

Andrei Rykhlevskii

CONTACT INFORMATION	Graduate Research Assistant <i>University of Illinois, Urbana-Champaign</i> <i>Nuclear, Plasma, and Radiological Engineering</i>	mobile: (217) 898-6651 e-mail: andrewryh@gmail.com
RESEARCH INTERESTS	Multiphysics simulation of advanced reactors, neutronics calculations, online reprocessing simulation, molten salt reactors, validation and verification, mesh generation, high performance computing.	
PHD	University of Illinois at Urbana-Champaign, NUCLEAR ENGINEERING Aug 2016 – Present <ul style="list-style-type: none">• Coupling neutronics / thermal-hydraulics model of MSR• Advisor: Professor Kathryn D. Huff	
MSc	University of Illinois at Urbana-Champaign, NUCLEAR ENGINEERING Aug 2016 – May 2018 <ul style="list-style-type: none">• Online reprocessing simulation model of MSBR• 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. 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
	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

- JOURNAL PUBLICATIONS [1] Lindsay, A., Ridley, G., **Rykhlevskii, A.**, Huff, K. “Introduction to Moltres: an Application for Simulation of Molten Salt Reactors”, *Annals of Nuclear Energy*, vol. 114, Pages 530 - 540, 2018. doi.org/10.1016/j.anucene.2017.12.025
- REFEREED CONFERENCE PROCEEDINGS [2] **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.
- [3] **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.
- [4] **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.

ENGINEERING TEACHING **University of Illinois at Urbana-Champaign,** **Nov 29, 2017**
 DEPT. OF NUCLEAR, PLASMA, AND RADIOLOGICAL ENGINEERING
 NPRE 247, *Modeling Nuclear Energy System*
 UNIX Shell, Basic Scripting, Serpent usage, Monte Carlo methods

UNDERGRADUATE RESEARCHERS	<u>NAME</u>	<u>DEGREE - YEAR</u>	<u>ROLE</u>
	Jin Whan Bae	BS - 2017	Mentor
	Louis Kissinger	BS - (est. 2019)	Mentor

SCIENTIFIC COMPUTING SKILLS	Languages	bash/csh, C++, Python, FORTRAN, VB
	Build Systems	make, CMake
	Version Control	git
	Other Tools	Serpent, MOOSE, MathCAD, MATLAB, Octave, PyNE, SCALE, ANSYS CFX

OTHER UNIVERSITY SERVICE **Hack Mentor, Hack Illinois** **2017**