

# Nicholas S. Eggert



**Graduate Institution:** Cornell University

**Graduate Discipline:** Physics

**Hometown:** Iron Ridge, WI

**Relevant SC Research:** High Energy Physics

## Research Interest:

I work in experimental particle physics on the CMS detector at the Large Hadron Collider. In general, I'm interested in the interplay between particle physics and cosmological signals of dark matter. It is my hope that we will find a particle at the Large Hadron Collider that could account for the dark matter observed by astronomers.

I'm finishing up working on a project that aims to prove a method that could be used to measure the mass of a dark matter particle if one is found. For now, we're testing this method by using to measure the top quark mass, since top quark decays can look very similar to what we expect events containing dark matter particles to look like.

I'm also starting a new analysis, in which I want to apply some of the things I've learned in the mass measurement project to search for chargino pair production. This project is in the very early stages.

My other interest is in silicon detectors in particle physics. To this end,

I'm involved in the development of the data-taking software for the CMS pixel sub-detector. The pixel subdetector is composed of some 65 million individual silicon pixels, and functions much like a CCD in a camera. I also help with the operation of the pixel detector.

## About Me:

I'm a PhD student in physics at Cornell University in upstate New York. I did my undergraduate at the University of Minnesota, where I also worked on the CMS experiment. I'm drawn to particle physics because of its emphasis on data analysis, as well as the chance to work with and meet many new people that make up my collaboration. Sometimes however, I miss being in a small lab and fiddling with knobs.

In my free time, I enjoy reading (fiction and non-fiction), complicated board games, and ultimate Frisbee. I also dabble in homebrewing beer and want to learn how to repair mechanical watches. I consider myself to be a technology enthusiast.



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