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Spring 2017
Volume 1, Issue 1

College of Science and Technology Notes



UNIVERSITY of WISCONSIN
GREEN BAY

Dean's Message

by John Katers

Dean, College of Science and Technology

As the 2016-17 academic year nears completion, now is a great time to reflect on the first year of the College of Science and Technology (CST), which was created with the adoption of the four-college model at UW-Green Bay on July 1, 2016. When I interviewed for the position as Dean of the College of Science and Technology, I stated that the focus of the College of Science and Technology under my leadership would be on **people**, **programs**, and **partnerships**. I am happy to report that we are making tremendous progress in all three areas.

Our **people** (faculty, staff, and students) are doing amazing work in the classroom, research laboratories and the community. We have been able to add talented new faculty to the accomplished faculty already on campus. The number of declared majors in the College of Science and Technology has increased rapidly, led by growth in engineering technology and human biology. These types of innovative **programs** provide career opportunities for our students after graduation and we continue to add new emphases and programs, like the Master of Science in Athletic Training. We are also working diligently on a proposed Bachelor of Science in Mechanical Engineering, which would be a game-changer for Northeast Wisconsin. These types of programs and the success of the College of Science and Technology are not possible without **partnerships**. Many public and private community partners have been actively engaged in discussion on mechanical engineering and the STEM Innovation Center that would house the program. We also continue to have a strong partnership with the Medical College of Wisconsin-Green Bay, where faculty in human biology provide direct instruction. Finally, through the generous contributions of our community partners, we have been able to add new scholarships for students in the College of Science and Technology, which are critical to their success.

I hope you take the opportunity to review this newsletter, as it provides just a small offering of activities taking place in the College of Science and Technology – a great first year!

College of Science and Technology Welcomes New Athletic Training Program

The UW System Board of Regents authorized a Master of Science in Athletic Training (MSAT) at their December meeting. The specialized degree provides a unique opportunity for the University and those living in the "sports rich" area of Northeast Wisconsin to meet the national and regional demand for certified athletic trainers. While the program is still in the early stages of development, UWGB will be seeking two new hires (a program director and coordinator of clinical education) who will be responsible for the leadership of the MSAT Commission on Accreditation of Athletic Training Education-accredited program.

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Upcoming Events

- **4/26/17** - Tri-Beta (Biological Honor Society) fundraising event for the Make-A-Wish Foundation, Buffalo Wild Wings, Bellevue
- **4/27/17** - Actuarial Careers Seminar, Environmental Science, Room 316 - 2 pm to 3:30 pm
- **5/10/17** - Solar Olympics, Kress Center - 9 am to 1 pm



Natural and Applied Sciences 2017 Scholarship Recipients

College of Science and Technology Scholarship Receptions

Natural and Applied Science held their scholarship reception on Friday, January 23 to honor the top UW-Green Bay science scholars. More than **\$38,800** in scholarship funding was presented to **37 recipients** who were recognized for high grades, outstanding scholarship, innovative research and overall academic excellence.

The College of Science and Technology held a scholarship reception on Thursday, March 30 from 4 to 6 pm at the Weidner Center, presenting

more than **\$139,000** in scholarship funding to students in Human Biology, Chemistry, Math, Biology, Environmental Science, Dietetics and Engineering Technology.

Beginning next year, the College of Science and Technology Scholarship reception will include scholarship recipients from all departments within the College of Science and Technology and will be held in the spring of each year.

"The science of today is the technology of tomorrow." Edward Teller

Natural and Applied Sciences Spring Seminar Series Schedule

The Natural and Applied Science Spring 2017 Seminar Series began on February 3rd. NAS seminars are held from 3:30 to 4:30 pm in Environmental Services, Room 301 and are preceded by a social in Room 317 from 3 pm to 3:30 pm. **Seminars are free and open to the public.**

John Arendt Leads Environmental Management and Business Institute

John Arendt was promoted to Director of UW-Green Bay's Environmental Management and Business Institute (EMBI) in July 2016. He is now responsible for seeking and developing relationships within the New North region of Wisconsin. In addition to providing outreach and services to businesses and agencies that seek options for addressing environmental problems, he enlists students to participate in campus/community collaborations and serves as the supervisor for many sustainability-related internships.

Date	Speaker	Title/Topic
February 3	Kirti Yenkie , Post-doctoral researcher, Dept. of Chemical and Biological Engineering, UW-Madison. Dr. Yenkie's presentation is part of the UW-System Women and Science Postdoctoral Seminar Program	Separation Networks for Recovery of Bio-Based Chemicals: A Roadmap for Matching Biological and Process Feasibility
February 17	Mandeep Bakshi , Chemistry Lecturer, Natural and Applied Sciences, UW-Green Bay	Biomining of Sustainable Biomaterials: Biological Applications and Nanotoxicity
March 3	John Luczaj , Geoscience Professor, Natural and Applied Sciences, UW-Green Bay	Aquifer Drawdown and Recovery in the Northeast Groundwater Management Area
March 24	Marc Anderson , Former Prof. and Chair Env. Chemistry & Tech. Program, UW-Madison Director of Energy Storage Division, Imdea Energia, Madrid, Spain	Building a Better Environment by Doing Things Porely
April 7	Toni Glymph-Martin	Microbes and Wastewater Treatment
April 21	Bill Tracey , Professor of Agronomy, UW Madison, Cliff Bar and Organic Valley Endowed Chair in Plant Breeding for Organic Agriculture	Plant Breeding for Organic Agriculture: A Complementary Approach



UW-Green Bay Professors Patricia Terry and Ryan Holzem, in collaboration with NEW Water, helped area Girl Scouts with “Wonders of Water” Badge Day. More than 75 Girl Scouts earned their water badges with highly-interactive activities on Saturday, November 6, 2016 at the University’s College of Science and Technology.

\$530,000+ of Grants at Work

- **John Katers and Mike Zorn** were one of only eight higher education institutions selected to receive a **\$25,000** grant from the **100,000 Strong in the Americas** program to study water issues in Chile along with 12 UW-Green Bay students. (See [2017 Travel Courses](#) in this issue for more information.)
- **UW-Green Bay’s Dietetics** program was one of five nutrition programs nationwide selected to receive a supermarket tour training grant from the **Produce for Better Health Foundation** which will allow up to eight upper level nutrition students the opportunity to receive training and mentorship from a grocery store dietitian. Students will then conduct their own grocery store tours, educating community members on the benefits of consuming fruits and vegetables and practical strategies to include more fruits and vegetables in the diet.
- **University of Wisconsin-Green Bay** will take the lead on a **\$508,000** grant for one of the first large-scale attempts to directly link in-field soil health parameters with intensive edge-of-field water quality monitoring across the Great Lakes Basin. The results of this work will provide direct management recommendations for improving the health and quality of the Great Lakes. UW-Green Bay **Professor Kevin Fermanich (Natural and Applied Sciences)** and **Associate Vice Chancellor for Academic Affairs Mathew Dornbush (Natural and Applied Sciences)** will lead the project as part of the Cooperative Ecosystem Studies Units (CESU) Network.

Welcome New Faculty



Md Maruf Hossain
Assistant Professor
Engineering Technology
PhD: University of Memphis



Karen Stahlheber
Assistant Professor
Biology
PhD: University of California
Santa Barbara



Georgette Heyrman
Assistant Professor
Human Biology, Biochemistry
PhD: University of Illinois

New Faculty (Continued)



Saeid Amiri
Assistant Professor
Statistics, NAS
PhD: Uppsala University, Sweden



Carly Kibbe
Assistant Professor
Human Biology, Endocrinology
PhD: UW-Madison



Jagadeep Thota
Assistant Professor
Engineering Technology
PhD: University of Nevada

Faculty Recognition/Achievements

Assistant Professor Md Upal Mahfuz of the Natural and Applied Sciences Engineering Technology program was named the Secretary of the Institute of Electrical and Electronics Engineers (IEEE) Emerging Technical Subcommittee on Nanoscale, Molecular & Quantum Networking within the IEEE Communications Society. The subcommittee focuses on nanoscale communication systems. Mahfuz's principal area of research is molecular communication systems.

Assistant Professor David Yan (Mechanical Engineering Technology) co-organized the Friction Stir Welding and Processing (FSW&P) IX Symposium of the TMS 2017, which took place in San Diego, California, from Feb. 26 to March 7, 2017. The FSW&P Symposium is one of the only two international conferences dedicated to the advanced solid state joining process of friction stir welding technology.

In a news release last summer, the U.S. Forest Service praised the work of **Professor Bob Howe**, Director of UW-Green Bay Cofrin Center for Biodiversity, and his research collaborators. The release describes recently published results from the Nicolet National Bird Survey (NNBS) and parallel studies in other western Great Lakes national forests. For more than 25 years, an estimated 700 birders, including more than 150 UW-Green Bay students, staff, alumni and their families, have volunteered their time or worked as paid field researchers to inventory bird species for the NNBS. The most recent report will serve as a useful reference for forest managers identifying how species respond to forest management and what species need attention. Two former UW-Green Bay students, Erin Giese (now Cofrin Center for Biodiversity Data Manager) and Nicholas Walton, are among the co-authors. See the full news release here: <http://www.nrs.fs.fed.us/news/release/Great-Lakes-Birds/>

Assistant Professor of Applied Mathematics Tetyana Malysheva has been selected by the Mathematical Association of America (MAA) to be a Project NExT Fellow for the 2016-2017 academic year. Project NExT, which stands for New Experiences in Teaching, is a prestigious

professional development program for new or recent Ph.D.s in the mathematical sciences. NExT is focused on providing new, effective and innovative approaches to teaching mathematics. The program involves attending intensive workshops and special sessions at the MAA annual national mathematics conferences MathFest and the Joint Mathematics Meeting, the largest annual mathematics meeting in the world.

Richter Museum Curator Tom Erdman received a surprise special recognition from the Wisconsin Department of Natural Resources Bureau of Natural Heritage Conservation (NHC) for more than 50 years of contributions to the conservation of birds in Northeast Wisconsin. Erdman has spent more than four decades conducting research on mammals, reptiles and amphibians in Northeast Wisconsin. Birds, however, have been the main focus of his career.

Steve Meyer (Natural and Applied Sciences) was awarded the University Award for Excellence in Institutional Development. Meyer's "institutional commitment, attitude and character" have provided leadership and knowledge to a range of committees or activities that serve the institution on either the local or UW System-wide level. He is one of the most active and visible faculty members on campus through his extensive involvement in student-focused activities, as well as his participation in faculty governance. One colleague put it simply; (Steve Meyer) "brings to life the notion of Phoenix Family." His contributions in student engagement include academic advisor for environmental science students, chairman of the NAS Scholarship Committee, University Leadership Awards Committee, Advising Task Force, Invent the Future Enrollment Working Group and Co-Director of the FOCUS program.



Faculty Publications

Assistant Professor Md Upal Mahfuz (Electrical Engineering Technology, NAS) had his paper "Achievable Strength-Based Signal Detection in Quantity-Constrained PAM OOK Concentration-Encoded Molecular Communication" accepted for publication in the *IEEE Transactions on Nanobioscience Journal* in November, 2016.

Assistant Professor Md Maruf Hossain (Electrical Engineering Technology, NAS) recently co-authored a paper with undergraduate students from Bangladesh titled, "Grid Frequency Estimation Using Rife-Vincent Class I Window Based Discrete Fourier Transform." It was presented during the Institute of Electrical and Electronics Engineers' International Women in Engineering Conference in Pune, India, Dec. 19-21. He is also the co-author of a second paper, "Three-Phase Phase-Locked Loop for Grid Voltage Phase Estimation under Unbalanced and Distorted Conditions," which was accepted for presentation in the Power and Energy Conference in Champaign, Illinois Feb. 23-24, 2017.

Assistant Professor Megan J. Olson Hunt (Statistics, NAS) recently had a paper, "The Effect of Direction Specific Thoracic Spine Manipulation on the Cervical Spine", co-authored with national and international colleagues, accepted for publication in the *Journal of Manual & Manipulative Therapy*. Mixed models were used to analyze repeated measures data in order to compare two therapies aimed at reducing neck pain and disability via manipulation of the thoracic spine.

Professor Michael Draney (Biology, NAS) has published two articles produced during his 2015-16 sabbatical, in the journal *Southeastern Naturalist*. He co-authored "Harvestmen (Opiliones) of the Savannah River Site, South Carolina" with Jeffrey Shultz of the University of Maryland, a world authority on Harvestmen. He co-authored "New Records Extend the Known Range of Calymmaria Persica (Hentz) (Araneae, Hahniidae)" with Pat Miller from the Mississippi Entomological Museum at Mississippi State University.

Assistant Professor David Yan (Mechanical Engineering Technology, NAS) recently had an original research paper selected for publication by the FSW&P IX Symposium, entitled "Flow Features in Shoulder Zone during Scroll Tool Friction Stir Welding Thick 6061 Aluminum Plates."

Associate Professor Franklin M. Chen (Chemistry, NAS), published "Modular Approach to Introduce Multivariate Calculus in Thermodynamics Class" in 2016 in the *Journal of Chinese Chemical Society*.

Lecturer Mandeep Singh Bakshi (Chemistry, NAS) published two recent research articles in "*ACS Sustainable Chemistry & Engineering*." The work highlights the bio-mineralization and sustainability of bio-functional nanomaterials with applications as drug delivery vehicles in systemic circulation. Future pharmaceutical formulations based on bio-nanomaterials will provide effective tools to deal with the critical illnesses in comparison to the conventional time consuming and highly expensive medical procedures. pH Responsive Bioactive Lead Sulfide Nanomaterials: Protein Induced Morphology Control, Bioapplicability, and Bioextraction of Nanomaterials.



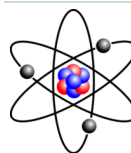
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Engineering in Action!

Assistant Professors Mahfuz and Hossain Lead Group on WBAY Tour

A group of students from the Engineering Technology Program led by Assistant Professors Upal Mahfuz and Md Maruf Hossain (Electrical Engineering Technology) visited WBAY-TV on February 9, 2017. The trip was organized by the Institute of Electrical and Electronics Engineers (IEEE) Northeastern Wisconsin Chapter. Students learned the internal workings of a TV broadcast station followed by a dinner, tour and networking opportunity with engineers from various companies of Northeast Wisconsin. WBAY provides news, weather, traffic reports, sports and entertainment to the Green Bay, Appleton and Oshkosh areas.



*"Think like a proton
and stay positive."*

Laura Rowell - New Dietetics Internship Director

Laura was hired as the new Dietetics Internship Director in August 2016. She has an MBA from Cardinal Stritch University. Laura is responsible for the day-to-day implementation of the dietetics internship program.

Dietetics Receives Continuing Accreditation

UW-Green Bay's Dietetics undergraduate program and the Dietetics internship program received word of continued accreditation through Dec. 31, 2021. The Accreditation Council for Education in Nutrition and Dietetics (ACEND®) Board gave its approval at its January 2017 meeting. Both the undergraduate program and internship program continue to provide high quality and continued improvement in their nutrition and dietetics education programs, respectively. The recognition affirms that the University meets the ACEND® national standards and abides by a strong code of good practice to serve and protect both students and the public.

Program organizers say they are proud to be able to continue these successful and long-standing programs within UW-Green Bay Human Biology.



"Somewhere, something incredible is waiting to be known." Carl Sagan

Faculty Appointments

Kevin Fermanich was reappointed for an additional 1-year term as the Chair of Geoscience through the summer of 2017.

Patrick Forsythe was appointed as the Chair of Environmental Science and Policy for a 3-year term, 2016-2019.

Woo Jeon was reappointed as the Chair of Mathematics for a 3-year term, 2016-2019.

James Marker was reappointed as the Chair of Human Biology for a 3-year term, 2017-2020.

Brian Merkel was reappointed as the Vice-Chair of Human Biology for a 3-year term, 2017-2020.

Amy Wolf was reappointed as the Chair of Biology for another 3-year term, 2017-2020.

2017 Travel Courses

Whispering from Beyond - Germany and Poland - May 24 to June 5, 2017 (Nelson, Pott)

This course addresses issues underlying the use of humans in teaching and research environments. The emphasis of the course will be a 4-day hands-on workshop on anatomical dissection and preservation through the process of plastination. The workshop will be held at the Plastinarium in Guben, Germany, an anatomical learning center, the only one of its kind in the world. This program is open to UW-Green Bay students, non-UW-Green Bay students, staff, faculty and community members. For more information, go to www.uwgb.edu/international/studyabroad/destinations.

Chile - Sustainability and Water Resources - August 8 to August 21, 2017 (Katers, Zorn)

This travel course will address business and sustainability issues through lectures, industrial tours, and cultural tours, with a focus on water resources. Lectures will be provided by faculty and staff from the Universidad del Desarrollo and includes topics such as Sustainability Issues in the Americas, Mining and Geology in Chile, Logistics in Latin America, Applied Innovation and Structural Engineering, Earthquakes and Disasters. Cultural tours will include downtown Santiago, the Port of Valparaiso, Vina Del Mar, and Chillan. Industrial tours will include the Chagres Foundry, the Vina Ventisquero, the Port of Ventanas, and the Petrox Refinery. For more information, go to www.uwgb.edu/international/studyabroad/destinations.





2016 Nutritional Science graduate, Andrew Becker, now enrolled in Biomedical Science, performing research at the Medical College of Wisconsin - Milwaukee campus.

Meet Dr. Patrick Forsythe

I am currently an Associate Professor of Biology here at UW-Green Bay where I am the principle investigator for the Aquatic Ecology and Fisheries Laboratory. My laboratory works on a wide range of research topics with emphasis on reproductive ecology across numerous fish species including northern pike, lake whitefish, yellow perch, lake sturgeon and bowfin. Students working in my lab are currently pursuing questions related to the reproductive and ecological dynamics of resident and migratory fish species that use the many tributaries and open waters of Green Bay for nursery and foraging. We have also been working to employ state-of-the-art techniques that can effectively disentangle the complicated aspects of aquatic food webs, especially in or around coastal wetlands.



Governor Pledges Funding for STEM Center

Wisconsin Gov. Scott Walker pledged \$5 million in state funding for a Brown County STEM Innovation Center on or near campus, which could create countless possibilities for new science and technology partnerships between campus and community. Pursuing a combined \$10 million in county and private funding are the next orders of business for the proposed 55,000 square foot building that will help attract local grade schoolers interested in science careers, house a mechanical engineering program and provide space for UW-Green Bay professors to research ideas that could eventually fuel high-tech businesses.

High-Altitude Balloon Program

Wisconsin Space Grant Consortium (WSGC) solicited applications through February 20, for students interested in space science and engineering for: (i) a payload team, to design and build a balloon science payload; or (ii) a launch team, to conduct balloon flights. Selected students will receive a stipend (\$3,000 or \$4,000) for summer work on either team. [See more.](#) UW-Green Bay's WSGC representative is Brian Welsch. He can be contacted at welschb@uwgb.edu.



Medical College of Wisconsin

The Medical College of Wisconsin expanded to Green Bay and began offering an accelerated three-year medical school curriculum in 2015. While many lectures are delivered live from Milwaukee via an online platform, faculty from UW-Green Bay deliver significant face-to-face components of the curriculum locally on the St. Norbert College campus. UW-Green Bay faculty provide over 100 hours of instruction in the MCW-Green Bay curriculum each calendar year. Human Biology faculty teach clinical human anatomy labs, nutrition-focused workshops and parasitology lectures. In addition, leading physicians partner with UW-Green Bay faculty to direct case-based discussions, which allow students to integrate basic science with clinical medicine.

Matthew Hunsaker, Dean of the MCW-Green Bay Campus, noted "Fifty-five medical students are now enrolled at MCW-Green Bay. This summer will be a time to celebrate as the campus achieves full enrollment of first-, second-, and third-year medical students."

Julia Shariff, '15 UW-Green Bay (Human Biology), is currently a second-year medical student in the program. Matthew Torbenson and Angela Smet have been accepted into the MCW-Green Bay program to begin this summer. Matt, a Lakeland College graduate, returned to school and completed his medical school prerequisite courses at UW-Green Bay from 2015-2016. Angie, a first generation college student, will complete her degree in Human Biology and graduate from UW-Green Bay this spring.

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\$200,000 Investment in Science and Technology

Six new projects were approved in the amount of **\$200,000** that will allow the College of Science and Technology to invest in equipment and activities that will focus on student recruitment and retention, which is a priority for the College of Science and Technology and the entire University.

The following faculty members had proposals of their projects accepted for funding:

- Md Maruf Hossain - Automation Laboratory Setup
- Georgette Heyrman - FluorChem Western Blot and Gel Imager System
- Brian Merkel - Microbiology Emphasis
- Amanda Nelson - Student to Student Recruitment
- Karen Stahlheber - Principles of Biology Student Success
- Patricia Terry - Digital Camera for High Impact Student Experiences



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