

Cleantech Hub Quarterly Update | September 2022

# Cleantech Hub

## Cleantech Hub Updates

The Province funded nearly **\$2.8M for 23 research projects at UBCO** – the highest number of provincially funded projects at UBCO. Among them, Cleantech Hub researchers, Dr. Alexander Uhl and Dr. Michael Benoit are the recipients of the British Columbia Knowledge Development Fund.

A [critical review](#) by Dr. Bichler and industry partners from Nemak Canada, published in Progress in Materials Science, discusses the recent advances in aluminum matrix composites reinforced with graphene-based nanomaterial.

Cleantech Hub researcher, Dr. Jian Liu, gave an amazing talk at the [Think Forward](#) event which was part of the UBC HOMECOMING - September 23/24, 2022.

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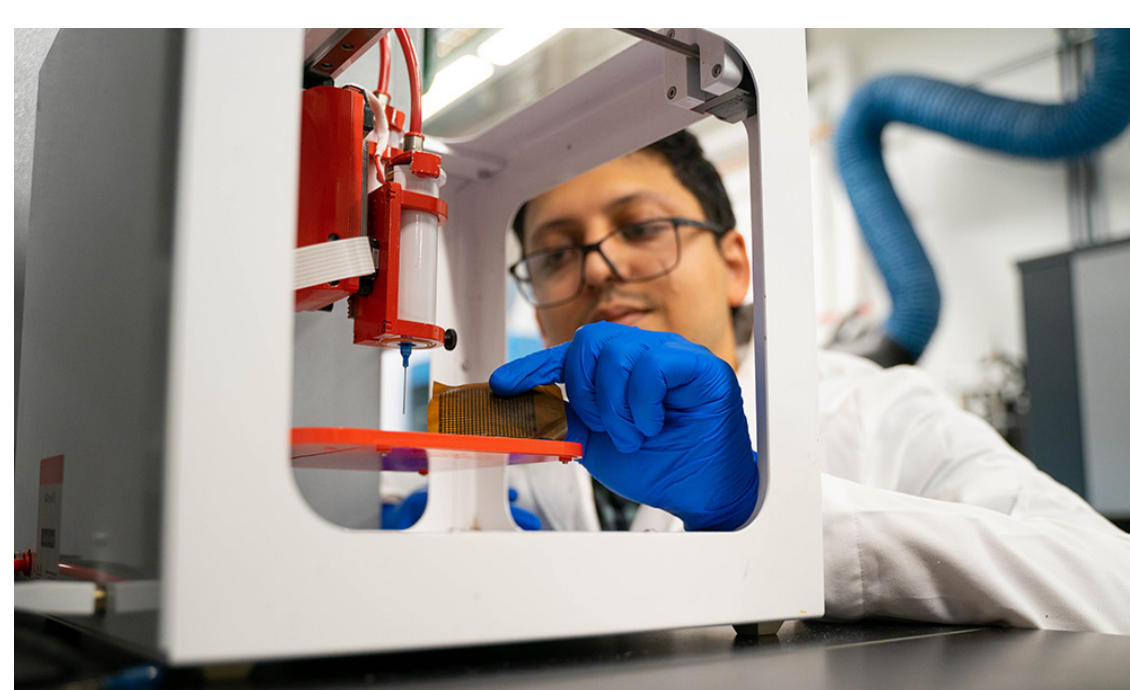
## New Projects



### Towards a net zero emission railway system with hydrogen powered trains

As part of a new collaborative R&D project, which began in 2022, Dr. Gordon Lovegrove's team is working with experts from the National Research Council of Canada, and Transport Canada, to evaluate the gaps associated with deploying hydrogen locomotives, also known as "hydtrail," and battery-powered locomotives.

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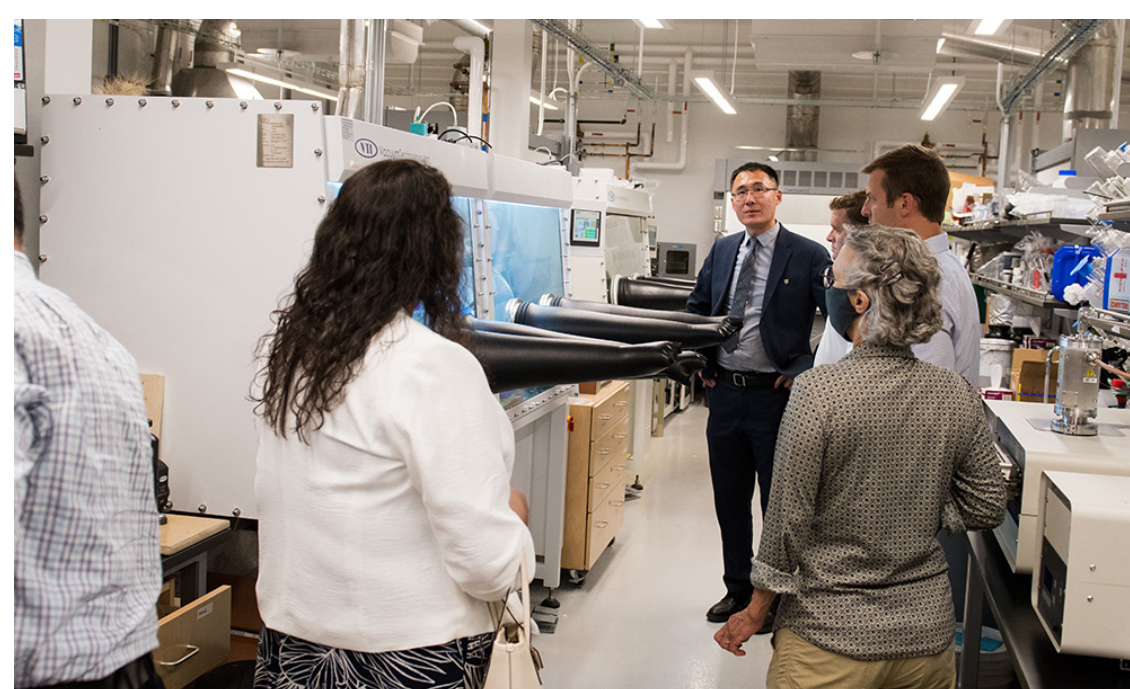


### UBCO researchers change the game when it comes to activity tracking

Dr. Mohammad Arjmand 's team is exploring a high-resolution extrusion printing approach to develop devices with dual functionality—electromagnetic interference (EMI) shields and a body motion sensor.

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## New Partners, Investments



### \$1M support from industry partnership supports first university-based battery prototyping facility in Western Canada

Dr. Jian Liu, the UBC Okanagan Principal's Research Chair in Energy Storage Technologies, is developing a solid-state lithium battery that will increase performance and stability specifically for powering EVs. Fenix's \$1M fund will contribute to establish a Pouch Cell Facility at UBCO.

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### Optimizing solar energy systems at VEDA Student Residence

A new 152 kW photovoltaic system has recently been installed on the roof VEDA Student Housing to produce 158 MWh of electricity during its 1st year of operation, of which 97% is used directly on site. Dr. Alexander Uhl and team will use this living lab to investigate the performance of various solar technologies and installation parameters to improve the accuracy of predictive models in the region.

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## Researcher Spotlight

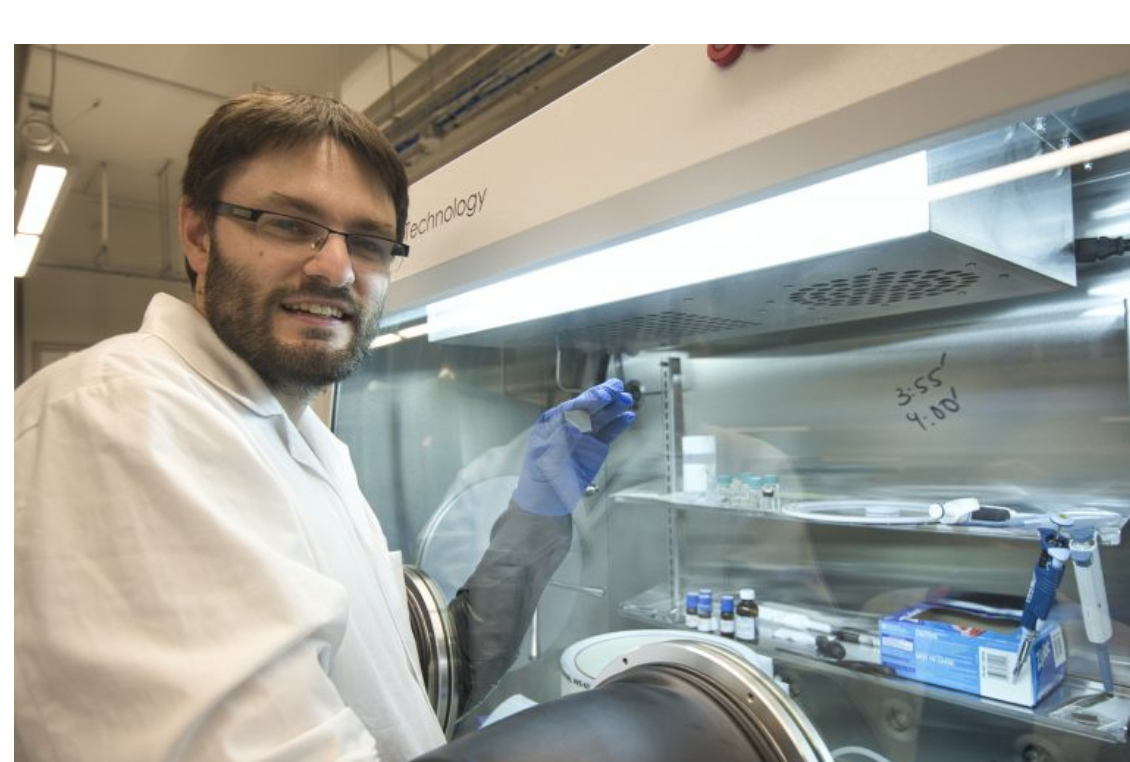


### Dr. Will Hughes leads UBCO's next generation engineers

Professor Will Hughes has been appointed Director for the College of Engineering at UBC Okanagan for a five-year term commencing July 1, 2022. Dr. Hughes brings extensive experience to the role, most recently serving as the Director of the Nucleic Acid Memory Institute, a Professor in the Micron School of Materials Science & Engineering, a Fellow of the College of Innovation + Design and a Fellow of the Institute for Inclusive & Transformative Scholarship (IFITS) at Boise State University.

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## Student Spotlight



### Jason Schultz, the Undergraduate Student Research Award (USRA) recipient, looks to tackle climate change

After completing his BSc, Schultz joined the Dr. Alexander Uhl's Laboratory for Solar Energy and Fuels Research. Along with Dr.Uhl, Schultz is participating in research that looks to improve perovskite solar cell stability through environmental encapsulation and real-time performance monitoring.

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