“Humility is just as important to long-term success as self-confidence. Being grateful is one of the best forms of humility—it takes nothing from you to acknowledge the people who helped you reach your goals or become your best self. One of the dangerous things about success is that it can kill your interest in introspection. It takes confidence to admit that you don’t have all the right answers.”

—Thomas Staggs, ’82 B.S., chief operating officer of the Walt Disney Co., in his Carlson School of Management 2014 commencement address
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PHOTOS: COURTESY LOLL DESIGNS (LEFT), STEVE NIEDORF (TOP RIGHT), RICHARD G. ANDERSON (MIDDLE RIGHT), ISTOCKPHOTO.COM (LOWER RIGHT)

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Physician Veronika Bachanova led a Phase I clinical study of a promising cancer drug developed by Daniel Vallera, who heads a research lab at the Masonic Cancer Center, University of Minnesota.

Photo: Scott Streble
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Interactive photo
Learn about a building designed for lifesaving discoveries. Story on page 10

Video
Watch U students teaching middle schoolers about science. Story on page 16

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Dedicated website for Presidents Club members
The U of M Presidents Club recognizes donors whose lifetime giving is $25,000 or more, or who have made a future gift commitment to the University. Members can view event photos, get the latest Presidents Club news, and more at give.umn.edu/pcmembers.
What’s in your backpack?

“My brother’s water bottle,” says Barflaan Tedoe, a junior majoring in journalism and sports management. His deceased brother’s initials on the bottle inspire him to “bring a voice to the voiceless,” he says, a goal he hopes to reach by pursuing a career in broadcast journalism.

Tedoe’s passion for journalism goes back to his preschool years, when he and his mother watched NBC’s “Today” show every morning. “I was a lot more informed than the normal 4-year-old,” he says with a laugh.

Today, Tedoe is keeping other U of M students informed through student-run Gopher TV, where he’s both behind the camera and in front of it. And as an assistant admissions counselor, he helps share his enthusiasm for the U with prospective students. “It’s about helping people feel comfortable here,” he says. “There are so many opportunities at the U, but you have to make use of them.”

Tedoe, a recipient of the John B. Cronin Scholarship, has taken his own advice to heart. He’s involved in the Minnesota Student Association and the Black Student Union, and is a peer mentor at the U’s Huntley House, a living-learning community for African American males.

“My brother laid a foundation for being remembered in a positive way,” he says. “I want to leave a legacy here; I want to feel like I’ve had a positive impact on my school.”

Meet Alayna Johnson, ’16

Majors:
Biology and environmental studies; minor in American Indian studies.

Home:
Poplar, Wisconsin

“Studying ecology seemed like a natural progression of the kind of curiosity, understanding, and respect for the forest you gain from being surrounded by it all the time.”

Why the U?
A combination of factors brought me here: the Humphrey School’s legacy and commitment to the common good, the innovative drive of the U of M, and the compassion that the state of Minnesota has on social issues.

What surprised you most about Minnesota?
The wonderful farmers markets in the summer.

Why did you start the Humphrey International Students Association?
In the past few years, the school had a larger influx of international students. We wanted to make sure they’re supported, so they can bring their full selves to be part of the U of M community.

What should people know about international students here?
The world is increasingly boundary-free. There’s a lot we can learn and share with each other.

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Eric Sannerud

When Eric Sannerud’s great-grandpa bought the family farm in the 1930s, it was producing grains and milk. Now, under Sannerud’s direction, it’s one of a handful of farms in Minnesota producing a main ingredient of beer—hops.

Sannerud, ’13 B.S., and two friends blended their passions for beer and horticulture to found Mighty Axe Hops while they were still at the University of Minnesota. As a student in the College of Continuing Education’s Inter-College Program, Sannerud designed his own degree, combining sustainability studies, business, and social justice.

Mighty Axe Hops is now in its third growing season at the Ham Lake farm. It sells its hops to local craft breweries such as Fulton Beer, Fair State Brewing Cooperative, and Day Block Brewing. “For me, it’s not just about growing hops and drinking beer,” Sannerud says. “It’s about finding the right crop for the family farm so that we can keep it around.”

Sannerud says that without help from scholarships, like the Alumni Scholarship for Student Leaders that he received, recent graduates wouldn’t be able to launch entrepreneurial ventures like Mighty Axe.

“Debt reduces opportunity after you graduate,” Sannerud says. “If you have to pay back your loans immediately after graduating, you are less able to pursue things like Mighty Axe.”
Committed to Crookston

The University of Minnesota was part of Les Nielsen’s life even when he was a teenager. He’s a 1958 graduate of the Northwest School of Agriculture, a residential high school on the U of M Crookston (UMC) campus from 1905 to 1968. “It offered a six-month school year,” says Nielsen, a native of Eau Claire, Minnesota. “That was important in a farming community.” He went on to earn a degree from the U in 1968 and cofounded a business that same year. His wife, June, worked alongside him.

In appreciation, the Nielsens have established several scholarships at UMC in memory of their son, Mitch Lien Nielsen, who died in a motorcycle accident in 1989.

Gift for greatness

Dick Coleman, ‘73 B.S., already had a degree in building design and construction from Pittsburg State University (PSU) when he and his wife, Faith, moved to Minnesota for a job at 3M. “They offered tuition reimbursement, and I wanted a pure engineering degree,” says Coleman. “So I took classes nights and weekends at the University of Minnesota.”

Recently, they made another gift in Mitch’s memory—$1 million to name the entrance and lobby of UMC’s new wellness center. “We think the center will help attract students to the Crookston campus,” says Nielsen. “Our hope is to further the success of UMC.”

Wetlands champion

West Virginia native Grady Mann, ‘48 M.S., devoted his career to preserving prairie wetlands in the Upper Midwest. From an office in Fergus Falls, Minnesota, he pioneered the Small Wetlands Program of the U.S. Fish and Wildlife Service, where he worked for 28 years. He later served as the University of Minnesota’s first wildlife extension specialist and as a waterfowl habitat preservation consultant for the U, the National Audubon Society, and other entities.

“Dad was in the U’s first class of graduate students in wildlife management,” says daughter Sarah Mann, ’76 B.A. “He was in his glory in the prairies and felt every effort must be made to preserve them.” To that end, he wrote numerous articles, lectured widely, and volunteered for environmental organizations.

In tribute to her father, who died in 2010, Sarah and her husband, Michael Schestopok, recently pledged $25,000 to establish the Grady E. Mann Scholarship in the College of Food, Agricultural, and Natural Resource Sciences and committed a significant bequest to the same. It will support students interested in small wetlands, waterfowl habitat management, and creative research.

Time, talent, treasure

As a young man, Tom Holtz, ’73 B.A., received a nomination to attend the United States Naval Academy. But after being turned down due to color blindness, he chose the University of Minnesota instead. He’s been grateful for his experience as an undergraduate ever since. “My wife, Kris, and I have been incredibly blessed,” says Holtz, who’s worked for CBRE, the world’s largest commercial real estate firm, since 1979. “As people of Christian faith, it’s important to us to use our time, talent, and treasure to help others.” In that spirit, the couple made a $50,000 scholarship gift to the College of Liberal Arts (CLA).

“Our ideal candidate is an economics student who demonstrates concern for others and embraces the concept of paying it forward,” notes Holtz.

He practices what he preaches, including mentoring CLA students. “I’ve been the beneficiary of great wisdom during my life,” says Holtz, who was recognized as a CLA Alumnus of Notable Achievement in 2009. “I see mentoring as a way to return the favor.”

Lasting impact

Designed to be the intellectual center of children’s health care in the Midwest, the new Wilf Family Center at University of Minnesota Masonic Children’s Hospital is named in honor of a $5 million gift from the Wilf Family Foundation.

“Over the past 10 years, Minnesota has become a second home for our family,” says Zygi Wilf, owner and chairman of the Minnesota Vikings. “This gift was an opportunity to show our appreciation for the community in a way that will have a lasting impact.”

The Wilf Family Center includes an auditorium, two conference rooms, and a telehealth room that allows communication between patients and medical staff. The auditorium is designed to accommodate IV poles, oxygen tanks, and other patient equipment so children can enjoy the space. The center will host patients and their families for movies, performances, and other special events.

The gift, which was made in December 2013 and announced in February 2015, comes on the heels of the Wilf Family Foundation’s 30th anniversary. The foundation has donated more than $200 million to various causes in education, health, human rights, the arts, athletics, Holocaust remembrance, and more.

The U of M Presidents Club recognizes donors whose lifetime giving is $25,000 or more, or who have made a future gift commitment to the University. Between January 1 and March 31, 2015, 122 new households and organizations were enrolled in the Presidents Club.
# Staying connected

New technology helps parents keep in touch with their babies in the neonatal intensive care unit (NICU)

On any given day, the neonatal intensive care unit (NICU) at University of Minnesota Masonic Children’s Hospital treats as many as 50 babies, all of whom were born preterm or have other serious health issues. It can take weeks, or even months, for these babies to become healthy enough to go home—which means parents often must return to work or go home to be with their other children, leaving their babies in the hospital.

But thanks to gifts from Cornerstone Parking Group Inc. and the Transportation Club of Minneapolis and St. Paul, parents and family members now can stay connected with their babies by using a new software technology and iPads for two-way communication 24 hours a day.

For the past eight years, Jason Albrecht, manager of patient/family interactive services at the hospital, has been working with parents, bedside care staff, and technology professionals to develop ways to keep parents and their infants connected. Until recently, firewall systems allowed a video connection between parents and their babies only while they were both on campus or at another Fairview hospital or clinic.

The new software system allows parents and their babies to stay connected from any location, at any time of day. In addition, doctors can display X-rays, ultrasounds, and other charts on the screen so parents can stay involved with their child’s medical care.

Parents download the software onto any device, such as an iPad or laptop, while the iPad hovers over the baby in the NICU and serves as the camera.

“A family who has used it says they can’t imagine not having it,” Albrecht says.

Ashleigh Moelter, a NICU family support specialist who’s had a child of her own in the NICU, has worked with families to discover how they would benefit from this technology.

“Knowing that you will be able to log in, check on your baby, and say goodnight before you go to bed is very comforting,” Moelter says. “Families feel involved in their child’s care and know what’s going on with him or her at all times.”

Philanthropy was essential for launching this meaningful program for NICU families, Albrecht says. “We could not have started the project without the funding from donors,” he says. “Without them, we would still just be thinking about the project.”

—Kali Dingman

## All in your head

A University professor takes the lead in neurolaw, an emerging field at the intersection of law and brain science

At the start of Dzhokhar Tsarnaev’s March trial, defense lawyers readily admitted that their client planted the bombs that killed three people and injured scores more at the April 2013 Boston Marathon. But they did not enter a guilty plea.

Instead, the team portrayed Tsarnaev as an impressionable teen who was manipulated by his older brother. Their strategy may spare Tsarnaev the death penalty by asking the jury to consider not what the young man did, but why he did it. Or rather, “What was going on inside his brain?” says Francis Shen, an associate professor of law at the University of Minnesota.

Shen, a McKnight Land-Grant professor who joined the U in 2012, runs the Shen Neurolaw Lab and studies the intersection of law and brain science—or “neurolaw,” as the emerging field is better known.

The field explores how advances in neuroscience affect legal standards and rulings. Recent developments in neuroscientific techniques have already enabled researchers to better see inside the human brain. Future research may make it possible to do things like tell when someone claiming to be in pain is faking, improve assessment of brain death, and better diagnose and treat concussions.

It may also help make clearer why and how people do what they do. “The more we learn about how the brain works, the better law can be,” says Shen, who serves as executive director of education and outreach for the MacArthur Foundation Research Network on Law and Neuroscience. “Fast forward, and I believe we are going to think about addiction differently, as well as depression, posttraumatic stress, and other brain disorders, and that will have legal implications.”

For example, how might the introduction of neuroscientific information affect jurors? Might they make a different decision if they thought of posttraumatic stress disorder as a physical injury to the brain?

Shen covers topics like this in Law and Neuroscience (Aspen Publishers, 2014), the first textbook on neurolaw, which he coauthored with two Vanderbilt University professors. Shen uses the textbook in the Law and Neuroscience course he teaches at the U.

“My hope is that in 20 years, neuroscience in law will make more sense to people, and we can begin to rely less on draconian forms of incarceration, like solitary confinement,” he says. “As neuroscience advances, so too should the law.”

—Meleah Maynard

PHOTOS: BRADY WILLETTE (LEFT), ISTOCK PHOTO.COM (MIDDLE RIGHT), COURTESY FRANCIS SHEN (LOWER RIGHT)

Francis Shen wrote the first neurolaw textbook, which he uses in the Law and Neuroscience class he teaches at the U.

Watch a video about this program at [give.umn.edu/legacy](http://give.umn.edu/legacy)
Clothing for a cause

U of M students learn how to mass-produce garments—and in the process, help clothe girls in five countries

Junior in Lucy Dunne’s technical design class get hands-on experience in all the steps involved in mass-producing clothing, including designing garments, managing a budget, ordering materials, and creating the final products. As valuable as this experience is, it’s what happens next that leaves a lasting impression on students.

This year, the sleep sets and play dresses designed and produced by class members were delivered to 5- to 18-year-old girls living in orphanages in Uganda and Tanzania. Since 2011, Dunne also has sent student-made garments ranging from pajamas to school uniforms to rural villages in Haiti, India, and South Africa.

“Every single year, students are so engaged,” says Dunne, assistant professor in the U’s College of Design.

“The aspect of helping people and doing something productive for the world is such a big motivator.”

But supplies and shipping aren’t free, so each year Dunne relies on gifts totaling about $5,000 for the program, which she calls Design Global Outreach. In 2014, those funds helped 16 students create 210 uniforms and other garments.

“Without these gifts, we would have a very high course fee,” she says.

The reward for all this hard work is a stack of photos and grateful letters from girls who receive the clothing, with comments like “I feel so smart and beautiful in my new dress.” Over the last four years, Dunne has seen the clothes from the program’s first year full of holes and barely holding together—a sign that they’re being worn and loved. “They have nothing—literally nothing,” she says. “Anything they’re given, especially something that’s made just for them, is so important.”

Dunne isn’t stopping with five countries. She hopes to expand Global Design Outreach to other countries, and maybe even organize a study tour to the Blue House in Uganda, one of the program’s partners. —Amy Sitze

Hope for Alzheimer’s sufferers

Two U of M scientists take important steps toward treating a challenging disease

For the millions of Americans stricken with Alzheimer’s disease (AD), and especially for those who love them, the hope of a breakthrough is never far from their minds. But AD has proven to be the toughest of challenges for neuroscientists. Of the top 10 killer diseases, AD is the only one for which there is no cure and no treatment. It’s the sixth leading cause of death in the United States.

But don’t tell the U’s Karen Ashe that there is no hope.

Ashe, widely considered a superstar in the world of AD research, leads the University’s NSF-Simons Center for Memory Research and Care. She also holds the Edmund Wallace and Anne Marie Tulloch Chairs in Neurology and Neuroscience. Now, with the help of fellow scientist Michael Koob, an associate professor of laboratory medicine and pathology at the U, Ashe is poised to make her next big AD breakthrough.

Building a better mouse

In order to test possible preventions and cures, scientists first have to create a mouse that actually gets AD. But creating that mouse is no easy feat—it’s taken Ashe 25 years to create just 10 distinct mouse models of the disease.

Enter Koob and his exciting new technology, which allows scientists to insert a particular gene into exactly the same spot in the mouse genome every time. Using Koob’s process, Ashe will now be able to create 10 distinct mouse models in just one year.

Ashe and fellow scientist Michael Koob have developed promising new mouse models of AD, which will allow researchers to begin testing compounds that could prevent the disease.

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Her goal is to build a new, comprehensive mouse model of AD within the next two years, so her team can begin testing compounds that could prevent the disease.

“Mike Koob’s new technology could enable me to be more productive in the last quarter of my career than in the first three quarters combined,” she says.

Game-changing philanthropy

Ashe is deeply grateful to donors who have supported her work; without them, she says, the fight would be even tougher. Ashe recently welcomed Karin Moe—whose husband, Robert, was diagnosed with Alzheimer’s disease in 2009—into the ranks of her supporters.

“My children and I have seen firsthand how painful this disease can be,” says Moe. “Karen is such a creative thinker, and really on the leading edge of this research. I’m happy I found someone like her to support.”

With the help of donors like Moe, Ashe believes that developing safe and affordable compounds to prevent AD is now within sight.

“Karin is one of my angels,” Ashe says. “She gives me her heart, in addition to her funds, and that support and encouragement have meant more to me than I could ever express.”

—Barbara Knox
In 2008, the Minnesota Legislature invested in a major expansion of the U of M’s Biomedical Discovery District (BDD), and donors were quick to add their support. The Cancer and Cardiovascular Research Building, which opened in 2013, is part of the BDD’s clear-cut mission: to bring laboratory breakthroughs to patients as quickly as possible. The architecturally impressive structure is more than just a building—it’s a creative space in which cancer and cardiovascular health researchers collaborate on lifesaving discoveries.

After open-heart surgery pioneer C. Walton Lillehei died in 1999, his wife, the late Katherine “Kaye” Lillehei, committed $13 million to create the Lillehei Heart Institute. Their family continues to support U of M heart research and education.

Team Judy, a group of friends formed to support Judy Erdahl (far right, back row) in her fight with cancer, gets a building tour from Deepali Sachdev, whose breast cancer research they help fund.

With support from the Dr. Bob and Jean Smith Foundation and an anonymous donor, scientist Rita Perlingeiro has developed a process for using stem cells to restore muscle tissue in mice with muscular dystrophy.

Cancer researchers discover new strategies for prevention, diagnosis, and treatment at the Masonic Cancer Center, University of Minnesota, which was named to honor a $65 million pledge from Minnesota Masonic Charities.

Douglas Yee, professor of medicine and pharmacology and holder of the John H. Kersey Chair in Cancer Research, has been director of the Masonic Cancer Center since 2007.

As St. Jude Medical Endowed Chair in Cardiology and director of the Lillehei Heart Institute, Daniel Garry has a long-standing passion for research in regenerative and stem cell biology.

Gifts at work:
Cancer and Cardiovascular Research Building
Natural-born economy

For Minnesota companies working to balance people, planet, and profits, the Natural Resources Research Institute is there to help

by Eve Daniels

Ask Minnesotans what sets the state apart, and there’s a good chance they’ll mention our natural resources. Perhaps even more than Garrison Keillor or the Mall of America, Minnesota is famous for its parks, prairies, lakes, and loons.

Minnesota’s economy is intertwined with nature, too. With 17.3 million acres of forest, 67 state parks, and some 12,000 lakes—not to mention oodles of iron ore—it makes economic sense for local businesses to care about the environment.

“If we trash our environment, our economy will suffer,” says Rolf Weberg, director of the University of Minnesota Duluth’s Natural Resources Research Institute (NRRI). “Organisms can’t live in their own waste, and neither can economies.”

That delicate balance between economics and the environment is NRRI’s sweet spot. Since launching in 1985, the Duluth-based institute

has helped hundreds of companies become more sustainable and more profitable. In 2014 alone, NRRI worked with more than 80 regional clients, ranging from small and midsize businesses to government and nonprofit entities.

“There are some institutes associated with research universities that have a mission of helping businesses, and some that do environmental research,” says NRRI spokesperson June Kallestad. “NRRI is one of the only institutes that brings the two concepts together.”

Supporting leaner, greener business

All told, NRRI is home to 127 experts in areas ranging from renewable energy and forest products to wildlife, invasive species, and climate change. Clients benefit not only from this wealth of technical expertise, but also from NRRI’s advanced capabilities in lab testing, rapid prototyping, and more.

As a result, NRRI has played a central role in countless success stories, including that of Greg Benson. When Benson started working with the institute in 2001, he co-owned TrueRide, a skateboard ramp manufacturer with about 20 employees.

“We worked with NRRI to test how the materials, including how well the boards reacted under a knife. And with Loll Designs, NRRI helped determine how sun, chlorine, and sunscreen reacted to recycled plastic furniture.”

“NRRI has done well-documented, scientific tests and has really helped us to improve the integrity of our products.”

Along with product testing, the institute works with businesses in developing lean manufacturing strategies to reduce waste and inefficiencies in design, materials, distribution, and other areas. In turn, clients like Benson learn practical ways to become more competitive.

its northern Minnesota location makes NRRI a natural partner for the Duluth Seaway Port Authority. Since then, Benson and his partners sold TrueRide and started three other companies, all of which have benefited from NRRI’s services: Epicurean (cutting boards and kitchenware), Intelectual (architectural materials), and Loll Designs (outdoor furniture.).

Today, those three companies employ about 90 people in total. Epicurean cutting boards were born out of TrueRide scraps. NRRI researchers assisted in testing the materials, including how well the boards reacted under a knife. And with Loll Designs, NRRI helped determine how sun, chlorine, and sunscreen affected the recycled plastic furniture.

“We don’t have our own testing facility, so our partnership has been invaluable,” says Benson. “NRRI has invested in a legacy

Investing in a legacy

Three-fourths of NRRI’s budget is funded by grants and contracts, the rest comes from the state legislature. Gifts of varying sizes help support business assistance and environmental research.

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The NRRI helped Minnesota company Loll Designs determine how sun, chlorine, and sunscreen react to recycled plastic furniture.

“The customer doesn’t want to pay for inefficient manufacturing processes,” says Benson. “You really owe it to them to be as efficient as possible.”

Local issues, global implications

In addition to helping Minnesota entrepreneurs like Benson, NRRI also focuses on local projects with global applications. Case in point: when you’re trying to find solutions to global water issues, it doesn’t hurt to start with the largest freshwater lake in the world.

In collaboration with public agencies, NRRI scientists have helped find ways to reuse dredged materials, reclaim shoreline areas for wildlife, and test ballast water systems to keep out invasive species.

“When NRRI opened its doors in the mid-1980s, Minnesota was reeling from a domestic steel crisis that left about 13,000 workers unemployed on the Iron Range. So, for geographical and political reasons, northern Minnesota was the perfect place for NRRI to settle.

The location is still perfect. “Today, we’re here because it’s right in the middle of where things need to be applied—our watersheds, our air, our land, our forests,” says Weberg. “We’re right where we belong.”

Eve Daniels is a Minneapolis-based writer, editor, and video producer.

“One of the seaway’s reasons for being is to serve as an economic development engine, so NRRI’s mission is similar to ours,” says Vanta Coda, executive director at the Duluth Seaway Port Authority. “We have a history of successful collaboration, and I think we’ve only scratched the surface in terms of the progress we can make together.”

Returns on investment

Driving down Highway 53, it’s hard to miss the imposing four-story laboratory. Add to that a world-class minerals laboratory in Coleraine, Minnesota. But for all its cutting-edge research, NRRI operates with a relatively modest $14 million budget.

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With advice and guidance from mentors, U of M students build a deeper knowledge of their chosen fields

By Greg Breining

Since he started mentoring School of Journalism students, longtime Star Tribune reporter Dan Wascoe, ’67 B.A., has heard his share of concerns about résumés, classes, job prospects, and work environments.

But he’s also shared the joy of attending the wedding of one of his former mentees and, more recently, the high-school graduation of her children.

Long-lasting friendships between mentors and mentees happen all the time, says Amanda Duffy, career coach and mentorship coordinator for the Carlson School of Management. And mentoring has grown tremendously.

The journalism program, started in 1983, was perhaps the first formal matchup at the University. Today, nearly every college and school has some kind of mentoring program, says Duffy.

Students understand the value of these programs. “Honestly, we don’t have to do much marketing,” Duffy says. “Students gain really good knowledge about a career path that they’re interested in, as well as building their network of people within that career path.”

Two-way street

When Wascoe took over as president of the School of Journalism Alumni Society Board, fellow alumnus Carol Pine suggested a mentoring program. With the help of faculty, they matched students with professional volunteers in news, advertising, public relations, and broadcast.

The program grew from 15 pairs the first year to 67 pairs last year. “Perhaps the most exciting part of each year was when they announced the pairings,” says Wascoe. “It was fun to watch that first eye contact as the student looked around and saw the professional raise his or her hand.”

Some students, Wascoe realized, erroneously expected to get hired from the relationship. “That wasn’t the goal,” he says. “It was just to gain insight, advice, learn from the professional’s years in the field.”

The relationship wasn’t a one-way street. “The mentors are getting a little insight into what it’s like to be a student these days,” says Wascoe. “I think it’s helpful to stay in touch with younger folks and learn what their concerns are.”

In 2000 Wascoe decided he had mentored enough—that a student might prefer advice from someone not on the verge of retirement. But he wanted to continue giving back, so he and his wife, Joyce, ’66 B.A., ’90 M.B.A., set up the Daniel and Joyce Wascoe Scholarship for journalism students. He enjoys meeting with scholarship recipients to have the kinds of conversations he had as a mentor.

Insights that matter

Sometimes the relationship with a mentor is so rewarding that a graduate becomes a mentor as well.

Jeremy Melquist, ’13 B.S., was a senior in civil engineering with an interest in transportation and traffic when he met his mentor, an engineer with the Minnesota Department of Transportation.

Their tour of a MnDOT materials testing lab led to a semester-long job. Meeting with county engineers gave Melquist insights into the role of a professional. “That helped me figure out you need to be client focused,” he says.

Thanks to student support such as the 3M Scholarship and the Florence Hanson Waits Scholarship, Melquist graduated with minimal debt that he paid off in a year. He now works on traffic projects for Bolton & Menk in Burnsville, Minnesota. Last year, he began mentoring a University of Minnesota civil engineering student.

“I figured I had enough experience to tell the student about the transition between college and a first job,” says Melquist. They’ve discussed résumé preparation, salary negotiation, and student job opportunities on campus. His mentee found work at the Minnesota Traffic Observatory, where Melquist himself had worked as a student.

“It’s rewarding to see your mentee get a job that you’ve recommended him for. Or to help him with his résumé. Or to talk to him about his classes and remember all the classes you don’t have to do anymore,” says Melquist. “It’s a cool experience.”

Greg Breining is a journalist and author based in St. Paul.
Last spring, more than 2,000 Minneapolis and St. Paul middle school students experienced a very unusual school day. Instead of sitting in a classroom, they gathered along the U of M’s Northrop Plaza and Church Street to participate in 55 hands-on math and science demonstrations, including rockets, flying robots, and an 11-foot-tall pedal-powered walking machine.

The outdoor, open-house-style event, known as the College of Science and Engineering (CSE) Expo, was the brainchild of CSE students Ben Ihde and Jack Kilian, who met as members of the Tesla Works student group.

The wheels for the event started turning in January 2013, after CSE donors Nancy and Clifford Anderson offered to make a gift to support the right project. Their intent was twofold—get as many CSE students involved as possible and structured the tasks that needed to be done. Six months later, the first CSE Expo went live. Nearly 300 CSE students built projects and presented them, says Bronstein, and at least 500 contributed in some way.

After all the hours spent balancing academics and managing the event, members of the CSE Expo leadership team believe they pulled off an extremely successful day that was worth the effort.

“Seeing that first school bus pull up was awesome,” said Bronstein. “I was so excited. Watching all the middle schoolers interact with all the different projects that our students had built was so cool.”

Kilian says at one point, he watched a couple of middle-school students walk up to a booth. “At first, they were hesitant, because at that age you think you’re too cool for anything,” he says. “I saw them slowly start to play with the demo and soon I could see smiles on their faces.”

According to Susan Knibitschek, CSE assistant dean of student programs, outreach events like these highlight a broad range of professions for students who may not have had much exposure to science, technology, engineering, and math (STEM) fields.

“We knew all middle school students wouldn’t respond to the same things, so we wanted to showcase different areas of science in order to change the limited perception some students may have of it,” says Ihde, a physics and astrophysics major.

The project really began to take shape once Mia Bronstein, a statistics major, was brought on board. “She had done a similar event in high school for elementary schools, so her experience was extremely valuable in figuring out logistics,” Kilian says.

By November 2013, the trio had recruited four additional students. As the event’s management team, they outlined their goals and objectives and structured the tasks that needed to be done. Six months later, the first CSE Expo went live. Nearly 300 CSE students built projects and presented them, says Bronstein, and at least 500 contributed in some way.

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Several months ago, students’ hard work and careful planning paid off yet again, as about 2,000 more middle schoolers traveled to the U of M campus for the second CSE Expo—this time in Coffman Memorial Union. The event’s ultimate goal, say the student leaders, is to continue to spread the good word about science and engineering far and wide, and to inspire the next generation of scientists and engineers.

“Look at the problems the world is facing right now—climate change, decreasing oil supplies, disease, and infrastructure. These are real concerns that need engineers and scientists,” says Ihde. “If we can motivate people to get into civil engineering, chemistry, and physics, then we will have more people working on these problems years from now. I think that’s one of the best things we can do as undergraduates.”

Silva Young is principal editor/writer at the College of Science and Engineering. A version of this story originally appeared in the college’s magazine, Inventing Tomorrow.

Watch a short video about the 2015 CSE Expo at give.umn.edu.
Clinical trial triumph

A drug developed at the Masonic Cancer Center finds early success

By Barbara Knox

In June 2012, University of Minnesota physics professor Cynthia Cattell discovered that her nagging fatigue was something more serious than just end-of-semester burnout. She had aggressive B-cell lymphoma, a blood cancer that required immediate, intensive treatment.

That treatment—chemotherapy, radiation, and two bone marrow transplants—was brutal, leading Cattell into and out of the hospital transplants—was brutal, leading Cattell into and out of the hospital. She had aggressive thing more serious than just end-of-

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When Mary Jo Kane joined the University of Minnesota faculty in 1989, very few scholars anywhere in the country were doing research on sport and gender. Today, she’s director of the Tucker Center for Research on Girls & Women in Sport, winner of a regional Emmy for her work with Twin Cities Public Television on the documentary “Media Coverage and Female Athletes,” and a go-to source for national media on Title IX and other topics in women’s athletics.

The center was founded as part of the College of Education and Human Development in 1993, thanks to a $1 million future gift commitment from Dorothy McNeill Tucker, ’45 B.A., who later committed another $1 million to fund future research and programs. Kane is the permanent holder of the Dorothy McNeill and Elbridge Ashcraft Tucker Chair for Women in Exercise Science and Sport.

Why was the Tucker Center necessary?
We needed a place at the University of Minnesota that takes seriously the scientific study of what it means for girls and women to be involved in sport and physical activity, from recreational to highly competitive. I didn’t want us to repeat the mistakes that are sometimes made in medical research: scientists assume that what the research tells us about males automatically transfers to females.

Over the last 20 years, we’ve raised about $1.5 million in other gifts and grants. We’ve established several scholarships and fellowships and a distinguished lecture series. This couldn’t have happened without private donors like Dorothy Tucker and all those who have given through the years.

Also, we would not have survived and thrived without the support of visionary leaders like Bob Bruininks, who was the college’s previous dean and later the University’s president; Jean Quam, the current dean; and Jerry Fischer, CEO of the U of M Foundation when the center was established.

Tell us about your research on media and female athletes.
Even though females nationwide make up over 40 percent of all sports participants, and even though 43 percent of all scholarship athletes at the Division I level are female, they get about 2 percent of all sports coverage.

The media will say, “There is no audience, so why should we cover it?” My response is that if a female is interested in reading about women’s sports and she picks up your newspaper and there’s not going to read your paper or go to your website anymore. So here’s an idea: build an audience.

Also, we have solid reliable data that says “selling sex” is counterproductive. You are alienating your core base of girls, women, and dads with daughters. You’re not bringing in males, either. They’ll look at Danica Patrick in a sexy commercial, but if you ask them whether it makes them want to watch Danica Patrick race cars, they say it doesn’t.

I’m not asking anyone to do something because it’s politically correct; I’m asking them to treat female athletes the way they treat male athletes, and that’s to show them as highly competent athletes who fail as well as succeed. Just turn the camera on and let us see what it looks like when girls and women play sports.

It sounds like you have a real sense of advocacy in your research.
Nicole LaVoi [associate director of the Tucker Center] and I want to do research that makes a difference in people’s lives. One of my guiding principles in my life, as well as in my career, is “To whom much is given, much is expected.” Because we have this unique platform, I feel like we have an obligation to talk not just about where there are problems, but also what we can do to address those problems.

People tend to do what’s in their best interest. If you can provide them with data that shows that sexualizing female athletes is not in their best interest, that will make a difference.

Do you feel like that’s happened?
Yes, in that we’ve raised the consciousness of policy makers and decision makers and female athletes themselves, as well as coaches and sports information directors.

I also think we’ve made a difference in terms of mentoring graduate students. One of the things that I’m most proud of is when a graduate student or a newly minted assistant professor tells me, “Dr. Kane, your work was so influential to me that I used it as the basis of my dissertation.” That means more to me than just about anything. It means more to me than the Emmy, and the Emmy means a lot.

How much progress have women made in sports thanks to Title IX?
Around the 40th anniversary of Title IX, I would tell reporters that in two generations, we’ve gone from young girls hoping there is a team to young girls hoping they make the team.

Do you play any sports?
I walk 3.5 miles every day, even in the bitter winter cold, and I play golf—not well, but I play. I was the classic pre-Title IX neighborhood tomboy who played football, baseball, and basketball with my brothers and the neighborhood boys. When it was time to go to high school, I couldn’t do that anymore. I had to start worrying about whether I was going to prom rather than whether I could make the basketball team—because there wasn’t one for girls.

What’s the best part of your job?
I am so privileged and lucky to have a career in which I can write about, think about, teach about, make documentaries about, and get interviewed about sports, especially women in sports.

I would not be who I am without the University of Minnesota. Every day on my way to work, I drive over the Mississippi River and look at our college campus and I think, “My guardian angel has put me in the right spot.”