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MAY-JUNE 2009

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Twice about
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Is taconite dust
killing miners?
Retired
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Dave Trach
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Iron Resolve

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CHILDREN'S HOSPITAL

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Cover photograph by Mark Luinenburg



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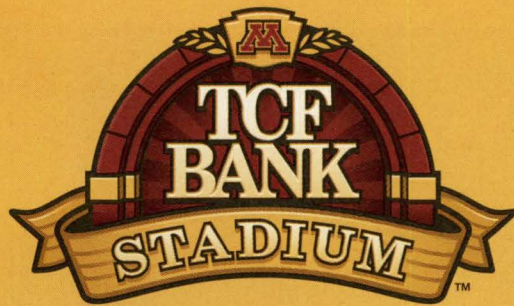
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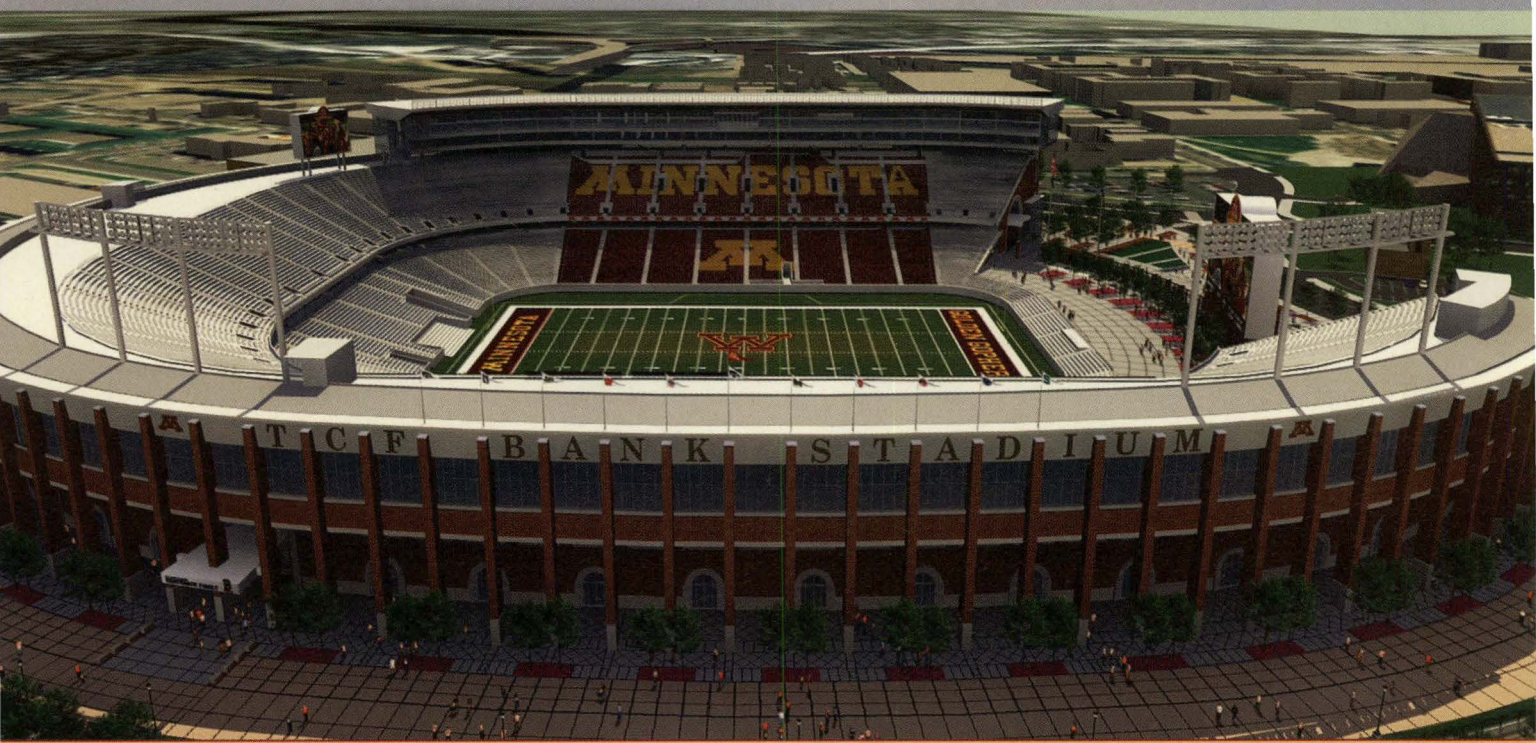
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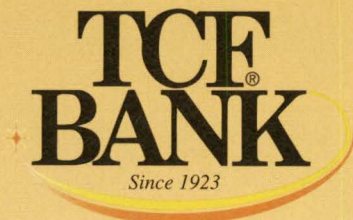


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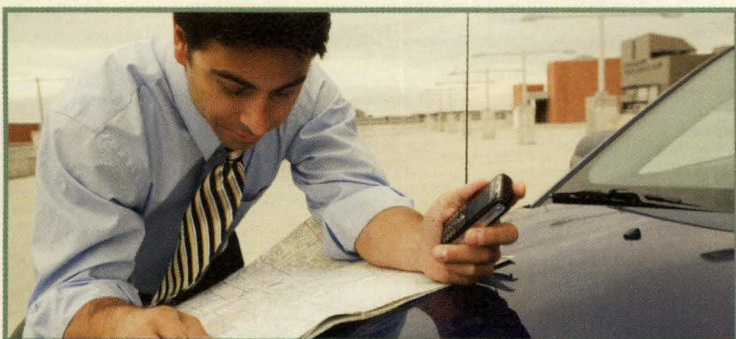
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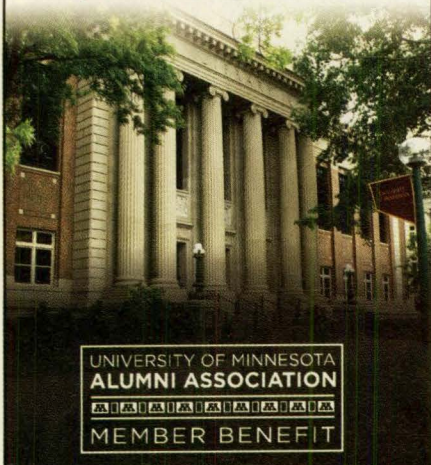
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Editor's Note

When the Dust Settles

Among the dozens of objects documenting historic achievements and discoveries at the University of Minnesota, the Heritage Gallery displays a small vessel of taconite pellets. A tag notes that, in 1946, University Professor Edward Wilson Davis developed the first of many processes for converting taconite rock into commercial iron ore.

One would be hard-pressed to find a Minnesotan who hasn't at least heard of taconite, but, unless they're from northeastern Minnesota, few have heard of Davis or the contributions he made to mining, the Iron Range, and the state.



Shelly Fling

The Mesabi Iron Range was discovered in the 1870s. And when Davis began working with taconite in 1913, it was considered low grade, cost ineffective to mine, and an iron waste product. Taconite is an extremely hard rock that contains approximately 25 percent iron. Most of the high-grade iron ore in the United States had been mined out just after World War II—right about the time that Davis, director of the U's Mines Experiment Station, had worked out a process for extracting and "pelletizing" the iron. However, more than a decade would pass before his process could be implemented commercially.

Mined in open pits, taconite lies beneath the topsoil left by glaciers and can run to depths of 500 feet. Miners drill holes 40 feet deep into the rock and fill the shafts with

explosives, blasting the taconite into smaller pieces. Shovel operators scoop up the taconite—80 tons per load—and dump the rocks into trucks that can haul 240 tons at a time.

After the taconite is hauled to a processing plant, according to Davis's patented method, the taconite is run through a series of crushing machines until the chunks become the size of gravel, then the rocks are combined with water and ground with steel balls into a fine powder. Powerful magnets separate the iron particles from this sandy soup, leaving behind tailings, waste material.

Next the concentrated taconite powder is combined with clay and tumbled until marble-sized pellets take shape. At this point, the pellets contain about 65 percent ore but are fragile. So they're fired in kilns at 2,400 degrees Fahrenheit until they're hard enough to be shipped and won't break when poured into furnaces. The cooled pellets are shipped by rail and waterway to steel mills around the Great Lakes region and make up nearly two-thirds of the ore that is used to make steel in the United States.

Davis had studied the problem of extracting iron from taconite for more than 30 years and, according to the Minnesota Inventors Hall of Fame, was one of the few people who anticipated the demand for ore from this resistant rock. The Iron Mining Association of Minnesota, based in Duluth, estimates that taconite mining is now a \$1.3 billion a year industry in Minnesota. It has helped build towns and livelihoods, as well as bridges, cars, and appliances. By some accounts, the Mesabi Iron Range contains at least 27 billion tons of taconite, which means 200 more years of iron reserves using today's mining methods.

Taconite mining is dusty business from beginning to end. But what neither Davis nor anyone could have anticipated are the suspected effects of that dust on miners' health—the possible link between taconite dust and the fatal lung disease mesothelioma—decades after exposure.

Our cover story, "Iron Resolve" (page 16), explains how a University-led investigation aims to discover what is causing the deaths of miners and determine how to keep future generations of miners safe—for at least a couple hundred more years. ■

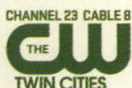
Shelly Fling may be reached at fling003@umn.edu.

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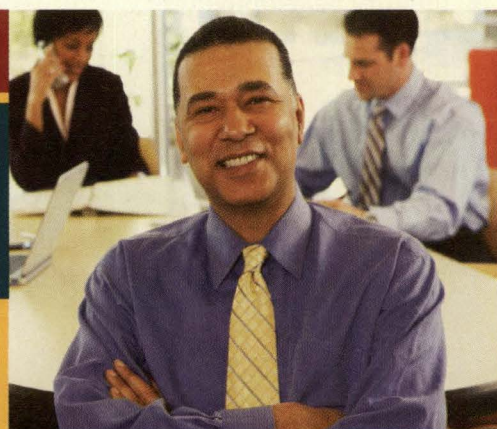
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Letters

HONORING VETERANS AND DONORS

I want to commend *Minnesota* magazine for the wonderful article "Honoring Service and Sacrifice" [March-April]. As the state commander of the Disabled American Veterans, Department of Minnesota—and an invited member of the stadium design committee charged with planning the Veterans Tribute—I want to sincerely thank University of Minnesota President Bob Bruininks and retired U.S. Air Force Brigadier General Dennis Schulstad for their determined and successful efforts to invite, engage with, and solicit the input of statewide veterans organization leadership in designing and planning for the Veterans Tribute.

I also thank the generous donors who have contributed to the Veterans Tribute. The major donors are certainly heroes in my mind, and I would like to ask that my fellow U of M alumni join me in contributing to the stadium Veterans Tribute. Let us continue to honor Minnesota veterans as did our veterans and statewide communities in the past, with Memorial Stadium being dedicated in honor of our brave WWI veterans.

Dean Ascheman (B.S. '76)
Rosemount, Minnesota

WHAT AILS HEALTH CARE

What does it tell us regarding our attitudes toward the current medical delivery hodgepodge when a journalism professor has to point out what we woefully, or willfully, neglect ["Sick about Health Care," March-April]? The wealthiest nation in the history of the world cannot, or will not, provide sufficient and adequate health care to all its citizens. Although we should credit Professor Schwitzer for telling us what we need to hear, we should also note that his remarks include a psychological marketing bias. He refers to making well-informed "consumer decisions" regarding health care. And, herein lies a problem: When did human health become just another commodity?

I do not know the dollar value of an arm, or a kidney, or the life of an elderly person who can no longer tend to her daily needs with dignity. It's not health and science reportage of questionable validity that is the problem. It is a problem of ethics that we no longer choose to accept, or even acknowledge. When will adequate, affordable health care become a right rather than a privilege?

Duaine R. Jackola (M.S. '84, Ph.D. '89)
Bloomington, Minnesota

WHAT PATIENTS REALLY NEED

I applaud your fine editorial commentary in the March-April edition calling for "healthy skepticism" in health care journalism [and

citing] U of M journalism professor Gary Schwitzer's 10 criteria for judging the credibility of a health care story [Editor's Note].

We at the Minnesota Physician-Patient Alliance (MPPA) believe that patients and their families, not health plans or the government, are the proper health care "deciders" in all but emergency situations. MPPA's mission is to encourage quality consumer (public) education and collaborative doctor/clinician-patient alliances. Because patients and their families are the truly crucial stakeholders in health care decision-making, they need to have good information and advice about what helps patients and what is likely to do them harm. Optimal professional care demands attention to the nuances of individual patients. That is why patients and their families need help in making health care choices and counsel in their selection of insurance (and medication) coverages.

We are grateful for and will support the diligent work of health care journalists who adhere to Gary Schwitzer's "healthy skepticism" principles.

Lee H. Beecher (M.D. '65)
President, Minnesota Physician-Patient Alliance
Maple Grove, Minnesota

EXPAND MS RESEARCH

I enjoyed reading about Susan Hagstrum in the January-February issue ["A Tough Act to Follow"]. I'd like to share my perspective as both a member of the National Multiple Sclerosis Society-Minnesota Chapter Board of Trustees and a person with multiple sclerosis (MS). I am pleased to say there are significant resources being poured into finding a cure for MS. As a driving force of MS research, the National MS Society devotes nearly \$50 million each year to support more than 440 projects and fund training fellowships focused on prevention, treatment, and cure for this disease that affects nearly 10,000 people in Minnesota and western Wisconsin.

The University of Minnesota is already home to a top-notch Multiple Sclerosis Center, recognized as an affiliated clinic of the National MS Society. I applaud Hagstrum's vision to expand this MS center—resources and talent in the Medical School, School of Public Health, Institute for Translational Research, and others—to make the University the perfect home for a collaborative and comprehensive MS research center to serve Minnesota and the region. Let's not only cheer on Susan, but join her efforts to advocate for people with MS and join the movement to create a world free of the disease.

Martha Cincoski (M.D. '94)
Woodbury, Minnesota

A WANGENSTEEN MEMORY

I thoroughly enjoyed Tim Brady's piece on Dr. Owen Wangensteen's time at the University and his immense contributions to medicine ["Gut Instincts," March-April]. As an undergraduate in the early 1950s, I worked as a page in the biomedical library, fetching the books and articles requested by the medical faculty. Professors filled out call slips a few at a time and handed them to us at the front desk. For O.H.W., the staff kept instead an array of previously filled out call slips on file at the front desk. He would come in, select a number of slips, and we pages would pile the volumes on a cart and deliver them to his table in the reading room. He was accommodated in this exceptional service because he was such a voracious reader and because he was O.H.W.

One day, I precipitated a minor crisis without knowing it. I broke protocol by telling Dr. Wangensteen that the journal he requested took up two and a half shelves, and I asked if would follow me back into the stacks to point out the particular volume he needed. He did, most graciously. I was told afterward by senior staff that he had ceased going into the stacks himself some years earlier. Library lore had it that he vowed never to go back into the stacks himself. They could be brought to him.

David S. Wilson (B.S. '53, M.A. '64, Ph.D. '68)
Chico, California

WHAT'S A WANGENSTEEN?

When I was wounded in France in 1944, I was flown back to a hospital in England and soon learned about penicillin, empyema, and Wangensteen. The employment of a Wangensteen was necessary for the treatment of my chest and lung wound. The bottles of this simple but ingenious device were reversed, top to bottom as needed, on a round the clock basis. At the end of the war, I returned home and entered the University of Minnesota in January 1946. It was then I learned how "The Wangensteen" got its name.

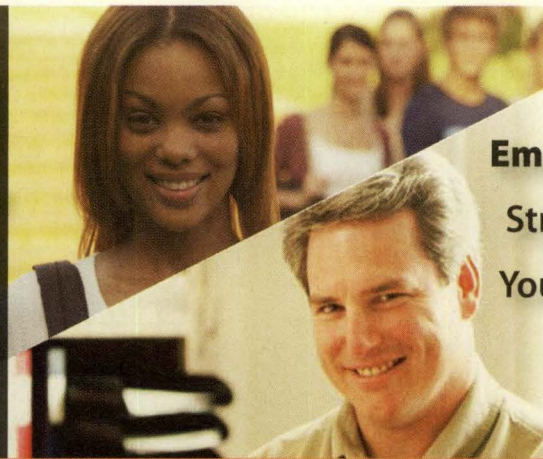
Mortimer Sheffloe (B.S. '50)
Georgetown, Texas

CORRECTION

A photo caption on page 49 in the March-April issue misidentified a building as Coffman Union. The building is Smith Hall. The editors regret the error.

To submit a letter, go to www.alumni.umn.edu/opinion or write to Letter to the Editor, Minnesota Magazine, McNamara Alumni Center, 200 Oak St. SE, Suite 200, Minneapolis, MN 55455. Guidelines are at the Web address above.

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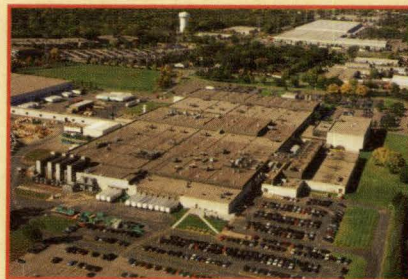


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Julian Marshall

Airing Differences

If you look at how people die, outdoor urban air pollution is on the top 15 list,” says Julian Marshall, assistant professor of environmental engineering at the University of Minnesota. “It’s one of the major causes of death and diseases globally.”

Marshall, recently named 2009 Minnesota Young Civil Engineer of the Year and a 2009–11 McKnight Land-Grant Professor, is working on several projects related to improving air quality and minimizing people’s exposure to pollution. In one study, he is using computer modeling and air quality data from Los Angeles to track emissions and the distribution of exposure among the population. “It’s a model, which means you can pose hypothetical questions,” Marshall explains. For example, what would happen if we were to reduce by 20 percent the concentration of air pollutants in the Twin Cities? According to Marshall’s estimations: We’d have 180 fewer deaths per year.

Marshall and other air quality researchers tend to follow two main pollutants: ground-level ozone (formed when nitrogen oxide and volatile organic compounds, like ingredients in some household products, react chemically in sunlight) and particulate matter (small droplets of solids and liquids emitted from, say, motor vehicles and power plants).

In another study, Marshall is looking at wood smoke emissions from people’s fireplaces. “Wood smoke [has a high exposure potential because it] happens in residential neighborhoods, near people, and it’s more likely emitted on a cold winter night when the air is relatively stagnant,” says Marshall. The difference between

wood smoke and emissions from power plants, for instance, “is more than just several folds,” he says, because a power plant tends to be in an area that’s farther away from people and has a tall stack, making them less of a threat to human health.

In many places around the world, Marshall says pollution data isn’t sufficient because the collection process is expensive and time-consuming. In some countries, the information just isn’t accurate.

“I spent a summer in Jakarta, Indonesia, several years ago, and there was a World Health Organization report that listed the city as one of the top three worst cities in terms of air pollution,” Marshall says. “Of course, [city officials] weren’t happy with that. As a result, they took their monitoring stations that measure air pollution from downtown, where concentrations were high, out to the distant suburbs, where the concentrations were lower. This ‘ostrich approach’ to air pollution got the city off the bad actors list.”

To get a better, more precise view of pollution on the earth’s surface, Marshall and his students—two undergraduates and a graduate student—have been collecting information from NASA satellites and comparing it with measurements taken at ground level.

“We know that people are all not breathing the same amount of pollutants,” Marshall says. “Typically, in the United States, it’s nonwhite, lower-income individuals who are on average exposed to higher air pollution. So, we would like our emission reduction strategies in all our research projects to help improve that case, [to address disparities in exposures and] to prevent environmental injustice as we see it.”

—Pauline Oo

Long Live Journalism

The University of Minnesota School of Journalism and Mass Communication is using a \$238,000 grant from the Minnesota Job Skills Program to help the staffs at the *Duluth News Tribune* and the *St. Paul Pioneer Press* newspapers adapt to and thrive in an increasingly Internet-based industry. "The intention of this grant is to help the workforce in these news organizations figure out what journalism is going to look like going forward," says Kathleen Hansen, director of the University's Minnesota Journalism Center. "The print product is not going to exist in its current form for very much longer. We see this happening all over the country, news organizations shutting down or printing only three days a week."

But Hansen emphasizes that the project is not about saving a particular newspaper. "It's about making sure that communities still have vibrant, well-financed journalism. A particular channel of delivery is going through a lot of changes, but journalism is more important than ever. . . . This isn't the school of newspapers, it's the school of journalism." —P.O.

OVERHEARD ON CAMPUS

"There's no question that corrupt presidents are good for me personally."

—Pulitzer Prize-winning investigative journalist Seymour Hersh discussing "America's Constitutional Crisis" with former U.S. Vice President Walter Mondale (B.A. '51, J.D. '56) and U of M political science professor Larry Jacobs at *Great Conversations*, March 10, 2009.



Java for a Good Cause

University Dining Services has partnered with Urban Ventures, a nonprofit in Minneapolis that serves at-risk youth, to open the CityKid Java Café in the Carlson School of Management. All profits from the sale of coffee, bought at or above the fair industry cost and grown using sustainable farming practices, fund Urban Ventures athletic programming and learning labs. Unsold food each day goes to the organization's People's Exchange program, which helps feed more than 400 people daily. The café employs University students interested in nonprofit work and youths from Urban Ventures, who earn a paycheck and learn job skills. "I like working in this environment because I can see what it's like to be a college student," says David Gholar, a junior at Roosevelt High School. "I've noticed it gets really crazy here during exam week." Pictured left to right are Zulianna Speltz, 16, from Minneapolis South High School; Markette Kuykendall, 17, from Minnesota Transitions Schools, and Kellie McAlister, 21, a junior at the Carlson School of Management. —P.O.

Rehabilitating Students

After the Sister Kenny Research Center at Abbott Northwestern Hospital in Minneapolis bought a Nintendo Wii video game system to use in rehabilitation therapy for patients recovering from surgery, strokes, and broken bones, it needed a way—other than anecdotal evidence—to measure the effectiveness of the treatment. (The Wii simulates athletic activities, such as tennis or bowling, and users swing the racquet or roll the ball by manipulating a motion-sensitive, hand-held device.) Lars Oddsson, center director, took the challenge to University of Minnesota mechanical engineering professor William Durfee, who made it a student project.

In spring 2008, a team of four students came up with the Wearable, Wireless, Web-connected Activity Monitor, aka 3WAM, a monitoring device that allows physical therapists to track a patient's function

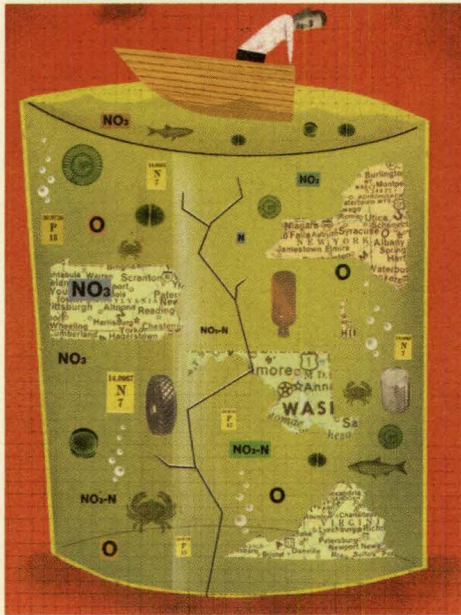
before and after the Wii rehabilitation from a remote location. "We're happy we have a prototype that works," Oddsson says. "And it might be something that we incorporate into [other rehabilitative devices we create] because it's intended for patients to wear in their home so clinicians can see that they're adhering to some training program."

Since then, two other groups of mechanical engineering students have collaborated with Oddsson and his research team, and prototypes for a couple more devices have been built. The Individual Digit Extensor Glove, or IDEG, allows patients to extend their fingers when a stroke diminishes their ability to unfurl their hands. The Sister Kenny Home Therapy system, nicknamed SKOTEE, is a robot that reminds patients to do their exercises. Oddsson says Sister Kenny patients are not the only ones who benefit from these projects. "The students get experience that has some functional, not just theoretical, outcome." —P.O.

Life Imitates Art

What do you get when you cross a flower and an artist? In this case, a new installation at the Weisman Art Museum. Internationally recognized artist Eduardo Kac and University of Minnesota plant biologist Neil Olszewski worked for several years to create a transgenic petunia by expressing Kac's DNA on the red veins of the plant's pink flowers. Kac calls this new work of bio-art *Edunia*, inspected here by University student Erika Gratz. Kac is perhaps best known for his creation in 2000 of a transgenic rabbit whose fur glowed fluorescent green because of infused jellyfish genes. Whether the creation of this "plantimal" is unnatural or demonstrates the similarity of all living things is in the eye of the beholder. *Edunia* will be on display at the Weisman Art Museum through June 21 and then will be destroyed. For more information, go to www.weisman.umn.edu.





Saline Solution Needed

Almost 70 percent of the 350,000 tons of sodium chloride, or road salt, applied to roads during the winter in the Twin Cities metro area ends up in lakes and rivers, according to research at the University of Minnesota Institute of Technology. The findings were reported to the Minnesota Local Road Research Board. A team of researchers measured salinity in 39 metro area lakes and found that it has increased over the past 22 years, a trend that corresponds with road salt purchases by the state of Minnesota. Both showed a marked increase from 1984 to 2005. If the trend continues, salinity would double in these lakes in about 50 years. Salinity was near zero in the 1950s, when road salt application began. Continuous levels of chloride concentration—even as low as the equivalent of one teaspoon of salt in five gallons of water—have been shown to be harmful to aquatic life and to affect the taste of drinking water. Researchers said more judicious use of road salt through better training of snowplow drivers could help reduce the effects.

Discriminating Lenders Abound

The Twin Cities has some of the nation's worst racial disparities in mortgage lending, according to a new report by the University of Minnesota Institute on Race and Poverty. The report, "Communities in Crisis," showed that even with a good income, people of color were substantially more likely to be denied loans. African American borrowers experienced the greatest disparities: Those with incomes exceeding \$157,000 faced a 25 percent denial rate, compared with an 11 percent denial rate among whites making \$39,250. The same pattern held true for high-income Asians and Hispanics. Similarly, subprime loans were more common for high- and very-high-income African American and Hispanic borrowers than for whites in any income group. Neighborhoods with the highest percentages of people of color had the highest subprime lending and foreclosure rates.

A Step toward HIV Prevention

Researchers at the University of Minnesota Medical School have discovered that a common compound used to combat toxic shock syndrome also effectively blocks the transmission of simian immunodeficiency virus (SIV), the virus that causes AIDS in primates. The finding is important because it is a significant step toward developing an effective means of preventing infection with HIV, the virus that causes AIDS in humans.

Researchers investigated glycerol monolaurate, an inexpensive, naturally occurring compound widely used in foods and cosmetics. In recent years it has been effectively used to combat toxic shock syndrome, a potentially lethal bacterial infection. They found that when applied vaginally prior to exposure to SIV, it prevented infection. The compound still must go through human clinical trials before it can be considered a means of preventing HIV infection.

The research was published in the March 4 online edition of *Nature*.



Binge Drinking Prevalent

Binge drinking is common among active duty military personnel and is strongly associated with many health and social problems, according to a new study released by the University of Minnesota and the federal Centers for Disease Control. The study analyzed data from more than 16,000 active duty military personnel who participated in a 2005 Department of Defense survey of health-related behaviors among military personnel. Binge drinking was defined as consuming four or more drinks on one occasion for a woman or five or more drinks on one occasion for a man. It was reported by 43 percent of active duty personnel during the past month, resulting in approximately 30 million episodes of binge drinking or roughly 30 episodes per person per year. Active duty personnel who were 17 to 25 years old at the time of the survey reported about two-thirds of the episodes.

The research found that, compared to non-binge drinkers, binge drinkers were more than six times more likely to report job performance problems and about five times more likely to report driving after having too much to drink. Researchers noted that, as with all self-reported surveys,

binge drinking and related consequences are generally underreported. Thus, the findings may be conservative.

The study was published in the March 2009 issue of the *American Journal of Preventive Medicine*.

Second Thoughts on Prostate Screening

Annual screenings for prostate cancer result in more diagnoses of the disease but do not decrease the number of prostate cancer deaths, according to a new report from the Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial. The report appeared in the March 26 edition of the *New England Journal of Medicine*. The National Cancer Institute began the PLCO trial in 1992 and tested 76,693 men over six years, including 17,099 at the U of M trial site. Subjects were assigned to one of three groups: One group was screened using annual digital rectal exams, another received annual prostate-specific antigen testing, and a third group received usual care, meaning they did not receive recommendations for or against annual screening. Results showed 50 deaths from prostate cancer in the screening group and 44 deaths in the usual care group at seven years from the beginning of the trial. Through year 10, there were 92 prostate cancer deaths in the screening group and 82 in the usual care group, numbers that are considered statistically insignificant. Researchers said it is too early to know whether the trial results will alter screening recommendations.


Curbing the Urge to Steal

A drug commonly used to treat alcohol and drug addiction shows promise in treating kleptomania, or the compulsion to steal, according to research at the University of Minnesota Medical School. An eight-week study of 25 men and women ages 17 to 75 who spent an average of at least one hour per week stealing showed that taking the drug Naltrexone resulted in a significant decline in stealing behavior compared to those subjects taking a placebo. The research was published in the April 1 issue of the *Journal of Biological Psychiatry*. Naltrexone has also been shown to be effective in treating gambling addicts.

Power Grooming

Scientists have long understood that grooming plays an important role in chimpanzee interactions. Now, a study led by a University of Minnesota undergraduate anthropology student is the first to show that a male chimpanzee's size determines whether he'll employ grooming to compete for alpha status. The study focused on three alpha males who ruled at different times in Gombe National Park in Tanzania. The largest male used size and aggression exclusively to rule, while the smallest male obsessively groomed other chimps to maintain his position. The chimp whose weight was in the middle used a combination of grooming and aggression. The study was published in the February issue of the *American Journal of Primatology*.

Edited by Cynthia Scott

 Members of the University of Minnesota Alumni Association may access many of the journals that published these studies online through the Libraries Online member benefit. Go to www.alumni.umn.edu/U_of_M_Libraries1 for more information.

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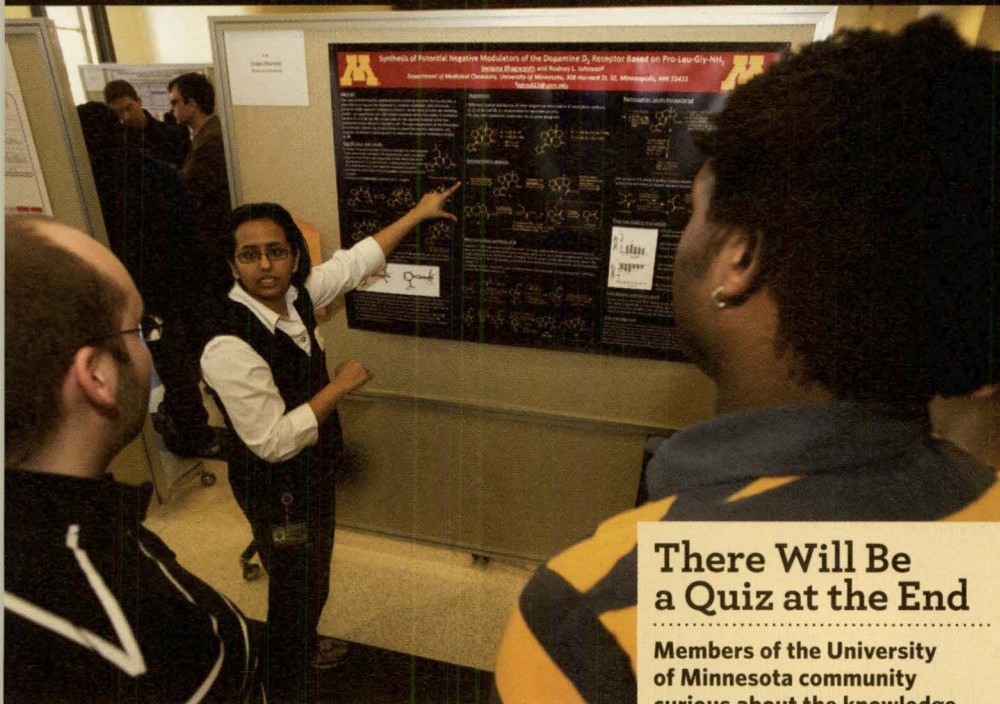
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There Will Be a Quiz at the End

Members of the University of Minnesota community curious about the knowledge being created here strolled through Coffman Union's Great Hall in April for a quick education. Swapna Bhagwanth (pictured), a graduate fellow in medicinal chemistry, explained her research involving a neurotransmitter that may help address disorders such as Parkinson's disease and schizophrenia. Others described their research into the threat of the Mediterranean pine engraver beetle in North America, the relationship between traumatic stress and modern poetics, and why U.S. policymakers often underestimate the long-term costs of military interventions. They were among more than 65 outstanding, final-year Ph.D. candidates who took part in the Graduate School's annual Doctoral Dissertation Fellowship Research Showcase.

The Petroleum Institute, based in Abu Dhabi, United Arab Emirates, has awarded the University of Minnesota a \$6.1 million grant over the next three years to promote joint research projects, primarily energy-related, and to foster the development of the institute's academic programs. The joint venture will be called the Abu Dhabi-Minnesota Institute for Research Excellence (ADMIRE). Faculty and student exchanges will be a key component of the research projects, with both institutions benefiting from in-residence visits of graduate students, post-doctoral associates, and faculty. About 15 to 20 faculty from each institution will be involved in ADMIRE.

The University of Minnesota was the first university in the country to take advantage of a new financial tool made available through the federal economic stimulus package. The U issued \$85 million in general obligation bonds, \$35 million of which were Build America Bonds, authorized under the America Recovery and Reinvestment Act. The measure allows state and local governments to issue taxable bonds for projects eligible for tax-exempt financing and to receive a new direct federal subsidy payment for a portion of their borrowing costs. The United States Treasury Department will make a direct payment to the U in an amount equal to 35 percent of each interest payment due over the next 20 years while the bonds are outstanding. University officials projected a \$2 million savings in borrowing costs over the 20-year life of the bonds. The money from issuing the bonds will be used for capital projects.

The National Association of International Educators honored the U with a 2009 Senator Paul Simon Award for Campus Internationalization. The award recognizes outstanding and innovative efforts to integrate international programs into campus culture, teaching, research, and outreach. The U is just the 10th public research institution to win the award

over the past nine years. Other recipients this year were Boston University, Connecticut College, Pacific Lutheran University, and Portland State University.

The U will be home to a state-of-the-art bike center thanks to a grant from Bike Walk Twin Cities, a federally funded initiative to increase biking and walking. The center will include an electronic bike trip-planning kiosk, 24-hour accessible secure bike storage, repair service, and facilities for changing clothes. The center will also house a bike sharing station, where riders have the option of checking out and returning a bike at any time after purchasing a season or day pass. The bike center will be located in the Oak Street parking ramp, across the street from a residence complex that houses 3,000 students. Construction is tentatively scheduled to begin this summer.

Seven projects will receive \$4.85 million from the University of Minnesota's Initiative for Renewable Energy and the Environment (IREE). The projects, all of them at the University, were selected for funding in part because they are considered to have the potential to create breakthroughs in renewable energy. They include research on harvesting and storing solar energy, investigating the development of a geothermal power plant, conducting a life-cycle assessment for biofuels and fossil fuels, improving photovoltaic systems, creating a self-sustaining center for evaluating small-scale renewable energy systems, developing plastics and polyurethanes from renewable sources, and building integrated power generation technologies for biomass. In addition to these seven grants, IREE will put \$745,000 in seed money toward 12 high-potential projects that are in the initial phase of development.

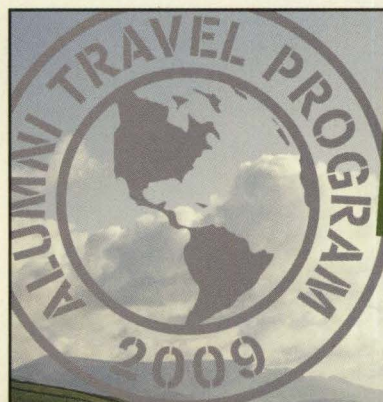
President Bob Bruininks kicked off a campus-wide energy conservation program on Earth Day aimed at reducing energy consumption by 5 percent by the end of 2010. Such a reduction would save the U \$2.25 million per year and result in 25,000 fewer tons of carbon dioxide being released into the atmosphere. Bruininks asked faculty, staff, departments, and academic units to commit to taking small steps such as turning off computers at night, turning off unnecessary lights, and taking the stairs instead of the elevator. —*Cynthia Scott*

“I battle viruses that attack infants.”

Dr. Mark Schleiss is unrelenting in his pursuit to prevent cytomegalovirus, a common cause of deafness and mental retardation in babies. He and his team will start clinical trials of a new vaccine that could stop mothers from unknowingly passing the virus to babies. We're proud that this innovative researcher is at **University of Minnesota Amplatz Children's Hospital.**

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The three men began working at the old Erie Mining company taconite plant near Hoyt Lakes, Minnesota, in the 1950s. All three retired more than 30 years later. Now two are dead from asbestos-related diseases and the other is crippled by asbestosis. ¶ Kenneth Lerol, a retired mining mechanic, was shoveling snow at his Aurora, Minnesota, home in January 2008 when he suddenly became terribly winded. He went inside, rested awhile, and

then went back to finish the job, only to fight for his breath again. By September he was dead from the lung disease mesothelioma. ¶ In August 2007, Dorla Langfeld insisted that her husband, Winfred, a retired shovel operator, see a doctor for his persistent cough and unexplained weight loss. X-rays and a bronchoscopy revealed tumors in his lungs, under his sternum, and on his adrenal gland. He was diagnosed with stage 4 lung cancer due to asbestos. He died in August 2008. ¶ Gene Olds,

Iron Resolve

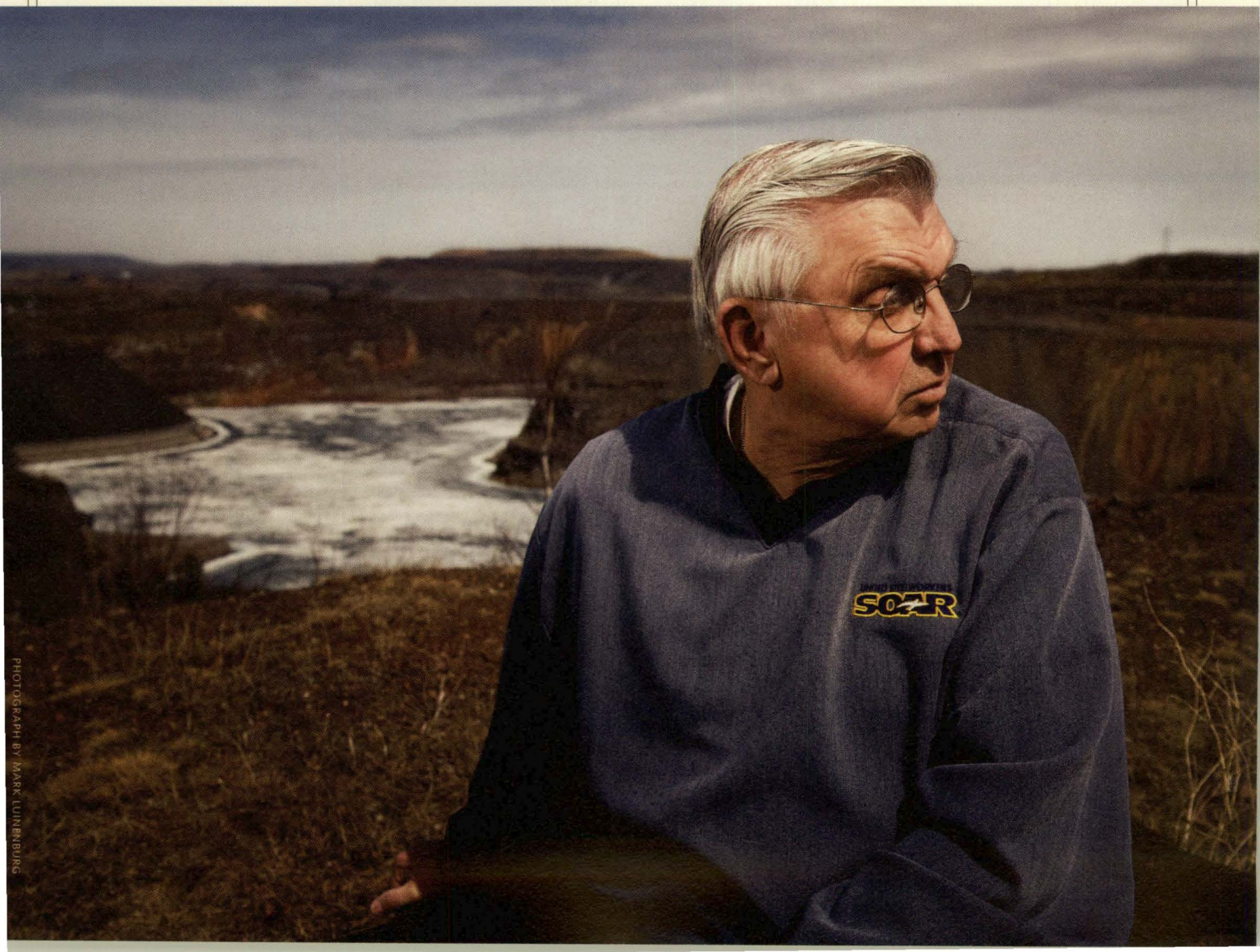
The University's School of Public Health is leading a vast partnership to discover **why so many Iron Range taconite miners are dying** of a brutal lung disease.

By Greg Breining



a retired millwright, was diagnosed with asbestosis and emphysema nine years ago (he quit smoking 20 years ago). Now his lung capacity is about 50 percent impaired and, while he doesn't routinely use oxygen, he has little stamina. ¶ "These are people I worked with, rode with, and knew. They're not just statistics," says Dave Trach, who worked at Erie Mining (later LTV) for 38 years and is now a representative for the Steelworkers Organization of Active Retirees. "We've got to find out what's causing this. There's something different here. And to me the only thing I can see that's different from the rest of the United States or the rest of the state of Minnesota—the difference we have here is we've got that dust from the taconite." ¶ To get to the bottom of a puzzling number of cancer deaths on Minnesota's Iron Range, a broad-based partnership led by the University of Minnesota School of Public Health has launched an ambitious \$4.9 million investigation called the Minnesota Taconite Workers Lung Health Partnership. The investigation includes, beginning this spring, a health survey of some 2,000 retired and current miners and their spouses. Progress reports are being shared with Iron Range residents and the members of the partnership, a group of more than 35 agencies and organizations, including labor unions, mining companies, area hospitals, and government officials. ¶ The three-year effort represents a far-ranging inquest into miners' health issues, especially respiratory diseases. But at its heart is finding out why so many taconite miners are dying from the lung disease mesothelioma, an extremely rare and always fatal disease that for all practical purposes is caused by only one thing: exposure to asbestos. ¶ Says Trach: "Whatever they find out this spring and this summer, I hope they develop some way to protect the guys that are working in the mines from that stuff."

Retired miner Dave Trach recalls mixing handfuls of "raw asbestos" with grease to make a nonflammable putty miners called "bear shit." "There was never, ever a discussion about asbestos and how to protect yourself."



A sickening secret

Iron Rangers have long suspected a link between mining and lung disease. "I had two grandfathers both of whom had parts of their lungs removed," remarks Ron Dicklich (B.A. '74 UMD), former state senator from the area and co-chair of the Lung Health Partnership. "That was just something that happened with mining."

The concern over asbestos-related diseases intensified in the early 1970s, when asbestos-like fragments were discovered in Duluth's water supply and traced to taconite tailings spewing from the old Reserve Mining Company plant at Silver Bay. Litigation eventually forced the company to dispose of the residue on land.

The latest controversy stems from March 2006, when the Minnesota Department of Health discovered 35 mesothelioma deaths among retired and active taconite miners since 1988. The health department, and Iron Range communities, knew that mesothelioma was high among men in northeastern Minnesota and that 17 taconite miners—again far more than expected—had earlier died from the disease.

But the Department of Health kept news of the most recent deaths a secret.

For a year, Diane Mandernach, then the state health commissioner, sat on the information as the department planned additional studies. When the *Star Tribune* reported the news in March 2007, the controversy "hit the fan," says John Finnegan (M.A. '78, Ph.D. '85), dean of the University's School of Public Health. "In public health, the one thing you learn real quickly is that nothing stays secret. People are going to find out. I don't know how many times you have to have stuff like this happen."

Mandernach was grilled before a state legislative hearing. Then things really got rough. She attended a meeting in Mountain Iron where State Representative Tom Rukavina (B.A. '72 UMD) (DFL-Virginia) announced to a seething crowd of at least 200 that the University of Minnesota School of Public Health would take over research into the cancer deaths. "It was a good old-fashioned rip-snorting town meeting," says Finnegan. "They were angry about what had happened."

"You wouldn't believe about that meeting at Mountain Iron how mad people were," recalls Dave Trach. "I don't know how anybody could explain that that was the best way to handle that thing—to keep it a secret."

Less than two months later, Mandernach announced her resignation.

Says Trach: "People were really disgusted and hurt that the Department of Health would do what they did."

A long lag time

One occupational safety engineer working on northern Minnesota mining issues calls the prime diseases associated with inhalation of asbestos fibers a "trifecta" of insidious disease. "Asbestosis is a bad disease," he says. "Cancer is a horrible disease. And mesothelioma is an unthinkable horrible disease."

Asbestosis develops as prolonged exposure to asbestos fragments scars tissue deep inside the lungs. Symptoms include shortness of breath, coughing, chest pain, and sometimes a swelling of the fingers beneath the nails called clubbing. Asbestosis often doesn't develop until years after exposure. If a patient's exposure to asbestos is halted, the disease usually stops progressing.

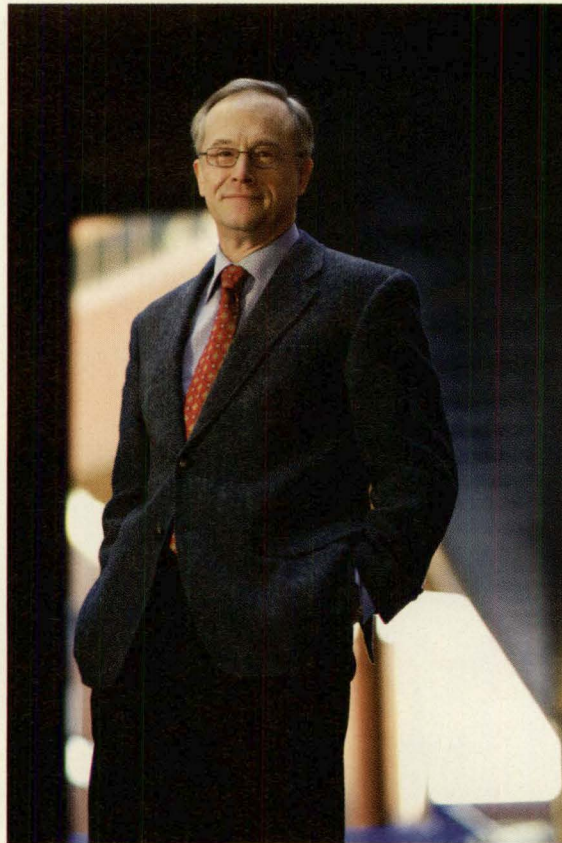
About one in seven people with asbestosis later develops asbestos-related lung cancer, which appears to be dose-dependent and, as it develops, can spread beyond the lungs.

Mesothelioma is a special cancer usually confined to the outer lining of the lungs (though it can also affect tissues around the heart, in the abdomen, and around the testicles). Virtually always caused by exposure to asbestos, mesothelioma develops 20 to 50 years after prolonged exposure. Symptoms of mesothelioma in the lung lining include shortness of breath due to the collection of fluid between the lung and chest wall, chest pain, dry cough, and vague symptoms such as weight loss. Over time, cancerous tumors may spread through the lining around the lung and invade adjacent tissue.

"This is not a disease that people live a long time with," says Jeff Mandel (M.P.H. '85), associate professor of environmental health and a lead

researcher of the U study. "Most people die within the first year after diagnosis. The treatment unfortunately is not very good."

For more than 20 years, the state Department of Health has known that mesothelioma deaths were about twice as numerous in northeastern Minnesota as elsewhere in the state—but only among men. Women actually contracted slightly fewer cases than the state average.



The University had a big card in its favor—"research integrity," says John Finnegan, dean of the School of Public Health. "We don't belong to government. We don't belong to private industry. We belong to Minnesota. And that made a big difference."

Numbers were far more striking among miners. Of approximately 72,000 people (almost entirely men) who worked in the mines between the 1930s and 1982, as of June 2007, 58 (all men) had died of mesothelioma. At least one more has died since. That is a far higher death toll—more than 400 times higher—than the 1 in 500,000 seen in the general population.

“What’s unique about mesothelioma is that it’s so rare,” says Mandel. “No matter what you compare that to, it’s an elevated number. For that population over that period of time, there shouldn’t be that many.”

That all the victims were male points to an occupational source in an industry like mining where the overwhelming number of workers are men. Several industries have a concentration of mesothelioma deaths. Plumbers, pipefitters, and electricians tend to work around old asbestos insulation and other asbestos-containing building materials and have high rates of mesothelioma. Shipbuilders also have high occurrences, as the military used a lot of asbestos on vessels in World War II.

“Mesothelioma is a disease you can pretty much trace to one kind of exposure,” says Finnegan. And it’s a “sentinel disease,” an indication that conditions are causing lung cancer and asbestosis that, except for the mesothelioma deaths, might go unnoticed by public health officials.

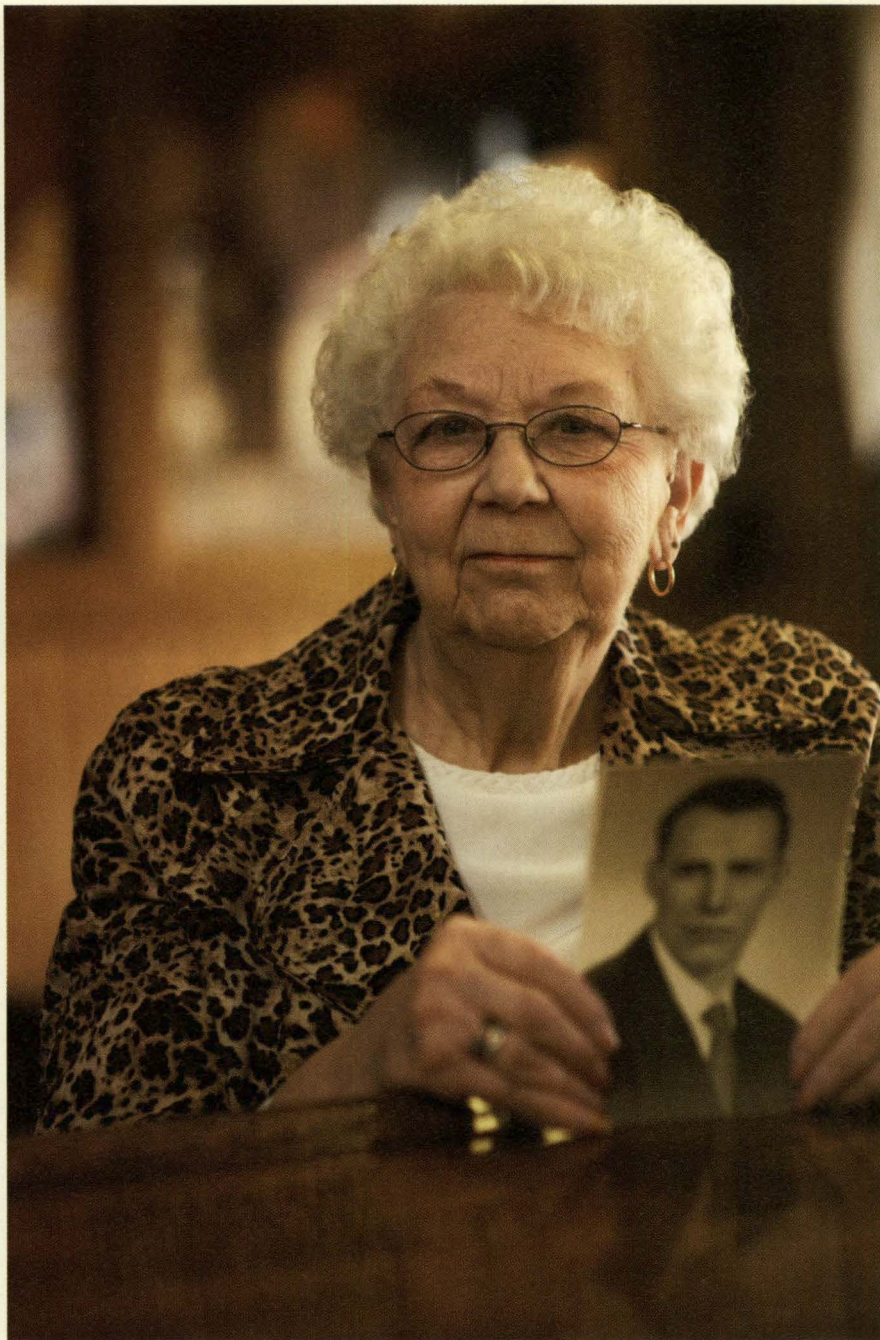
The long lag time between exposure and illness makes it tough to pin down the source of exposure and predict the progression of the disease through a population. All but one of the 58 taconite miners who died of mesothelioma were diagnosed 30 years or more after they first began to work in the mines. That means the spike in mesothelioma deaths may date back to the early days of taconite—the late 1950s. It’s possible that the cases of mesothelioma, lung cancer, and asbestosis will continue to proliferate as younger miners, who worked in great numbers during the 1960s and 1970s, age.

Dust to dust

Dave Trach joined Erie Mining in 1957. He soon learned taconite mining was dusty from beginning to end. Drilling and blasting in the pit generated dust. Shoveling and hauling whipped up dust. Crushing car-sized boulders into powder released clouds of dust. The slurry piped out to the tailings basin dried along the edges, where the wind often created dust storms. “You didn’t take your clothes home,” Trach says. “You didn’t want that in your washing machine at home. You went to the Laundromat.” Even Laundromats designated certain machines

just for miners’ work clothes.

Since the 1970s Reserve Mining controversy, scientists have known that taconite—specifically taconite from the eastern end of the Range near Hoyt Lakes and Babbitt—contains particles that look an awful lot like asbestos. In fact, inspections by the U.S. Mine



Dorla Langfeld holds a photograph of her husband, Winfred, a retired mining shovel operator who died of lung cancer last August.

Health and Safety Administration of the Northshore Mining Company plant at Silver Bay (the old Reserve Mining plant) uncovered the presence of asbestos or asbestos-like fragments in the dust in the plant and equipment.

Asbestos is the fibrous form of any of six silicate minerals and is naturally occurring. The long, thin crystalline structure of the fibers is what makes asbestos so useful. Pliable and strong, they can be woven into cloth or incorporated into building material, providing strength, flexibility, and flame resistance. But the fibers of these six minerals readily split and split again—like the

PHOTOGRAPHS BY MARK LUENENBURG

split ends of damaged hair—forming needlelike particles so tiny they bypass the body's defenses and imbed themselves deep in lung tissue.

These same six minerals also have a second, nonfibrous, crystalline structure that breaks into particles known as "cleavage fragments." While the long asbestos fiber is clearly responsible for mesothelioma and related diseases, whether the same mineral in the form of cleavage fragments is hazardous is not clear. "One of the unresolved questions is: Do these cleavage fragments have the same toxicity as the long, sinuous fibers?" asks William Pomroy (B.S. '75, M.S. '96), mine safety and health specialist for the U.S. Mine Safety and Health Administration in Duluth. "Do they have any toxicity at all? Are they the same as ordinary dust?"

Cleavage fragments are much more common, but the protocol that federal mine safety engineers use to test for asbestos doesn't distinguish between fibers and fragments. Scanning first with a light microscope and then taking a closer look with an electron microscope, inspectors are looking for particles longer than 5 microns and at least three times longer than they are wide. "We're looking for things basically that are long and skinny," says Pomroy. Asbestiform fibers and cleavage fragments are both long and skinny. In fact, they can be almost impossible to tell apart.

Mine inspectors are refining the protocol for identifying particles, and the threshold for asbestos in mining has been lowered. However,

taconite itself may not be the problem at all. Miners might have been exposed to some other common source of asbestos. Trach, for example, describes long ago being given the task of mixing handfuls of "raw asbestos" with grease to make a nonflammable putty miners called "bear shit" to seal seams in equipment. Says Trach: "There was never, ever a discussion about asbestos and how to protect yourself from asbestos."

"It's possible that these exposures to the commercial use of asbestos are more important than the miners could have from the naturally occurring asbestos," says Mandel. "That's one of the key areas we're trying to sort out in the work that we're doing."

Crumbling studies, rebuilding trust

Since the Reserve Mining controversy broached the topic of asbestos three decades ago, several attempts to find a link between taconite mining and asbestos-related diseases have mostly sputtered. There were several studies of mortality among miners during the 1980s. The Minnesota Department of Health established a tricounty cancer survey to monitor cancer rates. In 1985, a radiologist in Virginia, Minnesota, drew

attention to a greater than expected number of abnormal X-rays among his patients, though other experts reviewed the X-rays and concluded there was no "community-wide health problem." Also in the 1980s, the University of Minnesota School of Public Health and the Iron Range Resources and Rehabilitation Board put together the database of 72,000 retired miners. While that helped bring to light the rising tide of mesothelioma, most efforts suffered from lack of money.

"You never quite get the full funding you needed from the legislature to make it happen," says Finnegan. But the state health department's silence about mesothelioma perversely lit a spark. "I think that really coalesced a lot of political will really quickly," says Finnegan. "Certainly it did with the Iron Range legislative delegation."

As soon as the Lung Health Partnership study was announced, the University needed to rebuild trust with the mining community. "We had a bit of a mountain to climb," says Finnegan. "We had this legacy of mistrust to get over." Not least of which was the rocky relationship between miners and Big Steel that has bred an atmosphere of suspicion and hostility in civic affairs that goes back generations.

"Given the fact that there was a huge lack of trust, lots of anger toward the commissioner and the health department, and kind of given the general history of people on the Iron Range, I decided that we had to form a community part-

nership," Finnegan explains. "This was not an original idea on my part. There's one central idea: The public, the communities, the towns, whatever group you're working with, they need to be your partner in the work that you're doing, not your guinea pig."

The University had a big card in its favor—"research integrity," in Finnegan's words. "We don't belong to government. We don't belong to private industry. We belong to Minnesota. And that made a big difference."

To assure Rangers the research and process were on the square, and to help publicize information as it became available, Finnegan and others assembled what would be a hallmark of the effort: the partnership of more than 35 organizations.

"We needed to round up all the stakeholders and make sure they know what we know, when we know it," Finnegan says. Another component: an easy-to-use and up-to-date Web site describing the research effort, including updates, links to news stories and research, summaries of two partnership meetings held on the Range so far, and a phone number to a nurse line for information about lung diseases and the upcoming miner health survey.

"I just wanted to make sure we were doing the best we could to have the best communication possible," Finnegan says. "If you



"What's unique about mesothelioma is that it's so rare," says Jeff Mandel, a lead researcher in the University study. "No matter what you compare that to, it's an elevated number. For that population over that period of time, there shouldn't be that many."



want people to trust you, then transparency and communication—there’s no substitute.”

Digging deep

This spring, interviewers will begin screening 2,000 active and retired miners and spouses, picked at random from mining company records to ensure a representative sample. Leslie Studenski (M.P.H. ’02) will organize and oversee the two-hour interviews at Virginia Regional Medical Center. Subjects will undergo blood work, chest X-rays, and lung function tests and fill out a thorough questionnaire regarding work in the taconite industry, other possible exposure to asbestos, and respiratory health history. The screening will take up to a year to complete, Studenski says. And the survey is only part of the multipronged study.

In a workplace exposure assessment, researchers will assess dust levels and the presence of hazardous materials such as asbestos at various stages and locations in the cycle of taconite mining. They will make the assessment not only for current-day operations, but determine exposure as best they can for various jobs and locations in the bygone days of taconite mining, something called “retrospective exposure analysis.”

At the same time, researchers will conduct a mortality study of the 72,000 miners who worked from 1953 to 1983. They’ll identify not only respiratory disease in that group, but also characterize

cause of death in 100 categories, including various kinds of accidents, cancers, infections, and heart disease.

A fourth examination, a cancer registry linkage study, will determine whether connections exist between cancer, especially mesothelioma, and exposure to various dust and other materials at specific locations.

Finally, the Natural Resources Research Institute at the University of Minnesota–Duluth will set up air-particulate filters on schools, courthouses, and libraries to trap and analyze pollutants, especially mineral fibers and fiberlike particles.

The partnership is probably three years away from final reports, and the researchers are pleased with the response from Range communities so far. Says Mandel: “There’s a lot of interest from the communities in sharing their experiences with the mining industry.”

That may in part be because miners feel they have waited so long to have those experiences heard. “I just want to get our story out about what is happening,” says Dave Trach. “They’re a hell of a lot further than they were for 39 years. Maybe we’ll get some answers and make the mines a safer place to work in the future.” ■

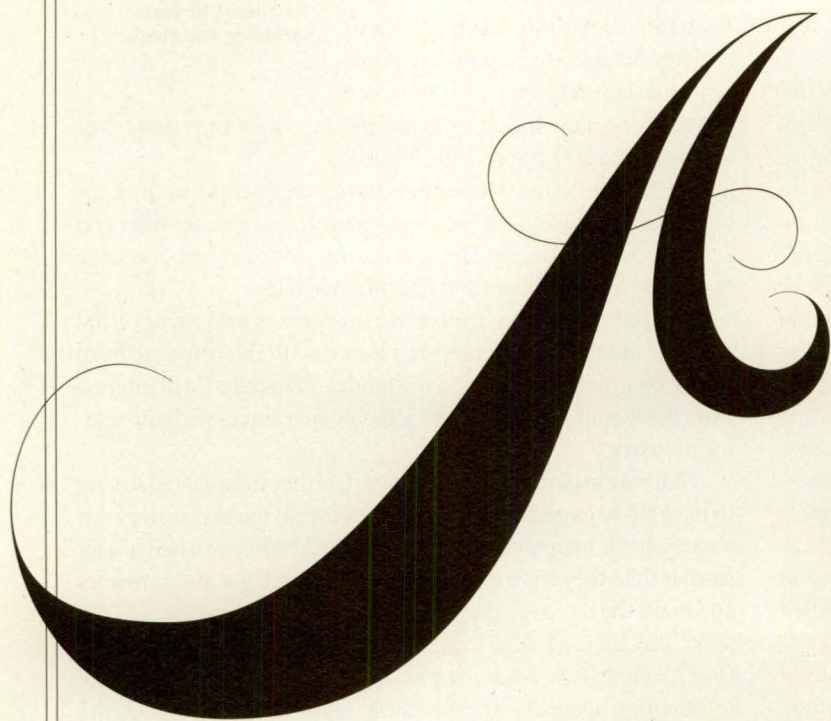
Gene Olds, a retired millwright in Aurora, Minnesota, has had lung health issues for almost 10 years, including asbestosis.

Greg Breining (B.A. ’74) is a St. Paul–based freelance writer. For more information about the Minnesota Taconite Workers Lung Health Partnership, visit www.sph.umn.edu/lunghealth.

Good and Evil in the Garden

**University horticulturist
Jeff Gillman debunks
dangerous and ridiculous
gardening myths.**

By Meleah Maynard
Photographs by Sher Stoneman



half-dozen or so slimy, brown slugs are gathered in the center of a paper plate. Slowly, they begin to fan out, their feelers stretching and retracting with every lurching movement. If they ever want to see the moist, rich soil in Jeff Gillman's backyard gardens again, they're going to have to make it through the sharp bits of crushed eggshell that ring the perimeter of the plate. Would the slugs rather wither on the plate than risk painful cuts by crawling over broken eggshells? Not a chance: Those slugs didn't pay the eggshells any mind. ■ The breach of the eggshell barrier came as a surprise to Gillman, an associate professor in the University of Minnesota's Department of Horticultural Science and the Extension Service. According to numerous gardening sources, crushed eggshells are supposed to be a good slug deterrent because the soft-bodied creatures allegedly are reluctant to crawl over the sharp edges of the shells. On this day, however, the slugs—and Gillman—proved that theory wrong.



Jeff Gillman

Running home-grown experiments is nothing new for Gillman. In the first of his three books on horticultural topics, *The Truth about Garden Remedies: What Works, What Doesn't, and Why* (Timber Press, 2006), Gillman offers readers a straightforward, and often offbeat, account of the tests he and his students have run on more than 100 gardening practices.

When a remedy or practice, such as playing music to help your plants grow, is touted over and over by experts and the media, most people believe it without question. Being a horticulturist, though, Gillman is better equipped to weed out ideas that sound suspicious or just plain wrong. What worries him most about these false claims is not the lack of good science, but the fact that some of these commonly held beliefs can actually be dangerous, particularly recommendations for using pesticides and insecticides. With an average of 70 million U.S. households doing some level of lawn and garden care, according to the National Gardening Association, and a victory garden craze getting under way, the need for accurate and safe gardening information is critical.

Gillman's other titles include *The Truth about Organic Gardening: Benefits, Drawbacks, and the Bottom Line* (2008); *How Trees Die: The Past, Present, and Future of Our Forests* (May 2009); and a fourth in the works, *The Truth about Environmental Policy*. What

he's found through conducting experiments and researching existing literature for his books is that much of what's been passed along for eons as tried and true is hogwash. Of course, he has also learned that many commonly held beliefs are credible. Yes, beer does help get rid of slugs. Mouthwash does fight plant disease. And garlic does repel pests like aphids and whiteflies.

But if the thought of arming themselves with beer, mouthwash, and garlic when they head out to the garden leaves people shaking their heads in disbelief, good—that's the way Gillman wants it. He doesn't tell people what to do. He wants to give them good information. And he encourages people to think critically and question everything they're told, including what he tells them. "My main message is: Don't settle for unexplained recommendations," he says. "Look further—don't take my word for it. Read. Do your own tests. Find out the 'why' behind what you're doing for your plants."

BAD APPLES

As a kid growing up in Pughtown, Pennsylvania, Gillman read James Herriot's *All Creatures Great and Small* and dreamed of being a veterinarian—until he realized he'd have to euthanize a lot of pets. Slightly built and with a quick, infectious laugh, Gillman at first seems too nice, and maybe even too soft-spoken, to be



Gillman encourages gardeners to think critically and question everything they're told, including what he tells them.

"If Rachel Carson were alive today, I think she'd be proud of the reservations we now have about using pesticides," Gillman says of the author of the 1962 book *Silent Spring*. "But I also think she would be concerned that we still apply them without fully understanding what they can do to our environment."

the source of the blunt commentary that has made his books a hit with gardeners and many other scientists. But talk with him for a minute and his conviction becomes clear.

He's to-the-core irked at the way some glossy gardening magazines and celebrity garden gurus have made a bundle off of perpetuating myths and making claims that are misleading and often unsafe. "I collect this stuff," he says, reaching up to grab a handful of popular gardening and horticulture books from a cluttered shelf above his desk in Alderman Hall on the St. Paul campus. "For me, I see these kinds of books as entertainment because I have the expertise to look at them critically. But a lot of people assume this information is factual. That's where I have an issue."

Though his irritation over the proliferation of spurious horti-

cultural information had been growing for years, Gillman remembers exactly when he finally snapped. It was late 2003, and longtime gardening celebrity Jerry Baker was on a television show offering gardening tips when the person standing next to him on camera said, "Wow, if people listen to you, they could get their Ph.D. in horticulture." That was it, the seed for *The Truth about Gardening Remedies* was planted. "I was so offended I immediately started researching some of his claims," Gillman recalls.

Baker is just one of three widely celebrated garden gurus that make Gillman so mad he can't speak about them without waving his arms around. And he's not shy about saying so. The other two are Joey Green (known for "wacky" uses for household products) and Myles Bader (author of *1001 All-Natural Secrets for a Pest-Free Property* and other titles). He scolds all three for abandoning research-based advice in favor of ill-conceived tips that have more mass-market appeal. One, in particular, is singled out for claiming that organic pesticide rotenone has low toxicity to humans and animals. Gillman vehemently disagrees, stating in an article on www.gardenrant.com that rotenone is, in fact, one of the most toxic organic pesticides people can buy.

He would know. Not only does Gillman teach courses on pesticides at the University, he tested a wide range of pesticides, including rotenone, for his book on organic gardening. After describing the ways in which rotenone can harm beneficial insects, fish, and humans, Gillman writes: "Why would any sane person use this pesticide?"

As he did with the first book, Gillman used both existing scientific studies and his own research to write about organic gardening. This time, however, his primary objective was to dispel the notion that organic products are always beneficial and safe while synthetic ones are poisonous and harmful. Take rotenone, again, for example. Since it's considered to be an organic insecticide, many people picking it up off the shelf believe it's safer than other choices they could make. In fact, Gillman writes, "rotenone has been found to cause Parkinson's disease-like symptoms when injected just below the skin of rats at extremely low doses."

The book goes on to look objectively at products like Roundup, a well-known (and often demonized) weed killer made by Monsanto. While Gillman doesn't endorse Roundup, he does take apart several studies of the product, ultimately concluding that there are much worse things for people and the environment on the market—many of which are organic. He goes on to examine everything from corn gluten meal, insecticidal soaps, and compost tea to such chemicals as abamectin, copper sulfate, and myclobutanil.

Ultimately, one of the things Gillman stresses most in all of his work is a common-sense approach to using any type of fertilizer or pesticide. "If Rachel Carson were alive today, I think she'd be proud of the reservations we now have about using pesticides," Gillman says of the author of the 1962 book *Silent Spring*, which led to the eventual ban of the pesticide DDT. "But I also think she would be concerned that we still apply them without fully understanding what they can do to our environment."

RESEARCH AT THE ROOT

From the windows of Gillman's office, the research fields look vast and barren under a thick coating of snow. Working closely with Gary Johnson, a professor in the Department of Forest Resources at the University, Gillman and his team of student assistants have worked in those fields on a variety of projects over the years. One ongoing study, in collaboration with the Minneapolis Park & Recreation Board, is looking at the performance of urban trees, trying to determine which ones are most likely to survive the bad soil, drought, and road salt that accompany life in the city. They have also studied how planting depth affects the health of trees, concluding that despite conventional wisdom, planting trees too deeply leads to premature death and disease because the roots can't get the air and water they need. "One thing that's different about the work Jeff and I do is that we think of the social and environmental benefits of trees and shrubs," says Johnson. "In horticulture, it's usually more about production and plant breeding, but we're thinking about how a new variety of sugar maple is going to perform on someone's boulevard."

Gillman is often asked how he decides what to research. Essentially, when he hears something he's skeptical about, he tests it. While he does a lot of his work on his own, students in his classes, as well as the two to four students he hires each year, also help conduct experiments. Gillman figures about 30 students helped with research that made it into his books.

Katie Frerker (B.S. '03), who studied urban and community forestry at the U, was one of those students. She worked with Gillman at the nursery he runs through a joint program with the urban forestry program. When she wasn't out collecting data about the plants and trees growing in the nine acres of research fields Gillman oversees, she assisted with experiments for the book about garden remedies. Misting roses with various concoctions to see what helped get rid of powdery mildew was kind of fun and interesting. But one experiment was really hard to take.

"We were doing tests to see whether plants respond to music," Frerker, who



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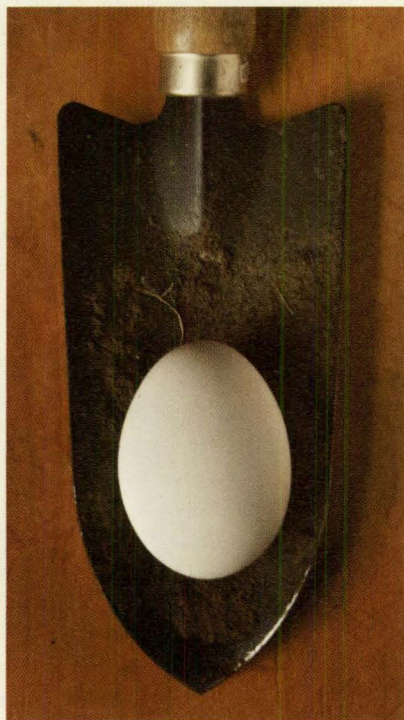
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Remedies that Work



Crushed eggshells won't deter slugs from getting into your garden, as some garden gurus claim. But when mixed into the soil around tomato plants, the calcium from the eggshells can help control blossom end rot.

What: Beer

Purpose: To catch and kill slugs, which chew holes in plant leaves

How: Take a pint-sized jar and bury it so that its mouth is at or slightly below the level with of the soil. Fill the jar with beer (preferably dark ale) up to approximately 1/2 to 1 inch from the top of the jar.

Why it works: Slugs are attracted to beer, so if the trap is properly set up the slugs will come for the beer and get stuck in the jar.

What: Eggshells

Purpose: To control blossom end rot on tomatoes

How: Take the shells of four eggs per plant and crush them into fine pieces. Mix these shells into the soil around each plant.

Why it works: The calcium in eggshells will dissolve slowly into the soil where it will be taken up by the plant's roots.

What: Milk and water

Use: To control black spot on roses

How: Add 1 cup of milk with two cups of water. Spray mixture directly onto rose leaves once a week with a handheld spray bottle to protect them from black spot.

Why it works: No one knows exactly why milk helps control certain plant diseases, but milk does contain lactoferrin, a protein that has been shown to help control diseases in animals.

Remedies that Fail

Vinegar as a fungicide: Two to three tablespoons of apple cider vinegar mixed with a gallon of water is often cited as a remedy for plant problems, such as black spot and powdery mildew (a fungal growth that appears as a dusty, white coating on the leaves of some plants). In tests, Gillman found that the vinegar doesn't do much to control black spot but is as effective as mouthwash for getting rid of powdery mildew. However, since vinegar is an acid and can damage plant cells, the cure could kill the plant.

Citrus peels to repel ants: Because citrus peels are believed to contain insecticidal compounds, some people suggest controlling ants by placing the peels around ant hills or mixing them with water to be used as a spray. Gillman tested this theory and found that the ants didn't mind the peels at all and simply marched right over them when leaving their mounds.

Lady beetles as insect predators: It's true that lady beetles are good at eating up all kinds of bothersome pests in the garden, including mites, scale, aphids, and mealybugs. The problem is, if you bring them home from the garden center and release them into your yard, they'll probably fly away before you've even said hello. If gardeners really want help from lady beetles, the best thing to do is encourage the ones that are already in the backyard by not spraying with chemicals that can harm or kill them.

now works for the National Park Service, recalls with a laugh. "I was the one who had to get inside the growth chamber and measure the plants' growth rates and I hated it because the music Jeff chose was [heavy metal band] Rush. I hate Rush, so for me it was like torture to have to sit in there for an hour, sometimes, and I had to do it four times a day." The result? Well, music is the only remedy Gillman doesn't offer an opinion on in the book because the results weren't conclusive. But that doesn't mean people shouldn't sing or talk to their plants if they want to. "I find it empowering to talk to things that won't talk back," Gillman says.

Of all the people who have worked with Gillman over the years, Chad Giblin (B.S. '06) probably knows him best. Gillman hired Giblin to do maintenance work—mainly taking caring of the fields by pruning, weeding, and planting—shortly after arriving at the University in 1998 after earning his Ph.D. in horticulture at the University of Georgia. Giblin, who was finishing up his undergraduate degree in environmental horticulture at the time, had just gotten married and didn't have any plans to continue his education. But Gillman began asking Giblin to assist with research projects, encouraging him to question everything and teaching him how to run experiments and analyze the numbers.

He also urged Giblin to go to graduate school. Giblin is now a scientist working on his master's in urban forestry. "A lot of my horticulture knowledge used to be based on the idea that: 'Well, that's the way it is,'" says Giblin. "But Jeff taught me to think that there are a lot of reasons behind what people tell us to believe, so we need to look at every situation in an analytical, unbiased way. I hope what he's written and the research we've done has been helpful to people."

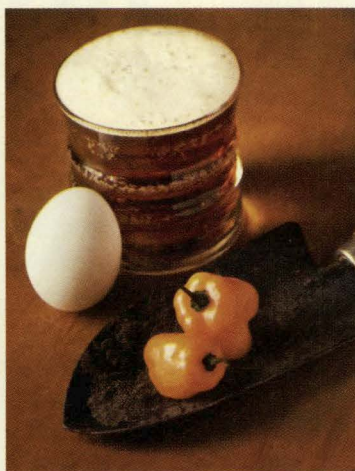
REAPING RECOGNITION

In his forthcoming book about how trees die, Gillman expounds on the relationship between humans and trees, examining the ways

in which the use of trees for food, shelter, and other products has affected the world's forests and the environment. He also explains how people kill them, sometimes with kindness by watering them too much. In his fourth book, *The Truth about Environmental Policy*, he and coauthor Eric Heberlig, an associate professor of political science at the University of North Carolina, Charlotte, examine the benefits and drawbacks of various environmental policies, such as those pertaining to global warming, organics, and growing illegal plants.

Gillman and his work have achieved a level of recognition he did not anticipate. He attributes his success to the fact that he's a good communicator who has worked hard to get his message out to the public. His phone rings often with invitations to speak on horticultural topics at venues across the United States. In addition to writing articles for regional and national gardening magazines, he also writes a monthly column for the *Star Tribune*. Last year, the *Washington Post* ran a lengthy story praising the thoroughness and impartiality of *The Truth about Organic Gardening*. And in January, Gillman made his most high-profile appearance yet, as a guest on *The Martha Stewart Show* to demonstrate mixing organic remedies for indoor and outdoor plants (to watch the segment, go to www.marthastewart.com and search for "Jeff Gillman").

Does all of this sudden attention have Gillman worried that he, too, may become the kind of media-hungry garden guru who trades facts for pithy sound bites? "You certainly seem to get more fame when you play it fast and loose," Gillman says. "In the end, though, I'll always come down on the side of science. But I hope people will always question me. Questioning is what keeps people honest." ■



Placed in the ground, a jar of beer can trap destructive slugs.

Meleah Maynard (B.A. '91) is a Minneapolis-based freelance writer. For more information about Jeff Gillman's work in the Extension Service visit www.extension.umn.edu.

A Different Way of Knowing

The nation's first department of American Indian studies celebrates 40 years.

Stretching back through the first half of the 20th century, prevailing wisdom suggested that American Indian populations must either successfully assimilate within the dominant culture or cease to exist. At the University of Minnesota, as elsewhere, little or no effort was expended in trying to understand or accommodate the Native American community as an ongoing entity. ¶ Today, the University of Minnesota is home to one of the leading centers of American Indian study in the nation, with an unsurpassed language program, including the only Dakota language instruction in the country. This spring, the U's Department of American Indian Studies—committed to embracing “ways of knowing that stand in contrast to the linear analytic Euro-American studies typically found in colleges and universities”—celebrates its 40th birthday. In fact, it was the nation's first department of American Indian studies.

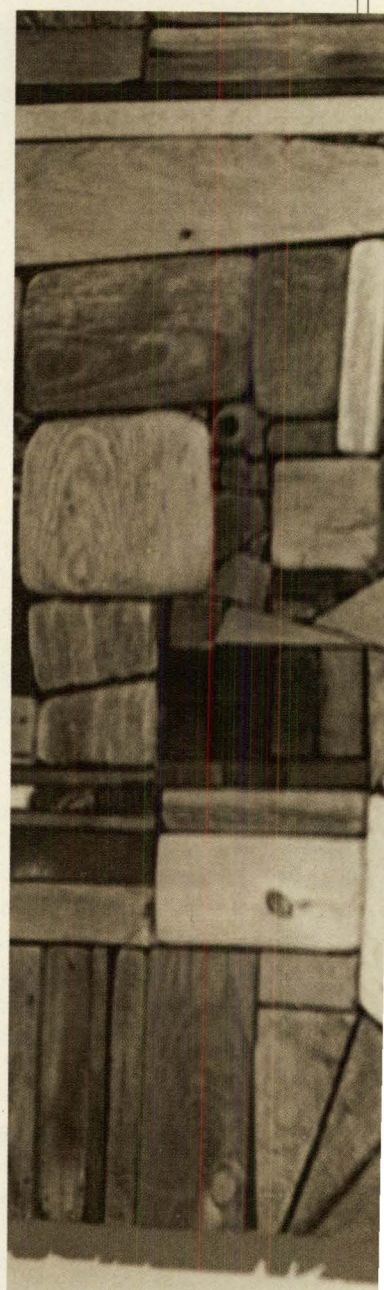
Interest in American Indian studies at the U was a long time coming, but when the climate for change finally arrived it happened swiftly. The birth of the department, in June 1969, came after more than a century of general neglect. It followed on the heels of an acrimonious winter on campus that began with the January 1969 takeover of University administration offices in Morrill Hall by a group of African American students and continued through a spring full of political turmoil. Among the demands of the black activists was the creation of a department of African American studies (the department was subsequently established).

More quietly in May of that year, a committee of faculty members—chaired by anthropology professor Frank Miller; Native American students headed by G. William Craig (B.A. '75), who was president of American Indian Student Association; and community representatives, including Will Antell (Ph.D. '73), director

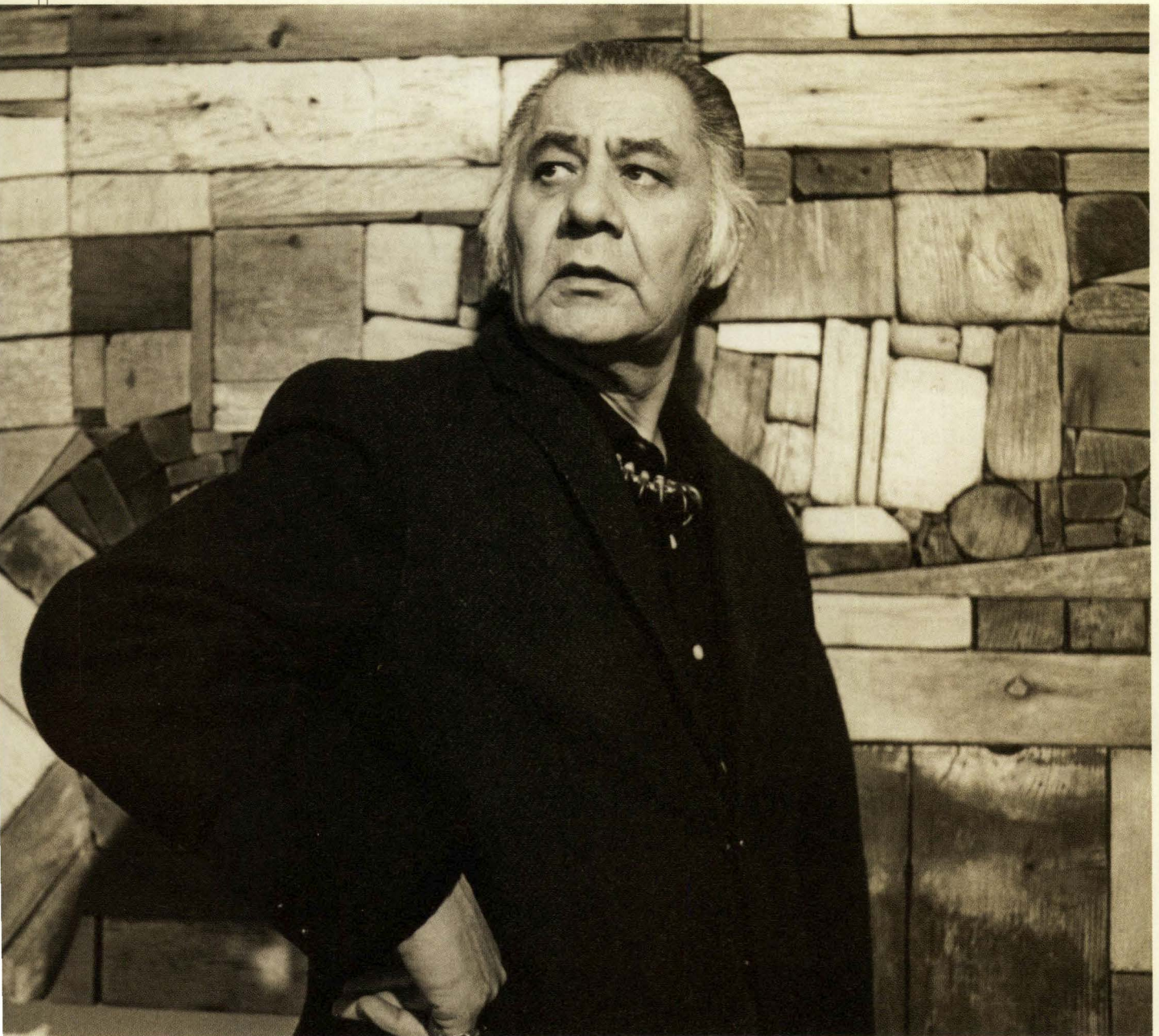
of Indian Education for the State Department of Education—sat down to discuss the creation of a Department of American Indian Studies at the U.

They put together a plan that emphasized a curriculum centered on the study of Native languages, particularly the region's dominant Indian tongues, Ojibwe and Dakota. They also set out to “educate the university's general population about the complexities of the American Indian experience,” in the words of department history written years later. They wanted American Indian studies to have a sense of independence and autonomy and to be funded by hard money from the University. “We wanted to make sure that it was a department, rather than a program,” says Miller. “We wanted it to have its own core faculty, so that it wasn't dependent upon other departments for its teaching.”

There would be undergraduate courses in Minnesota Indian



BY TIM BRADY



George Morrison, a renowned painter and sculptor, was among the first faculty members hired for the Department of American Indian Studies.

history and culture and upper division courses in education, law, medicine, public health, and social work. And it was agreed that studies in the Ojibwe and Dakota languages would fulfill language requirements in the College of Liberal Arts—another first. “No other university in the world allowed an American Indian language to serve that purpose,” Miller says.

There was some limited dissent from general faculty members, who thought American Indian studies did not warrant its own department. But on June 7, 1969, the University’s Board of Regents approved the proposal and, by the fall of that year, the Department of American Indian Studies had opened its doors. Its first tenure track hires included Timothy Dunning, who would head the language programs, artist George Morrison, and chair of the department, historian Roger Buffalohead.

Native American education was notoriously given over to the boarding school system, which spirited thousands of young Indians from their homes and families through the last years of the 19th and well into the 20th century. If the boarding school experience wasn’t enough to dampen an inclination to higher education, the curriculum at these schools was.

What made the advent of the department perhaps even more remarkable than the fact that it was the first of its kind in the nation was how far the idea of American Indian studies had traveled in just a few years. The University had offered little in the line of Native studies before the 1960s. The U's department of anthropology had long offered courses on a wide variety of American Indians, including Plains Indians, South American Indians, and Middle American Indians. And there were field archaeology classes on prehistoric Native sites in Minnesota. But when Miller arrived at the University in 1964, he could find no classes dedicated to the study of the living tribes of Minnesota Indians.

Acclaimed novelist Gerald Vizenor (B.A. '60), an Ojibwe who would one day teach in the Department of American Indian Studies, was an undergraduate at the University of Minnesota in the late 1950s. Speaking to historian Clarke Chambers for an oral history of the University, Vizenor said that the only Native American presence that he could find at the U in his undergraduate days was in the department of anthropology. Even at that, it was a dissatisfying experience. "It was the methodology, the sense of dominance," recalled Vizenor of what was disturbing about the instruction, "treating Native cultures as if they are vanishing objects."

Only a handful of Indian students attended the University of Minnesota at any given time before World War II. No numbers of these students were collected by the U, and the best indicator of enrollment—occasional correspondence between the Bureau of Indian Affairs (BIA) and the Office of the Dean of Students regarding the progress of Indian students on campus—offers only sketchy details.

As part of the assimilation effort, Native American education was notoriously given over to the boarding school system, which spirited thousands of young Indians from their homes and families through the last years of the 19th and well into the 20th century. If the boarding school experience wasn't enough to dampen an inclination to higher education, the curriculum at these schools was purposefully technical, most often encouraging Native students to learn vocational skills rather than pursue scholarly or professional fields. Nevertheless, some Indian students found their way to the U of M, particularly after General College opened in the early 1930s; and the BIA supplied some assistance to them.

The scholarship Native students found in Minneapolis was often deeply flavored with the prejudice of the time. The founder of the anthropology department, for instance, viewed Native Americans as vanishing primitives and studied their physical characteristics, intending to prove their inadequacies and inevitable extinction by measuring the size and shapes of heads and feet. In archaeology, early University professors had no qualms about

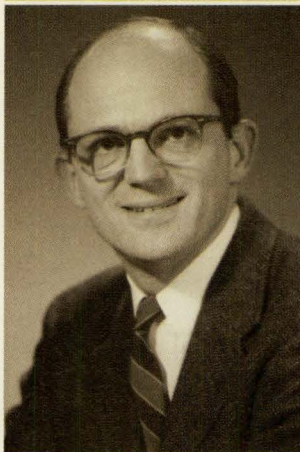
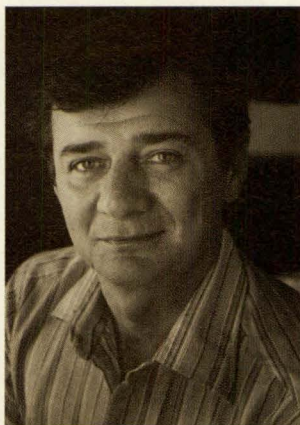
unearthing Indian burial grounds in search of ancestral bones, which were subsequently stored in lab drawers. And in the history department, the impact of Native people on American heritage was largely ignored, except as an impediment to progress and manifest destiny or as an object of the past.

The pressures that would ultimately bring change to the University and the nation began building in the years after World War II. The increasing urbanization of Native Americans and the need to offer assistance in multiple forms to Indian populations both on and off the reservation had been growing for many years. It was estimated that between 5,000 and 15,000 Native Americans were living in the Twin Cities by the mid-1960s—a jump from the estimated hundreds in the late 1920s. Simultaneously, Native American populations had grown disenchanted with the BIA's hands-off approach to aiding Native Americans living off the reservations in cities like Minneapolis and St. Paul. The mounting strength of the nation's Civil Rights movement within the African American community brought attention to the problems of Native Americans as well. And new perceptions of the problems of Native American populations began to percolate in the general public and in academe.

Beginning in the late 1950s at the University of Minnesota, two members of the Office of the Dean of Students—Henry Allen, coordinator of religious activities, and Matthew Stark (M.A. '59), coordinator of human relations—had begun to reach out to American Indian students. Allen established ties with Ojibwe bands and tribal leaders on the reservations of northern Minnesota. Stark, who was intimately involved in a number of programs that revolved around the Civil Rights movement, had begun the Project Awareness Program, designed to teach University students about Native American culture while bringing Indian students into the U community.

Federal dollars started to flow into the urban community from President Lyndon Johnson's Great Society programs, and Indian social welfare organizations, primarily centered around Franklin Avenue in Minneapolis, began to receive support to identify and ameliorate the difficulties of city living.

In June 1964, the U hosted a meeting that included several offices of the University of Minnesota, a member of the state's newly created Minnesota Indian Affairs Commission, and officials from the BIA. The reason for the gathering was relatively simple: Increasing numbers of Native Americans in the Upper Midwest were moving to cities. The problems they faced were the same as any other transplanted newcomers: finding employment, housing, health services, education, and social and recreational outlets. Compounding these difficulties, however, was their lack of urban life skills, as well as the cultural prejudice Indians faced once there. Many also arrived



Top: When Gerald Vizenor attended the University in the 1950s, the only instruction on American Indians treated "Native cultures as if they are vanishing or vanishing objects." Vizenor went on to become an acclaimed novelist who taught in the U's Department of American Indian Studies.

Bottom: When anthropology professor Frank Miller arrived at the University in 1964, he found no classes dedicated to the study of the living tribes of Minnesota Indians. He helped plan the establishment of the Department of American Indian Studies.

with a background steeped in extreme poverty. The question before the committee was straightforward: What could the University of Minnesota do to help alleviate the problems of the state and region's Native people?

The most immediate offshoot of this gathering was the creation of an Ad Hoc Committee on American Indian Affairs on campus. This committee was set up to

The scholarship Native students found in Minneapolis was often deeply flavored with the prejudice of the time. In archaeology, professors had no qualms about unearthing Indian burial grounds in search of ancestral bones, which were subsequently stored in lab drawers. In history, the impact of Native people was largely ignored, except as an impediment to progress or as an object of the past.

survey present activities of individuals and departments regarding American Indians in the Upper Midwest; to gather information about specific courses centered around the study of Native Americans; to search for financial assistance for research and "action programs in regard to American Indians"; to create lines of communication between interested parties, including the committee, the BIA, the state's Indian Affairs Division, and the Minnesota Tribal Council; and "to make recommendations to various staff member at the University concerning needed programs, research studies, or academic courses which might be worthwhile in understanding American Indian culture." Members of the committee included Allen, Stark, and faculty from the departments of sociology and anthropology and General College.

In June 1966, a year and a half after its formation, the committee put together a "Proposal for a Department of American Indian Studies" that formalized many of these items.

"Since [the chartering of the University in Minnesota in 1851] the American Indians in Minnesota and throughout the western part of the United States have suffered from the loss of most of their lands, the destruction of their traditional economic base, inconsistent and discriminatory government policies, and inferior opportunities for education," the proposal read. "In spite of these adversities, Indian communities and Indian culture have persisted in Minnesota and in other parts of the United States. . . . Educational institutions in general and the University of Minnesota in particular have a special responsibil-

ity to offer to the people of the state, both Indian and non-Indian, an education that is adequate to deal with the complexities of contemporary Indian affairs."

But the time was not quite right for such decisive action.

Meanwhile, more students from the Native American community were arriving at the U. Their numbers were still relatively small (45 students of American Indian ancestry were registered at the U when the department was founded), but it was a significant increase from the dozen or so who attended the U in the late 1950s. And most, if not all, were influenced by the

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growing sense that their needs had not been met by the University. The entire student body was becoming more politicized, and Native American students were no exception. In the fall of 1968, they founded the American Indian Student Association, which began pushing the University to address the concerns of its Native students, many of which were contained in the proposals of the Ad Hoc Committee on American Indian Affairs.

Simultaneously, the Native American community beyond the University was emerging as a powerful force for change. Centered in Minneapolis, which now held one of the largest urban populations of American Indians in the United States, Indian activism coalesced in the creation of the American Indian Movement (AIM), founded in the summer of 1968 by Clyde Bellecourt, Dennis Banks, and others. While AIM would turn out to have little to do specifically with the creation of the Department of American Indian Studies at the U of M, it was a critical part of the milieu in which the department was born.

By the end of the 1960s, students and faculty across the nation were familiar with political upheaval and rapid change. Action committees and campus meetings could be summoned at the speed in which a mimeograph could produce a flyer. The glacial pace of change that typified college administration melted and suddenly campuses all across the country were

The entire student body was becoming more politicized, and Native American students were no exception. In the fall of 1968, they founded the American Indian Student Association, which began pushing the University to address the concerns of its Native students, many of which were contained in the proposals of the Ad Hoc Committee on American Indian Affairs.

different than they had been.

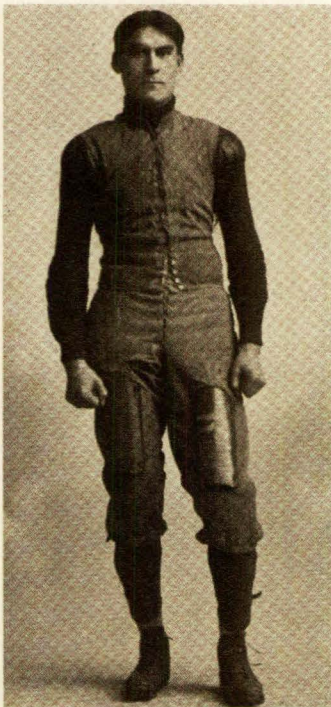
So it was at the University of Minnesota in the spring of 1969. A community that had shown little interest in its Native American citizens for too long was suddenly the home of the first Department of American Indian Studies in the United States. Its establishment would inspire future students and faculty members, like Jean O'Brien, growing up in Faribault, Minnesota.

"I was Ojibwe and had just discovered Indian activism," says O'Brien, now head of the U's Department of American Indian Studies. "I knew that I wanted to study Native American culture and it made all the difference in the world to me that the University of Minnesota not only had a Department of American Indian Studies, but that it was the first one in the country."

This May, the U's Department of American Indian Studies will be part of another first:

It's hosting the first-ever meeting of the Native American and Indigenous Studies Association, a new professional organization for scholars around the world who are studying American Indian/Native American, First Nations, Aboriginal, and Indigenous people. ■

Tim Brady is a St. Paul-based freelance writer and frequent contributor to Minnesota.



Edward Rogers, pictured in the 1905 Gopher, was captain of the 1903 Gopher football team while studying law at the University.

Remembering Edward Rogers

Probably the most memorable Native American student at the University of Minnesota in its earliest days arrived in Minneapolis soon after the turn of the century. Edward Rogers (J.D. 1904) had grown up in Walker, Minnesota, the son of lumberman William Rogers and an Ojibwe woman, Mary Racine (Sha gosha day wa be quay), from Sandy Lake. As a boy, he was sent off to one of the country's most famous Indian boarding schools—Carlisle Academy in Pennsylvania—where he became a star football player on the renowned all-Native American team, coached by Pop Warner. While playing a game in New York, Rogers subsequently told a reporter that he was able to buy a Minneapolis newspaper "and got homesick" while reading of a U of M football game. After graduating from Carlisle, Rogers returned to Minnesota to study law at the U and play more football. Rogers was voted captain of the famed 1903 Gopher football squad and kicked the tying extra point in the inaugural "Little Brown Jug" game.

Rogers played one season with the Gophers and then headed back to Carlisle, where he replaced Pop Warner as coach for a single season—Jim Thorpe's first at the academy. He returned to Minnesota to coach the St. Thomas football team as he finished up his law degree at the University. Then he moved back to Walker to practice law. Ed Rogers subsequently served as Cass County attorney in two lengthy stints that totaled 46 years, beginning in 1912. He was also very active in Chippewa tribal matters, both on a local and national level. Rogers became counsel for one of the earliest national Indian organizations, the National Congress of American Indians, founded in 1944. Toward the end of his career, Rogers was heaped with awards: Not only was he elected national County Attorney of the Year, and inducted into the National Indian Hall of Fame, but in 1968 he was elected into the College Football Hall of Fame. Rogers died in 1971 at age 95, and Cass County has recently honored him with a statue that resides in front of the county courthouse.

—T.B.



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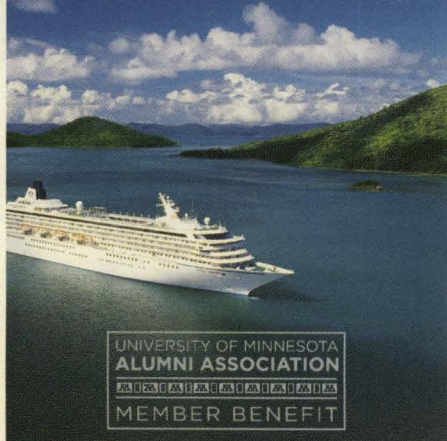


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FIRST-CLASS STUDENT ATHLETES

The "student" part of the student athlete equation often gets lost amid the fervor surrounding intercollegiate athletic competition. But it's rarely lost on the student athletes themselves who work hard to achieve success in academic as well as athletic pursuits. In February, the athletics department hosted the 20th annual Scholar-Athlete Awards Ceremony, which honored 565 University of Minnesota scholar athletes who have performed with distinction both in the classroom and on the field. The four honorees featured here exemplify their achievements.

PHOTOGRAPHS BY DAN MARSHALL



Ibrahim Kabia

Ibrahim Kabia

ADVERSITY AND INSPIRATION

Senior Ibrahim Kabia, an All-American sprinter and psychology major, received the Richard "Pinky" McNamara Student-Athlete Achievement Award for his ability to inspire by making an extraordinary effort regardless of difficult circumstances. Despite chronic hamstring injuries that resulted in his being red-shirted his first

year at the U, Kabia has achieved a lot in his intercollegiate career: He captured the Big Ten 100-meter championship last year; was named All-American in 2007, when he placed fifth at the NCAA championships in the 60 meters; set the school record in the 60 meters; and served as team captain the past two years.

But that's not the inspiring part. The truly difficult circumstances that Kabia faced started in his native Sierra Leone, during a civil war that claimed the lives of more than 50,000 people, including his uncle, the minister of social welfare. As a young boy, Kabia saw people shot in the street and heard about others being killed. He was separated from his mother for a time, when she fled the country in 1995. Though she called weekly from the Twin Cities, where she was living with her brother, young Ibrahim missed her. When Kabia was 11 years old, the rebels attacked his house and set fire to it while he hid inside. He eventually managed to run outside, but nowhere was safe in his war-torn country.

Kabia escaped with his two brothers, sister, and father to Guinea, where they lived as refugees for almost three years before they were allowed to join Kabia's mother in the Twin Cities in January 2001. "It was definitely tough to leave because I have so many family members and friends in Sierra Leone," Kabia says. "But we had to leave so we could live a peaceful and better life."

Kabia ran track at Champlin Park High School, where he set a state 100-meter record and was all-state for three years. He was a shy, quiet kid when he came to the U in 2005. Bonding with his track teammates helped him open up. "Now I find myself not able to keep my mouth shut, always joking around," he says. "My teammates helped me grow as an athlete and as a person. I tell them all the time how much I appreciate them."

Kabia will graduate this spring with a bachelor's degree. His mother, a nurse at a Twin Cities hospital, has inspired him to apply to nursing programs with the goal of becoming a nurse practitioner. "Since I was little, we talked about the stuff she does on a daily basis, helping people overcome adversities," Kabia says. "That influenced me."

His ultimate goal is to return to his homeland. "People there have gone through so much and have very little help," he says. "Nobody's going to help the people there but the citizens of the country. If people coming here to better themselves go back, it will speed things up. That's what I'm hoping to do." —John Rosengren

Gabriele Anderson

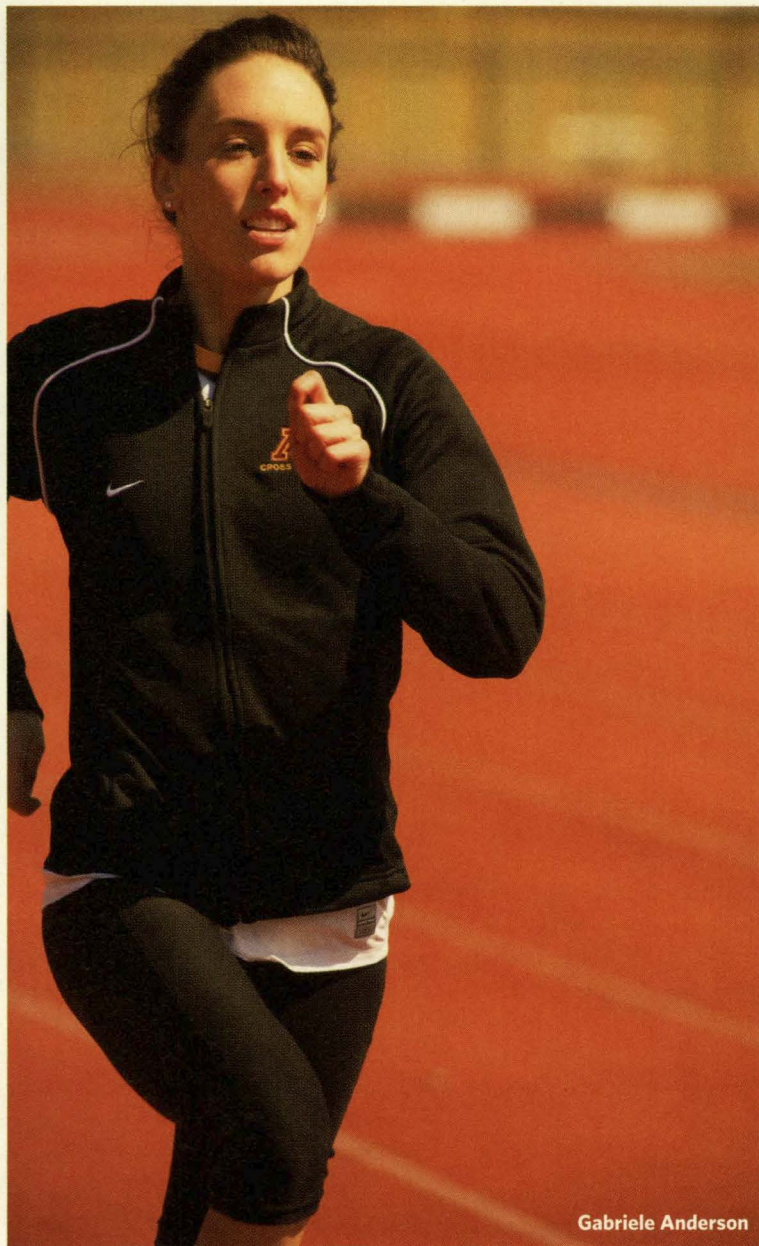
DEDICATED TO GIVING BACK

Gabriele Anderson (B.A. '08) has gone the distance in every way imaginable during her career as a Gopher. The two-time captain of the track and cross country team carries a 3.7 GPA in her master's program at the Humphrey Institute of Public Affairs and still manages to volunteer for several causes. She was a natural choice for the 2009 Outstanding Student-Athlete Award, an honor presented to one male and one female who are accomplished in academics, athletics, leadership and volunteerism.

Anderson hails from tiny Perham, Minnesota (population 2,700), where she was a star runner in high school. Her role at the U as team captain of one of the largest track and cross country teams in the

country suited her desire to help others. "One of our challenges is bringing our teams together, having that sense of family," Anderson says. "That's our main focus." By reaching out to incoming teammates with phone calls, organizing ice cream socials, and facilitating the team's Big Sister/Little Sister pairings, Anderson helped each member feel she was an important part of the team.

Anderson completed her B.A. with a major in political science last May. She's finishing one class this spring for her undergradu-



Gabriele Anderson

ate English major while also working on her master's in public policy. She wants to address public and social issues, perhaps in the intersection of nonprofit management and athletics by one day working for an organization such as the NCAA.

Anderson has made a point of reaching out to younger students through various volunteer efforts. She has devoted time to helping elementary students with their homework as part of the U's Athletes Committed to Educating Students program. She has spoken to fifth- and sixth-grade classes about the dangers of tobacco use.



Matt Nohelty

She has also worked with the Gopher student advisory committee to plan the Golden Goldys, which honor outstanding athletic achievement, and a date auction that raised money for St. Joseph Children's Home, a residence in Minneapolis for children and youth in crisis. "It's not a requirement but a silent expectation that student athletes are getting out there and giving back to the community that has given so much to Gopher athletics," she says modestly of her good deeds.

Anderson credits her track and cross country coach, Gary Wilson, for helping her learn how to balance her many pursuits. "He has been instrumental in my development as a student and as a person," she says. "He knows we come here first as students. He allows us the flexibility to get our stuff done. If we have a job interview or a test during practice, he lets us run on our time. Having that trust between the coach and student athlete has been important to me."

—John Rosengren

Matt Nohelty

BATTING A PERFECT 4.0

When Matt Nohelty (B.S. '08) snagged an internship at Northwest Airlines two summers ago, you probably never saw him at work—but you might have unknowingly benefited from it. "I worked with a group called the 'crew solver,'" says the Rothschild, Wisconsin, native. "When weather problems come up or pilots get sick, you need to reschedule and optimize the schedule to make sure flights get where they need to go and crews get to the right place.

It's a little bit behind the scenes." He was an essential—but often unnoticed—component to the airline's success.

Nohelty's role on the U's baseball team seems strikingly similar. As the leadoff hitter, his job is to get on base however he can to give the big bats later in the lineup a chance to park the ball deep and drive him home.

If this stage-setting role rankles, he's certainly not letting on—in fact, it's a position that's allowed him to thrive. Last year, after batting .397 and swiping 24 bases, he was named first-team All-Big Ten as an outfielder. He also set a school record for most hits in Big Ten play. The Big Ten wasn't the only one paying attention to Nohelty's spectacular season. Last June, the Minnesota Twins grabbed Nohelty in the 18th round of the draft. Though many players would have jumped at the chance to join the organization, Nohelty decided against it. He wanted another season at Minnesota to build his skills, which could put him in an even stronger position for this summer's draft.

Nohelty's academic achievements have also put him in a strong position. Taking full advantage of a red-shirt freshman year, he graduated last year with a degree in computer science and will complete his first year of graduate school in the same field this spring. It's an impressive balancing act, especially considering that he wedges a full load of courses into a weekly schedule that can include up to four days on the road. "It's not always easy to balance the two," he admits. "But I've learned to make really good use of my time during the week, when I'm here."

Nohelty was recently honored as one of the University's top five male scholar athletes for his impressive grades—he boasts a 4.0 GPA—and athletic accomplishments. He admits he's torn between his two options of playing pro baseball or a career using

his degree. "Baseball is something I've done my whole life, and it's something I'd like to continue to do if the right opportunity comes along," he says. "But I've invested a lot of time academically too. I think I'll be happy either way."

When Nohelty's last season as a Gopher is over, you can expect him to do exactly what he's always done, no matter what he chooses as his next step: quietly build a spectacular career.

—Erin Peterson

Erica Niemiec

ROWED TO SUCCESS

Erica Niemiec doesn't believe in doing anything halfway. After taking an inspiring Greek and Roman mythology class early in her collegiate career, she wasn't content just to take another course on the topic—instead, she tackled a double major in classical civilization and Latin. And when she began making plans to visit the Mediterranean sites she's been studying, she didn't want to go for just a week or two—which is why she's mapping out a year-long post-graduation itinerary.

In February Niemiec was named one of the top five female scholar athletes at the University, with a GPA of 3.97. Her success in the classroom has been mirrored by her success on the water as a coxswain for the rowing team. When Niemiec took up the sport on a whim her freshman year, she had no intention of being in the middle of the pack. Less than two years after first stepping into a boat, she became an integral part of the Gopher's sixth-place fin-

ish at the NCAA Championships. She may not have had a rowing pedigree when she arrived from her hometown of New Berlin, Wisconsin, but she did have a trait that's essential for top athletes. "I'm very competitive," she says.

Niemiec, a history buff and National Merit Scholar, arrived at the U on an academic, not an athletic, scholarship. When a friend introduced her to some rowers who lived in her dorm, they took one look at Niemiec and told her she should come out for the team. "They suggested that I was about the right size for a coxswain, and maybe I should try it," she says. "I figured, why not?" Coxswains—the orchestra conductors of the rowing world—don't row. They corral the crew, guide the boat, and help keep the rowers moving in sync. A small build, strong communication skills, and an ability to do on-the-spot strategizing are keys to the role.

Niemiec spent her first year learning the ropes. By the end of her sophomore year, she had become adept enough to guide her four-person crew to a second-place finish in the Petite Final at the NCAA championships.

Assistant coach Wendy Wisehart, who praises Niemiec's ability to see the big picture both in races and training, says that Niemiec's academic strengths have proved valuable for the team. "Her ability to be on top of things in the classroom carries over," she says. "She's prepared for practice, and she can be present, because she's not preoccupied with the other things she needs to do."

Niemiec has her sights set on one more trip to the NCAA championships before graduating this spring. Then it's off to the Mediterranean for a year, followed, possibly, by graduate school. She'd like to pursue an academic career, though she hasn't settled on the details yet. Whatever she decides her goals are, they are sure to be classic.

—Erin Peterson



Erica Niemiec

Gopher Sports News and Notes

Gopher track and field made a big mark in the Big Ten indoor season, with the men's and women's teams each capturing conference titles. Minnesota became the first school to sweep the indoor championships since Wisconsin did it in 1997.

The championship was the women's third consecutive. They relied on their impressive depth to charge to victory, as exemplified by the 800-meter run: Michigan national champion Geena Gall won the race in record time, but the 10 points she earned for first place was half of what Minnesota earned with four placewinners. Four-time Big Ten champion, senior Heather Dorniden, turned in an outstanding individual performance, winning the mile run and, less than an hour later, cruising to a record win in the 600 meters.

Five Big Ten titleists paced the Gopher men to their first conference crown since 1998. Junior Aaron Studt won the shot put, sophomore Hassan Mead claimed victory in the 3,000 and 5,000 meters, junior Matt Fisher won the high jump, and junior R.J. McGinnis captured the heptathlon title. McGinnis led an impressive surge in that event, as Minnesota also finished second (sophomore Joey Schweke), third (sophomore Brock Spandl), and eighth (sophomore Garrett Wankel). Overall, the Gophers scored in 15 of 17 events. Studt went on to claim second place in the national shot put finals, earning his first career All-America honor.

Two weeks after guiding the team to its championship, the U.S. Track and Field/Cross Country Coaches Association named first-year men's head coach Steve Plasencia the 2009 Midwest Coach of the Year.

For the first time since 2000, the Gopher men's hockey team failed to earn a berth in the 16-team NCAA hockey tournament. The Gophers were knocked out of the Western Collegiate Hockey Association (WCHA) playoffs with a 2-1 loss to Minnesota Duluth in the play-in game of the WCHA Final Five. They finished the season 17-13-7.

The women's hockey Gophers fell just short of their goal of reaching the NCAA championship game, falling 5-4 to Mercyhurst College at the Frozen Four tourney in Boston. The Gophers finished the season



Above: Senior pitcher Briana Hassett leads the nation among Division I schools in strikeouts.



Right: Junior Aaron Studt was Big Ten champion and national runner-up in the shot put.

32-5-3. Their appearance in the Frozen Four was their sixth and the first under head coach Brad Frost.

Both the men's and women's basketball Gophers made it to the NCAA tourney. Each received a No. 10 seed and played a No. 7 seed in the first round. The women pulled off an upset, defeating Notre Dame at Notre Dame 79-71 before falling to Texas A&M 73-42 in the second round. The women ended the season at 20-12. The men fell to the Texas Longhorns 76-62, ending their season at 22-11.

Junior Jayson Ness took third place at 133 pounds at the NCAA national wrestling championships. He has finished in the top five at nationals in each of his three seasons at Minnesota, placing runner-up last year and fifth as a freshman. He finished the year 38-8 overall. Freshman Zach Sanders and senior Tyler Safratowich placed sixth at 125 pounds and eighth at 157 pounds, respectively, and the Gopher team finished 14th overall.

Gopher senior pitcher **Briana Hassett** leads NCAA Division I softball in strikeouts. Through mid-April, Hassett had a 50-run lead over the second place pitcher, Danielle Lawry of Washington. . . . **The baseball Gophers put up the most runs against Ohio State since the beginning of the series in 1923**, with a 16-3 shellacking of the Buckeyes in April. . . . **Seventeen members of the women's swimming and diving team earned academic all-conference honors**, the second most in the Big Ten behind Northwestern's 18. It was the second year in a row that the Gophers had 17 academic all-conference honorees.

—Cynthia Scott

Search

Will plastic soup enrich millions?



U of M civil engineering student Brian Bell, working with Engineers Without Borders, is researching ways to alleviate trash problems in developing countries like Haiti. Using the sun's energy, Bell and his team are experimenting with melting plastic garbage and then molding it into products Haitians can use, turning waste into something worthwhile. So the search continues.

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Out in the Open

The U makes sure its neighbors weigh in on stadium concerns.

The opening kickoff at TCF Bank Stadium is just the length of a football season away, and for fans of outdoor football on campus—who will have waited 1,447 weeks between opportunities to experience it—September 12 can't arrive soon enough.

One element of the new facility that has attracted little fanfare is the University of Minnesota's commitment to working through the ramifications of the new stadium with community stakeholders—people who live and work in the surrounding area. To that end, the University created the Stadium Area Advisory Group (SAAG) and invited adjacent neighborhoods, business associations, municipalities, and government entities to appoint two representatives to participate in regular meetings, which are held at the McNamara Alumni Center.

SAAG began convening in 2004, but a prototype committee met as far back as 2002, when the University was examining the feasibility of a joint-use stadium with the Minnesota Vikings. Over the years, meetings have drawn an average of 25 to 35 participants, “depending on how hot the issue is,” says Jan Morlock, the U's director of community relations who was instrumental in establishing the group.

Morlock says the meetings have often produced spirited discussions, especially with regard to the three “T”s: traffic, trash, and tailgating. Neighbors have long been concerned about uncivil behavior that, when sustained, has a significant impact on quality of life in the neighborhoods. They want to make sure that celebrations related to events at the stadium remain safe and civil. Addressing these and other issues that may arise will require ongoing monitoring and discussions, and SAAG will meet following the first three games in the new stadium to assess how the game-day experience went for neighborhood residents.

“The stadium is a reality whether the people support it or not,” says Joan Menken, a member of SAAG, a long-time member of the

Southeast Como Improvement Association, and a resident of the Southeast Como neighborhood for about half a century. “It can have pluses; it can also have significant minuses, depending on how we deal with a number of issues.”

She cites traffic, parking, and the concerns that fall under the umbrella of “livability”—public intoxication, loud parties, litter, and the like. Those are precisely the issues that SAAG has sought to both discuss and develop solutions for. “I'm happy that we have SAAG. That was a monumental start. It's a group and a process we've never had before,” Menken says.

It's significant, Morlock says, that University leaders like Vice President of University Services Kathleen O'Brien, Director of Intercollegiate Athletics Joel Maturi, and Vice President and CFO Richard Pfutzenreuter have sat at the table with community members. “The people who are really calling the shots here at the U at the executive level have been accessible to this Stadium Area Advisory Group,” Morlock says.

Steve Banks (B.A. '82) sees the new stadium from a number of perspectives: as a 20-year resident of the Prospect Park neighborhood, which rises to the east of the stadium; as the former president of the Prospect Park East River Road Improvement Alliance; and as a University alumnus. “So I've got that little allegiance thing going on,” he jokes.

Still, he senses the occasional uneasiness neighborhood residents have toward the U, even if they're glad to live in close proximity to it. “The problem with the University of Minnesota is it's a big beast, and when it moves, it breaks things, perhaps not intentionally, but that's the result,” he says. If that's the nature of the beast, Banks thinks the SAAG discussions have been an effective means of taming it. “I think the efforts have been genuine and that the University has been responsive,” he says. “So I think the process has been good.”

It doesn't take long to figure out where Skott Johnson (B.A. '77)

A New Neighborhood Partnership

The initial purpose of the Stadium Area Advisory Group (SAAG) was to advise the U on development of the stadium Environmental Impact Study, but as time passed, SAAG has spawned a new initiative that promises to keep the U connected to neighboring communities for the long run.

Based on discussions within SAAG, the University, city of Minneapolis, and neighborhood representatives produced a neighborhood impact report that suggested a more intentional collaboration among the entities. And that has evolved into The Alliance: a University District Partnership.

The University District includes the neighborhoods of Marcy

Holmes, Southeast Como, Prospect Park, and Cedar-Riverside; the commercial districts of Dinkytown, Stadium Village, and the West Bank; the Southeast Minneapolis industrial area; and the campus itself.

The Alliance's goals include increasing home ownership in the area—consequently reversing the trend of converting owner-occupied housing to rental units—and promoting the district as a premier place to live, work, do business, and learn. The initiative received \$750,000 in start-up funding from the Minnesota State Legislature last year, and a bill was introduced this session to preserve the Alliance by putting it into state statute. —R.M.



Steve Banks (left), who lives near campus, and Dinkytown business owner Skott Johnson have been active in the Stadium Area Advisory Group.

“A good number of the merchants here remember when [Memorial Stadium] was on campus and what those Saturdays were like, and they’re anxious to get back to those days,” says Skott Johnson. “And then just to hear the game. Because it was an open-air stadium, even if you didn’t have a ticket you could hear when there was a touchdown; you could hear the band.”

stands on the stadium. A visit to his Autographics storefront on University Avenue near 13th Avenue offers the first hint. On the east wall—about a half mile due west of the stadium—is a cardboard cutout of Goldy holding a football in a Heisman Trophy pose. Johnson lived on fraternity row and had season tickets in the Cal Stoll era, when the Gophers fluttered around the .500 mark. He’s now the president of the Dinkytown Business Association.

“A good number of the merchants here remember when [Memorial Stadium] was on campus and what those Saturdays were like, and they’re anxious to get back to those days,” says Johnson. “It was very family-oriented and you could see lots of reunions

going on—friends who hadn’t seen each other since college. And then just to hear the game. Because it was an open-air stadium, even if you didn’t have a ticket you could hear when there was a touchdown; you could hear the band. It was pretty exciting all around campus.”

Johnson says he’s not concerned about game-day traffic hindering Dinkytown commerce and points out that, when Memorial Stadium was around, merchants used to plan special events for game days. “Maybe at the first game there will be a couple of gridlocks, but they’re going to figure it out,” he says. “The U has certainly planned well for it. [And] they have meetings scheduled after the games to discuss, ‘How do we improve on the next one?’ I just don’t see it being a problem.”

For Banks, any concerns about parking and traffic are tempered by his knowledge of history. “Overall, when you boil it all down, we have had a 60,000-seat stadium [Memorial Stadium] at the University of Minnesota in the past. We lived with it successfully.” (TCF Bank Stadium will seat 50,000.) Thanks to the diligent work of SAAG, prospects are excellent that the same will be said of the new era of on-campus football.

—Rick Moore

PHOTOGRAPH BY TONY NELSON



Wolves, like Maya, a Great Plains gray wolf that lives at the International Wolf Center in Ely, Minnesota, have a sense of smell 100 times stronger than do humans.

Don't Feed the Wolves

It's spring, and litters of gray wolf pups are beginning to open their eyes and explore their underground dens. They were born blind, deaf, and with little sense of smell in late April or early May. They nurse about five times a day and by late June will be fully weaned and getting their first taste of meat.

Once upon a time, hundreds of thousands of wolves roamed North America. When settlers from Europe arrived, they hunted, trapped, and poisoned the animal. Some were convinced that wolves—the popular villain of fairy tales—would eat their children. Farmers blamed them for carcasses in the field, even when their livestock may have perished from diseases or other causes. In 1630, Massachusetts Bay Colony was the first to offer a bounty for every wolf killed. Minnesota began its bounty system in 1849, paying \$3 per kill. The state paid its last wolf bounty, \$35, in 1965.

“Wolves and Wild Lands in the 21st Century,” a traveling exhibit opening May 23 at the Bell Museum of Natural History, explores the interaction between humans and wolves and raises questions about the animal's future in North America. Created by the International Wolf Center, in Ely, Minnesota, and the Science Museum of Minnesota, the exhibit includes life-size taxidermy mounts and maps, drawings, and photographs.

The exhibit also includes information on avoiding conflicts with wolves. Wolf biologist L. David Mech, an adjunct professor at the University of Minnesota and a senior scientist with the U.S. Geological Survey, says the most common misconception about wolves is that they are “regularly dangerous” to people. It's when people try to domesticate wolves or to feed them that trouble can start. “There is only one documented case of wolves killing a person in modern times in North America,” Mech says, “and those

wolves were living at a dump and people were feeding them.”

Earlier this year, the U.S. Fish and Wildlife Service removed the gray wolf, the largest wild member of the dog family, from the list of threatened and endangered species list (wolves remain protected in Wyoming). The predator was first listed as endangered in 1974. Today, about 5,500 gray wolves and 100 red wolves roam the 48 contiguous states, a doubling in 10 years. The populations have rebounded on their own in the Midwest and through reintroduction programs in the Rocky Mountains, the southwest, and the southeast. In Minnesota, the wolf population has increased from about 750 in 1974 to 3,000 at present, says Mech, who founded the Wolf Center.

Mech warns that the wolf recovery may be short-lived, however. “Their greatest threat is habitat destruction,” he says. “We've destroyed a high percentage of the wolves' original habitat by building cities and farming. . . . The long-term wolf population survival depends on how we preserve wild land.”

The gray wolf has fascinated Mech for half a century because it survives by preying primarily on mammals much larger than itself: moose, bison, musk ox, and caribou. A moose, for example, is 10 times the size of a wolf. “I don't want to [say] that if we don't have wolves the world is going to fall apart,” Mech says. “There are some people who would almost claim that, but I don't think that's valid. I think the best reason to preserve wolves is because we like them.”

“Wolves and Wild Lands in the 21st Century” runs May 23 through August 23 at the Bell Museum of Natural History, 10 Church St. S.E., Minneapolis. Call 612-624-7083 or visit www.bellmuseum.org.

—Pauline Oo



JUNE 19 - AUGUST 29, 2009

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For more information or to reserve your tickets, visit showboat.umn.edu or call 651.227.1100.



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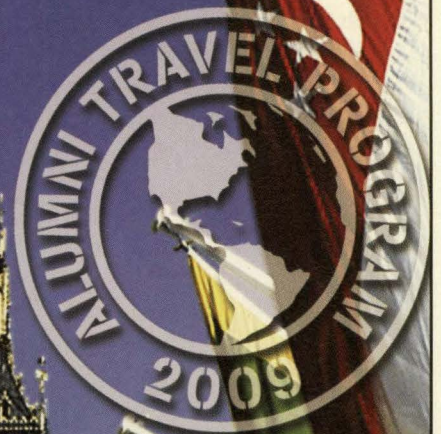
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The Educated Caveman

In the late 1980s, Greg Brick (B.S. '85, B.A. '93), then an undergraduate student in geology at the University of Minnesota, heard a rumor about a cavern located under the east bank of the Mississippi River in Minneapolis. At the time, the existence of Chute's Cave was the subject of dispute within local caving circles. Some experts insisted that historical references were merely the product of an elaborate 19th-century hoax.

Brick wasn't so sure. Armed with an old sewer map and a flashlight, the St. Paul native decided to find out for himself. He entered a crack in the wall of an industrial water channel under the old Pillsbury A Mill and wedged his body into a tight, rock-strewn passage. He commenced a rough, suffocating crawl, worried he might wind up trapped at a dead end.

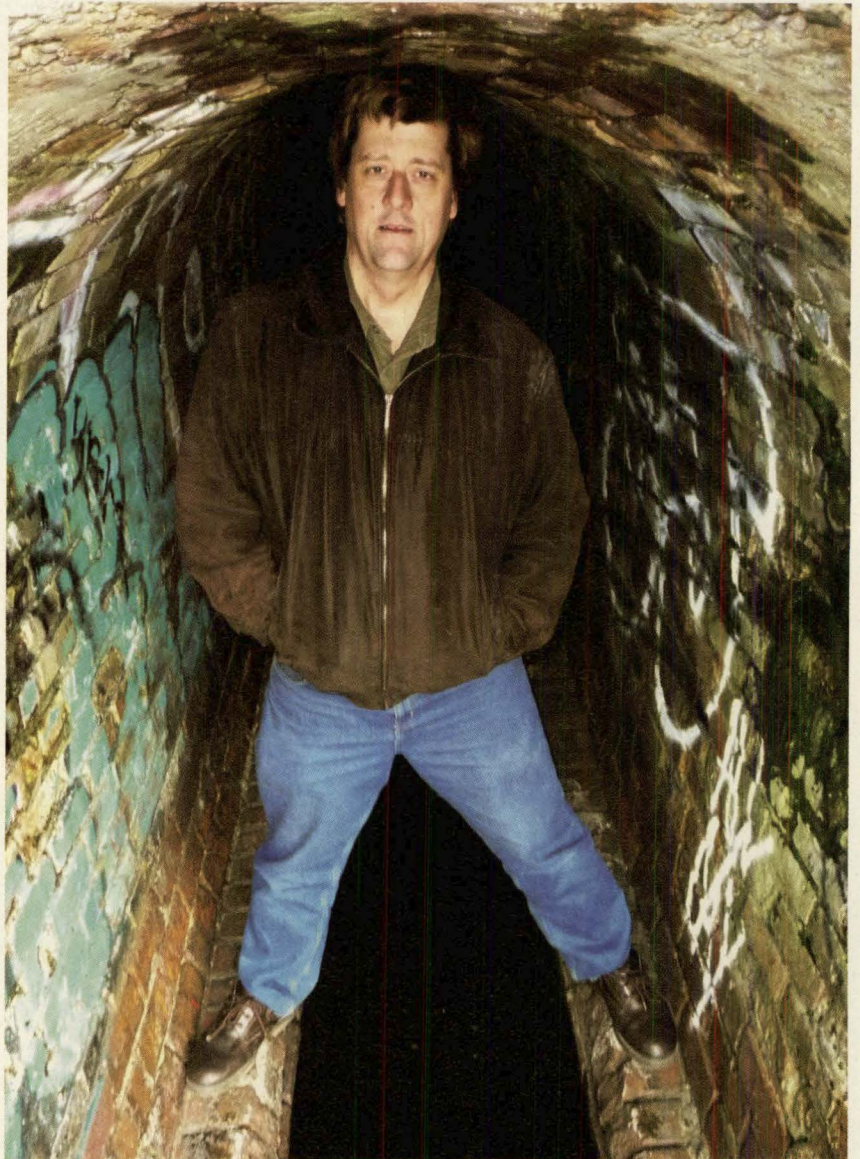
But Brick's persistence was rewarded when he emerged from the shaft into a large, triangular cavern 50 feet wide and 15 feet high with spectacular flowstone formations created when dripping water deposits layers of minerals on the rocks below.

"It was my first significant discovery," recalls Brick, now 46. "People were saying there was nothing of interest underneath the Twin Cities. When I realized that I could make these sorts of discoveries, that there was so little being done in the way of research, that's when I got serious about it."

Indeed, Brick's eureka moment ignited an obsession with urban spelunking, now the subject of his newly published book, *Subterranean Twin Cities* (University of Minnesota Press). With a deft blend of science, history, and personal narrative, Brick recounts dozens of subsequent expeditions into the netherworlds of the Twin Cities. Over the years, he has made countless journeys into other natural caverns, man-made old mushroom caves, utility tunnel labyrinths, and storm sewers.

There is little that he hasn't been willing to endure to satisfy his epic curiosity. More than once, Brick immersed himself in a fast-flowing river of raw sewage in a quest to reach Schiek's Cave, an enormous anthropogenic void located 90 feet below a downtown Minneapolis strip club.

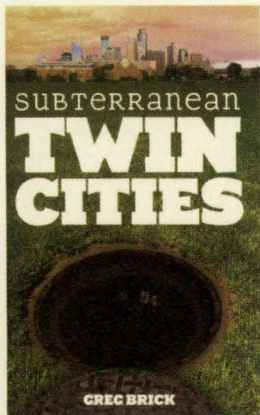
As Brick is careful to warn readers, such undertakings are not without hazard—both legal and physical. In the case of the Schiek's expedition, Brick once inhaled "aerosolized intestinal pathogens," which rendered him violently ill. Brick dubbed that sickness "Rinker's Revenge" in reference to Andrew Rinker, the 19th-century Minneapolis engineer who designed the city's sewer line.



Greg Brick in a storm sewer on the east bank of the Mississippi River

Subterranean Twin Cities is sprinkled with similarly cheeky and inventive nomenclature. In the course of one long, lonely summer spent exploring a 30-mile maze of sanitary sewers in St. Paul, Brick took to calling the labyrinth "The Diamond Mine." The reason? He hoped to recruit squeamish friends to join him on the ghastly expeditions by "presenting them with the venal prospect of finding wedding rings that had been flushed down the drain."

Such jokes aside, Brick is a serious-minded scholar of the underground. Even the Diamond Mine joke has a historical echo. In 19th-century England, Brick writes, a group of laborers known as "toshers" made their living searching for valuables in London sewers. Indeed, many cities have legendary underground labyrinths. "Sewer tourists have a respectable lineage, going back to the ancient poets who explored the Cloaca Maxima, the famous sewer



Subterranean Twin Cities
By Greg Brick (B.S. '85, B.A. '93)
University of Minnesota Press (2009)

that drained ancient Rome,” writes Brick, who is currently at work on his doctorate in geology at the University and estimates that he has published approximately 100 articles about caving and geology.

Brick takes pains to distance himself from his cohorts in the burgeoning urban exploration scene. In recent years, scores of Web sites documenting the exploits of such explorers have led to what Brick refers to as a surge in “exploratory herds” poking around in urban caves, sewers, and other subterranean points of interest. This, he says, has drawn the attention of authorities concerned about liability and possible damage to municipal infrastructure.

“There’s way too many people doing this now,” he says. “I think most of these Web sites are just a bunch of isolated stories about trespassing somewhere. That doesn’t make for a comprehensive history.”

In *Subterranean Twin Cities*, a comprehensive, enlightening history is precisely what Brick has created.

—Mike Mosedale

Bookmarks

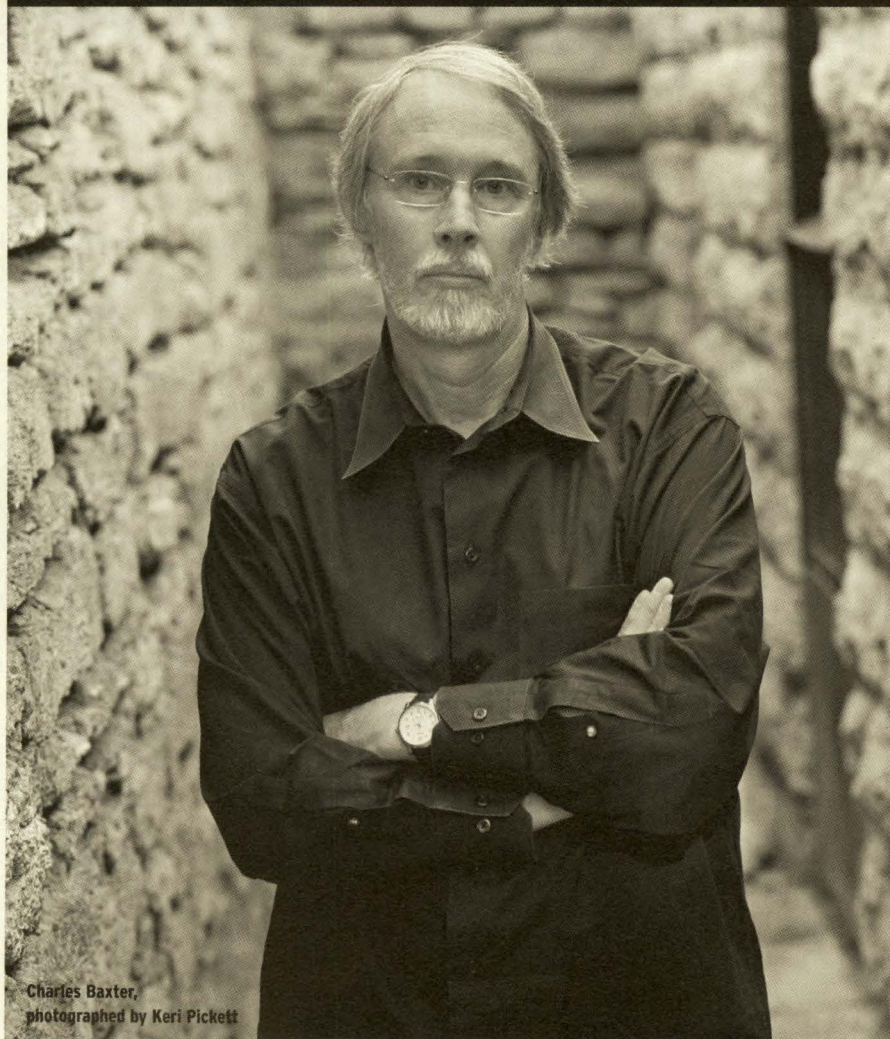
Authors with a University of Minnesota connection may now submit synopses of their recently published titles on our Web site. Visit www.alumni.umn.edu/bookmarks to share your book information and to read what other University alumni, students, faculty, and staff are writing.

USE YOUR IMAGINATION

Charles Baxter, professor of creative writing at the University of Minnesota and author of National Book Award-finalist *The Feast of Love*, will judge the finalists in MINNESOTA magazine’s 11th annual fiction contest.

MINNESOTA magazine’s contest is open to all University of Minnesota alumni and students. The winner will receive a cash prize of \$2,000, and the winning entry will be published in the summer 2010 issue of MINNESOTA.

Submissions must be postmarked by February 8, 2010. Visit www.alumni.umn.edu/fiction for contest rules and to read previous contest winners.



Charles Baxter,
photographed by Keri Pickett



Jodi Nelson

Playing It Forward

Three years ago, Jodi Nelson (B.A. '98) was a burned-out film and television producer living in a renovated studio-garage in Los Angeles. She harbored dreams of starting her own company, but the then-31-year-old didn't know which of the seven business ideas lurking in her head would work. So, she hired a life coach to help her sort things out.

They narrowed down the list to adventure travel company, because traveling was an important part of Nelson's life. As a child growing up in Blaine, Minnesota, her family picked vacations in far-flung destinations. And as an adult, Nelson preferred holiday getaways with an adrenaline-pumping element, like zipping 15 stories high along a 200-foot cable above a rain forest canopy.

Nelson was so eager to get her company off the ground that she wanted to bail on the two back-to-back trips she had scheduled. "But my life coach told me to go," she recalls. "She told me to have fun and observe everything around me as research for my company." In December 2006, Nelson spent 15 days trekking the southern plains of Argentina and 21 days in Kenya helping build a medical facility with a Twin Cities-based nonprofit volunteer organization. While in Kenya, Nelson had a revelation: Someone could actually roll my two trips into one.

She became that someone. In 2007, Nelson moved to the Twin Cities and created Play It Forward, an international travel company that fuses Nelson's two passions: active adventure and volunteering. The company name is a twist off the 'pay it forward' concept, which encourages people to do something positive for someone else, and

the word *play* refers to the outdoor adventure activities.

The company offered its first trip in October 2008. Tour leader Nelson took a dozen people on a 10-day journey to Guatemala, where they built a house and went hiking, biking, and kayaking. This year, Play It Forward is promoting seven trips, including one that offers the opportunity to climb Mount Kilimanjaro, the highest peak in Africa.

"I am 100 percent where I'm supposed to be in my life right now," Nelson says. "I adore my travelers. They are people looking for something bigger than themselves, for inspiration."

People have different reasons for signing on with Play It Forward, Nelson says. "Some people have never left the country; some people are in transition in their lives; some people are just looking for fun and don't have anybody to travel with; and some are looking for ways to reignite their relationship with their spouse or to bond with their children or another loved one," she says. "It's incredibly satisfying and rewarding for me to see the transformation that can happen after a trip." For example, one person started a nonprofit to help people in impoverished nations and a couple of others sponsored children in Guatemala (partly inspired by Nelson and Iris, the child she sponsors).

"[International travel] allows you to push outside of your comfort zone," Nelson says. "When you do this, you'll start to see things differently and even realize that maybe you don't have it so bad. A lot of the communities we visit have next to nothing."

—Pauline Oo



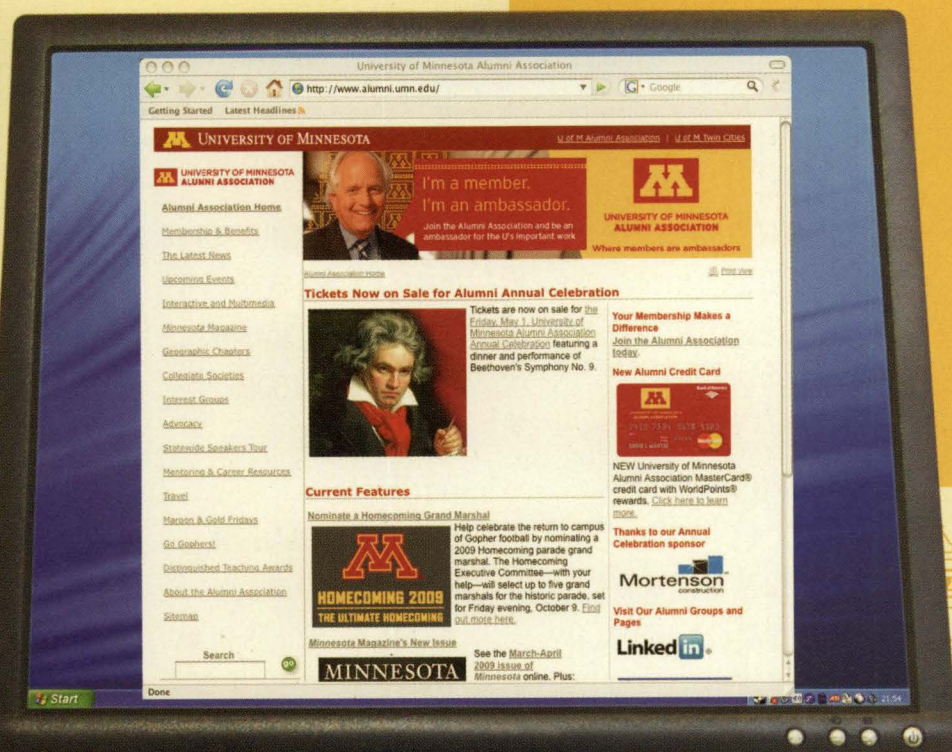
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ANDREA L. DAHL

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EMILY WAITZ

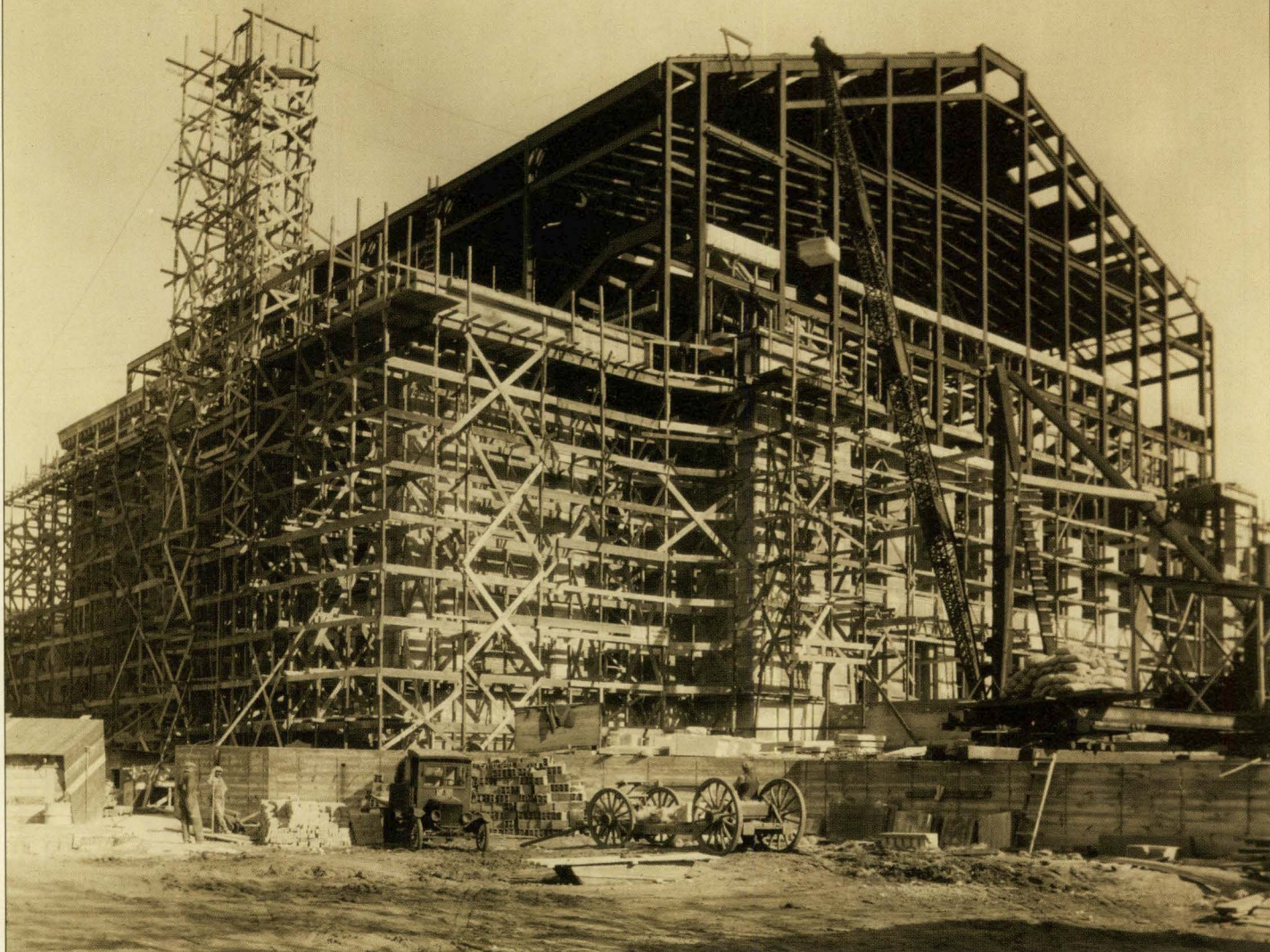
BRIAN J. WEEKLEY

GARY G. WIDELL

JEANETTE L. WIDELL

SUSAN K. WOOD

Alumni Association Angle



An Enduring Frame of Reference. In the 1920s the Alumni Association organized a campaign to raise funds for construction of an on-campus auditorium for the arts and a football stadium. Students, faculty, staff, and alumni stepped up to donate \$2 million toward construction of what would become Memorial Stadium, where the Gophers would play football for more than 50 years, and Northrop Auditorium, which continues to be one of the U's most prominent landmarks. Named for Cyrus Northrop, the University's second president, it was dedicated in October 1929 on the site of the former College of Pharmacy medicinal herb garden. This photo depicts how it looked in October 1928, one year prior to dedication.

INSIDE

Wake Up to the Showboat

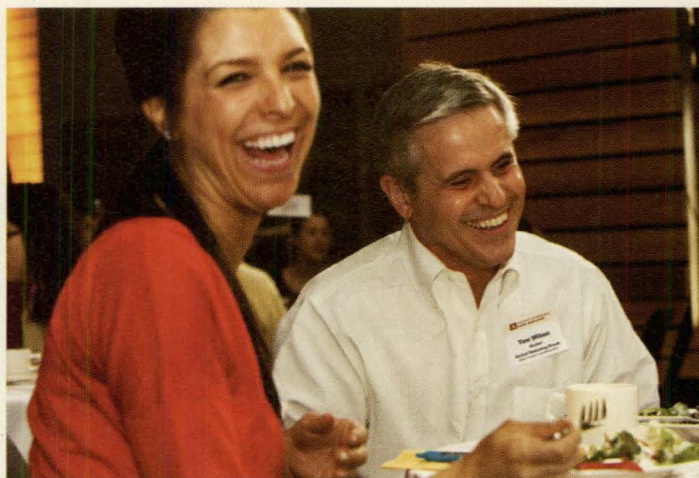
The U's Best Teachers

Appreciating Mentors

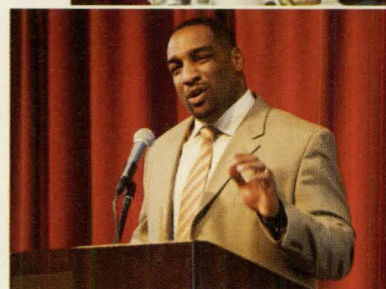
Stadium Fever

Member Rewards at Work

Celebrating a Special Connection



The Alumni Association Mentor Connection feted nearly 225 mentors and mentees at the 2009 Mentor Appreciation Dinner at McNamara Alumni Center in April. The annual event celebrates the relationships that students and their mentors build throughout the school year. Featured speaker was Darrell Thompson, former Gopher football player and current executive director of Bolder Options, a nonprofit that works with at-risk youth. Thompson (pictured below right) spoke of his experience with mentors growing up and as a U student. He also talked about his role as a mentor to his four children. The Mentor Connection is a clearinghouse for mentoring programs throughout the University, collaborating with Alumni Association alumni societies, University departments and community organizations to enhance those programs. Currently, more than 4,000 students and mentors from 14 collegiate units participate. For more information on becoming a mentor, visit www.alumni.umn.edu/mentorconnection.



Entertainment to Float Your Boat

The Minnesota Showboat Players is a unique troupe of talented University of Minnesota students whose whimsical musical numbers, zany costumes, and crazy antics hearken back to vaudeville. Every summer they take the stage on the Minnesota Centennial Showboat, a grand vessel permanently docked at Harriet Island Regional Park in downtown St. Paul. The Showboat's richest feature is its intimate 225-seat jewel box theater.

Members of the Alumni Association have two special opportunities this summer to enjoy the Showboat Players' 2009 production of *Is There a Doctor in the House?* Opening night, June 19, is reserved exclusively for Alumni Association members. The \$49.40 ticket covers dinner, a pre-show talk with director Kenneth Noel Mitchell, and performance of the show. A complimentary reception follows. On July 21, members can take in the performance and a post-show reception with the cast for \$30.

Need Career Help?

In this tumultuous economy, it's good to remember that Alumni Association members are entitled to discounts on job- and career-related services through the University. One option is the College of Continuing Education's Career and Lifework Planning services, which include individual consultations, assessments, and workshops. Members receive a 20 percent discount. Another option is the University Counseling and Consulting Service, which offers a career counseling package with a strategic approach to increasing professional satisfaction. Members save \$75. For more information, visit www.alumni.umn.edu/rewards.

National President

The U Never Rests

Having endured a long, cold winter, many Minnesotans are turning their thoughts to a well-deserved, relaxing summer. There is no rest and relaxation at the University of Minnesota, however. Students are in high gear preparing for finals and searching for summer jobs and internships. Professors are writing grant proposals and conducting research. Administrators are finalizing strategic and operational plans to ensure that the proposed \$156 million cut in state support for the University doesn't jeopardize the future of Minnesota's most critical research and educational institution.

These are challenging economic times that call for creative, sensitive, and well-reasoned solutions. And the University is perfectly suited to be a thoughtful and innovative leader during these difficult times.

The future of our state and our nation depends on the quality of the education our children and grandchildren receive. With baby boomers moving closer to retirement, the demand for highly educated, skilled, and talented workers will be increasing in the coming years. Students at the U are getting a great education and are becoming capable critical thinkers who will find solutions to our current and future problems. When I attended the U, my own intellectual development and problem-solving skills were fueled by astronomy professor Karlis Kaufmanis's passion and love of learning, philosophy professor Marcia Eaton's curiosity and inquisitiveness, law professor Barry Feld's reasoned intellect and commitment to social justice, and theater professor Arthur Ballet's powerful presentations and command of the English language.

Exceptional education is invaluable and should never be compromised, especially during periods of economic hardship when innovation and new ideas are sorely needed. While many sectors of our economy are lagging, students and potential students, alumni, and businesses clearly understand the value of this university. The number of applications to the U is way up—33,000 people applied for fall 2009 admission, up 16 percent from last year. The percent of students who were in the top 10 percent of their high school class was at 44 percent in 2007, that's up 17 percent from a decade earlier. The four-year graduation rate in 2007 was at 45 percent, up 25 percent from 1997.

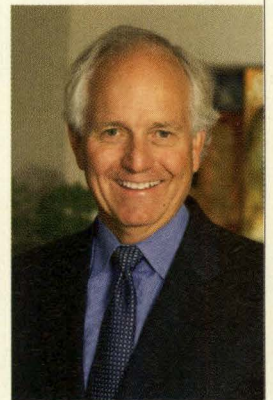
The U has raised \$233 million for scholarships and fellowships since 2003, and more than 7,000 students now receive financial support through private gifts. The three largest gifts in the U's history were received in the past 12 months. And the U continues to fuel innovation and economic growth in Minnesota in big and small ways. For example, U faculty were awarded more than \$600 million in research grants last year. And, last year, engineers and students in the Institute of Technology helped more than 50 companies realize energy savings of over \$3 million through the Minnesota Technical Assistance Program.

The U is making progress on all fronts, and we need to make sure that reductions in public funding don't cripple this institution, which is the economic engine for our state. The Alumni Association keeps alumni and friends of the U informed about the U's progress, helping thousands advocate and be ambassadors for the U. Become an ambassador by joining the Legislative Network, attending a speakers' tour gathering to hear from alumni and U officials, and staying plugged in through this magazine and our Web site. And then, this summer, when you're golfing or at a picnic, share the word about the importance of the U with your friends and neighbors. Visit www.alumni.umn.edu for more information.

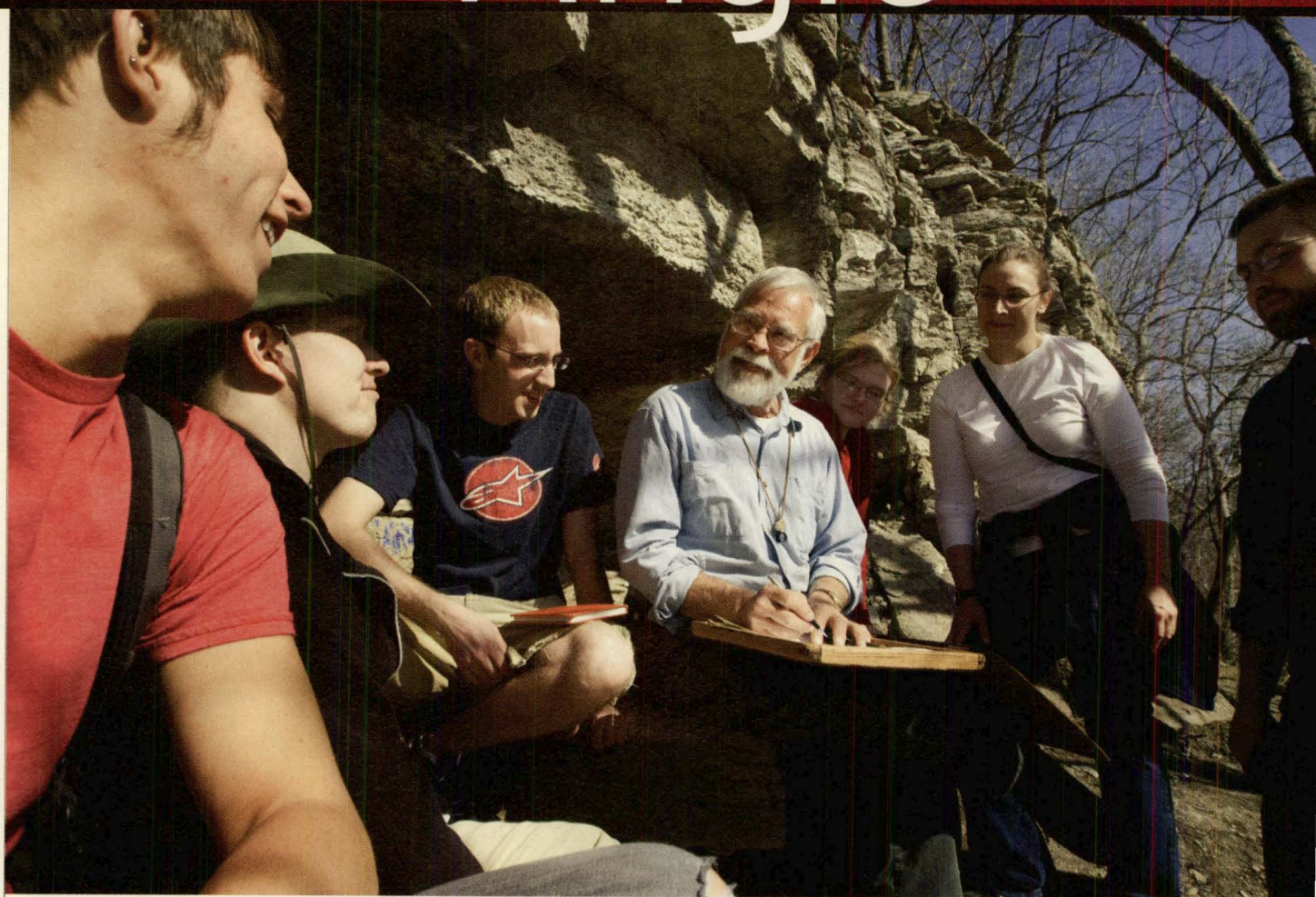
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This is my final column as national board president, and I want to take this opportunity to thank the thousands of alumni I met over the months for an outstanding year. The excellence of the U is due in large part to your passion and commitment, and being an ambassador alongside you has been a privilege.

—Bruce Mooty (B.A. '77, J.D. '80)



Bruce Mooty



University Salutes Distinguished Teachers

Ask a student what he or she most treasures about being at the University, and chances are the answer will have to do with an inspiring teacher. In April, the University community saluted its best teachers at the annual Distinguished Teaching Awards ceremony, which honors the 2009 recipients of the Morse-Alumni Award for Undergraduate Education and the Graduate-Professional Teaching Award. The awards are sponsored by the Office of the Senior Vice President for Academic Affairs and Provost, the Alumni Association, and the Senate Committee on Educational Policy.

Here's what some students and former students had to say about this year's recipients.

Jim Stout, a professor in the department of geology and geophysics, instructs students along the Mississippi River near campus. Stout is one of this year's Morse-Alumni Award recipients.

Morse-Alumni Award Recipients

Don Alstad, Department of Ecology, Evolution, and Behavior, College of Biological Sciences

"I remember when I first walked into [Don's] classroom. He paused while shuffling some papers on the podium, looked up and smiled, and said "Hello, Jake." I was stunned. . . . [H]e had recognized me because he had memorized my name and face [using my freshman picture] before the first day of class. We immediately respected Don because he had shown how much he respected us." —*Jake Musser (B.S. '08)*

Justin Rubin, Department of Music, UM Duluth

"Dr. Rubin fostered our creativity and remained supportive of our musical ideas while helping us discover new ways to expand our pieces. I went into the course with little confidence in myself as a writer. Dr. Rubin quickly inspired me to find and develop my own voice." —*Rachel Ford, student*

James Stout, Department of Geology and Geophysics, Institute of Technology

"Dr. Stout creates a comfortable, interactive, and entertaining learning environment by mixing substance with humor. . . . He goes far above and beyond his duties as a teacher and a mentor. He has given me valuable tools for my growth as a geoscientist in addition to advising me on issues ranging from graduate school to personal life. The passion that he exudes for geology is infectious." —*Alan Chapman (B.S. '05)*

Albert "Bud" Markhart III, Department of Horticultural Science, College of Food, Agricultural and Natural Resource Sciences

"It is because of Bud that I am writing this on an organic farm for my internship as a farmhand, something that if you told me I would be doing three years ago, I would have laughed. It is because of Bud that I will have a green-collar career. For me, Bud isn't just a great teacher. He's a mentor, but even that word doesn't encapsulate the whole of how he's given my college career meaning and affected the course of my life." —*Stephanie Tessitore, student*

John Loegering, Department of Natural Resources, UM Crookston

"Teaching is never confined to the classroom for Dr. Loegering; it's just the starting point. His vision and determination to get students active in their field is not always an easy task, but one that he takes to heart knowing that this will and does help us in our careers." —*Jessica Larson (B.S. '04)*

Doreen Geller Leopold, Department of Chemistry, Institute of Technology

"I first encountered Dr. Leopold in a freshman seminar, "Quantum Mechanics and Modern Philosophy"... In our little classroom in a side hallway of Kolthoff Hall, we were reshaping the world. Sometimes our ideas were too grand for me to wrap my finite mind around. Sometimes I disagreed. But we still had magnificent discussions. Most importantly, we had fun. Any professor who can provoke new perceptions of the world and make it enjoyable should be hailed a champion." —*Nathaniel Trulsen, student*

Carmen M. Latterell, Department of Mathematics and Statistics, UM Duluth

"Before I enrolled in Dr. Latterell's class, mathematics was something that I did; after her course, a mathematician was someone who I was. Never in my life has a teacher been so powerful or provoked such a life change." —*Heather Ann Kahler (B.S. '03, M.S. '05)*

Stephen Castleberry Sr., Marketing Department, UM Duluth

"I was lucky enough to be a student in Dr. Castleberry's Fundamentals of Selling course. I had heard many scary things about this course and I admit I was a little nervous to "sell" in front of my peers. However, Dr. Castleberry's positive, motivating, and encouraging style turned my fears into excitement... He is a dedicated man who passionately lives, breathes, and sleeps to teach his students in this manner." —*Heather Carr (B.A. '05)*

Graduate-Professional Teaching Award Recipients

Jennifer York-Barr, Department of Educational Policy and Administration, College of Education and Human Development

"Dr. York-Barr supported my desire to create a field project that reflected my best effort and ability. Ultimately, I had a much better field project [because she challenged me]. I am proud to say that I met the challenge she afforded me and appreciate the core values that she holds as a foundation for her work as an educator in graduate education: excellence and integrity." —*Donna Palivec (Ed.D. '05)*

Jon Schommer, Department of Pharmaceutical Care and Health, College of Pharmacy

"Dr. Schommer is successful in recruiting quality graduate students in part because he is recognized as an exceptional researcher... [H]e uses his research experiences to help students think critically and develop the skills needed to become independent researchers. I have no doubt that I would not be where I am in my professional career today without the guidance of Dr. Schommer." —*Joel Farley (Ph.D. '06)*

Terry L. Roe, Department of Applied Economics, College of Food, Agricultural and Natural Resource Sciences

"Professor Roe... pushes students to learn how to use economic theory and its results to 'tell the story' of what is happening in an economy's growth process... He is helping me to grow as a scholar and equal collaborator; in effect, he is guiding my transformation from student to scholar. For this, I am forever grateful." —*Suzanne Wisniewski (M.S. '99, Ph.D. '08)*

Michael Rodriguez, Department of Educational Psychology, College of Education and Human Development

"Dr. Rodriguez is a model professor. He is a great teacher, advisor, and mentor who does everything he can to help his students attain their goals... Without his advising and mentoring, I could not accomplish my professional goal to become a professor. As a new professor at Purdue University, I sincerely hope to become an advisor like Dr. Rodriguez." —*Yukiko Maeda (B.A. '98, Ph.D. '07)*

Helga Leitner, Department of Geography, College of Liberal Arts

"As a scholar, advisor, and mentor Helga is a force of nature. Her own academic accomplishments clearly speak for themselves, but they are also what make Helga such an extraordinary advisor and mentor... It is Helga's high expectations of herself and others, coupled with a tremendous generosity in terms of the time and vigor she devotes to graduate teaching and advising that make her such an outstanding mentor and role model." —*Patricia Ehrkamp (Ph.D. '02)*

Josephine Lee, Department of English, College of Liberal Arts

"There is perhaps nothing more important for someone trying to write his first major work of scholarship than to have a coach and a collaborator who you can really talk to—frankly, honestly, passionately. My opinions, ideas, arguments, and research methods were all improved by Dr. Lee's wisdom and her gentle guidance." —*Mitchell Ogden (B.S. '00, Ph.D. '08)*

Jean Anne King, Department of Educational Policy and Administration, College of Education and Human Development

"Dr. King does what every great faculty should do—she supports, encourages, and inspires her students so they do more than they ever knew they could. She challenges her students to learn and instills intellectual curiosity, while never compromising academic rigor. As a student and now as a professional, I have achieved things I never would have without her encouragement, guidance, and support." —*Linda Bosma (B.A. '93, Ph.D. '05)*

Sally Kenney, Hubert H. Humphrey Institute of Public Affairs

"Whether I believed I had something to contribute [to class discussions] or not, Sally *knew* I did—and she would make me say it. It takes professors like Sally—those who are astute observers and judges of their students' abilities and characters—to encourage such participation. I cannot overestimate Sally's ability to boost her students' confidence in their own intellects and opinions. It is truly remarkable." —*Sarah Doire, (M.A. '04)*

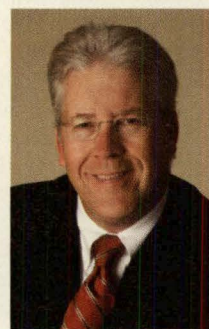
Fore Your Benefit

Alumni Association members receive the same great discounted rates in 2009 as in 2008 at the popular Les Bolstad U of M Golf Course, located adjacent to the St. Paul Campus. A season pass for members costs \$1,185, a savings of \$155 over the general public rate. This includes greens fees for the entire season and the ability to reserve weekend tee times prior to the general public. Members also receive \$9 off the regular \$29 public rate on Mondays. Season pass purchases must be made in person at the pro shop. A photo ID and Alumni Association member card are required. For more information, call the University Golf Course at 612-627-4000 or visit www.uofmgolf.com.



Head over Heels for Homecoming

Homecoming is special every year, but the return of football to campus means that the 2009 event will be historic. Make plans now to return to campus during Homecoming Week October 4 through 11. Highlights will include the parade on Friday evening, October 9 (pictured is a previous parade), and the Gophers' game against the Purdue Boilermakers on October 10. Save the dates, and watch the Alumni Association Web site at www.alumni.umn.edu for details.



Congratulations!

Congratulations to former Alumni Association national board member Rick Beeson (B.A. '76), who was appointed to the University of Minnesota Board of Regents. He resigned his position on the alumni board in order to assume his new duties. Beeson, along with reappointed incumbents Patricia Simmons, Clyde Allen, and John Frobenius (M.H.A. '69), took the oath of office on March 12. He succeeds David Metzen (B.A. '64, M.A. '70, Ph.D. '73), who served as a Regent since 1997.

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Chief Executive Officer

Follow Gopher Football Home

Alumni Association National Board members got a sneak preview of the new TCF Bank Stadium this spring, courtesy of Joel Maturi, director of Intercollegiate Athletics. We donned hard hats and fluorescent vests as we watched construction crews preparing the stadium for opening day on September 12, 2009. This grand structure will be home not only for Gopher football, but the site of campus and community events year round.

Within shouting distance of the McNamara Alumni Center, the stadium is hard to miss, but I encourage all alumni, students, faculty, staff, and friends to take an even closer look. The Homecoming Executive Committee is inviting the public to an open house at TCF Bank Stadium on Sunday, October 4, to help kick off Homecoming Week 2009. Stop by to take a guided tour of the stadium and show your



Margaret Carlson with Athletics Director Joel Maturi

maroon-and-gold pride. Here's a brief preview of what you'll find at TCF Bank Stadium:

- Spectacular views of downtown Minneapolis;
- The 20,000-square-foot new home for the Minnesota Marching Band;
- Three outdoor plazas dedicated to Minnesota war veterans, the Native American tribes of Minnesota, and University students—our future alumni;
- The names of each of Minnesota's 87 counties carved in stone and displayed around the stadium's perimeter;
- A 48-by-108-foot scoreboard that is four times larger than the Metrodome's;
- A concourse three times as wide as the Metrodome's and open so the game is always in sight;
- A two-story team store, open all year;
- A football-shaped home-team locker room;
- An engraved granite sign over Section 141 on the 50-yard line on the home-team side that proclaims "University of Minnesota Alumni Association," and an accompanying commemorative plaque noting that your Alumni Association raised money for Memorial Stadium in the 1920s and made the first \$1 million pledge to TCF Bank Stadium.

Gopher football's glorious return to campus since its last game on campus in November 1981 will be "The Ultimate Homecoming"—the theme of this year's festivities. The Homecoming parade—with five celebrity grand marshals—will march down University Avenue toward the TCF Bank Stadium at 7 p.m. on Friday, October 9. Fans will follow the marching band into the stadium, and then the fun really begins, with a pep fest, cheerleaders, coaches, players, the coronation of Homecoming royalty, and fireworks.

And on Homecoming day—and every home game day—the McNamara Alumni Center will host a pregame tailgate party. In collaboration with our partners at the University of Minnesota Foundation and the Minnesota Medical Foundation, we'll open the alumni center doors for food, fellowship, and fun three hours before kickoff, and we'll show the game on big-screen televisions for those who don't have tickets.

Join us this fall to honor our past and celebrate the future of Golden Gopher football on campus. Go to www.homecoming.umn.edu for updates on Homecoming 2009 events.

— Margaret Sughrue Carlson (Ph.D. '83)



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