Virtual Programme

May 8, 2021 | 10AM-4PM

SCIENCE rendezvous

Time	Webinar 1	Webinar 2	Webinar 3
10:00	**Opening Remarks**		
10:10	Molecular Genetics #1	Canadian Blood Services	FIRST Robotics Canada
10:20			
10:30	Molecular Genetics #2	UofT Trash Team	Blue Sky Solar Racing
10:40			
10:50	University of Toronto Medical Students		
11:00		Stem Cell Club	Institute for Sustainable Energy
11:10	Models of Human Diseases Medical Education Programs		
11:20			
11:30		Daniels Faculty	
11:40			
11:50	Science Chase		
12:00	**Break**		
12:10	Biomedical Engineering Student Association	Gender and The Brain	Fly with Origami, Learn to Dream (UTFOLD)
12:20			
12:30			
12:40		Department of Physics	
12:50	University of Toronto Medical Students		Mathematics & UTFOLD
1:00			
1:10	Molecular Genetics #1		
1:20		Canadian Blood Services	University of Toronto Aerospace Team (UTAT)
1:30	Molecular Genetics #2		
1:40		Confederation of Laboratory Medicine and Pathobiology Student	Astronomy And Space Exploration Society
1:50	Science Chase		
2:00	**Break**		
2:10	Undergraduate Pharmacy Society	Near and Middle Eastern Civilizations/CRANE Project	Department of Physics Talk 1&2
2:20			
2:30			
2:40		Gender and the Brain	
2:50	University of Toronto Medical Students		
3:00			
3:10	Physiology	Canadian Blood Services	Zebra Robotics
3:20			
3:30		Confederation of Laboratory Medicine and Pathobiology Students	
3:40	Science Chase		Biozone
3:50			
4:00	**End of Show**		

Booths (in Alphabetical Order)

Astronomy and Space Exploration Society

Will you survive outer space? Learn about astronomy/physics principles with the Astronomy and Space Exploration Society! Come in first place on our quiz and win a prize!

Biomedical Engineering Student Association

Join us for a day in the life of a scientist. Several PhD researchers will vlog what their life looks like and answer your burning questions!

Biozone

We will run through an interactive presentation covering different aspects of composting such as what's involved, how it works, and with an emphasis on the science and microbes involved. We will leave attendees with a link to resources.

Blue Sky Solar Racing

Blue Sky hopes to provide attendees with significant exposure to its creation process, and the steps that are being taken to create its 11th generation car model. With a focus on ideation techniques like prototyping, this booth is designed as a means to create a fully immersive experience that facilitates transparency and fosters open conversations surrounding green technology and how it can develop solutions. There will be live demos, trivia games and the winner gets a prize.

Canadian Blood Services

Learn about blood donation with the Canadian Blood Services! Complete our quiz for a chance to win CBS Swag.

Confederation of Laboratory Medicine and Pathobiology Students (CLAMPS)

This activity is a simulation blood-typing scenario. Participants will act as laboratory researchers identifying the antigen composition of different simulated blood samples in order to identify the patient the blood belongs to. Through this activity, participants will learn about the direct utility of laboratory medicine in a clinical setting. We will have scientific explanations that are adaptable to various audiences, as we can go into varying depth (talking about blood types, Rh factor, genetic pattern of blood types etc.)

In this activity, our demonstrators will be using household items to mimic blood and antibody serums. This will include milk dyed with red food coloring and vinegar, which will coagulate similar to the antibody and blood solution. We will be running the demonstration in a "theatrical" performance where the audience will be participating in our experiment and helping us identify the blood sample. We will also provide the protocol to students this at home again later in they would like.

Daniels Faculty

TBA

Department of Physics

Tour: Embedding Molecules inside Ice Crystals … to understand antimatter!
The laws of physics are exactly the same for electrons and their antimatter versions ("anti-electrons"). But oddly, our universe is very asymmetric: the universe naturally contains only matter, and there doesn't seem to be any anti-matter anywhere. To understand why, we try to measure the spin of electrons in molecules very precisely. In our lab, we do this by shooting lasers at molecules that are stuck inside ice crystals, close to absolute zero temperature. *Come learn about this "super cool" way to study particle physics.*

Talk 1: Up, up and Away! Doing Scientific Experiments from a Really Big Balloon
Come along for the ride as we discuss how high-altitude balloons can be used to study Earth's atmosphere from "near-space". Learn how instruments are designed and tested to handle harsh conditions. We will take you along for the journey of a balloon flight capable of carrying 500-1000 kg of experimental equipment up to altitudes of 30-40 km. Hint, the balloon is 25 stories tall!

Talk 2: Brrrr… it is cool doing experiments in the Arctic! A Visit to the Polar Environment Atmospheric Research Lab (PEARL)
Get a glimpse of what it's like to work at a remote polar research laboratory in Eureka, Nunavut. Learn about how we make observations of the atmosphere during the brief Arctic spring when the outside temperatures can be as cold as -50°C. That's before the wind chill! Discover the unique environment of the high Arctic including local weather and wildlife.

FIRST Robotics Canada

Students age 12+ can learn coding through FIRST Tech Challenge (FTC) Blocks in a simulated FIRST Tech Challenge programming environment. Join in a demonstration of the FTC SIM, a free online virtual robotics software designed for teachers, coaches, students, and team members to learn the basics of programming. Sign up to use FTC SIM for free at: https://pixelpad.io/ftcsim/

Fly with Origami, Learn to Dream (UTFOLD)

▼△ Geometry in Art: Let's fold origami! △▼
Recycling is a manufacturing process, worth the effort because of *net* energy and cost savings. It is in our best interest to use less paper and value every sheet to its fullest. Before tossing away your mail or homework, try folding it into art! We'll teach you how to make origami while appreciating its simple geometry.

Gender and The Brain

Using demonstrations of brain imaging and cognitive neuroscience, the Gender and The Brain booth will explore the social, biological, and psychological aspects of gender in the human brain. First, we will ask what gender is and what it looks like in the world around us using a sociology lens. Second, we will put on our figurative lab coats and investigate how the brain develops from fetus to adult and learn how neurons communicate with each other to send information from the brain through the body. Third, we will explore human behaviour and how gender interacts with the biology of our brain.

Institute for Sustainable Energy

TBA

Mathematics & UTFOLD

TBA

Models of Human Diseases Medical Education Programs

Learn about sustainable and healthy food, clean air and reduction of airborne infections, clean water and water security to draw attention to the diseases caused by infected water, lack of water or flooding, and solutions to deal with microbes that avoid resistance and maintain the ecosystem. Attendees will engage in fun activities and games such as Health food store, trivia on the water scarcity around the globe in support of the UNICEF project Hand hygiene for all, and on airborne bugs and pollutants that cause common diseases. Meet with doctors and dentists and learn about the work doctors, dentists, and other healthcare professionals have in promoting wellness and health in communities.

Molecular Genetics

Activity #1: DNA is the building block of life. Come learn about DNA and watch how you can get your own DNA or the DNA from common fruits in your home!

Activity #2: What are animals that scientists study in labs? Come watch glow-in-the-dark fish and worms, two common animal models, in this live interactive session!

Near and Middle Eastern Civilizations / CRANE Project

TBA

Physiology

TBA

Science Chase

TBA

Stem Cell Club

Learn about the importance of stem cell donation as we present the process of registering and requirements to register as a stem cell donor. We will demonstrate how to use a swab kit to register as a stem cell donor.

Undergraduate Pharmacy Society

Vaccination Nation! How do you know your vaccines are safe? This is the biggest question on everyone's minds today as we're living through the biggest mass vaccination program in history. But vaccines are an essential part of our lives every year, starting with vaccinations when we're born. Join the Leslie Dan Faculty of Pharmacy for our Vaccines Trivia Event on Kahoot! Any age can join in on the fun, learn about the vaccines we depend on, and play for prizes!
PRIZES: $25/$20/$15 UofT Bookstore virtual gift cards for the top 3 winners of each Trivia Event!

University of Toronto Aerospace Team (UTAT)

Come learn about the divisions and projects of the UofT Aerospace Team. Join us for a brainstorming and sketching session where we design new products or solutions that can tackle problems in aerospace research, such as sustainable rockets and airplanes to address climate change, or coming up with a way to reduce space debris.

University of Toronto Medical Students

Come explore different parts of the human body through our games and activities.

UofT Trash Team

What is the plastics cycle and how do we, as scientists, research plastic pollution? Come explore and learn about the sources and fate of microplastics in our watershed and explore potential solutions to plastic pollution!

Zebra Robotics

We will have robots that can be controlled by the audience through our team members to pick and drop cargo. We will also have Kahoot quiz that will run periodically.