

Andrei Rykhlevskii

CONTACT INFORMATION	Graduate Research Assistant <i>University of Illinois, Urbana-Champaign</i> <i>Nuclear, Plasma, and Radiological Engineering</i>	mobile: (217) 305-2385 e-mail: andrewryh@gmail.com
RESEARCH INTERESTS	Molten Salt Reactors physics, neutron transport, Monte Carlo, multiphysics simulation of advanced reactors, online reprocessing simulation, validation and verification, high performance computing	
PHD	University of Illinois at Urbana-Champaign, NUCLEAR ENGINEERING Aug 2016 – Present <ul style="list-style-type: none">• Multiphysics model of load-following Molten Salt Reactor• Advisor: Professor Kathryn D. Huff	
MSc	University of Illinois at Urbana-Champaign, NUCLEAR ENGINEERING Aug 2016 – May 2018 <ul style="list-style-type: none">• Advanced online fuel reprocessing simulation for thorium-fueled Molten Salt Breeder Reactor• Advisor: Professor Kathryn D. Huff	
MSc	Financial University - Moscow, Russia, FINANCIAL MANAGEMENT Oct 2011 – Mar 2014 <ul style="list-style-type: none">• Using stock market tools for IT-industry investments• Advisor: Professor Svetlana Grishkina	
BSc	Bauman Moscow State Technical University, NUCLEAR ENGINEERING Sep 2004 – Jun 2010 <ul style="list-style-type: none">• Evaluating construction materials activation in VVER-1200	
RESEARCH EXPERIENCE	University of Illinois at Urbana-Champaign, Urbana, IL <i>Graduate Research Assistant, Advanced Reactors and Fuel Cycles Group Aug 2016 – Present</i> <ul style="list-style-type: none">• Neutronic calculations for Molten Salt Reactors using Monte-Carlo code Serpent.• Molten Salt Reactors online reprocessing simulation.• Creating model of MSBR for multiphysics environment MOOSE.• Nuclear Data libraries generation using Serpent and SCALE. Oak Ridge Natinal Laboratory, Oak Ridge, TN <i>Reactor Physics Intern May 2018 – Aug 2018</i> <ul style="list-style-type: none">• Reactor Physics modeling of various Fast Spectrum Molten Salt Reactors.• Online separation and feeds implementation.• Fuel Cycle Performance analysis in comparison with Sodium-cooled fast Reactors. JSC OKB GIDROPRESS (State Atomic Energy Corporation “ROSATOM”), Russia <i>Lead Engineer Dec 2015 – Jul 2016</i> Extending Nuclear Power Plants (NPP) lifecycle technology. BUKO Ltd, Podolsk, Russia Sep 2014 – Dec 2015 <i>Financial analyst</i> Developed and applied trading robots (C#, VB) for NYSE, LSE, CME, CBOT, GLOBEX and ICE. Svyaz Standart Ltd, Podolsk, Russia Feb 2012 – Aug 2014 <i>Chief Technology Officer</i> Designed and managed Internet Service Provider (ISP) metro networks. JSC OKB GIDROPRESS (State Atomic Energy Corporation “ROSATOM”), Russia <i>Nuclear Engineer Nov 2009 – Feb 2012</i> <ul style="list-style-type: none">• Performed neutronics calculations for expending operation period of Balakovo and Kola NPPs.• Wrote the chapter about decommissioning for the Preliminary Safety Analysis Report (PSAR) of Belene NPP, Bulgaria.• Performed numerous verifying computations for final state certification of KATRIN-2.0 code.• Created a Matlab script for processing neutron flux data collected from NPPs.	

HONORS AND AWARDS	American Nuclear Society, John and Muriel Landis Scholarship	2017–2018	
	Podolsk city council award for development of innovative entrepreneurship in Podolsk	2014	
	Graduated FU with high distinction (highest graduation honor)	2014	
	Graduate scholarship for excellent students, FU	2013	
	Research achievement award, OKB GIDROPRESS	2011	
	Academic scholarship for distinguished student, BMSTU	2008–2010	
	Student Society leadership scholarship, BMSTU	2004–2010	
JOURNAL PUBLICATIONS	[1] Lindsay, A., Ridley, G., Rykhlevskii, A. , Huff, K. “Introduction to Moltres: an Application for Simulation of Molten Salt Reactors”, <i>Annals of Nuclear Energy</i> , vol. 114, Pages 530 - 540, 2018. doi.org/10.1016/j.anucene.2017.12.025, Apr. 2018.		
SUBMITTED	[2] Rykhlevskii, A. , Bae, J.W., Huff, K. “Modeling And Simulation of Online Reprocessing in the Molten Salt Breeder Reactor.” Submitted, September 2018.		
REFEREED CONFERENCE PROCEEDINGS	[3] Rykhlevskii, A. , Betzler, B.R., Bae, J.W., Huff, K. “Fuel Cycle Performance of Fast Spectrum Molten Salt Reactor Designs” (poster) Oak Ridge National Laboratory Nuclear Engineering Science Laboratory Synthesis Poster Session. Oak Ridge, TN, United States, 2018.		
	[4] Rykhlevskii, A. , Lindsay, A., Huff, K. “Full-Core Analysis of Thorium-Fueled Molten Salt Breeder Reactor using the SERPENT 2 Monte Carlo code” Transactions of the American Nuclear Society Winter Conference. Washington, DC, United States, 2017.		
	[5] Rykhlevskii, A. , Lindsay, A., Huff, K. “Online Reprocessing Simulation for Thorium-Fueled Molten Salt Breeder Reactor,” Transactions of the American Nuclear Society Winter Conference. Washington, DC, United States, 2017.		
	[6] Rykhlevskii, A. , Tsofin, V. “Comparing fast neutron transfer calculations within code package KATRIN-2.0 across various options for describing the core of VVER-440” Scientific and technical conference of young specialists. Podolsk, Russia. March, 2011.		
INVITED TALKS	U. Illinois , Nuclear, Plasma, & Radiological Engineering. <i>Seminar.</i> Blue Waters Symposium 2018. Panel.	Apr 10, 2018 Jun 04, 2018	
ENGINEERING TEACHING	University of Illinois at Urbana-Champaign, DEPT. OF NUCLEAR, PLASMA, AND RADIOLOGICAL ENGINEERING <i>NPRE 247, Modeling Nuclear Energy System</i> UNIX Shell, Basic Scripting, Serpent usage, Monte Carlo methods	Nov 29, 2017	
UNDERGRADUATE RESEARCHERS	<u>NAME</u> Jin Whan Bae Louis Kissinger	<u>DEGREE - YEAR</u> BS - 2017 BS - (est. 2019)	<u>ROLE</u> Mentor Mentor
SCIENTIFIC COMPUTING SKILLS	Languages Build Systems Version Control Other Tools	Python, bash/csh, C++, FORTRAN, VB make, CMake git Serpent, SCALE, MOOSE, MathCAD, MATLAB, Octave, ANSYS, PyNE, Cyclus	
OTHER UNIVERSITY SERVICE	Hack Mentor , Hack Illinois	2017	