Roger Koch
A Man of Principles, Ideas, and Schedules
To make the posters, the photopolymerization students provided an overview of the technology and its applications to their fellow graphic design students, including tours of the research labs. In turn, the graphic design students presented their concepts back to the engineering students for feedback before submitting them to the competition.

Ten posters were submitted in the national RadTech competition. First place went to the large poster on the right; second place was awarded to the poster below.

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Making Art and Technology Synergistic Partners

A partnership between engineering students studying photopolymerizations and a group of students in graphic design recently yielded top honors at the 2012 RadTech poster competition. RadTech is a non-profit trade association working to increase awareness of energy cure inks and varnishes at graphics schools. Energy curing is enviro-friendly and energy efficient, allowing graphic differentiation and helping enable new printing and packaging techniques.

The University of Iowa entered the national competition, in part, in support of the College of Engineering’s new strategic initiative in arts synergy. Ten graduate students from the photopolymerization research groups of Profs. Allan Guymon, Julie Jessop, and Alec Scranton, worked with UI graphic design students to create a series of high-tech posters for the competition. The national competition awarded first place and second place to the UI.
A funny thing happened to University of Iowa College of Engineering alumnus Roger Koch (BSChE 1977) in the 1980s when an employer reneged on a potentially lucrative offer.

Instead of quitting in anger, as some people might have done, he called upon the principles he had grown up with. So, he stayed on with the company, worked even longer hours, and improved his already outstanding performance — secure in the belief that his efforts would eventually pay off. And he was right.

Several years later — with the firm in bankruptcy and his division the most profitable unit — he made his employer an offer, and he bought the whole company.

The strength of character that enabled Koch (pronounced “COOK”) to stand his ground throughout the entire episode was based upon the same guideposts he had followed during his childhood on an Iowa dairy farm. He knew then, as now, that:

“Trust is currency.”

“A leader must be willing to work harder and sacrifice more than any of the people who work for or with him.”

“An idea without a schedule is just a dream.”

What kind of childhood would encourage such values?

Koch, along with two sisters and one brother, grew up on his 2 Iowa EngInEEr / 2012, numbEr 2
parents’ dairy farm in western Iowa near the town of Westside, not far from where his grandparents lived. Nearly every day of the year, he could be found milking the cows before he caught the bus to school and again in the afternoon, after school had let out. Weekends he cleaned the hog houses. During the summer, he worked on neighboring farms.

“It was a very busy lifestyle,” he says, “probably the busiest of my life. And we had a very close family and spent time on the land. I spent my free time hunting and fishing.”

Not surprisingly, after years of milking cows and cleaning hog pens he came to a conclusion.

“I decided early on that I didn’t want to be a farmer,” he says. Instead, he applied himself to his studies and earned three scholarships, including a University of Iowa scholarship that paid full tuition, a State of Iowa Scholarship, and a Lavern Noyes Scholarship, the latter given to descendants of World War I veterans.

After earning undergraduate degrees in pre-med and general science, he returned to the UI. A longtime interest in engineering had attracted him to the College of Engineering, but it was emeritus professor Arthur Vetter who convinced him that he could complete all the coursework necessary for an undergraduate degree in chemical engineering in two years by taking 20 credit hours per semester. “Professor Vetter talked me into it,” he says.

Following graduation, Koch spent one year at Grain Processing Corporation, Muscatine, Iowa, before moving to Chicago to accept a position at the Illinois Institute of Technology Research Institute. About his IIT days, Koch says, “I worked harder and longer so that I would be at the top. I was really committed to doing well.”

Koch enjoyed the work, but not the winters, so after two years he resigned. The possessions he didn’t sell or give away he loaded into his AMC Gremlin and headed for Florida.

“I was driving to Florida with no job prospects, but I knew that if I worked hard, I could survive,” he says.

As it turned out, there were no chemical engineering jobs available in Miami, so he began looking at aviation companies. It wasn’t long before prospective employers noticed that his IIT resume included such items as considerable skill in grant proposal writing and experience in developing a new process for manufacturing a specialized rocket fuel for NASA’s Space Shuttle.

Once again, the principle of hard work paid off. Although he had no previous aviation experience, Koch was welcomed at DECA Aviation, Miami, by his future boss with the words: “If you were good enough to work on the Space Shuttle, then you’re good enough to work here.”

At that point in his career, Koch was set for a ride to success — a ride propelled by the work ethic that had taken him from the farm to the university and on to the workplace.

A short time later, his firm branched out from performing aircraft maintenance to designing and assembling executive aircraft interiors — and he was put in charge of the new business. He recalls learning that the company providing the seats for the plane was going to be late in delivering their part of the order, and that meant Koch’s firm would incur a heavy financial penalty for being late with its order. But Koch had an idea.

“You can learn anything just by reading a book,” he says. “So I read up on it and designed and built an aircraft seat. FAA certification of a seat usually took from 30 to 60 days, but we didn’t have that much time. So I drove the seat to Atlanta and asked to meet with the certification official, but I was told he would be in conference for the next week.”

Koch was persistent.

“I told him that failing to honor the terms of the contract would mean the end of the company, and he agreed to meet with me evenings for one week until he signed off on the design. We quickly built and installed the seats, and I had a very happy customer,” he says.

Koch realized that if his firm had experienced problems in having aircraft seats delivered, other aviation firms might be having similar problems. So he took one of his seats to a large firm and set it in the lobby where everyone could see it.

“I turned their lobby into my showroom so that when customers of the firm left that day, I had orders for 50 seats, a total of more than a quarter of a million dollars,” he says.

Promotions, a move to a new firm called Aircraft Modular Products, and — as noted earlier — the purchase of an entire company followed. It was the early 1990s, and even if major carriers like Pan Am, Eastern and Continental were filing for bankruptcy, Koch’s new firm was doing very well producing seats, galleys, furniture and other items for smaller carriers and private aircraft manufacturers.

By 1997, his firm held a 90-percent share of the executive
Although he had no previous aviation experience, Koch was welcomed at DECA Aviation, Miami, by his future boss with the words: “If you were good enough to work on the Space Shuttle, then you’re good enough to work here.”

The company, which was doing very well financially in the aircraft seat market and was unexpectedly received a phone call from a group of businessmen asking if the company was for sale and, if so, for him to state his price.

“I paused, then said ‘$100 million’ just to get rid of the caller,” he says. But the caller wasn’t put off in the least and promised to call back. Koch knew the offer was serious when the group called back, setting conditions for periodic escrow payments of portions of the $100 million. Koch called a meeting of his shareholders, many of whose lives could be forever changed by the deal, but before he could act on it, he received a phone call from a different group and a new proposal. This time it was a $106 million cash offer with no conditions.

“I accepted the offer at dinner on a handshake. A handshake is your word,” he says.

Today, Koch is retired from the aviation business and serves as president of Conscious Lighting, Miami, a designer and manufacturer of energy saving light emitting diode (LED) lighting fixtures. He enjoys working part-time, golfing and fishing, and spending the rest of his time with his three sons and the rest of his extended family.

A past member of the University of Iowa Chemical and Biochemical Engineering Advisory Board, he has given seminars at the College of Engineering on entrepreneurship. He enjoys mentoring UI students, some of whom have gone on to become successful business leaders.

Also, Koch’s philanthropy efforts have made a difference at the University of Iowa. In 2011, he provided two generous gifts to the UI: one for pioneering interdisciplinary research into bipolar disorders; another gift providing major support for the college’s Department of Chemical and Biochemical Engineering.

Koch recently returned to the UI to be inducted into the college’s Distinguished Alumni Academy and to deliver the spring 2012 charge to the graduates at commencement. He offered them advice about the value of maintaining a good work ethic, including, he says, this item: “Be willing to take a job that doesn’t necessarily meet all of your expectations. You’ve got to get a foot in the door.”

Oh, and remember: “An idea without a schedule is just a dream.”
Not only is Alec Scranton, at the age of 48, the first University of Iowa College of Engineering alumnus to serve as dean of the college, but he is also a fifth-generation Iowan.

“My great-great-grandfather and great-great-grandmother on my mother’s side came to Iowa from Germany and Norway, respectively, seeking the opportunities provided by the homesteading program,” says Scranton, who served as interim dean from October 2010 to April 2012. “They met each other in northwest Iowa, and were granted a homestead near Ocheyedon, IA, which is still in the family today. Generations of my relatives, including my mother and my grandfather, were born in the farmhouse that was built on the original homestead.”

But having deep Iowa roots hasn’t diminished his wanderlust.

“My favorite thing to do is to hike in a natural setting, and I have a goal of visiting as many national parks as I can during my lifetime,” he says.

For the record, he’s already visited 14: Badlands, Bryce Canyon, Capitol Reef, Death Valley, Everglades, Glacier, Grand Canyon, Great Smokey Mountains, Joshua Tree, Mammoth Caves, Redwood, Rocky Mountain, Yosemite, and Zion. That leaves 44 national parks, some of which he will likely visit during his tenure as dean.

Q: What attracted you to the UI in the first place?

A: The University of Iowa, and the state of Iowa, have always been a source of opportunity for my family and me. The best answer to your question depends upon what you mean by "the first place!"

In the very first place, I was actually born in the University Hospital when my parents were students here at Iowa. I was attracted to the university for my undergraduate studies, and received a great education. Twelve years ago, I was attracted back as a faculty member due to the opportunity to become the chair of the Department of Chemical and Biochemical Engineering, and by the engaging and supportive Iowa City community with its great schools.

I was inspired to serve as the dean of the College of Engineering by the outstanding team of dedicated faculty, staff, students, alumni, and friends who devote their efforts and energies to the teaching/learning, discovery, and engagement missions of our college. It is clear to me that we have all of the elements needed to thrive and to enhance the scope and impact of the college.

Q: What would people be surprised to learn about you?

A: My wife, Lisa, and I were married just after I turned 21 when she was still 19. We spent our honeymoon camping in Glacier National Park. Also, all through my undergraduate years, I worked at a coin, stamp, and second-hand jewelry store in downtown Iowa City called “Stephs.”

Q: UI Provost Barry Butler has remarked on your vision for the College of Engineering partnering with Iowa businesses. Please describe that vision.

A: My general approach as dean is to foster the excellence of our college, and to build strong and lasting relationships with partners who are inspired to share in our excellence. Iowa businesses are one important constituency because there are so many ways that we can establish mutually beneficial collaborations and partnerships.

For example, Iowa companies can hire the outstanding engineers whom we educate, provide internship opportunities for our students, work with our faculty to define real-world design experiences, fund research projects, participate in our K–12 outreach programs, mentor students, and serve on departmental and college-wide advisory boards. I am delighted that one of my roles is to inform the leaders in the Iowa companies about the impressive programs and activities that we are undertaking, and to invite them to become a part of it.

Q: Is the NSF Photopolymerizations Center you direct an example of such a partnership and, if so, how?

A: The Photopolymerizations Center is a great example of a compelling collaboration that provides tremendous value to our corporate partners while creating new and unique research and educational opportunities for our students. This is a center that performs cutting-edge research on using light, rather than heat, to drive industrial processes.

The use of light is incredibly energy efficient, and reduces airborne pollutants; therefore companies benefit directly by paying a membership fee to become part of the center. The undergraduate and graduate students who carry out the research benefit tremendously from having industrial mentors for their projects.
Q: Can you describe one or two of your 10 patents?
A: A number of the patents deal with new ways to use light, rather than heat, to drive reactions that form polymers. Since light is much easier to control — both spatially and temporally — you can form polymer parts and structures with light that would be impossible using heat.

Another patent is for a reversible emulsifier-like a soap — that allows oil-in-water emulsions to be formed and broken at will. Therefore, you could clean oil from a part or surface, then break the emulsion to separate the oil from the water.

Q: What is first on your agenda as dean?
A: My agenda as dean is driven by the goals we recently established when the college completed its strategic planning process. Our general strategic vision is to serve society by creating engineering knowledge and educating engineers for dynamic and global careers. To meet this goal, we must continually enhance the scope and impact of our teaching, research, and engagement activities.

Therefore, I will work to provide support for our faculty and staff as they create new educational opportunities for our students, pursue exciting new directions in their research, and create new programs that engage elementary, middle, and high school students to learn about the many possibilities that a career in engineering will provide. I will also connect with our alumni, friends, and industry leaders to invite them to become part of the team and to share in the success and excellence of our college.

Q: What is the biggest challenge facing the College of Engineering?
A: The College of Engineering must expand the scope and impact of its teaching, research, and outreach activities in a time of constrained resources. While this is a considerable challenge, I am confident that we have the team of faculty, staff, and students who will thrive in this environment.

Q: Finally, your thoughts on the value of a University of Iowa education?
A: Understanding the incredible power and opportunities provided by a college education, I again reflect on my family experiences. My mother was the first female in her family to graduate from college — earning her degree here at the University of Iowa College of Education. Her college degree opened up new possibilities for her life.

The enabling impact that our university has had on my family is something that I always think about each year when I see that approximately a quarter of our incoming students are first-generation college students. I am delighted to help new generations of students consider the possibilities for their lives, and to identify a path for realizing those possibilities.

Our general strategic vision is to serve society by creating engineering knowledge and educating engineers for dynamic and global careers. To meet this goal, we must continually enhance the scope and impact of our teaching, research, and engagement activities.
When students enter the College of Engineering, they face a number of challenges, not the least of which is a rigorous academic curriculum. But from the first day on campus, the Men in Engineering Living Learning Community (LLC) helps ease many first-year students into college and community life, and assures them they can succeed at Iowa.

“Only 7.7 per cent of all University of Iowa undergraduates major in engineering,” College of Engineering Director of Admissions and First-Year Experience Jane Dorman says. “If you’re an engineering student, you have challenging homework every day, and it can feel like you are the only person on campus who has to work so hard academically.”

A Living-Learning Community can ease that feeling of isolation by providing a place where students with shared interests can live, study, and socialize together. Following the success of Women in Science and Engineering, which began in 1993, the College decided to provide a place where men in engineering also could benefit from the LLC experience.

Launched in 1998, Men in Engineering began with 25 students on half a floor of Daum Hall. At the end of that year, 24 of the inaugural group were still enrolled in Engineering and tried everything they could to convince the one “outlier” to also remain in school. In addition to Daum Hall, Men in Engineering has been located in a number of residence halls, including Stanley, Burge and now Rienow. Today more than 200 students in the LLC occupy four floors of Rienow, where they help each other adjust to college life, mentor each other in academics, and connect with faculty and alumni outside the classroom.

“Typically, first-year university students need help understanding and addressing the ‘learning’ aspect of the LLC opportunity,” Dorman says. “Engineering students, however, ‘get’ the ‘learning’ part, but sometimes need help with the ‘living’ side to balance the academic challenges.”

With the help of four Residence Life Assistants and two undergraduate student Program Coordinators, Dorman provides programming for first-year men in engineering that draws them into the LLC, the UI, and the Iowa City community. The residents share movie nights and holiday dinners, meet faculty members who come to the residence hall to talk about their avocations, and engage in friendly competitions, including games and athletic challenges between floors. And for the last several years, residents have enthusiastically volunteered to help build Habitat for Humanity houses.

The Men in Engineering student programmers produce a newsletter, work with the residents to design a new tee shirt each year, and maintain a Facebook page.

“Engineering is a team sport,” Dorman says, “and every student can succeed. And students who understand how to work together will do well in the real world of engineering.

“Everyone here seems to have the perfect mix of fun and studies. I have no doubt that living [in the Men in Engineering LLC] has improved my study skills and my future here at the University.”
Because Engineering is a Team Sport

TEXT BY JEAN FLORMAN

“We spent hour upon hour in the study lounge, acting as both student and teacher,” says Alan Zantout, (BSE 2008, MS 2009), who lived in the Men in Engineering LLC as a first-year student and then served as an RA on the floor for the next four years. “And, of course, we had a little fun along the way!”

Now an engineer at Ideal Industries, Zantout says that his time at the College of Engineering and living in the LLC transformed him from “I’ll learn it myself” to ‘Let’s learn this together’—something that has served me well in my current collaborative work environment.”

Incoming students can sign up for the LLC on their housing application, as soon as they are admitted to Iowa. While parents often are enthusiastic about the idea, prospective students may hesitate.

“Some of them are afraid their peers in the Men in Engineering LLC will be super-geeky students who stay in darkened dorm rooms staring at a computer 24-7 or that it’s a big social mistake to live with other engineering students,” Dorman says. “We remind students that at Iowa we don’t tend to attract super-nerdy engineers anyway and when we say ‘Iowa is engineering and something more,’ we really mean it. The LLC is an opportunity to meet other interesting students who have a wide range of interests, talents, and goals.”

One student summarized his experience this way: “I was imagining a group of ‘nerds,’ for lack of a better word. But everyone here seems to have the perfect mix of fun and studies. I have no doubt that living here has improved my study skills and my future here at the University.”

In at least one instance, sharing interests, skills, and knowledge proved particularly important. One night when Men in Engineering was located in Burge Hall, water began leaking through the ceilings of several dorm rooms on the LLC floor. Upon investigation, the engineering students discovered someone in the floor above had attempted to remove a drinking fountain from the wall. Not being engineers, the culprits didn’t understand that one must turn off the water first. There was no water shut-off valve so emergency maintenance was called.

As water continued to pour through the stairwell to the rooms below, the Men in Engineering LLC students used their ingenuity to come up with a solution. They collected Daily Iowan newspapers from their rooms, dragged them to the spewing plumbing and built a channel, successfully diverting the water to a restroom floor drain.

Dorman later applauded the LLC engineering students’ efforts by noting they had saved the day.

“Well actually,” one of the students responded, “we saved Burge Hall.”
Engineering Showcases STEM Efforts to Iowa Lt. Governor

The University of Iowa College of Engineering hosted Iowa Lt. Gov. Kim Reynolds July 27 at its Center for Computer Aided Design (CCAD), where the state executive discussed with UI engineering leaders their efforts to engage young students in science, technology, engineering and mathematics — or STEM.

Reynolds is co-chair of Iowa Gov. Terry Branstad’s STEM Advisory Council, a 40-member board of appointees working to advance STEM education and innovation disciplines in Iowa.

Reynolds visited with high school students taking part in the Center for Computer-Aided Design’s annual Summer Institute.

“Our overarching goal is to increase interest and achievement in STEM disciplines,” Reynolds said. “There are great programs, just like right here, but we want to make sure that no matter where a student lives, they have access to those, and that’s not the case right now.”

Reynolds shared a computer with 14-year-old Zeid Qubain, a Jordanian student who is spending his summer in Iowa for an internship at the center. Qubain described to Reynolds his work with the Virtual Soldier Research project — a complex computer model created by CCAD that simulates human motion and is used by the military and private companies to study the effects of equipment loads and physical stress.

Reynolds said student enthusiasm in the STEM fields will not only channel more students toward high-paying, in-demand jobs, it will benefit the economy when students go on to establish new business ventures.

“STEM jobs are projected to grow at a larger margin than non-STEM jobs, so there’s a tremendous opportunity there,” Reynolds said. “And it touches everything — advanced manufacturing, medicine, bio-sciences, technology, financial. It touches all of those and they pay very well. We want to bring new jobs and grow the economy in the state of Iowa, but we also want them to be good jobs. We want the people that graduate from high school and college to stay in Iowa, and this will give them a good start in doing that.”

UI Engineering dean Alec Scranton said the college began to ramp up its outreach to elementary and high school students a few years ago, which has helped build a pipeline for future engineering students at UI. The initiatives include Project Lead the Way that equips high school and middle school teachers with new ways to promote engineering in their classrooms. UI also hosts an annual robotics competition, called FIRST Tech Challenge, which Scranton said is another way to get high school students involved in science.
On July 27, Iowa Lt. Gov. Kim Reynolds visited the Center for Computer Aided Design and discussed efforts to engage young students in science, technology, engineering and mathematics.

Photos by the Iowa City Press-Citizen.
Storer Award Inspires Affordable Textbooks

Karthik Ramachandran says that students are paying too much for textbooks, with prices having risen by some 186 percent over the past two decades alone. He says BookBox can do something about that.

BookBox—a student business plan for a company using vending machines and low prices to move used college textbooks—is the winner of the University of Iowa College of Engineering’s 2011–12 Hubert E. Storer Engineering Student Entrepreneurial Start-up Award.

The winning company’s founders and officers are Ramachandran and Serghei Dacin, both graduating seniors majoring in chemical engineering.

Their company is designed to offer a better way to buy and sell books by paying students higher prices than competing book stores for used books and reselling the books at a 10- to 15 percent discount below competitors’ pricing.

“When performing competitive analysis, few companies are able to provide the depth of service that BookBox will,” Ramachandran says. “Also, BookBox will primarily target undergraduate students, yet the possibilities for expanding the service to graduate students will also be explored more.”

Dacin says the BookBox business plan is a win-win situation for both college students and the company because the latter avoids labor costs by using vending machines, passing the savings along to students.

“A website platform will be used conveniently for reserving in advance the books that students need for renting, buying, or selling. Upon easy check out online, they could pick up or drop off a textbook at a BookBox nearby,” says Dacin.

Dacin and Ramachandran say that BookBox, by offering low prices and merchandise that customers can see in seconds, has the potential to outsell its competitors because brick-and-mortar bookstores sell mostly new books and overprice their used inventory. Also, online stores carry limited information about the condition and edition of their books, including popular sites like Amazon that carry few brand-name books and often refer customers to third-party vendors.

The annual award, established in 2002 and funded by an endowed gift from College of Engineering alumnus Hubert E. Storer, provides initial financial support for a College of Engineering student technological business plan.

Odgaard Earns Environmental and Water Resources Lifetime Award

Jacob Odgaard, professor of civil and environmental engineering in the University of Iowa College of Engineering and research engineer at the college’s world-renowned IIHR—Hydroscience and Engineering research unit, recently received the 2012 Lifetime Achievement Award from The Environmental and Water Resources Institute of the American Society of Civil Engineers.

Odgaard’s expertise ranges from his development of “Iowa Vanes” — metal baffles embedded in river channels to manage sediment deposition — to the design of structures to protect salmon by diverting them around turbines in hydroelectric dams on sections of the Columbia River in the Pacific Northwest.

Given in recognition of lifelong and eminent contribution to the environmental and water resources engineering disciplines through practice, research, and public service, the award was presented during the May 20–24 World Environmental and Water Resources Congress, Albuquerque, N.M.

Stern Wins NATO Award

IIHR-Hydroscience & Engineering Faculty Research Engineer Fred Stern is a key member of a group that was recently presented with NATO’s highest research group award. The NATO Research and Technology Organization (RTO) Scientific Achievement Award went to the Applied Vehicle Technology (AVT) group, AVT-161. The group focuses on “Assessment of Stability and Control Prediction Methods for NATO Air and Sea Vehicles.” Stern is co-chair of the Sea Team. He also is UI professor of mechanical and industrial engineering.

Stern says this award highlights the outstanding work being done by the entire group. “Many, many people have worked tirelessly to advance AVT-161’s research mission of improving the technology of these vehicles.” CFDSShip-Iowa, developed by researchers at IIHR, was used for all the test cases.

AVT-161 includes 46 researchers and scientists from 14 NATO nations. The group has produced a comprehensive package of experimental and analytical data for both air and sea vehicles, indirectly and directly supporting the efforts of NATO military fighters in the field. In the four years of its existence, AVT-161 has produced 13 journal articles and 33 conference papers.
Making the President’s List

Forty-six College of Engineering undergraduate students are among some 279 students at the University of Iowa named to the President’s List for the 2012 spring semester. The engineering students on the list represent 16 percent of the total, while engineering undergraduate enrollment on campus represents 7.8 percent of all UI undergraduates. The President’s List was established in Fall 1983 to recognize academic excellence. In order to be included on the list, a student must have a minimum 4.0 grade point average (4.0 is an A) in all academic subjects for the preceding two semesters, with a total of at least 12 semester hours of credit per semester during that period.

To view the list of engineering students on the President’s List, go to www.engineering.uiowa.edu/sites/www.engineering.uiowa.edu/files/news/spring2012presidentsalpha.pdf

Making the Dean’s List

There are 478 engineering undergraduate students among 3,813 UI students named to the Dean’s List for the 2012 spring semester. Undergraduate students in the Colleges of Engineering, Liberal Arts and Sciences, Nursing, Business and Medicine who achieve a grade point average of 3.50 or higher on 12 semester hours or more of University of Iowa graded course work (including Guided Independent Study courses) during a semester (or summer session) and who have no hours of I (incomplete) or O (no grade reported) for that enrollment are recognized by inclusion on the Dean’s List for that semester (or session).

To view a list of engineering students on the Dean’s List, go to http://www.engineering.uiowa.edu/sites/www.engineering.uiowa.edu/files/news/spring2012deansalpha.pdf

Presentations
George Constantinescu, associate professor of civil and environmental engineering, and associate faculty research engineer at IIHR—Hydroscience & Engineering, chaired the Third International Symposium on Shallow Flows June 4-6 at the C. Maxwell Stanley Hydraulics Laboratory in Iowa City.

Dan Mineck, retired vice president of engineering and environment at Alliant Energy, College of Engineering Advisory Board member and coordinator of the Virtual International Project Teams program, presented the Paul D. Scholtz Symposium on Technology and Its Role in Society April 19. The topic of the symposium was “The Future of Energy.”

Michelle Scherer, professor and departmental executive officer of civil and environmental engineering and faculty research engineer at IIHR, presented April 2-4 at the Biochemical Society Focused Meeting on Electron Transfer at the Microbe-mineral Interface at the University of East Anglia, United Kingdom.

Grants and Contracts
The College of Engineering enjoyed the second highest percent increase in research funding among the 11 UI colleges for fiscal year 2012. The college attracted $30,889,405 in external research funding, a 28 percent increase over the previous year. The Graduate College had the largest percentage increase at 89 percent. Eight Engineering faculty researchers surpassed the $1 million milestone in attracting research grants and contracts during the year. They are Larry Weber, Edwin B. Green Chair in Hydraulics, professor of civil and environmental engineering, and director of IIHR, $3,956,128; Karim Abdel-Malek, professor of biomedical engineering and director of the Center for Computer-Aided Design, $2,491,742; Gregory R. Carmichael, Karl Kammermeyer Professor of Chemical and Biochemical Engineering, associate dean for graduate studies and research, and co-director of the Center for Global and Regional Environmental Research, $1,901,821; Fred Stern, professor of mechanical and industrial engineering and faculty research engineer at IIHR, $1,612,239; P. Barry Butler, professor of mechanical and industrial engineering and UI executive vice president and provost, $1,533,725; Thomas Schnell, associate professor of mechanical and industrial engineering and director of the Operator Performance Laboratory, $1,299,901; Milan Sonka, professor and departmental executive officer of electrical and computer engineering and director of the Iowa Institute for Biomedical Imaging, $1,269,941; and David Cwiertny, assistant professor of civil and environmental engineering, $1,013,000.

Six engineering faculty researchers who are members of the UI’s Environmental Health Sciences Research Center will benefit from a $7.9 million grant from the National Institutes of Environmental Health Sciences. The grant enables the center to continue investigating environmental health effects arising from rural and agricultural exposures and serving as a primary environmental health resource. Engineering faculty researchers at the center are Jennifer Fiegel, assistant professor of pharmaceutics and chemical and biochemical engineering; Ching-Long Lin, professor of mechanical and industrial engineering; David Murhammer, professor of chemical and biochemical engineering; Charles Stanier, associate professor
of chemical and biochemical engineering; Kai Tan, assistant professor of internal medicine and biomedical engineering; and Yi Xing, associate professor of internal medicine and biomedical engineering.

Christoph Beckermann, University of Iowa Foundation Distinguished Professor of Mechanical and Industrial engineering and director of the Solidification Laboratory, received a $128,445 contract from the Iowa Energy Center for “Rise Sleeve and Mold Ablation: Technologies for Improving Energy Efficiency in Steel Casting.” He has also received a $105,000 research grant from Advanced Technology International, North Charleston, SC. He will study casting solutions for readiness.

P. Barry Butler, professor of mechanical and industrial engineering and executive vice president and provost of the University of Iowa, received a $204,100 research grant from Iowa State University to provide subcontract research study work on harnessing energy flows in the biosphere. The overall grant was provided to Iowa State by the Iowa Power Fund.

David Cwiertny, assistant professor of civil and environmental engineering, received a $39,289 research grant from the University of California-Riverside. Cwiertny will study photochemical disinfection of agriculturally introduced pathogens, focusing on the influence of extracellular polymeric substances on the bactericidal capacity of naturally occurring reactive oxygen species.

C. Allan Guymon, professor and departmental executive officer of chemical and biochemical engineering, received a subcontract of $53,591 from The University of Wisconsin-Madison for “UW-CEMRI on structured interfaces.”

Pavlo Krokhmal, associate professor of mechanical and industrial engineering, and researcher at the Center for Computer-Aided Design, was awarded $117,470 from the US Department of Defense, Air Force for “Combinatorial optimal stopping problems.”

Raghuraman Mudumbai, assistant professor of electrical and computer engineering, was selected by the National Science Foundation (NSF) to receive a 2012 Faculty Early Career Development (CAREER) Award. As an award recipient, he will receive about $400,000 over the next five years to investigate the reliability of the US electric grid, given the growth of wind turbines and other new energy sources.

Thanos Papanicolaou, Donald E. Bentley Faculty Fellow of Engineering, professor of civil and environmental engineering, and research engineer at IIHR, is co-principal investigator on a three-year, $641,737 NASA grant to establish a program of national stature for carbon cycle studies in intense agricultural systems.

Albert Ratner, associate professor of mechanical and industrial engineering, received a $9,977 grant from the Iowa Space Grant Consortium. The grant is being used by Ratner’s students who are studying combustion instability in aircraft engines and measuring the relevant behavior with laser diagnostics at NASA Glenn Research Center, Cleveland, OH, similar to the work occurring at the UI for combustion instability in power-generation type gas turbines.

Thomas Schnell, associate professor of mechanical and industrial engineering, and director of the Operator Performance Laboratory, received $115,570 for “Live, virtual and constructive (LVC) training fidelity technical area 2: optimal fidelity synthetic environments.”

Michelle Scherer, professor and departmental executive officer of civil and environmental engineering and faculty researcher at IIHR, was awarded a $41,000 research grant from the US Department of Energy, Pacific Northwest National Laboratory. Scherer will conduct an isotope investigation of an Fe atom exchange in hematite.

Fred Stern, professor of mechanical and industrial engineering, and faculty researcher at IIHR, received $120,000 from the US Department of Defense for “CFD based system identification for maneuvering in waves.”

Recognition

P. Barry Butler, professor of mechanical engineering and executive vice president and provost of the University of Iowa, received the University of Illinois—Urbana Champaign College of Engineering Alumni Award for Distinguished Service on April 21 at a Student and Alumni Award Ceremony. Butler earned three degrees from The University of Illinois.

Jake Elkins, MD/PhD graduate student in biomedical engineering, received the 2012 Young Scientist Award from the American Society of Biomechanics. Elkins developed a sophisticated computational model that helps researchers predict improved results for patients receiving hip replacements.

Two College of Engineering students were honored for their work during National Student Employee Week. Kristin Spurrier, mechanical engineering student from Quincy, IL, and undergraduate researcher at the Center for Computer-Aided Design received a Certificate of Distinction for her project modeling human strength. The results of her project were integrated into Santos, making him the only digital human in the world that can represent dynamic human strength. Sarah Pettijohn, an industrial engineering student from Monument, CO, was recognized with a Certificate of Appreciation for the administrative support she provides to the Women in Science and Engineering (WISE) Undergraduate Peer Mentoring Program and WISE Ambassadors.

Appointments

C. Allan Guymon, professor, was appointed departmental executive officer of chemical and biochemical engineering effective July 1.
Gabriele Villarini was appointed assistant professor of civil and environmental engineering and assistant research engineer at IIHR. He earned an MS from Università degli Studi di Roma “La Sapienza”, Italy and a Ph.D. from The University of Iowa (2008), both in civil and environmental engineering. After graduation from Iowa, he was appointed a Willis Research Fellow in the Department of Civil and Environmental Engineering at Princeton University working with Prof. James Smith. His current research interests focus on flood hydrology, extreme events, remote sensing of rainfall, seasonal forecast, and statistical modeling.

Nicole Grosland and Madhavan L. Raghavan of biomedical engineering were promoted to the rank of professor effective July 1.

Salem Rahmatalla of civil and environmental engineering and Charles Stanier of chemical and biochemical engineering were promoted to the rank of associate professor effective July 1.

Undergraduate Summer Internships
Two engineering undergraduate students were chosen to participate in the National Science Foundation Research for Undergraduates (REU) Site program. Katelynn Jourdan, a sophomore in electrical engineering, performed research over the summer at Penn State University. Ella Wassweiler, an undeclared freshman, spent the summer at the University of Minnesota.

Ethan Gingerich and Adrianna Jarosz, participated in the Bridges to Prosperity project in Jucuapa Occidental, Nicaragua.

Gabriele Villarini was appointed director of the newly established College of Engineering Office of Grant Support. The office will offer administrative support services to assist engineering faculty, staff, and students in identifying promising research funding opportunities and preparing effective, competitive, and winning proposals.

Alumni Volunteer for Research Open House
Several alumni served as judges at the 10th Annual Research Open House held April 19 at the Seamans Center for the Engineering Arts and Sciences, Iowa City, IA.

Terry McDonald (BSE 1992)
Jerry Thorius (BSChE 1969)
George Seaburg (BSME 1960)
Steve Robinson (BSME 1963, MS 1969)
Don Palmer (BSME 1971)
Lisa Bennett (BSE 1999)
Matt Seberger (BSE 2003)
Ben Langton (BSE 1996)

Future College of Engineering Alumni Events:


September 28 – Party after the Parade 6:30 p.m. After the Homecoming Parade, head for the Seamans Center for the Engineering Arts and Sciences to join us for Party after the Parade, a get-together for alumni and their families. “Future” engineering students can participate in games and activities hosted by engineering student organizations. During the evening, Herky and members of the Hawkeye Marching Band will stop by to raise our spirits with a rousing rendition of the Iowa Fight Song. It’s a great time to visit, get in the Homecoming spirit, and enjoy complimentary light refreshments served by the College. RSVP to wendy-brentner@uiowa.edu by September 21.
www.engineering.uiowa.edu/homecoming.

September 29 – 8:30-10:30 a.m. Homecoming Tailgate Open House. Join faculty, staff, students, alumni and friends of the College at our Tailgate Open House. Relax to the sounds of the steel drum band on the John Deere Plaza, enjoy a complimentary breakfast buffet, and get ready for a Hawkeye victory. RSVP to wendy-brentner@uiowa.edu by September 18.

November 10 – time 2.5 hours before game time.
Family Weekend Tailgate Open House. Join faculty, staff, parents, students, alumni, and friends of the College at our Tailgate Open House. Enjoy a complimentary buffet and get ready to cheer the Hawks on to victory. RSVP to wendy-brentner@uiowa.edu by October 30. www.engineering.uiowa.edu/about/college-services/family-weekend.
**1940's**

Robert L. Miller (BSChem 1941) was featured on the Spring 2012 front cover of The Gear of Theta Tau. Miller developed Goodyear’s Retread Multi-Piece Cushion technology which was recognized in February as the 2011 Tire Manufacturing Innovation of the Year.

**1960's**

Larry Kruse (BSChem 1969), a Lee County (IA) supervisor, ran in the June 5 primary for the Republican nomination to the Iowa Senate District 42 seat.

**Send us your personal and professional news.**

E-mail: iowa-engineer@uiowa.edu

Mail: The University of Iowa College of Engineering 3100 Seamans Center for the Engineering Arts and Sciences Iowa City, Iowa 52242-1527

Phone: 319-335-5764

Keep up to date on College of Engineering news with E/WEEK, a weekly electronic newsletter. To subscribe, send an e-mail message to: listserv@lists.uiowa.edu (no subject line needed). In the body of the message, type: subscribe eweek (your first name) (your last name). Then send the message.

**1970's**

Larry Graff (BS 1970) was a professional intern at Walt Disney World. Brenda Homer (BSE 1972) is associate with General Mills, Cedar Rapids, IA.

**1980's**

James Seaba (BSE 1984, MS 1986, PhD 1990) of ConocoPhillips was appointed facilities technology and integration manager in March.

Eric Bauswell (BSE 1995) is founder of Entrepreneurial Systems, Bettendorf, IA.

Aaron Granquist (BS 1996, BSE 2000, MBS 2010) is a project manager at McClure Engineering, North Liberty, IA.

Scott Hagen (BSE 1993) was promoted to the rank of full professor in the department of Civil, Environmental and Construction Engineering at the University of Central Florida. Hagen also serves as director of the Coastal Hydroscience Analysis, Modeling & Predictive Simulations Laboratory.

Ken Sigman (BSE 1997, MBA 2001), was named Vice President, Sales & Marketing, for Graham Packaging, York, PA, in June.

Elizabeth Bernard (BSE 2000) is litigation counsel at Google.

Anne Buchele (BSE 2009) is a professional intern at Walt Disney World.

Jaron Christoph (BSE 2002) was appointed senior manufacturing engineer at Rockwell Collins.

Katie Coates (BSE 2003) and Mike Selberg were married June 23 in Cedar Rapids, IA.

Brendon Collier (BSE 2003) vice president and senior business process engineer at UMB Bank, was appointed director of lockbox operations in April.

Helen Fuller (BSE 2003, MS 2005) is managing consultant at Applied Safety and Ergonomics, Inc., Detroit, MI.

Darin Hoover (BSE 2012) is a 2nd Lieutenant with the United States Air Force.

Samantha M. Lane (BSE 2005, MBA 2010) is contracts manager at Stryker Performance Solutions, Chicago, IL.

William Liechty (BSE 2007) is a biosciences associate at Austin Technology Incubator.

Anne Ryerson (BSE 2005) received the 2012 Young Member of the Year Award at the Annual Awards Meeting of Quad City Section of the American Society of Agricultural and Biological Engineers (ASABE) on March 27.

Brenton Steinmann (BSE 2009) is a process engineer at Hercules Medical Components, White Bear Lake, MN.

Karsten Temme (BSE 2002, MS 2004) is chief executive officer of Pivot Bio, San Francisco, CA, a biological products company. In October, Pivot Bio, Inc. received a $100,000 grant to engineer crops that can capture and metabolize nitrogen from the atmosphere, reducing the need for petrochemical fertilizers and reducing the cost of farming in developing countries.

Andrew Tesene (BSE 2001) is the owner of Two Bostons Pet Boutique and Gourmet Bakery in Naperville, IL (www.twobostons.com).

Kristopher Thornburg (BSE 2005) is an officer with the United States Coast Guard.

**1990’s**

Larry Gunter (BSE 1994) was manager of engineering applications at ConocoPhillips.

Eric Bauswell (BSE 1995) is founder of Entrepreneurial Systems, Bettendorf, IA.

Robert F. Mulvey (BSChem 1996) was employed as a summer intern with Dow Chemical in Midland, MI.

Taryn Tigges (BSE 2012) is a professional intern at Walt Disney World.

**2000’s**

Elizabeth Bernard (BSE 2000) is litigation counsel at Google.

Anne Buchele (BSE 2009) is a professional intern at Walt Disney World.

Jaron Christoph (BSE 2002) was appointed senior manufacturing engineer at Rockwell Collins.

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**2010’s**

Frank Attere (BSE 2011) is a manufacturing engineering associate with General Mills, Belvidere, IL.

Rachel (Crome) Hahn (BSE 2011) is a manufacturing engineering associate at General Mills, Cedar Rapids, IA. Rachel and Justin Hahn (BSE 2011) were married May 19.

Alicia Strank (BSE 2011) is a process engineer at Caterpillar, Inc.

Taryn Tigges (BSE 2012) was employed as a summer solutions intern at Grand Aspirations.

**1930’s**


**1940’s**


Robert L. Carmichael (BSE 1949, MS 1950) of Santa Maria, CA, June 13, 2012.


Everett E. Karsten (BSE 1943) of Napa, CA, April 20, 2012.

Roy S. Mushrush, Jr. (BSE 1941) of Universal City, TX, April 30, 2011.

James C. Todd (BSE 1948) of Schertz, TX, July 2, 2011.

Robert J. VanHorn (BSME 1948) of Tucson, AZ, November 19, 2011.

**1950’s**


Jay R. Burns (BSME 1959) of Chester, MD, June 23, 2012.

Ralph G. Hill (BSME 1957) of Azle, TX, October 17, 2007.


Kenneth J. Rourke (BSE 1959) of Mesa, AZ, August 23, 2011.

Harry W. Shifflett (MS 1956) of Richardson,TX, June 23, 2012.

Donald R. Stover (BSE 1956, PhD 1968) of Cedar Rapids, IA, July 5, 2012.

Cay G. Weinels, Jr. (MS 1953) of Berlin, MD, October 14, 2008.
Paying it Forward

As we gear up for the 5th Annual Engineering Scholarship Luncheon, I’m reminded of the meaningful and beneficial gifts that help fulfill our mission of educating the “engineer…and something more.”

Maria and her husband, Ko-Chang (1969 Ph.D.)—both from Taiwan—met on the UI campus in 1966. At the time, Maria was pursuing her master’s degree in mathematics and statistics. Ko-Chang was working as a research assistant under the late Dr. Royce Beckett in the department of mechanics and hydraulics in the UI College of Engineering—an experience in which he first felt the supportive power of the UI family.

On a bitterly cold and snowy Iowa winter night, Ko-Chang stayed late to study and work which later made the thought of the journey back to his apartment seem daunting. But Dr. Beckett insisted on giving Ko-Chang a ride home—an act of kindness that became the norm throughout the winter.

“That ride warmed my body and my heart,” says Ko-Chang. Years of support from Dr. Beckett and his wife, Shirley, would follow that experience for the Pans.

“When I was pregnant with my daughter, and after her birth, Shirley was like a mother to me,” says Maria.

The Pans decided to honor the Becketts, and give back to their alma mater, by creating the Ko-Chang and Maria Wei Yi Liu Pan Engineering Scholarship and the Dr. Royce E. and Shirley N. Beckett Engineering Scholarship. “We believe our career successes are due to the solid education and discipline received from the University of Iowa,” says Maria. The scholarships are awarded annually to deserving students in the UI College of Engineering, and are a way for the Pans to invest in the future of engineering.

“Education is a long-term investment for generations to come in order to keep our country strong,” says Maria. “Our life may be short, but our impact can be long through our support of the education at this fine university.”

Providing financial assistance to talented UI students who are pursuing a degree in engineering is a top priority of the UI College of Engineering. To learn more about The University of Iowa Foundation, and how gifts from alumni and friends support students and faculty in the UI College of Engineering, please visit www.uifoundation.org/engineering or contact me at katemetcalf@uiowa.edu, (319) 335-3305 or toll-free 800-648-6973.

Amy Brainard
Director of Development
College of Engineering
The University of Iowa Foundation
The College of Engineering inducted television pioneer Edwin B. Kurtz posthumously into its Legacy of Engineering on May 8. The Legacy of Engineering recognizes faculty, staff, alumni, and friends who made exceptional historical contributions toward advancing the college in teaching, research or service.

Kurtz, who served as professor and department chair of electrical engineering from 1929 to 1960, was a pioneer in educational television. The first public demonstration of a television broadcast developed by Kurtz and his team took place in March 1933 when television station W9XK, operated by the electrical engineering department, teamed up with radio station WSUI. Video was broadcast over W9XK, while the sound was heard over WSUI.

Dozens of programs were broadcast during the station’s first year, including some on the subject of identifying trees by their leaves and others about Girl Scout trail marking. From 1932 through 1939, a total of 389 educational programs were broadcast. The station went on to become the first visual station licensed west of the Mississippi River and the first to be equipped by a liberal arts university.