



11th Annual

WSTS



July 30-31, 2018

UW-Parkside



WELCOME TO WSTS 2018

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WSTS AT A GLANCE

MONDAY JULY 30

**All sessions take place in the University Ballroom, unless otherwise noted*

8:00-9:00am Registration & Breakfast Networking Breakfasts: WSTS First Timers - Poplar Room Women in Science - Spruce Room Student Researchers & Innovators - Hickory Room	1:10-2:30pm WiSys Quick Pitch State Final Cinema Chelsea Buchanan, UW-Platteville Kaitlyn Bruggentheis & Josie Zimmer, UW-Eau Claire Nicole Cuba, UW-Parkside Rachel Harris, UW-River Falls Sydney Kloster, UW-Superior Elizabeth Laskowski, UW-Eau Claire Montana Lins & Rebecca Storlie, UW-River Falls Chelsea Snowden-Smith, UW-Parkside Sura-attha Umasangtongkul, UW-Whitewater Allison Welter, UW-Eau Claire Melanie Zens, UW-Eau Claire
9:00-10:00am Welcome & Keynote Arjun Sanga, WiSys Ray Cross, UW System Chancellor Deborah Ford, UW-Parkside Dr. Thomas Krummel, Stanford University	2:30-3:00pm Networking Break & Refreshments Lower Main Place, Wyllie Hall
10:00-10:45am Women in Science Session Francis Mann, UW-Parkside Elizabeth Glogowski, UW-Eau Claire Hanwan Jiang, UW-Platteville	3:00-5:00pm Poster Symposium & Innovation Showcase Lower Main Place, Wyllie Hall
10:45-11:00am Networking Break & Refreshments	5:00-5:30pm Networking Reception Lower Main Place, Wyllie Hall
11:00-12:00pm Student Innovator Session Cassie Van Hoof, UW-Parkside Sam Hunt, UW-Green Bay Caleb Dykema, UW-Platteville Hamilton Ngo & Jacob Scheff, UW Oshkosh	5:30-7:30pm Banquet & Awards Ceremony <i>Sponsored by Wisconsin Economic Development Corp</i> Upper Main Place, Wyllie Hall
12:00-1:00pm Lunch <i>Sponsored by Boyle Fredrickson</i>	7:45-12:00am STEM Under the Stars optional event <i>Sponsored by Northwestern Mutual</i> Yerkes Observatory, Williams Bay, WI <i>*Bus leaves the Student Center promptly at 8pm</i>

TUESDAY JULY 31

8:00-9:00am Breakfast & Networking	12:00-1:00pm Lunch & Day 2 Keynote Alan Yeung, Foxconn
9:00-9:30am WiSys Update Arjun Sanga, WiSys	1:00-2:00pm WiSys Grant Recipients Session Yijun Tang, UW Oshkosh Seth King, UW-La Crosse Ken Webb, UW-Green Bay Lynn Gilbertson, UW-Whitewater
9:30-10:45am Parallel Sessions: FACULTY TRACK - FACULTY OPEN MIC University Ballroom	2:00-2:30pm Closing Remarks Provost Robert Ducoffe, UW-Parkside
STUDENT TRACK - CAREER PANEL Molinaro Hall 105 Aaron Hagar, WEDC Matt Corr, Boyle Fredrickson Tracy Davidson, UW System H. Adam Steinberg, artforscience	2:30pm Optional Tours: UW-Parkside App Factory SC Johnson Integrated Science Laboratory Digital Design & Fabrication Lab <i>*Sign up at Registration Desk</i>
10:45-11:00am Networking Break & Refreshments	
11:00-12:00pm CleanTech Accelerator Session Maruf Hossain, UW-Green Bay Pawel Olszewski, UW Oshkosh	

Follow along on social media!

Interact with WiSys through Twitter or Facebook and you will be entered into a drawing for a \$25 Amazon giftcard. Use #WSTS2018 to be eligible.

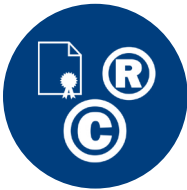
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Research and technology development are vital to the economic growth of Wisconsin. To encourage interdisciplinary research, innovation and entrepreneurship throughout Wisconsin, WiSys and UW-Parkside have jointly organized the 11th annual WSTS to bring together innovative researchers and students from the University of Wisconsin System and other public and private organizations.

It is our hope that this symposium will provide the opportunity for critical networking and the formation of partnerships to help further the Wisconsin Idea.

WHAT TO EXPECT



gain IP knowledge

create meaningful connections



grow entrepreneurial insight

spark new ideas



Information

For information and answers to any questions you may have, please visit the WSTS registration desk.

Name Badge

Please wear your name badge at all times to ensure admission to all presentations and meals.

Parking Information

Parking at UW-Parkside is available in Parking Lot A outside of the Student Center. Please do not park in metered or reserved spots.

Transportation

For those who signed up for transportation to the STEM Under the Stars event, please board the buses at 7:45pm in front of the Student Center. Buses will leave promptly at 8:00pm.

Wi-Fi & Internet Access

Wireless Internet access is available throughout WSTS 2018.
NETWORK: UWP-Wireless and UWP-ResNet
USERNAME: Res-sdn342
PASSWORD: 2n6bgx
Please see the registration desk with any issues.

Meals

Beverages and various snacks will be available throughout the conference.

Cell Phones

Please silence your cell phone while inside the presentation hall.

Sponsor Booths, Poster Symposium & Innovation Showcase

Sponsor and poster exhibits will be on display throughout Monday and Tuesday. The main poster session is Monday afternoon. This year, we will also feature innovative prototypes, apps, games and other creative projects from around the UW System alongside the Poster Symposium.

Presentations

Certain presentations and other materials from the symposium may be available on the WiSys Web page after the event: www.wisys.org/events.



Innovation and the Wisconsin Idea

A digital series co-authored by leaders from **across Wisconsin**, hosted by **WARF**

Visit warf.org/WisconsinInnovates or share feedback at WisconsinIdea@warf.org.

ARTICLES

INNOVATION, JOBS AND THE WISCONSIN IDEA

Erik Iverson, Managing Director of WARF

RENEWING THE WISCONSIN IDEA

Governor Tommy G. Thompson and Professor Mike Sussman

ON THE SHOULDERS OF GIANTS: INNOVATION AND THE WISCONSIN IDEA THE OLD-FASHIONED WAY

Professor Dan Ludois and Cecil Edirisinghe, CEO of Velicon

UW/INDUSTRY PARTNERSHIPS YIELD BETTER SOLUTIONS

Chris Salm, CEO of Ab E Discovery, and Dean Kate VandenBosch

FROM LAB TO BEDSIDE, THE WISCONSIN IDEA IS ALL FOR THE GOOD OF THE PATIENTS

Dr. Alan Kaplan, CEO of UW Health, and Dr. Susan Turney, CEO of Marshfield Clinic

NOTHING VENTURED, NOTHING GAINED: INVESTING IN WISCONSIN INNOVATION

John Neis, Executive Managing Director of Venture Investors, and Cory Nettles, Founder and Managing Director of Generation Growth Capital Inc.

HOW UNIVERSITY INNOVATIONS CHANGE THE WORLD

Dean Ian Robertson and Greg Piefer, CEO of SHINE Medical Technologies

TAPPING INTO THE CREATIVITY OF OUR STUDENTS FOR THE GOOD OF WISCONSIN: CONTRIBUTIONS TO THE WISCONSIN IDEA ACROSS GENERATIONS

Arjun Sanga, President of WiSys, and Zach Halmstad, Co-Founder of Jamf

INNOVATION FOR THE PUBLIC GOOD: HOW THE WISCONSIN IDEA MAKES PEOPLE HEALTHIER

State Senator Luther Olsen and Dean Robert Golden

THE WISCONSIN IDEA AND REGIONAL ECONOMIES: APPLES FALLING FROM MANY TREES

Chancellor Dean Van Galen and Tom Still, President of the Wisconsin Technology Council

PROPER POLICY AND STRATEGY HONORS THE WISCONSIN IDEA – INVESTING IN INNOVATION

State Senator Alberta Darling and Rock Mackie, Professor and Entrepreneur

SEEKING BEGINS WITH AN IDEA

Zach Brandon, President of the Greater Madison Chamber of Commerce, and Tim Sheehy, President of the Metropolitan Milwaukee Association of Commerce

HOW ALUMNI CAN CARRY THE WISCONSIN IDEA FORWARD

Mike Knetter, President of the University of Wisconsin Foundation



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AGENDA & SPEAKER INFO

Each presenter over the duration of WSTS 2018 was hand-selected by WiSys to provide exposure to the extensive research, innovation and resources available across the Badger state.

Read on for a detailed schedule of events and to learn more about each presenter.

AGENDA

MONDAY JULY 30

8:00 - 9:00am Registration & Breakfast

New this year, WSTS will offer additional networking opportunities for WSTS first timers, women in science and students. If you would like to take part, please feel free to grab your breakfast outside the University Ballroom and make your way to any of the following sessions:

WSTS FIRST TIMERS - Poplar Room

WOMEN IN SCIENCE - Spruce Room

STUDENT RESEARCHERS & INNOVATORS - Hickory Room

If you prefer not to attend a dedicated networking breakfast, feel free to join others in the University Ballroom.

9:00 - 10:00am Welcome & Keynote

Arjun Sanga, President, WiSys

Arjun Sanga leads the WiSys team in supporting the creation and transfer of innovation from the UW System to the marketplace. Sanga has over 23 years of experience facilitating research collaboration, managing intellectual property and negotiating deals. He currently serves on the Wisconsin Technology Council Board, the Wisconsin Academy of Sciences, Arts & Letters Foundation Board and APLU's Commission on Innovation, Competitiveness & Economic Prosperity Advisory Board.



Ray Cross, President, UW System

Dr. Ray Cross is the seventh president of the University of Wisconsin System, which is one of the largest public higher education systems in the country. It serves approximately 170,000 students each year and employs more than 39,000 faculty and staff statewide. Prior to serving as UW System President, Dr. Cross [Ray] served as Chancellor of UW Colleges and UW-Extension for three years, as well as Morrisville State College President in New York and President of Northwest Technical College in Minnesota. Ray also has experience in the private sector as a design engineer and small-business owner.



Deborah Ford, Chancellor, UW-Parkside

Dr. Deborah Ford has served as the sixth chancellor of the University of Wisconsin-Parkside since 2009, leading the campus with the development of strategic integrated planning. Dr. Ford serves on the Froedtert Health Board of Directors and is actively involved with the Kenosha Area Business Alliance (KABA), Racine County Economic Development Corporation (RCEDC), Racine Area Manufacturers and Commerce (RAMAC), the Kenosha Area Chamber of Commerce, and Milwaukee 7. Dr. Ford holds a B.S. from the University of Louisville, a Master of Education from Indiana University, and a Doctor of Education from the University of Louisville.



Dr. Thomas Krummel, Stanford University

THE BEST WAY TO PREDICT THE FUTURE... IS TO INVENT IT!

Over a 35-year career, Dr. Thomas Krummel has served roles as a busy surgeon, investigator, teacher and innovator. He has served in numerous leadership positions in many of the important surgical societies including the American College of Surgeons (ACS), the American Surgical Association (ASA), the American Board of Surgery (ABS), the American Board of Plastic Surgery, and was the President of the American Pediatric Surgical Association (APSA) for 2013-2014. Dr. Krummel has lectured throughout the world, is author or co-author of over 300 publications, chapters, abstracts and books and he has mentored over 300 students, residents and post docs.



Tom is a graduate of the University of Wisconsin-Parkside (B.S. - 1973) and the Medical College of Wisconsin (M.D. - 1977).

Throughout his career, Dr. Krummel has been a medtech pioneer.

While just a surgical resident, he formed what was then the world's second ECMO team. The success of that team served as a major impetus to more widespread adoption of this now well-established technique.

Over the last 20 years, Dr. Krummel has been a pioneer in the application of information technology to simulation-based surgical training and surgical robotics. For his work in this area and in surgical robotics, he has received two ComputerWorld Smithsonian Awards.

For more than 15 years, he has partnered with Dr. Paul Yock to co-direct the Stanford Byers Center for Biodesign. This program is designed to teach the invention and implementation of new surgical technologies through interdisciplinary research and education at the emerging frontiers of engineering and the biomedical sciences. There are now 18 similar programs on 3 continents and 215 graduates.



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10:00 - 10:45am Women in Science

This special session will spotlight female faculty doing important research across the UW System.

Moderator: Jennifer Gottwald, WARF

Jennifer Gottwald is a Senior Licensing Manager at the Wisconsin Alumni Research Foundation (WARF), where she is responsible for the licensing of a portfolio of life science research tool and biotechnology intellectual properties, including green technologies. She also leads the WARF Clean Technologies Accelerator group. She is a Certified Licensing Professional and Patent Agent. She received a B.S. in Botany and German Literature, and a Ph.D. in Plant Molecular Biology, from UW-Madison. She is a founder and active in the Association of University Technology Managers (AUTM) Women Inventors Committee.



Francis Mann, UW-Parkside

FROM WASTE TO WEALTH: HIGH-VALUE COMPOUNDS FROM AGRICULTURAL BYPRODUCT

Francis M. Mann, Ph.D. is an Assistant Professor of Chemistry at UW-Parkside. She received her Ph.D. in Biochemistry from Iowa State University where she characterized the biosynthetic pathway for an immunomodulatory natural product secreted by *M. tuberculosis* and was subsequently awarded a patent for applications of that biomolecule in biotechnology. She continues to work on microbial biosynthesis and biotransformation of natural products, and she is currently the recipient of AR-WiTAG funding for development of a novel method for using microbes to facilitate natural product extraction from Wisconsin-based fruit industry waste.



Elizabeth Glogowski, UW-Eau Claire

STIMULI-RESPONSIVE SURFACTANTS AND DISPERSANTS

Dr. Glogowski is an Associate Professor in Materials Science at UW-Eau Claire. Her research program with undergraduates is focused on synthesizing and characterizing stimuli-responsive polymers. These materials act as stimuli-responsive surfactants and dispersants for applications ranging from drug delivery to enhanced oil recovery. Dr. Glogowski recently was awarded AR-WiTAG funding to determine the feasibility of these stimuli-responsive dispersants for architectural coatings. Dr. Glogowski completed her B.S. in Chemistry at Carnegie Mellon University, her Ph.D. in Polymer Science & Engineering at the University of Massachusetts at Amherst, and a post-doctoral research position at the University of Illinois at Urbana-Champaign before beginning her independent career at UW-Eau Claire.



Hanwan Jiang, UW-Platteville

CRACKING DETECTION & STRESS EVALUATION FOR CONCRETE STRUCTURES

Dr. Hanwan Jiang is an assistant professor of Civil Engineering at UW-Platteville. Dr. Jiang earned her Ph.D. in Civil Engineering from New Mexico State University, her Master of Science and her Bachelor of Science in Civil Engineering from the Chang'an University in China. Prior to joining UW-Platteville, she worked as an associate professor and senior bridge engineer at the Research Institute of Highway, Ministry of Transport in China. Dr. Jiang's research interests include non-destructive evaluation of concrete structures, bridge load rating and safety evaluation, bridge retrofit design and long term performance of bridges. She is currently conducting research on characterization and imaging of interior cracks and stress distribution for real size concrete structures using diffuse ultrasound.



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11:00 - 12:00pm Student Innovators

Moderator: Tom Still, WI Tech Council

Tom Still is president of the Wisconsin Technology Council. The Tech Council is the non-profit, bipartisan science and technology policy advisory board to the governor and the Legislature. Its programs include the Tech Council Investor Networks, the Tech Council Innovation Network, the Governor's Business Plan Contest and regular events that connect entrepreneurs, investors, researchers and others with a stake in the tech-based economy. Still serves on the Governor's Council on Workforce Investment, the UW System Business Council, the Badger Fund of Funds Limited Partners Advisory Committee, the Governor's Special Committee on Autonomous and Connected Vehicles, and advisory groups for the UW-Madison College of Engineering, the UW-Madison Department of Computer Sciences and WiSys, among other civic and business groups. He is the former associate editor of the Wisconsin State Journal in Madison. Still writes a syndicated column that appears regularly in more than two-dozen publications.



Cassie Van Hoof, UW-Parkside

EFOXEN LLC.

Cassie Van Hoof is the CEO of Efoxen LLC. She is in her third year at UW-Parkside completing a Bachelors of Biological Sciences degree. Her current research focus is on the effects of botanical extracts on feline behavior. More specifically the research focuses on what plants can redirect feline aggression and anxiety. Cassie won the UW-Parkside 2017 Big Idea Business Model Competition and was granted an At-Large bid to the statewide 2017 Wisconsin Big Idea Tournament.



Sam Hunt, UW-Green Bay

PRECISIONLAG

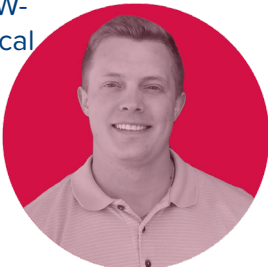
Sam Hunt is studying Mathematics and Education at UW-Green Bay and is the inventor of PrecisionLAG - an effective golf teaching aid. While attending high school, Sam was a member of the New Zealand national golf team. He played four years for NCAA Division 1 top-five ranked college golf team, UNLV, and studied Kinesiology while conducting undergraduate research in motor learning for golfers. He was a member of the New Zealand and Australian Professional Golfers' Associations and spent four years working at Oakmont Country Club. He won the 2018 Wisconsin Big Idea Tournament as a local food social enterprise entrepreneur and was a semifinalist in the International Business Model Competition.



Caleb Dykema, UW-Platteville

1SWIPE

Caleb Dykema is a senior at UW-Platteville majoring in Mechanical Engineering with a minor in Business Administration. He is currently an intern at CNH Industrial for Case IH combines. Caleb has been active in the Society of Automotive Engineers (SAE)-Baja for three years and recently took a leadership role as body captain in 2017. Caleb's current project, "1Swipe," took second place in the 2018 Prototype Hackathon. He has also invented and developed a tailgating game called "Corn Pong," which he demonstrated at the 2017 Hackathon, as well as a forklift attachment called the "Forklift Tine Shovel" for Rite-Hite Doors.



Hamilton Ngo & Jacob Scheff, UW Oshkosh

WISYS ENTREPRENEURS, WUPOD

Hamilton Ngo is a student at UW Oshkosh, pursuing degrees in business management and finance, with a concentration in entrepreneurship. Originally from southern California, Hamilton also has experiences residing in other parts of the United States including Arizona, Ohio, and Wisconsin – influencing his interest in travel and experiencing other cultures. Professionally and personally, Hamilton is very competitive by nature. Hamilton was recruited onto the WiSys Entrepreneur Team in February of 2018, with strong intentions of successfully commercializing WiSys' intellectual property.



Jacob Scheff is a student attending UW Oshkosh entering his last semester. He is majoring in Marketing with an emphasis in Sales and Entrepreneurship. He is involved in College Entrepreneurship Organization on Campus, as well as being involved in Residence Life. Jacob brings sales and marketing experience to the WiSys Entrepreneurs team. He has worked in inside and outside sales, and is currently working in retail channels and logistics. He was drawn to the program for the amazing opportunity it provides to jump start a lean startup organization



Center for Technology Commercialization

www.wisconsinctc.org

INNOVATION MEANS BUSINESS

LEAN STARTUP METHODOLOGY	BUSINESS MODEL DEVELOPMENT	SBIR/STTR GRANT ASSISTANCE
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1:10 - 2:30pm WiSys Quick Pitch State Final

Winners of the WiSys Quick Pitch competitions across nine campuses this school year will once again present their research in just three minutes, this time for the title of WiSys Quick Pitch State Champion.

Moderator: Tony Hanson, WiSys

Tony represents WiSys in the Southern Region of the state at UW-La Crosse, UW-Parkside, UW-Platteville, and UW-Whitewater. He assists university faculty, staff, and students with WiSys technology transfer services and also provides resources regarding various WiSys grant opportunities. Additionally, he works to facilitate connections between the universities and their local communities as well as across the UW-System. Tony earned his B.S. in Clinical Laboratory Science and his Ph.D. in Cellular and Molecular Biology at UW-Madison.



Chelsea Buchanan, UW-Platteville

THE EFFECTS OF STYROFOAM-FED MEAL WORMS ON FISH

Chelsea Buchanan graduated in May of 2018 from UW-Platteville, majoring in Biology with an Animal Science minor and a Zoology emphasis. She is currently working for the Department of Natural Resources as a wildlife technician. Chelsea's undergraduate research is focused on mealworms, which are small organisms that can naturally decompose Styrofoam. Previous studies suggest mealworms can sustain themselves for their whole lifetime on Styrofoam alone. However this research is new and not yet well known in the science community. Chelsea's research is aimed at looking at the effects mealworms could be as food for larger organisms like fish.



Kaitlyn Bruggentheis & Josie Zimmer, UW-Eau Claire

EVIDENCE-BASED PRACTICE AMONG SPEECH-LANGUAGE PATHOLOGISTS

Kaitlyn Bruggenthies will be a senior at UW-Eau Claire this fall. She is a Communication Sciences and Disorders major planning to continue her education to become a Speech-Language Pathologist. Her research focuses on the use and implementation of evidence-based practice by speech-language pathologists. Specifically, how often research is consulted and how undergraduate and graduate programs prepare students.



Josie Zimmer will be a senior at UW-Eau Claire this fall. She is a Communication Sciences and Disorders (CSD) major planning to graduate in December and continue her education in Audiology the following fall. Josie and her research partner Kaitlyn took second place at the WiSys Quick Pitch at UWEC and will be speaking on their research to help change CSD undergraduate and graduate programs to better prepare students to provide the best possible care for their future clients.



Nicole Cuba, UW-Parkside

SOCIAL PSYCHOLOGICAL EFFECTS OF LIVING IN AN URBAN MILIEU

Nicole Cuba is a senior at UW-Parkside expected to graduate this December. She is a sociology major with two certificates: Urban Studies and Program Evaluation. Nicole has worked closely with her mentor, Laura Khoury, since December of 2017 on the effects of an urban environment and gentrification in inner city living. After graduation, she plans to attend graduate school to continue her research and obtain a Masters in social work.



Rachel Harris, UW-River Falls

STUDENTS' PERCEPTION ON BODY IMAGE

Rachel Harris is a psychology and communications major at UW-River Falls. This year was her sophomore year, and it was very eventful. Rachel was accepted into the McNair Scholars and the Psi Chi program on campus, made the Dean's list and received an honorable scholarship from the psychology department. She also conducted her first research project focusing on how body perception and body satisfaction correlate with an individual's body type and gender.



Sydney Kloster, UW-Superior


NON-FICTION, NARRATIVES & NEGOTIATION: POST-CONFLICT NARRATIVES IN NORTHERN IRELAND

Sydney Kloster is a recent graduate of UW-Superior, where she double majored in political science and writing with a minor in gender studies. Her passion lies in studying and writing about post-conflict societies. Sydney has conducted two undergraduate research projects at UW-Superior and plans to continue her studies in political science at the graduate level with the hopes of entering a career that promotes human rights and social justice.



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The UW System is a national leader in undergraduate, graduate, and faculty research, which contributes to the state’s priorities and supports retention, graduation rates, and workforce and economic development.

The UW System encourages scientific research that stimulates job creation and business growth. In addition to supporting Wisconsin’s staple industries, such as agriculture and manufacturing, our universities are graduating more students in computer science, nanotechnology, biotechnology, and other high-growth fields.

Elizabeth Laskowski, UW-Eau Claire

MEASURING “SMART” ABILITIES OF COPOLYMERS WITH PDMAEMA

Elizabeth Laskowski is a 2018 graduate from UW- Eau Claire with a degree in Materials Science with a Chemistry emphasis. At UWEC, she has researched thermoresponsive smart polymers under Dr. Elizabeth Glogowski for four years, and has presented that work at 14 conferences. She also worked in an Extreme Light Lab at the University of Nebraska-Lincoln measuring gas and plasma densities with an ultrafast laser. She is attending Purdue University to pursue a Ph.D. in Materials Engineering. She plans to become a professor where she can continue research and inspire the next generation of scientists.



Montana Lins & Rebecca Storlie, UW-River Falls

NOVEL CERVICAL ARTIFICIAL INSEMINATION SYSTEM FOR SHEEP

Montana Lins just finished his undergraduate career at UW- River Falls with a degree in Animal Science and a Meat Animal emphasis. At River Falls, he was involved in undergraduate research with his research partner, Rebecca Storlie, that involved several experiments surrounding small ruminant (sheep and goat) reproduction. Both were accepted into veterinary school in the fall, Rebecca to the University of Minnesota and Montana to UW- Madison, where they look forward to futures as food-animal veterinarians.



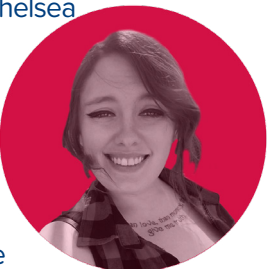
Rebecca Storlie graduated as an outstanding senior from UW-River Falls in May. She holds a degree in animal science with both a meat animal and a companion animal science emphasis, along with a chemistry minor. During her undergraduate career she co-authored three fully funded undergraduate research grants that focused on the improvement of reproduction in sheep. Rebecca will be attending the University of Minnesota in the fall to continue her education in their Doctor of Veterinary Medicine program, where she plans to pursue her interest in research and reproductive physiology.



Chelsea Snowden-Smith, UW-Parkside

DIRTY BUSINESS: SOIL, CARBON & CAMPUS LIFE

Environmental science is one of Chelsea Snowden-Smith’s many passions. While studying design in Seattle, Chelsea found her passion during an environmental architecture seminar that made her realize how tackling the challenges of pollution and climate change were a goal she wanted to achieve. Chelsea came home to Kenosha to try and promote these ideas and learn more about the role of community involvement in tackling global issues. She leapt at the chance to be part of UW-Parkside’s environmental science degree. She graduated with a B.S. in December 2017 and a bright future on the road ahead, wherever it may lead.



Sura-attha Umasangtongkul, UW-Whitewater

MERCURY EXTRACTION IN FISH

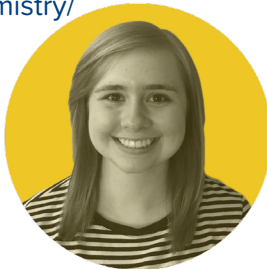
Sura-attha Umasangtongkul (Wynn) is a 3rd year Chemistry major at UW- Whitewater. His research focuses on methods to effectively extract methylmercury out of fish tissue. Currently, as the President of the UW-Whitewater Chemistry Club, he is leading the club’s “Glow stick” project to break a world record by creating the world’s longest glow stick to celebrate the 150th anniversary of UW-Whitewater.



Allison Welter, UW-Eau Claire

ANALYSIS OF ARIBIDOPSIS THALIANA RED-LIGHT RESPONSE MUTANTS

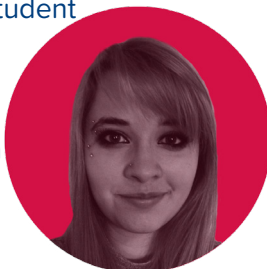
Allie Welter is a senior Biochemistry/ Molecular Biology major at UW-Eau Claire, originally from Minnesota. She recently received the Kell Container Corporation Scholarship for student-faculty collaborative research, along with an honorable mention in the national Goldwater Scholarship competition in 2018. She has been involved in undergraduate research at Eau Claire for 3 years, studying the red-light response pathway in the plant, Arabidopsis thaliana. Allie spent also the summer of 2017 in Boston, Massachusetts, working in a Boston Children’s Hospital/ Harvard Medical School associated research lab studying the genetics of neuromuscular diseases.



Melanie Zens, UW-Eau Claire

FREE WILLY ISN’T FREE & NEITHER ARE YOU: ON THE IMPOSSIBILITY OF FREE WILL

Melanie Zens is a fourth-year student majoring in philosophy and organizational communication at UW-Eau Claire. She is currently involved in a research project on the nature of time, funded by UW-Eau Claire. She is also the sitting president of the UW-Eau Claire Philosophy Club. Melanie has presented philosophy papers at CERCA, the Wisconsin Philosophical Association (WPA) in Oshkosh, the University of Louisville in Kentucky and Eastern Michigan University.



3:00 - 5:00pm Poster Symposium & Innovation Showcase

Browse through and speak with researchers about more than 60 projects happening on UW System campuses across diverse disciplines. Student posters and projects will compete for cash prizes.

5:00 - 5:30pm Networking Reception

Enjoy light refreshments while getting to know other attendees before dinner. Seating for dinner will begin at 5:30pm in Upper Main Place.

5:30 - 7:30pm Banquet Dinner & Awards Ceremony

This year’s Banquet Dinner is sponsored by the Wisconsin Economic Development Corporation (WEDC). During the event, all student competition awards will be given. The **Carl E. Gulbrandsen Innovator of the Year Award** will also be presented to two deserving recipients:

- **Sam Hunt** is a WiSys Innovator and a student Ambassador at UW-Green Bay. He was the winner of the 2018 Wisconsin Big Idea Tournament and placed as a semifinalist at the International Business Model Competition.
- **Dr. Gokul Gopalakrishnan** is an assistant professor of engineering physics at UW-Platteville, where he has been awarded UW System Applied Research Grant funding as well as a WiSys Innovation Award. Gokul was also chosen for the first WiSys Campus Champion Award for his endless support in engaging his campus.

7:45 - 12:00am STEM Under the Stars

This optional late-night event, presented by Northwestern Mutual, gives WSTS attendees an exclusive opportunity to tour Yerkes Observatory and view the night sky through the world’s largest refracting telescope*.

The bus will depart from the Student Center promptly at 8:00pm and will return around midnight.

*The tour will occur regardless of weather, however, telescope viewing is subject to cancellation due to inclement weather.



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TUESDAY JULY 31

8:00 - 9:00am Breakfast & Networking

9:00 - 9:30am WiSys Update

Hear from President Arjun Sanga about WiSys' activity over the last year, including exciting new grant programs and student engagement activities. Also get a look ahead at WiSys' new efforts to support innovation and inspire collaboration in the coming year and beyond.

9:30 - 10:45 am Parallel Tracks: Choose 1

TRACK 1: FACULTY OPEN MIC

The Faculty Open Mic gives UW System instructors, administrators and researchers the opportunity to highlight their latest results, ideas for engaging students, or tools to enhance learning in and out of the classroom. Please use this opportunity to spark discussion with other WSTS attendees during the break following this session.

Moderator: Molly Gribb, UW-Platteville

Dr. Molly Gribb has served as the Dean of the College of Engineering, Math and Science at UW-Platteville since 2015. During her tenure at UW-Platteville, thus far, she has led college efforts to secure approval of a \$55M engineering building by the Wisconsin State Legislature, instituted a college strategic plan, developed a corporate-funded senior design program, and significantly strengthened partnerships with industry. She also has created a new Foundation fund to support undergraduate research in the college. Gribb earned her Bachelor's degree in Environment, Textiles and Design at UW-Madison and her Master's and Doctoral degrees in Civil Engineering from UW-Milwaukee.



TRACK 2: STUDENT CAREER PANEL

This special session for students will feature experts from diverse fields providing their insight on career development and how experience in undergraduate research creates valuable opportunities. Students will have the chance to interact and ask questions.

Moderator: Kristen Ruka, WiSys

Kristen serves the western region of Wisconsin, forming connections among WiSys, campus innovators and administration, and the communities surrounding UW-Eau Claire, UW-River Falls, UW-Stout, and UW-Superior, as well as UW-Barron County. She educates and supports university faculty, staff, students, and alumni in using WiSys' technology transfer services, including its grants, intellectual property programs, and licensing. Kristen conducted life sciences research as an undergraduate and graduate student, and she has a mission to help student researchers learn about the expansive variety of careers available to them.



Aaron Hagar, WEDC

Aaron oversees the WEDC's efforts to support entrepreneurship, innovation, and investment in early-stage companies through the division of Entrepreneurship and Innovation. The division operates a number of programs and partnerships that aim to support not only businesses directly, but also the ecosystem and support networks that they need to grow and succeed. Aaron also sits on a number boards and committees including the Wisconsin Technology Council, the Brightstar Wisconsin Foundation, and the Wisconsin Innovation Awards that are working to support entrepreneurship and innovation-based economic development across Wisconsin. Aaron's diverse background provides him with a unique perspective on research, technology, entrepreneurship, and how these factors influence economic and community development.



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Matt Corr, Boyle Fredrickson

With a background in chemical engineering and responsible for patents issued in a wide range of technologies, Matt also serves clients with respect to trademark, copyright and licensing issues. Matt's areas of particular expertise include chemistry, biotechnology and various other engineering disciplines. Matt's greatest strength is listening to clients to help them find a balance between business needs and legal strategies. Matt earned his B.S. in chemical engineering from the University of Notre Dame and his law degree from the UW-Madison Law School.

**H. Adam Steinberg, artforscience**

H. Adam Steinberg is an artist and scientist, and owner of artforscience.com, which teaches researchers how to effectively communicate scientific data. Steinberg has a wealth of experience teaching science and science communication: 20 years in the UW-Madison Department of Biochemistry; 15 years teaching visual communication principles to faculty, postdocs, grads, and undergrads; and 7 years teaching basic science and STEM curriculum in grades 2-12. He is adept at visualizing hard to understand data for both scientists and public audiences. His work has appeared on the covers of Cell, Science, and Nature, and in Lehninger Biochemistry, Lodish Molecular Cell Biology, among others.

**Tracy Davidson, UW System**

Tracy Davidson holds a B.A. in Chemistry and Biology from Lawrence University in Appleton, WI and a Ph.D. in Biochemistry from Michigan State University. She received multiple post-doctoral fellowships in cell biology, primarily studying neuronal regeneration and the plasticity of cancer cells. These fellowships included residency at the Johns Hopkins School of Medicine and the University of Connecticut Health Center, respectively. Davidson's most recent administrative work has included serving as Dean and Campus Executive Officer at multiple campuses within the UW Colleges, and her current work as Director of STEM and Applied Research Initiatives at the UW System.



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11:00 - 12:00pm WARF Clean Technology Accelerator Awardees

This special session highlights two WiSys Innovators who recently got the opportunity to work with the WARF Accelerator program to speed the commercialization of their discoveries.

Moderator: Greg Keenan, WARF

Greg Keenan is the Accelerator Program Manager at the Wisconsin Alumni Research Foundation (WARF), where he identifies early-stage technologies at UW-Madison with high potential for commercialization, manages project proposals that seek and/or receive Accelerator Program funding awards, and leads the creation and initial implementation of business plans and funding models for Accelerator Program assets that are top candidates for commercialization. Greg has more than 23 years of technology commercialization experience in chemicals, energy and agriculture, including leadership positions in Fortune 500 and startup companies. He earned his BS in Chemical Engineering at Penn State and his MSE in the Management of Technology at the University of Pennsylvania.

**Maruf Hossain, UW-Green Bay**

Dr. Md Maruf Hossain is an Assistant Professor of Electrical Engineering Technology at UW-Green Bay. Prior to this current position, he was the Herff Fellow at the University of Memphis. He received his Ph.D. in Electrical Engineering from the University of Memphis in 2016, and M.S. and B.S. in Electrical and Electronic Engineering from Bangladesh University of Engineering and Technology in 2006 and 2011, respectively. Dr. Hossain's research interests include electrical power system's stability and control, power quality, solar and wind energy systems, renewable energy integration in power grids, and smart grid systems. He is an author on 14 peer-reviewed publications and named inventor on a U.S. Patent.

**Pawel Olszewski, UW Oshkosh**

Dr. Pawel Olszewski has been an Assistant Professor in the Department of Engineering Technology at UW Oshkosh since 2014, where he actively participated in establishing a brand new Mechanical Engineering Technology program. Having a mechanical engineering background, he focused his research interests on optimization of industrial energy conversion processes, combustion, power generation and renewable energy. In the most recent years, Dr. Olszewski founded and developed the UW Oshkosh Teaching and Energy Research Industrial Lab (TERIL), equipped with a set of modern experimental energy systems. His research has been published in high impact-factor peer-reviewed journals.

**12:00 - 1:00pm Lunch & Day 2 Keynote****Alan Yeung, Foxconn****SMART CITY, SMART FUTURE COMPETITION**

Alan Yeung heads up the Flying Eagle Project in the U.S. on behalf of Foxconn Technology Group. As Director of U.S. Strategic Initiatives, Alan led the team in evaluating options and engaging stakeholders across the U.S., resulting in the announcement of a \$10 billion investment in a TFT-LCD fabrication plant in Wisconsin. Prior to Foxconn, Alan was an entrepreneur and an author, after working at Metro Group, Foxconn, Inventec and Raychem Corporation. Alan earned his undergraduate degree in Chemical Engineering from UW-Madison, his MBA from the University of California at Berkeley, and his Ph.D. from Stanford University.



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1:00 - 2:00pm WiSys & UW System Grant Recipients

Join the 2017/2018 recipients of the UW System-funded Applied Research Grants, Prototype Development Fund and WiSys Scholar program and learn about the research they will undertake in the coming year.

Moderator: Brian Walsh, WiSys

Brian represents WiSys in the Central and East Central region of the state with primary responsibilities at UW-Green Bay, UW Oshkosh and UW-Stevens Point. He educates and supports university faculty, staff, and students in using WiSys's technology transfer services, including its grants, intellectual property programs, and licensing. Additionally, he works to facilitate connections between the universities and their local communities as well as across the UW System. Brian earned his B.S. in Bacteriology from UW-Madison and his MBA in Marketing from UW-Whitewater.

**Yijun Tang, UW Oshkosh****ENZYME-FREE DETECTION OF GLUCOSE**

Dr. Yijun Tang is an Associate Professor of Analytical Chemistry at UW Oshkosh. He received his BS in Chemistry from Beijing University, China in 1994, MS in Chemistry from Michigan State University in 2000 and PhD in Biomedical Science: Health and Environmental Chemistry from Oakland University, Rochester, Michigan in 2009. Dr. Tang is an expert of electrochemistry. His interest of research is the innovation of electronic devices covering a wide range from healthcare science to energy storage. Dr. Tang has been publishing papers in various international scientific journals with his undergraduate research students.

**Seth King, UW-La Crosse****LOW-COST ZINC OXIDE/GRAPHENE NANOCOMPOSITE THIN FILMS**

Seth T. King, Ph.D. earned his bachelor's degree in physics from the UW-Eau Claire in 2003, followed by a Ph.D. in physics from the UW-Milwaukee in 2009. Currently an Associate Professor of Physics at UW-La Crosse, and an Adjunct Assistant Professor of Chemistry and Biochemistry at UW-Milwaukee, Dr. King's research interests focus on developing novel transition metal oxide alloys with applications as transparent conductors, photon harvesting, and high-power electronic devices.

**Ken Webb, UW-Green Bay****THE BLUE REVOLUTION: FISH FARMING FOR WISCONSIN**

Dr. Ken Webb is a Research Associate (Aquaculture) at UW-Green Bay. Receiving his M.S. in Nutrition from Texas A&M University and his Ph.D. in Marine Science at the University of Texas, Ken is a nutritional physiologist who uses fish as his principal model. His research interests are extremely broad but his current work focuses on the development of a yellow perch hatchery for the Farmory, a non-profit in Green Bay that is focused upon aquaponics as a means to address food and employment issues for underserved populations.

**Lynn Gilbertson, UW-Whitewater****HEARING CONVERSATION FOR THE 21ST CENTURY WORKER**

Lynn Gilbertson received her Ph.D. from UW-Madison in 2013 with a focus on speech perception in noise. Her research focuses on how human factors, cognitive functions, and noise impact speech perception and hearing health. She is an assistant professor at UW-Whitewater in the Department of Communication Sciences and Disorders. Dr. Gilbertson has developed an interdisciplinary collaboration with assistant professor Donna Vosburgh in the department of Occupational & Environmental Health and Safety. The two have combined their expertise in hearing science and workplace safety to investigate hearing conservation issues in less traditionally monitored occupations. This partnership has led to funding for their prototype development project.

**2:00 - 2:30pm Closing Remarks****Robert Ducoffe, Provost, UW-Parkside**

Rob Ducoffe joined UW-Parkside in April of 2016 as Provost and Vice Chancellor of Academic and Student Affairs. He previously served as dean and professor of marketing in the Judd Leighton School of Business and Economics at Indiana University South Bend from 2005 – 2016. Dr. Ducoffe was associate dean and professor of marketing at the Zicklin School of Business, Baruch College, City University of New York where he worked for 15 years. Rob and his spouse who is a marketing professor, Dr. Sandy Ducoffe, have five children.



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