UNIVERSITY of WISCONSIN GREEN BAY

COLLEGE OF SCIENCE, ENGINEERING & TECHNOLOGY

Summer 2024

NEWSLETTER

IN THIS ISSUE...

A MESSAGE FROM THE DEAN, JOHN KATERS

In early August, I had the unique opportunity to spend several days in San Diego learning first-hand about the capabilities of the US Navy, with a focus on nuclear power systems. Seeing the wide array of technologies found on a nuclear ballistic missile submarine like the USS Louisiana was incredible to say the least. However, even more impressive were the talented submariners who serve and protect us each and every day, including two that I met from Appleton and Neenah. In this issue of the newsletter, you will see that we also have our own talented students and faculty that are working on a range of research projects in areas like biology, chemistry, environmental science, human biology, mechanical engineering, robotics and automation, and rocketry. Each academic discipline contributes to the overall well-being of society, with the high-impact learning opportunities available at UW-Green Bay being a critical part of the educational experience for students and paving the way for successful careers. In 2025, high-impact practices (HIPs) will be formally built into the curriculum for all majors at UW-Green Bay as we continue to grow our academic programs. Therefore, look for more of these stories in the future about our outstanding students and faculty in the College of Science, Engineering, and Technology.

Welcome New Faculty!

John Kaletka

Assistant Professor
Human Biology

Ph.D, Michigan State University

Rachel McCoy

Assistant Professor
Human Biology

Ph.D, Purdue University

Stephanie Ramadan

Assistant Professor
Human Biology

Ph.D, University of Delaware

Florence Uruakpa

Assistant Teaching Professor
Nutritional Science

Ph.D, University of Manitoba

Mechanical Engineering: The Path to Innovation

Engineers are still a sought-after group, poised to bring their unique combination of creativity and problem-solving skills to meet the demands of the workforce. From working on refrigeration systems to the turbines of aircrafts, mechanical engineering is one of the most versatile and visionary engineering professions, lending itself well to the growing demand for engineers.

According the U.S Bureau of Labor Statistics, employment of mechanical engineers is projected to grow 10% over the next ten years, a rate that is much faster than most occupations. Over 19,000 mechanical engineering positions are expected to open every year. The story in Northeast Wisconsin is similar to the nation-wide report, with the demand for engineers rising 18% since 2010. Because of this demand, creative thinkers and budding innovators alike have been enrolling at UW-Green Bay to pursue a track in Mechanical Engineering.

"The Mechanical Engineer is totally related with the development of new technology and new things—we can study many applications," says Assistant Professor Fernando Cano-Banda, who teaches in the Mechanical Engineering program at UW-Green Bay, Sheboygan Campus. They focus on power application, getting physical parts and components to act in the manner desired—and the need for this skill set is high.

Mechanical Engineers are specially equipped to work in many fields such as machinery, design, controls, vibrations and acoustics, power generation, fluid flow and heat transfer applications, to name a few.

Ben Vergunst is training to be one of those engineers. He studies mechanical engineering at UW-Green Bay, Sheboygan Campus. “I’m a problem solver, so engineering made sense,” he explains. But for him, the move to go back to school wasn’t as simple as the decision to study engineering. Vergunst is a non-traditional student, having spent time working in construction and carpentry, before making the decision to go back to school.

“It’s not easy to move from a full-time position to part-time. It’s also difficult to be a non-traditional student, where you’re used to working in the industry, and having to go back to school—it’s not an easy step,” he says. This big transition was made easier, though, by having an accessible campus close by. “It was critical to have a campus in town, one that was local—that I could study at. I doubt going back would have worked if there wasn’t a local campus,” he says.

For Vergunst, it is clearly working. “He’s a really good student,” says Cano-Banda. “Benjamin–it’s clear he feels confident with his knowledge about science and math. We make decisions based on that knowledge. We need to do calculations, but it’s the decisions that are important. That’s how I know that Ben will be a great engineer, because now he feels confident making those decisions.”

Cano-Banda also stresses the importance of creativity in the work that mechanical engineers do and works to convey this to his students through homework problems and practical experiences that encourage out-of-the-box thinking. “To be an engineer is not only about being good at math or having a good understanding of science. It also requires leadership and creativity. Creativity is the difference between a good engineer and a great engineer.”

Vergunst was able to put his mechanical engineering foundations and problem-solving creativity to the test through a key internship opportunity. A colleague Vergunst met through his classes led him to a Kohler Company internship, where he took an active engineering role in the manufacturing process.

“It was the most pivotal thing in my education career,” says Vergunst. “It got me excited about where things are going with the degree. It’s hard to picture, when you’re in the thick of it, so having an internship or co-op is great. It gets you some hands-on experience and knowledge of what it’s actually like in the field.”

For Vergunst, his internship helped inform his dream position, which he hopes will be local, staying in Sheboygan while doing a job that allows him a mix of work. “Do design work, be creative, and still be able to be involved with how it’s made and how it’s used in the real-life scenario,” he says.

Vergunst sets the example for those looking to further their education by going back to school. “It’s the people on the manufacturing floor, wishing to pursue their education—it’s still possible, even if it takes, say a decade, it’s well worth it to take that step, especially if you have a local campus. There are people I work alongside with in their 30s and 40s that are pursuing their education,” he explains.

The path to higher education looks and feels different for everyone but as Vergunst puts it— “it’s never too late.”

Chemistry Majors Loves to “Blow Things Up”

Meet Nora, a Chemistry Major at UW-Green Bay. While attending the UW -Green Bay, Manitowoc Campus, she fell in love with chemistry after taking a General Chemistry class with Prof. Amy Kabrhel. “Her teaching style is infectious. The way she taught just made me want to learn more. Formula on the board, she’s going to show you how to blow something up with it.” The hands-on experiments, participation in research and professors who take the time to know every student has inspired Nora pursue her graduate degree and make changes surrounding how medications are produced.

Hear her story here.

Student Spotlight:

Adan Cordova

It's 4:15 AM, and Adan Cordova's day has already begun. In the pre-dawn stillness, while the rest of his family still sleeps, he silently hurries to catch a ride to be at work by six. Then, he puts in a twelve-hour day before returning home. These hours would probably be considered typical for the soon-to-be class of 2024 graduate in Human Biology with aspirations for medical school. But this was a snapshot of Cordova's day from more than 15 years ago, when he lived in his native Honduras working construction jobs. He recalls, "I did everything from mixing concrete to preparing foundations."

These days, Cordova is laying a different kind of foundation—a career in medicine. His primary goal to "provide for my family" remains the same decades later. But today, his dreams are transformative. To reach this goal, his next step is preparing for the MCAT (Medical College Admission Test)—a key component of medical school applications for anyone who aspires to attend medical school. Surprisingly, Cordova does not clearly remember any aspirations to attend medical school in his youth when basic survival was the primary goal. "Life in Honduras was tough," he says plainly. But it was when still living in Honduras that Cordova became a father. He put all his dreams aside and focused on providing for his son's needs.

In 2012, the possibility that his dream could become reality surfaced with an invitation from his father to join him in America. Factory and construction jobs were plentiful. The pay was good and money could be sent home. It was the American dream – his father's dream – but not Cordova's dream.

Living and working in Green Bay was the chance for a new beginning. Despite a robust network of friends and family, the job opportunities were confined to manual labor. Still, his mother's perseverance back in Honduras inspired him. "I desired more than factory work," he confesses. "My mother had at one time balanced her family obligations and higher education," Cordova recalls. "I saw her working at home to take care of us and then go to university, to earn her bachelor's degree in Economics. I want to do that. So, I have that simple model of my mother."

Sharing his intention to resume his education was met with doubt. "My friends and coworkers believed I was too old and should concentrate on my family. They advised working extra hours for additional income." Earning money to provide additional income to his family in both Green Bay and Honduras wasn't a problem, but his dreams were slipping away. Undeterred, he began with an English language course at Northeast Wisconsin Technical College, which led to a nursing assistant certificate. However, his ultimate aspirations to become a doctor were shadowed by self-doubt. "I was really afraid [I was] not going to make it," Cordova admits, "Because I didn't feel smart."

Yet, he mustered enough courage to enroll at UW-Green Bay and declared his major in Human Biology. His most challenging courses? Genetics and English. Now, he was absorbing the complexities of chemistry and genetics, without the comfort of his native Spanish language. At the same time, his "idle dream" of a medical career became a tangible goal. It was in Genetics class, thanks to the encouragement of Associate Professor Uwe Pott, that convinced Cordova he had the DNA to become a doctor.

Cordova recalls the moment Professor Pott helped him to see himself as a medical student. "He kept telling me, 'How can you believe that you will not do well? You are in the lab. You're doing the experiments and writing lab reports. So yeah, you are being a scientist!'" "Adan is an exemplary student," says Pott. "From the outset, it was clear he was committed to excellence." Looking forward, Adan plans to prepare for the MCAT during a gap year, then attend The Medical School of Wisconsin in Green Bay.

As Cordova sets his sights on pediatric psychiatry, he envisions a career that will not only provide for his family, but also give back to the community. All built on a basic foundation of care and support from a family, that spanned separate hemispheres, instilled in him. "When I see me myself as a doctor working–I'll be feeling that I did something good."

NWTC and UW-Green Bay Spotlight the Student Impact of Collaboration and Expand Transfer Opportunities

GREEN BAY, Wis. – NWTC transfer student and UW-Green Bay graduate Adan Cordova ’24 shared his experience with those in attendance during a discussion surrounding expansion of transfer opportunities between NWTC and UW-Green Bay. “I pushed myself and never lost hope in my ambition,” said Cordova. “I moved toward my objective, earning degree credits while exploring programs to study at NWTC and ultimately transferring to UW-Green Bay.”

In today’s dynamic educational landscape, transfer pathways from technical college to university unlock opportunities for students to achieve their full potential. Expanding on their partnership, Northeast Wisconsin Technical College (NWTC) and UW-Green Bay announced today that students from NWTC will now be guaranteed admission into UW-Green Bay within the Human Biology, Marketing, and Psychology programs, which have been the most preferred pathways for transfer students.

The two institutions of higher education signed a Memorandum of Understanding (MOU) on Monday, June 3, 2024, at the STEM Innovation Center on the UW-Green Bay Campus. Cordova was part of the discussion, sharing his experience as a transfer student who began at NWTC and then transferred to UW-Green Bay. He continued to pursue his dream to work in the medical field through the Human Biology program and graduated from UW-Green Bay in spring of 2024.

The expansion of the current transfer opportunities will allow students in the region to begin their steps towards earning a bachelor’s degree at NWTC, by completing their Associate of Arts or Associate of Science degree with a focus on the foundational general studies or other related associate degree programs. Students can then transfer to UW-Green Bay as a junior status student and be directly admitted to the university to continue their path to degree.

“The expanded partnership with UW-Green Bay, reaffirms our shared commitment to the success of our students and community,” said NWTC President, Kristen Raney. “By bridging the gap between technical education and university pathways, we are not just developing talent, but laying a foundation of social mobility within our region and beyond. On behalf of NWTC, we look forward to continuing this work with UW-Green Bay and to building a thriving future together.”

UW-Green Bay and NWTC have long held to the notion that despite coming from two different systems (Universities of Wisconsin and Technical College System), they should partner in higher education pathways. “The expansion of the partnership between UW-Green Bay and NWTC benefits everyone in the region,” said Assistant Vice Chancellor for Enrollment Management Jennifer Jones. “This progress honors the great education that is happening at the technical colleges in our region and breaks down barriers for students who want to continue their education at UW-Green Bay. It provides access and opportunity for more students to expand their education beyond high school.”

Saving students thousands in tuition costs and providing guaranteed transfer as a junior status, the expanded transfer program will provide affordable and accessible pathways to obtain a bachelor’s degree. About 50% of NWTC transfer students choose to attend UW-Green Bay. Over the past six years, more than 1,000 UW-Green Bay graduates started at NWTC. Among those students, the primary area of study for those transfer pathways are business administration, psychology, nursing, human biology, and education.

This collaborative partnership between NWTC and UW-Green Bay provides a clear pathway for students to envision themselves continuing to pursue their academic goals through transfer programs. Both NWTC and UW-Green Bayhave additional information regarding transfer opportunities on their web sites.

‘Start Your Engines!’ STEM Camp and Road America Collaborate at UW-Green Bay Summer Camp

The rain didn’t stop UW-Green Bay campers at the “Race to Road America” STEM Camp at Road America in Sheboygan. UW-Green Bay Sheboygan Campus Executive Officer James Schramm was extremely grateful to everyone who supported the success of the inaugural STEM Camp in collaboration with the UW-Green Bay Camps and Youth Program Team, The Einstein Project, and Road America.

“Days 1 & 2 set the stage for an amazing day at Road America today where the campers got to race their RC cars on a special track at Winners’ Circle, were treated to the VIP Suite #4 and rooftop view of the grounds, met race car drivers Calvin Stewart (who has a “day” job as the Chief of Anesthesiology) and Tom Bartz who signed autographs, took pictures and answered questions and got a tour of the entire Road America facility including the Race Control Room which provides safety and EMS monitoring for all drivers and race teams.

A phenomenal job and demonstration of the #powerofcollaboration between our university, the Einstein Project and the team at Road America led by its President Mike Kertscher and their Marketing Director Mary Lou Haen.”

Wizard Academy Students had a Magical Time

On July 22 and 23, 35 witches and wizards descended upon UWGB for Wizard Academy, which is a two-day extravaganza of Harry Potter-themed activities. Created and facilitated by Dr. Valerie Murrenus Pilmaier (English and WGSS), and co-lead this year by student Teresa Harvey. Students were sorted into their houses and led by prefects Dr. Amy Kabrhel (Gryffindor – chemistry), Dr. James Kabrhel (Ravenclaw—chemistry), Dr. Bill Dirienzo (Hufflepuff—physics) and Salma Chaoui (Slytherin). They learned about magical creatures from Dr. Dan Meinhardt, found horcruxes in the library, attended potions class, spells class, divination class, transfiguration class and even did Aragog’s egg and Dragons’ egg races. If you have any questions about being a part of Wizard Academy or signing your little wizard up for next year, please contact Kelly Thacker, UWGB director of camps at thackerk@uwgb.edu or Valerie Murrenus Pilmaier at murrenuv@uwgb.edu.

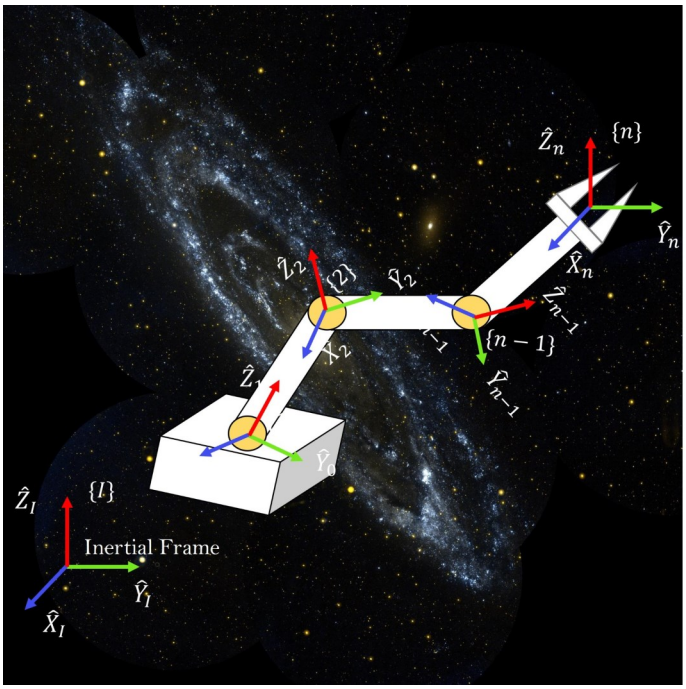
UW-Green Bay Collegiate Rocket launch Competition Team 'Phantastic Phenoms' Wins Second Place

Recently, six UW-Green Bay students participated in the 2024 Collegiate Rocket Launch Competition presented by NASA. The team, named the Phantastic Phoenoms, took home second place.

Team members Elly Purdy, Bryon Cobb, Caitlyn Hendricks, Dalton Kowalkowski, and Unique Vang, will present the details of their work at the 34th Annual Wisconsin Space Conference, hosted by UW-Milwaukee later this year.

"My participation in these competitions has been a highlight of my college journey, granting me the privilege of serving as team lead for three out of my four years," said Purdy in a LinkedIn post. "Special thanks are due to WSGC and Brian Welsch for their continued support and mentorship in the field of high-powered rocketry,".

Dr. Rasedul Islam Receives NASA-Funded Grant to Advance Space Robotics and Research



Mechanical Engineering Associate Professor Md "Rasedul" Islam has been selected as a 2024-2025 Early-Stage Investigator Grant award recipient, funded by NASA through the Wisconsin Space Grant Consortium (WSGC), to support his robotics research. The selection process is highly competitive, engaging a statewide pool of applicants and awarding only one recipient in this category.

This $11,064 federal grant will fund Professor Islam's space robotics research project, "A Computational Tool Enabling On-Site Customization of Robotic Manipulators in Space Missions through Dynamic Analysis," for one year. Space missions frequently encounter unforeseen challenges or tasks that demand the rapid deployment of robotic manipulators. Given the dynamic nature, evolving priorities, and extraterrestrial environments of such missions, the need for on-site built robotic manipulators becomes apparent. The successful completion of this project will empower astronauts to swiftly customize designs and analyze manipulator dynamics in real-time, facilitating the construction of on-site manipulators and adaptive problem-solving to meet mission objectives.

Natural Connections: Entrenched Like Drown Kitten Moss

By Emily Stone, Hudson Star Observer

Keir Wefferling, a botanist from the University of Wisconsin-Green Bay, began picking his way over the gnarled trunks of fallen cedars and around black pools of unknown depth. Wefferling is among a group of about 20 professional and amateur botanists — and all of them followed him into a dark forest, not knowing what to expect.

After only about 20 feet, Wefferling called out: “I can’t stand it! There’s incredible diversity right here, we have to stop!” We all gathered in a loose circle, shifting our feet to find solid ground among hummocks of rotten and less-rotten wood and mysterious wet hollows. Each of these surfaces was plush with a carpet of moss.

Keir, who specializes in moss, passed around tuft after tuft of green Dr. Seussian inventions. The scientific names he gave with each sample slipped through my brain in a fog of unspellable syllables. I admired each one eagerly, though, in awe of the kaleidoscope of leaf shapes, textures, patterns and colors.

I was crouched down, admiring the round, glistening leaves of a unique moss sprinkled in a thick jumble across a small bowl between cedar roots — when Keir finally spoke words I recognized. “And here’s some spilled penny moss,” he said. I couldn’t even see the specimen he held up, but I knew he’d just named my lovely, shiny friend.

A few minutes later, from a different wet spot, Keir lifted another moss with a fun common name: drowned kitten moss. The scientific name of this one is Sphagnum cuspidatum, he said. For me, the sphagnum part is easy to remember: they’re common in bogs and fens. They have a particular look about them, with a fuzzy head of compact leaves, and then a long stem with drooping leaves. When they are all packed together in a mat, they look quite soft and inviting.

Drowned kitten moss is the exception. They grow in the lowest, wettest spots and look as bedraggled as their name suggests, especially when you lift them out of the water. Sad as they may appear, this is their preferred habitat — their happy place, if you will — with just the right mix of water, acid, nutrients, sun and shade. Their dust-like, windborne spores allow them to grow in wet spots around the world. They are found in Great Britain, Norway, Sweden, Colombia and the Northeastern United States.

It took a while for the group to make our way back out of this Northern Wisconsin cedar swamp. Northern white cedars grow where cold, clean groundwater flows horizontally near the soil surface, and plants often create quite a thicket. The trees have the advantage of not needing to travel through their own tangled habitat. We all held up forearms to guard our eyes against sharp twigs; several people put a leg through a rotting log; others cautiously found different routes; and then there were the mosses, and flowers and shrubs, and spiders and bumblebees to distract us as well.

After supper, lovingly prepared by a team of Cable Natural History Museum volunteers, and served at the Gatehouse at the Forest Lodge Educational Campus where the course was based, we gathered in the Great Hall to look more closely at the moss samples collected from our field sites.

Keir used a razor blade to cut tiny slices of moss leaves, then placed them onto a microscope slide. Once he brought the specimen into focus, I removed the microscope’s eyepiece and replaced it with a tiny camera hooked up to my computer. Instantly, the delicate line of leaf cells Keir had been looking at popped up on the big screen at the front of the room. We gasped in awe at the delicate beauty.

A chain of clear, round cells was strung on a thread of green. The clear cells were dead, and their job was to soak up water. The green cells were full of chloroplasts, the photosynthesizing, sugar-producing organs of the mosses.

We oohed and aahed at the macramé-like patterns of moss cells illuminated on the screen. For one species, we zoomed in, then zoomed in again with the microscope — until we could see that the cell walls were lined with tiny protrusions, like goosebumps on your skin.

The interconnected mesh of moss cells was reminiscent of the bigger ecological web that these little beings inhabit. The glacial history shaped the landscape; our current cool, wet climate provides the water; and the cedar trees protect the mosses with their deep shade. Pools of water in between the cedars' roots shape an even smaller landscape and microclimate.

Sometimes, the mind-boggling diversity of our world makes my brain feel like drowned kitten moss: disheveled from and entrenched in nature's surroundings. More often, I feel like I've discovered a world glittering with uncountable pennies that some giant spilled across the landscape in a colossal bumble, sending the tiny treasures rolling into every nook, cranny, hummock, pool and inside every leaf of moss. Add up all these spilled pennies, and we find ourselves surrounded — by a wealth of wonder that we can barely stand.

Photos by Emily Stone.

What Are "Sustainable Magnetic Nanomaterials?"

Conventionally, "sustainability" is defined in terms of preserving and maintaining our natural resources. Recently, innovative technologies are developed to address sustainability in all walks of life. "Sustainable magnetic nanomaterials" is emerging field of chemistry with strong potential to address sustainability. Dr Bakshi's recent "Account" in high profile journal of American Chemical Society (Accounts of Materials Research) describes the synthesis, characterization, and applications of such nanomaterials. The focus of this "Account" is on the techniques developed in Dr Bakshi's research lab to address environmental sustainability in preserving clean water and biological sustainability in medical applications related to human health.

Dr Bakshi acknowledges WiSys, Research office of UW-Green Bay, and CSET's Dean office (Dr. Katers) for continuous financial support to perform research in this emerging field that helped in highlighting the visibility of UW-Green Bay at international level.

UW-Green Bay Students Find Endangered Mussel

Students from UW-Green Bay's Freshwater Collaborative High School Immersive Summer Program helped Wisconsin DNR staff to identify native mussels in Manitowoc County during a recent field survey. One mussel identified was the rainbow mussel, an endangered mussel in Wisconsin that had not ben previously found in Manitowoc County.

"This observation helps the DNR update the distribution mapping of the rainbow mussel throughout Wisconsin and is crucial for conservation efforts to help them better assess the health of streams where they occur."

Faculty Recognition/Achievements

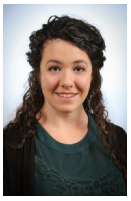
Congratulations to **Dan Meinhardt** for his artwork being featured in an exhibit on scientific illustration at the Ridges Sanctuary in Door County

Congratulations to **Taskia Ahammad Khan** for being selected as one of the Universities of Wisconsin Teaching Fellows and Scholars for the 2024-2025 school year.

Congratulations to **Rasedul Islam** and Cade Koschnik ('23 grad) for winning Best Paper Award at the 11th International Conference for Control, Dynamic Systems, and Robotics. Their winning paper is entitled "Dynamic analysis of a head-on sedan automobile collision."

Congratulations to **John Katers** for co-authoring an article in *IEEE IAS Industrial and Commercial Power System Asia* conference entitled "Environmental impact of lead-acid and lithium-ion battery waste management in Thailand."

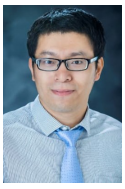




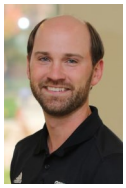
Congratulations to **Kiel Nikolakakis, Sara Wagner, and Jessica Warwick** on being promoted to Associate Teaching Professors.

Congratulations to **Dhanamalee Bandara, Stephan Gunn, Mark Norfleet, and Jian Zhang** on being promoted to Associate Professors.




Congratulations to **Upal Mahfuz and Julie Wondergem** on being promoted to full Professors.



Congratulations to **Chris Houghton** on being hired as an Assistant Professor of Biology.

Congratulations to **Gaoci Lo-Yang** and her husband Lue Yang on the recent addition to their family! Lucas Yang was born on May 18, 2024.

Congratulations to **Erin Berns-Herrboldt** and her husband Jon Herrboldt on the birth of their son, Maxwell Bruce Herrboldt, on September 2, 2024.

Congratulations to **Rasedul Islam** and his wife Fatima Tabassum Tasin on the birth of their son, Faizaan Bin Rashed, born on June 29, 2024.

Alumnus Bryan Lara Places 2nd in Student Poster Competition at American Arachnological Society

Environmental Science and Policy graduate student Bryan Lara won the First Runner-Up (2nd place) prize in the Student Poster Competition at the annual meeting of the American Arachnological Society in Chetumal, Mexico in June. The poster was entitled: Life cycle of the Nearctic Treetrunk Sheetweaver (Linyphiidae: *Drapetisca alteranda*).

Professor of Biology Michael Draney (Bryan's advisor) also presented a paper at the meeting call Brushing Aside Doubts: An evaluation of the beat-sheet brushing technique for detecting the Nearctic treetrunk sheetweaver (Araneae: Linyphiidae).

Both presentations were coauthored with Susquehanna University Biology Professor Matt Persons, Professor of Biology Patrick Forsythe and a number of undergraduate students from Forsythe's Environmental Science Capstone course (as well as undergraduate Mack Gore, who works in the Draney spider lab).

Student Contribute to Lake Sturgeon Conservation Research

By The Freshwater Collaborative of Wisconsin

Lake sturgeon first evolved around 200 million years ago, around the same time as the dinosaurs. This unique fish species once numbered more than two million. Fish biologists estimate about 3,000 adult fish exist in the Great Lakes proper today.

Wisconsin is an international leader in lake sturgeon conservation. With funding from the Freshwater Collaborative and supporting partners including the Fish and Wildlife Restoration Act and We Energies, Forsythe and students in his lab are looking at survival rates. Do juveniles in their first year of life survive the journey? If so, which routes do they take through the dams before entering the Bay of Green Bay?

“Because of the evolutionary history of lake sturgeon, and their cultural significance in the region, no one really wants to see the species at risk of extinction,” says Patrick Forsythe, an associate professor of biology at UW-Green Bay. He has studied lake sturgeon for about 20 years.

Lake sturgeon spawn in rivers, and their larvae need a long stretch of river to provide protective habitat for growth before they move into the bay and then Lake Michigan, where predators abound. The Menominee and Park Mill Dams, located about a mile upstream from Green Bay, restrict reproduction for lake sturgeon living in the bay.

Enter the Menomonee River Fish Passage Project, which allows adult lake sturgeon to access important spawning habitats upstream from the dams. Sturgeon swim into an “elevator” inside the Menominee Dam. They are then moved by truck upstream of the Park Mill Dam to reproduce further up the Menominee River. The adults and juveniles then journey back through several bypass routes in the dams and into the bay.

Using genetic techniques to determine parentage of recently produced larvae emerging from habitat downstream from the Grand Rapids Dam, Forsythe and his team have determined that nearly 90 percent of the fish passed upstream of the two lower dams —and those impeding access to historic spawning sites — reproduce successfully. That’s good news for conservation efforts, but it’s only on part of the equation.

Students are collecting larvae and raising them until they are large enough to surgically implant acoustic and PIT transmitters. The transmitters will track the fish as they move downstream. The collected data will inform whether river and dam management can improve survival rates of juveniles as they journey downstream. This knowledge could improve overall conservation efforts.

“This project gives students a lot of experiences,” he says. “My students are in a really good position to apply for graduate school or get their first job. I’m really proud of that.” The students routinely participate in planning sessions with working professionals, giving them networking opportunities and insight into the complexities of large collaborative projects.

Lauren Klawiter is an undergraduate working on the project. She gained so much experience last year that she snagged a summer internship with Colorado State University. She is working with the Environment for Management of Military Lands at Fort McCoy. “I will be using my skills from last summer and adding additional skills, which I am extremely excited for,” she says. “I have really enjoyed my experiences with fish. I hope to obtain a position working at a fishery or potentially with the DNR.”

In 2023, students helped collect and care for about 1,500 lake sturgeon. This summer, three new undergraduates and a graduate student joined the team to continue the research. The project is expected to wrap up at the end of 2025 when results will be submitted for publication.

Students Published in August Issue of Kalihwisaks Newspaper

Current UWGB undergraduate student Sarah Baughman and UWGB alumni Emily Swagel and Mabel Kirst wrote an article on the Oneida Bird Monitoring Program on page 12 of the Kaliwisaks newspaper, August 2024 issue.

“The Oneida Bird Monitoring Program is a partnership between Oneida Nation, UW-Green Bay’s Cofrin Center for Biodiversity, NEW Bird Alliance, and Audubon Great Lakes. We conduct bird surveys that are open to the public—all you need to bring along is yourself and interest in the Program! Knowledge of birds or Oneida culture is not required but is something you may leave with.”

UWGB graduate student Haley Spargur also published an article on anuran monitoring in the September 2024 issue of the Kalihwisaks (Oneida newspaper) on page 14. The article also features Haley’s incredible wood frog drawing.

“In collaboration with the Oneida Nation, UW-Green Bay’s Cofrin Center for Biodiversity, Audubon Great Lakes, and NEW Bird Alliance coordinate the volunteer Oneida Bird Monitoring Program on lands Oneida Nation has restored. In addition to birds, we are monitoring anuran (frog and toad) populations and activity within wetlands on the Oneida Nation for the first time this year!”

Dean Katers Attends US Navy Training Program

John Katers, Dean of the College of Science, Engineering, and Technology (CSET) was recently invited by the US Navy to participate in an Educator Orientation Visit (EOV) in San Diego, CA, as part of the Nuclear Propulsion Officer Candidate Program (NUPOC). This was only the third such EOV since COVID, with the eleven other participants in this EOV representing Cedarville University, Drexel, Old Dominion University, Tennessee-Chattanooga, the University of Houston, the University of Idaho, the University of Oklahoma, the University of Washington, Vanderbilt, and the Virginia Polytechnic Institute. During the EOV, Katers had the opportunity to tour the US Navy Training facility, the USS George Washington (aircraft carrier), and the USS Alexandria (Los Angeles class nuclear-powered attack submarine). The EOV culminated with an embark on the USS Louisiana (Ohio class nuclear-powered ballistic missile submarine) off the coast of San Diego, including a climb to periscope level outside the submarine while at sea and the opportunity to crawl inside a torpedo tube. The benefits available through NUPOC for qualified students are outstanding and this was a truly remarkable learning experience for all that participated.

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