Kathryn D. Huff

Contact Information

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Research Interests

Advanced nuclear reactors and fuel cycles, scientific computation, sustainable energy systems, waste management, computational systems analysis.

Education

University of Wisconsin, Madison, WI
Doctor of Philosophy Nuclear Engineering — **Aug 2008 – Aug 2013**

University of Chicago, Chicago, IL
Bachelor of Arts and Sciences Physics — **Aug 2004 – June 2008**

Honors and Awards

Nuclear Science and Security Consortium Postdoctoral Fellowship. **2013–Present**
DOE Office of Science Laboratory Graduate Appointment, Argonne, IL. **2011–2013**
Roy G. Post Foundation Nuclear Waste Management Graduate Scholarship. **2011**
John Randall Memorial Scholarship, American Nuclear Society FCWMD. **2009**
J.A. McDeavitt Scholarship, University of Chicago, Chicago, IL. **2007–2008**
University Scholar Award, University of Chicago, Chicago, IL. **2004 – 2008**
Los Alamos Distinguished Student Performance Award, Los Alamos, NM. **2004**

Research Experience

University of California - Berkeley, NE Dept., Berkeley, CA — **Sept 2013 – Present**
Postdoctoral Scholar, Nuclear Science and Security Consortium
Developing computational tools and multiphysics models for advanced reactor safety analysis.

Argonne National Laboratory, Argonne, IL — **June 2011 – Aug 2013**
Laboratory Graduate Research Appointee, Used Fuel Disposition Campaign
Developed a used fuel disposition and generic repository computational model.

University of Wisconsin - Madison, NEEP Dept., Madison, WI — **June 2008 – Aug 2013**
Graduate Research Assistant, Computational Nuclear Engineering Research Group
Developed and applied Cyclus, a nuclear fuel cycle systems analysis tool.

Idaho National Laboratory, Idaho Falls, ID — **June – Aug 2010**
Graduate Research Assistant, Systems Analysis Campaign
Developed software functions and requirements for the Fuel Cycle Simulator concept.

Kavli Institute For Cosmological Physics, Chicago, IL — **Jan 2005 – June 2008**
Research Assistant, Laboratory for Astrophysics and Space Research
Programmed & machined instrumentation. Planned protocol for QUIET polarimeter calibration.

Universidad de Chile, Physics Dept., Santiago, Chile — **June – Sept 2006**
Research Assistant, Chicago-Chile Research Exchange Program
Constructed and operated a far from equilibrium granular materials experiment.

Los Alamos Neutron Science Center, Los Alamos, NM — **June – Sept 2004**
Research Assistant, LANSCE-3 — **May – Aug 2003**
Applied digital filtration algorithms and MCNPX models to experimental data.

Scientific Computing Skills

Languages	bash/csh, C, C++, FORTRAN, Perl, Python, SQL, XML.
Build Systems	automake, CMake, distutils, make.
Test Frameworks	CTest, GoogleTest, nose, unittest.
Version Control	cvs, git, hg, svn.
Nuclear	Cyclus, MCNP5/6/X, MOOSE, ORIGEN, PyNE, Serpent, VISION.
Other Tools	Doxygen, HDF5, GoldSim, LaTeX, MathCAD, Mathematica, MatLab, Sphinx.

Professional Service

Secretary, Young Members Group, American Nuclear Society (ANS). **2013–2015**
Secretary–Treasurer, Fuel Cycle & Waste Management Division, ANS. **2013–2015**
Technical Program Co-Chair, SciPy, Scientific Python Conference. **2013–2014**
Moderator, Organizer, Panelist, inSCIght Scientific Computing Podcast. **2011–2013**
Editor, Proceedings of SciPy Scientific Python Conference. **2013**
Co-Founder, Nuclear Pride, LGBTQA Organization. **2011–2013**
Co-Founder, Treasurer, President, Hacker Within Scientific Computing Group. **2008–2011**
Governor, Treasurer, University of Wisconsin ANS student section. **2008–2010**