

Student Hands-on Workshops (Choose 3)

Density Bottles: To Float or Not to Float (chemistry)

Dr. Kimberly Naber, Lecturer, Chemistry Department, UW-Whitewater

Explore the science behind curious floating and sinking phenomena that seems to defy logic. In this make-and-take session you will create a density bottle, conduct experiments, and describe the results with terms such as heterogeneous mixtures, solubility, miscibility, and filtration. You'll be able to answer questions such as: Why do some substances mix, and others do not? Why do some objects float in one liquid and not in another?



Dr. Kimberly Naber was born and raised in southern Wisconsin. An early interest in learning and teaching lead her to a career teaching chemistry at UW–Whitewater where she had studied chemistry earlier as a student. She earned her PhD at UW–Madison studying the chemicals in the nervous systems of crabs. Kim loves animals and lives on a nearby farm.

Explore the Universe One Ray of Light at a Time (astronomy)

Dr. Juliana Constantinescu, Physics Department, UW–Whitewater

NOTE: This session will be held in the University Observatory.

Our vision depends upon light sources, however not every object we can see is a light source. You will learn how we use light to see the world around us and how scientists learn about faraway stars by looking at the light they emit. You will observe the light from a variety of unique light bulbs using simple spectrometers.



Dr. Juliana Constantinescu teaches Introductory Astronomy. She began teaching at UW–Whitewater in 1998. She has a master's degree in geophysical engineering and a PhD from the State University of Romania-Bucharest. She enjoys teaching about our Universe and our neighboring planets, and hosts student “observation nights” in the UW–Whitewater Observatory.

Hands-on Construction Competition (engineering)

Sam Potts, Hannah Jost, Blythe Ratzmann, and Kelsey Bull of JP Cullen

You will work as a team to set up a jig using sawhorses, plywood, and 2x4s and then use the jigs to build steel stud assemblies. The jig creates a template to build repeatable, complex units and allows builders to quickly assemble the steel stud wall system without having to measure or layout the dimensions each time. You will discuss construction engineering concepts such as the benefits of prefabrication including faster framing time, safety and ergonomics, and quality control.



Sam Potts is the Chief Estimator for JP Cullen's Janesville Division. She has been at JP Cullen for over ten years starting as an intern, Site Engineer, Assistant Project Manager and now Chief Estimator. Her role is focused on managing the estimating processes, leading pre-construction efforts with the architects, sub-contractors, and clients, and providing accurate pricing and budgets. Sam attended UW–Madison and received a Bachelor of Science in Civil and Environmental Engineering.



Hannah Jost is an estimator for JP Cullen's Milwaukee Division. She has been at JP Cullen for over four years working as a Site Engineer and Estimator. Her current role is focused on calculating and compiling data to determine the overall costs of construction projects. Hannah attended UW–Milwaukee and received a Bachelor of Science in Civil Engineering with a Structural Emphasis.



Blythe Ratzmann is a Site Engineer for JP Cullen. She has worked for JP Cullen for over four years starting as an intern and now a Site Engineer in the Healthcare Division. She is responsible for the planning and layout of the construction site, material procurement, quality management, and planning and scheduling management for new construction and renovations of hospitals and clinics. Blythe attended UW–Madison and received a Bachelor of Science in Civil Engineering and a certificate in German.



Kelsey Bull is a Training and Development Engineer at JP Cullen. She has been with JP Cullen for over five years starting as an intern and then as a Site Engineer. In her current role, Kelsey recruits and onboards new employees and develops training plans for each position. She also leads our summer intern program and assists with our youth apprenticeship program. Kelsey attended UW–Madison and received a Bachelor of Science in Civil Engineering–Construction Management.

Plasma Physics & Fusion Energy: Harnessing the Power of the Sun (plasma physics)

Solis Members: Carolyn Schaefer, R. Sassella, Jill Peery, Molly Aslin, Louise Ferris, Kelly Garcia, Celine Lu, and Aubrey Houser, Plasma Physics graduate students, UW–Madison

You've heard of solids, liquids, and gases, but have you heard of plasma? Plasma is the fourth (and hottest!) state of matter. It's like a hot gas that contains charged particles, and it makes up over 99% of the visible universe – including all the stars! It is also the material required to make fusion energy on Earth, which would provide clean energy for the future of humanity for thousands of years. You will learn about plasmas by watching a live demonstration of making plasma in a microwave, and by building your own electric motor to learn about plasma forces, experimenting with a plasma ball, and making your own spectroscope.



Carolyn, Sassella, Jill, Molly, Louise, Kelly, Celine, and Aubrey are graduate students at the UW–Madison studying various topics within the field of plasma physics. Carolyn, Molly, Louise, and Kelly are part of the Engineering Physics department; Sassella, Jill, and Aubrey are in the Physics department; Celine is in the Electrical and Computer Engineering Department. They are members Solis, a student group for women and gender minorities in plasma physics. As members of Solis, they share their passion for plasma physics through educational outreach.

Science of Flavors & Fragrances (chemistry)

Paul V Griffin, Associate Manager of Outreach and Training, Sheboygan Falls MilliporeSigma

Did you know that humans can recognize more than 10,000 scents! Practice recognizing scents and learn how your body recognizes and interprets scents. Discover how the chemical structure generates a unique flavor or fragrance as it interacts with human sensory receptors. Your challenge will be to design a fragrance for a particular purpose and then present your fragrance, along with details on how you created it and how it would be effective for your audience.



Paul V Griffin is the Associate Manager of Outreach and Training at the Sheboygan Falls MilliporeSigma site. Paul has worked in manufacturing for 23 years, with experiences in plastics, consumer goods, food, pharmaceutical, and chemical production. He has 17 years in Workforce and Organizational Development. Paul has a Bachelor of Arts in Advertising, Journalism, and Media Studies, and a Master of Science in Human Relations & Workforce Development from UW–Milwaukee.

Soil Bacteria: A Key to New Antibiotics (microbiology)

Dr. Heather Pelzel, Associate Professor of Biological Sciences, UW–Whitewater

An increasing number of antibiotic resistant infections is a major global health challenge. But researchers can provide part of the solution by searching the world's soils to find new antibiotic-producing bacteria. The work is being done by Tiny Earth, an international network of curious and dedicated students and teachers. Become part of the Tiny Earth team and learn the lab techniques needed to isolate and identify antibiotic-producing bacteria.



Dr. Heather Pelzel teaches courses in cell biology, microbiology, and public health. Her courses focus on using complex, real-world problems and data to help students learn. Heather grew up in a small, rural town in western Wisconsin where she enjoyed reading and learning about animals. She studied at UW–River Falls and at UW–Madison where she studied the smallest living organisms, cells. When not at school, Heather loves spending time outdoors with her family.

Spaghetti Car Derby (engineering)

Emily Jackson, P.E., Project Engineer, JT Engineering, Inc.

Use your problem-solving skills to build a car using only pasta and glue! Along the way you will experience the engineering design process complete with the unique challenges of material, budget, and time constraints. In a finale, you will present and test your prototype car. The pasta-bilities are endless!



Emily Jackson earned a Bachelor of Science in Civil Engineering from UW–Platteville. After college, Emily worked as a Project Engineer at JT Engineering, Inc., a transportation engineering firm. She has over eight years of construction experience in structures and large mainline paving on high-speed, high volume routes including USH 151 and IH 39. She is a member of the Society of Women Engineers, American Society of Civil Engineers; and she mentors women at UW–Platteville who want to pursue careers in engineering.

Surgical Intern for a Day (medicine)

Dr. Christine Chuppa, OB/GYN, Fort HealthCare

Dr. Molly Larson, OB/GYN, Fort HealthCare

Dr. Elizabeth Lynk, OB/GYN, Fort HealthCare

In this workshop with "a peel," you will scrub and gown up for surgery, place sutures on a banana, and perform a local injection and biopsy of an orange. You will learn sterile technique and surgical skills under the guidance of Dr. Christine Chuppa, Dr. Molly Larson, and Dr. Elizabeth Lynk, who are physicians at Fort Healthcare Center for Women's Health. Join us for a close and revealing peek into the world of medicine.



Dr. Christine Chuppa is a graduate of UW–Madison and interned at St. Luke's Hospital, Kansas City. She enjoys caring for women throughout every stage of life. She is interested in obstetrics, minimally invasive surgery, infertility, and cancer screening/prevention. Her interests included teaching residents, nurse practitioners, medical students, and presenting health topics to the community. She also enjoys spending time with her family, photography, scrapbooking, church activities, quilting, and playing the violin.



Dr. Molly Larson graduated from The College of William and Mary in Williamsburg, VA, and the University of Colorado–Denver School of Medicine. She completed her residency at Saint Joseph Hospital in Denver. She is interested in the broad scope of women's health. In her practice, she is proud of the lasting relationships she can build with her patients. In her spare time, Dr. Larson enjoys spending time with her family and two dogs. She also enjoys running, cycling, and is an amateur bread baker.



Dr. Elizabeth Lynk is an obstetrician and gynecologist dedicated to promoting women's health. Dr. Lynk attended Northwestern University and Feinberg School of Medicine. She completed her residency at Saint Joseph Hospital in Denver. She enjoys educating patients about their health concerns and helping them find the right plan of care. She loves OB/GYN because it allows her to be present for important events in her patients' lives. Outside of work, she enjoys spending time with family, running, hiking, camping, and traveling.

Wear Your Genes! (genetics)

Dr. Kirsten Crossgrove, Genetics and Molecular Biology, UW–Whitewater

Experience the thrill of extracting your own DNA! In this session, you will isolate deoxyribonucleic acid (DNA) from your cheek cells, as well as from strawberries and/or bananas, and watch it form visible white strands as it precipitates out of a solution. You will collect the strands in a tube that you'll string on a necklace to take home. Along the way, you'll learn about the beauty of the DNA structure and how its structure relates to its function.



Dr. Kirsten Crossgrove has taught Genetics and Molecular Biology at UW–Whitewater since 2004. She majored in biology and neuroscience at Oberlin College, a small liberal arts college in Ohio, where she was first introduced to molecular biology and the study of how genes work. She was instantly hooked. She completed a PhD in Molecular Biology at the University of Pennsylvania in Philadelphia. Now she gets to teach and do research which keeps her excited to learn more about how genes direct the development of complex organisms like us.

What Can Glowing Animals Teach Us? (biology)

Dr. Kris Curran, Professor, Department of Biological Sciences, UW–Whitewater

Have you ever watched fireflies make light at night? Do you know that some jellyfish glow under a black light? You will investigate the difference between bioluminescence and fluorescence and think about how living organisms make and use light to survive. You will see how researchers use this knowledge to answer important biological questions.



Dr. Kris Curran is a professor at UW–Whitewater in the Department of Biological Sciences where she teaches Introductory Biology, Cell Biology, and Developmental Biology. She conducts research in the development of circadian rhythm during early frog development.



Parent Sessions (Choose 2)

Chat with a professional in a career area of interest to your teen to learn more about the career possibilities and educational requirements. The presenters are young professional women in STEM careers. Hear their advice and ask questions.

- What is involved in this career and related careers?
- What are the opportunities in this career field?
- Where do I get trained for this career?
- What high school classes and camps/conferences would be valuable?
- Are there opportunities to take college classes during high school?
- How do I talk with my teen about careers?

They will also share their personal career journeys.

Chat with a Dental Professional

Dr. Raechel Jacobson, Dentist, Dreier Family Dental, Janesville



Dr. Raechel Jacobson has a Bachelor of Science in Biology and certificate in Global Health from the University of Wisconsin–Madison and a Doctorate in Dental Surgery from the University of Michigan–Ann Arbor. Her job includes promoting oral health, interpreting radiographs, developing treatment plans to maintain and restore oral health and performing surgical procedures. She enjoys the variety her workday brings, the flexibility of work-life balance, and the challenges of her field.

Chat with an Engineering Professional

Brittany Noe, Project Manager, IPEC



Brittany Noe graduated from UW–Madison in 2012, in Biological Systems Engineering with an emphasis in Food and Bioprocess Engineering. She is a mechanical engineer and has been working at IPEC (Integrated Process Engineers & Constructors) for over 10 years where she is now a Project Manager. IPEC specializes in customized process systems for the food and pharmaceutical industry. While at the university, Brittany participated in the WISE Program (Women in Science & Engineering), as well as in Engineers Without Borders.

Chat with Medical Laboratory Professionals

Karissa Goulder, MLS, and Michelle Green, MLT, Fort HealthCare



Karissa Goulder is a Medical Laboratory Scientist (MLS) at Fort HealthCare. She started as a phlebotomist drawing blood and then received her two-year degree to transition to be a Medical Laboratory Technician (MLT) in 2020 from Madison College. She previously received a four-year degree in Biology from UW–Oshkosh in 2015, which then enabled her to earn the MLS certification after gaining experience as an MLT. You might find Karissa running patient specimens, assuring quality control, or other tasks around the lab. Karissa's favorite part of the role is the fast-paced environment that keeps her on her toes!



Michelle Green is a Medical Laboratory Technician (MLT) at Fort HealthCare. She started as a phlebotomist drawing blood at age 19. Ten years ago, she decided to go to school to become an MLT and earned her two-year degree from Madison College. At Fort HealthCare she focuses on the blood bank to ensure the blood is stored properly and blood products are available for patient care. She also helps in other areas of the lab as a generalist when needed.

Chat with a Technology Professional

Kat Ray, Software Developer, Yahara Software



Kat Ray is a software developer at Yahara Software, a Madison-based consulting firm that works with clients across many industries to create custom software solutions for their business needs. Kat's current project is an application for biology research labs that specialize in cellular regenerative medicine. She is passionate about STEM outreach and education, and volunteers with organizations that aim to increase minority representation in tech fields. Her free time is usually spent rock climbing, jogging, cooking, crocheting, reading, or listening to podcasts.

Post-High School Education Experts

Decisions! Decisions! Tips and information for talking with your teen about post-high school education. Be empowered to help them answer their questions.

- How do I know what career area I want to pursue?
- Should I go to college or tech school?
- How can I best prepare while in high school?

Chat with an Expert on 2-Year Technical School Programs

Carlos A. Lozano, Early College STEM Advisor, Madison College



Carlos Lozano works with dual-enrolled high school students at Madison College. He has a bachelor's degree from the University of Wisconsin–Madison and a Master of Science in Educational Leadership and Policy Analysis. At UW–Madison, he served as a STEM Academic advisor and worked within one of the nation's largest educational and diverse programs, the DDEEA (Division of Diversity, Equity and Educational Achievement).

Chat with an Expert on 4-Year College Programs

Sarah Duesterbeck, M.Ed., Walworth County Community Resource



Sarah Duesterbeck has over 15 years of experience and expertise in higher education on topics ranging from residence life, financial aid, homeless resources, and earning college credits while in high school. She is a proud alum of UW–Whitewater with a degree in Communication. She earned her Master's in Education at the University of Southern Mississippi. She and her husband, Josh, and two boys, Jacob (12) and Charles (10) live in Delavan, Wisconsin.

