College graduate receives provincial STEM honour

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Engineering Design and Drafting Technology alums, Will Peters, along with, Peter Harris, Nicolas Groenheide and Julian Krizan, are part of two teams of recent LC grads who have been named finalists for the Association of Science & Engineering Technology Professionals of Alberta Capstone of the Year Award.

Will Peters, a former resident of Coaldale and recent graduate of Lethbridge College's engineering design and drafting technology program is being recognized for his work on a wind tunnel project by the Association of Science and Engineering Technology Professionals of Alberta's Capstone Project of the Year Award.

The project has landed the former team in the running for a provincial honour awarded annually by the Association of Science and Engineering Technology Professionals of Alberta (ASET).

For their Capstone Project, former teammates Will Peters, Peter Harris, Nicolas Groenheide, and Julian Krizan, posed the question of whether software was an effective as a physical wind tunnel when testing air flow around an object. To answer this question, the group conducted research and compared testing air flow in a physical wind tunnel with the data collected through digital software which was guided by a branch of fluid mechanics called computational fluid dynamics (CFD). Using the mechanical data from the "real-life" scenario, CFD software creates simulations which can predict how liquids and gases will behave. Rather than fluids, the former team used air flow and used the same principles for their project.

The former team members constructed an actual wind tunnel to test the physical outcomes, gathering data on how air flow behaved around an object within the wind tunnel. Once this data was recorded, they employed CFD software to test whether the software produced comparable results to the physical test.

The former team members uploaded the dimensions into the software and ran a virtual simulation of the wind tunnel. Upon analysis, they learned the visuals of the wind tunnel and the simulation were similar, and the software was effective in representing the precise behaviour of air flow inside of the wind tunnel. Following these experiments and analysis, the former team concluded that the CFD software can accurately produce a virtual model of a wind tunnel.

In a recent release published by ASET, Peters noted the former team also discovered, “(the) software was able to compensate for variables that could not be measured during physical tests, such as pressure.”

Peters, who is also a former student of Kate Andrews High School in Coaldale, said hearing his former group’s project was nominated for the award instilled, “a great sense of pride when we were told we would be finalists,” and added, “our entire group spent a lot of hours,” developing the project.

He explained this kind of technology has a myriad of practical applications for Engineering Technology professionals.

“With further development, there could be many applications for our findings. Whether the results are used to improve software by checking accuracy in specific settings, or simply validating information collected.”

In the release, ASET CEO Barry Cavanaugh said, “this Capstone Project represents the kind of out of the box thinking that characterizes the engineering technology profession, and in this case it’s literal.”

The award was established by ASET in 2017 and represents final projects produced by engineering technology students from technical post secondary institutions such as Lethbridge College, NAIT, SAIT, and Red Deer Polytechnic.

The winning project will be announced by ASET at the end of the month.