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Fall 2013/CENTENNIAL EDITION/Issue #24



IOWA STATE UNIVERSITY
Department of Chemical and Biological Engineering



CENTENNIAL CELEBRATION
PP. 12-14



Dr. Andrew C. Hillier, Wilkinson Professor of Interdisciplinary Engineering, was named chair of the Department of Chemical and Biological Engineering June 1, 2013.

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Dear CBE Alumni and Friends

This is an exciting time to be connected to the Department of Chemical and Biological Engineering (CBE) at Iowa State University. As we mark the occasion of our 100th year, we have many things to reflect upon and celebrate. This newsletter contains a collection of stories and highlights from the most recent year, including our Centennial Celebration, which is featured in the images on the cover page as well as elsewhere in this newsletter (pp.12-14).

Before highlighting some of these activities, I would like to express my gratitude to Surya Mallapragada for her outstanding leadership as department chair during the last four years. Surya has overseen major enhancements in facilities through renovations to Sweeney Hall, guided substantial increases in research activities that have helped us achieve record levels of research expenditures and productivity, and she has successfully managed the unprecedented growth in undergraduate student enrollment. On behalf of the entire department, thanks for all you have done!

As we begin our second century of educating chemical engineers, we welcome an incoming freshman class of over 170 students. Combined with our upperclassman, we now boast an undergraduate population of 678 students, another all-time record. We had another successful accreditation visit by ABET, the engineering accreditation agency. In addition, we have added or modified our undergraduate offerings in a few, critical areas. With input from our industrial partners and to strengthen our safety culture, we have added a process safety course to the curriculum as a new degree requirement. Another major change is that we added a chemical engineering course at the freshman level to better integrate the content of this course with our upper level computational and design courses (page 10).

Our faculty and staff have been recognized for their efforts through new research grants, promotions, awards and notoriety (pp. 6-7).

We are also very proud of the successes of our alumni (pp.4-5). Tim Anderson became dean of engineering at the University of Massachusetts-Amherst. We "ran the table" when it came to alumni awards this last year, including the Professional Progress in Engineering Award to Cory Berkland and Devin Shepard, the Professional Achievement Citation in Engineering (PACE) award to both Mark Lashier and Mark Saltzman, the Anson Marston Medal to Dale Fridley, and the Distinguished Alumni Award to Nicholas Reding. Congratulations to you all!

Our students have been very active this past year. A few of their stories are highlighted (pp. 8-9). The high quality of our students, and the

tremendous support our alumni have given them is highlighted by the large number of undergraduate scholarships awarded this past year (pp.16-17).

We also have an impressive group of incoming graduate students (page 11) who joined us to support our research and teaching endeavours. The majority of these new students received named graduate fellowships thanks to the generous support of our alumni and friends.

The department now boasts new and renovated research and computer labs, graduate student collaboration space, design and project teaching space, and a brand new student services center (page 5). In addition, we have a many new and ongoing undergraduate scholarships, graduate fellowships, and named faculty fellowships and professorships (page 11). A special thanks goes to all of you who continue to support our department and Iowa State University (pp.18-19).

This has indeed been a very busy year. The highlight for me was the Centennial Celebration, which was held in Ames on Sept. 26-27. What a wonderful event. I am very grateful to the many alumni who were able to return to Ames and celebrate with us. The centennial book, an enormous effort led by George Burnet, did a wonderful job of capturing the highlights of our first 100 years. The technical symposium was outstanding, and thank you again to all of the speakers who gave us such a stimulating group of talks. The Centennial Banquet was particularly memorable. It was a pleasure to introduce the inaugural class of the CBE Alumni Hall of Fame (page 12) and witness such a heartfelt and insightful keynote address from Dick Seagrave. If you missed the event, or wish to relive parts of it, you can find a collection of highlights from the Centennial at www.cbe.iastate.edu/centennial.

I am delighted and honored to serve as chair of the Department of Chemical and Biological Engineering. We are all very proud of the successes of our students, staff, faculty and alumni during this past year, and it was a pleasure to be able to reflect back on our first 100 years. Please, keep in touch with a letter, e-mail or phone call. I look forward to hearing from you, and being a part of our next 100 years.

Warmest Regards (and Go Cyclones),

Andrew C. Hillier

Andrew C. Hillier
Wilkinson Professor of Interdisciplinary Engineering
Chair, Department of Chemical and Biological Engineering



THE FIRST 100 YEARS



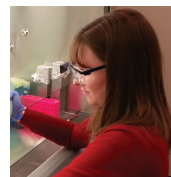
CBE ALUMNI HALL OF FAME, P. 12



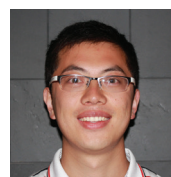
SWEENEY HALL SHOWCASES, P. 13



CBE highlights the recent awards and achievements of seven alumni. Also learn about recently formed scholarships, fellowships, and named spaces. **P. 4**



Join us in celebrating recent faculty and staff awards and achievements. Also, meet new CBE staff members Jenny Gibbs and Molly Seaboch. **P. 6**



More than a dozen graduate students will benefit from fellowships and university awards this fall, including doctoral student Jiajie Huo. **P. 11**



CBE thanks every individual and corporation for their generosity this year. Much program success is attributed to your gifts. **P. 18**

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ChE +

CHEERLEADER
AUTHOR
ENVIRONMENTALIST

Hannah VanEvery's London Blog, P. 9





Nicholas Reding (BSCHE'56)

Nicholas Reding, retired vice chair of Monsanto Company Board of Directors and Monsanto Agricultural Company president, earned the **2013 Iowa State University Distinguished Alumni Award**. Reding spent his entire professional career at Monsanto, where he played a key role in transitioning the company from the traditional chemical and plastics business to a business based on biotechnology. Through the introduction of wide-application herbicides and genetically modified seed varieties, Reding globalized Monsanto. In addition, his extraordinary community service has been in the Missouri Botanical Garden (former chair of the board), the Nidus Center for Scientific Enterprise, and his own Reding Family Foundation. In honor of his retirement, the Monsanto Company created the Nicholas L. Reding/Monsanto Scholarship in CBE, in which nine chemical engineering undergraduate students recently benefited.



Tim Anderson (BSCHE'73)

Tim Anderson became the dean of engineering at **University of Massachusetts-Amherst** on March 1, 2013. Anderson is a fellow of the American Institute of Chemical Engineers, fellow of the American Society of Engineering Education, and editor of the *Chemical Engineering Education* journal. From 1978 until his current appointment he was a chemical engineering distinguished professor at the University of Florida. There he also was director of the Florida Energy Systems Consortium.



Cory Berkland (BSCHE'98)

Cory Berkland, a professor of chemical and petroleum engineering and pharmaceutical chemistry at The University of Kansas, received the **2013 College of Engineering Professional Progress in Engineering Award**. Berkland and his research team study colloids, polymers and biomaterials. In addition to academic research, Berkland is a co-founder of Orbis Biosciences and Savara Pharmaceuticals. The award recognizes Berkland's outstanding professional progress, personal development and distinguished community service under the age of 46.



Dale Fridley (BSCHE'58)

Dale Fridley, retired technology vice president of basic chemicals and intermediates for ExxonMobil Chemical Company, received an **Anson Marston Medal** from the College of Engineering. The Marston Medal recognizes Fridley for outstanding achievement in advancing engineering science, technology or policy having national and international impact. At retirement Fridley managed almost 50 percent of ExxonMobil's technology activities after helping to make the company one of the largest and most profitable international chemical companies.



Mark Lashier (BSCHE'85, PhDChE'89)

Mark Lashier, executive vice president of olefins and polyolefins for Chevron Phillips Chemical Company, received a **2013 Professional Achievement Citation in Engineering (PACE) Award** from the College of Engineering. The PACE Award recognizes Lashier's superior and eminent technical and professional accomplishments and creativity. Lashier has produced 12 U.S. patents. He is especially noted for his economic development efforts in Singapore, where he received the "Friend of Singapore" public service award in 2005 from then-Singapore President S. R. Nathan.

MORE ALUMNI HIGHLIGHTS



W. Mark Saltzman (BSCHE'81)

W. Mark Saltzman, the Goizueta Foundation Professor of Chemical and Biomedical Engineering at Yale University, earned a **2013 Professional Achievement Citation in Engineering (PACE) Award** from the College of Engineering. The PACE Award recognizes Saltzman's superior and eminent technical and professional accomplishments and creativity. He has developed more than 200 research papers, written three textbooks, and secured 15 U.S. patents in drug delivery, biomaterials, nanobiotechnology, and tissue engineering.



Devin Shepard (BSCHE'97)

Devin Shepard, founder and president of Supply Chain Acuity, received the **2013 College of Engineering Professional Progress in Engineering Award**. Noted for his expansive entrepreneurial endeavors, he has managed many global supply chain projects, serving the U.S. government and Fortune 500 companies as clients. The award recognizes Shepard's outstanding professional progress, personal development and distinguished community service under the age of 46.



Deniz Uner (PhDChE'94)

Deniz Uner, professor and chair of chemical engineering at Middle East Technical University (Ankara, Turkey), **co-wrote *Chemical Reaction Engineering: Beyond the Fundamentals*** with the late Anson Marston Distinguished Professor Emeritus L. K. Doraiswamy. The book is a former professor-former student collaboration and the last book that Doraiswamy, an international leader in chemical reaction engineering who died in 2012, had written.

NEW SCHOLARSHIPS, FELLOWSHIPS, AND SPACES

CBE is thankful for the generosity of alumni and friends toward recently formed scholarships, recently formed fellowships, and recently renovated laboratories and classrooms. Scholarships, fellowships and spaces listed were created since December 2012.

SPACES

Dean & Sharon Vance Graduate Office
Gerald Theodore Montgomery Laboratory
Kenneth L. Garrett Research Laboratory
L. R. Pehrson (ChE'49) Laboratory
Mike & Jean Steffenson Student Services Center
Richard B. Allen Research Laboratory
Robert W. Gerwig Laboratory
Sweeney Hall Renovation Fund

GRADUATE STUDENT AWARDS

Luppes Endowed Graduate Fellowship

Reginald R. and Jameson A. Baxter Graduate Fellowship

Judson M. Harper Graduate Scholarship in CBE

UNDERGRADUATE STUDENT AWARDS

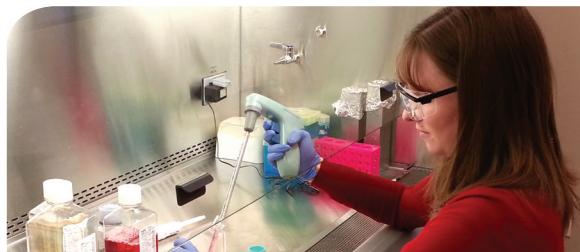
Robert A. and Jacklyn R. Lane Engineering Scholarship

Gerald and Barbara Montgomery Scholarship in CBE

1. Dean and Sharon Vance Graduate Office
2. Gerald Theodore Montgomery Lab
3. Mike & Jean Steffenson Student Services Center
4. Kenneth L. Garrett Research Lab
5. L. R. Pehrson (ChE'49) Lab
6. Richard B. Allen Research Lab
7. Robert W. Gerwig Lab



FACULTY HIGHLIGHTS



Kaitlin Bratlie

Assistant Professor Kaitlin Bratlie pursues research of materials that can be used to deliver drugs to fight lymphoma while strengthening the immune system's response to cancerous cells. Bratlie currently focuses on amplifying the response of macrophages to chemoimmunotherapy, a type of chemotherapy that works with immune cells to remove cancerous cells. **A \$344,451 Roy J. Carver Charitable Trust grant**, awarded in spring 2013, funds this project.



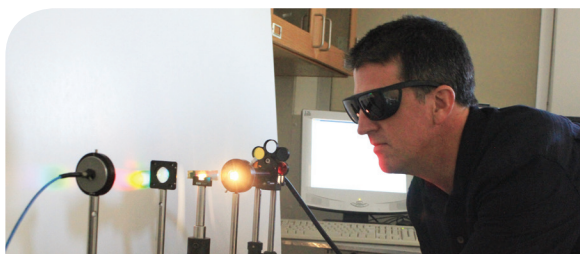
Robert Brown

Anson Marston Distinguished Professor Robert Brown was **featured in the inside-front cover of *Green Chemistry's* March 2013 issue**. His article, co-written with Professor Kaige Wang of mechanical engineering, describes catalytic pyrolysis of microalgae for production of aromatics and ammonia. Brown also **advanced *Biofuels Digest's* 2012-2013 Top 100 People in Bioenergy** to No. 47, a 12-spot jump from No. 59 in 2011-2012.



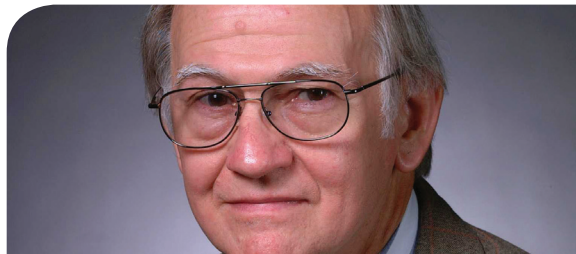
Rodney Fox

With **four current projects supported by the National Science Foundation**, Anson Marston Distinguished Professor Rodney Fox creates models and numerical methods for multiphase flow simulations. Simulations that Fox and research teams develop are cost-effective ways to **simulate processes that companies use and create**—reproduce small-scale to large-scale changes without using pilot-scale products. Simulation codes are public and are widely used by companies such as BP, ExxonMobil, Conoco Phillips and others.



Andrew Hillier

Andrew Hillier, Wilkinson Professor of Interdisciplinary Engineering and CBE chair, was awarded a **three-year, \$450,000 National Science Foundation grant** to study highly tunable surface plasmon-enhanced optical transmission through periodic nanostructures. He uses inspiration from the steel blue cricket hunter to apply structural color in biosensing. Biosensors have a wide range of potential uses in medicine, public health, environmental monitoring, and other industries.



Ken Jolls

Professor Emeritus Ken Jolls has recently published in both his engineering and music passions. On July 16, 2013, he **published his 20th *New York Times* "Letter to the Editor,"** which praised New York mayor Michael Bloomberg's engineering mindset to "seek innovation." On Aug. 30, 2013, he published a **memorial in *The Des Moines Register* in honor of female jazz pioneer Marian McPartland**. On Sept. 16, 2013, Jolls writes an ***Iowa State Daily* op-ed piece on women's improvement in STEM fields**.



Balaji Narasimhan

Vlasta Klima Balloun Professor Balaji Narasimhan recently received two major grants for his work in systems design of nanovaccines. The larger grant was the **Iowa State University Presidential Initiative for Interdisciplinary Research award**. The other is a **Grand Challenges Exploration grant from the Bill & Melinda Gates Foundation**, which focuses on global health through single dose therapies against human parasitic diseases.

MORE FACULTY HIGHLIGHTS



Dennis Vigil & Michael Olsen

Associate Professor R. Dennis Vigil and mechanical engineering Professor Michael Olsen team to pursue research in designing and optimizing highly efficient photobioreactors. The technical and economic feasibility of large-scale production of biofuels from algae is the focus. They will construct reliable computational models, as well as conduct fluid dynamics and light transport experiments to achieve this goal. A three-year, \$350,000 National Science Foundation grant funds this project.



Jean-Philippe Tessonier

Jean-Philippe Tessonier, assistant professor and Carol & Jack Johnson Faculty Fellow, was a “Mover & Shaker” in *The Catalyst Review*’s November 2012 edition. In the article Tessonier discusses the interdisciplinary approach his group uses to develop defect-engineering strategies that will enable the design of a new class of nanocarbon-based heterogeneous catalysts for the sustainable production of fuels and chemicals. This innovative research applies organic chemistry, physical chemistry and chemical engineering.



Eric Cochran

CBE’s Eric Cochran was promoted to associate professor with tenure on April 26, 2013. Cochran has been a CBE faculty member since January 2006 and is an Iowa State chemical engineering alumnus (1998).



Brent Shanks

Mike and Jean Steffenson Professor Brent Shanks was featured in the Oct. 28, 2013, issue of *Chemical & Engineering News* in the article, “Students, Start-Ups, and Biorenewability.”

STAFF HIGHLIGHTS



Brenda Kutz

Academic Adviser Brenda Kutz was given the Iowa State University Cytation Award in spring 2013. The award recognizes individuals who perform above and beyond the call of duty, do something extraordinarily well, or act in such a way as to make a very real difference in the institution. Kutz has been CBE’s lead academic adviser since 2003 and is an adviser for The Gaffer’s Guild, Iowa State’s glass blowing student organization.



DeAnn Pitman

Secretary DeAnn Pitman earned the College of Engineering Dean’s Staff Excellence Award at Iowa State. The award honors Pitman for her contagious dedication and superior service to CBE, the College of Engineering, as well as goodwill to the university and larger community. She was a secretary for the CBE administrative office from 1996 to 2012, and since 2012 has been the secretary for the CBE undergraduate student services office. Pitman also is very involved in her community of Roland, Iowa.

NEW CBE STAFF



Jennifer Gibbs, academic adviser

Jenny Gibbs joined the department in June 2013 to fulfill the role of academic adviser. She graduated from the University of Northern Iowa in May 2013 with her master’s degree in post-secondary education and student affairs. She also received a bachelor’s degree in business administration at the University of Northern Iowa.



Molly Seaboch, program assistant

Molly Seaboch joined our team in April as the new program assistant. She coordinates all human resources functions for the department and helps with some financial work and special projects. She graduated from the University of South Dakota in 1999 with a bachelor’s degree in business administration.

ChE + Cyclones Cheerleader

When Kate Coker tells people she is both a member of the Cyclone Cheer Squad and a chemical engineering student, most have a hard time believing her. Being a member of a travel-intensive and time-consuming team, while managing to be successful in a difficult undergraduate major, sounds more than overwhelming for most students. Coker employs time management and lessons learned from both the field and the lab to make it work.

Now in her sophomore year, Coker came to Iowa State fully knowing she wanted to be a chemical engineer. During her high school days in Denver, Colo., Coker was enrolled



in several advanced placement chemistry and math courses and was an aide for her honors chemistry teacher. Cheerleading was present during those years, as well, although it was not nearly as time-demanding as it is now.

In addition to traveling to all the away games with the football team and being on the field at all home games, Coker has been involved in the Women in Science and Engineering (WiSE) and Society of Women Engineers (SWE) learning communities. SWE involves meetings every other week where companies visit to talk about their engineers' roles within the organization.

To balance her activities, Coker devotes much of her free-time to schoolwork. "If I don't have games on the weekends, I'm normally doing homework," she said. "When I travel to away games I spend my time on the buses and planes doing homework." Coker also receives help from study groups and tutors to ensure that she's not falling behind or getting lost in the material.

Despite the rigors of balancing her interests, cheerleading is something Coker says she plans on doing until she graduates from Iowa State. Once football season ends, she will cheer at both men's and women's

basketball games. Her offseason begins once those seasons end, which is usually around March. Offseason includes one three-day practice per month followed by camp in August with the sole intention of getting a bid to the Universal Cheerleaders Association Cheerleading and Dance Team National Championship in Daytona, Fla., in the spring.

Coker's goals beyond graduation and cheerleading consist of finding a job in chemical engineering and perhaps getting her MBA in hopes of opening her own business. She has begun applying for internships for next summer with several companies throughout the Midwest, including Cargill, LyondellBasell and 3M, just to name a few. Those internships are primarily in the areas of product development and process management.

The combination of skills needed to be both a cheerleader and chemical engineering student have helped Coker become a better-rounded individual and taught her a lot about humility and driving others to be their best.

"It's a lot of leadership and inner-motivation to not just make yourself better but to be able to push the girls that don't want it as much as you do," Coker said. "More people are able to help me now because I'm able to take the criticism of what I'm doing wrong or what I'm not doing, and I'm able to give that to other people."

ChE + Author



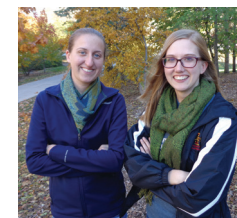
Christopher Jacobs

While some students take a break from the books, chemical engineering senior Christopher Jacobs decided to write a trilogy. Jacobs is finishing a Greek mythology book series that he started in eighth grade. His first book, *Olympus Falling*, was published in October 2012. It is a 374-page fiction novel that tracks adventures of well-known Grecian scholar Paian Kairis and his quest to find missing friends. Jacobs has already written his second book, *The Battle for Egypt*, which has yet to publish. He currently writes the third book of the trilogy, *Legends Collide*. "It's just something I've become really proud of through seeing how much other people enjoy it," Jacobs said. "It's really rewarding to see something I've worked on for such a long time in the hands of other people reading it and enjoying it."

This article summarizes "ISU student creates book trilogy from dorm room," written by Rachel Sinn of the *Iowa State Daily* on Nov. 6, 2012.

Photo by Jonathan Krueger, *Iowa State Daily*

ChE + Environmentalists



Sarah Maslo (left),
Christine Leise

Chemical engineering seniors Christine Leise and Sarah Maslo lead Engineers for a Sustainable World Iowa State University chapter, a student organization that applies engineering skills to sustainability related problems in the world. Their group will install rain gardens around campus, starting at an area between Carver Hall and Music Hall. The rain garden will help drain water away from sidewalks and back into the ground where it can be reused naturally and to water several species of Iowa-native plants.



SEE LONDON HOW HANNAH SEES IT

From September 2013 through May 2014, chemical engineering senior Hannah VanEvery reports her London study abroad experiences weekly at www.cbe.iastate.edu/hannah-study-abroad. In her own words, VanEvery details her day-to-day life as a visiting Iowa State University student studying at University College London. She even captures the many adventures along the way.

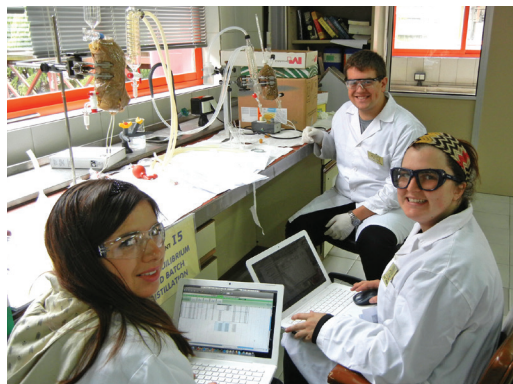
On Oct. 8, 2013, she said, “The absolute most interesting part of the class set up is the fact that there are no finals this semester.” On Oct. 29,

2013, she said, “A room full of Europeans line danced their way through a good 10 minutes of country music. I don’t think I can effectively explain how wonderful and unexpected that sight was!”

VanEvery participated in a Spain study abroad opportunity two years ago and has interned for LyondellBassell’s petrochemicals area in Houston, Texas. She also has participated in undergraduate research regarding the effects of soil properties on plant behavior. VanEvery plans to graduate in 2015.

‘Culture of effort’ perseveres in Oviedo program

“They were the worst and best five weeks of my life,” said Christopher Jacobs, a chemical engineering senior who participated in the 2013 International Summer Course in Chemical Engineering in Oviedo, Spain. Each of the selected few Iowa State students performed ten experiments in transport phenomena and chemical reaction engineering during their five-week experience. *La Nueva España*, the most-read newspaper in Spain’s Asturias Province, reported the students’ experiences on July 3, 2013. The article said the “culture of effort” in American students allows them to complete so much work well in so little time. CBE Professor Emeritus Ken Jolls coordinated his last trip in 2013, having coordinated it since 2002. University Professor Chuck Glatz also hosted in summer 2013.



(From left) ChE seniors Shannon Winchester, Christopher Jacobs, and Taylor Tomlinson at the University of Oviedo, summer 2013.

ChE senior directs communications at Tau Beta Pi Convention



German Parada

German Parada understands the importance of student organizations.

When he came to Iowa State from Colombia in 2009, he knew he wanted to be a chemical engineering major. Since then, he’s taken on a number of positions and responsibilities, the most recent involving a national engineering honor society.

Tau Beta Pi is the second-oldest collegiate honor society in America and consists of more than 200 chapters across the nation. Every year, the society holds a convention in a different city to serve as a meeting for delegates and as a training session and social gathering.

This year, the convention was at Iowa State, held Oct. 31-Nov. 2, 2013 at the Scheman Building and Gateway Hotel and Conference Center.

Parada, who serves as the communications director for Tau Beta Pi Iowa Alpha, was also a convention co-chair, which allowed him to become closely involved in the event.

As communications director, he is in charge of setting up and carrying out community and outreach events, keeping members informed on chapter news, recruiting volunteers for events and seeking out new

members. Parada attended last year’s convention in Lexington, Ky., to observe how it was organized and to see how student hosts are supposed to handle such a gathering.

More than 525 people from all over the country, 375 of them students, were expected to attend this year’s convention. Attendance also included advisers and national officials who work for either Tau Beta Pi or are involved with the society in another way.

The role of convention co-chair required Parada to assist in the preparations and execution of the convention. He was also in charge of finding volunteers and transporting people from the Des Moines airport to Ames and from their hotel to the convention.

Parada strongly encourages students to get involved in student organizations early on, stressing the impact it can have on one’s college experience. “They have great opportunities for students,” Parada said. “There’s a lot of things that you could be involved in. I think they’re awesome for your career. This is the time to make mistakes and learn because there’s people there to support you.”

Parada plans to graduate from Iowa State in spring 2014 and move on to graduate school. In the meantime, he hopes to keep inspiring students to branch out.

CBE applies general engineering course to create ChE-specific computer course

During the fall 2013 semester, chemical engineering freshmen were offered a course within their program for the first time in recent memory.

CH E 160 is a problem solving course that combines lecture with computer lab work to prepare freshmen for the type of tools they'll be using as they advance in the chemical engineering program. This semester, there are three sections of the class, each consisting of 50 students.

The class structure is similar to that of ENGR 160, the basic introductory engineering course, but is a little more focused on chemical engineering-type problems.

Cory Stiehl, who has been a senior lecturer at Iowa State for 10 years, teaches one of the sections of CH E 160 this fall and approves of the department's decision to create a class specifically for freshmen.

"The department started to come up with its own version of [ENGR 160] to prepare students for future chemical engineering courses and industry applications," said Andrew Hillier, Wilkinson Professor of Interdisciplinary Engineering and CBE chair.

The class meets in the Robert W. Gerwig Lab in Sweeney Hall for two hours at a time, beginning with an hour of lecture and then moving to an hour of computer lab work. Senior Lecturer Jennifer Heinen also teaches the course in Fall 2013.

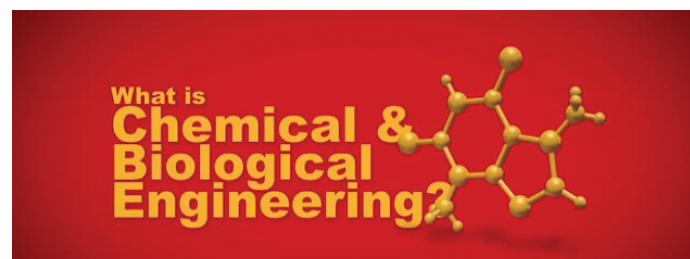
There is at least one section of CH E 160 scheduled for Spring 2014 Semester, and the material may continue to evolve as the department observes how students are progressing within the program.



Chemical engineering freshman Julian Lynch takes CH E 160, a new freshman course that teaches chemical engineering problems using computational solutions. Senior Lecturers Cory Stiehl (seen standing) and Jennifer Heinen taught the Fall 2013 sections.

ChE senior on 2014 Women Impacting ISU Calendar

Chemical engineering senior Erika Vaassen is one of 12 women, four of whom are students, on the 2014 Women Impacting ISU Calendar. Vaassen is the first female from the Department of Chemical and Biological Engineering to be featured—student, faculty, or staff member otherwise. She is highly active as a computer science teaching assistant, Department of Residence community adviser, recent co-op at Cargill, and many other experiences throughout Iowa State University. Sixty-four females were nominated this year. The Iowa State University Carrie Chapman Catt Center for Women and Politics has unveiled a Women Impacting ISU Calendar every year since 2007.



Program ranking has increased

U.S. News and World Report ranks the Iowa State chemical engineering graduate program No. 29 overall and No. 17 among public U.S. chemical engineering programs. CBE moved up three spots from the previous year.



'What is Chemical & Biological Engineering?'

In January 2013, CBE interviewed current undergraduate students on what chemical and biological engineering meant to them. Watch the video now by scanning the QR code at left with your smartphone. Or, access the YouTube video at <http://youtu.be/K8O44swbuPg>.

Cantu-Cantu, Tee, Swanson earn 2013 graduate excellence awards

Three recent chemical engineering doctoral graduates received Iowa State University Graduate Excellence Awards. Only a few graduate students each semester earn the awards university wide.

David Cantu-Cantu earned the Iowa State Graduate Research Excellence Award in Spring 2013 for his outstanding research in the sequences, structures, and mechanisms of fatty acid and polyketide synthesis



David Cantu-Cantu



Ting Wei Tee



Ryan Swanson

enzymes. He worked under the direction of Anson Marston Distinguished Professor Pete Reilly and graduated in Spring 2013. Cantu-Cantu is now a postdoctoral research associate at Pacific Northwest National Laboratory in Richland, Wash. He received a bachelor's degree in chemical engineering at Monterrey Tec (Mexico).

Ting Wei Tee received the Iowa State Graduate Research Excellence Award for Fall 2013. He has conducted research in metabolic engineering of bacteria and yeasts for overproduction of carboxylic acids. This work has been done under the direction of Manley R. Hoppe Professor Jacqueline Shanks. Tee has received a bachelor's degree in chemical engineering from Iowa State.

The research award also notes its recipient as "academically superior and able to not only do research, but develop a well-written product."

Swanson received the Graduate Teaching Excellence Award for his outstanding achievement in teaching. Swanson was a teaching assistant in two undergraduate chemical engineering courses: Biological Engineering Laboratory (CH E 427) and Separations (CH E 358). He also taught middle school science classes through Iowa State's Symbi GK-12 program. Swanson's major professor was University Professor Chuck Glatz. Swanson graduated in Spring 2013 and is now a scientist at Bristol-Myers Squibb in Framingham, Mass. He received a bachelor's degree in chemical engineering at Rensselaer Polytechnic Institute (New York).

All graduate excellence awardees received a \$500 cash award, wear honor cords at graduation and are identified as awardees in the graduation program.

Biotechnology Fellowship



Kiva Forsmark

Chevron Phillips Fellowship



Skrikanth Nayak

College of Engineering Cummings Fellowship



Jacob Nuhn

Frederick Martinson CBE Fellowship



Yingxi Chen

James Katzer Energy Fellowship



Thomas Hoff



Zhiqi Yao

Lanny A. Robbins Fellowship

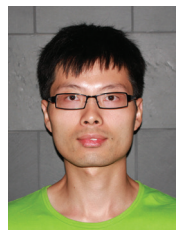


Radhika Rao

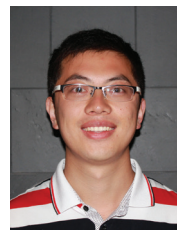
M. A. Larson Fellowship



Meirong Gao



Xi Gao



Jiajie Huo



Michael Johnson

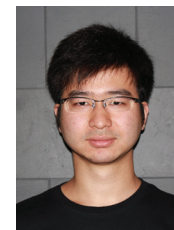


Pratyush Mishra



Jacob Nuhn

Sweeney Family Memorial Fellowship



Lida Zhu

Pictured are the Fall 2013 semester's first-year graduate students. CBE offers competitive department, college and university fellowships to new graduate students. See page 5 for newly formed graduate student fellowships.



CENTENNIAL CELEBRATION

www.cbe.iastate.edu/centennial

100 YEARS
Chemical and Biological Engineering

CENTENNIAL CELEBRATION

September 26-28, 2013
Iowa State University
Ames, Iowa

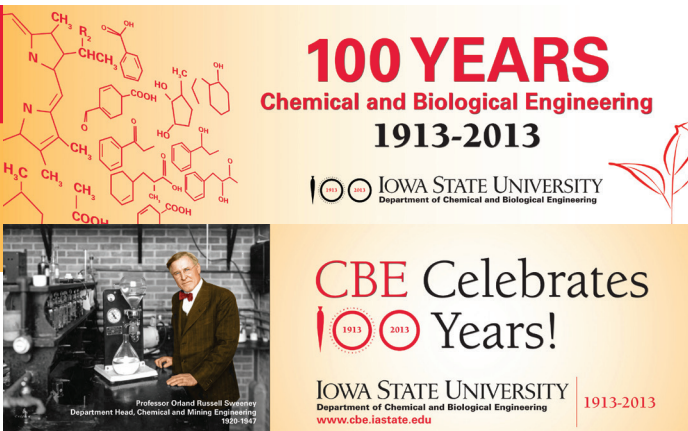
In many ways, Iowa State chemical engineering epitomizes the land-grant philosophy its university lives by—Iowa State University was the nation's first land-grant university. It is the birthplace of the first digital computer and is the only university to host a Department of Energy national laboratory, Ames Laboratory, on its campus. Iowa State ranks second among universities in R&D 100 awards, given by R&D magazine for top technologies. The College of Engineering is the 10th largest in the nation. It is home to many interdisciplinary research centers of excellence including the National Science Foundation Engineering Research Center (NSF-ERC) focused on Biorenewable Chemicals. This research center, commonly referred to as CBiRC, is led by Iowa State chemical engineering faculty members.

This year, the Department of Chemical and Biological Engineering at Iowa State University, currently the ninth largest in the nation, celebrates its centennial. 2013 marks 100 years of education and research excellence in chemical and biological engineering at Iowa State University. It is a key milestone for the department as it looks forward to continuing the long tradition of excellence and building on its successes for the next 100 years. We culminated this milestone with the CBE Centennial Celebration, held at various campus locations Sept. 26-27, 2013. The department hosted a research symposium at Howe Hall, tours of Biorenewables Research Lab and renovated Sweeney Hall spaces, game watch inside the Jack Trice Club at Jack Trice Stadium, alumni luncheon at Scheman Building, and banquet at the Great Hall in Memorial Union. On page 13 we display all the materials associated with this celebration.

CBE honors the superb professional accomplishments of 23 chemical engineering and biomedical engineering alumni in the **CBE Alumni Hall of Fame - Inaugural Class**. Recipients were nominated by peers and chosen by the CBE Centennial Committee.



1. **Ronald Baukol** (BSChE'59)
2. **Reginald Baxter** (MSChE'49)
3. **George Burnet** (BSChE'48, MSChE'49, PhDChE'51)
4. **Wayne Dunshee** (BSChE'70, MSChE'71)
5. **Dale Fridley** (BSChE'58)
6. **Kenneth L. Garrett** (BSChE'64)
7. **Robert Gerwig** (BSChE'52)
8. **Bruce Grasser** (BSChE'64)
9. **Gary L. Griswold** (BSChE'67)
10. **James Halligan** (BSChE'62, MSChE'65, PhDChE'67)
11. **Manley R. Hoppe** (BSChE'32, MSChE'35)
12. **Allen Jacobsen** (BSChE'47)
13. **James Katzer** (BSChE'64)
14. **Maurice A. Larson** (BSChE'51, PhDChE'58)
15. **Charles Lettow** (BSChE'62)
16. **John G. McDonald** (BSChE'57)
17. **Nicholas Reding** (BSChE'56)
18. **Lanny Robbins** (BSChE'61, MSChE'63, PhDChE'66)
19. **Jerald L. Schnoor** (BSChE'72)
20. **Dick Seagrave** (MSChE'59, PhDChE'61)
21. **Mary Jane Skogen Hagenson** (MSBiomedE'76, PhDBiomedE'80)
22. **Michael R. Steffenson** (BSChE'59)
23. **G. Paul Willhite** (BSChE'59)



100 YEARS
Chemical and Biological Engineering
1913-2013

IOWA STATE UNIVERSITY
Department of Chemical and Biological Engineering

CBE Celebrates
100 Years!

IOWA STATE UNIVERSITY
Department of Chemical and Biological Engineering
www.cbe.iastate.edu

1913-2013

Professor Orland Russell Sweeney
Department Head, Chemical and Mining Engineering
1955-1967

Welcome

1913 2013
Chemical and Biological
Engineering Centennial

RESEARCH SYMPOSIUM

Alliant Energy-Lee Liu Auditorium, Howe Hall
Sept. 26-27, 2013

Graduate Student Poster Session, Howe Hall Atrium
Sept. 26, 2013, 11:45 a.m.-1:15 p.m. and 4-5 p.m.



Welcome
1913 2013
Chemical and Biological
Engineering Centennial
IOWA STATE UNIVERSITY

GAME WATCH
September 26, 2013
JACK TRICE CLUB, Jack Trice Stadium
6-10 p.m. Game Watch festivities
6-10 p.m. Kickoff on TV screens
Halftime Raffle for Iowa State prizes!

TOURS & RIBBON CUTTING CEREMONY
September 27, 2013
10:10 a.m. Tours of BRL
10:30 a.m. Ribbon Cutting Ceremony, Sweeney Hall lobby
10:35 a.m. Tours of Sweeney Hall

For those attending Alumni Luncheon at Schemm Building, choose one of the following bus pickup times:
11:20 a.m.
11:35 a.m.
The bus will pick you up at the Bissell Road (west) entrance of Sweeney Hall.

IOWA STATE UNIVERSITY
Department of Chemical and Biological Engineering

Centennial Banquet
Friday, September 27, 2013, 6:00 p.m.
Great Hall, Memorial Union

If you would like PDF versions of signage, photos, or a Sweeney Hall commemorative poster, please contact Chris Neary at 515 294-8312 or cneary@iastate.edu.

sponsored by **KOCH**

MEMORIES OF ChE ALUMNI

Charles J. Baroch (MSChE'56, PhDChE'58): I joined the Ames Laboratory in 1954 as a fulltime research engineer. I joined the Ames Laboratory because it gave me the unique opportunity to continue my education in metallurgy and chemical engineering while having a fulltime research position. In 1956 I became a fulltime graduate student while working halftime for the Ames Laboratory. Shortly after I joined the Ames Lab as a research metallurgist, Dr. Beyer encouraged me to enroll in graduate school in metallurgy and chemical engineering. Dr. Beyer was my major professor for my Master's degree and Dr. Smutz was my major professor for my doctorate. Both Dr. Smutz and Dr. Beyer were very helpful in developing an acceptable graduate program for me as I had an undergraduate degree in metallurgy from the Colorado School of Mines.

Vernon Cornell (BSChE'44): Two people from Iowa State College came to Ft. Dodge High School to describe the engineering department. This was early 1942 and WWII was now in full blast. One of them said they were moving so fast in engineering that they will soon be able to tear a person down, molecule by molecule, and build him up 100 miles away. That sort of thing got me interested in ISC. But then I hitchhiked down to Ames, and went in to see Dr. Sweeney; I got totally hooked. I was there for Summer Quarter and stayed around the year to July 1944 (to earn my BSChE).

James Faassen (BSChE'36): I can testify to Dr. Sweeney's energy level in pursuit of the conversion of corn byproducts to useful derivatives—but I can also testify that although he commanded respect from my classmates, he was a lovable gentleman. And I can also say that he had a conviction that chemical engineers were superior to almost any other breed. He taught a class titled something like Elements of Chemical Engineering, but he almost never spoke a word related to that subject. Instead he regaled us with stories related to a vast number of experiences. Many of his stories involved situations in which a chemical engineer solved whatever problem was perplexing others. In short, he had me and my classmates certain we had chosen the superior discipline. And, finally, I can say that, whatever the reason, I believe that Iowa was a good place for me to live, and Iowa State College was (and is) an excellent school, and chemical engineering was the best discipline I could have chosen.

William G. Kern (MSChE'63): Dr. (Lionel) Arnold was my major professor and Dr. Burnet was Department Head. I still remember one of the questions Dr. Burnet asked me during my oral exam. Happily I gave an acceptable answer. Iowa State University has always been dear to my heart, not only because I graduated from there with a great education, but because of the friendships I developed. Two of my closest friends here in Midland, Lanny Robbins and Jim Gray, were graduate students with me at Iowa State. I had the honor and pleasure to have had a long close relationship with Mauri Larson and Alan Randolph through my memberships in ACT (Association for Crystallization Technology) and AIChE. I first met Alan, also, when we were both chemical engineering graduate students. Mauri and Alan's pioneering and vast contributions for the development of crystallization technology were the bases of much of my work at Dow Chemical Company.

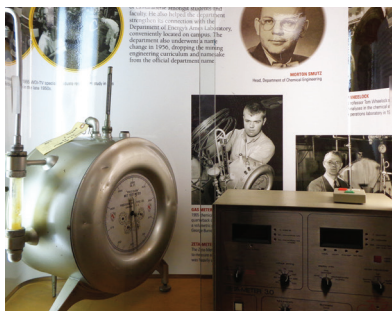
Capture the full Centennial Celebration photo gallery online at www.flickr.com/photos/103470086@N05.

Scan QR code with smartphone to access photos instantly. Contact Chris Neary at 515 294-8312 or cneary@iastate.edu for questions.



Sweeney Hall Showcases

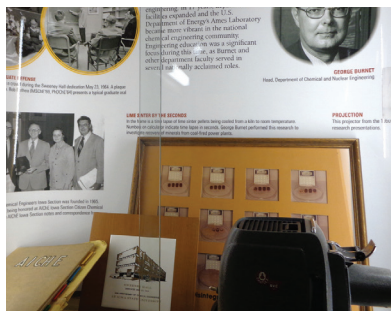
During 2013-2014, CBE's centennial academic year, 10 showcases in Sweeney Hall display glimpses of department history by department head or chair. Nine men, not including current chair Andrew Hillier, and one woman have progressed the Iowa State chemical engineering program from agricultural beginnings to international prominence. The self-guided showcase tour begins on the first floor near the mid-building stairway, going east and snaking up floors and through upper hallways. In each showcase you'll find a few artifacts that date to that period in Iowa State chemical engineering research and academics. Most items and information reflect the department's recently published book, "The First 100 Years of Chemical Engineering at Iowa State University." Please visit Sweeney Hall to view the showcases yourself.



1955-1961: Morton Smutz, department head of ChE
Artifacts: 1960 gas meter, 1960 Zeta-Meter



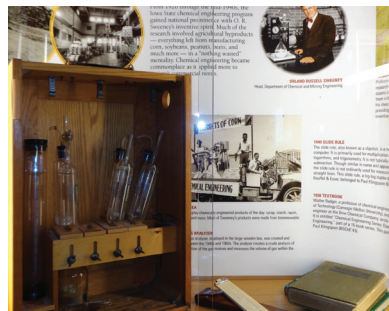
1990-1997: Terry King, chair of ChE
Artifacts: 1992 addition groundbreaking photo, 1995 bowling awards, 1990s catalyst carriers



1961-1978: George Burnet, department head of ChE and NucE
Artifacts: 1970s lime sinter test, 1960s projector, 1965 AIChE Iowa Section notes



1997-2005: Chuck Glatz, chair of ChE
Artifacts: 2000 bioreactor, 2000 adsorption column, Indian containers



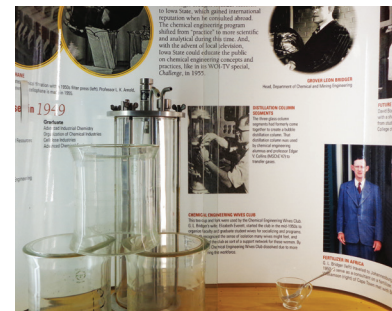
1920-1947: Orland Russell Sweeney, department head of ChE and MiningE
Artifacts: 1940 slide rule, 1936 textbook, 1940s Orsat gas analyzer



1978-1983: Maurice Larson, chair of ChE
Artifacts: 1975 analog-digital designer, 1977 textbook on coal, 1980 weighing mechanism



2005-2009: Jim Hill, chair of CBE
Artifact: 2000s bath heater for chemical reactions



1947-1955: Grover Leon Bridger, department head of ChE and MiningE
Artifacts: 1950s distillation column, teacup and fork from ChE Wives Club



1983-1990: Dick Seagrave, chair of ChE
Artifacts: Various books published by Seagrave, Doraiswamy and Wheelock between 1971 and 1990



2009-2013: Surya Mallapragada, chair of CBE
Artifacts: Centennial Celebration handouts, Mallapragada/Narasimhan textbook

O. R. Sweeney descendants visit CBE



Lewis Jester (left) is the grandson of Orland Russell Sweeney, the chemical engineering department's first head from 1920-1947. He and wife, Suzanne, are seen attending the Centennial Research Symposium, one of several events pertaining to the CBE Centennial Celebration Sept. 26-27, 2013.



James Sweeney stands next to the likeness of his great-uncle, Orland Russell Sweeney. James is a retired professor of sport pedagogy and current head coach of the The Ohio State University co-ed pistol team. He graduated from Ohio State with a physical education degree, master's degree in curriculum design, and a doctorate in sport pedagogy. This fall he was inducted into the Ohio State Athletics Hall of Fame.

Verna Webber, 110, the oldest living Iowan



Verna Webber became the oldest living Iowan when she turned 110 on February 24, 2013. Verna is the widow of Dr. Henry A. Webber, who taught electrochemistry and was professor-in-charge of the chemical engineering unit operations laboratory from 1941 to 1961. Henry died of a stroke in 1965. Pictured at left is Verna's 110th birthday celebration at Riverside Manor in Ames, Iowa. Verna, wearing a pink suit, sits between fellow residents Angela Waters, 100, and Helen Bergman, 100. Standing (from left) are Stanley Professor Surya Mallapragada, Anson Marston Distinguished Professor and Dean Emeritus David Boylan, and Anson Marston Distinguished Professor Emeritus George Burnet.



Professor Henry Webber, ca. 1940s

OBITUARIES

Robert Emmons Campbell (BSChE'40) passed away Jan. 20, 2013, in Edina, Minn. He was 94. Upon graduating in 1940 he became a chemical engineer at DuPont Chemical Company, where he worked for the next 15 years. Campbell made a few career moves, ending up with the State of the Iowa, where he served as environmental program supervisor within the state's Department of Environmental Quality until retiring in 1985. Campbell was a former chairman of the American Society of Chemical Engineers Iowa Section and was a member of the CBE Industrial Advisory Council. And, in 1971, he and wife Lucy were Iowa State University's Parents of the Year.

Terry David Hunt (BSChE'59) passed away Sept. 3, 2013, in Leesburg, Fla. He was 76. Hunt began a 26-year career with Borg-Warner in 1962, ultimately becoming vice president of chemicals and president of specialty chemicals before retiring in 1988.

Ronald Lee Johnson (BSChE'52) passed away Feb. 23, 2013, in Midland, Mich. He was 83. Upon graduating in 1952, he joined Dow Corning Corporation, where he developed a 40-year tenure and ultimately became the company's corporate vice president and director of basic materials businesses.

Conrad Norman Muzzy (BSChE'53) passed away May 15, 2013, in Madison, Wisc. He was 84. Muzzy worked at Proctor and Gamble as well as Monsanto. Later in his life, Muzzy owned and operated a bowling alley and restaurant in Blanchester, Ohio.

John Briggs Sheeler (BSChE'50, PhDChE'56) passed away March 13, 2013. He was 91 and had lived in Marshalltown, Iowa. Upon his earning a chemical engineering doctorate in 1956, Sheeler joined the CBE faculty. He retired in 1986 with professor emeritus status. During his tenure at Iowa State, Sheeler pursued soil materials research. Also, while at Iowa State he coached the NROTC pistol team to 15 national championships in 36 years.

Hugh Wiegman (BSChE'55) passed away Sept. 25, 2013, in Leawood, Kan. He was 79. After a short period working for Dow Chemical Company in Ohio, Wiegman pursued an M.D. at the University of Iowa. He ultimately became a board-certified radiologist and established the Radiology Associates, P.A., retiring in 1990.

UNDERGRADUATE SCHOLARSHIPS

Jackson Achen
Engineering Undergraduate
Merit Scholarship

Tina Akinyi
Engineering Undergraduate
Merit Scholarship

Rafael Alameda
Harry Oakley Price Scholarship
Chemical Engineering
Scholarship Fund

Tiffany Allers
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Isaac Almquist
Chemical Engineering
Scholarship Fund

Michelle Ampuero
Engineering Undergraduate
Merit Scholarship

Derek Amundson
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Joshua Anderson
Edward W. & Joyce C. Backhaus
Scholarship in Chemical &
Biological Engineering

Todd Anderson-Calderon
Clifford A. Shillinglaw Scholarship

Laura Appelen
Engineering Undergraduate
Merit Scholarship

Joseph Arentson
Chemical Engineering
Scholarship Fund

Faye Assmann
Gerald and Barbara Montgomery
Scholarship in Chemical and
Biological Engineering

Ian Baer
Chemical Engineering
Scholarship Fund
Nicholas L. Reding/Monsanto
Scholarship in Engineering

Jessica Bangen
Engineering Student Leadership
Development Scholarship
Nicholas L. Reding/Monsanto
Scholarship in Engineering

Jordan Barr
Chemical Engineering
Scholarship Fund

Chelsea Barry
Engineering Undergraduate
Merit Scholarship

Kevin Basemann
Chemical Engineering
Scholarship Fund

Andrew Berg
Engineering Undergraduate
Merit Scholarship

William Black
Mike and Jean Steffenson
Scholarship

Mitchell Boge
Engineering Undergraduate
Merit Scholarship

Emily Bowen
Mary and Axel Peterson Scholarship

Erin Boysen
Engineering Undergraduate
Merit Scholarship

Kelsey Brandt
Memorial Endowment for Leslie
Miller Wallace, Jr.

Lucas Bruene
Caterpillar Foundation Scholarship
Harold Langford Scholarship

Philip Bui
Donald and Verneil Branstad
Scholarship

Kelsey Burt
Harry Oakley Price Scholarship
Chemical Engineering
Scholarship Fund

Dylan Camp
Engineering Undergraduate
Merit Scholarship

Matthew Carroll
Engineering Undergraduate
Merit Scholarship

Joseph Cicchese
Chemical Engineering
Scholarship Fund
Engineering Undergraduate
Merit Scholarship

Alison Clark
Robert O. and Marie E. Dierks
Scholarship

Logan Clark
Frederick Martinson Scholarship
Engineering Undergraduate
Merit Scholarship

Joshua Claussen
Engineering Undergraduate
Merit Scholarship

Kelci Coates
Engineering Undergraduate
Merit Scholarship

Patrick Conness
Chemical Engineering
Scholarship Fund

Nicholas Cook
Engineering Undergraduate
Merit Scholarship

Kathryn Cooley
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Collin Coon
Engineering Undergraduate
Merit Scholarship

Jordan Cooper
Engineering Undergraduate
Merit Scholarship

Amanda Cosgrove
Robert O. and Marie E. Dierks
Scholarship
Lyle J. & Marcia L. Higgins
Scholarship

Bryan Cote
Chemical Engineering
Scholarship Fund

Elaine Crawford
Mike and Jean Steffenson
Scholarship

Thomas Croghan
Kenneth & Mary Heilman
Scholarship

Katelyn Dahlke
Shepard Family Scholarship in
Chemical Engineering
Herbert C. James Scholarship

Joseph Dailey
Engineering Undergraduate
Merit Scholarship

Cole Daly
Engineering Undergraduate
Merit Scholarship

Ashley De Haan
Ralph S. Millhone Scholarship

Lindsey Debruin
Manley R. Hoppe Scholarship
Engineering Undergraduate
Merit Scholarship

Burak Demirci
Nicholas L. Reding/Monsanto
Scholarship in Engineering

Jace Dendor
Dow Chemical Company
Scholarship

Paige Dettman
Chemical Engineering
Scholarship Fund
Robert A. & Jacklyn R. Lane
Scholarship

Nolan Dickson
Ralph S. Millhone Scholarship

Jordan Donner
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Briana Dumstorff
Eugene Devere Travis Scholarship

Ryan Evans
Engineering Undergraduate
Merit Scholarship

Dakota Even
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Paul Faronbi
Stuart M. Totty Scholarship

Chelsea Fleitman
Griffen Family Scholarship
David C. Lovell Scholarship

Allie Flessner
Engineering Undergraduate
Merit Scholarship

Andrew Fogerty
Chemical Engineering
Scholarship Fund

**Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship**

Joshua Francois
Manley R. Hoppe
Engineering Undergraduate
Merit Scholarship

Casey Frank
Jerrold S. & Mary R. Feroe
Scholarship

James Frank
Larry J. McComber Scholarship

Jennifer Freeland
Eugene Devere Travis Scholarship

David Gardner
Donald H. Beisner in Honor of Dr.
Morton Smutz Scholarship
Mary C. Thompson Scholarship
Tau Beta Pi Scholars Program
Scholarship

Mackenzie Garlock
Engineering Undergraduate
Merit Scholarship

Brian Gates
Marion and Andrew Pontius
Scholarship

Jacob Gentile
Chemical Engineering
Scholarship Fund
Vander Linden Scholarship Fund

Zachary Glick
Engineering Undergraduate
Merit Scholarship

Christina Goeddel
Ralph S. Millhone Scholarship
Lawrence E. Burkhardt Scholarship

Korey Gramenz
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Sandra Greenwood
Robert A. & Jacklyn R. Lane
Scholarship
A. Douglas & Helen Steffenson
Scholarship

Paul Gregory
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Daniel Grisard
Chemical Engineering
Scholarship Fund
Engineering Undergraduate
Merit Scholarship

Ryan Gunckel
Barbara L. Feroe Scholarship

Michael Gunther
Chemical Engineering
Scholarship Fund

John Guss
Engineering Undergraduate
Merit Scholarship

Jacob Haan
Engineering Undergraduate
Merit Scholarship

Cody Hancock
George R. & William G. Bathe
Scholarship

**Chemical Engineering
Scholarship Fund
Building a World of Difference
Renewable Energy Scholarship
in Engineering**

Amanda Hannasch
Engineering Undergraduate
Merit Scholarship

Luke Hannenber
Chemical Engineering
Scholarship Fund

Leslie Harder
Engineering Undergraduate
Merit Scholarship

Rebecca Harmon
Engineering Undergraduate
Merit Scholarship

Joseph Harper
Chemical Engineering
Scholarship Fund

Maya Harris
Engineering Undergraduate
Merit Scholarship

David Harvey
Engineering Undergraduate
Merit Scholarship

Caitlyn Herndon
Skogen-Hagenson Scholarship

Eric Hessing
Skogen-Hagenson Scholarship
Engineering Undergraduate
Merit Scholarship

Ryan Hill
Frederick Martinson Scholarship
Engineering Undergraduate
Merit Scholarship

Megan Hingtgen
Chemical Engineering
Scholarship Fund

**Ralph S. Millhone Scholarship
Hoye Parker Scholarship
Frederick Martinson Scholarship**

Andrew Hughes
Chemical Engineering
Scholarship Fund
Harold Schneider Engineering
Scholarship

Grady Hugunin
Gretchen L. Bruffy Scholarship

Jared Huhndorf
Chemical Engineering
Scholarship Fund

Angelica Iacobucci
Skogen-Hagenson Scholarship
Building a World of Difference
Renewable Energy Scholarship
in Engineering

Ashley Iannuzzelli
Mary and Axel Peterson
Scholarship

Carlie Iehl
Chemical Engineering
Scholarship Fund

Tristan Inglett
Engineering Undergraduate
Merit Scholarship

Mitchell Irmeier
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Christopher Isely
Manley R. Hoppe
Scholarship

Christopher Jacobs
Mike and Jean Steffenson
Scholarship
Rockwell Collins-Engineering
Leadership Program Scholarship

Tanner Jaeger
Chemical Engineering
Scholarship Fund
Engineering Undergraduate
Merit Scholarship

Nicholas Jaegers
Building a World of Difference
Renewable Energy Scholarship
in Engineering
Nicholas L. Reding/Monsanto
Scholarship in Engineering
OPPD Nuclear Engineering
Scholarship Fund

John Janiga
Frederick Martinson Scholarship
Lyle J. & Marcia L. Higgins
Scholarship

Cassandra Jenn
Chemical Engineering
Scholarship Fund
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Carolyn Jennrich
Engineering Undergraduate
Merit Scholarship

Alexandra Jeppesen
Engineering Undergraduate
Merit Scholarship

Colin Jernberg
Engineering Undergraduate
Merit Scholarship

Bradley Jimenez
Engineering Student Leadership
Development Scholarship
Caterpillar Foundation Scholarship

Lizette Jimenez
E2020 Scholarship

Peter Joers
Dr. Owen A. Heng Chemical
and Biological Engineering
Scholarship Fund
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Courtney Johnson
E2020 Scholarship
Engineering Undergraduate
Merit Scholarship

Garret Johnson
Engineering Undergraduate
Merit Scholarship

Hannah Johnson
Ralph S. Millhone Scholarship

Stacie Johnson
CBE Scholarship Fund

Tyler Johnson
Frederick Martinson Scholarship
Ross White Engineering
Scholarship

Jacob Kaczinski
Manley R. Hoppe Scholarship

Beth Kalal
Engineering Undergraduate
Merit Scholarship

Brent Keller
Engineering Undergraduate
Merit Scholarship



The Schoborg Family attends the Centennial Banquet, including ChE sophomore Jill Schoborg (sitting left) and Jennifer Schoborg (BSChE'11, sitting right).

Christopher Killingsworth
Eugene Devere Travis
Scholarship

Megan Kleckler
Skogen-Hagenson Scholarship
Engineering Undergraduate
Merit Scholarship

Katelyn Klemm
Engineering Student Leadership
Development Scholarship

Alexandra Klodt
Engineering Undergraduate
Merit Scholarship

Georgia Kolf
Engineering Undergraduate
Merit Scholarship

Kourtney Kostecki
Ralph S. Millhone Scholarship

Alicia Kramer
Chemical Engineering Scholarship
Fund
Nicholas L. Reding/Monsanto
Scholarship in Engineering

James Krouse
Ralph S. Millhone Scholarship

Jessica Kuyper
Manley R. Hoppe Scholarship
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Tiffany Lam
Marion and Andrew Pontius
Scholarship
Tau Beta Pi Scholars Program
Scholarship
Jerold S. & Mary R. Feroe
Scholarship

August Larenzie
Nicholas L. Reding/Monsanto
Scholarship in Engineering
Chemical Engineering
Scholarship Fund

Catherine Le Denmat
Engineering Undergraduate
Merit Scholarship

Christine Leise
Mike and Jean Steffenson
Scholarship

Ploi Lerner
Engineering Undergraduate
Merit Scholarship

Adam Lichty
Engineering Undergraduate
Merit Scholarship

Rachel Lieser
E2020 Scholarship
Adele B. & Charles W. Irwin
Scholarship

Joseph Lineback
Engineering Undergraduate
Merit Scholarship

Qi Liu
Clarence H. Ford Engineering
Scholarship Fund
Chemical Engineering
Scholarship Fund

Kaylin Livermore
Nicholas L. Reding/Monsanto
Scholarship in Engineering

Joseph Malicki
Chemical Engineering
Scholarship Fund
Engineering Undergraduate
Merit Scholarship

Alma Marquez
Robert O. and Marie E. Dierks
Scholarship

Sarah Maslo
Kenneth L. Garrett Scholarship
in Chemical & Biological
Engineering

**Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship**

**Rockwell Collins-Engineering
Leadership Program Scholarship**

Reeto Mathew
Chemical Engineering
Scholarship Fund

Paige Mattes
Dr. Owen A. Heng Chemical
and Biological Engineering
Scholarship Fund

Katelyn McCarey
Engineering Undergraduate
Merit Scholarship

Sydney McKechnie
Nicholas L. Reding/Monsanto
Scholarship in Engineering

William McNamara
Edward W. & Joyce C. Backhaus
Scholarship in Chemical &
Biological Engineering

Ryan McSweeney
Engineering Undergraduate
Merit Scholarship

Amelia Medici
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Renee Megchelsen
Hans Buehler Scholarship
Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship

Justin Miller
Nicholas L. Reding/Monsanto
Scholarship in Engineering

Nicolas Miranda-Bartlett
Lois and Manley Hoppe
Scholarship

**Roderick Seward, Flossie
Ratcliffe & Helen M. Galloway
Scholarship**

Megan Mohar
Engineering Student Leadership
Development Scholarship

Shannon Moody
Paul Emerson Morgan Scholarship

Andrew Moon
Chemical Engineering
Scholarship Fund

**Engineering Undergraduate
Merit Scholarship**

Brandon Morris
Frederick Martinson Scholarship

Rachel Morris
Ralph Luebbers Scholarship
Frank H. Ricker Scholarship Fund

Tara Naber
Ralph S. Millhone Scholarship

Alyssa Nease
L.C. "Doc" & Lina Allen Scholarship

Lauren Nelson
E2020 Scholarship

Kendall Neuberger
Donald H. Beisner in Honor of Dr.
Morton Smutz Scholarship

Brandi Newman
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