Kathryn D. Huff

Contact Information

Department of Nuclear Engineering, University of California, Berkeley
Postdoctoral Scholar, *Nuclear Science and Security Consortium*
Data Science Fellow, *Berkeley Institute for Data Science*

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Research Interests

Advanced nuclear reactors and fuel cycles, multi-physics simulation, nuclear fuel cycle analysis, scientific computation.

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

National Energy Research Scientific Computing Allocation, Senior Investigator. **2015–2016**
Data Science Fellowship, Berkeley Institute for Data Science, UC Berkeley. **2014–2016**
Nuclear Science and Security Consortium Postdoctoral Fellowship. **2013–2016**
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**

Research Experience

University of California - Berkeley, NE Dept., Berkeley, CA
Postdoctoral Scholar, Nuclear Science and Security Consortium — **Sept 2013 – Present**
Data Science Fellow, Berkeley Institute for Data Science — **Aug 2014 – Present**
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++, FORTRAN, Perl, Python, XML.
Build Systems	make, CMake, automake.
Databases	HDF5, SQL.
Test Frameworks	CTest, GoogleTest, nose.
Version Control	cvs, git, hg, svn.
Nuclear	Cyclus, MCNP5/6/X, MOOSE, ORIGEN, PyNE, Serpent, VISION.
Other Tools	Doxygen, GoldSim, HDF5, LaTeX, MathCAD, Mathematica, MatLab, Sphinx.

Professional Service

Vice Chair, Fuel Cycle & Waste Management Division, ANS. **2015–2016**
Chair, Steering Committee, Software Carpentry Foundation. **2014–2015**
Editor, Proceedings of the SciPy Scientific Python Conference. **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**
Co-Founder, Nuclear Pride, LGBTQA Organization. **2011–2013**
Co-Founder, Treasurer, President, Hacker Within Scientific Computing Group. **2008–2011**