Assistant Professors Promise Bright Future for CEGE

John T. Tate Hall Reopens for Classes

Dennis Martenson, a Very Civil Civil Engineer

Chi Epsilon: Old Book Tells Long Story of Excellence
Dear Alumni and Friends,

For me, becoming a faculty member at the University of Minnesota was a dream come true, as our department has a rich history in scientific contributions and technical achievements. However, I am even more excited about looking forward. In this issue, you will see that we are committed to honoring the past but we are also on the cusp of the future.

Last time I wrote we were getting ready for our external review. All collegiate departments are subject to periodic review to assess their quality, productivity, continuing alignment with the strategic priorities of the institution, and opportunities for future growth. Faculty from Carnegie Mellon University, Johns Hopkins University, University of Colorado at Boulder, University of Illinois at Urbana-Champaign, and University of Wisconsin at Madison toured our building, reviewed documents, and interviewed faculty, staff, and students.

Their report was favorable. They were “very impressed with the department, the people, the facilities, and the strategic plan offered by CEGE.” They concluded that “the department is in a good position to move to the next level...” I believe in our vision and our faculty, and it feels good to have my beliefs confirmed by unbiased leaders in the field.

Perhaps the most critical means of carrying our department into the future is our investment in young faculty. In this issue you will learn a bit more about our newest faculty and their research.

You will also read about Chi Epsilon honor society and a few stories of excellence. The renovation of Tate Hall is another story that shows how the University preserves our history and also ensures our future through preparing students. Alumna Tina Benedict Vath (BCE 2007) was the lead structural engineer on the project and gives us some inside information. Another excellent engineer, who may be familiar to many of you, is Dennis Martenson; you can read about his career and his gratitude for all the profession has to offer.

We are grateful for so many generous supporters. Thank you for all you do to make this great work possible and for spreading the word within your sphere of influence. I hope you have a chance to join us October 21 to celebrate Homecoming.

Go Gophers!

Joseph Labuz
MSES/Miles Kersten Professor & Head
Department of Civil, Environmental, and Geo- Engineering
SEBASTIAN BEHRENS co-authored a manuscript, “Organic Coating on Biochar Explains Its Nutrient Retention and Stimulation of Soil Fertility,” which has been accepted for publication in *Nature Communications*. The work is an international, interdisciplinary effort with contributions from researchers worldwide, including Australia, Switzerland, USA, Italy, Austria, and Germany. The first author of the study, N. Hagemann, was a Ph.D. student advised by Behrens in Germany. They began the project together and continued when Behrens came to UMN.

CATHERINE FRENCH was chosen as “Woman of the Year” by the Women in Transportation Seminar (WTS) Minnesota. The WTS Woman of the Year Award acknowledges French as a leader in the transportation industry and as a model and advocate for women and minorities in transportation. French exemplifies how one woman can be a change agent in the world.

JOHN GULLIVER, JOHN NIEBER (Bio-products and Biosystems Engineering) and MARIA GARCIA-SERRANA (co-advised by Gulliver and Nieber) were part of the MnDOT/UMN/MPCA Swales Research Team that received the Minnesota Department of Transportation Environmental Stewardship Award for Innovations in Operations, 2017.

JOHN GULLIVER traveled to the International Conference on Urban Drainage in Prague, Czech Republic. He gave two presentations, “Roadside swales infiltration performance calculator” and “Roadside swales infiltration performance calculator.”

RAYMOND HOZALSKI was an invited speaker at three water-related conferences. He presented “Removal of Contaminants of Emerging Concern (CECs) in Biologically-Active GAC Filters” in a session honoring Mel Suffet at the spring American Chemical Society meeting in San Francisco. He was also an invited speaker for the 2017 Drinking Water Disinfection By-Products Gordon Research Conference (GRC) at Mount Holyoke College in South Hadley, Massachusetts. His presentation was titled “Remote Sensing for Source Water Characterization.” In October, Hozalski spoke at the Water Environment Federation Technical Exhibition & Conference (WEFTEC) where he presented “Recent and Current Research in Minnesota on PAHs and Contaminated Stormwater Pond Sediments.”

JOSEPH LABUZ was interviewed by MPR as part of a story (August 1) on the 10th Anniversary of the collapse of the I-35W Bridge. The focus of the story was the impact the bridge collapse has had on engineering curriculum, and Labuz described a new course taught by Lauren Linderman “Sensors in Infrastructure.” Labuz also mentioned how CEGE has turned pieces of steel from the collapsed bridge into a type of memorial—a large ring (10 in. diameter) used for the Order of the Engineer ceremony, which is conducted twice a year as part of the department’s graduation event. Students receive an engineer’s ring to wear as a daily reminder of the pride, prestige, honor, and professionalism among all engineers. The ring also serves as a reminder of the engineer’s obligation to society.
JOSEPH LABUZ (center) was an invited guest of the National Taiwan University of Science and Technology, Taipei, where he received an honorary chair from the Department of Civil and Construction Engineering. He also visited the National Taiwan Earthquake Center, Taipei, and National Cheng-Kung University, Tainan. He presented seminars on “Listening to Rock” and “Paul-Mohr-Coulomb Failure Criterion for Geomaterials.” Prior to visiting Taiwan, Labuz participated in the International Workshop of Bifurcations and Degradation of Geomaterials in Limassol, Cyprus, where he presented “Localization in Plane Strain Compression of Fluid-Saturated Rock.”

ARTURO SCHULTZ (left) received the 2017 Charles W. Britzius Distinguished Engineer Award from the Minnesota Federation of Engineering, Science and Technologist Societies (MFESTS). This award recognizes outstanding lifetime achievements in the practice of engineering, contributions to the engineering profession, and actions enhancing the image of engineering in our society.

EMERITI PROFESSORS

CHARLES FAIRHURST is producing a one-hour technical video, “Why Rock Mechanics and Rock Engineering?” The video was requested by the International Society for Rock Mechanics and will be part of a series prepared by international experts. The video will describe the special role of numerical modeling as a tool to inform design in rock engineering and will emphasize UMN contributions to this field.

HEINZ STEFAN has been working with Professor Makoto Higashino from the Department of Civil and Environmental Engineering of the National Institute of Technology, in Oita, Japan. Higashino has been visiting twice a year for several years to conduct research on water quality and water resources issues with Stefan. Their collaboration has resulted in several published papers.

BOJAN GUZINA and STEFANO GONELLA organized Waves 2017, the 13th International Conference on Mathematical and Numerical Aspects of Wave Propagation, hosted at the University of Minnesota. The Waves conference is one of the main venues for dissemination of the advances in theoretical and computational modeling of wave phenomena, catering to the emerging problems in science and technology. The 2017 installation attracted about 200 researchers from all over the world. The nine plenary lectures featured distinguished scientists and mathematicians from a wide spectrum of disciplines within the broad wave propagation community.

MTS VISITING PROFESSORSHIP

supports visits of international scholars. This summer and fall the following researchers visited: Vladislav Matic, University of Sevilla (July 17–August 14); Nathan van de Wouw, Eindhoven University of Technology (September 11–22), Xiaoming Mao, University of Michigan (September 17–24); and Vincent Denoel, University of Liege (September 25–29).
KAITRIN COLBY (undergraduate student advised by Lauren Linderman) was recognized for the quality of her research at the spring 2017 UMN Undergraduate Research Symposium.

ANNA DOURGARIAN was selected from a pool of exceptional undergraduate, graduate, and professional student nominees to receive the 2017 President’s Student Leadership and Service Award (PSLSA). The PSLSA recognizes Dourgarian’s efforts to strengthen the University community and the value of her leadership and service to University faculty, staff, and students. Dourgarian will be honored at an award banquet held during Homecoming week in conjunction with the University of Minnesota Alumni Association.


NICOLE MOHAPP FITZGERALD (Ph.D. 2017, advised by Paige Novak) studies the effects of perfluorooalkyl substances (PFAS, which are used in a variety of industrial and consumer products and are thus ubiquitous in the environment), on microbial membranes and microbial function. Results from Fitzgerald’s study will help the scientific community better understand the range of microbial effects associated with PFAS exposure and help industries design chemicals to minimize environmental effects and maintain microbial function. Fitzgerald received a travel award from CH2M Hill to present her research at the Association of Environmental Engineers, Scientists, and Professionals (AEESP) in Ann Arbor, Michigan.

MARÍA GARCÍA-SERRANA, (co-advised by John Gulliver and John Nieber of Bioproducts and Bio systems Engineering) successfully completed her Ph.D. degree in July. Her dissertation is titled “Analysis of Infiltration and Overland Flow over Sloped Surfaces: Application to Roadside Swales.”

DIMITRIOS KALLIONTZIS (doctoral candidate) and his advisors (Arturo Schultz and external co-adviser Prof. Sri Sritharan of Iowa State University) were honored at the recent 13th Canadian Masonry Symposium when their conference paper titled “Simplified Approach for Estimating the Envelope Response of Unbonded, Post-Tensioned Masonry Walls” was selected for Honorable Mention for the H. W. H. West Award by the Canada Masonry Design Center and Dalhousie University. The award honors the best paper written and presented by a current graduate student. The symposium was held in June at Dalhousie University in Halifax, Nova Scotia.

TAHA NAMAZI, a graduate student advised by Otto Strack, was awarded the John Bowers Excellence in Teaching Assistance Award by the College. Namazi said “Teaching is a very personal-to-person relationship between me and the students; it’s an art. An educator should be kind. If students don’t see that in you, they don’t trust or learn from you.” Read more about Namazi at z.umn.edu/taha-namazi.

TYLER OLSEN received the Nelsen Nelson Memorial Fellowship Award in April 2017. The award is given to a University of Minnesota student pursuing a Master’s degree in a water resources-related discipline at the St. Anthony Falls Laboratory.

ALI TAROKH (advised by Joseph Labuz), who completed his Ph.D. on “Poroelastic Response of Saturated Rock,” is working at the University of Illinois at Urbana-Champaign as a post-doctoral researcher in the Department of Civil and Environmental Engineering.

STEPHEN TODAY (2nd year MS student advised by Bill Arnold) received a Floyd Forsberg Environmental Scholarship in the amount of $3,000 by the Minnesota Land of Lakes Chapter of the Solid Waste Association of North America (SWANA). Today also received a one-year membership to SWANA Land of Lakes Chapter and admission to RAM/SWANA, the premier recycling and solid waste conference in the Midwest where he will be recognized as a scholarship winner during the Annual Meeting and Dinner to be held in Minneapolis (October 2017).

MICHAEL WAAK (advised by Ray Hozalski, Tim LaPara, and Prof. Cynthia Hallé of the Norwegian University of Science and Technology) lived in Norway for almost a year sampling water systems in Bergen, Stavanger, and Trondheim. While there, Waak won the best poster presentation at the Vannforskning 2017: Vannkvalitet – er vi på riktig vei eller har vi behov for mer integrerte tilnærminger, a seminar organized by the Norwegian Hydrological Council.

RENA WEIS (BEnvE 2017) received the $3,000 College of Fellows Scholarship from the American Council of Engineering Companies (ACEC). Weis was chosen from a very competitive national pool. Weis is working towards a master’s degree in civil and environmental engineering at University of Minnesota.
MATTIA ZAMMARCHI (advised by Sofia Mogilevskaya) completed a 3-month internship with Reservoir Geosciences Department at Schlumberger-Doll Research in Boston, Massachusetts.

WEITING ZHANG (pictured with her advisor Stefano Gonella), presented her research “Rainbow trapping elastic waves in tunable metamaterials” at the Materials Research Science and Engineering Center (MRSEC) undergraduate research symposium. Undergraduate researchers from several universities participated.

THE 2016-2017 UMN TWIN CITIES CONCRETE CANOE TEAM presented their canoe, The Saint Anthony, at the Midwest Regional competition this year. Innovations on the 18-foot canoe included basalt macrofibers for tensile strength, a carbon fiber mesh for primary reinforcement, and lightweight expanded clay aggregate to replace 25% of the glass bubble aggregate per new regulations. Seventy-five percent of the 1,000 hours dedicated to design, construction, and administration were contributed by team members with one year or less of concrete canoe experience. Team captains ANNA DOURGARIAN and TYLER STRICHERZ reported that this general lack of experience gave them the opportunity to approach the project with open-mindedness and communication as their most important tools. The team won first place in Racing, second place in Design Paper, and third place Overall. Several generous sponsors enabled the team’s success: Forterra (John Kallemeyn), BKBM, Concrete Paving Association of Minnesota, CECO Concrete Construction, CNA Consulting Engineers, HN-Holdings Inc., Molin Concrete Products, Brock White, Concrete Form Engineers, Inc. (Greg Youngdahl), Joe Casanova, Minnesota Canoe Association (Sinthang Has), and Hoigaard’s.

Students in Minnesota Environmental Engineers, Scientists, and Enthusiasts (MEESE) participated in the Mississippi Great River Race with Ann Bancroft’s expedition and Wilderness Inquiry in September. Several CEGE students got involved. GRIFFIN DEMSEY (EnvE), President of MEESE, was the team’s coordinator. Paddlers included SAMI KINNUNEN (EnvE), JOHN LARKIN (EnvE), MICHAEL SIDELL (EnvE), and LEE WERNER (GeoE). They were joined by SUSAN KUBITSCHEK, the Assistant Dean & Director of the College of Science & Engineering. The team had an impressive finish taking 3rd place in a field of 28 canoes.

DEPARTMENT

CNA CONSULTING ENGINEERS have made a gift to support the renovation of the 7th floor viewing window. Experts in underground and mined spaces, CNA engineers helped with the design and construction of our building back in the early 1980s, and now CNA has stepped forward to
support renovation of the viewing window. Chuck Nelson, co-founder and principal engineer for CNA, and Kim Beecham, director of administration for CNA, came to campus to deliver CNA’s philanthropic contribution that will help CEGE to renovate the 7th floor viewing window. When the renovation is complete, visitors to the Civil Engineering Building will again be able to see the rock that surrounds them seven floors below the surface and to experience the features and history of our unique building as a showcase in the use of underground space.

ALUMNI

JOHN ALLAN AMUNDSON (BCE 1986) passed away July 29, 2017, due to complications from ALS. He was a forensic engineer with American Engineering Testing. He is survived by his wife Laura Amundson (BCE 1978), an engineer at WSP/Parson Brinckerhoff.

RICHARD (DICK) BURY (BCE 1958) passed away June 6, 2017. Bury passed on his love of engineering to his son Blair Bury (BCE 1981) and his grandson Brandt Sylvestre (BCE 2014), who are also graduates of CEGE.

ARNOLD CONNOR (BCE 1951) passed away on August 30, 2017. Connor studied mineral engineering. He moved to Hibbing, Minnesota, where he worked at Hanna Mining and then at Meriden Engineering (now Superior Mineral Resources). Connor retired in 1991. Read the full obituary at z.umn.edu/cege-connor-obit

DENNIS FORD (Ph.D. 1976) visited campus and toured CEGE in August. Ford serves on the national scholarship review committee for the American Council of Engineering Companies (ACEC).

MICHAEL HAGGERTY (BGeoE and BS Geology 2001, MS Geoenvironmenting  2005), Vice President and Senior Geotechnical Engineer at Barr Engineering, joined the College of Science and Engineering Alumni Society Board in September 2017. The CSE Alumni Society Board is made up of 20 alumni from across the college, ranging from recent graduates to retirees. Haggerty will represent the interests of CEGE alumni and help raise the visibility of the department among the broader CSE alumni community.

DANIEL PETER JENNY (MS 1949) died on August 3, 2017. He was 95. His professional career spanned 41 years. He worked for three different trade associations. He retired at age 69 from his position as Vice President and Technical Director for the Precast/Prestressed Concrete Institute (PCI) in Chicago. Read the full obituary at z.umn.edu/cege-DPJenny-obit

BOBBY OARE (BCE 1991) and HDR’s Senior Transportation Engineer pulled together a large and enthusiastic group of CSE alumni who work in many areas of HDR including roadway, construction, transportation, structures, water resources, and transit. Over bagels and coffee, department head Joe Labuz provided an update on the activities of CEGE and fielded questions and suggestions from the engaged group of alumni. Our thanks to HDR for hosting us and for their unwavering Gopher spirit!

BRET WEISS (BCE 1987), CEO and President of WSB, was recognized by the Star Tribune with a Leadership Award (Sunday, June 25, Top Workplaces special section). Weiss thanked his staff at WSB for their confidence. “It is easy to be a great leader when you have talented and committed staff to execute the direction of the company.”

The CEGE Professional Advisory Board is composed of 15 alumni who are experts in their fields. They advise the department on strategic issues, help to promote the department nationally and internationally, evaluate program objectives, and act as mentors to students; they also provide philanthropic support and assistance. The board members are LISA CERNEY (PE, BCE 1999) Deputy Director of Public Works, City of Minneapolis; NANCY DAUBENBERGER (PE, MSCE 1997) Assistant Commissioner, Engineering Services, MnDOT; PHIL GRAVEL (PE, BCE 1984) Senior Associate for Stantec Consulting Services, Inc.; MICHAEL HEUER (PE, BCE 1978) Vice President, Braun Intertec; THOMAS LORENTZ (PE, BCE 1990, MSCE 1992) President-US Operations, IDOM; LOREN LORIG (PE, Ph.D. 1984) General Manager, Itasca International; MARK MAGNEY (PE, BCE 1979) Founder and President, Magney Construction, Inc.; DENNIS MARTENSON (PE, BCEE, BCE 1967, MSCE 1968, ASCE President 2006) Independent Civil Engineering Consultant; GLENN SCHREINER (PE, BCE 1978, Board Chair) Vice President and Minneapolis Area Manager, WSP/Parsons Brinckerhoff; KENNETH STYRLUND (PE, LEED AP, BCE 1977, MSCE 1979) Senior Vice President, JE Dunn Construction; JILL THOMAS (PE, BCE 1996, MSCE 1998) Executive Director, Minnesota Asphalt Pavement Association (MAPA); MARCUS THOMAS (PE, BCE 1994) Principal, Bolton & Menk; SHERRY VAN DUYN (PE, BCE 1987, CHMM) President, Landmark Environmental, LLC; BRET WEISS (PE, BCE 1987) Founder and President/CEO, WSB; and DINO XYKIS (Ph.D. 1988) Vice President of Engineering, Power Solutions International.
Assistant Professors Promise Bright Future for CEGE

The Department of Civil, Environmental, and Geotechnical Engineering (CEGE) has a long history built on a deep foundation of distinguished and internationally recognized researchers. We are proud that figures like Theodore Galambos, known as the father of LRFD, and Karl Smith, who advanced the field of engineering education, are CEGE faculty. And that five are members of the National Academy of Engineering: Steven Crouch, Peter Cundall, Emmanuel Detournay, Charles Fairhurst, and Theodore Galambos. But it takes continual renewal to maintain a vibrant program of teaching, research, and service. Over the past five years, several bright, promising scholar-researchers have joined the CEGE faculty. These assistant professors (shown in alphabetical order) point to a promising future for CEGE.

ARDESHIR EBTEHAJ (Ph.D., 2013, Civil Engineering, University of Minnesota). Ebtehaj’s research area is environmental engineering and water resources. He works on problems related to physical and data science hydrology, satellite hydrology, remote sensing, land-atmosphere interactions, climate intelligence, and big earth-data analytics.

“My research is focused on land-atmosphere remote sensing and interactions. The goal is to better understand the global water and energy cycle through satellite remote sensing and to develop technologies for sustainable water conservation by expanding our knowledge in experimental hydrology.”


Ebtehaj’s research group website: [http://www.hydsens.com/](http://www.hydsens.com/)

XUE FENG (Ph.D., 2015, Civil and Environmental Engineering, Duke University). Feng’s research explores the feedback between vegetation and the hydrological cycle across a range of temporal and spatial scales. She is interested in how the interactions between plants and water inform our understanding of soil water and carbon budgeting, ecosystem health and functioning (and the response to climate extremes), as well as water management decisions around irrigation, salinization, and pollution control.

“I study how plants mediate the water cycle. Plants help accelerate the movement of water in the ground and back to the atmosphere, so where and when plants end up growing, and how much, can have huge implications for how we think about water resources management.”

Feng’s research group website: [http://www.fengx.org/](http://www.fengx.org/)

Xue Feng shown with pines and junipers, two species that often grow together but display very different water use patterns.
ALIREZA KHANI (Ph.D., 2013, Civil Engineering, University of Arizona) conducts research on transportation network modeling, transportation user behavior, public transit planning and operations, and application of big data in transportation.

“TRANSPORTATION SYSTEMS are transitioning to a new era with the shared use of vehicles, and soon with driverless vehicles. But cities need high capacity and reliable transit systems to increase mobility and reduce congestion and environmental footprints. My research is focused on modeling, simulation and optimization of transit systems.”

Khani’s research website: http://umntransit.weebly.com/

MICHAEL LEVIN (Ph.D., 2017, Civil Engineering, University of Texas at Austin). Levin’s research interests include connected autonomous vehicles, traffic flow theory, and intelligent transportation systems.

“AUTONOMOUS VEHICLES have the potential to revolutionize how we use our ground transportation systems. My research goals are to model how connected and autonomous vehicles affect traffic flow and traveler behaviors, and use these models to optimize traffic controls and policies for these developing technologies.”

Levin’s research group website: http://mwlevin.weebly.com/

LAUREN LINDERMAN (Ph.D., 2013, Civil Engineering, University of Illinois at Urbana-Champaign) studies cyber-physical systems in order to improve the long-term performance of structures or limit their response during transient events, such as earthquakes.

“I RECEIVED SIGNIFICANT start-up funds from the department and the University, which jump-started my experimental program. The shake table is a signature piece of equipment central to my research group. It will allow us to develop new structural control solutions to limit dynamic response. Additionally, the accelerometers and associated data acquisition equipment purchased with those funds have been essential for understanding system behavior and exploring monitoring techniques for bridges and buildings.”

Linderman’s research group website: linderman.cege.umn.edu
SANTIAGO ROMERO-VARGAS CASTRILLÓN (Ph.D., 2012, Chemical Engineering, Princeton University). Romero-Vargas Castrillón’s research involves environmental nanotechnology; environmental colloid and surface science; membrane-based processes for water production; and molecular simulation.

“WATER SCARCITY is one of the central problems of our time. Millions of people are affected by difficult or intermittent access to water, a problem that will be aggravated by population growth, industrialization, urbanization, and climate change. My research is focused on developing new materials and processes for water treatment, with a particular emphasis on membrane-based processes.”

Romero-Vargas Castrillón’s research group website: http://epclab.umn.edu

DOMINIK SCHILLINGER (Ph.D., 2012, Computational Mechanics, Technische Universität München). Schillinger’s research area is computational mechanics, especially the development and implementation of novel discretization techniques for the analysis of solids, structures, and fluids that overcome limitations of today’s standard numerical tools.

“THE GENEROUS START-UP funds granted by the department and the college have been fundamental for creating a successful research program, in which funding agencies such as the National Science Foundation have started to invest. In the first two years, these funds were particularly important. Before being supported by external grants, I was able to attract top graduate students, who transformed my research ideas into results. And I could participate in international conferences, where I presented these results to build a reputation as an active high-quality researcher.”

Schillinger’s research group website: https://sites.google.com/a/umn.edu/dominik/

RECRUITING EXCELLENT FACULTY IS, as you might imagine, a competitive enterprise and perhaps the most important aspect of maintaining and building the quality of our programs. Offering faculty start-up funds is the critical element in recruiting these promising young engineers. These funds help new faculty establish their labs, purchase equipment, and hire/recruit their research team. If you are looking for a way to make a big impact with your donation dollars, consider a gift in support of faculty start-up funding. Contact Shannon Wolkerstorfer (swolkers@umn.edu, 612-625-6035) for more information.
The newly renovated John T. Tate Hall reopened this fall. New students will surely enjoy the bright, new atrium and benefit from the up-to-date technology, classrooms, and instructional labs. But students and alumni who remember studying in old Tate, with its many levels and winding hallways, will really appreciate what the updates mean for students.

“As a student, I didn’t mind too much, but it was an old building and it was confusing to navigate,” recalls Tina Benedict Vath (BCE 2007) of her time studying physics in Tate Hall. When she returned to Tate as the Lead Engineer on the renovation project for Meyer Borgman Johnson (MBJ, the firm responsible for the structural engineering), her view had shifted. During her first walk through with University staff and the project team, Benedict Vath understood the impacts of the outdated mechanical and electrical systems, hazardous materials, and issues with accessibility. Technical and computer capabilities needed to be updated, and there was much to be done to make the space aesthetically appealing and inviting.

Tate Hall is part of the University of Minnesota Mall Historic District. So the goal to update the building for 21st century teaching and research had to

PHOTO: M. RENDAHL
be done while preserving the historic character of the building. Alliiance, the project's building renovation architect, and Preservation Design Works, specialists in reuse of historic buildings, researched the history of the existing building. Understanding a building's history gives clues to the structural methods and materials used, which can help determine the strength of the existing structure and how it will work with new materials or additional loads.

Tate was originally built in 1926. The south wing was started in the 1950s and finished in 1963 along with the north wing. Additional updates were done in 1961. For Benedict Vath, that meant that four eras of major construction would have to be accounted for in this renovation. Investigation determined that the old structure could not support the additional loads required for the desired building addition. The decision was made to minimize additional load on the existing structure by isolating, as much as possible, the new structure from the old. Essentially the inside of the old building was scooped out and the new section was built within the embrace of the U-shaped arms of old Tate Hall.

“My statics class in Tate Hall was one of my first classes at the University of Minnesota,” said Benedict Vath. “Even though I have worked on other projects at the University (Folwell Hall, Northrup Auditorium, and the Nanotechnology Building), working on this project was especially satisfying. It felt like coming full circle, back to where my engineering career began.”

Tate Hall is now the home of the School of Physics and Astronomy and the Department of Earth Sciences. More than 2,000 students will take classes in Tate Hall daily.

The entry on the Northrop Mall looks as it always has. The exterior has been cleaned and patched: limestone repaired where it was spalling, damaged bricks replaced, mortar joints repaired with tuck-pointing, and new aluminum-clad wood windows installed. Inside, the windows over the doors and tooth molding in the front entry have been preserved.

The Church Street entrance is entirely new, but will be graced with the "rock garden" that used to sit outside of Pillsbury Hall. It offers a familiar welcome for Earth Sciences students and alumni.

Inside, a bright, four-story atrium bonds the old and new sections. The stories are joined by a central staircase that cantilevers out into the space under large skylights. The lower floors feature four sizeable lecture halls to serve large undergraduate classes. Each hall is equipped with new technology and acoustics. The upper floors hold offices and laboratory space for faculty and graduate students. Thirty-three teaching labs are located throughout the building.

The fourth floor has a room for events and access to the rooftop and telescopes. The rooftop patio offers great views of the campus—and of the stars through additional, movable telescopes. Friends of Tate Hall will be glad to hear that the 1896 telescope (500 pounds with a 10.5-inch, hand ground, double lens) has been preserved and will continue to be opened for public viewings.
The University wanted some examples of physics principles visible throughout the building. One feature that does this is the large, exposed truss and columns in the central atrium. A truss was necessary to support the new construction; MBJ recommended the design. The exposed truss can be used as a live illustration when students are learning to draw free body diagrams, which help students visualize and balance forces acting at a point.

Not all the interesting engineering features in the building can be seen, however. For instance, one challenge was creating the large open lecture halls on the first floor. In order to avoid columns within the classroom, support had to be arranged around the edge. A large, one-story-high support truss was placed in the wall that separates two lecture halls on the first floor. The large truss supports the upper floors and allows for an open, unobstructed auditorium below. Bringing this vision to life required knowledgeable engineers, like Benedict Vath, and many technical partners.

The new John T. Tate Hall showcases how the University works to preserve history and generate new knowledge. Built on its historical foundations, Tate is well positioned to prepare students for far reaching futures.

MBJ is a single-discipline, structural engineering firm. In that setting, Tina Benedict Vath has had a chance to do many things that might not be possible in larger or smaller firms, like taking on responsibility to recruit and train interns and new engineers. She enjoys being involved with recruiting and staying in touch with new developments in the field. Benedict Vath goes to job fairs, and reviews and recommends candidates. She tells candidates, “Working with a consulting engineering firm is not a 9-to-5 job. It is a career that involves a lot of time and dedication. I have been at a concrete pour at 4 in the morning, and I have stayed late finishing something up. You have to find fulfillment in knowing that when you’re done there’s something there that is real and lasting.” It is clear that she does.

Expanded story available on cege.umn.edu.
DENNIS R. MARTENSON (PE, BCE 1967, MSCE 1968, Pres.06.ASCE) has given a lot of himself to engineering, a profession that gives lot to society.

Martenson, who has been licensed since 1971 and is registered in six states, participates in several professional organizations. He became a member of the American Society of Civil Engineers (ASCE) as a student and has served as national president (2006) and chair of the National ASCE Committee on Professional Conduct (CPC). He is also active with the American Water Works Association (AWWA), the Central States Water Environment Association (CSWEA) and the Water Environment Federation (WEF). His career includes experience in industry, regional wastewater authority, and consulting engineering firms. He has been honored with many awards.

Currently, Martenson is a member of the Steering Committee for the preparation of the 6th edition of the joint AWWA/ASCE Water Treatment Plant Design Manual, and the first ASCE-MN Section State Infrastructure Report Card for Minnesota for which he is leading the Drinking Water and Wastewater portions. He is also on the Minnesota State Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscientists, & Interior Design (AELSLAGID). He is a consulting Engineer at Donohue & Associates, Inc., in Minneapolis. He also serves on the Professional Advisory Board for CEGE, where he has been instrumental in organizing and shaping the capstone design course.

“Well,” says Martenson, “I like to keep busy.”

Martenson also likes to keep up with the news on engineering. He followed stories about the recent hurricanes in Texas and Florida with interest. He believes those events and how society reacts reveal multiple layers of impact that civil engineers can have on society.

“Destruction in the wake of Hurricane Harvey,” says Martenson, “certainly presents a resiliency challenge for Houston and for the entire country.”
“I’m so appreciative of what I’ve been given and been able to accomplish. I try to instill in others the willingness to give back, monetarily and/or by volunteering. We all owe some debt of gratitude. Giving back is a way of paying it forward, so to speak. And I try to instill that in future generations of civil engineers. Ultimately, we all serve to benefit society.”

Resiliency is our ability to recover from disasters, natural or man-made. Houston seems to be in a better position for recovery than New Orleans was when Hurricane Katrina hit back in 2005. “When the levees failed in New Orleans, the lack of critical infrastructure became a big issue. The city had to worry not only about flooding, but also about a lack of clean water supply, and lack of transportation, electricity, and communication networks. Loss of these critical infrastructures can lead to chaos. People get desperate and do unreasonable things. A loss of civility comes with a lack of civil infrastructure.”

Seen in this light, the services provided by civil engineers are vital for our society. Civil engineers protect us, physically and socially, in very real ways.

Dennis Martenson believes strongly in the good civil engineers can deliver; he also believes strongly that civil engineers have a duty to do good in the world. “I was the first in my immediate family to obtain a college education, and it has proved invaluable to me professionally, financially, and personally. My wife and I feel that people who have been given a lot should give something back, and that it is important that people give in ways that are meaningful to them.

“As ASCE President, I traveled to many universities and always encouraged students to give back. I would tell them, ‘As engineers, you will earn more than the average person. You should seriously consider paying it forward to let others have the advantages you have had.’ In my mind, it is just the right thing to do.”

Martenson started volunteering during his first job after college. He was a Plant Engineer in the Plant Design and Construction Services Group of the Western Electric Company (a division of AT&T). The company encouraged volunteerism and arranged some opportunities for their employees.

Martenson’s first activity was tutoring young students in a low-income housing project in Newark, New Jersey, at a time when Newark was embattled after riots and tanks had been sent to surround the housing area. It was about ½-mile from the train stop, and volunteers were advised not to walk alone. “I remember one six-year-old boy in particular. He was one of three kids, no father. His mother, who worked 2-3 jobs, didn’t let the kids ride their trikes outside, so they rode them in the building up and down the hallways. This little boy was really so interested in learning. I always wondered what happened to him. It was an interesting opportunity to help those people who lived through the riots.”

Martenson has continued to volunteer throughout his life—some activities were engineering-related and some were not. He and his wife instilled a give-back attitude in their two daughters, who are now passing that value along to their own children. “As a parent, it makes me glad to see my children acting in ways that we always hoped they would. I hope, too, that some of the students I’ve talked to have embraced volunteering. You have to plant the seed. People are often willing to give or to help if they are asked. Sometimes you just have to ask them.”

“I became interested in civil engineering when I was young. I was fascinated with construction and watching things get built. When a bridge was being built over a railroad about a block from my house, I went there with my friends many times. During the day we would watch everything that was going on, and at night, we would climb around (which we weren’t supposed to do!). We were interested in how it all worked.

“In college, I liked many aspects of civil engineering, and I found water/wastewater engineering was a way to get involved in the whole spectrum. For example, building a water treatment plant involves structures, roads, and even mechanical and electrical engineering.”

Martenson often expresses gratitude for what he has attained and gratitude that he is able to give back. He appreciates that precisely because he has not always had a lot. He married his love, Catherine, when they were quite young; Martenson was working and going to college at night. They decided, if he was going to finish before he was thirty, he’d have to go full time. That meant they made some sacrifices.

“We lived in a little house on Nokomis Avenue in South Minneapolis. We bought the house from her aunt on a contract for deed with a payment of about $49 a month. It was a one-bedroom house, but we couldn’t have a bed in the bedroom and get to the bathroom! We had to crawl over the bed to get to the bath. So we put a hide-a-bed in the living room. There was no furnace, only a space heater. My wife would come home after bussing to work and would sit on top of the space heater because she was so cold! The whole house was maybe 25x25 feet, and one third of that was a porch that went all across the front, so the whole place was not very big. We lived there until I earned my bachelor’s degree.
“My oldest daughter was born when I was a senior. My wife started having morning sickness during finals week. At the time it was not good. We laugh about it now; it all turned out alright.

“So thinking of those days, my wife and I wanted to help out students who find it difficult to pay tuition and so forth. There is a big difference in financials today; tuition is higher and some students struggle. We thought students needed financial help, so Catherine and I funded the Dennis R. and Catherine M. Martenson Scholarship. The recipients each send a letter when they receive the scholarship, and we have gotten to meet several of them. For my wife and me, it is very rewarding to meet a student that we are helping.”

Through the scholarship, the Martensons support students in meaningful ways. Receiving a scholarship can also be an emotional boost for students. When a student hears from an engineer—from someone who knows the struggle, has conquered it, and been successful in their career—when a student hears that engineer say, “I’m behind you. Even though I didn’t know you, I’m behind you and will support you!”—that means a lot to a struggling student.

Martenson talks with students often as a representative of one of the many professional organizations or as an instructor within CEGE. Martenson observed, “Students today are more idealistic, I would say. Some of them get involved with organizations like Engineers Without borders or Teach for America. Such work seems to be, if not a passion, surely an interest of many students. It is important to bring out each student’s special abilities. Sometimes, a student needs somebody to assist with that, to help them identify their interests and opportunities, and to help them be as successful as they can be.”

The CSE Mentors Program pairs practicing engineer-mentors with students. Through mentoring, students learn about the profession and about career options. This past year, Martenson was matched with a Ph.D. student. “She was technically probably head and shoulders above me!” laughed Martenson, “but I was able to give her some practical insights.”

When he was a student, Martenson majored in Sanitary Engineering, which is now called Environmental Engineering. “At UMN, I received a first class education in Civil Engineering. That’s true for students today, too. As President of ASCE, I talked to numerous students and faculty on various campuses about Capstone Design programs. I believe the experience offered in CEGE is outstanding.

“Students also benefit from UMN being a research institution. CEGE encourages undergraduates to get involved in research and internships, which I think is a strong plus for students. As students get experience through internships or research opportunities, they will have a better understanding of what life will be like when they graduate and go to work.

“I think the students graduating today, although they will work in many of the same types of occupations my peers and I did, they will face different challenges. Computers have presented a huge change in the skills and knowl-
We had to have 12 quarter hours to be a full time student; I remember taking 17-19 credits. Then I went to summer school, too. I remember taking Concrete Structures over the summer, an intense 5 week course with structural engineer Paul Andersen. It was in the old Experimental Engineering Building. There was one big classroom and I think his office was in that building, too. The class started at 7 in the morning. When we came in the classroom at 7 a.m., he would have the chalkboards plus foam-core boards above the chalkboards covered with notes on three walls! I could not take notes; I had to really pay attention to follow what he was saying. But he would let us come to his office and review his notes. Every lecture was bound separately in very neat handwriting. He was really organized. It was really intense as a summer course!

“CEGE graduates will, eventually, be developing and working with new methods, new procedures, and new materials.” Martenson says that is not a prediction but just a development of current trends. “Data is going to bring a big change to the way we renew and repair our infrastructure. For instance, the new I-35W Bridge is highly instrumented. We can now get data about what is going on inside the structure, which will enable us to make better, more timely decisions.

“Instrumentation is now being used on buildings, bridges, waterlines, and sewers. The ability to monitor water and sewer lines in real time is a big benefit. More instrumentation is going to give us more data so when we design things, we will be able to make better decisions.

“Historically, without as much data as we would have liked, civil engineering has built massive structures to ensure safety. I saw an estimate somewhere that the Brooklyn Bridge was designed with a factor of safety between 5 and 7. As we have learned more and built in redundancies, safety factors can be reduced. Now we are taught to use a safety factor around 2. A lower factor of safety makes the structure less expensive to build without compromising safety.

As engineers are able to gather more data on how structures perform below the surface, they will be able to make better decisions and build strong, safe structures with less expense.

After a lifetime of engineering work, Martenson has a lot to teach us all about what it means to work for the benefit of society. “I’m so appreciative of what I’ve been given and been able to accomplish. I try to instill in others the willingness to give back, monetarily and/or by volunteering. We all owe some debt of gratitude. Giving back is a way of paying it forward, so to speak. I try to instill that in future generations of civil engineers. Ultimately, we all serve to benefit society.”
THE STORY OF EXCELLENCE IN CIVIL ENGINEERING is a long one within Department of Civil, Environmental, and Geo-Engineering (CEGE), and it can be found in the pages of the Chi Epsilon Membership Log. Chi Epsilon, the national honor society for the Civil Engineering profession, was established in 1922 at the University of Illinois at Urbana-Champaign. The University of Minnesota was chapter number three (Illinois Institute of Technology was number two), installed in 1923. The chapter has maintained the same membership log book through all its 94 years. Its binding is worn and its pages are yellowing, but the stories it harbors are still lively.

The old book lives in the Chi Epsilon Student Chapter Office, which is perched like an eagle’s nest above the student study lounges in the Civil Engineering Building. The loft-like room was renovated in 2013, financed by a Chi Epsilon member, James Weinel and his wife Sharon. James Weinel (chapter member #435) was initiated
in 1955. The Weinel’s also sponsor the James and Sharon Weinel/Chi Epsilon Scholarship, which is given to senior Chi Epsilon students in CEGE who display academic excellence. This year’s recipients are Paul Fritton and Sami Kinnunen.

The second page of the membership log book shows the signature of Ora Leland (chapter member #34), who was a faculty member when he was initiated in December 1923. Leland went on to be the Dean of Administration in the Institute of Technology (now known as the College of Science and Engineering). His long career included Surveyor General of Florida, US Coast and Geodetic Survey, professor at Cornell University, project engineer at the JG White Corporation, member of the Alaska Boundary Survey, and representative of the US on the Costa Rica-Panama Boundary Commission. In 1932, Leland was elevated as the third National Honor Member, an elite group—only 64 members recorded as of May 2016—that deserves “the supreme level of recognition on the basis of their distinguished and pre-eminent accomplishments in the field of Civil Engineering, and their outstanding contributions to the object and purpose of Chi Epsilon” (www.chi-epsilon.org).

Chapter member #234, initiated in 1944, should be familiar to current students. Robert Rosene is the namesake of the Robert and Joyce Rosene Student Lounge and the Rosene Room for Student Activities, which houses the ASCE Student Office. Dennis Martenson (see p. 14) is member #601.

Membership in Chi Epsilon is recognition of academic accomplishment, but it was always intended as much more. In addition to academic accomplishment, the club encourages personal characteristics of character, practicality, and sociability. Chi Epsilon offers members lifelong opportunities to continue developing in a professional manner. It is clear from the contributions of the members highlighted that each has made a big impact.

The influence of other Chi Epsilon members plays out in a more personal way. Isabel Panek, a member just initiated in 2017, found the signature of her father, Mark Panek, who was initiated as a Chi Epsilon member in 1990. Panek is following in her father’s footsteps, pursuing a career in civil engineering and striving for excellence through Chi Epsilon.

Chapter president Sami Kinnunen is completing his degree in environmental engineering. For Kinnunen, giving back is one of Chi Epsilon’s most valuable lessons: “Chi Epsilon gives its members the opportunity to engage in a structured form of giving back to the community. We gain experience through organizing events and communicating with various local organizations.”

Member Noah Germolus appreciates the way Chi Epsilon helps him balance: “Chi Epsilon has been for me a way of honoring the community. Fundraising for elementary classrooms, cleaning up litter, and hosting blood drives have allowed me to keep career and conscience close at hand.”

Paul Fritton highlighted the long-term benefit of his involvement: “Chi Epsilon has helped me to connect with other highly motivated and like-minded students to form a team that can effectively promote civil engineering as well as serve our community. Through the group, I’ve been able to get to know other students at a deeper level and build bonds that will last well into the future.”

The current UMN Chi Epsilon members: (top row) Joshua Pierce, Riley Brown, Noah Germolous, Marah Sobczak, Corin Treat, Katelyn Olson; James Butler, Sami Kinnunen (white shirt with tie); Ryan Heath, Paul Fritton, Carl Duebner; and new members: Isabel Panek, Matt Kluthe, with advisor Lauren Linderman (white collar, glasses); Anna Dourgarian, Tessa Nordman, Tyler Szeto; Adam Pleschourt; in front: Eric Elert, Paul Mako, Chun Nok Kwan. Not pictured: Nathan Bausman, Jack Cottle, Diego De Bedout, Coleman Drew, Morgan Kuehn, Jacqueline Nowak, and Rena Weis.

You are invited to share your memories of Chi Epsilon by writing to cegenews@umn.edu.
The Department of Civil, Environmental, and Geo-Engineering (CEGE) is pleased and proud to encourage young students interested in entering fields of civil, environmental, and geo-engineering.

DISCOVER STEM
Discover STEM (science, technology, engineering, and math) is a weeklong day camp hosted by the University of Minnesota’s College of Science and Engineering each summer. It is open to students entering 11th or 12th grade. The camp offers students a chance to experience campus life, learn about academic study in fields of engineering, and explore potential careers. Students who attend get exposure to several areas of research and enter the laboratories to practice various types of engineering. Participants tour the campus and various laboratories where they watch demonstrations and run their own experiments. They also experience life as a college student, attending lectures and career panel discussions. The camp helps students learn about STEM career options and begin to picture themselves within one of those careers.

The August 2017 sessions drew students from around the state. Information about summer 2018 programs will be available in February 2018. Watch the Discover STEM website: cse.umn.edu/r/discover-stem/.

EUREKA!
The Girls Inc., Eureka! Program is unique in its long-term approach to introducing girls to careers in science, technology, engineering, and math (STEM). The University of Minnesota’s College of Science and Engineering partners with Girls Inc. in this program.

UMN hosted twenty-five 8th graders for a 5-week-long YMCA camp. Participants receive intensive instruction in STEM-related activities. Eureka! is run by the YWCA. It is a five-year program that guides girls from grade 8 through grade 12, helping them to “see themselves as going to college and becoming vital members of the future workforce,” as stated on the YMCA website. The program offers summer activities plus STEM activities throughout the school year. Participants, or Eurekans, attend summer camp on the University of Minnesota campus for the first two years. There they get introduced to many fields of study and get hands-on experiences in several of those areas. The third year, Eureka girls work in a STEM-related internship (some internships may involve other, non-traditional types of work). The first group of Eurekans are completing their internships this summer in research and technical companies and in community outreach. The last two years of the program, the girls focus on developing professionalism.

CEGE has been involved for the last three years. In June, the 2017 crop of Eurekans visited the Environmental Learning Laboratory on the 6th floor of the Civil Engineering Building. Erin Surdo (Ph.D. 2009) led the group through an exploration of environmental engineering. They learned about contaminants in water and how engineers clean and disinfect water to make it safe for drinking.

The budding engineers tested various water samples (tap water, bottled water, river water, pool water) to determine the chlorine content. The test was done by adding a chemical (DPD) to the water sample. DPD turns pink in the presence of chlorine; the samples with more chlorine showed darker pink, a qualitative measure. A quantitative measure was determined by putting the DPD-treated samples in a spectrophotometer. The machine reads how much light is absorbed through the pink liquids. In the process of this experiment, the girls experienced several important aspects of the scientific process: proposing a hypothesis, the importance of careful measuring, keeping samples pure, and recording data.

Eureka! helps each participant discover her own potential, and CEGE is happy to play a part in that process.

The University of Minnesota also works to support students interested in STEM careers once they arrive on campus. Earlier this year, UMN was awarded $3.7M from the National Science Foundation to further efforts to increase the number of students of color and American Indian students pursuing STEM-related careers. The five-year grant, which runs through 2022, is a renewal of the North Star STEM Alliance in Minnesota. The initiative is intended to attract and maximize the number of African-American, Hispanic/Latino, Native American, Alaska Native and Pacific Islander students receiving baccalaureate degrees in STEM fields.

Vice President for Equity and Diversity Katrice Albert said, “This grant will help the University of Minnesota and its partners ensure that a new generation of STEM thought leaders is well prepared and positioned to actively engage in and transform our communities, our state, and our professions.”
Fall 2017
The Warren Lecture Series is made possible by a generous, renewing gift by Alice Warren Gaarden. The lineup for Fall 2017 brings in excellent speakers from around the world. Each lecture is held Friday at 10:10 a.m. in the George J. Schroepfer Conference Theater, 210 Civil Engineering Building (unless otherwise noted). Please join us if you can. If not, you can view recordings of the lectures on YouTube following the event.

The Fall 2017 season of the Warren Lecture Series began with David Flannigan from the Department of Chemical Engineering and Materials Science at the University of Minnesota. Flannigan works on the development and application of ultrafast electron imaging and diffraction. He received his BS in Chemistry at the University of Minnesota and his Ph.D. in Chemistry at the University of Illinois under the guidance of Ken Suslick. He also was a postdoc in the labs of Ahmed Zewail at Caltech, where he worked on applying ultrafast electron scattering methods for the study of nanoscale structural dynamics.

The interaction of light with materials is central to innumerable fundamental phenomena and technologies. Accordingly, it is highly desirable to formulate detailed, comprehensive descriptions of the electronic and structural responses between materials and light.

Flannigan’s presentation, “Imaging Coherent Nanoscale Strain Waves with Ultrafast Electron Microscopy,” explained the capabilities of the ultrafast transmission electron microscopy (UEM) lab at the University of Minnesota and provided an overview of the ongoing work of his research group, which focuses on understanding high-velocity, coherent strain waves in nanoscale materials.

Recordings are available on our website at www.cege.umn.edu.
SCHOLARSHIPS & AWARDS

DEPARTMENTAL UNDERGRADUATE SCHOLARSHIPS

Al Johnson Construction Company Scholarship
Anna Dourgarian
Andrew Drescher Scholarship
Caleb Widstrand
Archie & Marie Carter/American Society of Civil Engineers Scholarship
Daniel Kennedy
Bonestroo, Rosene, Anderlik & Associates Undergraduate Scholarship
Tessa Nordman
Isabel Panek
Josh Vievering
Clifton T. Barker Scholarship
Patrick Buffington
Samantha Helal
Matt Kluthe
Trevor Leach
Dennis R. and Catherine M. Martenson Scholarship
Noah Germolous
Samantha Helal
Samuel Lombardo
Department of Civil, Environmental, and Geo-Engineering Scholarship
Patrick Buffington
Laura Kivisto
Aaron Marschall
Adam Pleschourt
Donald and Louise Ruhnke Scholarship
Nurul Atiqah Asram
Ryan Erhart
Caleb Widstrand
E.P. Pfleider Memorial Scholarship
Chase Roskos
Eugene Skok Scholarship
Levi Erickson
Adam Pleschourt
Grace E. Rahilly and Harold J. Rahilly Mine and Metallurgy Scholarship
Aaron Anderson
Erik Elert
Tessa Nordman
Joshua Pierce
Guy N. Bjorge Scholarship
Jessica Olson
Samuel Wickstrom
Jack and Sue Cornwell Memorial Scholarship
Paul Mako
James and Sharon Weinel/Chi Epsilon Scholarship
Paul Fritton
Sami Kinnunen
James Grant Waits Scholarship
Weiting Zhang
John Elwood Holmberg Memorial Scholarship
Walter Atkins
John J. Connors Scholarship Fund
Tessa Nordman
John G. Williams Memorial Scholarship
Ryan Erhart
Mike Costello Memorial Scholarship
Caleb Widstrand
Richard Dennis Memorial Scholarship
Paul Fritton
Noah Germolous
Samuel Lombardo
Chantal Nack
Xiaoyan Sui
Robert Dexter Memorial Scholarship
Joshua Pierce
Sommerfeld Undergraduate Scholarships
Walter Atkins
Boon Bank Ng
Jacob Betthauser
Kyle Blommer
Shannon Bolen
Cade Botten
Aaron Bruinsma
James Butler
Helena Cassino Thomaz
Emily Castanias
Chaoyang Chen
Crystal Chin Ven
Diego de Bedout
Michael DeMars
Mariah Dooley
Levi Erickson
Michael Fogerty
Christopher Greve
Brady Halvorson
Edwin Jarquin Martinez
Andrew Kamewske
Ella Kaplan
Kade Kearney
Jordan Labat
Trevor Leach
Jacob Mages
Kalie Manke
Kristopher Manthey

THE SIMON AND CLAIRE BENSON AWARD is awarded each spring to an undergraduate student. Established in 1986, the award recognizes outstanding undergraduate performance. It is named in memory of two former outstanding Civil Engineering undergraduates, brother and sister, who were tragically killed in a car accident in August 1986. Claire received the award in 1985; Simon graduated one year before the award was instituted, but would have been a worthy recipient.

2017 recipient: Henry Croll

Rebekka McCoy
Chun Nok Kwan
Emma O’Leary
Rikita Patel
Shane Price
Alisha Radstake
Alexander Rude
Shaluka Samarasena
Lauren Schuffman
Holly Sievers
Nicole Spence
Xiafein Teo
Sarah Tester
Cameron Valuch
John Wiebolt
Eugene Wong
Theodore V. Galambos Scholarship
Isabel Panek

COLLEGE OF SCIENCE AND ENGINEERING SCHOLARSHIPS

3M/Coleman Family Foundation Scholarship
Kaitrin Colby
Bryce Heller
Mitchell Kiecker
Douglas McCuney-Zierath
Joshua Pierce
Maya Rao
CSE Scholarship
Tyler Szeto
CSE Student Services Scholarship
Weiting Zhang
3M/Coleman Family Foundation Scholarship
Joseph Dill
Christina Kaye
Grace Keller
Megan McDevitt
Renee Sailor

3M Diversity Scholarship
Yahye Hassan

CEGE Scholarship (generously funded by Stantec)
Kory Smits

Clifford I. and Nancy C. Anderson Scholarship Fund
Katherine Schroeder

Dakota Aggregates Scholarship
Adam Saetveit

David E. Feinberg Scholarship
Jared Juth

Gerald W. Everson/Ames Construction Scholarship
Wyatt Fitzsimmons
Jace Jordan
Carl Lind

John J. Williams Memorial Scholarship
Nimco Mohamud Mohamed
Tahirah Whitelaw

Lee S. Whitson Scholarship Fund
Jared Voight
Lydia Wilimitis

Dr. Kenneth J. and Kathryn T. Valentas Scholarship
Alexander Baum

R. Lucian & Maye Vorpahl Memorial Scholarship
Abdi Mohamed Ahmed

Sommerfeld Undergraduate Scholarship
Brian Aeling
Nia Colebrooke
Joseph Dill
Dominic DiVita
Joseph Doyle
Evan Eppe
Grace Hager
Andrew Jacobson
Christina Kaye
Grace Keller
Haley Mennes
Noah Quiring
Anussa Ravinthiran
Renee Sailor
Jared Voight

I am grateful and honored to have been chosen as a recipient of the James Grant Waits undergraduate scholarship. Its generous support enables me to pursue opportunities that I otherwise would have missed. The recognition from the scholarship also motivates me to work hard and to give back in the future. “

— Weiting Zhang
JOIN US FOR A HOMECOMING CELEBRATION

2017 CEGE Homecoming Celebration
Saturday, Oct. 21, 2017
noon-2 PM
Civil Engineering Building
500 Pillsbury Drive SE
Minneapolis MN 55455

To attend the CEGE celebration (no charge), go to z.umn.edu/CEGEHomecomingCelebration