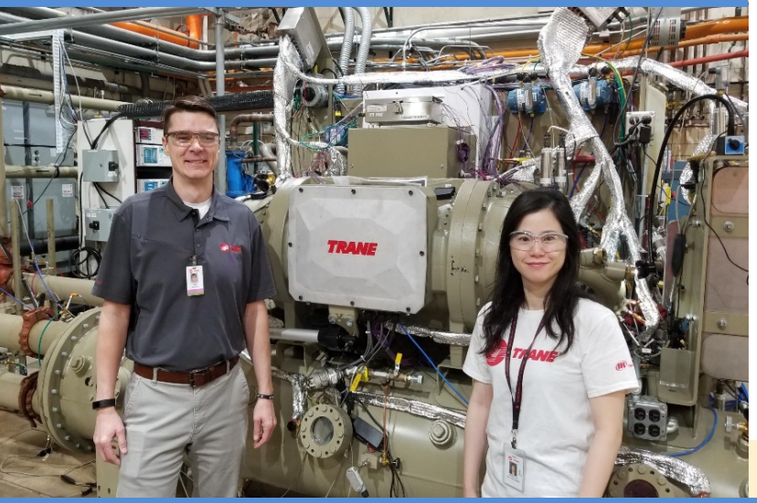
FEATURED PRESENTATION



Trane engineers Greg Chilcote and Michelle Yi-Ching Wang are in front of a Trane Centrifugal Chiller used for prototype testing in the Trane Engineering Lab. Both Greg and Michelle are engineers that work on new product development, focused on compressor modeling, design and development. Both will be giving a presentation to let students know what an engineer is, what type of education it takes, and what type of work they do on their jobs.

REGISTRATION

Register on or before May 19: $129*
Register May 20 or later: $149*
**Registration includes day camp activities, lunches each day and a commemorative bag.*

SCHOLARSHIPS are available for financially disadvantaged students. Funds will be awarded on a first-come, first-served basis. Scholarship applications will be accepted through May 31, 2019 or until scholarship funds have been depleted.

QUESTIONS

For additional information: 608.785.6500 or conted@uwlax.edu.

REGISTER TODAY:

www.uwlax.edu/youth

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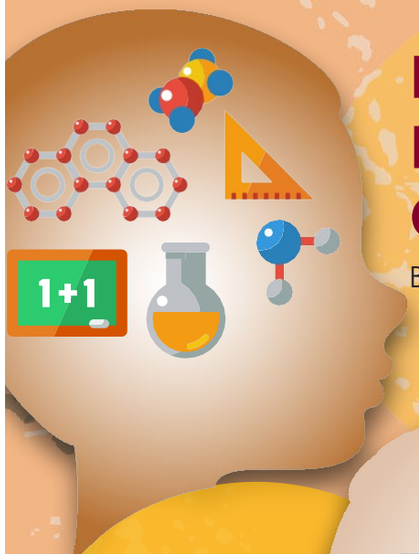
Campers work with UWL faculty and staff who encourage experimentation, investigation and involvement in the fields of math and science. The camps run concurrently but are separate programs.

Susan Kelly, Ph.D., Camp Director

2019



Boys' Science Exploration Camp

Boys entering grades 6–8

Girls in Science

Girls entering grades 6–8

June 19–20, 2019 | UW-La Crosse

- Hands-on experiments
- Your choice from twelve workshops
- Taught by university faculty and staff
- Full campus experience

www.uwlax.edu/youth

Program Schedule

Wednesday, June 19, 2019

9–9:20 a.m.	Registration
9:20–9:30 a.m.	Welcome
9:40–11:40 a.m.	Girls Group 1 Workshops Boys Group 2 Workshops
11:50 a.m. –12:30 p.m.	Lunch
12:40–1:40 p.m.	Campus Tour
1:50–3:50 p.m.	Girls Group 2 Workshops Boys Group 1 Workshops
4 p.m.	Adjourn/Pick up

Thursday, June 20, 2019

9–9:20 a.m.	Check-in
9:20–9:30 a.m.	Organize
9:40–11:40 a.m.	Girls Group 3 Workshops Boys Group 4 Workshops
11:50 a.m. –12:30 p.m.	Lunch
12:40–1:40 p.m.	Engineers from Trane
1:50–3:50 p.m.	Girls Group 4 Workshops Boys Group 3 Workshops
4 p.m.	Adjourn/Pick up

Special thanks to

Ingersoll Rand

GUNDERSEN HEALTH SYSTEM

TRANE

UW-LA CROSSE COLLEGE OF SCIENCE AND HEALTH

Workshops

GROUP 1

Food is Fuel and Munch, Munch More! | *Peg Maher, Ph.D., R.D., Biology*
Our bodies are like engines that use fuel to do work. Just like the gas we put in our cars, the food we eat is fuel for our bodies. Food also contains many chemicals and chemical properties that can be exploited to improve taste, texture, and nutrition. We will investigate the science of food with some yummy (and not-so-yummy) experiments and explore ways to optimize your engine's fuel efficiency!

It's Electric! | *Jennifer Docktor, Ph.D., Physics*
Explore the science of electricity by making objects move without touching them, building circuits with light bulbs and motors, and making an electromagnet. It will be a hair-raising experience!

Junkyard Digestion | *Sumei Liu, Ph.D., Biology*
The human body needs food to survive. The digestive system converts the foods we eat into their simplest forms and absorbs them into the blood. The bloodstream carries the nutrients to every cell in our body, which will be used for energy. What is the digestive system made of and how does it work? In this workshop, you will build a working model of the digestive tract out of used goods and household items. You will then test your model and make sure it digests food and produces an end product (i.e. "poop").

GROUP 2

Making Nylon and Polystyrene: The Reactions That Keep Going, and Going, and Going… | *Nick McGrath, Ph.D., Chemistry and Biochemistry*
Polymers like nylon and polystyrene are found in everything that we use every day from the clothes that we wear to the plastic in the water bottles that we drink from. Each type of polymer is designed to have properties that match their use. You wouldn't want to wear clothes made up of hard plastics like in water bottles and you wouldn't want your laptop case to be made of a soft polymer like nylon. In this workshop, we will be making two very different polymers with drastically different properties. We will also have a contest to see who can make the longest single strand of nylon.

Cracking the Code: the Amazing Story of DNA! | *Basudeb Bhattacharyya, Ph.D., and Kelly Gorres, Ph.D., Chemistry and Biochemistry*
What story consists of 3,000,000,000 letters, yet only has words made from 4 unique letters? Why it's the story of YOU! In this hands-on workshop, we will explore the biological and chemical nature of these letters, otherwise known as DNA. Come learn about this amazing molecule that makes us who we are!

(Boys only) **Reaction Time! |** *Heidi Masters, Ph.D., Educational Studies*
What type of reaction was that? Come explore what new substances you can create by combining two or more substances together. You will be in awe of your new creations. Students will be exploring various properties of chemical reactions.

(Girls only) **When Light and Matter Collide**
Kendric Nelson, Ph.D., Chemistry/Biochemistry
From the colors we see in a rainbow to glow-in-the-dark toys, light-matter interactions are the source of these phenomena. We will investigate what matter is and how light can be reflected, absorbed, and even emitted from matter. An investigation of some common household items with unusual light-matter interactions will be undertaken.

GROUP 3

Crime Scene Investigation: The Case of Jason Worth | *Faye Ellis, M.S., Biology*
A missing heir, Jason Worth, comes from a world of money, power and mystery. Use the skills of a forensic scientist to discover who kidnapped Jason Worth by analyzing blood samples, finger prints and other evidence to solve the crime.

Roller Coasters | *Seth King, Ph.D., Physics*
Have you ever wondered how a roller coaster can go upside down or make a barrel roll? Why does the start hill have to be so high above the ground? In this program you will learn about the scientific principles that govern roller coaster design, and use them to build your own model roller coaster!

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Kendric Nelson, Ph.D., Chemistry/Biochemistry
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GROUP 4

Talking to Computers: How the Internet Works
Samantha Foley, Ph.D., Computer Science
Computers need special languages and infrastructure to communicate across the Internet. How do computers talk to other computers across the world? What does it take to make a language that can be understood by someone on the other side of the Internet? In this workshop, we will learn how the Internet works and how messages are sent across the world. We will also work on our own language for communicating across the Internet and practice sending messages to our friends.

Get Exposed to Applications of Elementary Number Theory in Cryptography
Huiya Yan, Ph.D., Mathematics
Do your parents check your cellphone to oversee your text messages? If so, we can use cipher texts instead. They would never figure them out. Let's study some cryptography and you will see numbers are so cool!

Making Bones Speak | *Connie Arzigian, Ph.D., Archaeology/Anthropology*
Ever wondered how scientists identify someone just from their bones? In this workshop, we'll look at some (replica) human bones that were found in the woods. We'll figure out the sex, age, height, and ancestry of the person, to help identify the remains for the police, and see how forensic scientists work.

Register today:

www.uwlax.edu/youth