McGill-Concordia collaboration wins big in eco-housing competition

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After more than two years of hard work, Canada was among the 2018 Solar Decath-

lon Canada competition front runners. The 15-member Team MTL, the highest

performer in the expert jury reviews. The collaborative effort between

McGill University and Concordia University com-

peted against 22 teams from 30 schools and 10 countries to construct the best solar powered house.

In the short span of three weeks, the 65-student team raced against the clock,

working through day and night to design and construct their innovative one house from top to bottom.

When completed, Team MTL’s structure was among the most finished and presentable houses at the competition. They are being judged on their performance in five expert peer-reviewed judged contexts (architecture, engineering, innovation, market appeal, and communications) as well as 20 measured contexts (energy balance, home comfort, community, home life and appliances).

This experience has been extremely informative and rewarding,” said Benjamin Wareing, the Architecture Lead for Team MTL, and a PhD student at McGill University. “I have learned so much over the last two and a half years and the three week construction period in China was an intense and enriching hands-on learning opportunity for us.”

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With working external partners like SALTISE is important to the eLATE initiative,” said Dr. Orjuela-Laverde. “Participating in the teaching community helps us to stay current with new research in education so that we can help our students become innovative thinkers. This in turn prepares them for the jobs of the future, the jobs of the unknown.

More proof of the eLATE model can be found in the case of Assistant Professor Shermin Shaheen. An instructor in the Electrical and Computer Engineering Department, Professor Shaheen was inspired by the student evaluations for her 200 series course in Electrical Circuits. She reached out to Dr. Orjuela-Laverde for help in understanding the quality of the feedback, and what could be done to improve the situation.

“The instructor was able to use the student comments into actionable steps,” Professor Shaheen said. “Using the eLATE model, there weren’t many opportunities to interact with the students, so I had a sense of how they were doing.” By the fall of 2017, she had revamped the course to include in-class activities with students breaking into groups to each meet with the instructor. She worked with Dr. Orjuela-Laverde and the students to understand how the changes to the course worked. The students were very happy with the changes, and the instructor was pleased with what she was hearing from the students.

While educators may find the model valuable, what are students thinking? Meghan Huang, a PHD student, is enthusiastic about the initiative. “The easy incorporation of the eLATE model into our daily classroom discussions is important to our own education,” she said. “They want to have a say in their own learning, and eLATE gives them the tools to do that.”

Leadership according to the leaders

The eLATE initiative is aimed at giving students experiences that will help them foster their own areas of leadership. This initiative has been updated and guided by the editors, a number of members of the Faculty Advancement Board, which addresses the Faculty on its strategic plans.

We asked FAB members to share their thoughts on the value of the initiative, and the results were quite positive.

John Bastian (PhD Eng '81, FAB Member since 2005): “The last few years have seen the integration of effective teaching strategies into the syllabus of all students. I have attended the eLATE workshops and have been able to apply these strategies in my own teaching. I have seen a significant improvement in student engagement and motivation.”

Ronald D'Engel (PhD, FAB Member): “The eLATE initiative is an important tool for educators. It provides a structured approach to teaching, and helps to promote student engagement.”

John Saabas (PhD Eng '91, FAB Member): “The eLATE initiative is a valuable resource for educators. It provides a structured approach to teaching, and helps to promote student engagement.”

Beyond blackboards: eLATE initiative aims to make education more active and long-lasting

McGill’s Faculty of Engineering deserves credit for helping to launch the learning community,” said John Bentley, Senior Instructional Developer at Concordia University. “As practitioners, sharing ideas on what works is extremely valuable, and events like Teaching Week are an ideal way for educators to share these ideas.”

The focus on the broader educational community stems from eLATE’s origins, which began as the Teaching Enhancement Initiative in 2011 thanks to a foundational gift from an anonymous alumna. It was pris to this that eLATE Pedagogical Coordinator, Dr. Maria Orjuela-Laverde took part in the SALTISE initiative, known as "Active Learning and Technology in Studies of Education," which continues to explore new ideas and models in active learning.”

eLATE Statement

For more than four decades, I have been involved in learner-centered engineering and science education. Dr. Felder was keynote speaker at the recent SALTISE/eLATE Conference hosted by McGill University, and offered the following statement on the Faculty of Engineering’s eLATE initiative:

The more that FAB Members have been travelling throughout North America and beyond, giving lectures and workshops on active learning (AL). Although overbased research evidence has always been available, AL has contributed significantly to students’ achievement of almost every conceivable learning outcome. Its integration into courses and curricula has been limited by resistance from some faculty members and students. The McGill University Faculty of Engineering’s eLATE initiative with crucial support from Dave Newell is doing an admirable job of promoting AL across the McGill Faculty and other engineering institutions. Organizing events such as the SALTISE/eLATE conferences promotes broad awareness of the method, and the dedicated dedication and enthusiasm of the eLATE initiative to make education more active and long-lasting. eLATE is a clearinghouse and a driver for innovative ideas and models in active learning.”

I congratulate the initiative leaders and Dean Felder on their work, and wish them continued success in their efforts to improve engineering education.
Beyond classrooms:

Empower takes learning to new heights—and new places

Empower is an initiative that seeks to augment student learning. But unlike sister initiative eLATE, Empower is focused on activities that take place outside of class. Conceptually, this is known as “experiential learning,” or learning by doing, and while ancillary skills development may be an added benefit, the initiative is really about helping students develop leadership capabilities. Empower is proving to be a popular option among the student body—and it is something that employers definitely look for when recruiting graduates. A complete list of all teams, associations and organizations that students can participate in is on the back page.

MOCELL CHEM E CAR

New established: 2018
Number of members: TBA
Key events: Regional competition (F), Rocky Mountain Regionals (E), Pittsburg, PA

The Chem-E Car is organized by the American Institute of Chemical Engineers (AICHE) teams. Create small car capable of carrying a light weight, which is entirely controlled by chemical reaction. The team is the best distance and precise weight are only revealed on the day of competition, which means a lot of trial and error within severe time constraints. Most recently, the team earned 2nd place in regional competition in Rocky Mountain Regionals (F) in April, 2023. “Being part of the team gives me the confidence to be more aggressive than in class,” said Co-captain Tatum Culliford (BEng ’18).

MOCELL ROCKET TEAM

New established: 2017
Number of members: 140
Key events: Spokane Rocket America Cup (E), June 29-30, Coeur d’Alene, Idaho

The SAE Baja competition challenges students to design and build a small off-road vehicle capable of reaching high speeds. The team worked closely with the now defunct SAE Rocket America Cup competition, the world’s largest intercollegiate rocketry competition. The team’s two rockets won them the Genesis Cup, a key event: "It was a surreal moment to see our rocket reach the stratosphere,” said Jessica Zhong (BEng ’19). "It was an amazing feeling to see our rocket fly so high and reach such an altitude.”

MOCELL CONCRETE CANOE TEAM

New established: 2017
Number of members: TBA
Key events: National competition May 22-25, Pennsylvania, PA

For the past 25 years, the Canadian Society for Civil Engineering has been hosting a competition that asks engineers to design the impossible: build and race a concrete canoe. But the team also wins top honours in this year’s Spaceport America Cup, an annual competition that challenges teams to design and build a vehicle capable of reaching 100,000 feet in altitude. "It was an amazing feeling to see our rocket fly so high and reach such an altitude.”

MOCELL ROBOTICS

New established: 2017
Number of members: TBA
Key events: National competition May 22-25, Pennsylvania, PA

The Robotics team is one of the most popular teams at McGill. It is an opportunity for students to work on projects of their own, and to interact with other students from different disciplines. The team has won multiple national and international competitions, and is known for its creative solutions to complex problems.

MOCELL ARTIFICIAL INTELLIGENCE SOCIETY

New established: 2021
Number of members: 130
Key events: Artificial Intelligence Conference, November 2021

The club is dedicated to research and teaching in artificial intelligence and machine learning. It aims to bring together students from different disciplines who share an interest in these fields. The club organizes regular events, such as lectures, workshops, and problem-solving sessions. It also facilitates collaboration between students and the research community, and provides opportunities for students to contribute to ongoing research projects.

MOCELL ATHLETICS

New established: 2018
Number of members: 1,900 (from Faculty of Engineering)

Key events: Various

McGill Athletics is a student-run organization that oversees the athletic activities at McGill University. It is responsible for coordinating and managing the varsity and club teams, as well as providing support and resources for student-athletes. McGUll Athletics is committed to fostering a healthy and competitive athletic environment, and to promoting the values of sportsmanship, teamwork, and academic excellence. The organization also offers a variety of intramural and recreational activities for students who are interested in staying active and involved in athletics.