

## Prof. Nickolas Solomey

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**Friday, October 14, 11:00 am. Osborne A204**

### **A CubeSat flight test of a neutrino detector capable of operating in space**



We are building a test detector capable of operating in space into a 3U CubeSat with a possible launch date of Summer 2024. If a detector capable of operating in space is sensitive to neutrinos that can be distinguished from the many different backgrounds in space, then it would allow a series of experiments in space such as going closer to the Sun where the neutrino flux increases 1,000x to 10,000x above that of Earth, or going away from the Sun to search for Dark Matter where the solar neutrino background is five order of magnitude less. This technique is a double delayed coincidence from the conversion electron and excited start nuclear gamma decays with 2.5 microseconds. The aim of our CubeSat test flight is to test the detector concept idea in space operations and study real deep space backgrounds that can emulate the double delayed coincidence signal.

#### **Short Bio**

**B.Sc. Physics** - Mount Union College, Alliance, OH

**M.Sc.** - Ohio State University

**Ph.D. - Physics**, University of Geneva, Switzerland

**Post-Doctoral Research Associate** - University of Chicago

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