

News Release

Capstone Project of the Year Award winners demonstrate ingenuity and sustainability

EDMONTON, July 29, 2019 - As youth across the province contemplate post-secondary education options, three engineering technology graduates were honoured by the Association of Science and Engineering Technology Professionals of Alberta (ASET) as the winners of the annual Capstone Project of the Year Award.

Tyson Baldrey, Allan Johnston and Randy Holmberg, graduates of Lethbridge College's engineering design and drafting technology program (EDDT), received the award for their environmentally conscious exploration of bamboo as a viable alternative to steel reinforcement (rebar) in concrete in construction projects.

"At ASET, we are always awestruck by the incredible innovation and ingenuity of our Capstone winners and finalists, and the exceptional contribution these young people make to our society because of the quality of the education they receive at polytechnics like Lethbridge College," said ASET CEO Barry Cavanaugh.

The Capstone Awards were established by ASET in 2017 in response to overwhelming member interest in back-to-school stories about Capstone projects undertaken by teams of engineering technology students from NAIT, SAIT, Red Deer College, and Lethbridge College as part of their end-of-program requirements.

"Each year, we enjoy seeing the different ways our students put their learning into practice through their Capstone projects," says Bill Smienk, chair of the school of engineering technologies at Lethbridge College. "But for our students to go on and get this kind of recognition from our industry was just thrilling. We truly value the partnership we have with ASET, and we appreciate all of those working in engineering fields who support, encourage and recognize outstanding student work."

Tyson Baldrey says that the team's intention before initiating the project was to find a topic that was interesting and had implications in the developing world as well as supported sustainability. They began by looking at what materials and testing apparatuses and equipment were readily available to them. With that, they were able to apply the engineering, research, and testing principles they'd studied throughout their Lethbridge College program.

The team explored various combinations of test materials before landing on using synthetic and/or organic polymers as an injectable to boost the structural characteristics of bamboo.

“We needed to ensure that our topic of choice had relevant supplementary research from which we could build upon or add value. The combination of bamboo and concrete is well established in the research pool, but we found that there was still room for improvement and analysis of suitability from a North American perspective,” said Baldrey.

At the end of their project, the team determined that bamboo was indeed a viable alternative – with the caveat that testing was based on small scale loads and construction. They concluded that additional research was required to further develop the process of refining the bamboo for use in concrete and scaling research to analyze in larger load applications.

About the Capstone Project of the Year Award-winning team

Tyson Baldrey, mechanical designer

Baldrey decided to pursue a career in engineering technology years after completing his bachelor’s degree and working in the oil and gas industry alongside engineers and engineering technologists. “It served to reignite the passion I had in my younger years for tinkering and discovering the inner workings of whatever technology I could get my hands on,” said Baldrey.

Allan Johnston, mechanical draftsman

An English as a second language (ESL) instructor since 1996 who taught in Canada and Asia, Johnston returned to Lethbridge in 2011 and found his ESL career options limited there. Having always been interested in small- and large-scale mechanical designs, the transition to a career in EDDT seemed a natural fit. “I was curious how returning to school as a mature student would work out,” said Johnston. Clearly it did.

Randy Holmberg, technologist-in-training (TT) with an architecture firm

When Holmberg began exploring post-secondary education at the end of high school, his technology experience was limited. He came from a background of designing small projects in shop class and using basic drafting software. He had also gained some experience in the plumbing, gas fitting, and carpentry trades during his high school years. “Seeing how things were built and fabricated was really what sparked my interest in the field,” said Holmberg.

About ASET

In addition to handing out the Capstone Project of the Year Award to deserving engineering technology students, the [ASET Education and Scholarship Foundation](#) provides scholarships, bursaries and educational funding to enhance and support the education of students pursuing engineering technology studies.

[ASET](#) is the professional self-regulatory organization for engineering technologists and technicians in Alberta. ASET currently represents over 18,000 members, including full-time technology students, recent graduates and fully certified members in 21 disciplines and some 124 occupations across a multitude of industries.

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