

Matthew J. Gidden

CONTACT INFORMATION	<p>Department of Nuclear Engineering University of Wisconsin - Madison 1500 Engineering Dr., Rm. 434 Madison, WI 53706 USA</p>	<p>Mobile: +1-225-892-3192 Fax: +1-608-263-7451 E-mail: gidden@wisc.edu Website: mattgidden.com</p>
CITIZENSHIP	USA	
RESEARCH INTERESTS	Nuclear fuel cycle simulation and analysis, agent-based modeling, linear/non-linear optimization techniques, simulation execution leveraging high throughput computing, energy policy, nuclear non-proliferation, reactor physics simulations for fuel cycles, advanced nuclear fuel cycles	
EDUCATION	<p>University of Wisconsin - Madison, Madison, WI USA</p> <p>Ph.D., Nuclear Engineering, In Progress</p> <ul style="list-style-type: none">• Adviser: Professor Paul Wilson• Area of Study: Nuclear Fuel Cycle Simulation• GPA: 3.7/4.0 <p>University of Wisconsin - Madison, Madison, WI USA</p> <p>M.S., Nuclear Engineering, December 2011</p> <ul style="list-style-type: none">• GPA: 3.7/4.0 <p>Texas A&M University, College Station, TX USA</p> <p>B.S., Nuclear Engineering, May 2009</p> <ul style="list-style-type: none">• <i>Summa cum Laude</i>, With Honors in Engineering• Minor in Mathematics• GPA: 3.97/4.0	
PRESENTATIONS	<p>Gidden, M.; Wilson, P., <i>Dynamic Resource Exchange Performance in Cyclus</i>, ANS Summer Conference (2015, <i>Accepted</i>).</p> <p>Gidden, M.; Wilson, P., <i>Dynamic Resource Exchange with CoinOR-CBC in Cyclus, a Nuclear Fuel Cycle Simulator</i>, 14th INFORMS Computing Society Conference (2015).</p> <p>Gidden, M.; Scopatz, A.; Wilson, P., <i>Developing Standardized, Open Benchmarks and a Corresponding Specification Language for the Simulation of Dynamic Fuel Cycles</i>, ANS Summer Conference (2013).</p> <p>Gidden, M.; Wilson, P.; Huff, K.; Carlsen, R., <i>Cyclus Once-Through Fuel Cycle Capabilities: An INPRO Benchmark & VISION Comparisons</i>, ANS Winter Conference (2012).</p> <p>Gidden, M.; Wilson, P.; Huff, K., <i>Cyclus Once-Through Fuel Cycle Benchmarks</i>, ANS Student Conference (2011).</p> <p>Gidden, M.; Blessinger, C.; Livesay, J.; York, R., <i>Collimation of Radiation Portal Monitors to Reduce the Innocent Alarm Rate</i>, Poster, ANS Winter Conference (2007).</p>	
PROCEEDINGS	<p>Gidden, M.; Carlsen, R.; Opatowsky, A.; Rakhimov, O.; Scopatz, A.; Wilson, P., <i>Agent-Based Dynamic Resource Exchange in Cyclus</i>, PHYSOR Conference, Kyoto, Japan (2014).</p> <p>Gidden, M.; Wilson, P., <i>Agent-Based Framework for Fuel Cycle Simulation with Recycling</i>, GLOBAL Conference, Salt Lake City, UT, USA (2013).</p>	

PUBLICATIONS	Pearce, T.M.; Williams, J.J.; Kruzell, S.P.; Gidden, M.J.; Williams, J.C., <i>Dynamic control of extracellular environment in in vitro neural recording systems</i> , Neural Systems and Rehabilitation Engineering, 13, 2, pp. 207-212 (2005).	
AWARDS	<p>Innovations in Fuel Cycle Research</p> <ul style="list-style-type: none"> • Energy Policy, 2nd Place, 2014 <p>Nuclear Energy University Program</p> <ul style="list-style-type: none"> • Graduate Research Fellowship, 2010–2013 <p>American Nuclear Society</p> <ul style="list-style-type: none"> • Graduate Scholarship, 2013 <p>Nuclear Regulatory Commission</p> <ul style="list-style-type: none"> • Undergraduate Scholarship, 2008–2009 <p>Texas A&M University</p> <ul style="list-style-type: none"> • President's Endowed Scholarship, 2005–2009 • Stinson Scholarship, 2005–2009 	
PROFESSIONAL ORGANIZATIONS	<p>American Nuclear Society</p> <ul style="list-style-type: none"> • Member (2006 - present) • Communications Committee member (2013 - present) • Public Policy Committee member (2013 - present) • Student Sections Committee member (2010 - present) • Local Sections Committee member (2010 - 2012) • Nuclear Nonproliferation Special Committee member (2010 - 2012) • 2008 ANS Student Conference co-chair <p>American Nuclear Society, Texas A&M Chapter</p> <ul style="list-style-type: none"> • Member (2005 - 2009) • Vice President of Internal Affairs (2006 - 2007) <p>Alpha Nu Sigma</p> <ul style="list-style-type: none"> • Member (2009 - present) <p>Institute of Nuclear Materials Management</p> <ul style="list-style-type: none"> • Member (2008 - present) <p>Nuclear Engineering Student Delegation</p> <ul style="list-style-type: none"> • Chair (2013) • Vice Chair (2012) • Delegate (2011) <p>Software Carpentry</p> <ul style="list-style-type: none"> • Workshop Instructor (Aug. 2014, Aug. 2013, Apr. 2013) 	
PROFESSIONAL EXPERIENCE	AREVA, Paris FRANCE	
	<i>Research Intern in the Core Design Group</i>	February 2010 to July 2010
	<ul style="list-style-type: none"> • Simulated and analyzed a boron dilution accident for various full-core configurations of France's fleet of nuclear reactors using MCNP. • Mentored by Christian ROYERE. 	
	Pacific Northwest National Lab, Richland, Washington USA	
	<i>Research Intern</i>	Summer 2009
	<ul style="list-style-type: none"> • Analyzed a proof-of-concept design of an automated verification unit for canisters of enriched Uranium Hexa-Fluoride using MCNP. 	

- Mentored by Eric Smith.

TN International (AREVA), Montigny-le-Bretonneux FRANCE

Research Intern in the Materials Group

Summer 2008

- Performed dynamic compression testing on a variety of materials in order to determine property changes under dynamic rather than static loads. Analysis of results was performed using Microsoft Excel.
- Mentored by Herve ISSARD.

Oak Ridge National Lab, Oak Ridge, Tennessee USA

Research Intern

Summers 2006 & 2007

- Tested and analyzed a collimated radiation portal monitor designed to increase efficiency at port facilities under the U.S. Megaports Initiative.
- Mentored by Chris Blessinger.

SOFTWARE

Carlsen, R.; Gidden, M.; Huff, K.; Opotowsky, A.; Rakhimov, O.; Scopatz, A.; Wilson, P., *Cyclus v1.0.0*, <http://dx.doi.org/10.6084/m9.figshare.1174603> (2014).

Carlsen, R.; Gidden, M.; Huff, K.; Opotowsky, A.; Rakhimov, O.; Scopatz, A.; Wilson, P., *Cycamore v1.0.0*, <http://dx.doi.org/10.6084/m9.figshare.1041829> (2014).

Gidden, M.; *Cyclopts v0.10.0*, <http://dx.doi.org/10.6084/m9.figshare.1288959> (2015).

Scopatz, A.; Gidden, M.; Welch, Z.; *Polyphemus v0.1*, <http://dx.doi.org/10.6084/m9.figshare.1066058> (2015).

PROGRAMMING SKILL SET

Languages

- C/C++
- Python
- FORTRAN (95)
- Visual Basic
- Perl

Applications

- IPython/IPython Notebooks
- MCNP
- MATLAB
- Origen
- Mathcad
- Maple
- DRAGON
- TransLAT