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# Chelsea D'Angelo

**Work Information**
Address: 1500 Engineering Dr.
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## Education

| | |
|---|---|
| expected Feb 2019 | **Ph.D., Nuclear Engineering & Engineering Physics**, *University of Wisconsin-Madison* |
| Dec 2014 | **M.S., Nuclear Engineering & Engineering Physics**, *University of Wisconsin-Madison, GPA: 3.85* |
| May 2011 | **B.S., Chemical Engineering**, *University of Pittsburgh, Major GPA: 3.67, Cumulative GPA: 3.21* |

## Work & Research Experience

### University of Wisconsin - Madison, 1500 Engineering Dr., Madison, Wisconsin, 53705

Aug 2012 - Present

**Graduate Research Assistant:** *Computational Nuclear Engineering Research Group*

- Thesis topic: Automated Monte Carlo variance reduction for multi-physics processes occurring in dynamic systems
- Developed topology restoration tool to prepare polygon-mesh computational phantoms for radiation transport simulations [Pub. 1]
- Collaborated with NASA to perform Fluka simulations of radiation environment on Mars
- Performed 3D neutronics analysis of the ARIES-ACT2 experimental fusion energy device [Pub. 3]
- Compared unstructured mesh capabilities of MCNP6 and DAGMCNP [Pub. 4]

### Los Alamos National Laboratory, P.O. Box 1663, Los Alamos, New Mexico, 87545

May 2011 - July 2012

**Post-Bachelor's/Graduate Research Assistant:** *W-13: Advanced Engineering Analysis*

- Tested new features of the unstructured mesh capability of MCNP6 [Pub. 6]
- Created training material for generating unstructured mesh models with Abaqus/CAE
- Performed radiation transport analysis on unstructured mesh models of weapons systems
- Assisted with experiment setup and maintenance and performed MCNP6 calculations in support of experiments in the Ion Beam Materials Lab [Pub. 7 and 8]
- Obtained Department of Energy Q-level security clearance

May 2010 - Aug 2010

**Undergraduate Intern:** *XCP-3: Monte Carlo Codes*

- Created benchmark-type problems for verification and validation of the use of Abaqus/CAE unstructured mesh geometries with MCNP6 [Pub. 9]

## Computer Skills

| Programming Languages | Physics Codes | Software Toolkits | Mesh Generation & Visualization | Version Control & Publishing |
|---|---|---|---|---|
| C++ | MCNP | DAGMC | Abaqus/CAE | Git |
| Bash | Fluka | PyNE | Cubit/Trelis | Latex |
| Python | Partisn | MOAB | VisIt | Microsoft Office |
| Matlab | ALARA | | Paraview | |
| Fortran | | | | |

## Publications

1. **ans_2017**
2. **nair**
3. **aries**
4. **ans_2013**
5. **fy12**
6. **mcnp6_um**
7. **mst1**
8. **mst2**
9. **uga**

## References

| Name | Dates | Location | Email | Phone |
|---|---|---|---|---|
| | | Advisors | | |
| Paul Wilson | Sept. 2012 - Present | UW | wilsonp@engr.wisc.edu | 608-263-0807 |
| Steve McCready | May 2011 - Present | LANL | mccready@lanl.gov | 505-665-6991 |
| Karen C. Kelley | May 2011 - Present | LANL | corzine@lanl.gov | 505-667-8843 |
| Roger Martz | May 2010 - Aug 2010 | LANL | martz@lanl.gov | 505-664-0900 |
| | | Co-workers | | |
| Andrew Davis | Sept. 2012 - Present | UW-Madison | andrew.davis@wisc.edu | |
| Kalin Kiesling | Jan. 2014 - Present | UW-Madison | kkiesling@wisc.edu | |
| Casey Anderson | May 2010 - July 2012 | LANL | casey_a@lanl.gov | |
| Matthew Gonzalez | May 2010 - Aug. 2010 | LANL | gonzo1912@gmail.com | |