Eric M. Dzienkowski

Graduate Institution: University of California - Santa Barbara

Graduate Discipline: High Energy Theory

Hometown: Oceanside, NY

Relevant SC Research: High Energy Physics

Research Interest:

In my quest to understand the fundamental workings of the universe, I find myself studying high energy theoretical physics. I am interested in understanding how the dynamics at small scales combine to give our macroscopic view of the world. Of particular interest to me is emergent spacetime; the idea that spacetime is an approximate macroscopic result of some more fundamental theory.

Currently I am working with Professor David Berenstein at UCSB studying matrix models and how they thermalize. Our goal is to understand how matrix models provide a model of emergent geometry by using the gauge/gravity correspondence. This will also help in the study of the black hole information paradox.

About Me:

I am finishing up my second year in a physics PhD program at the University of California, Santa Barbara. I study high energy theoretical physics, in particular, matrix models, string theory, and emergent geometries under Professor David Berenstein. I received a BS in physics and mathematics and an MS in physics at Rensselaer Polytechnic Institute in 2010. At RPI I studied lattice gauge theory and wrote simulation code under Professor Joel Giedt. In 2009 I received a Barry M. Goldwater Scholarship.

After graduate school, it would be great to continue high energy research as a post-doc as a step to becoming a permanent researcher at an institution or university. The universe and my existence in it is something that has always fascinated me. Constructing models of the microscopic world and studying there implications about that existence is not something I want to give up so quickly. Unfortunately, these jobs are becoming increasingly rare. However, I also have a great interest in computers, so having a job in the computing industry as a researcher would also be very exciting.

Academia has unavoidably followed me into my personal life. Even in my spare time I study pure mathematics or I program, just for fun. However, I have found outlets of entertainment and relaxation that do not require a knowledge of manifolds or for loops. I enjoy hiking in the beautiful California mountains, I am learning to play piano, and occasionally I go clubbing in the downtown area. In the winter months I like to go skiing.