



General Fusion – University of Saskatchewan Partnership aims to Advance Energy R&D in Canada

SASKATOON, Saskatchewan & BURNABY, British Columbia—(July 14, 2014)— A University of Saskatchewan research team led by physicist Akira Hirose is partnering with General Fusion to help develop advanced materials for their prototype fusion reactor technology.

“The University of Saskatchewan has world-class plasma physics expertise and can support General Fusion’s R&D program as we work to perfect our magnetized target fusion technology,” said Michel Laberge, chief scientist for the company, which is based in Burnaby, British Columbia.

Nuclear fusion is the same reaction that powers the sun. It involves fusing together hydrogen atoms, a process that produces enormous energy – so much so that its proponents suggest it would be essentially limitless, able to power human civilization indefinitely.

“Fusion energy research offers the tantalizing promise of clean, safe, sustainable energy,” said Karen Chad, U of S vice-president research. “We’re committed, with our partners, to developing knowledge to help address the challenge of 1.3 billion people in our world who have no access to electricity.”

Fusion generates neither pollution nor greenhouse gases, and the hydrogen isotopes needed for fuel are easily available. Fusion plants also cannot suffer meltdowns and do not produce long-lived radioactive waste.

One of the many challenges in realizing the dream of fusion power is to develop materials that are able to face and withstand conditions at the heart of the reactor. There, carefully balanced magnetic fields hold captive a state of matter called plasma – essentially a miniature sun burning at tens of millions of degrees Celsius.

Over the next year, General Fusion is engaging Hirose’s Plasma Physics Laboratory (plasma.usask.ca) in the Department of Physics and Engineering Physics to test these “plasma-facing materials.” The agreement includes partial funding from the National Research Council Industry Research Assistance Program (NRC-IRAP) Business Innovation Access Program.

Hirose and his team will use their plasma diagnostic expertise to measure density, temperature and magnetic fields of the plasmas after they enter a chamber containing the material samples. The goal is to both test materials’ performance and to guide development of operating procedures for the company’s prototype fusion reactor.

Hirose, who holds the Canada Research Chair in Plasma Science, operates Canada’s leading plasma physics laboratory. It is home of the STOR-M tokamak experimental fusion reactor for energy production research, as well as research on the use of plasmas in advanced manufacturing technologies for industry and medicine.

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About General Fusion:

General Fusion is developing the fastest, most practical, and lowest cost path to commercial fusion energy. The company was established in 2002 and is supported by a global syndicate of leading energy venture capital funds, industry leaders, and technology pioneers, including: Chrysalix Energy Venture Capital, Bezos Expeditions, Cenovus Energy, Growthworks, Braemar Energy Ventures, BDC, Entrepreneurs Fund, Chrysalix SET, and Sustainable Development Technology Canada. www.generalfusion.com

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