Construction begins on Canada's largest radio telescope

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Construction is now under way in Penticton, B.C. on Canada's largest radio telescope – and the first research telescope to be built in the country in more than 30 years.

The new telescope, with a footprint larger than six NHL hockey rinks, will "listen" for cosmic sound waves and help scientists understand why the universe has expanded rapidly.

Part of the $11-million Canadian Hydrogen Intensity-Mapping Experiment (CHIME), the radio telescope is being built at the Dominion Radio Astrophysical Observatory (DRAO) in Penticton B.C.

"We plan to map a quarter of the observable universe," says University of British Columbia astrophysicist Mark Halpern, the project's principal investigator. "This is an ambitious, made-in-Canada endeavor."

The telescope boasts a 100-metre-by-100-metre collecting area filled with 2,560 low-noise receivers built with components adapted from the cell phone industry which, collectively, scan half of the sky every day.

"The CHIME telescope will be the most sensitive instrument in the world for this type of research and the DRAO is one of the best sites in the world for this research," says UBC astrophysicist and project co-investigator Gary Hinshaw, who witnessed the groundbreaking in Penticton yesterday.

Signals collected by the CHIME telescope will be digitally sampled nearly one billion times per second, then processed to synthesize an image of the sky.

"The recent discovery that the rate of expansion of our universe is increasing rather than slowing down has forced us to re-examine basic assumptions about what the universe is made of," says UBC astrophysicist and CHIME co-investigator Kris Sigurdson.

"Data collected by CHIME will help us understand the history of the Universe, and in turn how dark energy has driven its expansion," says Halpern.

CHIME is funded in part by a $4.6-million investment from the Canada Foundation for Innovation and includes scientists from UBC, McGill University, the University of Toronto and the DRAO.

More information: For more information and for images, http://www.publicaffairs.ubc.ca/?p=78185.

Provided by University of British Columbia

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