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iGEM teams continue to work on their projects despite no lab access

Campus closures won't stop these dedicated students! The University of Lethbridge undergraduate and high school iGEM teams are continuing their competition seasons even without access to wet lab space.

Using Zoom, shared online drives, and their own ingenuity, the teams have been connecting and are making the best of a bad situation. While they may not be able to get into the lab, teams still have many tasks to complete — writing papers, building a website, creating online workshops, organizing fundraisers and lots of research.



“We will not let this virus dampen our spirits and cancel iGEM for the year, so we’ve decided to make the best out of what we have,” says Kimoya Edwards, a Grade 11 student from Lethbridge Collegiate Institute (LCI). “There is a musical recital that was planned before this virus and as a team, we will continue with this recital virtually on May 23, because what’s a better way to liven the spirits than music?”

The high school team is also excited to participate in the online BioTreks conference May 2 and present their project paper: *Understanding the mechanisms of small-scale composting and potential enzymatic improvements in pectin degradation using synthetic biology*.

“Being a part of iGEM means a lot to our team members and our love for it is what keeps pushing us to continue,” says Shada Aborawi, a Grade 11 LCI student. “Even though we can’t use the lab for our project, we have found fun and easily accessible ways to further our research and make our project possible.”

This year the high school team chose to focus on making at-home composting as efficient as possible by engineering an enhanced pectin-degradation enzymatic pathway. Each team member will build a standardized composting unit at their own homes and record their observations and take samples of the microbial populations to hopefully analyze at a later date.

They will use advanced modeling techniques to predict important amino acid regions within pectin-degradation enzymes in order to create a theoretical minimal protein model. When the team is allowed to return to the lab, they will have lots of testing to complete.

From online fundraisers to YouTube channels to doing science at home, the high school iGEM team is getting it done!

“I am so proud of the resilience that the team has shown in the face of a very difficult situation. They are all still super excited about their project and we’re all learning together on how to translate a majority hands-on program to an online and at-home format,” says biochemistry instructor and team lead, Dr. Laura Keffer-Wilkes.

The University of Lethbridge iGEM undergraduate team is also staying busy this season and will focus on advancing the use of antimicrobial peptides to combat agricultural pests prevalent in Alberta and elsewhere.

“iGEM is more than the lab bench, there are several aspects that we need to consider,” says Dia Koupantsis, student leader for the iGEM undergraduate team 2020. “In order to form a project, you need to have in mind how that will affect the user and the environment, what are the purposes and your end goal, etc. Luckily, our team is composed of individuals from different fields which gives a broad view on the project.”

“Despite these unprecedented circumstances we are continuing to train our students through the iGEM program activities, including a dedicated synthetic biology course that is now offered online by the Department of Chemistry & Biochemistry this summer,” says Dr. Angeliki Pantazi, biochemistry instructor and university team supervisor.

With the current global situation, the impact science and research can have on our society is clear. The iGEM program is a great way of introducing young people to science, technology, engineering, and math and help to solve real-world local and global problems.

To support the Lethbridge high school iGEM team, please consider donating to their [GoFundMe](#) page. For more information send an email to iGEM@uleth.ca.

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