Nathan S. Ryan

CONTACT INFORMATION

Graduate Research Assistant
University of Illinois, Urbana-Champaign
Nuclear, Plasma, and Radiological Engineering

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RESEARCH INTERESTS

Nuclear fuel cycle simulation and analysis, energy system modeling, and scientific computation.

MS

University of Illinois Urbana-Champaign, NUCLEAR, PLASMA, AND RADIOLOGICAL ENGINEERING
Aug 2022 – est. May 2024

BS

University of Illinois Urbana-Champaign, ENGINEERING PHYSICS   **Aug 2019 – Aug 2022**

RESEARCH EXPERIENCE

University of Illinois at Urbana-Champaign, Urbana, IL
Graduate Research Assistant, Nuclear Plasma and Radiological Engineering **Aug 2022 – Present**
Undergraduate Research Assistant **May 2020 – Aug 2022**
Advanced Reactors and Fuel Cycles group.

HONORS AND AWARDS

NPRE, Students Award for Excellence in Graduate Service	**2023**
ANS, Student Sections Committee Commendation for Service and Leadership	**2023**
NPRE, Students Award for Excellence in Undergraduate Service	**2022**
UIUC, Dean's List	**2020**
Department of Physics, Excellence in Physics Award	**2020**

JOURNAL PUBLICATIONS

[1] A. M. Bachmann, R. Fairhurst-Agosta, Z. Richter, **N. Ryan**, and M. Munk. Enrichment dynamics for advanced reactor HALEU support. *EPJ Nuclear Sciences & Technologies*, 7:22, 2021. Publisher: EDP Sciences. URL: https://www.epj-n.org/articles/epjn/abs/2021/01/epjn210024/epjn210024.html, `doi:10.1051/epjn/2021021`

TECHNICAL REPORTS

[2] S. G. Dotson, A. M. Bachmann, Z. M. Richter, N. R. Panczyk, **N. S. Ryan**, A. C. Balla, and E. R. Fanning. Economic and Carbon Impacts of Potential Illinois Nuclear Plant Closures: The Cost of Closures. Technical Report UIUC-ARFC-2021-02, University of Illinois at Urbana-Champaign, Urbana, IL, May 2021. URL: github.com/arfc/2021-04-nm-illinois

POSTER PRESENTATIONS

[3] **N. Ryan** and N. Panczyk. Using an illinois energy model to demonstrate the potential impact of proactive nuclear activism. Poster presented at *American Nuclear Society Student Conference*, 2022. Champaign, IL

INVITED TALKS

Institute for Genomic Biology, Setting Boundaries in Graduate School, *Panel.*	**Aug 24, 2023**
ANS, Social Media for Local and Student Section Members Webinar, *Panel.*	**Aug 3, 2023**
Memphis Rise Academy, Careers in Nuclear, *Panel.*	**May 31, 2023**
U. Tennessee, Knoxville, Navigating Conversations with Advisors, Managers, and Supervisors, *Panel.*	**April 14, 2023**
ANS U. Illinois, How to Present at a Conference, *Invited Talk.*	**March 13, 2023**
ANS U. Illinois, How to Create a Conference Abstract, *Invited Talk.*	**Jan 23, 2023**
U. Illinois, Physics and Astronomy Convocation, *Student Remarks.*	**May 15, 2022**
Tinley Park High School, Introduction to Nuclear Science & Careers, *Seminar.*	**Jan 17, 2020**
TEDxYouth, Evolutionary Anthropology and Youth in Science, *Invited Speaker.*	**Feb 15, 2019**

SCIENTIFIC COMPUTING TEACHING

Computational Resource Access Network, Vitrual	**Feb–April, 2023**
Intro to Python, Numerical Methods, Parallel Programming, and Best Practices	
Worldwide Youth in Science and Engineering, Vitrual	**July 2022, 2023**
Intro to Python, and Best Practices for Beginners	

SCIENTIFIC COMPUTING SKILLS		
Languages		bash, C++, Python
Build Systems		make, CMake
Databases		SQL
Test Frameworks		PyTest
Version Control		git
Other Tools		Sphinx, LaTeX, Mathematica

PROFESSIONAL SERVICE		
Delegate, Nuclear Engineering Student Delegation		**2023**
Vice Chair, Student Sections Committee, ANS		**2023–present**
Chair, Student Conference Finance Subcommittee, ANS		**2022-2023**
Chair, Winter Meeting Student Program, ANS		**2022**
Organizer, Young Professionals Congress, ANS		**2022–2023**
Public Relations Officer, U. Illinois ANS student section		**2020–2022**
Coordinator, Engineering Outreach Bureau, Grainger Engineering Council		**2020–2022**
Media Coordinator, 2022 ANS Student Conference		**2019–2022**

DEPARTMENTAL SERVICE		
Committee Member, Diversity, Equity, and Inclusion Committee		**2022–present**
Committee Chair, Graduate Student Advisory Committee		**2022–2023**
Camp Advisor, Worldwide Youth in Science and Engineering		**2022–present**