Douglas Woods

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Education

- **Oregon State University** — **Corvallis, OR**
  Ph.D. Nuclear Engineering — *2016–(Jun. 2018)*
  Extension of M.S. research to include DSA and R-Z geometry.
  Major Adviser: Dr. Todd Palmer
- **Oregon State University** — **Corvallis, OR**
  M.S. Nuclear Engineering — *2013–2016*
  Thesis: "High Order Finite Elements S_N Transport in X-Y Geometry on Meshes with Curved Surfaces in the Thick Diffusion Limit"
  Major Adviser: Dr. Todd Palmer
- **Oregon State University** — **Corvallis, OR**
  B.S. Nuclear Engineering — *2010–2013*
- **Portland Community College** — **Portland, OR**
  Pre-Engineering — *2008–2010*

Employment

- **Oregon State University** — **Corvallis, OR**
  NRC Licensed Oregon State TRIGA Reactor Operator — *Dec. 2012–Present*
  Operate a TRIGA Mark II reactor. Perform startup and shutdown checklists. Insert and remove irradiation samples within various irradiation facilities. Perform periodic calibrations and checks of instruments and systems. Guide tours for various organizations within the community.
- **Los Alamos National Laboratory** — **Los Alamos, NM**
  Nuclear Engineer Research Intern — *Jun. 2017–Sep. 2017*
  Performed research in thermal radiation transport using Capsaicin. Evaluated accuracy of high-order methods. Mentors: Matt Cleveland, Ryan Wollaeger, Jim Warsa.
- **Lawrence Livermore National Laboratory** — **Livermore, CA**
  Nuclear Engineer Research Intern — *Jun. 2015–Sep. 2015*
  Performed research in computational radiation transport solver. Developed skills in C++, GitHub repository, and research collaboration. Mentor: Tom Brunner.
- **NuScale Power, LLC** — **Corvallis, OR**
  Nuclear Engineer Intern — *May 2012–Jun. 2015*
  Performed calculations to support design certification. Reviewed calculations and studies for completeness and accuracy. Researched nuclear effects of small modular reactor (reactivity coefficients, reflector performance, burnable poisons). Performed steady-state and transient calculations. Developed two-dimensional MxN model of the core. Performed control rod worth calculations. Automated a scoping library generation with Python.

Technical Skills

- **Programming Languages:** Proficient in: C++, Python, MATLAB, TeX, MFEM (LLNL), Unix
  Also basic ability with: Fortran, MPI, OpenMP, OpenCL
- **Industry Software Skills:** MS Office products, GitHub, CASMO, SIMULATE, S3K, MCNP

Strengths

- **Communication**: Write reports and give technical presentations
- **Adaptive**: Willing to venture out of my comfort zone
- **Strong work ethic**: Motivated by project completion

Notable Achievements

- **Distinguished Master's Thesis**
  Jun. 2016
- **OSU ANS Student Conference Best Graduate Presentation**
  Feb. 2016
- **Awarded NRC Palmer Fellowship**
  Jun. 2013

Recent Presentations

- International Conference on Transport Theory, Monterey, CA, Oct. 2017
- American Nuclear Society Summer Meeting, San Francisco, CA, Jun. 2017
- American Nuclear Society Summer Meeting, New Orleans, LA, Jun. 2016

Publications

Douglas N. Woods and Todd S. Palmer. Diffusion synthetic acceleration for high order S_N transport on meshes with curved surfaces. *Transactions of the American Nuclear Society*, (116):639–642, 2017.

Douglas N. Woods, Thomas A. Brunner, and Todd S. Palmer. High order finite elements S_N transport in X-Y geometry on meshes with curved surfaces. *Transactions of the American Nuclear Society*, 114:377 – 380, June 2016.

Volunteer Activity

- Vice President of Oregon State American Nuclear Society Student Section
  Jun. 2016 – Present
- Cooperatively maintain research group website
  Jul. 2016 – Present
- Guide tours of the Oregon State TRIGA Reactor
  Dec. 2012 – Present