

Statement of Research Interests

Dr. Andrew C. Haas

The near-term future of experimental high-energy physics is without doubt at the LHC, and I would focus my research on the ATLAS experiment. With high-energy data likely in late 2008, extremely exciting times are right around the corner. As a post-doc with the Columbia ATLAS group, I've already had a chance to contribute to commissioning efforts of the calorimeter and become familiar with the data analysis infrastructure by doing a simulated analysis. I would continue to help with the commissioning of the detector and software, as well as becoming even more involved in plans for triggering and physics analyses. My goal would be to make sure that myself, and the rest of the group, including students and post-docs, are ready to analyze and understand the first data from ATLAS, in search of new discoveries. Hopefully what I am interested in at ATLAS will be greatly influenced by discoveries in the initial ATLAS data! Otherwise I would likely continue to search for new phenomena such as Supersymmetry, or other more exotic signatures of new physics.

I am also very interested in the prospect of a future International Linear Collider (ILC), and would like to take part in the planning and building of an experiment there. I have greatly enjoyed contributing to the commissioning of the DZero and ATLAS experiments. I think it would be even more rewarding to have a greater impact on the planning of an ILC experiment, by getting involved early in the design phase. I have gained significant experience in calorimetry, tracking / b-jets, and data acquisition and think I could contribute significantly to a detector design. I would also like to work for the possibility of building the ILC here in the United States, possibly at Fermilab, since it seems crucial for sustaining American high-energy experimental physics in the long-term.