

ENVIRONMENTAL AND TECHNOLOGICAL STUDIES

Award-winning student research

Five environmental studies students received the College of Science and Engineering's 2007 Denise M. McGuire Student Research Award (DMMSRA). Jacob Galzki's "Investigation of Feedlot Contribution to Coliform Contamination in the Sauk River" took top honors, which included a \$600 check. Galzki also received honorable mention and \$250 in the Student Research Colloquium's Best Poster contest and a \$310 Student Research Fund Award (SRFA). (See poster, p. 31.) Galzki's faculty sponsor was Mitch Bender.

Other awardees:

- Dan Nadeau, DMMSRA \$400 for "Analysis of Shoreline Soil Along the Sauk River." Sponsor: Bender.
- Matthew Lenz, DMMSRA Honorable Mention, SRFA \$250 for "Analysis of Nutrient Levels in Johnson Creek, Tributary to the Mississippi." Sponsor: Bender.
- Brian Sanoski, DMMSRA \$400 for "Geographical Information Systems Study of Getchell Creek Watershed." Sponsor: Bender.
- Todd Anderson, DMMSRA Honorable Mention for "Survey of Waterfront Landowners." Sponsor: Bender
- Joseph Storlien, SRFA \$1,500 for "Risk Assessment of Manure Basin Storage Abandonment Alternative and Water Quality Improvement." Sponsor: Bender

Environmental studies students publish

- Bender, M.R., J.C. Galzki and M.A. Dvorak. 2007. "Characteristics of a Fecal Coliform Impaired Water" in Agronomy Abstracts. ASA, Madison, Wis.
- Galzki, J. C. and M. R. Bender. 2007. "Investigation of Feedlot Contribution to Coliform Contamination in the Sauk River" in Agronomy Abstracts. ASA, Madison, Wis.
- Nadeau, D. 2007. "Analysis of Shoreline Soil Along the Sauk River" in Agronomy Abstracts. ASA, Madison, Wis. Sponsor: Bender.
- Sanoski, B. 2007. "Geographical Information Systems (GIS) Study of Getchell Creek Watershed" in Agronomy Abstracts. ASA, Madison, Wis. Sponsor: Bender.
- Storlien, J. 2007. "Interactive Effect of Soil Amino Sugar Nitrogen and Fertilizer on Lawn Response" and "Risk Assessment of Manure Basin Abandonment Alternative" in Agronomy Abstracts. ASA, Madison, Wis. Sponsor: Bender.
- Dinsmore, D. Illustrations in M. R. Bender, C. W. Wood "Above and Below Ground Measurements of Greenhouse Gases from Swine Effluent Amended Soil" in Communications in Soil Science and Plant Analysis, 38 (17) 2479 – 2503.

Two write master's theses

- Roger Skophammer, "A Survey of Elementary Teachers' Attitudes Concerning K-6 Technology Education." Adviser: Kurt Helgeson.

- Patrick Hanlon, "A Model for Environmental Sustainable Housing Demonstration for Ongoing Research in Midwest Institutes of Higher Education." Adviser: Helgeson.

2007 Student Research Colloquium participation:

Six students, 6 projects, 2 sponsors.

Alumnus coordinates foundation's programs

Mark Schroll '88, has been named program coordinator for engineering and innovation programs at the Kern Family Foundation. A prominent strategic foundation that invests in the future through values, education and innovation, the Kern Family Foundation is located in Waukesha, Wis. It supports Project Lead the Way at 217 middle and high schools in Wisconsin, Minnesota, Iowa and Illinois.

New digs, new tools

Design facilities in Headley Hall received a major upgrade floor to ceiling and became the first academic center in Minnesota to acquire a 3-D scanner and printer (rapid prototype maker) for designing and making parts. Since then, only one other school in the state has acquired this state-of-the-art technology. Also acquired this year is new architectural software, compliments of a \$25,000 grant from Chief Architect Software of Coeur d'Alene, Idaho. All of this technology is used by students, faculty and business partners in product development, design and architectural drafting.

Cracking the books, pounding the nails

The partnership between the residential construction class and Habitat for Humanity continues to be a win-win, with students gaining valuable hands-on experience and local families becoming homeowners. Students work one day each week in the classroom and two days on construction sites in St. Cloud. Instructor is Assistant Professor Kirby Anderson.

On site hands-on enhances learning

Internships awarded to industrial technology students in FY 2007 include residential and commercial construction, optics manufacturing, landscaping, waste management, water treatment, asbestos removal and engineering. Environmental studies interns worked with the Minnesota Department of Natural Resources and various lake associations and parks as environmental teachers, lake restoration assistants and exotic and invasive species inspectors.

PLTW training approved, online options expand

- The technology education major is now approved as a Project Lead the Way (PLTW) teacher-training program.
- For information regarding online options for the Master of Science in Environmental and Technological Studies, go online to www.stcloudstate.edu/ets.

Anthony I. Akubue, Professor. Ed.D. 1989, West Virginia University.

appropriate technology, energy resources, energy technology, gender, technology and development, impacts of technology, incineration, landfill issues, technology and development, technology and third world development, technology transfer

Kirby Anderson, Assistant Professor. M.S. 1999, George Washington University.

technology education, construction, manufacturing

Mitch Bender, Associate Professor. Ph.D. 2001, Auburn University.

environmental soil science, greenhouse gas emissions from soil, manure management, nutrient cycling, water quality

Selected Presentations

Bender, M. R., J. C. Galzki and M.A. Dvorak. 2007. Characteristics of a Fecal Coliform Impaired Water. In Agronomy Abstracts. ASA, Madison, Wis.

Bender, M. R., A. K. Pradhananga and S.M. Sewell. 2006. Soil Amino Sugar Nitrogen in Residential Lawns in St. Cloud, Minn. In Agronomy Abstracts. ASA, Madison, Wis.

Publications

M. R. Bender, C. W. Wood. Above and Below Ground Measurements of Greenhouse Gases from Swine Effluent Amended Soil. Communications in Soil Science and Plant Analysis 38 (17) 2479 – 2503.

Sewell, S.M. and M.R. Bender. 2006. Water monitoring report: Sauk River at St. Cloud, 2003 – 2004. Sauk River Watershed District. <http://www.srwdmn.org/wqreports.html>.

Grants

\$5,000 for Avon Hills Conservation Action Plan from The Nature Conservancy, Ordway Glacial Lakes Office, 2007.

\$3,740 for Study of Sediment Influence on E. Coli Loading of the Sauk River from Faculty Research Grant, St. Cloud State University Office of Sponsored Programs, 2007.

\$5,000 for Apollo High School Service Learning Experience participation from Jeffers Foundation Partnership Grant Program, 2006.

Kurt Helgeson, Professor. Ed.D. 1993, West Virginia University.

3D scanning, accreditation: HLC, NCATE and NAIT education, affordable housing, construction, manufacturing processes, process improvement, rapid prototyping, rural development, technology education

Selected Presentations

Self-Study: Lessons Learned and Institutionalizing Outcomes. HLC Annual Conference, April 10, 2007, Chicago.

Publications

Kurt R. Helgeson, Assessment of Teacher Readiness and Teacher Performance. Assessment of Technology Education, 2007.

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John Holmen, *Assistant Professor*. M.S. 1993, West Virginia University.

technology education, student teacher supervision, transportation, renewable and non-renewable energies

Balsy Kasi, *Associate Professor*. Ph.D. 1999, Iowa State University of Science and Technology.

materials science and engineering, engineering and technology education, gender and technology, engineering and environment, design of experiments (DOE), non-destructive evaluation (NDE), mechanical metallurgy, technical ceramics, manufacturing processes, corporate finance, investment analysis, engineering and innovation management, history and philosophy of science and technology, accreditation: NAIT and HLC

Certification/Licensure

Certified Senior Industrial Technologist

James A. Nicholson, *Assistant Professor*. Ph.D. 1991, Colorado State University.

communications, computer-aided design, graphics, manufacturing, product design

Charles L. Rose, *Associate Professor*. Ph.D. 1996, Iowa State University of Science and Technology.

lakes, water quality, wetlands

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