John Paul Hanson

Graduate Institution: Massachusetts Institute of Technology

Graduate Discipline: Nuclear Science & Engineering

Hometown: Columbus, OH

Relevant SC Research: Basic Energy Sciences

Research Interest:

I work for Professor Silvija Gradecak in the Department of Materials Science and Engineering at MIT. My research focuses on hydrogen embrittlement of nickel superalloys, which are used in a variety of structural applications in extreme environments. We use advanced in situ transmission electron microscopy techniques, in conjunction with a variety of other complementary techniques, to better understand the mechanisms by which hydrogen embrittles the alloys, with the goal of improving lifetime prediction as well as providing valuable insights to aid the design of more resilient alloys.

About Me:

I graduated from Ohio State in 2010 with a B.S. in Mechanical Engineering and a B.S. in Economics, and started at MIT in the Fall of 2010. I study Nuclear Science & Engineering, and my interests range from the technical aspects of nuclear power to energy policy and economics.

My research is in high performance nickel superalloys which are used by the nuclear industry as well as more broadly in many energy applications. I hope to pursue a career in some aspect of solving our nation's energy issues, whether by continuing research as a professor, working in industry, getting involved in policy or some combination of these. My hobbies include playing volleyball and baking.