

# Rachel Slaybaugh

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## PROFESSIONAL PREPARATION

<b>Pennsylvania State University</b>	Nuclear Engineering	BS	2006
<b>University of Wisconsin – Madison</b>	Nuclear Engineering	MS	2008
<b>University of Wisconsin – Madison</b>	Nuclear Engineering	PhD	2011

## APPOINTMENTS

<b>University of California</b> Assistant Professor of Nuclear Engineering	Berkeley, CA	Jan 2013-present
<b>Bettis Laboratory</b> Senior Engineer in the Shield Design and Development group	West Mifflin, PA	March 2012-Dec 2013
<b>University of Wisconsin</b> Research Assistant / Rickover Fellow	Madison, WI	2006-2011
<b>Knolls Atomic Power Laboratory</b> Practicum Student	Schenectady, NY	Summer 2009
<b>Forschungszentrum Karlsruhe</b> (now KIT) Practicum Student	Karlsruhe, Germany	May-Dec 2008
<b>Oak Ridge National Laboratory</b> Summer Intern	Oak Ridge, TN	Summer 2005 & 2006
<b>Penn State Breazeale Nuclear Reactor</b> Licensed reactor operator, Educational outreach	University Park, PA	2003-2006

## PRODUCTS

### *Closely Related Products*

1. Anthony Scopatz et al. "PyNE: Python for Nuclear Engineering," Poster session presented at the SciPy 2012 Meeting in Austin, TX, July 2012.
2. R. Slaybaugh "Strengths and Weaknesses of Nuclear Engineering Education," Presented at 2007 ANS Annual Meeting in Boston, MA, June 2007. Transactions vol 96.
3. R.N. Slaybaugh, T.M. Evans, G.G. Davidson, and P.P.H. Wilson. "Multigrid in energy preconditioner for Krylov solvers," *Journal of Computational Physics*. **242** (2013) 405-419.
4. T.M. Evans, G.G. Davidson, and R.N. Slaybaugh. "Three-Dimensional Full Core Power Calculations for Pressurized Water Reactors," Proceedings of the 2010 Scientific Discovery through Advanced Computing (SciDAC) Conference. Chattanooga, TN, 11-15 July, 2010. Oak Ridge National Laboratory.

### *Other Significant Products*

1. S.C. Wilson and R.N. Slaybaugh. "Monte Carlo Importances in the Presence of Space and Energy Self-Shielding," Proceedings of the 2013 ANS Annual Meeting in Washington, DC, Nov 2013. Transactions vol. 109.
2. R.N. Slaybaugh, T.M. Evans, G.G. Davidson, and P.P.H. Wilson. "Rayleigh Quotient Iteration in 3D, Deterministic Neutron Transport," Proceedings of the PHYSOR 2012 Meeting in Knoxville, TN, April 2012.
3. T.M. Evans, A.S. Stafford, R.N. Slaybaugh, and K.T. Clarno. "Denovo – A new three-dimensional parallel discrete ordinates code in SCALE." *Nuc. Tech.* **171** (2010) 171-200.

4. G.G. Davidson, T.M. Evans, R.N. Slaybaugh, and C.G. Baker. “Massively Parallel Solutions to the  $k$ -Eigenvalue Problem,” Proceedings of the 2010 ANS Winter Meeting in Las Vegas, NV, Nov 2010. Transactions vol. 103. [winner of Mathematics and Computation Division “Best Summary + Presentation” award]
5. R.N. Slaybaugh, P.P.H. Wilson, L.A. El-Guebaly, and E.P. Marriott. “Three-Dimensional Neutron Source Models for Toroidal Fusion Energy Systems.” *Fusion Engineering and Design* **84** (2009) 1774-1778.

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## SYNERGISTIC ACTIVITIES

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1. Software Carpentry Instructor (<http://software-carpentry.org/>)
2. The Hacker Within, University of Wisconsin Founding Member (2008), Software Carpentry Workshop Instructor (2011)
3. Women in Nuclear, University of Wisconsin Co-founder (2006)
4. PyNE: Python for Nuclear Engineering participant (<http://pynesim.org/>)
5. American Nuclear Society
  - Math and Comp. Exec. Comm.* 2013 – present
  - NEED Comm.* Chair (2013 – present), Vice Chair (2010 – 2013)
  - Student Sections Committee* Chair (2010 – 2013), Vice Chair (2009 – 2010)
  - Professional Women in ANS* Chair (2008 – 2010), Vice Chair (2006 – 2008)

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## COLLABORATORS & OTHER AFFILIATIONS

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### *Collaborators and Co-Editors*

Christopher G. Baker	Oak Ridge National Laboratory	co-author
Kevin T. Clarno	Oak Ridge National Laboratory	co-author
Gregory G. Davidson	Oak Ridge National Laboratory	co-author
Laila A. El-Guebaly	University of Wisconsin, Madison	co-author
Thomas M. Evans	Oak Ridge National Laboratory	co-author
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Eric Relson	University of Wisconsin, Madison	co-author
Paul Romano	Knolls Atomic Power Laboratory	co-author
Anthony Scopatz	University of Wisconsin, Madison	co-author
Patrick J. Snouffer	Sandia National Laboratory	co-author
Paul P. H. Wilson	University of Wisconsin, Madison	co-author
Stephen C. Wilson	Bettis Atomic Power Laboratory	co-author

### *Graduate Advisors and Postdoctoral Sponsors*

Thomas M. Evans	Oak Ridge National Laboratory	Graduate advisor
Thomas M. Sutton	Knolls Atomic Power Laboratory	Fellowship mentor
Paul P. H. Wilson	University of Wisconsin, Madison	Graduate advisor
Stephen C. Wilson	Bettis Atomic Power Laboratory	Postdoctoral mentor

### *Thesis Advisor and Postgraduate-Scholar Sponsor*

Kelly Rowland	University of California, Berkeley	Thesis advisor (current)
Sebastian Schunert	North Carolina State University	Thesis co-advisor (2013)