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SFU APPLIED SCIENCES OUTREACH & SCIENCE AL!VE FREE YOUTH PROGRAMS

STEM SPEAKER SERIES

The STEM Speaker Series provides high school students with the opportunity to learn about STEM topics and careers through the expertise and perspectives of university students, faculty members, and working professionals in STEM fields. See presentation topics for November 2024 to March 2025 below. You can also check out past events here: https://sciencealive.ca/sss-past-speakers

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Discovering the unseen Universe with gravitational waves

Nov 30, 2024 | 1:00 pm - 2:00 pm | Online | Grade 8-12

Guest Speaker: *Dr. Jess McIver* is an Associate Professor in the Department of Physics and Astronomy at the University of British Columbia and a Canada Research Chair in Gravitational Wave Astrophysics. She leads the UBC gravitational-wave astrophysics group, the UBC LIGO group, and the UBC-TRIUMF LISA group. Jess currently serves as the Deputy Spokesperson of the LIGO Scientific Collaboration.

Presentation Description: Gravitational waves, tiny ripples in the fabric of spacetime, allow us to observe distant objects we can't usually see with telescopes, including black hole collisions and the interior of nearby exploding stars. These waves pass through the Earth day or night, through heavy cloud cover, and across billions of light years of galaxies and dust, allowing us to make measurements anytime our detectors are operational. In this talk, we'll explore where gravitational waves come from, how we can measure them, and what they can teach us about the Universe that we can't learn with light alone.

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Control for safe robot navigation

Jan 25, 2025 | 1:00 pm - 2:00 pm | Online | Grade 8-12

Guest Speaker: *Minh Bui* is a third year PhD student under the supervision of Dr. Mo Chen and Dr. Arrvindh Shriraman with research interests in control theory, robotics, and machine learning. He obtained his master’s degree from SFU and his bachelor’s degree in electrical engineering from UBC.

Presentation Description: In this talk, I will explore the principles of safe control algorithms within the context of robot navigation. These algorithms ensure that robots can operate autonomously while avoiding obstacles and adhering to safety constraints. I will discuss my past and current work in this area with applications in robotic systems.

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Human-centered design of a self-monitoring tool for learning

Feb 22, 2025 | 1:00 pm - 2:00 pm | Online | Grade 8-12

Guest Speaker: *Rimika Chaudhury* is a final year PhD student in Computer Science, specializing in Human Computer Interaction. Before her graduate studies, Rimika gained professional experience as a technology educator in an Information Technology company and then as a User Experience designer in a financial technology company during her Masters. Besides research, three other things that she loves are - food, cats, and story-telling.

Presentation Description: In this presentation, I will talk a bit about my background as a software developer and educator, and talk about what inspired me to pursue the field of human-computer interaction design. Next, I will talk about how human-centered design principles can support the development of more user-friendly software tools. As an example, I will describe the process I followed in my graduate work while developing a self-monitoring tool for learning.

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My journey as a computing science undergrad

Mar 15, 2025 | 1:00 pm - 2:00 pm | Online | Grade 8-12

Guest Speaker: *Jin Song* is a fourth year computing science (CS) student at SFU! She has been interested in STEM ever since she was a kid—her mom told her that she used to go around with a "Dr. Song" name tag and perform all sorts of science experiments with the limited supplies found in their house. For as long as she remembered, Jin wanted to be an inventor or chemist, but had not, in fact, become a chemist. She is hoping to finish her CS degree soon and is currently working on many side projects.

Presentation Description: This presentation will cover my perspective as a CS undergrad student at SFU. I will talk about why I went into CS, what I've been learning in my courses, and some projects I have done. I will talk about how CS is a really broad field with applications in pretty much every industry in modern times since we are living in a "digital era." I will also showcase my most recent project (web publishing site) and go over my workflow as a full stack solo(ish) developer.

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HACK THE FUTURE 2025

Hack the Future is a hackathon for Grade 8-12 girls and young women. In this hackathon, students work in teams of 4-8 persons with 1-2 team lead(s) to design and build softwares that align with the hackathon theme. As part of our efforts to create outreach programs that advance gender equity, Hack the Future also welcomes gender-diverse youth, including but not limited to cis girls, trans girls, non-binary youth, and gender non-conforming youth. Our primary aim is to foster a safe and inclusive learning environment centered on creativity, collaboration, and knowledge sharing.

The 2025 pre-hackathon mixer will take place on **Mar 7, 2025 from 3:30-7:00 pm**, while the hackathon day will take place on **Mar 8, 2025 from 8:30 am-4:30 pm**. Both events are located at the SFU Sustainability Energy Engineering building at Surrey. This year's theme is **climate action and sustainability**, and there will be prizes! Use the link below to learn more about Hack the Future 2025.

LEARN MORE ABOUT HACK THE FUTURE 2025

We are currently recruiting for team leads for Hack the Future 2025. Successful team leads will receive a $100 honorarium upon completion of all required duties. Please use the link below to learn more about the team lead role and to apply!

APPLY TO LEAD A HACKATHON TEAM

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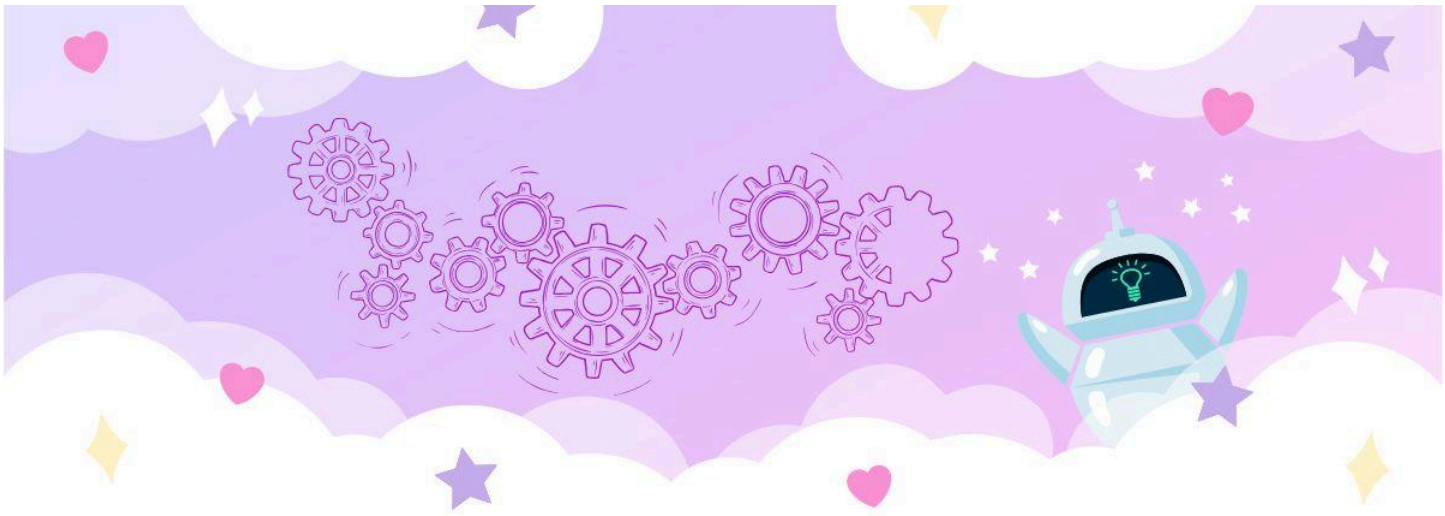

ROBOTICS WORKSHOP FOR TEENS

Nov 30 & Dec 7, 2024 | 1:30 PM - 3:30 PM | Grade 8-12

Calling all BIPOC youths in grades 8-12! Join us for an engaging two-part workshop series at SFU Surrey's Sustainable Energy Engineering Building (SRYE) by attending this program run by Science AL!VE and Kucheli Foundation. Get hands-on with interactive activities like building and programming robots, exploring artificial intelligence, and mastering cyber safety techniques. Work with your peers to tackle fun challenges that spark your creativity and critical thinking. This is your chance to learn from university computer science students to discover how tech can shape your future!

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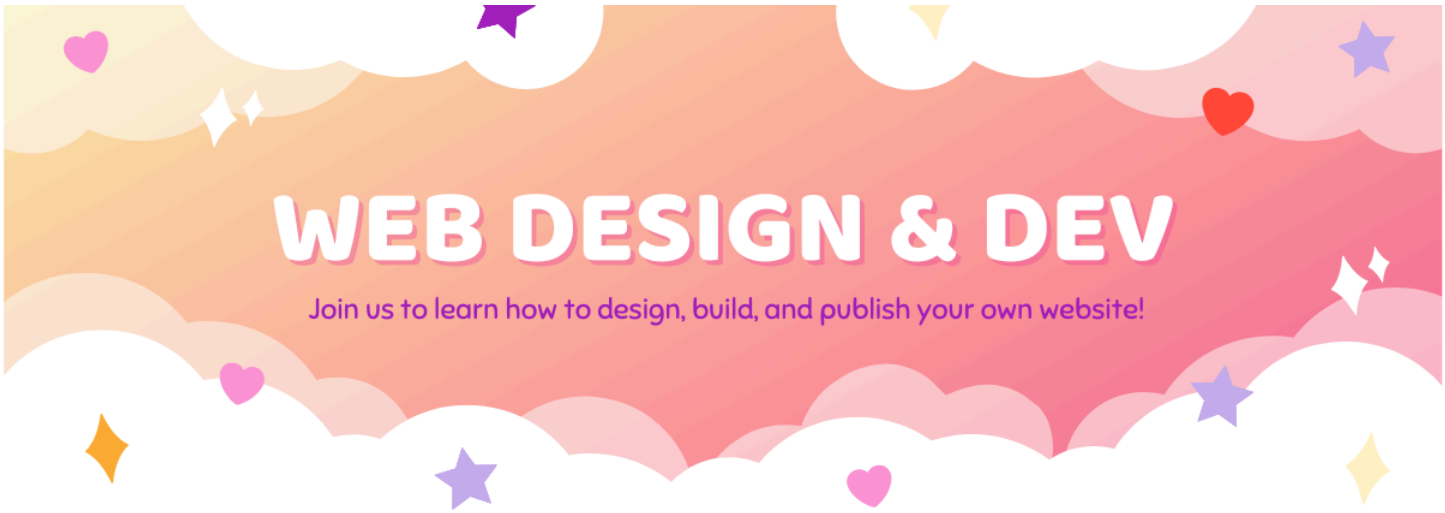

WEB DESIGN & DEVELOPMENT PROGRAM

Jan 25-Mar 15, 2025 | 10:00 am - 11:30 am | Grade 8-12

The Web Design & Development program is a series of seven online workshops that run from 10-11:30 am every Saturday between Jan 25-Mar 15, 2025 (except for the Feb 15 long weekend). In this workshop series, Grade 8-12 students will learn about user interface and user experience design, build a website using HTML, CSS, and JavaScript, and publish the website. Participation in this workshop series will require a Figma account, Visual Studio Code (desktop version), an up-to-date web browser, and a Github account. We recommend having some experience in text-based coding before joining this program. There will be a show-and-tell session during the final workshop, in which students will present their work to their peers and celebrate their accomplishments. All workshops will be offered virtually via Zoom.

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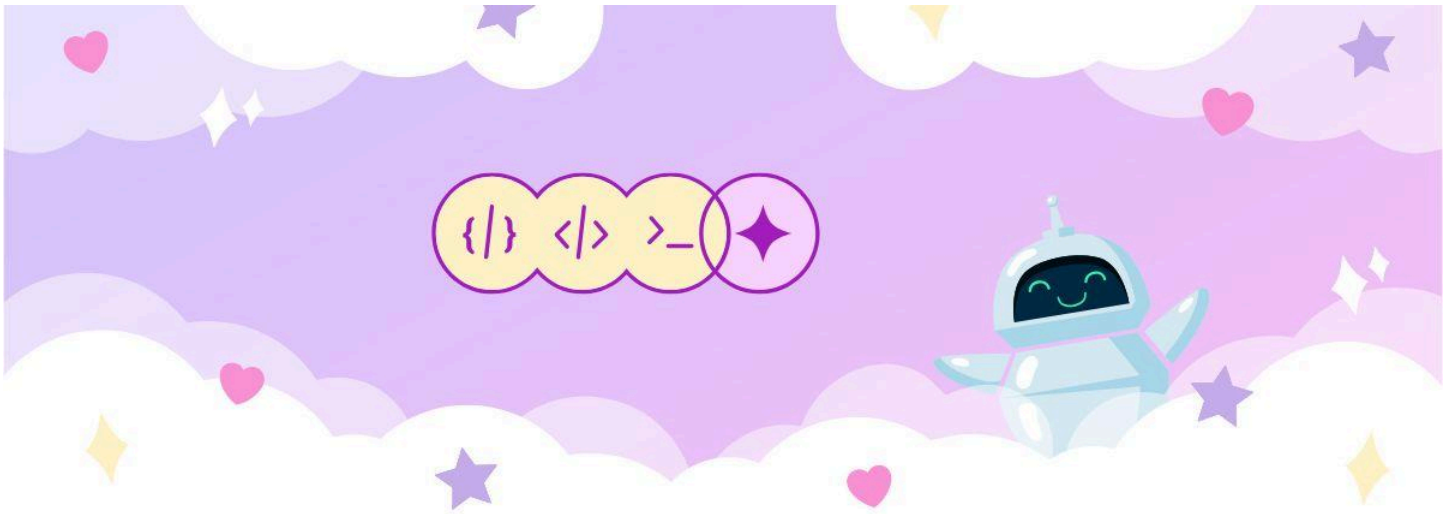

GO CODE GIRL 2025

Mar 1, 2025 | 10:00 AM - 2:00 PM | Grade 7-10

In partnership with the Ontario Network for Women in Engineering (ONWIE), and SFU's Women in Engineering, SFU's Faculty of Applied Sciences invites *girls (grades 7 – 10) to learn more about the wonderful world of computer science. Please join us for this FREE event where girls will have fun participating in a hands-on activity and learn about the possibilities of computer science as a career choice. Limited space is available so sign up today! No prior experience with coding required!

*As part of our efforts to create inclusive, bias-free learning environments that advance gender equity, our Girls and Young Women Programs welcome gender-diverse youth, including but not limited to cis girls, trans girls, non-binary youth, gender non-conforming youth.

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SUMMER PROGRAMS 2025 PRE-LAUNCH

We will be offering various full-day workshops and week-long summer programs for Grade 4-12 students between May-Aug 2025. These workshops and programs will cover a wide range of topics, including design thinking, basic coding concepts, mobile app development, societal impacts of technology, and artificial intelligence. Feel free to sign-up to be the first to hear about these offerings! Alternatively, you can stay up-to-date by signing up for our newsletter or checking our website!

SIGN UP FOR OUR SUMMER PROGRAMS PRE-LAUNCH

SIGN UP FOR OUR MONTHLY NEWSLETTER

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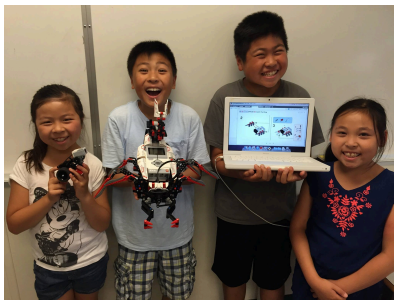

SUBSCRIBE TO OUR OUTREACH COMMUNITY PROGRAMS NEWSLETTER

Interested in hearing more about Science AL!VE programs throughout the year? Sign-up for our monthly newsletter which lists our current free and paid youth programs in a community near you as well as teacher professional development opportunities and resources.

APPLY TO WORK AT SCIENCE AL!VE

APPLY TO VOLUNTEER AT SCIENCE AL!VE

Interested in working or volunteering with Science AL!VE? Check out our application pages for more information.

Faculty of Applied Sciences | Outreach and Diversity
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