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**FEATURE**

# Fresh perspectives

**FORWARD-THINKING INTERNS HELP MINNESOTA BUSINESSES SAVE  
TIME, RESOURCES—AND MONEY**

**BY EVE DANIELS**





In addition to doing an internship through MnTAP, chemical engineering major Katherine Venne is a recipient of the Lofgren Undergraduate Honor Award.

ILLUSTRATION BY LEANDRO CASTELAO; PHOTOGRAPHY BY MARK LUINENBURG

o business wants to waste resources, and the people watching the bottom line understand that conservation can translate into major

**N** cost savings. Finding time to focus on solutions, though, can be difficult.

“Our engineering staff is good at identifying things that aren’t working optimally, but they’re really busy and have competing priorities,” says Cheryl Erler, ’82 B.S., ’87 M.S., an environmental analyst at Xcel Energy.

This is a familiar story to many businesses in Minnesota and beyond, regardless of the industry. Reducing waste and improving efficiency are nice ideas, but they aren’t always high priorities.

That’s where interns from the University of Minnesota’s Technical Assistance Program (MnTAP) come in. Each summer, the MnTAP staff matches third- and fourth-year college students with local companies and municipalities that want assistance with addressing those long-term challenges. Most of the interns are students from the University of Minnesota’s Twin Cities and Duluth campuses. Many are majoring in chemical engineering, mechanical engineering, and environmental health.

For a cost-sharing fee of about \$3,000, which is considered a donation to the University, each business gets a smart, motivated intern who is eager to apply his or her academic knowledge to solving real-world problems. (Donations from other organizations and trade associations also help fund the internship program.) In line with MnTAP’s outreach mission, the interns spend the summer helping organizations prevent pollution, reduce energy consumption, and use resources more efficiently.

**“The interns look at some of our historic problems through fresh eyes.”**

**— Cheryl Erler, Xcel Energy**

At the end, they deliver a presentation detailing their work and outlining next steps for the business. Since the program’s inception in 1985, MnTAP interns have saved their sponsoring organizations approximately \$10.5 million. “The interns look at some of our historic problems through fresh eyes,” Erler says. “They approach things differently.”

Over the last five years, interns have helped organizations including IBM, 3M, Park Nicollet, Land O’Lakes, Seneca Foods, and August Schell Brewing Company conduct energy audits in industrial facilities, reduce energy used in refrigeration systems, conserve water in food packaging processes, and more.

At Xcel Energy, interns explored new ways to reduce water consumption at two of Xcel’s Twin Cities power plants. Erler says the work done by interns in 2015 and 2016 is saving the company an estimated \$69,000 per year.

## **Hands-on experience**

“Companies are looking for students who can lead, manage the project, and have the ability to accurately present solutions to management and staff,” says Paul Pagel, ’85 B.S., internship coordinator and senior engineer at MnTAP.

And students are lining up for the chance to take on those projects. In 2016, about 200 students applied for 14 positions around the state. The MnTAP staff is seeing a similar response this year. “We interview a lot of students to find the best ones we can,” Pagel says.

Katherine Venne, a University of Minnesota senior majoring in chemical engineering, is one who was selected for a 2016 internship. She spent the summer working at G&K Services, an industrial laundry facility based in Minnetonka, Minnesota. Venne conducted a cost-benefit analysis for a new wastewater treatment system at the company’s North Minneapolis plant.

“They were getting charged for anything they put down the drain that had solvents, oil, and grease, so their surcharges were very high,” she says. After doing her analysis, Venne found a system that would save the company money on wastewater surcharges, reduce waste, and reuse water.

Venne wasn’t afraid to get her hands dirty, either. She sorted through the solid waste at G&K’s plant—including towels, uniforms, and plastic mats—to discover opportunities for recycling and reuse. She found that by working with a textile recycler in

#### BY THE NUMBERS

1985: Year MnTAP internships began

234: Interns since the inception

240: Sponsoring organizations

\$10.5: Amount in millions MnTAP interns have saved Minnesota

Winona, Minnesota, G&K could reduce its solid waste by 168,000 pounds per year and save more than \$10,700 annually.

“The internship gave me the opportunity to learn about an industry and an area of engineering I previously knew little about,” Venne says. “My favorite part was seeing the final calculations and how big of a difference such small changes could make.”

organizations

14: Intern positions in 2016

197: Applicants in 2016

## Lasting impact

Being a MnTAP intern shaped Nathan Landwehr’s career plans. He completed internships in 2015 and 2016 before earning his bachelor’s degree in environmental science, policy, and management from the U.

Initially, Landwehr worked for the Southwest Regional Solid Waste Commission, where he conducted solid waste assessments at nine small businesses, ranging from automotive and warehousing to printing and food service. He identified ways the businesses could divert solid waste from landfills, potentially saving them more than \$36,000 per year.

The following summer, Landwehr helped residents in the city of Woodbury, Minnesota, optimize their sprinkler systems through smart irrigation controllers. Purchasing and installing 100 of these controllers resulted in a savings of 3 million gallons of water and



Nathan Landwehr, who did two MnTAP internships and now works for the program, received the Christine H. Moen Scholarship.

ILLUSTRATION BY LEANDRO CASTELAO;  
PHOTOGRAPHY BY MARK LUINENBURG

\$2,640 annually.

“When I did my first internship, I had a general idea of wanting to go into resource conservation, but this internship solidified it,” he says. “Instead of just hearing about it from other people, I got to experience firsthand what this type of work actually looks like.”

Since then, Landwehr has come full circle. He now works for MnTAP as an internship program administrator. Along with serving as a waste reduction specialist, he now leads intern recruitment efforts, manages project agreements, and facilitates communications with companies.

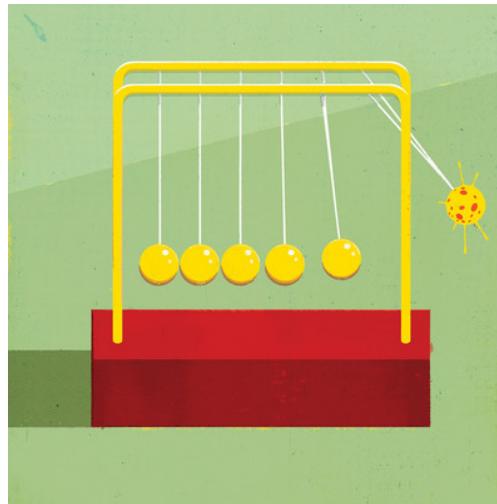
“These internships are a win for everyone who’s involved,” he says. “The MnTAP program gets information that we can replicate at similar businesses. Clients conserve resources and realize cost savings. Interns get an opportunity to accomplish something they can be proud of and put on a resume. And conserving resources and preventing pollution benefits all of us.”

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



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