete railroad sleepers and other pre-cast concrete products. His most recent initiative, RAYMAK, is renovating the tracks and metro systems of Turkey’s railroads. Previously, Uzuner held several positions at ENKA, Inc., the largest international engineering company in Turkey. There he led efforts to build an entire city in the Saudi desert, and helped lead construction of the 600 megawatt Hamitabat Combined Cycle Gas Power Plant in Turkey, completed in only nine months. Uzuner also served the Greater Municipality of Istanbul to help manage construction of the Istanbul Rapid Tramway System.

The new inductees now bring the Alumni Academy membership total to 55.

For more information on the Distinguished Engineering Alumni Academy, including members and nomination procedures, go to www.engineering.uiowa.edu/honor-wall/alumni-academy/.
The University of Iowa is in the middle of a special celebration called “Year of Public Engagement.” It recognizes the University’s broad role in serving and partnering with the public. This activity enables us to renew our appreciation of the partnerships we have with so many communities and to further “engage” ourselves in helping make Iowa, the country, and the world a better place.

The Year of Public Engagement provides Engineering students, alumni, faculty, and staff a powerful reminder of how our profession inherently is engaged in important public issues and opportunities—from ensuring infrastructure safety and continual technical improvement to seeking major advances in saving people’s lives through the broad academic and research programs we share with the health sciences.

The social conscience of engineers—students and professionals alike—also is a catalyst that contributes significantly to public engagement. Whether we use our technical skills to assist in solving human problems or we simply donate our time and talent to social and civic causes, engineers are often central to many of these worthwhile activities.

At the same time, we deeply appreciate the “return” on public engagement the College receives from alumni and friends. For example, take time to read the “In Sight” feature on pages 6–7 in this issue of Iowa Engineer. You’ll discover the multitude of ways Engineering graduates help make this College a better community of study and knowledge.

Though the “Year of Public Engagement” is limited to 12 months, the continual sharing, serving, partnering, and giving of UI engineers is limitless. For that, the College of Engineering is forever indebted.

P. Barry Butler, Dean
Engineering professor Thomas Casavant, seated, and Paul McCray, pediatrics professor, collaborate on a project.
Interdisciplinary Collaborations Drive the Iowa Genome Team

Text by Jean Florman | Photos by fisheye

It was a late Friday afternoon a decade ago, Tom Casavant, then an associate professor of electrical and computer engineering, just happened to be in his department’s main office when Edwin Stone called. Stone, an ophthalmology faculty member, needed help with burning a computer chip for his lab. Casavant said yes, never guessing that the spur-of-the-moment collaboration would draw him into one of science’s greatest quests: mapping the human genome.

Casavant, Stone, and one of Casavant’s graduate assistants ended up spending three hours talking one evening the following week. Stone, who had devoted much of his career to decoding the genetics of macular degeneration, the leading cause of blindness in American adults, also was a pioneering researcher in the National Institutes of Health’s Human Genome Project, which would eventually marshal the efforts of hundreds of labs and thousands of researchers around the world.

“When Ed called on that Friday afternoon 10 years ago, I didn’t even know what a gene was,” Casavant says. “Now, this is what I do.”

“This” is computational molecular biology, an interdisciplinary field that tackles the staggering data-handling needs of genetic researchers and applied medicine through design and administration of high-performance computation.
and information systems. “Most engineers deal with things we can hold in our hands,” says Casavant, now a full professor with joint appointments in electrical and computer engineering, biomedical engineering, and ophthalmology and visual sciences. “I envy people like Milan Sonka [professor of electrical and computer engineering], who creates beautiful moving images of the human heart in action.”

In contrast, genetic research entails the study of extremely tiny chemical units that carry and process information. Nucleotides, the basic structural units of DNA and RNA, number 3.12 billion in the human genome. Multiply that by thousands of species in the world—possibly containing three terabytes of genetic information—and the task of unraveling the contents, function, and dynamics of the genetic code boggles the mind.

Casavant likens the human genome and the genes in it to a giant cookbook that contains more than 30,000 recipes. “Imagine a house with trillions of rooms, each of which hold one of these cookbooks,” he says. “Our cells are the equivalent of the rooms. Cells do different things with genes at different times, like people in various rooms using different recipes from the cookbook.”

Trying to divine the structure—let alone the function—of complex genetic material demands collaborative effort. At Iowa, the interdisciplinary work to unlock the genetic code is being spearheaded by Casavant, who in 2002 was named director of the new Center for Bioinformatics and Computational Biology (CBCB). The center, a joint effort of the Carver College of Medicine and the College of Engineering, was established to concentrate the expertise of researchers from an array of disciplines on campus, including mathematics, internal medicine, bio-statistics, microbiology, biological sciences, and of course, computer science and engineering.

“No single individual can unravel the nature and cures for human diseases,” Casavant says, “so it’s essential that we become open to interdisciplinary research. We must learn to think in new ways and be willing, now and then, to step off into the abyss.”

Casavant adds that it’s not easy for researchers who are renowned in their own disciplines to “walk into a room of experts in other fields and say, ‘I don’t understand.’ But as faculty members,

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**Artificial Neural Network Approach**

Starts with no initial PAR (Prioritization of Annotation Regions) parameter values and builds a model (tree with weights) based on known mutation locations in training data set.
we usually crave to explore the world beyond our own limited areas of expertise. Interdisciplinary research provides an opportunity to do just that.”

As a young academic, Casavant earned a reputation as an expert in parallel computing. He designed multimillion-dollar computer systems that could store, search for, and process massive quantities of data in rapid-fire sequence or simultaneously. But since joining the Human Genome Project, Casavant has been schooled in genetics and medicine. He has learned from Stone and from pediatrics professor Val Sheffield, CBCB faculty colleagues Todd Scheetz and Terry Braun, and from other UI experts in the biological and medical sciences and pharmaceutics.

Casavant says the real hurdle in any broad-based interdisciplinary endeavor is not wrestling with data but overcoming traditional disciplinary boundaries.

“The real challenge is the human challenge,” says the CBCB administrator, who recruits faculty to join the center’s interdisciplinary efforts and brokers relationships among traditional administrative and academic units such as colleges and departments. “The academic world has trained us to define who we are by what we do,” he says, “and so we tend to establish rigid boundaries not easily traversed.”

CBCB members, however, define themselves by the problems they want to help solve, Casavant says, adding that center members such as Stone, Sheffield, and pediatrics professor Paul McCray are dedicated to answering questions through collaboration—an approach that has resulted in development of a number of new research methods and discovery of numerous new disease mutations.

“The depth of our collaborations is unique in this country,” Casavant says. “People in the CBCB are willing not only to commit to a new path but also to leave behind some of what they have done in the past.”

For Casavant, that means no longer designing high-end computer architectures for researchers whose work he knows nothing about.

He says, with not a little delight, “I imagine at computational biology and genomics conferences, a number of my former colleagues might be saying, ‘I wonder whatever happened to that Tom Casavant guy.’”

The Evolution of Genomics Software

As University of Iowa undergraduate and graduate engineering students, Steven Davis and Brian O’Leary decided to use what they were learning about computational genomics to launch a new company. After Bio::Neos was chosen to be one of the 12 regional award winners of the statewide Pappajohn New Venture Business Plan Competition, the founders of the fledgling bioinformatics software concern recruited fellow electrical and computer engineering student Mike Smith to their executive mix and continued to refine their business plan. Last May Bio::Neos captured top honors in the Merle Volding Business Plan Competition sponsored by The University’s John Pappajohn Entrepreneurial Center.

“Bio::Neos (the name means ‘new life’) represents a marriage of biological and computational knowledge,” Davis says. “Through our experience and diverse backgrounds, we hope to provide new life to genetics-related and bioinformatics software for target identification of genes.”

While working as undergraduate researchers in the College of Engineering’s Coordinated Laboratory for Computational Genomics, Davis, O’Leary, and Smith hit on the idea of developing and supporting computer software for the large-scale information needs of genomics and biomedical research projects. Their company’s leading product, Bio::WebLab, aids researchers who seek to create a list of genes likely to cause certain genetic diseases.

“WebLab already has proved itself as a significant tool for researchers here at Iowa,” Davis says. “Now our goal is to get this product out to a much wider audience. As more biotech companies and genetics researchers begin to concentrate on discovering mutations, our software will continue to evolve, to help make research more efficient.”

All three men earned their undergraduate degrees at Iowa, and Bio::Neos president and head programmer, Davis, and company treasurer and senior programmer, O’Leary, also have completed master’s degrees in electrical engineering. Smith, who is serving as the company’s secretary and senior programmer, is currently working on a Master’s degree in electrical engineering. Electrical and computer engineering faculty members Tom Casavant (electrical and computer engineering), Terry Braun (biomedical engineering), and Todd Scheetz (ophthalmology) round out the business team as company co-owners, scientific advisers, mentors, and all-around enthusiasts.
In his October 2004 University of Iowa keynote address, President David J. Skorton declared academic 2005–06 the Year of Public Engagement.

“Returning to campus is like coming home.”

Mel Holubar

Barb Sines volunteers with ASIST, facilitating links between the College of Engineering and potential students.

“I talk about what a design engineer does at a company like Cat—things they don’t necessarily teach in college.”

Jarrod Moss
In his October 2004 University of Iowa keynote address, President David J. Skorton declared academic 2005–06 the Year of Public Engagement, a time for the University to acknowledge and enhance its community connections and collaborations. But school/community bonds are nothing new to the College of Engineering. For decades, engineering students, faculty, and staff have partnered with numerous organizations to help solve local and state problems, from planting poplar trees that help renew polluted soil, to working with residents of a Mexican community to design an effective water treatment system.

When Iowa students graduate, service often becomes a vital component of their roles as engineers. That willingness to serve redounds to the College of Engineering itself, as many grads seek to give back to the school that helped launch their professional lives.

April Privett (BS 1997 in civil engineering) and Ben Moline (BS 2001 in civil engineering) talk to top high school students and encourage them to apply to Iowa. Amanda (Ennis) Mikhail (BS 1999 in mechanical engineering) also recruits high school students and serves on the Mechanical and Industrial Engineering Advisory Board. Then there’s Mel Holubar (BS 1960, MS 1969 in mechanical engineering), retired team leader for Rockwell-Collins’ Government Avionics Division, who has helped four groups of Program for Enhanced Design Experience (PEDE) students complete their projects for Deere & Company, and has attended every fall tailgate open house and alumni spring reunion.

“Returning to campus is like coming home,” Holubar says. “The education I received from Iowa is the major factor in my success as an engineer, and it’s good to see that over the years, the college continues to improve both the facility and the curriculum.”

Barb Sines (BS 1980 in industrial engineering) is vice president and general manager of Rockwell Automation in Milwaukee, Wis. Since earning her degree, Sines has remained involved with the college as a speaker at the bi-annual Student Leadership Institute and a volunteer with ASIST—Alumni Seeking Iowa Students, in which engineering alumni volunteers encourage top students to consider Iowa. ASIST participants call qualified high school students in their area, attend college fairs at local high schools, and provide a personal link to the college.

Even recent grads starting out in their careers take advantage of opportunities to give back to the Iowa engineering community. Only three years after donning his cap and gown, Jarrod Moss (BS 2002 in mechanical engineering) already is serving the college community by representing Caterpillar at each of the University’s career fairs and conducting campus interviews twice a year. Moss also has spoken to mechanical engineering professional seminar students about his work at Caterpillar Inc., and about the transition from student life to the professional world.

“I talked about what a design engineer does at a company like Cat—things they don’t necessarily teach in college,” says the newly minted Iowa alumnus.

Many engineering alumni regularly visit campus to talk with students and faculty members. As a member of the Biomechanical Engineering Advisory Council, a five-year member of the College of Engineering Advisory Board, and three-year member of the Mechanical and Industrial Engineering Advisory Board, Ted Fuhrer (BS 1969 in industrial engineering) travels from his Los Angeles home to Iowa City five times a year to help shape and carry out the college’s mission. The retired Rockwell-Collins vice president and general manager also mentors PEDE students, judges PEDE projects and senior project presentations, talks to students at college luncheons and award events, and offers seminars on leadership, teamwork, and life as an engineer.

“When I was a student, there weren’t organized efforts to bring alumni back to campus,” Fuhrer says, “and when I began working after graduation, I had very little knowledge of what was expected of me, how business was conducted, or what opportunities were available for career growth. I was very fortunate to have five outstanding business mentors during my 33 years in industry. As I reflected upon how fortunate I was to have those mentors, I decided to volunteer with the College of Engineering and share my own experiences with students and the college.

“I also wanted to stay connected to engineering academia and education as part of my lifelong learning process,” Fuhrer adds.

The opportunities for Iowa engineering alumni to strengthen the college are almost limitless. Alumni visit local elementary and high schools to talk about their profession; advocate on behalf of the college to the Iowa legislature; identify and mentor co-op and intern students; and provide a bridge between their employers and UI faculty members, identifying collaborative projects and helping to establish sponsored research that can create solutions to real-world problems. Through the UI Alumni Association’s AlumNet Web site, they help other alumni and students network to discover excellent, exciting career opportunities.

“Iowa students and faculty benefit greatly when alumni share their time, effort, expertise, and experience,” Fuhrer says. “But I gain even more than I give. Just being exposed to the vibrant UI students, faculty, and staff is infectious. I come away from every event at Iowa feeling energized and confident that the College of Engineering community is excelling in all aspects of teaching, learning, research, and administration.

“I also get a renewed sense of the dedication, quality, and diversity that today’s UI engineering students possess. This gives me great confidence in the contributions these students will make to the future of the world.”
Ahead of the Curve

BIOMEDICAL ENGINEERING AT IOWA

BY JEAN C. FLOMANN
PHOTOS BY FISHYE
Now and then, fortuitous moments occur in the life of an institution when a major challenge and the people and resources to meet it come together.

The College of Engineering enjoyed such a moment in the mid-1970s, and the result was the beginning of biomedical engineering at Iowa.

By the early seventies, engineering had become a vital component of interdisciplinary responses to environmental and health challenges. At The University of Iowa, supportive administrators, excellent students, and a talented young faculty member were poised to apply engineering toward solving problems of human health and medicine.

Kwan Rim had come to Iowa in 1960 as an assistant professor of mechanics and hydraulics. During his first years at Iowa, Rim focused his research on stress analysis of solid propellant rockets and on optimal design of satellites.

“I was very happy doing this kind of work,” Rim recalls, “but then in the late 1960s, Carroll Larson came to me, asking for some help.”

Larson, professor and chair of Iowa’s orthopaedic surgery department, wanted to consult with an engineer about the biomechanics of hands and feet, for help with his work to rehabilitate injured patients. He invited Rim to join an NIH-funded project, and Rim gladly accepted.

That initial collaboration soon had a far-reaching impact on the college. When Rim was appointed chair of mechanics and hydraulics in 1972, he concentrated on strengthening two areas: optimization of design, which eventually gave rise to the Center for Computer-Aided Design, and biomechanics, which by 1974 had become the biomedical engineering program.

Rim says the dean, Robert Hering, and the vice president for academic affairs provided vital support for the idea of starting a biomedical engineering program at Iowa.

Before the discipline could grow, Rim had to do some serious recruiting, so he set about explaining this new engineering field to high school science students—and their parents—around the state.

The first class of biomedical engineering students numbered around a dozen, all of whom had transferred from mechanical or electrical engineering. Now the Department of Biomedical Engineering is the college’s largest in enrollment.
Thirty percent of University of Iowa students planning to go on to medical school choose biomedical engineering as their undergraduate major.

“We are very excited about biomedical engineering today, just as we were in those early days,” says the department’s current chair, Professor K.B. Chandran, who was one of four faculty members hired in 1978 to help develop the program. “We knew it was an up-and-coming field, and we wanted Iowa to be at the leading edge.”

And it was. When Iowa launched its biomedical engineering program in 1974, only one or two other public universities offered similar majors. But being in the forefront presented its own challenges. For example, some Iowa faculty members and administrators worried that the first students in such a new field would fail to find jobs.

“We were more or less told by some corporate executives, ‘Give me a good mechanical or electrical engineer, and I can train him to do whatever we need in biomechanics,’ ” Chandran says. “But once we showed recruiters our program and how our undergraduates were already doing interdisciplinary research, it wasn’t long before Iowa students were landing excellent positions.

Chandran adds that early corporate enthusiasts such as General Electric Medical Division, snapped up Iowa grads then, just as they do now.

From the program’s earliest days, its faculty members forged strong ties with their peers “across the river,” including researchers in the Carver College of Medicine, the Colleges of Nursing, Dentistry, and Pharmacy, and departments that eventually would become part of the College of Public Health. During the last three decades, the interdisciplinary collaborators have tackled problems in biomechanics, medical imaging, biomaterials and tissue engineering for implants, ophthalmology, and bioinformatics.

Where Iowa led, others followed. Universities across the country gradually developed biomedical engineering programs until the mid-1990s, when a significant infusion of funding by Pennsylvania’s nonprofit Whitaker Foundation transformed the landscape of engineering schools nationwide.

“In only five years, thanks to half-a-billion dollars of support,” Chandran says, “schools across the country—including five Big Ten institutions—established biomedical engineering programs.”

Iowa’s program received a Special Opportunities award from the Whitaker Foundation that enabled the College to enhance the medical image analysis educational and research efforts in the department. The program, Chandran says, remains one of the best in the country, thanks to its superb faculty, top students, and active collaborative opportunities with Iowa’s health science colleges.

And what of Kwan Rim, whose early consultations with a College of Medicine professor proved to be the springboard for a new, groundbreaking discipline at the college? He now chairs Samsung Advanced Institute of Technology in Suwon, Korea, has been named an honorary Commander of the Most Excellent Order of the British Empire (CBE), and has been profiled by USA Today, which described his work at Samsung as innovative. He also sits on the College of Engineering Development Council and returns to campus at least twice yearly to help mentor undergraduate students.

“Iowa,” Rim says, “is a benchmark for beginning programs.”

But, he adds, Iowa must continue to build on its fine faculty, excellent students, and tradition of collaborative research.

“It’s time for the department to leap to the next level—from really good to really outstanding,” he says. “We need to redefine our mission, establish superb research centers, and maximize our impact on people’s lives in Iowa, the country, and the world.”
Four faculty members are celebrating 40 years of teaching, research, and service at The University of Iowa: John Robinson, Karl Lonngren, and Sudhakar Reddy. All professors of electrical and computer engineering, and Ralph Stephens, professor of mechanical and industrial engineering, joined the College in 1965–66. At that time, Arthur Melloh was dean of the College and Howard Bowen was University president.

Students William Liechty of Marion, Iowa, and Alexandra Olson of La Porte City, Iowa, were awarded 2005 Goldwater Scholarships. Both students are undergraduate researchers in Professor Allan Guymon’s laboratory. Only 320 Goldwater scholarships are awarded nationally.

Robert Ettema, professor and departmental executive officer, received the College of Engineering Excellence Award for Service at the annual Faculty/Staff luncheon held April 26. Ettema is a research engineer at III-IR—Hydroscience & Engineering and a researcher at the Center for Global and Regional Environmental Research. His research interests include fundamentals and applications of hydraulic engineering, while his special fields of knowledge embrace water resources engineering, hydraulics, sedimentation, ice engineering and coastal engineering.

Biomedical Engineering

Tom Casavant, professor, won the UI Graduate College Outstanding Mentoring Award in October 2004. K.B. Chandran, Lowell B. Battershell Chair of Biomedical Engineering, departmental executive officer and faculty research engineer at III-IR—Hydroscience & Engineering, was elected a Fellow of the Biomedical Engineering Society in the organization’s inaugural class of fellows. Chandran also was appointed to the Biomedical Engineering Department Advisory Board at Clemson University.

Ed Dove, professor, was named a winner of the 2005 President and Provost Award for Teaching Excellence.

Esther Gassman, senior, was awarded a 2005–2006 Tau Beta Pi graduate fellowship.

S. Farshid Moussavi-Hamari, junior, was awarded a Tau Beta Pi scholarship for the 2005–2006 academic year.

Chemical and Biochemical Engineering

Gregory R. Carmichael, Karl Kamermeyer Professor of Chemical and Biochemical Engineering and associate dean for graduate programs and research, was interviewed on PBS’s NewsHour with Jim Lehrer September 8, as part of a story about tracking pollution over the Atlantic Ocean. Carmichael has developed a computer model that locates plumes of pollutants spreading from New England over the Atlantic Ocean, then tells research planes and ships investigating the plumes where to go.

Vicki H. Grassian, professor of chemistry in the College of Liberal Arts and Sciences and of chemical and biochemical engineering, Patrick O’Snaithness, associate professor of occupational and environmental health, College of Public Health, and associate professor of civil and environmental engineering; and Peter Thorne, professor of occupation and environmental health, College of Public Health and professor of civil and environmental engineering received a three-year, $335,000 grant from the US Environmental Protection Agency to investigate the potential implications of manufactured nanomaterials on human health and the environment.

Sarika Kulkar, PhD candidate, received the best poster award at the Atmospheric Sciences and Air Quality Conference April 27–29 in San Francisco, Calif., for “Surface Elemental Composition of Aerosols at Beijing (China), Osan (Korea) and Tango (Japan) during ACE Asia.”

Victor Rodgers, professor and director of Ethnic Inclusion Effort for Iowa Engineering, was named winner of the UI 2004 Catalyst Award. He was honored at a reception November 1. “Modeling of In Situ Ultrafine Atmospheric Particle Formation in the Eastern United States,” a nucleation paper authored by Charles Stanier, assistant professor; and Timothy M. Gaydos and Spyros N. Panis of Carnegie Mellon University were recognized by the American Geophysical Union in its Journal Highlights.

Erin Steenblock, senior, was awarded a Department of Homeland Security Fellowship. She will continue her studies in the fall at Yale University, focusing on bioengineering.

Civil and Environmental Engineering

Jasbir Arora, F Wendell Miller Distinguished Professor of Engineering, received the College of Engineering Excellence Award for Research during the Annual Faculty/Staff Luncheon April 26. Arora was appointed 2004–05 Chair of the Technical Activities Division’s Executive Committee of the Structural Engineering Institute of the ASCE. His responsibilities include overseeing the work of more than 70 technical committees and all the technical activities of the Institute.

Allen Bradley, associate professor and research engineer at III-IR—Hydroscience & Engineering, was cited by Editors of American Geophysical Union (AGU) journals for excellence in refereeing. The AGU has 41,000 scientists from 130 countries and is a leader in the increasingly interdisciplinary global endeavor that encompasses the geophysical sciences.

Rachael Collier of Burlington, Iowa, a freshman majoring in civil engineering was named a co-recipient of the 2004 Ahmanson Intern Award by the World Food Prize Foundation of Des Moines, presented during the October 14–16 World Food Prize International Symposium in Des Moines.

Engineers for a Sustainable World, a student organization, was awarded $10,000 from the Environmental Protection Agency to implement a pollution prevention intern exchange program abroad.

Keri Hornbuckle, associate professor and associate faculty research engineer at III-IR—Hydroscience & Engineering and researcher at the UI Center for Global and Regional Environmental Research, received a $347,000 grant from the National Science Foundation to acquire instruments to advance UI environmental studies. The equipment, including a triple quadrupole tandem mass spectrometer with gas chromatograph (GC/MS/MS), will permit rapid analysis of trace levels of organic contaminants in complex mixtures.

Walter Illman, assistant professor of geoscience and civil and environmental engineering and assistant research engineer at III-IR—Hydroscience & Engineering, and Anton Kruger, adjunct assistant professor of electrical and computer engineering and research engineer, III-IR—Hydroscience & Engineering, received a $427,939,
Richard Valentine, professor and research engineer at IIHR—Hydroscience & Engineering, was appointed Rose & Joseph Summers’ Chair in Water Resources Engineering.

Hosin “David” Lee, professor, received the prestigious Road Engineering Excellence Award from the Korean Society of Road Engineers in recognition of innovative research on highway pavement and excellence in publication and professional activities to enhance road engineering.

Thanos Papanicolaou, associate professor and associate faculty research engineer at IIHR—Hydroscience & Engineering, received a $140,000 research grant from the Iowa Department of Transportation for a pilot study to monitor and evaluate devices used to reduce stream bank erosion.

Michelle Scherer, associate professor, received a two-year, $475,000 grant from the US Department of Defense Strategic Environmental Research and Development Program to evaluate methods for cleaning up certain environmental contaminants, including solvents used in dry cleaning and metal degreasing. Scherer’s colleagues on the project are: Craig Just, associate research scientist, Gene Parkin, professor, and Richard Valentine, professor.

Richard Valentine, professor, was appointed a member of the National Research Council “Committee on Public Water Distribution Systems: Assessing and Reducing Risks.” The purpose of the committee is to conduct a study of water quality issues associated with public water distribution systems and their potential risks to consumers. The information will be used to help develop a national policy on drinking water distribution systems.

Larry J. Weber, Donald E. Bently Faculty Fellow of Engineering, associate professor, and director of IIHR—Hydroscience & Engineering, was appointed to the science panel of the Upper Mississippi River System Navigation and Ecosystem Sustainability Program.

The student chapter of the American Society of Civil Engineers concrete canoe team placed second in the Midwest Regional Competition April 23 at the University of Wisconsin, Platteville.

Electrical and Computer Engineering

Tom Casavant, professor and director of the UI Center for Bioinformatics and Computational Biology, gave a lecture “Automated Knowledge Discovery for High-Throughput Disease Gene Mutation Screening,” in October at the Karolinska Institute in Stockholm, Sweden. Casavant and Todd Scheetz, assistant professor, Department of Ophthalmology and Visual Sciences and computational scientist, CBGB, contributed to a new textbook, titled The Practical Bioinformatics published by World Scientific Publishing Co. Pte, Ltd.


Milan Sonka, professor, presented the Opening Keynote Lecture at the First International Conference on Image Analysis and In-Vivo Pharmacology April 7-9 in Copenhagen, Denmark.

Mechanical and Industrial Engineering

P. Barry Butler, professor and dean, was appointed to the Iowa Department of Economic Development steering committee for advanced manufacturing to guide efforts identified in the Battelle Memorial Institute’s Strategic Reports on Advanced Manufacturing and Informational Technology in Iowa.

Two volume books titled Structural Sensitivity Analysis and Optimization 1 Linear Systems, and Structural Sensitivity Analysis and Optimization 2 Nonlinear Systems and Applications co-authored by Professor K. K. Choi, Carver Professor of Mechanical Engineering, and Professor Nam Ho Kim at The University of Florida, were published by Springer in December 2004.

Ray Han, professor, and five other co-investigators received a one-year $99,500 National Science Foundation grant for carbon nanotube research useful in micro-electronics.

Pavlo A. Krokhmal joined the department this fall. He holds a PhD in Operations Research from the University of Florida. He earned a PhD in mechanics of solids and applied mathematics and an MS degree in applied mathematics and mechanics from Kiev National University, Kiev, Ukraine. His research interests include stochastic programming, decision making under uncertainty, risk analysis, probabilistic analysis of combinatorial problems, financial engineering, optimal trading strategies, pricing of derivatives; and computational and applied mathematics, continuous mechanics.

John D. Lee, Donald E. Bently Faculty Fellow of Engineering, associate professor, and researcher at the UI Center for Computer-Aided Design, received a $1.1 million contract from Delphi Corporation, Inc. to help reduce highway crashes caused by driver distraction.

Chin-Long Lin, associate professor and associate research engineer at IIHR—Hydroscience & Engineering, was named the Argonne National Laboratory 2005 Wilkinson Fellow in Scientific Computing, the most prestigious international postdoctoral fellowship in computational mathematics.

Jeff Marshall, professor, was named a Fellow of the American Society of Mechanical Engineers.

Tom Schnell, associate professor, received a two-year, $466,032 grant from NASA’s Langley Research Center in Hampton, Va., to develop a low-cost synthetic vision system to improve safety for general aviation pilots. Schnell also received a total of $60,000 in grants, $30,000 from the Iowa Space Grant Consortium and $30,000 from the US Army/NASA Ames Research Center, to develop symbologies — easily identifiable pictures — for a synthetic vision system to help reduce vision-related helicopter crashes.
Center for Bioinformatics and Computational Biology
Researchers from the Center received a $242,000 grant from the National Cancer Institute to evaluate TriAPSS (Transcript Annotation Prioritization and Screening System) that will enable some 50 centers across the United States to share data and other information, resulting in quicker identification of disease-causing mutations in genes. The Center signed a five-year $1.5 million contract with Alcon Research Ltd. of Fort Worth, Texas, a leading ophthalmic pharmaceutical research company, for research into the causes of age-related macular degeneration.

Vladimir Leontiev, research assistant in the UI department of Anatomy and Molecular Biology, is the newest member of the Center. His research interest is molecular mechanisms of submucosal gland development.

Center for Computer-Aided Design
Karim Abdel-Malek, professor of biomedical engineering, was appointed to a five-year term as director; succeeding interim director V. C. Patel.

An article authored by K. K. Choi and fellow researchers was featured in the January issue of Desktop Engineering. The article focused on the research team’s work on reliability-based design optimization.

The Virtual Soldier Research (VSR) program entered into a 1.75 million, five-year partnership with Caterpillar Inc. of Peoria, Ill., to create new technologies in human modeling and simulation that will improve its realistic, computerized human model called “Santos.” VSR also received a $1.2 million, one-year contract from the US Army Tank Automotive Command Center for work on human modeling and simulation. VSR announced a strategic collaboration with VICON, a leading developer of 3-D motion capture systems used in medicine, sport, engineering, game development, and the film industry.

CCAD and its VSR hosted the June 14–16, 2005, Society of Automotive Engineers’ Digital Human Modeling Conference, the most prestigious international conference of its kind, on the UI campus in Iowa City. Karim Abdel-Malek served as conference chair.

The Transportation Research Board journal published research work on driver steering adaptation by five UI investigators. They are John Lee, associate professor of mechanical and industrial engineering and researcher at CCAD; Daniel V. McGehee, director of human factors research at the UI Public Policy Center; Matthew Rizzo, professor of neurology and director of the Division of Neuroergonomics; Jeffrey Dawson, associate professor of biostatistics and director of graduate studies at the UI College of Public Health; and UI College of Public Health alumnus Kirk Bateman.

IIHR—Hydroscience & Engineering
The C. Maxwell Stanley Hydraulics Laboratory was named a National Historic Civil Engineering Landmark by the American Society of Civil Engineers at a formal ceremony June 9.

The IIHR 2005 International Perspectives in Water Resources Management Course was held in May in Turkey in conjunction with the Middle East Technical University, Ankara, Turkey.

Marian Muste, associate research engineer and adjunct associate professor; received the College of Engineering Staff Research Award at the annual Faculty-Staff luncheon April 26. Muste is coordinator of the college’s fluids laboratory.

A team of engineering researchers received a four-year $1,485,481 grant from the National Science Foundation to incorporate NEXRAD data in hydrometeorology and hydrology studies. The project may lead to better predictions of soil erosion, flooding, and landslides as well as improve environmental resource management. Principal investigator is Witold Krajewski. Rose & Joseph Summers Chair in Water Resources Engineering, professor of civil and environmental engineering, and faculty research engineer. Co-investigators are Anton Kruger, Allen Bradley, and Ramon Lawrence and their colleagues at Princeton University, University Corporation for Atmospheric Research in Boulder, Colo., and the National Climatic Data Center in Asheville, N.C.

A research team led by Larry J. Weber, director; Donald E. Bently, Faculty Fellow of Engineering and associate professor of civil and environmental engineering, received $1.9 million in supplementary funding from Public Utility District No 2 of Grant County, Wash., to study Pacific Northwest salmon.

The Experimental Surface/Atmosphere Interactions Facility, a new IIHR—Hydroscience & Engineering research facility, opened in October. The facility encompasses research projects ranging from groundwater transport, deposition and emission of trace chemical species, rainfall and evaporation measurement, effects of forest fires, sediment transport across fields and in streams, and micrometeorology.

Witold F. Krajewski and Anton Kruger, research engineer and adjunct assistant professor of electrical and computer engineering, received a $242,161 three-year grant from the National Science Foundation to study rainfall and improve forecasts for floods, hurricanes, and other weather-related phenomena.

Witold Krajewski, Anton Kruger, Allen Bradley, associate professor of civil and environmental engineering, and Ramon Lawrence, assistant professor of computer science, won best paper at the Iowa Academy of Science Meeting for their presentation on “Unlocking the Scientific Value of NEXRAD Weather Radar Data.”

Imaging Group
VIDA Diagnostics, founded by four UI faculty members: Eric Hoffman, professor of biomedical engineering, nursing, and radiology; Geoffrey McLennan, MD; professor of internal medicine and biomedical engineering; Joseph M. Reinhardt, associate professor of biomedical engineering; and Milan Sonka, professor of electrical and computer engineering, became the 86th new business venture using advanced technology to be admitted to the Technology Innovation Center, Oakdale Research Park. VIDA Diagnostics develops and markets software solutions for the detection, staging, treatment planning, and follow-up for acute and chronic lung disease, such as emphysema, chronic obstructive pulmonary disease, asthma, lung cancer, and interstitial lung disease.

Student Development Center
Megan Allen was appointed the new student records manager. She succeeds Dan Kellogg, who accepted the position of registrar at The University of Wisconsin—Stevens Point.

Technological Entrepreneurship Certificate Program/John Pappajohn Entrepreneurial Center
Five engineering student-run businesses were housed during Spring Semester at the Bedell Entrepreneurship Learning Laboratory. Concept Solution, Inc. provides mechanical engineering planning and concept development and is owned by engineering undergraduate student, Richard J. Yokoun. Bio: Neos, a bioinformatics software company providing software and support to genetics research groups, run by Steve Davis.

Brian O’Leary and Mike Smith. Build Green Design and Consulting focuses on engineering, consulting, and architectural design for sustainable building projects or “green buildings” is co-owned by engineering graduate students Chris Mutel and Forrest Meggers. Slit Scope Redesign Group, developer of a redesign to a slit scope, which can improve patient comfort and exam accuracy, is run by Justin Glasgow, Samantha Lane, Jonathan Thompson, Samuel Hartman, Joel Anderson, and Brad Bartels. Solid Systems, Inc., a computer company that offers a choice of cost-effective solutions that better fulfill computer needs, run by Michael Erps, Matthew Kemp, James Gilroy, and Luka Ulivec.
1930s

Wayne Burrington Knight (BS 1931 electrical engineering) resides in Sedona, Ariz.

Gerald Luecke (BS 1930 civil engineering) of Rockwell, Texas, is the author of Analog and Digital Circuits for Electronic Control System Applications — Using the TMS320 Microcontroller, published by Elsevier.

Vern L. Petersen (BS 1930 electrical engineering), a retired electrical engineer with WOC Broadcasting, Davenport, Iowa, celebrated his 91st birthday December 5, 2004.

Richard J. Maine (BS 1931 civil engineering) resides in Cedar Falls, Iowa.

Roger Nava (MS 1934 mechanics and hydraulics) is a professor at Zulia University, Maracaibo, Venezuela. His research focuses on the areas of hydraulics and environmental problems, especially those related to the Maracaibo Lake. During his career, he has served as Director of the School of Civil Engineering at Zulia University, president of a private organization that promotes development in the Zulia region, president of the Petroleum Chamber at the national and regional level; head of a research project involving MIT and the Zulia University to improve Lake Maracaibo; head of a research project to modernize the Zulia University engineering programs with UCLA; served as a visiting professor at MIT, and served as an expert of the ONU for international sanitary programs. At 74 years old, he is still dedicated to social and hydraulic engineering, and plays tennis twice a week.

Charles E. White (BS 1935, MS 1963 mechanical engineering) of Moline, Ill.

Gary R. Long (BS 1959 mechanical engineering), retired president and CEO of Calcomp Technology, Inc., has been named chair of the UI College of Engineering Development Council. Long has been a member of the council since its inception in 1994.

1940s

Members of the class of 1940 returning to Iowa City for the Spring Alumni Reunion Weekend June 11 in Iowa City were John Owens (BS mechanical engineering) of Cedar Rapids, Iowa; and Luther Smith (BS mechanical engineering) of Villanova, Pa.

1950s

Members of the class of 1950 returning to Iowa City for the Spring Alumni Reunion Weekend June 11 in Iowa City were John Owens (BS mechanical engineering) of Cedar Rapids, Iowa; and Luther Smith (BS mechanical engineering) of Villanova, Pa.

Gerald Luecke (BS 1950 electrical engineering) of Rockwell, Texas, is the author of Analog and Digital Circuits for Electronic Control System Applications — Using the TMS320 Microcontroller, published by Elsevier.

Vern L. Petersen (BS 1950 electrical engineering), a retired electrical engineer with WOC Broadcasting, Davenport, Iowa, celebrated his 91st birthday December 5, 2004.

Richard J. Maine (BS 1951 civil engineering) resides in Cedar Falls, Iowa.

Roger Nava (MS 1954 mechanics and hydraulics) is a professor at Zulia University, Maracaibo, Venezuela. His research focuses on the areas of hydraulics and environmental problems, especially those related to the Maracaibo Lake. During his career, he has served as Director of the School of Civil Engineering at Zulia University, president of a private organization that promotes development in the Zulia region, president of the Petroleum Chamber at the national and regional level; head of a research project involving MIT and the Zulia University to improve Lake Maracaibo; head of a research project to modernize the Zulia University engineering programs with UCLA; served as a visiting professor at MIT, and served as an expert of the ONU for international sanitary programs. At 74 years old, he is still dedicated to social and hydraulic engineering, and plays tennis twice a week.

Class of 1955 members returning to Iowa City June 10–11 for their 50th reunion were Jim Deluhery (BS mechanical engineering) and his wife Jean of Fort Collins, Colo.; Bill Liiike (BS chemical engineering) of St. Paul, Minn.; Jay Tuchscher (BS mechanical engineering) and his wife Sandra of Rancho Palos Verdes, Calif.; and major international engineering and construction firm based in Aliso Viejo, Calif. During his career he had project assignments in London, Saudi Arabia, and in 20 states in the oil and gas, petrochemical, federal government, telecommunications, and transportation business sectors.

Dr. Frederick A. Locher (MS 1965, PhD 1969 mechanics and hydraulics) is principal engineer at Bechtel Corp., Clayton, Calif.

Phil Mayberry (BS 1967 industrial engineering), vice president of sales, marquee accounts, for Emerson Process Management, Marshalltown, Iowa, was recognized as I-Club Volunteer of the Year at Golden Harvest, an event attended by over 400 I-Club contributors and fans of the Hawkeyes. Mayberry is the president of the Marshall County I-Club and has been a long-time volunteer, coordinating numerous events in Marshalltown to promote Iowa athletics.

Emil Koval (MS 1967 mechanical engineering) was recognized by the Iowa Department of Natural Resources at the fourth annual DNR Volunteer Awards Banquet held November 13 in Des Moines, Iowa. He volunteered as one of 24 gas monitors across the state, checking gas prices on a monthly basis. His work, part of a legislatively mandated program, helps the DNR to check fluctuations in gas prices.

Gary Phelps (BS 1969 civil engineering) is the municipal utilities director for the City of Redlands, Calif. He is an active Hawkeye football fan and attended the fall 2004 game against Arizona State in Tempe.

1960s

Members of the class of 1960 that returned to campus for their 45th reunion were Tom Hanson (BS mechanical engineering) of Hillsdale, Ill.; Marvin Hinrichs (BS mechanical engineering) and his wife Mickie from Nichols, Iowa; Mel Holubar (BS 1960, MS 1969 mechanical engineering) and his wife Carolyn of Marion, Iowa; George Seaberg (BS mechanical engineering) of Bettendorf, Iowa; Bob Stearns (BS civil engineering) and his wife Gisela of Marina del Rey, Calif., and Tom Tucker (BS civil engineering) of Clinton, Iowa.

Gael E. Miller (BS 1962 chemical engineering) of Georgetown, Texas, retired as quality control manager from Arrow Industries, a division of ConAgra in Carrollton, Texas.

Leif Rialo (BS 1962 mechanical engineering) is retired and living in Norway. Having served at 3M Company in the US, Rialo is currently working on Norwegian economic development opportunities in biomedical engineering and in the oil and gas industry sector. He visited the College in February. Celebrating their 40th class reunion June 10–11 in Iowa City were Elliot Abrons (BS electrical engineering) of Champlin, Minn.; Dick Breuer (BS electrical engineering) and his son Greg of Columbus, Nebraska; Ed Brinton (BS civil engineering) of Iowa City, Iowa; Dale Daniels (BS chemical engineering) of Fountain Valley, Calif.; Marv Frerking (MS electrical engineering) of Cedar Rapids, Iowa; Pete Mackintosh (BS chemical engineering) of Houston, Texas; Ron Mcintosh (BS chemical engineering) of Iowa City, Iowa; and Dave Powell (BS chemical engineering) of Stuart, Fla.

Dale Daniels (BS 1965 chemical engineering) of Fountain Valley, Calif., retired in 2003 after 36 years with Fluor Corporation, a

1970s

James Morlan (BS 1971 electrical engineering) is chief financial officer of ViewSonic, a visual technology corporation in Walnut, Calif.

Dr. John M. Thurman (MS 1972 chemical and biochemical engineering, PhD 1979 chemical and materials engineering) has retired as Fellow of Solutia, Inc., St. Louis, Mo.

Dr. Nels Madsen (MS 1976, PhD 1978 mechanics and hydraulics) received a Technical Achievement Award from the Academy of Motion Picture Arts and Sciences for development of the Giant Studios motion capture technology. The Scientific and Technical Academy Awards were presented at a gala black tie dinner February 12 in Pasadena, Calif. Madsen is associate dean for assessment and special programs in the Samuel Ginn College of Engineering, Auburn University. He also is Thomas Walter Associate Professor of Mechanical Engineering at Auburn and vice president for research and development at Motion Reality, Inc. (MRI).

Lilia Abron (PhD 1972 chemical engineering) presented the keynote address at the 35th anniversary of the UI Afro-American Cultural Center held July 23, 2004, and at the Progressive Career Fair held February 23.

Gary L. Benjamin (BS 1977 civil engineering, MS 1979 environmental engineering) was appointed by Iowa Governor Tom Vilsack to serve on the Iowa Engineering and Land Surveying Examining Board for a three-year term beginning May 1, 2005. Benjamin is employed with Des Moines Water Works, Des Moines, Iowa.

1980s

Pearl Cheng (BS 1981 biomedical engineering) was the featured speaker at the 88th Anniversary Finkbine Dinner held April 26 in Iowa City where she was awarded the Finkbine Alumni Medallion.

Gerald Jackson (BS 1981, MS 1982 mechanical engineering) is a managing engineer in Exponent’s Vehicle Engineering practice. His areas of expertise include vehicle accident reconstruction, automatic transmissions and controls, and vehicle performance.

Dr. Ren-Jye Yang (PhD 1984 civil and environmental engineering) is technical leader at Ford Motor Co., Dearborn, Mich.

Thomas M. Nogaj (MS 1985 civil and environmental engineering) is employed with Calero Engineering, Sunrise, Fla.

Greg Kirsch (BS 1987 electrical engineering), a shareholder with Needle and Rosenberg, Atlanta, Ga., where he heads the firm’s software, electronics, and communications technology patent practice, was listed among the 100 top attorneys in Georgia’s Super...
Lawyers annual guide, Kirsch, also listed as one of Georgia’s Legal Elite in Trend magazine was a presenter at March’s AEA Venture Forum held in Greensboro, Ga.; April’s Society of Competitive Intelligence Professions Conference held in Chicago; and at the American-Israel Chamber of Commerce seminar held in August, Kirsch is a contributor to NowEurope, an influential “blog” (web log) based in Budapest, Hungary, that focuses on providing information and resources for entrepreneurial small- and medium-sized enterprises in Central Europe.

James R. Seitz (BS 1989 industrial engineering) is manager of quality and manufacturing engineering at Tuthill Energy Systems, a steam turbine and industrial fan manufacturer in Burlington, Iowa.

1990s

Joel Burken (BS 1991, MS 1993, PhD 1996 civil and environmental engineering) is head of the Environmental Engineering Undergraduate Program at University of Missouri-Rolla. He was a visiting researcher May through December 2005 at the Danish National Environmental Research Institute in Roskilde, Denmark.

Jennifer L. Doran (BS 1991 chemical engineering) of Houston, Texas, is a customer service supervisor at ExxonMobil Chemical.

Kevin D. Erickson (BS 1991 mechanical engineering) is a patent attorney with Pauley Petersen & Erickson, Hoffman Estates, Ill. Erickson has attended several Audi driving schools and auto cross events and hopes to enroll in more competitions with his 2003 Audi S6.

Eric Schweers (BS 1991 industrial engineering) is senior manager of packaging engineering at Visteon, an automotive supply company in Allen Park, Mich.

Keith Starman (BS 1991 industrial engineering) is owner and manager of “Beat the Bookstore” located in the Old Capitol Towne Center, Iowa City, Iowa.

Daniel P. Tegtmeier (BS 1991 civil engineering) of Brain Engineering was elected president of the Cedar Rapids Chapter of the Iowa Engineering Society.

Ehab Meselhe (MS 1991, PhD 1994 civil and environmental engineering), associate professor of chemical engineering and director of the Center for Louisiana Inland Water Studies at the University of Louisiana at Lafayette, has been named associate editor of the Journal of Hydraulic Research.

Jeff McCollum (BS 1992 civil engineering, MS 1994, PhD 1997 civil and environmental engineering) is a senior research scientist in rainfall and flooding for FM Global, Norwood, Mass.

Drew Poshard (BS 1993 mechanical engineering) is superintendent of rolling/finishing with IPSCO Steel, Inc., Asia, Ala.

Todd E. Scheetz (BS 1993 electrical engineering, MS 1995 electrical and computer engineering, PhD 2001 genetics) of Iowa City, Iowa, received a three-year Career Development Award from the Research to Prevent Blindness program.

Scott F. Stueck (BS 1993 mechanical engineering) is a senior engineer with John Deere Des Moines Works, Des Moines, Iowa.

Jason R. Wilbur (BS 1993 mechanical engineering) is a Thermography Business Manager with Raytek Corporation, a Fluke Company, Santa Cruz, Calif.

Bradley J. Haas (BS 1994 mechanical engineering) is a project engineer with A.Y. McDonald Mfg. Co., Dubuque, Iowa.

Margo Melendez (BS 1994 mechanical engineering) is a senior project leader with National Renewable Energy Lab, Golden, Colo.

Andrew L. Veit (BS 1994, MS 1996 mechanical engineering) is a research engineer with Southwest Research Institute, San Antonio, Texas.

Jane Driscoll (BS 1995 civil engineering) is vice president of NNW, a structural and civil engineering firm in Iowa City, Iowa.

Monica Smith (BS 1995 civil engineering) is manager of transportation engineering at Robinson Engineering, Cedar Falls, Iowa.

Lyle Hammes, PE, (BS 1996 civil engineering) is an environmental engineer with Ames Water & Pollution Control, Ames, Iowa.

Angela Hendrichsen (BS 1996 civil engineering) is employed with Raytheon Company at McMurdo Station in Antarctica, in support of the National Science Foundation.

Sean Knowles (BS 1996 civil engineering) is a financial risk analyst for the Federal Home Loan Bank of Des Moines, Iowa.

Timothy J. Bechen (BS 1997 electrical and computer engineering, Technical Entrepreneurship Certificate, 1997) has joined the law firm of Kenyon & Kenyon, New York, N.Y.

Jeremy M. Fortier (BS 1997 civil engineering) and Kate J. (Hinz) Fortier (BS 1999 chemical engineering) both received masters of project management degrees, graduating with Distinction, in December 2004 from Keller Graduate School of Management, Oakbrook, Ill. Jeremy currently works for Duke Construction and Kate works for GE Energy Management Services, both in the Chicago suburbs.

Marc River (BS 1997 civil engineering) is a staff engineer with AIE Consultants, an environmental and civil engineering consulting firm in Plantation, Fla.

Kandy Maldonado (BS 1998 mechanical engineering) is a production engineer with John Deere Seeding Group, Moline, Ill.

Shawna M. Boeding (BS 1999 mechanical engineering, MBA 2003) is an asset manager with Principal Real Estate Investors, Des Moines, Iowa.

Chad M. Mcdaniel (BS 1999 mechanical engineering) is a reliability engineer with Monsanto, Muscatine, Iowa.

Amanda (Ennis) Mikhail (BS 1999 mechanical engineering) is a mechanical engineer in Interconnect Emerging Technologies at IBM in Rochester, Minn. She received an Outstanding Technical Achievement Award for her contributions to novel interconnect solutions for IBM’s new POWER5 processors and associated servers. She has two published patents and four patents pending in interconnect technologies/mechanisms and electromagnetic interference suppression. She recently accepted a position on the College’s Mechanical and Industrial Engineering Advisory Board.

Matthew D. Miller (BS 1999 civil engineering) of Knapp-Warden Architecture Engineering was elected treasurer of the Cedar Rapids, Iowa Chapter of the Iowa Engineering Society.

Morgan Seth (BS 1999 mechanical engineering) is employed with Infinium Capital Management, Chicago, Ill.

Scott F. Steeves (BS 1999 mechanical engineering) is employed as Senior Manager of Distribution Services and Technology for ConAgra Foods, Chicago, Ill.

Jonathan J. Tiemeier (BS 1999 mechanical engineering) is a staff design engineer with Maytag Corporation, Amana, Iowa.

2000s

Jamie Johll (BS 2000 civil engineering) is assistant county engineer for Webster County, Iowa. He received PE licensure in January 2005.

Chad Donaubauer (BS 2001 industrial engineering) of New York City, N.Y., was on campus to visit his brother Scott, a junior mechanical engineering student. They attended the Iowa-Ohio State Football game.

Michelle Von Arb (BS 2002 civil engineering), a graduate student at the University of Missouri-Rolla, received honorable mention in the National Science Foundation Graduate Fellowship Award competition.

Joshua Shroft (PhD 2002 civil and environmental engineering) is a postdoc research fellow in the Department of Microbiology at The University of Iowa.

Thomas Ferris (BS 2003 industrial engineering) won a 2005–06 National Science Foundation Graduate Fellowship Award to pursue graduate studies at The University of Michigan, Ann Arbor.

Trenton Tollakson (BS 2003 industrial engineering, Technical Entrepreneurship Certificate, 2003) is an industrial engineer at Alcoa, Bettendorf, Iowa.

Katie Coates (BS 2003 industrial engineering) was recognized in a story in the March 4, Cedar Rapids Gazette for her participation in the Iowa Marrow Donor Program. Coates registered in the program four years ago while a student in the College. She received a call this summer with the news that she was 1 of 10 potential matches. Further testing followed and she was selected as best match. Surgery to extract bone marrow was performed in December; Coates also won the Rockwell Collins Outstanding Citizenship Winner. She was selected from a pool of over 14,000 employees worldwide.

Jennifer Nichols (MS 2003 civil and environmental engineering) is an engineer at Illinois-Hydroscience & Engineering, Iowa City, Iowa.

Aaron Bock (BS 2004 industrial engineering) of Dubuque, Iowa, received
honorble mention in the National Science Foundation Graduate Fellowship Award competition. **Brian Bonebrake** (BS 2004 civil engineering) is a structural engineer for Johnston Burkholder Associates, Olathe, Kans.

**Michael Turner** (BS 2004 civil engineering) has joined Shive-Hattery, a Cedar-Rapids, Iowa, based architecture and engineering firm, as civil engineer. He also will serve on the company’s University of Iowa team.

**Esther Gassman** (BS 2005 biomedical engineering) won a National Science Foundation Graduate Fellowship Award to pursue graduate studies at The University of Iowa. The award consists of an annual $27,500 stipend, plus tuition and discretionary funds for up to three years of support.

**Samantha Lane** (BS 2005 biomedical engineering) is a project engineer in the Platform Development Group for artificial knees with Stryker Orthopaedics, Mahwah, NJ. Alumni on campus February 9 to recruit students at the Spring Engineering Career Fair: from Brown Medical Industries, Spirit Lake, Iowa; Matt Henry (BS 1998 biomedical engineering), manager, contract/OEM sales; Amy Wheaton (BS 2002 biomedical engineering), design engineer; Caterpillar; Peoria, Ill.; J.W. (Josh) Dorothy (BS 2001 mechanical engineering), design engineer; Performance Engine Products Division; Robert J. Feller (BS 1989, MS 1991, PhD 1996 mechanical engineering), engineering specialist, Design Analysis Tool Development, Technical Services Division; Jamison Ronin (BS 2003 mechanical engineering); Cerner Corporation, Kansas City, Mo.; Hillary Toll (BS 2001 biomedical engineering); Eagle Point, Dubuque, Iowa; Brad Heil (BS 1993 civil engineering); Emerson Process Management/Fisher Controls, Marshalltown, Iowa; Keith Bentley (BS 2001 industrial engineering), sales engineer, Power Industry; John Deere, Moline, Ill.; Jeffrey Reynolds (BS 1997 mechanical engineering), interfacial account manager; Kirkham Michael Consulting Engineers, Des Moines, Iowa; Gabriel A. Nelson (BS 2000 civil engineering); KJWW Engineering, Rock Island, Ill.; Blake Finch (BS 2004 mechanical engineering); Maytag Corporation, Newton, Iowa; Katie Walburg (BS 2004 industrial engineering); MidAmerican Energy, Bettendorf, Iowa; Kevin D. Dodson (BS 1990 mechanical engineering, MBA 2003), manager; environmental engineering projects, Generation Engineering; Bradley Peyton (BS 2001 chemical engineering); Monsanto, Muscatine, Iowa; Mark Mathias (BS 1999 chemical engineering), environmental engineer; Ben Stonewall (BS 1999 mechanical engineering), core maintenance engineer; Morrison Bros., Dubuque, Iowa; Amy Wessel (BS 1998 biomedical engineering), director of engineering; Pella Corporation, Pella, Iowa; Mike Traetow (BS 1999 mechanical engineering); RBF Consulting, Irvine, Calif.; Lindsay Kaufmann (BS 2003 civil engineering), Amy Frank (BS 2003 civil engineering),

Alumni serving on the Chemical and Biochemical Departmental Advisory Board are: Sharon K. Tinker (BS 1980 chemical engineering), central maintenance department manager with ExxonMobil Refining and Supply, Baytown, Texas; Beth J. Calabotta (BS 1989 chemical engineering), project leader with Monsanto, St. Louis, Mo.; Mark Matzen (BS 1998 chemical engineering), process engineer with Lockwood Greene Engineering & Construction, Iowa City, Iowa; and Debra Simoff (BS 1977 chemical engineering), coatings supervisor, specialty photonics division of Fitel, LLC, Avon, Conn. Several board members arrived early in order to serve as judges at the 2005 Engineering Research Open House.

The College’s Civil and Environmental Engineering Advisory Board met April 14-15. Alumni members on the board are: William Ashton (BS 1962, MS 1963 civil and environmental engineering) president and owner of Ashton Engineering, Davenport, Iowa; Doug Botoff (BS 1997 civil engineering), principal consultant, engineering services of Principal Real Estate Investors, Des Moines, Iowa; Jane Carlson (MS 1988 civil engineering), senior engineer with Strand Consultants, Madison, Wis.; Jonathan Fitch (BS 1999 civil engineering), with Shive-Hattery, Inc., Iowa City, Iowa; Michael Kennerly (BS 1983 civil engineering), director of the Office of Design, Iowa Department of Transportation; Sherri McIntyre (BS 1986 civil engineering), assistant city engineer; Public Works Department for the City of Kansas City, Mo.; John Meyer (BS 1986 chemical engineering, MS 1988 civil engineering), area environmental manager with Tyson Foods, Inc.; Dakota Dunes, South Dakota; Rebecca Svatos (BS 1982 civil engineering), senior environmental engineer with Stanley Consultants, Inc., Coralville, Iowa.

**1920s**

*Walter G. Meyer* (BS 1929, MS 1930 chemical engineering) of Lake Oswego, Ore., February 16, 2005.

**1930s**


*Ralph E. Johnson* (BS 1932 civil engineering) of Fort Dodge, Iowa, January 10, 2005.

*H.L. Boekelman* (BS 1933 mechanical engineering) of Aurora, Colo., October 14, 2004.


*Donald D. Niemeyer* (BS 1933 chemical engineering) of Waterloo, Iowa, August 15, 2004.


*Frederic F. Kubias* (BS 1939 electrical engineering) of San Diego, Calif., October 14, 2002.


**1940s**

*Paul M. Keyes* (BS 1940 mechanical engineering) of Mabank, Texas, February 3, 2005.


*Frederick W. Bone* (BS 1941 chemical engineering) of Bedford, Va., September 13, 2004.


*Frederic N. Schneider* (BS 1943 mechanical engineering) of Tulia, Oka., March 21, 2005.


*David G. Dial* (BS 1947 mechanical engineering) of Signal Mountain, Tenn., January 8, 2005.


John R. McRoberts (BS 1948 mechanical engineering) of Vero Beach, Fla, May 1, 2005.


Thomas D. Wenger (BS 1948 mechanical engineering) of Muscatine, Iowa, October 30, 2004.


James L. Riggs (BS 1949 civil engineering) of Norwalk, Iowa, March 27, 2005.


1950s


Richard E. Emerson (BS 1950 electrical engineering) of Madison, Wis., May 12, 2005.


Richard R. Hertzog (BS 1951 chemical engineering) of Morristown, N.J., June 6, 2005.


1960s

Dick Forstner (BS 1960 mechanical engineering) of Tipton, Iowa, March 9, 2005.


Dr. Thomas T. Huang (MS 1964 mechanics and hydraulics) of Reston, Va., May 10, 2005.


Stanford M. Reeves (BS 1966 electrical engineering) of Manchester, Iowa, February 3, 1968.


1970s


1990s


2000s


Faculty and Staff

Melvin L. Betterley, professor emeritus, of Iowa City, Iowa, June 20, 2004. Dr. Betterley came to The University of Iowa in 1952. He was professor of engineering graphics for 26 years, retiring in 1978. His publications include two text books, Sheet Metal Drafting, published by McGraw Hill, and Basic Graphics for Engineers, used in his classes at Iowa. In addition to teaching, Professor Betterley served as head of the Department of Engineering Graphics, Assistant Dean of Engineering from 1965–1973, and director of engineering publications, 1973–1978.

David Driscol, manager, Engineering Electronics Shop, of Kalona, Iowa, July 28, 2005. Driscoll’s 33-year career with the University and the College was marked by major shifts in how engineering education was taught and how electronics and computerization evolved in the various academic and research disciplines. He joined the UI in 1972 as a technician in the Department of Physics and Astronomy under Professor Louis Frank. He supported many of the research areas in space exploration for which Frank has become internationally known. In 1975 Driscoll moved to the Electrical Engineering Department in the College of Engineering as an electrical technician. Two years later he joined Doug Eltoft in forming the College’s Electronics Shop, supporting the Electrical Engineering Department, as well as handling design and repair of electronics for the College. When the Iowa Computer-Aided Engineering Network was created in 1985 (now known as Computer Systems), Driscoll was promoted to manager of the Electronics Shop, serving in that role until his death. During that time, he led the development of a complete on-line database system of ordering, inventory, and sales of an array of electronics and computer parts and components that supported virtually every area of the College. He also led the expansion of the Electronics Shop to serve a multitude of locations throughout the University.

Donald B. McDonald, professor emeritus of civil and environmental engineering and researcher at the Iowa Institute of Hydraulic Research (now IIHR—Hydroscience & Engineering), died May 1, 2004, in Iowa City. McDonald joined The University of Iowa in 1962. His teaching and research focused on limnological studies of rivers, examining factors affecting fish impingement at power generation facilities. He also led efforts in developing new procedures for environmental impact studies. McDonald was one of the College’s early faculty members to receive a joint appointment in the College of Medicine’s Preventive Medicine and Environmental Health in 1964, and he played an important role in developing university-wide courses in environmental issues. During his career; he served as an expert witness on thermal addition problems concerning the Illinois, Cedar, and Mississippi Rivers. He received a BS degree in biology, an MS degree in zoology/ecology, and a PhD in limnology/bacteriology, all from the University of Utah.

J. Merle Trummel, professor emeritus, of Iowa City, Iowa, January 21, 2004. Trummel taught in the College of Engineering from October 1941 until his retirement in 1986. His course subjects included mechanical engineering, thermodynamics, kinematics, engineering analysis, and vibrations. His special fields of knowledge included kinematics of machines, engineering design, engineering measurements, and engineering graphics.
With the beginning of a new year, I want to update you on some significant progress in the College's financial resource development efforts:

• On November 28, 2005, the University of Iowa and the UI Foundation announced that the institution’s Good. Better. Best. Iowa! $1 billion campaign goal was achieved. This is a remarkable achievement for a university of our size. This goal was achieved through the exemplary generosity and partnership of our alumni, friends and corporate partners. The seven-year comprehensive campaign ends on December 31, 2005, and in the next issue of Iowa Engineer we will have a detailed report on the campaign.

• The College of Engineering is at 85% of our $42.9 million goal with less than one month left in the campaign. We work towards achieving this goal as the year winds down and anticipate sharing our success with you in the near future.

• We have recently added a new staff member to assist in our fundraising programs. Kate Metcalf, UI alumna with degrees in communication and journalism, joined our staff this month as the assistant director of development, College of Engineering, here at the UI Foundation. Kate is a native of the Quad Cities area and was most recently a dayside live reporter with KWWL-Channel 7 in Waterloo. Many of you will have the opportunity to meet Kate in the upcoming year, and please take the opportunity to welcome her as she connects with our alumni.

Through your friendship and giving, you allow our students to achieve dreams by preparing for rewarding careers and meaningful lives. We are grateful for the opportunity to work with you in accomplishing your charitable goals and the college’s strategic aspirations.
Three new members of the Legacy of Iowa Engineering were inducted June 11. The Legacy program recognizes faculty, staff, alumni, and friends who made exceptional historical contributions toward advancing the college in teaching, research, or service.

**James Wayne Deegan**, professor of mechanical engineering (1949–1962), chair of mechanical engineering (1953–1962), professor of and chair of industrial engineering (1962–1971), and Iowa native, devoted over a half-century to studying and teaching. The first UI student to earn a master’s degree with an emphasis on industrial engineering, Deegan founded the UI’s industrial engineering undergraduate program. He taught the popular Summer Management Course, pioneered continuing education at the university, and served as chair of mechanical engineering as well as director of placement. Deegan launched interdisciplinary studies in methods research involving nursing, housekeeping, central sterilization, surgery, and orthopedics.

**Robert G. Hering**, professor of mechanical engineering (1971–1996), chair of mechanical engineering (1971–1972), dean, College of Engineering (1972–1992), gave inspired leadership and a deep commitment to quality in transforming the College of Engineering into a thriving academic center of international distinction. As dean, he blended vision, passion, and determination into a formula for 21st century academic excellence. He pioneered one of the earliest collegiate instructional computer networks, established one of the nation’s first biomedical engineering programs and an innovative center of research excellence in computer-aided design, and inspired ambitious diversity programs benefiting women and minorities.

**Joseph W. Howe**, professor of mechanics and hydraulics (1929–1971) and chair of mechanics and hydraulics (1942–1971), is described by former students and colleagues as “devoted,” “kind and gentle,” “approachable,” and “encouraging.” A graduate of the college, Howe gave back to his alma mater with a personal interest in students while insisting they perform their best. Howe reshaped curriculum and policies that directed contract research be completed by graduate students rather than by established researchers, resulting in dramatic graduate program growth. Through a virtually unconditional friendship, Howe and colleague Hunter Rouse worked in parallel, establishing the Department of Mechanics and Hydraulics and the Iowa Institute of Hydraulic Research as international leaders in hydraulic engineering education.

For more information on the Legacy of Iowa Engineering, including nomination procedures, go to www.engineering.uiowa.edu/honor-wall/legacy/.