

Searching for new physics at the intensity frontier with the Belle II experiment

Wednesday

March 25

4 P.M.

Rm 118 NSH

Prof. Chris Hearty
University of British Columbia

What are the fundamental particles and their properties and interactions?

These are the basic questions about nature that particle physics attempts to answer. The standard model of particle physics is extremely successful, with the discovery of the Higgs at the Large Hadron Collider completing the set of predicted particles. But observations of the universe make it clear that it is at best incomplete.

Belle II is a collaboration of more than 300 physicists from 23 countries building a detector at the SuperKEKB electron-positron collider in Japan. It is a successor to the successful Belle and BaBar experiments, which were cited for their contributions to the phenomenon of CP violation in the 2008 Physics Nobel Prize. Belle II will look for physics beyond the Standard Model through an extensive set of measurements, using 30 times the combined datasets of Belle and BaBar.

I will briefly review the BaBar experiment, outline the prospects for discoveries of new physics at Belle II, and discuss the experimental challenges in achieving our goals.

Refreshments @
3:30 in 202 NSH