University of Wisconsin Green Bay

COLLEGE OF SCIENCE, ENGINEERING & TECHNOLOGY

Spring 2024

NEWSLETTER

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A MESSAGE FROM THE DEAN, JOHN KATERS

Since the formation of the College of Science, Engineering, and Technology (CSET) in July of 2016, creating strong partnerships has been has been a critical piece of our overall success, with no better examples than the Brown County STEM Innovation Center and the Resch School of Engineering. In this issue of the newsletter, these partnerships can be found on many levels, including: partnering with St. Norbert College on undergraduate and graduate academic programs, assisting the Green Bay Area Public Schools with climate neutrality, participating in the Wisconsin Freshwater Collaborative, and our faculty serving on external advisory boards. More importantly, this focus on partnerships provides numerous opportunities for our students outside of the classroom, where they have the opportunity to utilize their skills and expertise, while continuing to grow as professionals and future leaders. Thanks for your continued support and please contact CSET at any time, as we are always looking for new partners who want to grow with us and help our students achieve success.

EMBI Director To Assist Green Bay Area Public Schools in Climate Neutrality

John Arendt, Director of the Environmental Management and Business Institute (EMBI), was appointed on January 22 by the Board of Education to serve on the Green Bay Area Public School District's Clean Energy Advisory Committee. The members of the committee are charged with:

- Development of a long-term plan of energy sustainability and clean energy, possibly including standards for clean energy use, energy and water efficiency, recycling and clean energy projects
- Review of the district Wellness Policy to consider inclusion of the effects of climate on staff and student health
- Establishment of goals to guide district operations energy needs with a carbon-neutral energy goal

Possible investment in future clean energy and energy efficiency projects.

Student Highlight: Zac Locklear

Master's of Science in Environmental Science & Policy

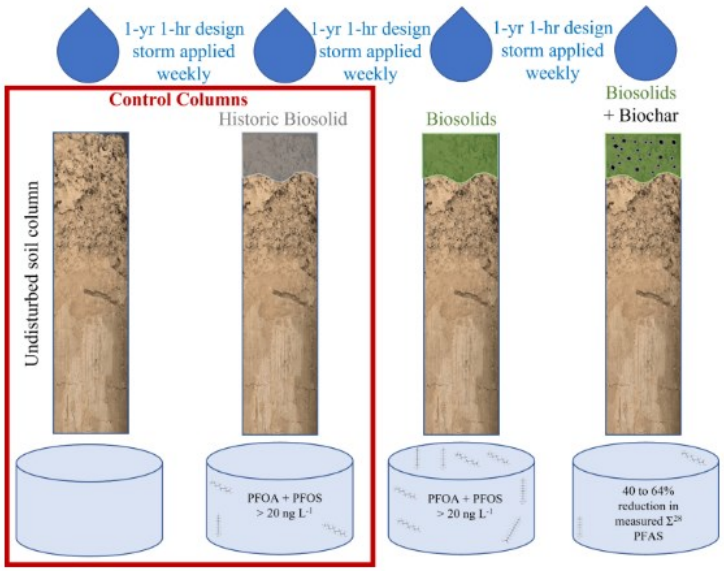
Zac grew up hiking, camping and fishing and has a great appreciation for the natural world. At UW-Green Bay, he is pursuing a Master of Science in Environmental Sciences and Policy to learn knowledge and skills to make a positive impact in a world that's constantly changing. He appreciates both sides of the program, which features critical lab experiences and shows how environmental data and information gained can be used to enact real policy changes. Zac's goal is to save native species and their habitats to create a sustainable future for generations to come.

"I grew up spending a lot of time outside. My family were really into hiking and camping and fishing. I just got this great appreciation for the natural world and growing up it's something that I knew that I wanted to do. I wanted to do my part in terms of protecting what we have for future generations and getting this degree was a great step in that process of being able to actually make some positive change in a world that's changing quite a lot. The program I think has been really great. In terms of the the labs I've been a part of, Aquatic Invertebrates has been great. Really allows me to get some hands-on experience in terms of learning the minutia of these different critters and when I go out into the field have an idea when I look at a stream and a sample of saying oh this is a pretty healthy stream or maybe a more degraded stream. So, that holistic experience that we get through this lab has been very very helpful. A great part of the graduate student research here is the fact that it's all interconnected. And I've been fortunate enough to to help out with some uh some of the lake Whitefish work going on here and some of the Northern Pike work going on here in Green Bay.

Essentially as graduate students were tasked with the research and monitoring design for Aquatic Invertebrates in Wequiock Creek. Doing an active restoration uh we want to get some data that says this is where the creek is now and then after we do our restoration and monitor throughout that process this is how it's gotten better or how it's changed over time and I feel like we're going to make a demonstrable impact on on restoration here on university land is pretty cool. The policy side of the course really takes what we do in terms of our science, figuring out how the data and the information and the conclusions get out of that bubble and then get used by people who actually craft policy. And I think that what I learned here will absolutely help catapult me forward into to where I go next, native fish conservation, working for a natural resource agency but as long as I'm working to conserve native species and their habitats, I'll that consider that a life well-lived." You can view his story here.

Regional PFAS Research Published in Special Issue of ACS ES&T

Research on the leaching potential of PFAS from biosolids as applied to Wisconsin soils and the mitigation potential of biochar was published as part of "Emerging Contaminants in Agroecosystems," a special issue from ACS ES&T Water. The completed research was a UW System collaborative effort led by Professors Holly and Gunn at UW-Green Bay and included soils sampled from the main geographical regions of the state. Measurements and sampling were facilitated by undergraduate researchers in the Environmental Engineering Technology Program at UW-Green Bay.

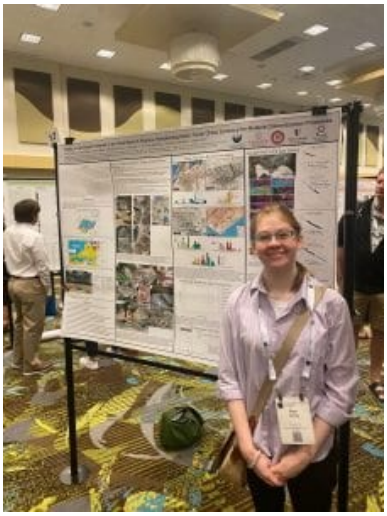


The study found that spreading biosolids (the solid residual from wastewater treatment) on land can pollute groundwater with PFAS which poses health risks, as observed in undisturbed soil columns from Wisconsin. The authors also measured the significant treatment potential of mixing biochar with biosolids to reduce contamination. Biosolids may be the most diffuse terrestrial source of PFAS pollution, with PFAS leachate measurements from local soils above the groundwater human health standard for PFAS. Professors Holly and Gunn recently received funding to evaluate leaching and treatment at the field scale in Northeast Wisconsin. Funding for the current and future work was provided by the Freshwater Collaborative of Wisconsin.

Geoscience Faculty and Students Present at Geological Society of America Conference

As a part of the Geological Society of America Conference, Geoscience students and faculty at UW-Green Bay presented their research. The students included:

Shawn Malone, who presented a poster with two student coauthors, Kristal VandenElzen-Benson (current Geoscience major) and Bruce Bilgreen (Dec. '23 Geoscience grad.). His poster was about finding and age dating the oldest rock in Wisconsin. They used Uranium-Lead (U-Pb) Laser Ablation ICP-MS methods on tiny zircon grains found within a rock called a granitic gneiss. The rock is 3.268 billion years old and is from the "Archean Marshfield Terrane" near Wisconsin Rapids, WI. View the findings and full project here.



Eryn Carney, a current Geoscience major, presented a poster with her advisor John Luczaj and colleagues from Trinity University, as well as others from China, New York, and Arizona on their NSF-supported research project in China. Their research determined the origin of dolomite, an enigmatic mineral that replaces limestone. They used fluid-inclusion microthermometry, Laser Ablation ICP-MS Uranium-Lead age dating, stable isotopes, and other geochemical and petrographic information during their investigations.

Luczaj and Carney were also coauthors on other posters presented by Trinity University students on related projects in China. They can be found at https://gsa.confex.com/gsa/2024NC/meetingapp.cgi/Paper/397139 and https://gsa.confex.com

NOAA Accepts NERR Nomination of Bay of Green Bay

Another significant milestone has been reached in the process of designating a new National Estuarine Research Reserve for the bay of Green Bay. The National Oceanic and Atmospheric Administration (NOAA) has reviewed the final nomination package submitted by the state of Wisconsin and determined that it meets all regulatory requirements for accepting the nomination of natural area sites for a NERR.

This nomination moves the bay of Green Bay one step closer to becoming a designated NERR site. Acceptance of the nomination will enable the state and NOAA to begin the next steps of designating the reserve: conducting public outreach, tribal engagement and developing a draft environmental impact statement and management plan. The University of Wisconsin-Green Bay leads the state's efforts towards NERR designation.

"This nomination embodies the collaboration with partners and the public that is the backbone of the research reserve system," said Nicole LeBoeuf, director of NOAA's National Ocean Service. "As we move through the designation process, NOAA is committed to hearing from partners about how research, education and stewardship opportunities can help make this estuarine ecosystem and Great Lakes communities more resilient."

On December 29, 2022, Governor Tony Evers submitted a NERR site nomination package to NOAA, requesting that NOAA accept the nomination of a multicomponent site along the Bay of Green Bay. "Conserving and protecting our natural resources and land continues to be a top priority for my administration, and I am thrilled to see this important effort to designate a site along the Bay of Green Bay as a new National Estuarine Research Reserve move forward," said Gov. Evers in a statement. "I want to thank everyone at UW-Green Bay, NOAA, and all those involved in this effort, and I look forward to the continued progress to see this designation, which will bolster efforts to study and conserve this important regional ecosystem, realized."

The Green Bay ecosystem is the largest freshwater estuary in the world, in the largest reservoir of freshwater on the planet, the vitality of which are critical to the current and future prosperity of the broader Northeast Wisconsin region and state.

NOAA's selection of the nomination for the bay of Green Bay NERR is a significant milestone in the designation process and an advancement on bringing the water quality research, educational programming and technical expertise that come with siting a research reserve on the bay of Green Bay. "This is an exciting next step for our region. UW-Green Bay is committed to studying, preserving and protecting the area that includes the largest freshwater estuary in the world," said University of Wisconsin-Green Bay Chancellor Michael Alexander. "The partnership that can happen by bringing in a national network of coastal research experts will provide information that is locally relevant and nationally significant and bring attention and support to the region to help solve some of the challenges facing our great waterways. This is an effort we are proud to lead."

The designation of a bay of Green Bay NERR presents an opportunity to engage northeast Wisconsin more fully with the incredible natural resources of the Green Bay ecosystem. It will enhance the region's economic, cultural, and recreational connections to our waters, while protecting and restoring the Green Bay water ecosystem. The NERR designation will bring national attention to the bay of Green Bay as an important waterway for the state and the Great Lakes region. Only publicly owned or lands open to the public are eligible to be included in the NERR and no new land will be purchased for the designation. The reserve will be a non-regulatory, state-managed entity, with program guidance and technical assistance from NOAA.

The site proposal is a culmination of several years of local, grassroots-support for a research reserve in Wisconsin. The proposed site[s] were selected following a comprehensive evaluation process that sought the views of the public, member of local communities and other interested parties. State and local agency representatives, tribal nations, estuarine experts, and industry representatives served as committee members and evaluated candidate site areas.

Watershed Game Makes Water Science Fun for Students and Educators

On a bitterly cold morning in January, teachers and educators from around northeast Wisconsin gathered at Barkhausen Waterfowl Preserve to learn how to play and teach the Sea Grant Watershed Game.

The interactive board game helps students and local leaders understand the connection between land use and water quality. Through a series of active, hands-on simulations, participants learn how land-use decisions impact water quality and natural resources. The game is used in more than 15 states across the country.

The workshop, which was organized by UW-Green Bay, focused on the Stream Model version of the game. Kathy Biernat, owner of Zanilu Educational Services, and Anne Moser, senior special librarian and education coordinator at Wisconsin Sea Grant, introduced the watershed concept through a fun version of "three truths and a lie" about watersheds. They then walked through lesson plans and stewardship concepts to accompany the Watershed Game.

To play, the educators divided into groups, with each group representing a community they that needs to reduce excess phosphorus runoff. They debated land-use decisions, the costs and benefits of implementing land-use changes, and the trade-offs of various flood resiliency actions for their community.

After a spirited game, Biernat and Moser led educators through a discussion of how they might implement the Stream Model into their classrooms and educational venues. They also discussed other classrooms activities that would support lessons around nonpoint source pollution and community decision-making for water quality. Each educator took home a Stream Game and lesson plans for implementing the activity in their school.

Logan Lassee, an assistant naturalist at Brown County Parks Department, plans to incorporate the game into a recycling program for fifth and sixth graders.

"The workshop was an exciting event where there was collaboration amongst educators from many different areas of education," he says. "I personally thought this game was a very fun and a realistic approach to understanding how land and water use can affect the ecosystem on a larger scale."

Andrea Stromeyer, the education programs coordinator at the Door County Maritime Museum, is familiar with watersheds but new to bringing STEM programming to a history museum. She appreciates the framework the game provides.

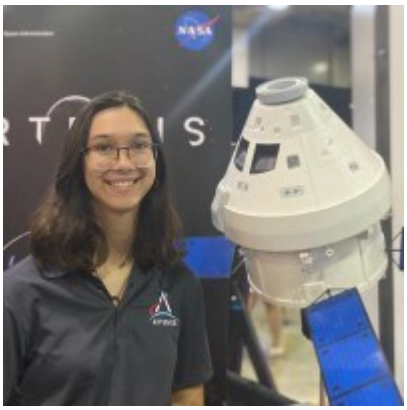
"This game touches on points about land management surrounding watersheds that I didn't previously think to add into my classroom discussions," she says. "I especially love how I can scaffold this up or down depending on the ages of students and sizes of classes."

Stromeyer plans to incorporate the game into Great Lakes Literacy-based programs this summer. She and her colleagues have also been thinking about interesting expansion ideas relevant to their specific Door County area.

"I'm thankful to the Freshwater Collaborative and the other hosts of this workshop for supporting Wisconsin educators by providing us copies of the game," she adds.

This workshop was primarily sponsored by the Freshwater Collaborative of Wisconsin with support from Wisconsin Sea Grant. Emily Tyner and Lynn Terrien at UW-Green Bay planned and organized the workshop as part of a Freshwater Collaborative–supported grant. Learn more about UW-Green Bay's Educators and Students Rise to Freshwater Challenges programs at www.uwgb.edu/freshwater-collaborative.

Mechanical Engineering Senior Showcased Class Project at AAS John Glenn Memorial Symposium



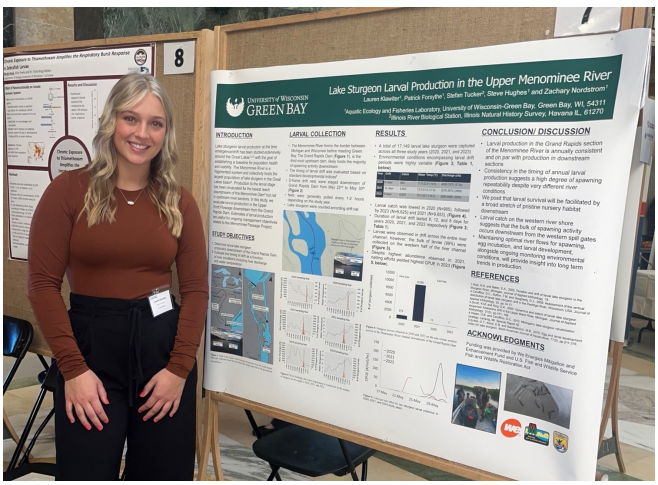
Ellyssa Purdy, a senior in Mechanical Engineering, showcased the term project titled "Effect of Parachute Deployment on the Descent Phase of a Dual-Deployment Rocket" at the esteemed John Glenn Memorial Symposium at Case Western Reserve University in Cleveland, Ohio. This national symposium, hosted by the 'American Astronautical Society' and 'NASA Glenn Research Center,' provided a platform for scholars and professionals to discuss advancements in aerospace.

The project, stemming from Dr. Rasedul Islam's Analysis of Dynamic Systems course, delved into the critical role of parachutes in ensuring flight safety. This research explored strategies to enhance parachute effectiveness, revealing that augmenting their effect during the descent phase significantly improves overall flight safety. These findings not only present new research avenues but also hold the potential to advance flight data-trend analyses, contributing to the safety and success of future space exploration missions. Ellyssa's participation in the symposium aligns with her summer 2023 internship at NASA Glenn Research Center, showcasing her commitment to and involvement in cutting-edge aerospace research.

UW-Green Bay Student Researchers RISE at the 2024 Research in the Rotunda

The Capitol was buzzing with excitement during the 20th Annual Research in the Rotunda event held in Madison on March 6, 2024. More than 20 UW-Green Bay student researchers participated in the event, presenting posters that covered everything from phosphorus levels in nearby creeks to pet ownership empathy. Students from all of the UW schools were represented at the event. The event was open to public, and state legislators and educators visited with participants. Students not only honed their presentation skills, but were able to share the purpose of their research and the innovative ideas that have sparked asking even more questions about their topic of choice.

Congratulations to the following CSET students on being chosen to present their research at this years event:



Coastal bird use of small stream mouths along the Western Lake Michigan shoreline by Sarah Baughman

Economic impacts of Wisconsin fishing supported by the Freshwater Resources of Lake Michigan and Bay of Green Bay by Madeline Murnion and others from UW-Whitewater

Lake sturgeon larval production in the Upper Menominee River by Lauren Klawiter

Impacts of a large-scale restoration on phosphorus loading in Centerville Creek by Elena damian, Natalie Ford, Samantha Frauenfeld, Taylor Kautzer, Codey Lai, and Ashely Muench

Faculty Recognition/Achievements

Congratulations to **Omar Meqdadi** and **Nazim Choudhury** for their publication in *14th IEEE Ubiquitous Computing, Electronics & Mobile Communication Conference* entitled "Do API migrations revert commits—A preliminary investigation

Congratulations to **Keir Wefferling** for his publication in the *American Journal of Botany* entitled "Polyploid goldback and silverback ferns (*Pentagramma)* occupy a wider, colder, and wetter bioclimatic niche than diploid counterparts. Keir's photo was also chosen as the cover image for their March issue.

Congratulations to **Rasedul Islam** for serving as a Guest Editor for special issue of the Journal, *Machines*, entitled "Robots in Healthcare: Design, control and applications."

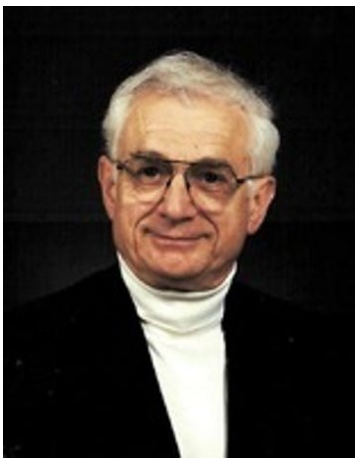
Congratulations to **Mike Draney** for having a newly discovered spider species named after him! The spider, Paratheuma draneyi, was named by Professor Emeritus James Berry (Butler University). The species lives in the intertidal zone of the northern tip of the North Island of New Zealand.

Congratulations to **Uwe Potts** (Associate Professor of Human Biology) on his retirement after 25 years at UW-Green Bay! Uwe taught animal biology, animal behavior, genetics, molecular biology, and intro to biology.

Congratulations to **Paul Mueller** (Assistant Professor of Human Biology) on his retirement! Paul started in the fall of 2014 and taught cancer biology, cell biology, and intro to biology.

In Memoria: Leander "Lee" Schwartz

Green Bay Press Gazette



He was born the son of Irene and Henry Schwartz, who operated a dairy farm in Manitowoc County, in 1932. He grew up there, was schooled at St. Fidelis Country Grade School, graduated from Kiel High School and continued his education at UW-Platteville College and later UW-Madison, attaining his PhD in Botany. He was married in 1957 to LaVonna Mellor of Platteville, WI. They had a son, Brian, in 1958. In 1961, LaVonna was diagnosed with ovarian cancer and died suddenly. In 1964, he remarried to Helen Magnani of Appleton, WI who was also widowed, and had a son, David.

Upon completion of Leander's PhD degree, he took a position at UW-Fox Valley campus where he was awarded "teacher of the year", and soon after, was appointed Dean of the campus (1969-1972). In 1965, the new four year University of Wisconsin-Green Bay was being established and he decided he would like to become part of its development. He left Fox Valley and joined UWGB in 1972. His career at UWGB included Chair of Biology. He taught classes that stimulated his interest in Waste Management. He had his students work with him in conducting projects for the Green Bay Metropolitan Sewerage District, Green Bay Packerland Packing, as well as The Pharmaceutical company, Abbott Laboratories in North Chicago. He and three other professors collaborated writing and publishing a book, 'Waste management-Resource Recovery'. Leander received the UW-Green Bay award for Excellence in Institutional Development in 1996 and also served as Vice Chancellor for Academic Affairs in 1982 to 1988.

You can read his full obituary here.

Professors John Stoll and Kevin Fermanich Named UW-Green Bay's 'Earth Caretakers' for 2024

The University of Wisconsin-Green Bay Environmental Management and Business Institute (EMBI) will award the 14th annual Earth Caretaker Award to Dr. John Stoll, UW-Green Bay Emeritus Professor of Economics and alumnus, and an honorary Earth Caretaker Award to Dr. Kevin Fermanich, Emeritus Professor, Geoscience, Environmental Science and Water Science.

Both John and Kevin served as faculty associates and executive committee members for the Environmental Management and Business Institute from 2008-2023 and were founding co-directors during the inaugural year of EMBI in 2008-09. In addition to guiding the development of EMBI, over their lengthy tenures, these two well-known professors were instrumental in preparing many of our undergraduate and graduate alumni for future careers. Biographies on each of the winners can be found on the EMBI Earth Caretaker Award webpage.

UW Arboretum Showcases Spider Species of Wisconsin

By Keisen Williams—The Badger Herald

The University of Wisconsin Arboretum hosted the last Virtual Winter Enrichment Lecture Feb. 22, titled "Spiders: Tiny Tool-Users in Wisconsin and Beyond," hosted by UW–Green Bay professor of biology at Michael Draney.

The lecture examined the ancient and diverse world of spiders, often misunderstood and undervalued in Wisconsin's native biodiversity. Draney took participants through a journey exploring spider's unique features, including spinnerets for silk production and modified mouthparts for sperm transfer.

"They have kind of a bad reputation in our culture, and I think that has more to do with human psychology than it does with spider biology," Draney said. While spiders are often seen as a threat to humans, only a select few pose a danger to humans, and deaths from spider bites are rare, Draney said. Only about one death per decade occurs as a direct result of a spider bite, according to the University of Texas Southwestern Medical Center.

Instead, Draney thinks of spiders as "tiny tool-using tigers," essential predators in various ecosystems dating back 350 million years. "Spiders are predators like tigers but use technology — particularly silk — to catch their prey," Draney said. Silk enables spiders to create egg sacs for protection, line their burrows for warmth and stability, and construct webs for capturing prey, Draney said. Spiders possess up to seven different types of silk glands, all of which are strong, resilient and remarkably light.

There are over 50,000 described species of spiders, making them the seventh largest order of animals, Draney said. With such a wide range of species, studying spider genitalia for species identification is crucial for spider scientists.

"I spend most of my time looking at the genitalia of spiders because that's the easiest way to tell them apart," Draney said. The unique morphology of genitalia often serves as a barrier to hybridization between closely related species, therefore maintaining species boundaries and genetic integrity, Draney said.

Dr. Rasedul Islam Joins the Wisconsin IoT Council's Scholarship Advisory Board

Dr. Rasedul Islam has accepted an invitation to join the Scholarship Advisory Committee Board of the Wisconsin IoT Council, alongside distinguished professionals such as Dr. Wilkistar Otieno (Associate Professor & Chair of Industrial and Manufacturing Engineering, UW-Milwaukee), Michael Cook (Director Global Academic engagement, Rockwell Automation), Dr. Philip Parker (Acting Dean of the College of Engineering, Mathematics and Science, UW-Platteville). Committed to supporting Wisconsin's IoT and Connected Product Industry ecosystem, the Council focuses on enhancing industry leadership, global awareness, and fostering sustainable growth and innovation. With a strategic approach, the Council conducts high-level assessments of industry strengths and weaknesses, responding with targeted education and programming initiatives.

St. Norbert College and UW-Green Bay Join Forces to Expand Programs and Simplify a Partnership Process

In a first-of-its-kind partnership in the region, UW-Green Bay (UWGB) has signed an articulation agreement with St. Norbert College (SNC) that will allow students in selected degree programs to seamlessly study at both institutions. Program partnerships may start as soon as Fall of 2024.

This sharing of resources provides students from the region (and beyond) with an opportunity to take classes more easily at either of the Northeast Wisconsin four-year campuses, regardless of campus residence or enrollment. The agreement focuses on the student's needs and provides more opportunities for degree pursuit where a student can augment the general education they receive at one school with a degree program available at the other.

Unprecedented in the region, this partnership effectively combines the resources of both institutions. In other programs SNC students can complete three years at SNC and then the final two years at UWGB to earn their undergraduate and graduate degree. SNC will honor the UWGB tuition rate where applicable when UWGB students take classes at SNC, and the reverse.

"Students win when institutions collaborate to build on the strengths that each college brings to the communities they serve," said UW-Green Bay Chancellor Michael Alexander. "Rather than try to provide everything our region needs in higher education on our own, students and the community become better when we partner with each other, ensuring our students and the region can benefit from having two stronger, yet different institutions."

Currently, the following STEM-related classes/program credits will transfer between St. Norbert and UW-Green Bay: Engineering, Engineering Physics, Master of Athletic Training, and Master of Nutrition and Integrated Health.

"An agreement like this honors the needs of a student," said Alexander. "In addition to offering more degree options, it also expands the college experience opportunities for students. The agreement is a great way for us to think creatively about higher education and how it can thrive into the future with a complete ecosystem in Northeast Wisconsin." Joyner agrees, noting "This partnership is another example of our work to address the evolving needs of the local community and provide an outstanding educational experience for our students, which includes academic quality, curricular efficiency, and advancing student success."

Faculty Spotlight: Lisa Grubisha

Excerpt by Brandon Arbuckle—UW-Extension

Whether it's animals, plants, or fungi, Lisa Grubisha, PhD, has always been intrigued by the natural world and the organisms that comprise it. Her love for science is rooted in spending summers at day camps as a Girl Scout. "We learned about a variety of organisms, went on hikes, and looked at flowers," she said. "I think that really sparked my interest in science, especially natural science."

Lisa carried this interest into college and went to the University of Wisconsin-Milwaukee to earn her BS in zoology. Shortly after graduating, she joined the Peace Corps in Senegal and assisted with environmental education in schools and worked with farmers using agroforestry techniques: "I moved away from animals and became more interested in plants and soil."

She returned to school following her time in the Peace Corps and shifted her focus to studying mycorrhizal fungi, a group of fungi that has a symbiotic relationship with plants. After becoming more involved with research and working with professors as a teaching assistant, Lisa decided she wanted to become a professor herself. She earned her MS in botany from Oregon State University and her PhD in plant and microbial biology from the University of California, Berkeley.

Lisa is now an academic director for the 100 percent online UW Master of Science in Applied Biotechnology and Graduate Certificate in Applied Bioinformatics. She also teaches a course in the UW Master of Science in Biodiversity Conservation and Management.

Lisa has worked at UW-Green Bay for more than a decade. An associate professor of biology in the Natural and Applied Sciences Department, she teaches undergraduate and graduate-level courses in microbiology and mycology on campus. Some of her research interests include conservation biology, phylogenetics, population genetics, and microbial diversity.

When the online Applied Biotechnology program was first announced several years ago, she was approached by the school's dean to become an academic director for the program. Lisa's interest in biotechnology and proficiency with bioinformatics has made her a valuable addition to the program's faculty. "It is [an] area that I am fascinated with," she said. "And with my connections with natural science, I have some agriculture linkages as well. So it just seemed like a good fit for me."

What is your favorite part about teaching? I think hearing from students. When students can be candid and they tell you that something about the course inspired them or they really connected with, and it made a major impact on either how they felt about a topic or opened new windows for a topic [and] changed how they thought about their career.

They thought they wanted to do something else, but now after taking this course, they realized, "Hey, I really want to do something related to this course." I know that's pretty general, but having a personal influence or impact on a student where, instead of just taking the course and checking it off like it was something that they had to do, they were actually impacted by the content or the interaction with me or the other students. Or they saw the relevance and importance of the information in the course.

What keeps you motivated with your work in this field? I don't think it's ever the same—it's always changing. It's not mundane or redundant. I do have to keep up with the literature and keep up to date with all the changing technologies. That's part of the excitement, because I feel like I'm always learning new things. There's so much we don't know still, and being able to read and learn about where we're at right now just really piques my interest. I think that keeps me going.

Read the full article here.

Alumni Spotlight:
Kevin Erb

The University of Wisconsin-Green Bay recognized a number of outstanding alumni and one honorary alumnus at the 2024 Alumni Awards Dinner on Thursday, April 18, 2024 in the Phoenix Rooms in the University Union. The Alumni Awards highlight UW-Green Bay graduates and other individuals who have made special contributions to UW-Green Bay, their communities and professions. The CSET honoree for 2024 was Kevin Erb.

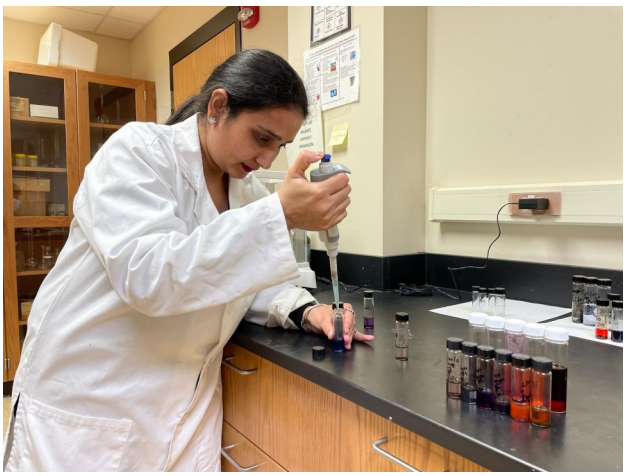
Kevin Erb '00 (Master of Science in Environmental Science & Policy) has served as the Outreach Program Manager, Conservation Professional Training Program with the University of Wisconsin-Madison, Division of Extension since 2003. Kevin has had a long career helping the agricultural community of northeastern Wisconsin. For the past 20+ years, in his role as Program Manager for the Conservation Professional Development Training Program, Kevin is responsible for bringing in millions of grant dollars to support a wide range of activities, including training opportunities for conservation advisors (from local to federal agencies and private consultants). He develops training modules and curriculum, partners with NGOs, agencies (DNR, etc.), and private sector groups to deliver instructors and content.

In 2000, he received his Master of Science in Environmental Science and Policy from the University of Wisconsin-Green Bay while working full time. The data from his MS research showing a readily achievable 80% reduction in excess farm phosphorus had an immediate impact on farms in the Lower Fox River basin. Almost all of the farms participating in his research made management changes to meet the goal within six months, achieving either significant cost savings or at minimal additional expense.

Kevin has played an important role in several projects with UW-Green Bay and its personnel. In a nationally recognized effort, Kevin Erb and Ron Stieglitz worked closely with a wide range of stakeholders to lead the Northeast Wisconsin Karst Task Force in 2006-2007. The results of this effort were instrumental in changing agricultural regulations in an effort to improve water quality in northeastern Wisconsin (e.g., Silurian Performance Standards NR151.075). Over his career, he has mentored more than a half dozen UW-Green Bay interns and advised numerous UW-Green Bay graduate students during their research.

Research Spotlight:
Mandeep Singh Bakshi

Dr. Prabhjot Kaur is post-doctoral fellow in Dr. Bakshi's research group. She is working in the interdisciplinary field of Green and Environmental Sustainable Chemistry of magnetic nanomaterials and their applications in purification of contaminated water. Her research is supported by WiSys with primary objective of advancement in scientific research throughout Wisconsin by patenting technologies developed for the benefit of Wisconsin's economy.



She is exploring an innovative way to develop a methodology for the extraction of metal nano-pollutants as well as toxic dyes from contaminated water by using functionalized magnetic nanomaterials. These nanomaterials are sustainable and possess a strong ability to complex and extract pollutants from contaminated water by simply applying external magnetic field. It does not require conventional filtration process to remove pollutants. End users for this technology are the industries which deal with the wastewater treatment. A properly developed workable technology can be used for the purification of effluents from the metal industry/mining as well as from the textile industry.

EMBI Student Finds Success with Sustainability Minor

Haven Lanser is a student who has been working with the Environmental Management and Business Institute (EMBI) for the past two years as part of their internship program. Learn more about Haven's history with EMBI and how her experience has led to a full-time position in sustainability.

Tell us about your yourself. My name is Haven Lanser, and I am from Belgium, WI. I am majoring in Business Administration, with an emphasis in Business Analytics and a minor in Sustainability. I will be graduating in May 2024. I have always had an interest in protecting our environment while growing up and have made my own efforts to be sustainable, but realized that I could do more by studying it in college, and pursuing it as a career.

What work have you been doing with EMBI? I have worked two internships with EMBI during my junior and senior year. My junior year, I worked as a Comprehensive Energy Planning Intern with the city of Green Bay and Slipstream. During this internship, I gathered and analyzed data to assist in the formulation of a plan to make Green Bay carbon neutral by 2050. My senior year, I worked as an Energy Management Intern for Aurora BayCare. I collected and analyzed energy data for the Aurora BayCare properties and reported on usage, costs, and where sustainable changes should be made.

What have you enjoyed most about this experience? I have enjoyed getting to grow my existing skills, along with developing new ones, throughout my experience with EMBI. I have learned so much, and my passion for sustainability has grown exponentially. I have also thoroughly enjoyed working with those around me at my internships, as they have taught me so much, and supported me throughout my entire experience.

How has this experience help you achieve your career goals? My internships have allowed me to realize my passion for working in the field of sustainability. I have been able to develop my skills, and they have prepared me to seek and achieve full-time employment post-graduation. I feel more prepared than ever to confidently begin my career.

What are you post-graduation plans? Post-graduation, I will begin working full-time as the Sustainability Coordinator at Green Bay Packaging. As the Sustainability Coordinator, I assist in managing the company's Sustainable Fiber Sourcing certificates, which include certifications from the Sustainable Forestry Initiative and the Forest Stewardship Council.

What's your advice for students looking to pursue a career/degree in sustainability? If I could give anyone advice that is looking to pursue sustainability careers or degrees, I would say to seek out internships as soon as you can, and keep an open mind when looking for opportunities. Sustainability offers a wide array of career paths, and keeping an open mind will allow you to discover unexpected interests within the realm of sustainability.

Haven's Supervisor and Director of EMBI, John Arendt, stated "Haven, besides being driven by her passion, has made the most of the opportunities available to her as a student. The experience she gained at UW-Green Bay through the sustainability minor program will position her for great things in her career and I look forward to hearing about her successes in the future. Haven is one of my shining examples when I share with students how the sustainability minor can fit with any major and can open doors to a rewarding career. I am very proud of her! "

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