



## Leaders honored at CTS annual meeting

**Richard P. Braun Distinguished Service Award:** Former CTS director **Richard Braun** presented the award named in his honor to **Catherine French**, an “excellent teacher and role model for graduate students, especially for women in engineering,” he said. What impresses him



Richard Braun, Catherine French, Robert Johns

most, Braun added, are French’s “vast” outreach efforts such as math summer camps and seminars for high school girls. French, a professor in the Department of Civil Engineering and the lead investigator in the creation of the Multi-Axial Subassemblage Testing (MAST) Laboratory, said it was “very humbling” to see her name among the list of previous recipients.

**Ray L. Lappegaard Distinguished Service Award:** “Some people are natural-born mentors,” said **Charleen Zimmer** of SRF Consulting. “Mike is one of them.” Zimmer,

a previous Lappegaard winner, presented this year’s award to **Michael Sheehan**, county engineer in Olmsted County and a past president of both the Minnesota County Engineers Association and the Minnesota Society of Professional Engineers. Sheehan thanked Olmsted County and his staff for allowing him time to serve in various organizations. “I’ve been quite blessed with the opportunity to do all these things,” he said.

**William K. Smith Distinguished Service Award:** In presenting the award, CTS director **Robert Johns** thanked recipient **William Goins** for his role with the CTS Logistics Task Force and the annual Freight and Logistics Symposium. Goins, worldwide account manager at Federal Express and an adjunct faculty member at the University’s Carlson School of Management, recounted how Bill Smith helped



Charleen Zimmer, Michael Sheehan, Robert Johns

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## Sabo recognized for role in Guidestar

Representative **Martin Sabo** was honored by board members of Minnesota Guidestar, the state’s intelligent transportation systems (ITS) program, on February 23 for his crucial role in garnering federal funds for the program. The ceremony took place at the Regional Transit Management Center (RTMC) in Minneapolis, one of many ITS innovations that Guidestar funds helped develop.



Martin Sabo

Lt. Gov. **Carol Molnau**, who also serves as Mn/DOT commissioner, gave welcoming remarks. **Bernie Arseneau** of Mn/DOT and **Robert Johns** of CTS reviewed the many ITS research and deployment accomplishments of Guidestar. Due in part to these funds, Johns said, the University has the most advanced academic driving simulator in the nation. Guidestar monies also provided seed funding for intel-

ligent vehicle research, created intellectual capital through the education of more than 100 graduate students, and funded outreach and technology transfer efforts.

Guidestar research, Johns suggested, also contributed to *Popular Science* magazine recently ranking Minneapolis as America’s top city for technology.

Other Guidestar board members then expressed a “vote of thanks” to Sabo: **Anne Beers** of the Department of Public Service, **Jim Grube** of Hennepin County, **Lee Munnich** of the Humphrey Institute of Public Affairs, **Jeff Nicholson** of ADDCO, and **Bob Provost**, the citizens’ representative on the board.

**Doug Differt**, deputy commissioner of Mn/DOT, gave closing comments at the ceremony and presented a plaque to Sabo recognizing his contributions. **CTS**

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## Faculty receive awards

The Graduate School has named Professor **Shashi Shekhar**, Department of Computer Science and Engineering, a University of Minnesota Distinguished McKnight University Professor for 2005.



Shashi Shekhar

The purpose of the professorship is to recognize and reward the University’s most outstanding mid-career faculty. Recipients are honored with the title of Distinguished McKnight University Professor, which they will hold for as long as they remain at the University of Minnesota.

This year’s five recipients were chosen on the merit of their scholarly achievements and the potential for greater attainment in the field; the extent to which their achievements have brought distinction to the University of Minnesota; the quality of their teaching and advising; and their contributions to the wider community.

Shekhar, a CTS Faculty Scholar, is a world leader in the area of spatial databases, an interdisciplinary area at the intersection of computer science and geographic information science (GIS).

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# ITS Minnesota annual meeting features U of M researchers

Several University of Minnesota researchers presented their current work to an audience of transportation officials, industry representatives, and academics at the 2005 ITS Minnesota Annual Meeting and Exchange Forum. CTS is a founding member of ITS Minnesota, the state chapter of the Intelligent Transportation Society of America.

**Max Donath**, director of the University's Intelligent Transportation Systems (ITS) Institute, gave an update on Intersection Decision Support, a pooled-fund research project aimed at developing infrastructure-based systems to support better driver decision making at unsignalized rural highway intersections. Donath noted that the current test instrumentation, installed at an intersection in rural Goodhue County, Minnesota, discerned the effects on highway traffic of a signal located eight miles upstream. More information



Max Donath



John Hourdakis



David Levinson

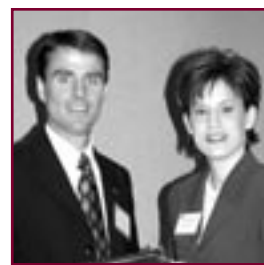
on the project is available at [www.its.umn.edu/research/applications/ids](http://www.its.umn.edu/research/applications/ids).

Research associate **John Hourdakis** presented an overview of his work with civil engineering professor **Panos Michalopoulos** on the development of a video-based system to detect hazardous traffic conditions on urban freeways. A prototype system is now in place on the I-94/35W Commons area in Minneapolis, one of the Twin Cities' most accident-ridden roadways. Ultimately, the system may help reduce crashes by enabling faster response to congestion and rapidly changing traffic patterns. More information on the project is available at [www.its.umn.edu/research/projectdetail.pl?id=2003031](http://www.its.umn.edu/research/projectdetail.pl?id=2003031).

**David Levinson**, assistant professor of civil engineering, outlined his team's current research efforts to determine the value of travel information to motorists. Focusing on pre-trip route-planning infor-

mation including travel time, the researchers developed a theoretical framework that includes explicit consideration of search, information acquisition, learning, knowledge, and decision heuristics. Field experiments were then carried out to compare the behavior and perceptions of drivers given pre-trip travel time information with travelers who did not receive this information. More information on this project is available at [www.its.umn.edu/research/projectdetail.pl?id=2004028](http://www.its.umn.edu/research/projectdetail.pl?id=2004028).

Among the honorees at this year's event was the ITS Institute's **Dawn Spanhake**, leader of the CTS Research Development and Contract Management Team. Spanhake received an achievement award for her contributions to the ITS community. **CTS**



Dawn Spanhake accepts the Achievement Award from ITS Minnesota president Paul Kurtz.

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him start his logistics career. "I hope through my efforts and teaching...I will have the impact on one person that Bill Smith had on me."



Robert Johns, William Goins

**Distinguished Public Leadership Award:** Johns presented the award to **Elliot Perovich**, currently a transportation analyst for Anoka County. As chair of the Regional Transit Board in the 1980s, Johns noted, Perovich initiated funding for transit research at CTS. Perovich said he's been "at the right place at the right time... to get involved in many different projects." He also added that it's a "very humbling experience to look around the room and see many others who deserve to be up here as much as or more than I do."



Elliot Perovich, Robert Johns

**Matthew J. Huber Award for Excellence in Transportation Research and Education:** **Cheri Marti**, CTS assistant director, presented the award to two students: **Wuping Xin**, a doctoral student advised by **Panos Michalopoulos** of the Department of Civil Engineering, and **Nathaniel Bird**, a master's candidate in computer science under **Nikolaos Papanikolopoulos**.

Praising Wuping's interdisciplinary research approach, Michalopoulos said he also agrees with Wuping's philosophy: "He addresses a problem that is real and important, investigates the nature of the problem, then finds practical solutions." For example, Mn/DOT will shortly deploy a ramp metering strategy for the metro freeway system that is based on Wuping's modeling and analysis. Wuping said he is very excited to contribute his work to the challenging field of intelligent transportation systems (ITS).



Cheri Marti, Panos Michalopoulos, Wuping Xin

Filling in for Papanikolopoulos, researcher (and former Huber winner) **Osama Masoud** said Bird shows dedication and commitment in his work. "We rely on him to do a lot of research, and he does a very good job." Bird's research, which involves video techniques to detect loiterers such as drug dealers at bus stops, arose from an idea by Metro Transit but has broader applicability for transportation security. "All researchers like to think their research is the most interesting in the world," he joked. "It's nice to get an award to confirm that your research is interesting and important."



Cheri Marti, Nathaniel Bird, Osama Masoud

**ITS Institute Student of the Year Award:** **Nathaniel Bird** (see above) received the ITS Institute's 2004 Outstanding Student of the Year Award at the annual TRB meeting in Washington, D.C., in January, and was also recognized at the CTS annual meeting. **CTS**

## Fly ash research wins CTS Research Partnership Award

When you're building roads, it's not just the pavement that matters—the soil underneath does, too. Fly ash, a byproduct from coal combustion, is valuable for stabilizing poor soils but can retain toxic elements, so road builders haven't known how much to use while still meeting environmental requirements. The recipients of this year's Research Partnership Award studied this issue and created a tool that lets users explore different scenarios and calculate allowable usage. At the March 29 awards ceremony, CTS associate director **Laurie McGinnis** presented this year's award to the partners in a project titled "Fly Ash Screening Tool Investigation 795 Implementation."

"Fly ash is a cheap replacement for more expensive approaches," said Professor **Paul Bloom** of the Department of Soil, Water, and Climate. Working with the Minnesota Pollution Control Agency (MPCA) and many other partners, Bloom's research team developed a worksheet to analyze the risk to human health from different exposure scenarios. The program includes a database of information for much of Minnesota and for various ash choices. Users can do an initial evaluation of their project and then add their own specific data. "It's been a fascinating project," Bloom said. Project partners included:

· **Tim Andersen, Robert Edstrom, Bruce Johnson, John Jones, James Klessig, Barbara Loida, Roger Olson, Ruth**

**Roberson, and John Siekmeier** (Mn/DOT)  
· **Dr. Paul Bloom, Michael Friend, Kim Grosenheider, and Dr. Thomas Halbach** (U of M)  
· **Jeff Blue** (Waseca County)  
· **Chuck Donkers** (Xcel Energy)  
· **Greg Felt** (Scott County)  
· **Matt Herman and Mike Trojan** (MPCA)  
· **Steve Juhlin** (Barr Engineering)  
· **Sam Lucido** (Wenck Associates)  
· **John Rodeberg** (City of Hutchinson)  
· **Fred Salisbury** (City of Waseca)  
· **Richard Sanders** (Polk County)  
· **Mark Sehr** (Rock County)

A subcommittee of the CTS Education/Outreach Council selected the award winners as well as five other projects that received special partnership recognition. The five projects and partners were:

"Fatigue Evaluation of Steel Box-Girder Pier Caps"

· **David Davidson and Daniel Dorgan** (Mn/DOT)

· Professor **Robert Dexter** (U of M)

"Earth Pressure Behind a Retaining Wall"

· **Joseph Bentler, Paul Bergson, and Arturo Schultz** (U of M)

· **Steve Barrett, Jihshya Lin, Gary Peterson, Don Seitz, and Erik Wolhowe** (Mn/DOT)

"Accident Prevention Based on Automatic Detection of Accident Prone Traffic Conditions Phase I"



*Kim Grosenheider, John Siekmeier, Paul Bloom, Roger Olson, Richard Sanders, James Klessig, Laurie McGinnis*

· **Gary Davis, John Hourdakis, Panos Michalopoulos, and Kyle Wood** (U of M)  
· **Ted Morris** (ITS Institute)  
· **Peter Sturm** (Minneapolis Public Housing Authority)  
· **Craig Anderson** (Image Sensing Systems)  
· **Diane Reeder** (Minnesota State Patrol)  
· **Loren Hill and Nick Thomson** (Mn/DOT)

"Properties and Aggregate Potential of Coarse Taconite Tailings: An Evaluation of Five Minnesota Taconite Operations"

· **Harlan B. Niles, Julie A. Oreskovich, and Lawrence M. Zanko** (Natural Resources Research Institute, U of Minnesota Duluth)

"Guidelines for Cost-Benefit Analysis of Investments in Bicycle Facilities"

· **Gary Barnes, Kevin Krizek, and David Levinson** (U of M)

· **David Loutzenheiser and Don Kidston** (Planners Collaborative)

· **William Hunter** (Highway Safety Research Center)

· **Richard Killingsworth** (Robert Wood Johnson's Active Living by Design Program) **CTS**

## Report offers CEO engagement options

Chief executive officers (CEOs) at transportation departments face many questions and challenges in how best to lead their departments. These issues can include organizational structures, community coordination, customer satisfaction, changing technologies, and limited funding with unlimited needs. However, the average time a CEO holds the position is short, and there is little time for a learning curve.

One of the quickest and most beneficial ways to gain information is through peer exchanges and scan reviews. The National Cooperative Highway Research Program (NCHRP) funded a project last year that investigated various engagement options, and the final project report is now available. The report was written by staff at CTS: **Robert Johns** (director), **Gina Baas** (manager of outreach and education services), and **Arlene Mathison** (librarian).

The project followed from a national CEO Leadership Forum that CTS hosted for NCHRP in May 2003. That forum recognized the changes that DOTs are facing in both leadership and business practices, specifically in strategic leadership, program delivery, and system operations. Twenty-one action items were identified that would help address the needs of the CEO leaders now and in the future. This project related to a number of those 21 items.

The final report addresses how to share experiences and examples of success, creates models for CEO engagement, and identifies best processes for creating an open and effective dialog.

The final report, *CEO Engagement Options*, is available at [www4.trb.org/trb/crp.nsf/All+Projects/NCHRP+20-24\(38\)](http://www4.trb.org/trb/crp.nsf/All+Projects/NCHRP+20-24(38)).

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His research results are now playing a critical role in evacuation planning in the context of homeland security. Earlier, his research developed core technologies behind in-vehicle navigation devices as well as Web-based routing services.

In other news, Professor **Jerome Hajjar** of the Department of Civil Engineering received the 2004 Special Achievement Award from the American Institute of Steel Construction (AISC). This award recognizes individuals who have demonstrated notable achievements in structural steel design, construction, research, or education. The award was given to Hajjar in recognition of his work on the behavior and design of composite steel/concrete columns in composite frame structures.

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## Students gather for Career Expo, ITSO conference

Approximately 80 college students from Minnesota and Wisconsin gathered on campus in March for the 10<sup>th</sup> Annual Transportation Career Expo. The event provided students an opportunity to ask questions, receive seasoned advice, obtain feedback on their resumes, and network with more than 20 employers.

Employers promoted their organizations with booth displays, and several company representatives led informational sessions on transportation-related careers in areas such as engineering, policy and planning, intelligent transportation systems (ITS), and logistics management.

An opening panel discussed several key aspects of career preparation, from networking to manners and attitude. Speakers included **Biz Colburn**, director of transportation planning at HNTB Corporation; **Rebecca Fabunmi**, graduate engineer recruitment coordinator with Mn/DOT; and **Tom Colbert**, Eagan's public works director.

"When in doubt, step it up another level," Colbert advised. "If you're going to sell a car, don't you spiff it up and make it shine?"

CTS hosted the event in cooperation with the Minnesota Local Road Research Board,



An employer booth at the Career Expo

the Minnesota Local Technical Assistance Program, WTS Minnesota, and the ITS Institute.

Following the expo, the Interdisciplinary Transportation Student Organization (ITSO) held its first networking and paper presentation conference. CTS research assistant and University geography student **Adam Rolstad** received the **Kasia Winiarczyk** Memorial Student Award at the conference luncheon. The award is given to the student with the best original class project or paper featuring transportation issues that cross traditional academic boundaries. Rolstad's winning class paper is titled "Effects of Light Rail Transit in Fully Developed Areas."

For more information about ITSO, please visit [www.tc.umn.edu/~itso](http://www.tc.umn.edu/~itso). **CTS**

## Executive Committee membership news

An article in the April *CTS Report* unintentionally fooled our editing team and our readers. Regrettably, the CTS Executive Committee update omitted a new member, and a photograph was mislabeled.

As we noted, new member **Jim Erkel** is the land use and transportation director for the Minnesota Center for Environmental Advocacy (MCEA). At MCEA, he works on forest protection and growth



Jim Erkel

management, including the environmental effects of Minnesota's settlement patterns and the interaction between land use and transportation.

**Larry Lair**, general manager of 3M's Traffic Safety Systems Division, also joined the committee. Lair has held numerous positions at 3M since joining the company in 1983.



Larry Lair

Correct photographs of both new members are shown above.

Our apologies to Erkel and Lair and to our readers for the error. **CTS**

## Upcoming events

To publicize your event, call CTS at 612-626-1077, fax 612-625-6381, or e-mail [snopl001@cts.umn.edu](mailto:snopl001@cts.umn.edu).

Visit the CTS Web site—[www.cts.umn.edu](http://www.cts.umn.edu)—for more comprehensive event information.

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|------------|--|-------------|--|
| May 25     | Best Practices for PCC Pavements Workshop, MnROAD facility, Otsego. Contact <b>Tom Burnham</b> , 651-779-5605, <a href="mailto:tom.burnham@dot.state.mn.us">tom.burnham@dot.state.mn.us</a> .    | Sept. 11–14 | American Public Works Association National Conference, Minneapolis. See <a href="http://www.apwa.net/meetings/congress/2005">www.apwa.net/meetings/congress/2005</a> or call 800-848-2792. |
| June 15–16 | Cross Border Regional Truck Transportation Conference, Fargo, N.D. Call 701-231-7767 or visit <a href="http://www.ugpti.org">www.ugpti.org</a> .   | Oct. 5–6    | Minnesota Fall Maintenance Expo, St. Cloud. Call <b>Kathy Warren</b> , 651-351-7432.   |
| July 17–19 | 2005 Midwest Regional & Shortline Railroad Annual Conference, Grand Rapids, Minn. Contact <b>Patrick Murray</b> , 651-556-9204, <a href="mailto:pmurray@mandklaw.com">pmurray@mandklaw.com</a> . | Oct. 11–12  | 2005 Airport Technical Assistance Program (AirTAP) Fall Forum, Brainerd. See <a href="http://www.airtap.umn.edu">www.airtap.umn.edu</a> .  |
| July 27–30 | TrailLink 2005: International Trails & Greenways Conference, Minneapolis. See <a href="http://www.railtrails.org/traillink2005">www.railtrails.org/traillink2005</a> or call 202-331-9696.       | Oct. 24–26  | Minnesota Public Transit Association Annual Conference, Bloomington. Visit <a href="http://www.dot.state.mn.us/transit/tconf">www.dot.state.mn.us/transit/tconf</a> .                      |
| Aug. 24–26 | Midwest Region 2005 Context Sensitive Design & Solutions Workshop,   | Nov. 16–17  | Toward Zero Deaths Conference, St. Cloud. Contact <b>Shirley Mueffelman</b> , 612-624-4754, <a href="mailto:smueffel@cce.umn.edu">smueffel@cce.umn.edu</a> . <b>CTS</b>                    |

## Sheehan replaces Cochran as council chair

**Michael Sheehan**, county engineer in Olmsted County, is succeeding **George Cochran** as chair of the CTS Infrastructure Council.

Cochran, a retired pavement engineer from Mn/DOT, served as chair since 1997. He received the Minnesota Pavement Conference Award in 2000. "CTS thanks George for his many years of service," says



George Cochran

**Laurie McGinnis**, associate director.

Sheehan is a member of the Minnesota Local Technical Assistance Program (LTAP) Steering Committee and recipient of this year's Ray Lappegaard Distinguished Service Award (see page 1). **CTS**