

Nano Science, Technology and Industry Scoreboard

HydroGraph Clean Power Receives Grant for Work at Fraunhofer Innovation Platform for Composites Research

2022-11-15

HydroGraph Clean Power Inc. is pleased to announce that it has secured a \$90,000 grant in funding per year for two years for composite work at the Fraunhofer Innovation Platform for Composite Research at Western University.

With the increasing impact of Greenhouse Gas emissions on climate change, there is growing interest in alternatives to internal combustion engines. This research will study HydroGraph's graphene in thermoset resins to understand the effect of filler material on mechanical, electrical and thermal properties. The results will provide valuable information that will help increase the supply and use of graphene for applications that require lightweight and superior mechanical and energy properties.

HydroGraph's patented Hyperion detonation process achieves the highest quality graphene in the most environmentally friendly manner due to its low energy consumption, absence of emissions, and reduced waste product. HydroGraph is the only company in the Americas to be certified by the Graphene Council as a Verified Graphene Producer, an independent 3rd party certification that validates graphene production facilities, verification of production methods and volumes, and quality control processes.

In addition to fuel cells, polymer composites pose a unique opportunity due to their mechanically strong and lightweight properties and electrical and thermal conductivity. In the past, graphite fiber has been used (among other carbon fillers) to generate electrical conductivity, however, its use has stalled because of high costs and availability.

"We are thrilled to secure this placement to apply HydroGraph's material to work in composites and evaluate the potential for future composite development," said Stuart Jara, Chief Executive Officer of HydroGraph. "As interest in HydroGraph's fractal graphene and

reactive graphene has grown significantly, we are nearing the point of exhausting the capacity of our pre-commercial scale production units. Further, we have active customer interest in composites and this grant will help HydroGraph develop additional applications for this high value market."

HydroGraph was awarded the grant from Natural Sciences and Engineering Research Counciland Mitacs.

The Fraunhofer Innovation Platform for Composites Research is a joint venture between Western University and the Fraunhofer Institute of Chemical Technology in Pfinztal, Germany. The Fraunhofer Innovation Platform for Composites Research at Western develops, tests, validates and characterizes new lightweight materials and advanced manufacturing processes at industrial scale.

"As America's most advanced center for industrial scale testing and <u>Canada</u>'s only openaccess, full-scale press with manufacturing capacity, we are thrilled to work with The Fraunhofer Innovation Platform for Composites Research," said Ranjith Divigalpitiya, Chief Science Officer, HydroGraph.

The project is being led by grant co-applicant and PI, Professor Andrew Hrymak, Special Advisor to the President of Western University on Industry Partnerships, the Green Economy, and Sustainability. Professor Hrymak played a significant role in securing the long-term partnership between Western and the Fraunhofer Institute of Chemical Technology, representing the first-ever comprehensive joint venture between a Canadian university and an institute of Fraunhofer-Gessellschaft, Europe's largest application-oriented research.

Read the original article on Northern News.