

# Kathryn D. Huff

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CONTACT INFORMATION	Associate Professor Dept. of Nuclear, Plasma, and Radiological Engineering University of Illinois at Urbana-Champaign	
RESEARCH INTERESTS	Advanced nuclear reactors and fuel cycles, multi-physics simulation, energy systems analysis, scientific computation, nuclear energy policy.	
PHD	<b>University of Wisconsin - Madison, NUCLEAR ENGINEERING</b> <ul style="list-style-type: none"><li>An Integrated Used Fuel Disposition and Generic Repository Model for Fuel Cycle Analysis</li><li>Advisor: Professor Paul P.H. Wilson</li></ul>	<b>Aug 2008 – Aug 2013</b>
BA	<b>University of Chicago, PHYSICS</b> <ul style="list-style-type: none"><li>Celestial Gain Calibrations of QUIET Telescope Polarimeters</li></ul>	<b>Aug 2004 – Jun 2008</b>
RESEARCH AND PROFESSIONAL EXPERIENCE	<b>University of Illinois at Urbana-Champaign, Urbana, IL</b> Associate Professor, Nuclear Plasma and Radiological Engineering Affiliate Faculty, National Center for Supercomputing Applications Affiliate Faculty, Computational Science and Engineering Director, Advanced Reactors and Fuel Cycles group.	<b>Nov 2021 – Present</b> <b>Aug 2016 – Present</b> <b>Aug 2018 – Present</b>
	<b>Amazon Web Services, Seattle, WA</b> Amazon Scholar, Data Center Planning and Delivery, Global Energy Team Part-time private advisory consulting.	<b>Aug 2024 – Present</b>
	<b>Office of Nuclear Energy, Department of Energy, Washington, DC</b> Assistant Secretary, Nuclear Energy Senior Advisor to the Secretary, Nuclear Energy Acting Assistant Secretary, Nuclear Energy Principal Deputy Assistant Secretary, Nuclear Energy Presidentially appointed, Senate Confirmed Official leading the Office of Nuclear Energy On extended Unpaid Leave of Absence from the University of Illinois.	<b>May 2022 – May 2024</b> <b>Jan 2022 – May 2022</b> <b>May 2021 – Jan 2022</b> <b>May 2021 – Jan 2022</b>
	<b>University of Illinois at Urbana-Champaign, Urbana, IL</b> Blue Waters Assistant Professor Principal Investigator, Advanced Reactors and Fuel Cycles group.	<b>Aug 2016 – Sep 2021</b>
	<b>University of California - Berkeley, NE Dept., Berkeley, CA</b> Postdoctoral Scholar, Nuclear Science and Security Consortium Data Science Fellow, Berkeley Institute for Data Science Developing computational tools and multiphysics models for advanced reactor safety analysis.	<b>Sep 2013 – Jul 2016</b> <b>Aug 2014 – Jul 2016</b>
	<b>Argonne National Laboratory, Argonne, IL</b> Laboratory Graduate Research Appointee, Used Fuel Disposition Campaign Developed a used fuel disposition and generic repository computational model.	<b>Jun 2011 – Aug 2013</b>
	<b>University of Wisconsin - Madison, NEEP Dept., Madison, WI</b> Graduate Research Assistant, Computational Nuclear Engineering Research Group Developed and applied CYCLUS, a nuclear fuel cycle systems analysis tool.	<b>Jun 2008 – Aug 2013</b>
	<b>Idaho National Laboratory, Idaho Falls, ID</b> Graduate Research Assistant, Systems Analysis Campaign Developed software functions and requirements for the Fuel Cycle Simulator concept.	<b>Jun – Aug 2010</b>
	<b>Kavli Institute For Cosmological Physics, Chicago, IL</b> Research Assistant, Laboratory for Astrophysics and Space Research Programmed & machined instrumentation. Planned protocol for QUIET polarimeter calibration.	<b>Jan 2005 – Jun 2008</b>

**Universidad de Chile, Physics Dept.**, Santiago, Chile **Jun – Sep 2006**  
*Research Assistant, Chicago-Chile Research Exchange Program*  
 Constructed and operated a far-from-equilibrium granular materials experiment.

**Los Alamos Neutron Science Center**, Los Alamos, NM **Jun – Sep 2004**  
*Research Assistant, LANSCE-3* **May – Aug 2003**  
 Applied digital filtration algorithms and MCNPX models to experimental data.

HONORS AND  
AWARDS

NPRE, Students Award for Excellence in Undergraduate Teaching	<b>2017, 2021, 2025</b>
Fin-Erth Women in Climate Award	<b>2024</b>
Presidential Citation, American Nuclear Society	<b>2024</b>
Distinguished Public Service Award, American Nuclear Society (ANS)	<b>2024</b>
40 Under 40, Nuclear News	<b>2024</b>
Meritorious Service Award, United States Nuclear Industry Council	<b>2024</b>
Secretary’s Achievement Award, Uranium Strategy Tiger Team, U.S. Dept. of Energy (DOE)	<b>2024</b>
Secretary’s Achievement Award, Pathways to Commercial Liftoff Team, U.S. DOE	<b>2023</b>
Warren K. Sinclair Medal, National Council on Radiation Protection & Measurements	<b>2023</b>
Presidential Nomination & Senate Confirmation, Assistant Secretary for Nuclear Energy	<b>2022</b>
Stanley H. Pierce Award, UIUC Engineering Council	<b>2019</b>
American Nuclear Society, Oestmann Professional Women’s Achievement Award	<b>2017</b>
AE3, Collins Scholars Program Graduate	<b>2017</b>
UIUC, Teachers Ranked as Excellent	<b>F 2016, S 2020</b>
American Nuclear Society, Young Member Excellence Award	<b>2016</b>
National Energy Research Scientific Computing Allocation, Senior Investigator	<b>2015–2016</b>
Data Science Fellowship, Berkeley Institute for Data Science, UC Berkeley	<b>2014–2016</b>
Nuclear Science and Security Consortium Postdoctoral Fellowship, UC Berkeley	<b>2013–2016</b>
DOE Office of Science Laboratory Graduate Appointment, Argonne National Lab	<b>2011–2013</b>
Roy G Post Foundation Nuclear Waste Management Graduate Scholarship	<b>2011</b>
John Randall Memorial Scholarship, American Nuclear Society FCWMD	<b>2009</b>
J.A McDeavitt Scholarship, University of Chicago, Chicago, IL	<b>2007–2008</b>
University Scholar Award, University of Chicago, Chicago, IL	<b>2004–2008</b>
Los Alamos Distinguished Student Performance Award, Los Alamos National Lab	<b>2004</b>

GRANTS  
AWARDED

<b>Nuclear Science and Security Consortium 4</b>	<i>Period:</i> 2026–2031
<i>Source:</i> DOE-NNSA Office of DNN R&D	<i>Award Total:</i> \$25,000,000
<i>Role:</i> Consortium Associate Director, UIUC PI, Thrust Area Lead	<i>Huff Allocation:</i> ~ <b>\$625,000</b>
<b>EINSTEIN: Enhanced Integrated Nuclear Systems for Transmutation and Efficient Isolation of Nuclides</b>	<i>Period:</i> 2025–2028
<i>Source:</i> DOE-ARPA-E NEWTON Program	<i>Award Total:</i> \$1,025,405
<i>Role:</i> Collaborator	<i>Huff Allocation:</i> ~ <b>\$250,000</b>
<b>Nuclear Science and Security Consortium 3<sup>1</sup></b>	<i>Period:</i> 2021–2026
<i>Source:</i> DOE-NNSA Office of DNN R&D	<i>Award Total:</i> \$25,000,000
<i>Role:</i> Consortium Co-PI, UIUC PI, Thrust Area Lead	<i>Huff Allocation:</i> <b>\$625,000</b>
<b>Evaluation of micro-reactor requirements and performance in an existing well-characterized micro-grid<sup>1</sup></b>	<i>Period:</i> 2020–2022
<i>Source:</i> DOE-NEUP	<i>Award Total:</i> \$800,000
<i>Role:</i> Co-PI	<i>Huff Allocation:</i> <b>\$265,000</b>
<b>Enabling Load Following Capability in the Transatomic Power MSR<sup>1</sup></b>	<i>Period:</i> 2018–2021
<i>Source:</i> ARPA - E - MEITNER	<i>Award Total:</i> <b>\$999,694</b>
<i>Role:</i> <b>Principal Investigator</b>	<i>Huff Allocation:</i> \$205,000
<b>US Research Software Sustainability Institute (URSSI)</b>	<i>Period:</i> 2017–2018
<i>Source:</i> NSF - OAC - SI2 - S2I2 Conceptualization	<i>Award Total:</i> \$499,999

<sup>1</sup>PI-ship transferred to other leadership in May 2021 corresponding with unpaid leave of absence.

Role: Senior Personnel	Huff Allocation: N/A
<b>Dynamic Transition Analysis with TIMES</b>	Period: 2018–2019
Source: I <sup>2</sup> CNER	Award Total: \$76,359
Role: Co-PI	Huff Allocation: <b>\$76,359</b>
<b>Investigation of Agricultural Uses of Nuclear Waste Heat</b>	Period: 2017–2018
Source: Exelon	Award Total: \$151,257
Role: Co-PI	Huff Allocation: <b>\$11,678</b>
<b>Consortium for Verification Technology</b>	Period: 2015–2020
Source: DOE-NNSA Office of DNN R&D	Award Total: \$25,000,000
Role: Consortium Co-PI, UIUC PI, CVT Investigator	Huff Allocation: <b>\$347,000</b>
<b>Consortium for Nonproliferation Enabling Capabilities</b>	Period: 2014–2019
Source: DOE-NNSA Office of DNN R&D	Award Total: \$25,000,000
Role: Consortium Co-PI, UIUC PI, Thrust Area Lead	Huff Allocation: <b>\$648,000</b>
<b>Collaborative, Open-Source Curriculum Development</b>	Period: 2017–2018
Source: UIUC Strategic Instructional Innovations Program	Award Total: \$19,347
Role: <b>Principal Investigator</b>	Huff Allocation: <b>\$13,000</b>
<b>REU Site: INCLUSION at U. Illinois</b>	Period: 2017–2020
Source: NSF - ACI	Award Total: \$380,036
Role: Senior Personnel	Huff Allocation: N/A
<b>Demand-Driven Cycamore Archetypes</b>	Period: 2016–2019
Source: DOE, NEUP R&D	Award Total: \$800,000
Role: Co-PI	Huff Allocation: <b>\$395,066</b>

- BOOKS [1] A. M. Scopatz and **K. D. Huff**. *Effective computation in physics: Field guide to research with python*. O'Reilly Media, Sebastopol, CA, 1st edition, May 2015. URL: <http://shop.oreilly.com/product/0636920033424.do>
- BOOK CHAPTERS [2] **K. Huff**. Foreword: Global Need for Nuclear Energy New Directions in. In *Nuclear Energy Innovation and Opportunities in Fission and Fusion for Global Decarbonization*, volume 1. 1st edition edition, Jan. 2026. URL: <https://shop.elsevier.com/books/new-directions-in-nuclear-energy/foss/978-0-443-33471-9>
- [3] S. Gesing, M. Pierce, S. Marru, M. Zentner, **K. D. Huff**, S. Bradley, S. B. Cleveland, S. R. Brandt, R. Ramnath, K. Kee, M. Dahan, B. M. V. Martínez, W. C. Sepulveda, and J. J. S. Mondragón. Science Gateways and AI/ML: How Can Gateway Concepts and Solutions Meet the Needs in Data Science? In *Critical Infrastructure - Modern Approach and New Developments*. IntechOpen, Mar. 2023. URL: <https://www.intechopen.com/chapters/86501>, doi:10.5772/intechopen.110144
- [4] **K. Huff**. Chapter One - Economics of Advanced Reactors and Fuel Cycles. In H. Bindra, editor, *Storage and Hybridization of Nuclear Energy*, volume 1, pages 1–20. Science & Technology Books Elsevier, Inc., Cambridge, MA, United States, 1 edition, Jan. 2019. URL: <http://www.sciencedirect.com/science/article/pii/B9780128139752000016>, doi:10.1016/B978-0-12-813975-2.00001-6
- [5] **K. Huff**. Case Study: Cyclus Project. In J. Kitzes, F. Imamoglu, and D. Turek, editors, *The Practice of Reproducible Research*, volume 1. University of California Press, University of California, Berkeley, 1 edition, 2017
- [6] **K. Huff**. Lessons Learned. In J. Kitzes, F. Imamoglu, and D. Turek, editors, *The Practice of Reproducible Research*, volume 1. University of California Press, University of California, Berkeley, 1 edition, 2017
- JOURNAL PUBLICATIONS [7] S. G. Dotson, M. Munk, and **K. D. Huff**. Demonstrating the Osier framework for energy system and nuclear fuel cycle optimization. *Annals of Nuclear Energy*, 230:112151, June 2026. URL: <https://www.sciencedirect.com/science/article/pii/S0306454926000393>, doi:10.1016/j.anucene.2026.112151

- [8] S. M. Park, **K. D. Huff**, and M. Munk. Hybrid SN-Diffusion Neutronics Method for Control Rod Modeling in Molten Salt Reactors. *Nuclear Science and Engineering*, 0(0):1–26, May 2026. doi: [10.1080/00295639.2026.2667091](https://doi.org/10.1080/00295639.2026.2667091)
- [9] A. M. Bachmann, Z. Richter, **K. D. Huff**, and M. Munk. Effects of Uranium Impurities in Down-blended HEU on HTGR Performance. *Nuclear Technology*, 0(0):1–19, Jan. 2026. doi: [10.1080/00295450.2025.2560690](https://doi.org/10.1080/00295450.2025.2560690)
- [10] L. Seifert, S. Shahbazi, S. Richards, M. Munk, and **K. Huff**. Accuracy of the Scaled Flux Method for Spatially Resolved Nuclide Transmutation in Flowing-Fuel Molten Salt Reactors. *Nuclear Science and Engineering*, 0(0):1–13, Sept. 2025. doi: [10.1080/00295639.2025.2568258](https://doi.org/10.1080/00295639.2025.2568258)
- [11] L. Seifert, B. Betzler, W. Wieselquist, M. Jessee, M. Munk, and **K. Huff**. Delayed Neutron Precursor Group Parameter and Spectra Generation from Fast Fission of <sup>235</sup>U in SCALE. *Nuclear Science and Engineering*, 0(0):1–16, Aug. 2025. doi: [10.1080/00295639.2025.2525754](https://doi.org/10.1080/00295639.2025.2525754)
- [12] W. E. Kennedy, R. A. Meserve, K. A. Higley, **K. D. Huff**, C. T. Hanson, M. Ford, D. Schultheisz, T. Smith, B. Kugelmass, A. Abou-Jaoude, J. R. Lovering, J. D. Semancik, G. V. Cullen, J. Cheatham, P. F. Peterson, E. Redmond II, S. M. Mirsky, M. Mahowald, M. G. Houts, D. Perkins, R. Vaghetto, J. Duhig, and C. J. D. VanHorne-Sealy. National Council on Radiation Protection (NCRP) 2024 annual meeting: advanced and small modular nuclear power reactors. *Journal of Radiological Protection: Official Journal of the Society for Radiological Protection*, 44(4), Oct. 2024. doi: [10.1088/1361-6498/ad7ec4](https://doi.org/10.1088/1361-6498/ad7ec4)
- [13] N. Thiollière, X. Doligez, M. Halasz, G. Krivtchik, I. Merino, B. Mouginot, A. V. Skarbeli, A. Hernandez-Solis, F. Alvarez-Velarde, F. Courtin, H. Druenne, M. Ernoult, **K. Huff**, M. Szieberth, B. Vermeeren, and P. Wilson. Impact of fresh fuel loading management in fuel cycle simulators: A functionality isolation test. *Nuclear Engineering and Design*, 392:111748, June 2022. URL: <https://www.sciencedirect.com/science/article/pii/S0029549322001029>, doi: [10.1016/j.nucengdes.2022.111748](https://doi.org/10.1016/j.nucengdes.2022.111748)
- [14] M. Turkmen, G. J. Y. Chee, and **K. D. Huff**. Machine learning application to single channel design of molten salt reactor. *Annals of Nuclear Energy*, 161:108409, Oct. 2021. doi: <https://doi.org/10.1016/j.anucene.2021.108409>
- [15] A. Chaube, A. Chapman, A. Minami, J. Stubbins, and **K. D. Huff**. The role of current and emerging technologies in meeting Japan’s mid- to long-term carbon reduction goals. *Applied Energy*, 304:117669, Dec. 2021. URL: <https://www.sciencedirect.com/science/article/pii/S0306261921010308>, doi: [10.1016/j.apenergy.2021.117669](https://doi.org/10.1016/j.apenergy.2021.117669)
- [16] A. Chapman, Y. Shigetomi, S. Chandra Karmaker, B. Baran Saha, **K. Huff**, C. Brooks, and J. Stubbins. The cultural dynamics of energy: The impact of lived experience, preference and demographics on future energy policy in the United States. *Energy Research & Social Science*, 80:102231, Oct. 2021. URL: <https://www.sciencedirect.com/science/article/pii/S2214629621003248>, doi: [10.1016/j.erss.2021.102231](https://doi.org/10.1016/j.erss.2021.102231)
- [17] O. Ashraf, A. Rykhlevskii, G. V. Tikhomirov, and **K. D. Huff**. Preliminary design of control rods in the single-fluid double-zone thorium molten salt reactor (SD-TMSR). *Annals of Nuclear Energy*, 152:108035, Mar. 2021. URL: <http://www.sciencedirect.com/science/article/pii/S0306454920307313>, doi: [10.1016/j.anucene.2020.108035](https://doi.org/10.1016/j.anucene.2020.108035)
- [18] O. Ashraf, A. Rykhlevskii, G. V. Tikhomirov, and **K. D. Huff**. Strategies for thorium fuel cycle transition in the SD-TMSR. *Annals of Nuclear Energy*, 148, Dec. 2020. URL: <http://www.sciencedirect.com/science/article/pii/S0306454920303546>, doi: [10.1016/j.anucene.2020.107656](https://doi.org/10.1016/j.anucene.2020.107656)
- [19] E. A. Miernicki, A. L. Heald, **K. D. Huff**, C. S. Brooks, and A. J. Margenot. Nuclear waste heat use in agriculture: History and opportunities in the United States. *Journal of Cleaner Production*, 267:121918, Sept. 2020. URL: <http://www.sciencedirect.com/science/article/pii/S095965262031965X>, doi: [10.1016/j.jclepro.2020.121918](https://doi.org/10.1016/j.jclepro.2020.121918)
- [20] G. J. Y. Chee, R. E. F. Agosta, J. W. Bae, R. R. Flanagan, A. M. Scopatz, and **K. D. Huff**. Demand-Driven Deployment Capabilities in Cyclus, a Fuel Cycle Simulator. *Nuclear Technology*, 0(0):1–22, July 2020. eprint: <https://doi.org/10.1080/00295450.2020.1753444>. doi: [10.1080/00295450.2020.1753444](https://doi.org/10.1080/00295450.2020.1753444)

- [21] A. Chaube, A. Chapman, Y. Shigetomi, **K. Huff**, and J. Stubbins. The Role of Hydrogen in Achieving Long Term Japanese Energy System Goals. *Energies*, 13(17):4539, Jan. 2020. Number: 17. URL: <https://www.mdpi.com/1996-1073/13/17/4539>, doi:10.3390/en13174539
- [22] J. W. Bae, A. Rykhlevskii, G. J. Y. Chee, and **K. D. Huff**. Deep learning approach to nuclear fuel transmutation in a fuel cycle simulator. *Annals of Nuclear Energy*, 139:107230, May 2020. github.com/jbae11/depletion\_rom. URL: <http://www.sciencedirect.com/science/article/pii/S0306454919307406>, doi:10.1016/j.anucene.2019.107230
- [23] O. Ashraf, A. Rykhlevskii, G. Tikhomirov, and **K. D. Huff**. Whole core analysis of the single-fluid double-zone thorium molten salt reactor (SD-TMSR). *Annals of Nuclear Energy*, 137:107–115, Mar. 2020. URL: <http://www.sciencedirect.com/science/article/pii/S0306454919306255>, doi: <https://doi.org/10.1016/j.anucene.2019.107115>
- [24] M. Kamuda, J. Zhao, and **K. Huff**. A comparison of machine learning methods for automated gamma-ray spectroscopy. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 954:161385, Feb. 2020. URL: <http://www.sciencedirect.com/science/article/pii/S0168900218313779>, doi:10.1016/j.nima.2018.10.063
- [25] J. W. Bae, C. E. Singer, and **K. D. Huff**. Synergistic spent nuclear fuel dynamics within the European Union. *Progress in Nuclear Energy*, 114:1–12, July 2019. URL: <https://www.sciencedirect.com/science/article/pii/S014919701930037X>, doi:10.1016/j.pnucene.2019.02.001
- [26] J. W. Bae, J. L. Peterson-Droogh, and **K. D. Huff**. Standardized verification of the Cyclus fuel cycle simulator. *Annals of Nuclear Energy*, 128:288–291, June 2019. URL: <http://www.sciencedirect.com/science/article/pii/S0306454919300179>, doi:10.1016/j.anucene.2019.01.014
- [27] A. Rykhlevskii, J. W. Bae, and **K. D. Huff**. Modeling and simulation of online reprocessing in the thorium-fueled molten salt breeder reactor. *Annals of Nuclear Energy*, 128:366–379, June 2019. URL: <http://www.sciencedirect.com/science/article/pii/S0306454919300350>, doi:10.1016/j.anucene.2019.01.030
- [28] A. Lindsay, G. Ridley, A. Rykhlevskii, and **K. Huff**. Introduction to Moltres: An application for simulation of Molten Salt Reactors. *Annals of Nuclear Energy*, 114:530–540, Apr. 2018. URL: <https://www.sciencedirect.com/science/article/pii/S0306454917304760>, doi:10.1016/j.anucene.2017.12.025
- [29] A. M. Smith, K. E. Niemeyer, D. S. Katz, L. A. Barba, G. Githinji, M. Gymrek, **K. D. Huff**, C. R. Madan, A. C. Mayes, K. M. Moerman, P. Prins, K. Ram, A. Rokem, T. K. Teal, R. V. Guimera, and J. T. Vanderplas. Journal of Open Source Software (JOSS): design and first-year review. *PeerJ Computer Science*, 4:e147, Feb. 2018. URL: <https://peerj.com/articles/cs-147>, doi:10.7717/peerj-cs.147
- [30] A. Lindsay and **K. Huff**. Moltres: finite element based simulation of molten salt reactors. *The Journal of Open Source Software*, 3(21):1–2, Jan. 2018. doi:10.21105/joss.00298
- [31] A. Allen, C. Aragon, C. Becker, J. Carver, A. Chis, B. Combemale, M. Croucher, K. Crowston, D. Garijo, A. Gehani, C. Goble, R. Haines, R. Hirschfeld, J. Howison, **K. Huff**, C. Jay, D. S. Katz, C. Kirchner, K. Kuksenok, R. Lämmel, O. Nierstrasz, M. Turk, R. v. Nieuwpoort, M. Vaughn, and J. J. Vinju. Engineering Academic Software (Dagstuhl Perspectives Workshop 16252). *Dagstuhl Manifestos*, 6(1):1–20, 2017. URL: <http://drops.dagstuhl.de/opus/volltexte/2017/7146>, doi:10.4230/DagMan.6.1.1
- [32] **K. Huff**. Rapid methods for radionuclide contaminant transport in nuclear fuel cycle simulation. *Advances in Engineering Software*, 114:268–281, Dec. 2017. URL: <http://www.sciencedirect.com/science/article/pii/S0965997817302703>, doi:10.1016/j.advengsoft.2017.07.006
- [33] C. Andreades, A. T. Cisneros, J. K. Choi, A. Y. Chong, M. Fratoni, S. Hong, L. R. Huddar, **K. D. Huff**, J. Kendrick, D. L. Krumwiede, M. Laufer, M. Munk, R. O. Scarlat, X. Wang, N. Zwiebaum, E. Greenspan, and P. Peterson. Design Summary of the Mark-I Pebble-Bed, Fluoride Salt-Cooled, High-Temperature Reactor Commercial Power Plant. *Nuclear Technology*, 195(3):222–238, Sept. 2016. URL: <http://www.ans.org/pubs/journals/nt/a.38935>, doi:10.13182/NT16-2

- [34] **K. D. Huff**, M. J. Gidden, R. W. Carlsen, R. R. Flanagan, M. B. McGarry, A. C. Opotowsky, E. A. Schneider, A. M. Scopatz, and P. P. Wilson. Fundamental concepts in the Cyclus nuclear fuel cycle simulation framework. *Advances in Engineering Software*, 94:46–59, Apr. 2016. arXiv: 1509.03604. URL: <http://www.sciencedirect.com/science/article/pii/S0965997816300229>, doi:10.1016/j.advengsoft.2016.01.014
- [35] G. Wilson, D. A. Aruliah, C. T. Brown, N. P. Chue Hong, M. Davis, R. T. Guy, S. H. D. Haddock, **K. D. Huff**, I. M. Mitchell, M. D. Plumbly, B. Waugh, E. P. White, and P. Wilson. Best Practices for Scientific Computing. *PLoS Biol*, 12(1):e1001745, Jan. 2014. URL: <http://dx.doi.org/10.1371/journal.pbio.1001745>, doi:10.1371/journal.pbio.1001745
- [36] M. G. Clerc, P. Cordero, J. Dunstan, **K. D. Huff**, N. Mujica, D. Risso, and G. Varas. Liquid-solid-like transition in quasi-one-dimensional driven granular media. *Nature Physics*, 4(3):249–254, Mar. 2008. URL: <http://dx.doi.org.ezproxy.library.wisc.edu/10.1038/nphys884>, doi:10.1038/nphys884
- REFEREED  
CONFERENCE  
PROCEEDINGS [37] M. Fang, **K. Huff**, T. Kozlowski, J. F. Stubbins, L. Vergari, and A. D. Fulvio. EINSTEIN: enhanced integrated nuclear systems for transmutation and efficient isolation of nuclides. In *Hard X-Ray, Gamma-Ray, and Neutron Detector Physics XXVII*, volume 13621, pages 128–133. SPIE, Sept. 2025. doi:10.1117/12.3067982
- [38] O. Yardas, P. Romano, M. Munk, and **K. Huff**. Extension of the OpenMC depletion module for transport-independent depletion. In *Proceedings of the 24th Python in Science Conference*, Tacoma, WA, July 2025. doi:<https://doi.org/10.25080/ngdf5738>
- [39] L. Seifert, S. Shahbazi, S. Richards, M. Munk, and **K. D. Huff**. A Computationally Tractable Model for Spatially Resolved Nuclide Concentrations in Flowing Fuel Molten Salt Reactors. In *Proceedings of The International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering (M&C 2025)*, pages 92–101, Denver, Colorado, Apr. 2025. American Nuclear Society. URL: <https://www.ans.org/pubs/proceedings/article-58045/>, doi:10.13182/MC25-47141
- [40] S. M. Park, **K. D. Huff**, and M. Munk. A Hybrid SN-Diffusion Method for Molten Salt Reactor Control Rod Modeling. In *Proceedings of The International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering (M&C 2025)*, pages 430–439, Denver, CO, Apr. 2025. American Nuclear Society. URL: <https://www.ans.org/pubs/proceedings/article-58077/>, doi:<http://dx.doi.org/10.13182/xyz-47048>
- [41] B. Petrovic, K. Ramey, I. Hill, E. Losa, M. Elsayi, Z. Wu, C. Lu, J. Gonzalez, D. Novog, G. J. Y. Chee, **K. D. Huff**, M. Margulis, N. Read, and E. Shwegaraus. Preliminary Results of the NEA FHR Benchmark Phase I-A and I-B (Fuel Element 2-D Benchmark). In *Proceedings of ANS M&C 2021*, pages 1924–1933, Virtual, Oct. 2021. American Nuclear Society. URL: <https://www.ans.org/pubs/proceedings/article-50163/>
- [42] B. R. Betzler, A. Rykhlevskii, A. Worrall, and **K. D. Huff**. Impacts of Fast-Spectrum Molten Salt Reactor Characteristics on Fuel Cycle Performance. In *Proceedings of GLOBAL International Fuel Cycle Conference*, Seattle, WA, United States, Sept. 2019. American Nuclear Society. URL: <https://www.ans.org/store/item-700433/>
- [43] G. J. Y. Chee, J. W. Bae, **K. D. Huff**, R. R. Flanagan, and R. Fairhurst. Demonstration of Demand-Driven Deployment Capabilities in Cyclus. In *Proceedings of Global/Top Fuel 2019*, Seattle, WA, United States, Sept. 2019. American Nuclear Society
- [44] R. R. Flanagan, J. W. Bae, **K. D. Huff**, G. J. Y. J. Chee, and R. Fairhurst. Methods for Automated Fuel Cycle Facility Deployment (submitted). In *Proceedings of the American Nuclear Society 2019 Global Conference*, Seattle, WA, United States, Sept. 2019. American Nuclear Society
- [45] S. M. Park, A. Rykhlevskii, and **K. Huff**. Safety Analysis of the Molten Salt Fast Reactor Fuel Composition using Moltres. In *Proceedings of GLOBAL International Fuel Cycle Conference*, Seattle, WA, United States, Sept. 2019. American Nuclear Society. URL: <https://osf.io/7ce89>, doi:10.31224/osf.io/7ce89
- [46] A. Rykhlevskii, B. R. Betzler, A. Worrall, and **K. D. Huff**. Fuel Cycle Performance of Fast Spectrum Molten Salt Reactor Designs. In *Proceedings of Mathematics and Computation 2019*, Portland, OR, Aug. 2019. American Nuclear Society

- [47] G. Westphal and **K. Huff**. PyRe: A Cyclus Pyroprocessing Facility Archetype. In *Proceedings of the 2018 Advances in Nuclear Nonproliferation Technology and Policy Conference*, Orlando, FL, Nov. 2018. American Nuclear Society
- [48] A. Smith, L. A. Barba, G. Githinji, M. Gymrek, **K. Huff**, D. S. Katz, C. Madan, A. C. Mayes, K. M. Moerman, K. Niemeyer, P. Prins, K. Ram, A. Rokem, T. Teal, R. Valls Guimera, and J. T. Vanderplas. Introducing JOSS: The Journal of Open Source Software. In *Proceedings of SciPy*, Austin, TX, United States, July 2017. SciPy. 10.6084/m9.figshare.5208151.v1. doi:10.6084/m9.figshare.5208151.v1
- [49] A. Smith, L. A. Barba, G. Githinji, M. Gymrek, **K. Huff**, D. S. Katz, C. Madan, A. C. Mayes, K. M. Moerman, K. Niemeyer, P. Prins, K. Ram, A. Rokem, T. Teal, and J. Vanderplas. The Journal of Open Source Software. In *Society for Industrial and Applied Mathematics Computational Science and Engineering 17*, volume Computational Science and Engineering, Atlanta, GA, Feb. 2017. Society for Industrial and Applied Mathematics. URL: [https://figshare.com/articles/The\\_Journal\\_of\\_Open\\_Source\\_Software/4688911](https://figshare.com/articles/The_Journal_of_Open_Source_Software/4688911), doi:<https://doi.org/10.6084/m9.figshare.4688911.v1>
- [50] **K. D. Huff**, J. W. Bae, K. A. Mummah, R. R. Flanagan, and A. M. Scopatz. Current Status of Predictive Transition Capability in Fuel Cycle Simulation. In *Proceedings of Global 2017*, Seoul, South Korea, Sept. 2017
- [51] J. W. Bae, W. Roy, and **K. D. Huff**. Benefits of Siting a Borehole Repository at a Non-operating Nuclear Facility. In *Proceedings of the International High Level Radioactive Waste Management Conference*, Charlotte, North Carolina, Apr. 2017. American Nuclear Society
- [52] X. Wang, **K. D. Huff**, M. Aufiero, P. F. Peterson, and M. Fratoni. Coupled Reactor Kinetics and Heat Transfer Model for Fluoride Salt-Cooled High-Temperature Reactor Transient Analysis. June 2016. URL: <http://dx.doi.org/10.1115/ICONE24-60728>, doi:10.1115/ICONE24-60728
- [53] X. Wang, **K. D. Huff**, M. Aufiero, P. F. Peterson, and M. Fratoni. A Sensitivity Study of a Coupled Kinetics and Thermal-Hydraulics Model for Fluoride-Salt-Cooled, High-Temperature Reactor (FHR) Transient Analysis. In *Proceedings of ICAPP 2016*, page Paper 16555, San Francisco, CA, Apr. 2016. International Congress on Advances in Nuclear Power Plants. URL: [icapp.ans.org](http://icapp.ans.org)
- [54] D. Djokic, A. M. Scopatz, H. R. Greenberg, **K. D. Huff**, R. P. Nibbelink, and M. Fratoni. The Application of CYCLUS to Fuel Cycle Transition Analysis. In *Proceedings of Global 2015*, LLNL-CONF-669315, page 5061, Paris, France, Sept. 2015
- [55] **K. Huff**. PyRK: A Python Package For Nuclear Reactor Kinetics. In *Proceedings of the 14th Python in Science Conference*, pages 87–93, Austin, TX, United States, 2015. SciPy. URL: [http://conference.scipy.org/proceedings/scipy2015/kathryn\\_huff.html](http://conference.scipy.org/proceedings/scipy2015/kathryn_huff.html), doi:10.25080/Majora-7b98e3ed-00d
- [56] D. L. Krumwiede, C. Andreades, J. Choi, A. Cisneros, L. Huddar, **K. D. Huff**, M. Laufer, M. Munk, R. O. Scarlat, J. E. Seifried, N. Zwiebaum, E. Greenspan, and P. F. Peterson. Design of the Mark-1 Pebble-Bed, Fluoride-Salt-Cooled, High-Temperature Reactor Commercial Power Plant. In *Proceedings of ICAPP*, Charlotte, North Carolina, 2014
- [57] **K. D. Huff**. Cyclus Fuel Cycle Simulation Capabilities with the Cyder Disposal System Model. In *Proceedings of GLOBAL 2013*, Salt Lake City, UT, United States, Oct. 2013
- [58] M. Gidden, P. Wilson, **K. D. Huff**, and R. W. Carlsen. An Agent-Based Framework for Fuel Cycle Simulation with Recycling. In *Proceedings of GLOBAL*, Salt Lake City, UT, United States, Sept. 2013
- [59] **K. D. Huff**. Hydrologic Nuclide Transport Models in Cyder, a Geologic Disposal Software Library. In *WM2013*, Phoenix, AZ, Feb. 2013. Waste Management Symposium
- [60] **K. D. Huff**. Cyclus: An Open, Modular, Next Generation Fuel Cycle Simulator Platform (poster). In *Proceedings of the Waste Management Symposium*, Phoenix, AZ, Mar. 2011
- [61] K. M. Oliver, P. P. Wilson, A. Reveillere, T. W. Ahn, K. Dunn, **K. D. Huff**, and R. A. Elmore. Studying international fuel cycle robustness with the GENIUSv2 discrete facilities/materials fuel cycle systems analysis tool. In *Proceedings of GLOBAL 2009*, GLOBAL 2009: Advanced Nuclear Fuel Cycles and Systems, Paris, France, Sept. 2009

- [62] N. Mujica, M. Clerc, P. Cordero, J. Dunstan, **K. Huff**, L. Oyarte, R. Soto, G. Varas, and D. Risso. Solid-liquid-like transition in vibrated granular monolayers. In *APS Division of Fluid Dynamics Meeting Abstracts*, Nov. 2008. URL: <http://adsabs.harvard.edu/abs/2008APS..DFD.HM008M>
- [63] D. Rochman, R. C. Haight, S. A. Wender, J. M. O'Donnell, A. Michaudon, **K. D. Huff**, D. J. Vieira, E. Bond, R. S. Rundberg, A. Kronenberg, J. Wilhelmy, T. A. Bredeweg, J. Schwantes, T. Ethvignot, T. Granier, M. Petit, and Y. Danon. First Measurements with a Lead Slowing-Down Spectrometer at LANSCE. In *Proceedings of the International Conference on Nuclear Data for Science and Technology*, volume 769, pages 736–739, May 2005. URL: <http://adsabs.harvard.edu/abs/2005AIPC..769..736R>, doi:10.1063/1.1945112
- REFEREED  
CONFERENCE  
ABSTRACTS [64] A. M. Bachmann and **K. D. Huff**. Comparing HALEU Demand Along Advanced Reactor Fuel Cycle Transitions. In *Proceedings of the 2021 ANS Virtual Annual Meeting*, volume 124, pages 134–137, Virtual Meeting, June 2021. URL: <https://www.ans.org/pubs/transactions/article-49551/>
- [65] S. M. Park and **K. D. Huff**. Multiphysics Benchmark Results from Moltres. In *Proceedings of the 2021 ANS Virtual Annual Meeting*, Reactor Analysis Methods - I, Virtual Meeting, June 2021. American Nuclear Society. URL: <https://www.ans.org/meetings/am2021/session/view-587/>
- [66] A. M. Bachmann and **K. D. Huff**. Enriched Uranium Supply Requirements for the Transition to Advanced Reactors. In *Proceedings of the American Nuclear Society 2021 National Student Conference*, Virtual, Apr. 2021
- [67] R. Fairhurst Agosta, S. Dotson, and **K. Huff**. Hydrogen Economy in Champaign-Urbana, IL. In *Transactions of the American Nuclear Society Student Conference*, Raleigh, NC, Mar. 2020. American Nuclear Society
- [68] S. G. Dotson and **K. D. Huff**. Echo State Networks for Renewable Energy Forecasting. In *Proceedings of the 2020 ANS Virtual Winter Meeting*, Operations and Power Division Hybrid and Integrated Energy Systems, Virtual Meeting, Nov. 2020. American Nuclear Society. URL: <https://www.ans.org/meetings/wm2020/session/view-235/>
- [69] M. Turkmen and **K. D. Huff**. Single Channel Design Based on Artificial Intelligence for Molten Salt Reactors. In *Countdown to 2030: Framing the Nuclear Technology Agenda for the Next 10 Years*, volume 122 of *Virtual Conference*, pages 712–713, Virtual Meeting, June 2020. Transactions of the American Nuclear Society. URL: <http://epubs.ans.org/?a=48340>
- [70] S. G. Dotson and **K. D. Huff**. Optimal Sizing of a Micro-Reactor for Embedded Grid Systems. In *Transactions of the American Nuclear Society Student Conference*, Raleigh, N.C., Mar. 2020. American Nuclear Society
- [71] R. Fairhurst Agosta, S. Dotson, and **K. Huff**. Hydrogen Economy in Champaign-Urbana, IL. In *Transactions of the American Nuclear Society Annual Meeting*, volume 122 of *General Topics in Decommissioning*, Phoenix, AZ, June 2020. American Nuclear Society. URL: <http://epubs.ans.org/?a=48167>
- [72] A. Rykhlevskii, D. O'Grady, T. Kozlowski, and **K. D. Huff**. The Impact of Xenon-135 on Load Following Transatomic Power Molten Salt Reactor. In *Transactions of the American Nuclear Society*, Washington, DC, United States, Nov. 2019. American Nuclear Society
- [73] S. M. Park, A. Rykhlevskii, and **K. Huff**. Safety Analysis of the Molten Salt Fast Reactor Fuel Composition using Moltres. In *Proceedings of GLOBAL International Fuel Cycle Conference*, Seattle, WA, United States, Sept. 2019. American Nuclear Society. URL: <https://osf.io/7ce89>, doi:10.31224/osf.io/7ce89
- [74] G. J. Y. Chee and **K. D. Huff**. Simulation of Spent Nuclear Fuel loading into a Final Waste Repository. In *WM Symposia 2019 Proceedings*, Phoenix, AZ, Apr. 2019. Roy G. Post Foundation
- [75] G. J. Y. Chee, J. W. Bae, **K. D. Huff**, R. R. Flanagan, and R. Fairhurst. Demonstration of Demand-Driven Deployment Capabilities in Cyclus. In *Proceedings of Global/Top Fuel 2019*, Seattle, WA, United States, Sept. 2019. American Nuclear Society

- [76] A. Chaube, **K. D. Huff**, and J. Stubbins. Dynamic Transition Analysis With The Integrated Markal-EFOM System (TIMES): International Institute for Carbon-Neutral Energy Research (I2CNER) Project Report. Technical Report UIUC-ARFC-2019-02, University of Illinois at Urbana-Champaign, Urbana, IL, May 2019. URL: <https://zenodo.org/record/3354538#.XT9WlpNKirw>, doi:10.5281/zenodo.3354538
- [77] G. Westphal and **K. D. Huff**. Signatures and Observables in the Nuclear Fuel Cycle. In *CNEC Annual Workshop*, Raleigh, N.C., Feb. 2018. North Carolina State University. (Poster)
- [78] M. Kamuda. A Comparison of Machine Learning Methods for Automated Gamma-Ray Spectroscopy. In *Proceedings of SORMA2018*, Ann Arbor, MI, June 2018. URL: <http://arfc.github.io/pres/2018-06-13-SORMA.pdf>
- [79] G. J. Y. Chee, G. Park, and **K. D. Huff**. Validation of Spent Nuclear Fuel Output by Cyclus, a Fuel Cycle Simulator Code. In *Proceedings of the American Nuclear Society Winter Meeting 2018*, Orlando, FL, Nov. 2018. American Nuclear Society
- [80] G. J. Y. Chee, J. W. Bae, and **K. D. Huff**. Numerical Experiments for testing Demand-Driven Deployment Algorithms. In *Proceedings of the American Nuclear Society 2018 National Student Conference*, Gainesville, FL, United States, Apr. 2018. American Nuclear Society
- [81] A. Chaube, J. Stubbins, and **K. D. Huff**. Dynamic Transition Analysis with TIMES. In *I2CNER Annual Symposium*, Fukuoka, Japan, Jan. 2018. Kyushu University. (Poster)
- [82] J. W. Bae, J. L. Peterson-Droogh, and **K. D. Huff**. Impact of Composition Approximation on Simulated Nuclear Fuel Cycle Metrics. In *Proceedings of the American Nuclear Society Winter Meeting*, Orlando, FL, Nov. 2018. American Nuclear Society. URL: <http://arfc.npre.illinois.edu/pres/2018-11-13-bae-answinter2018.pdf>
- [83] A. Rykhlevskii, A. Lindsay, and **K. D. Huff**. Online reprocessing simulation for thorium-fueled molten salt breeder reactor. In *Transactions of the American Nuclear Society*, volume 117 of *Molten Salt Processing-Online Processing Redox*, pages 239–242, Washington, DC, United States, Nov. 2017. American Nuclear Society. URL: <http://epubs.ans.org/?a=41258>
- [84] A. Rykhlevskii, A. Lindsay, and **K. D. Huff**. Full-core analysis of thorium-fueled Molten Salt Breeder Reactor using the SERPENT 2 Monte Carlo code. In *Transactions of the American Nuclear Society*, Washington, DC, United States, Nov. 2017. American Nuclear Society
- [85] G. Ridley, A. Lindsay, and **K. Huff**. An Introduction to Moltres, an MSR Multiphysics Code. In *Transactions of the American Nuclear Society*, Washington D.C., Oct. 2017. American Nuclear Society. URL: <http://arfc.github.io/pres/2017-10-31-moltres.pdf>
- [86] J. W. Bae, **K. Huff**, and C. Singer. Synergistic Spent Nuclear Fuel Dynamics Within the European Union. In *Transactions of the American Nuclear Society Winter Conference*, Washington, D.C., Oct. 2017. American Nuclear Society
- [87] A. M. Scopatz and **K. D. Huff**. Modernizing Computational Nuclear Engineering Education in the Open. In *Transactions of the American Nuclear Society*, volume 113 of *Education and Training: General—II*, pages 111–114, Washington, D.C., Nov. 2015. URL: <http://epubs.ans.org/?a=37748>
- [88] **K. D. Huff**, M. Fratoni, and H. Greenberg. Extensions to the Cyclus Ecosystem In Support of Market-Driven Transition Capability. In *Transactions of the American Nuclear Society*, volume 111, pages 245–248, Anaheim, CA, United States, Nov. 2014. American Nuclear Society. URL: <http://epubs.ans.org/?a=36345>
- [89] C. Bates, E. D. Biondo, **K. D. Huff**, K. Kiesling, and A. M. Scopatz. PyNE Progress Report. In *Transactions of the American Nuclear Society*, Anaheim, CA, United States, Nov. 2014. American Nuclear Society. URL: <https://github.com/pyne/ans-winter-2013>
- [90] **K. D. Huff** and A. T. Bara. Dynamic Determination of Thermal Repository Capacity For Fuel Cycle Analysis. In *Transactions of the American Nuclear Society*, volume 108, pages 123–126, Atlanta, GA, United States, June 2013. American Nuclear Society

- [91] A. Scopatz, P. K. Romano, P. P. H. Wilson, and **K. D. Huff**. PyNE: Python for Nuclear Engineering. In *Transactions of the American Nuclear Society*, volume 107, San Diego, CA, USA, Nov. 2012. American Nuclear Society
- [92] **K. Huff** and T. H. Bauer. Numerical Calibration of an Analytical Generic Nuclear Repository Heat Transfer Model. In *Transactions of the American Nuclear Society*, volume 106 of *Modeling and Simulation in the Fuel Cycle*, pages 260–263, Chicago, IL, United States, June 2012. American Nuclear Society, La Grange Park, IL 60526, United States
- [93] **K. D. Huff** and W. M. Nutt. Key Processes and Parameters in a Generic Clay Disposal System Model. In *Transactions of the American Nuclear Society*, volume 107 of *Environmental Sciences – General*, pages 208–211, San Diego, CA, Nov. 2012. American Nuclear Society. URL: <http://epubs.ans.org.ezproxy.library.wisc.edu/download/?a=14711>
- [94] M. J. Gidden, P. P. Wilson, **K. D. Huff**, and R. W. Carlsen. Once-Through Benchmarks with CYCLUS, a Modular, Open-Source Fuel Cycle Simulator. In *Transactions of the American Nuclear Society*, volume 107 of *Nuclear Fuel Cycle Resources, Sustainability, Reuse, and Recycle*, pages 264–266, San Diego, CA, Nov. 2012. American Nuclear Society, La Grange Park, IL 60526, United States
- [95] **K. D. Huff**, A. Scopatz, N. Preston, and P. Wilson. Rapid Peer Education of a Computational Nuclear Engineering Skill Suite. In *Transactions of the American Nuclear Society*, volume 104 of *Training, Human Performance, and Work Force Development*, pages 103–104, Hollywood, FL, United States, June 2011. American Nuclear Society, La Grange Park, IL 60526, United States
- [96] **K. D. Huff**, P. P. Wilson, and M. J. Gidden. Open Architecture and Modular Paradigm of Cyclus, a Fuel Cycle Simulation Code. In *Transactions of the American Nuclear Society*, volume 104, page 183, June 2011
- [97] **K. D. Huff**, R. A. Elmore, K. M. Oliver, and P. P. Wilson. MOX Fuel Recipe Approximation Tests in GENIUSv2. In *Transactions of the American Nuclear Society Student Meeting*, Ypsilanti, MI, Apr. 2010
- [98] **K. D. Huff**, K. M. Oliver, P. P. Wilson, T. W. Ahn, K. Dunn, and R. Elmore. GENIUSv2 Discrete Facilities/Materials Modeling of International Fuel Cycle Robustness. In *Transactions of the American Nuclear Society*, volume 101 of *Nuclear Fuel Cycle Codes and Applications*, pages 239–240, Washington D.C., United States, Nov. 2009. American Nuclear Society
- [99] **K. D. Huff**, P. P. Wilson, and K. M. Oliver. GENIUS Version 2: Modeling the Worldwide Nuclear Fuel Cycle (poster). In *Proceedings of the eHub Conference*, University of Wisconsin, Madison, Nov. 2009
- [100] R. A. Elmore, K. M. Oliver, P. P. Wilson, T. W. Ahn, K. L. Dunn, and **K. D. Huff**. GENIUSv2 Recipe Approximation Methodology for Mixed-Oxide Fuel. In *Transactions of the American Nuclear Society*, volume 101 of *Nuclear Fuel Cycle Codes and Applications*, pages 241–242, Washington D.C., United States, Nov. 2009
- NATIONAL EDITORIAL ARTICLES [101] **K. Huff**. Loosening Radiation Rules Won’t Help Us Get Nuclear Power Any Faster. *Scientific American*, Jan. 2026. URL: <https://www.scientificamerican.com/article/weaker-radiation-limits-will-not-help-nuclear-energy/>
- [102] **K. Huff**. The US Needs a National Nuclear Fuel Recycling Strategy | Opinion - Newsweek. *Newsweek*, Opinion, Oct. 2025. URL: <https://www.newsweek.com/the-us-needs-a-national-nuclear-fuel-recycling-strategy-opinion-10827885>
- [103] **K. Huff**. Taking nuclear energy to the Moon. *Science*, 389(6763):859–859, Aug. 2025. URL: <https://www.science.org/doi/10.1126/science.aeb6479>, doi:10.1126/science.aeb6479
- [104] **K. Huff**, P. Wilson, and M. Corradini. Killing a Nuclear Watchdog’s Independence Threatens Disaster. *Scientific American*, Opinion, Mar. 2025. URL: <https://www.scientificamerican.com/article/killing-a-nuclear-watchdogs-independence-threatens-disaster/>
- [105] **K. Huff** and N. Ryan. What it will take to restart decommissioned US nuclear plants. A primer. *Bulletin of the Atomic Scientists*, Oct. 2024. URL: <https://thebulletin.org/2024/10/what-it-will-take-to-restart-decommissioned-us-nuclear-plants-a-primer/>

- [106] **K. Huff**. Investing in America’s Nuclear Future. *Mechanical Engineering*, 145(1):16–16, Dec. 2022. URL: <https://proxy2.library.illinois.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=160498218&site=ehost-live&scope=site>
- TESTIMONY [107] **K. D. Huff**. Testimony of Dr. Kathryn Huff Assistant Secretary for Nuclear Energy U.S. Department of Energy Before the U.S. House Committee on Oversight and Accountability Subcommittee on Economic Growth, Energy Policy, and Regulatory Affairs U.S. House of Representatives, Jan. 2024. URL: <https://oversight.house.gov/hearing/he-next-generation-empowering-american-nuclear-energy/>
- BEFORE [108] **K. D. Huff**. Testimony of Dr. Kathryn Huff Assistant Secretary for Nuclear Energy U.S. Department of Energy Before the U.S. Senate Committee on Energy and Natural Resources Full Committee Hearing to Examine the Nuclear Fuel Cycle, Mar. 2023. URL: <https://www.energy.senate.gov/hearings/2023/3/full-committee-hearing-to-examine-the-nuclear-fuel-cycle>
- CONGRESS [109] **K. D. Huff**. Testimony and Questions for the Record of Dr. Kathryn Huff Acting Assistant Secretary for Nuclear Energy U.S. Department of Energy Before the U.S. Senate Committee on Energy and Natural Resources Hearing to Consider the Nomination of Dr. Kathryn Huff to be an Assistant Secretary of Energy for Nuclear Energy, Mar. 2022. URL: <https://www.energy.senate.gov/hearings/2022/3/hearing-to-consider-the-nomination-of-kathryn-huff-to-be-an-assistant-secretary-of-energy-for-nuclear-energy>
- [110] **K. D. Huff** and K. Speakes-Backman. Testimony of Dr. Kathryn Huff Assistant Secretary for Nuclear Energy and Ms. Kelly Speakes-Backman Principal Deputy Assistant Secretary for Energy Efficiency and Renewable Energy U.S. Department of Energy Before the Committee on Energy and Natural Resources U.S. Senate, July 2022. URL: <https://www.energy.senate.gov/hearings/2022/7/full-committee-hearing-to-consider-pending-legislation>
- [111] **K. D. Huff** and D. MacIntyre. Testimony of Dr. Kathryn Huff Assistant Secretary for Nuclear Energy and Douglas MacIntyre Deputy Director for the Office of Petroleum Reserves U.S. Department of Energy, Dec. 2022. URL: <https://www.energy.senate.gov/hearings/2022/12/full-committee-hearing-to-consider-pending-legislation>
- [112] **K. D. Huff**. Testimony of Dr. Kathryn Huff Acting Assistant Secretary Office of Nuclear Energy U.S. Department of Energy on Judicious Spending to Enable Success at the Office of Nuclear Energy. U.S. House Committee on Science, Space, and Technology Subcommittee on Energy and Subcommittee on Investigations and Oversight. 117th Congress, Session 1., Oct. 2021. URL: <https://science.house.gov/2021/10/joint-investigations-oversight-and-energy-subcommittees-hearing-judicious>
- TECHNICAL [113] J. Chen, C. S. Brooks, A. Rykhlevskii, M. Türkmen, **K. D. Huff**, A. Lee, T. Kozlowski, Z. Li, B. J. Heuser, and J. F. Stubbins. Enabling Load Following Capability in the Transatomic Power MSR. Technical Report DOE-UIUC-0983-1, Univ. of Illinois at Urbana-Champaign, IL (United States); Idaho National Laboratory (INL), Idaho Falls, ID (United States), Dec. 2021. URL: <https://www.osti.gov/biblio/1877339>, doi:10.2172/1877339
- REPORTS [114] M. Turkmen and J. Chen. Milestone 2.3 Report: SaltProc Sensitivity Analysis, Fuel processing system design. Milestone Report UIUC-ARFC-2021-01, University of Illinois at Urbana-Champaign, Urbana, IL, Mar. 2021
- [115] 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](https://github.com/arfc/2021-04-nm-illinois)
- [116] A. J. Lee, T. Kozlowski, and **K. Huff**. Milestone 3.2 Report: Thermal-Hydraulics Analysis of Core LoadFollowing Operation. Milestone Report UIUC-ARTS-2020-08 DRAFT, University of Illinois at Urbana-Champaign, Urbana, IL, Aug. 2020
- [117] P. Sabharwall, N. Anderson, P. Marotta, and R. Christensen. MicroNuclear Battery Thermal and Fluid Analysis and Multiphysics Modeling Challenges. INL Limited Distribution INL/LTD-19-52963, Idaho National Laboratory, Idaho Falls, ID, Feb. 2019

- [118] A. Chaube, **K. D. Huff**, and J. Stubbins. Dynamic Transition Analysis With The Integrated Markal-EFOM System (TIMES): International Institute for Carbon-Neutral Energy Research (I2CNER) Project Report. Technical Report UIUC-ARFC-2019-02, University of Illinois at Urbana-Champaign, Urbana, IL, May 2019. URL: <https://zenodo.org/record/3354538#.XT9WlpNKirw>, doi:10.5281/zenodo.3354538
- [119] **K. D. Huff**. Identifying MSR Multiphysics Modeling Challenges. Technical Report UIUC-ARFC-2019-01, University of Illinois at Urbana-Champaign, Urbana, IL, Feb. 2019. URL: <https://zenodo.org/record/335456>, doi:10.5281/zenodo.3354563
- [120] G. J. Y. Chee, R. Fairhurst, and **K. Huff**. Transition Scenario Demonstrations of CYCAMORE Demand Driven Deployment Capabilities. Technical Report UIUC-ARFC-2019-03, University of Illinois at Urbana-Champaign, Urbana, IL, June 2019. <https://zenodo.org/record/3354507>. URL: <https://zenodo.org/record/3354507>
- [121] **K. D. Huff** and T. W. Knight. Demand Driven Cycamore Archetypes - NEUP Final Technical Report. Final Technical Report UIUC-USC-2020-01, University of Illinois at Urbana-Champaign; Univ. of South Carolina, Columbia, SC (United States), Urbana, IL, Dec. 2019. URL: <https://www.osti.gov/biblio/1594895>, doi:10.2172/1594895
- [122] A. Rykhlevskii and **K. Huff**. Milestone 2.1 Report: Demonstration of SaltProc. Milestone Report UIUC-ARFC-2019-04 DOI: 10.5281/zenodo.3355649, University of Illinois at Urbana-Champaign, Urbana, IL, June 2019. doi:10.5281/zenodo.3355649
- [123] J. W. Bae, G. J. Y. Chee, and **K. Huff**. Numerical Experiments for Verifying Demand Driven Deployment Algorithms. Graduate Report UIUC-ARFC-2018-01, University of Illinois at Urbana-Champaign, Urbana, IL, Apr. 2018. URL: [https://github.com/arfc/ddca\\_numerical\\_exp](https://github.com/arfc/ddca_numerical_exp)
- [124] A. L. Heald, E. Miernicki, R. E. Fairhurst, A. J. Margenot, **K. D. Huff**, and C. S. Brooks. Investigation of Agricultural Uses of Nuclear Waste Heat. UIUC Technical Report. October, 2018. UIUC Technical Report, University of Illinois at Urbana-Champaign, Urbana, IL, Oct. 2018
- [125] J. W. Bae and **K. D. Huff**. Non-algorithmic Capability Gaps for Cyclus and Cycamore transition analyses. Graduate Report UIUC-ARFC-2017-02, University of Illinois at Urbana-Champaign, Urbana, IL, Nov. 2017. URL: <https://github.com/arfc/transition-scenarios>, doi:10.5281/zenodo.1145439
- [126] **K. Huff** and A. Lindsay. Coupled Multi-Physics of Advanced Molten Salt Nuclear Reactors. Blue Waters Annual Report, National Center for Supercomputing Applications, 2017. URL: [https://bluewaters.ncsa.illinois.edu/apps/docs/BW\\_AR\\_2017\\_linked.pdf](https://bluewaters.ncsa.illinois.edu/apps/docs/BW_AR_2017_linked.pdf)
- [127] G. Ridley, A. Lindsay, M. Turk, and **K. Huff**. Multiphysics Analysis of Molten Salt Reactor Transients. Undergraduate Report UIUC-ARFC-2017-01, University of Illinois at Urbana-Champaign, Urbana, IL, Aug. 2017. DOI 10.5281/zenodo.1145437. URL: <https://github.com/arfc/publications/tree/2017-ridley-msrTransients>
- [128] A. Lindsay, A. Rykhlevskii, and **K. Huff**. Advanced Reactor Fuel Cycles Molten Salt Reactor Design. Technical Report, University of Illinois at Urbana-Champaign, Urbana, IL, Aug. 2016. URL: <https://github.com/arfc/MSR-design>
- [129] D. Djokic, A. M. Scopatz, H. R. Greenberg, **K. D. Huff**, R. P. Nibbelink, and M. Fratoni. The Application of CYCLUS to Fuel Cycle Transition Analysis. In *Proceedings of Global 2015*, LLNL-CONF-669315, page 5061, Paris, France, Sept. 2015
- [130] C. Andreades, A. Cisneros, J. Choi, A. Chong, D. L. Krumwiede, L. Huddar, **K. D. Huff**, M. Laufer, M. Munk, R. O. Scarlat, J. E. Seifried, N. Zwiebaum, E. Greenspan, and P. F. Peterson. Technical Description of the ‘Mark 1’ Pebble-Bed, Fluoride-Salt-Cooled, High-Temperature Reactor Power Plant. Thermal Hydraulics Group UCBTH-14-002, University of California, Berkeley, Department of Nuclear Engineering, Berkeley, CA, Sept. 2014
- [131] **K. D. Huff** and T. H. Bauer. Benchmarking a New Closed-Form Thermal Analysis Technique Against a Traditional Lumped Parameter, Finite-Difference Method. Technical Report FCRD-UFD-000142, Argonne National Laboratory, Argonne, IL, United States, July 2012

- [132] **K. D. Huff** and W. M. Nutt. FY12 Sensitivity Studies Using the UFD Clay Generic Disposal System Model. Technical Report FCRD-USED-2012-000141, Argonne National Laboratory (ANL), Argonne, IL, United States, July 2012
- [133] **K. Huff** and B. Dixon. Next Generation Fuel Cycle Simulator Functions and Requirements Document. Technical Report fcrd-sysa-2010-000110, Idaho National Laboratory, July 2010
- [134] O. Biris, K. Gracey, **K. D. Huff**, and W. K. Ng. An Analysis of the Consolidated Fuel Treatment Center Nuclear Reprocessing Initiative. capstone report BP-EP-2008-07, University of Chicago, Chicago, IL, United States, June 2008. URL: <http://humanities.uchicago.edu/orgs/institute/bigproblems/Energy/BP-Energy-Reprocessing.doc>
- [135] **K. D. Huff**. Digital filtering applications to the lead slowing-down spectrometer. Technical Report 0, Los Alamos National Laboratory Report LA-UR-04-8757, 2004, Los Alamos, NM, United States, 2004
- [136] **K. D. Huff**. Excess Single Event Effects in the Second Chip of a Series. Technical Report 0, Los Alamos National Laboratory Report, Los Alamos, NM, United States, Aug. 2003
- OTHER PUBLICATIONS [137] **K. D. Huff**. *An Integrated Used Fuel Disposition and Generic Repository Model for Fuel Cycle Analysis*. PhD thesis, THE UNIVERSITY OF WISCONSIN - MADISON, Oct. 2013. URL: <http://gradworks.umi.com/35/92/3592735.html>
- [138] **K. D. Huff**. *QUIET Celestial Gain Calibrations*. Undergraduate, University of Chicago, Chicago, IL, United States, May 2008. URL: [kathyhuff.github.io/papers/CalibrationsThesis.pdf](http://kathyhuff.github.io/papers/CalibrationsThesis.pdf)
- [139] O. Biris, K. Gracey, **K. D. Huff**, and W. K. Ng. An Analysis of the Consolidated Fuel Treatment Center Nuclear Reprocessing Initiative. capstone report BP-EP-2008-07, University of Chicago, Chicago, IL, United States, June 2008. URL: <http://humanities.uchicago.edu/orgs/institute/bigproblems/Energy/BP-Energy-Reprocessing.doc>
- SOFTWARE PRODUCTS [140] A. Anderson, A. Bachmann, J. W. Bae, A. Bhosale, L. Bormann, A. Caldwell-Overdier, S. Chandan, G. Chee, R. Flanagan, R. Hodge, **K. Huff**, K. Kleimenhagen, D. Krueger, M. McGarry, B. Mouginot, K. Mummah, B. Nibbelink, G. Park, E. Redfoot, Y. Robert, M. Schalz, A. Scopatz, J. Stomps, D. Wang, and P. Wilson. Cyclus, May 2024. URL: [https://figshare.com/articles/software/Cyclus\\_v1.6.0/25752558](https://figshare.com/articles/software/Cyclus_v1.6.0/25752558)
- [141] S. M. Park, M. Munk, and **K. D. Huff**. Results from Moltres for the CNRS Benchmark, Sept. 2021. URL: <https://zenodo.org/record/5534964>, doi:10.5281/zenodo.5534964
- [142] A. Chaube, D. O’Grady, A. Rykhlevskii, and **K. D. Huff**. TAP MSR model for Serpent 2. *Zenodo*, 2019. doi:10.5281/zenodo.1450733
- [143] G. J. Chee, J. W. Bae, R. Fairhurst, R. R. Flanagan, and A. M. Scopatz. arfc/d3ploy: A collection of Cyclus manager archetypes for demand driven deployment, Sept. 2019. 10.5281/zenodo.3464123. URL: <https://github.com/arfc/d3ploy>
- [144] G. Chee, G. Westphal, and **K. Huff**. arfc/dcwrapper : Gwen’s MS Thesis Release, 2019. doi:10.5281/zenodo.3530964
- [145] J. W. Bae, G. T. Park, **K. Huff**, and G. Chee. arfc/transition-scenarios: Synergistic Spent Nuclear Fuel Dynamics Within the European Union v2.0.0. *Zenodo*, Mar. 2018. doi:10.5281/zenodo.1210302
- [146] J. W. Bae, G. Park, G. Chee, **K. Huff**, T. Kennelly, P. Speaks, P. Wilson, and A. Scopatz. arfc/transition-scenarios: Standardized Verification of the Cyclus Fuel Cycle Simulator. *Zenodo*, GitHub, Sept. 2018. doi:10.5281/zenodo.1419110
- [147] A. Chaube and **K. Huff**. i2cner: Holds software, notes, documentation, and publications related to the ARFC I2CNER project on dynamic energy systems analysis, Jan. 2018. original-date: 2017-11-22T19:29:40Z. URL: <https://github.com/arfc/i2cner>
- [148] A. Rykhlevskii, J. W. Bae, and **K. Huff**. arfc/saltproc: Code for online reprocessing simulation of molten salt reactor with external depletion solver SERPENT. *Zenodo*, Mar. 2018. URL: [https://zenodo.org/record/1196455#.WqrE\\_BPwaA0](https://zenodo.org/record/1196455#.WqrE_BPwaA0), doi:10.5281/zenodo.1196455

- [149] A. Lindsay, **K. Huff**, and A. Rykhlevskii. arfc/moltres: Initial Moltres release. *Zenodo*, June 2017. URL: <https://zenodo.org/record/801823#.WV0zchPyu34>, doi: [dx.doi.org/10.5281/zenodo.801823](https://doi.org/10.5281/zenodo.801823)
- [150] R. W. Carlsen, M. Gidden, **K. Huff**, A. C. Opotowsky, O. Rakhimov, A. M. Scopatz, and P. Wilson. Cycamore v1.0.0. *Figshare*, June 2014. [http://figshare.com/articles/Cycamore\\_v1.0.0/1041829](http://figshare.com/articles/Cycamore_v1.0.0/1041829). URL: [http://figshare.com/articles/Cycamore\\_v1.0.0/1041829](http://figshare.com/articles/Cycamore_v1.0.0/1041829), doi: [http://figshare.com/articles/Cycamore\\_v1.0.0/1041829](http://figshare.com/articles/Cycamore_v1.0.0/1041829)
- [151] R. W. Carlsen, M. Gidden, **K. Huff**, A. C. Opotowsky, O. Rakhimov, A. M. Scopatz, Z. Welch, and P. Wilson. Cyclus v1.0.0. *Figshare*, June 2014. URL: [http://figshare.com/articles/Cyclus\\_v1.0.0/1041745](http://figshare.com/articles/Cyclus_v1.0.0/1041745), doi: [10.6084/m9.figshare.1041745](https://doi.org/10.6084/m9.figshare.1041745)
- INVITED TALKS
- [152] **K. D. Huff**. How Research Shapes the Nuclear Energy Future. In *NPRE 199*, 4039 Campus Instructional Facility (CIF), Urbana, IL, USA, Feb. 2026. NPRE Undergraduate Seminar Series. URL: <https://calendars.illinois.edu/detail/2568/33544594>
- [153] **K. D. Huff**. Computational Approaches Enabling New Nuclear Energy. In *Applied Physics and Applied Mathematics Plasma Physics and Fusion Colloquium*, Columbia University, Mar. 2026. Published: APAM Plasma Physics/Fusion Colloquium, Columbia University Department of Physics. URL: <https://www.physics.columbia.edu/events/apam-plasma-physicsfusion-colloquium-katy-huff-univ-illinois>
- [154] **K. D. Huff**. Keynote: What We Maintain, We Defend. In *SciPy*, Tacoma Convention Center, July 2025. Published: SciPy 2025 (24th Annual SciPy Conference). URL: <https://www.scipy2025.scipy.org/>
- [155] **K. D. Huff**. Keynote speaker, panel discussion: Perspectives from university members. In *OECD-NEA Global Forum*, Palmer Commons, Oct. 2025. OECD-NEA. URL: <https://www.oecd-nea.org/jcms/pl-57917/nea-global-forum-on-nuclear-education-science-technology-and-policy>
- [156] **K. D. Huff**. The Status and Future of Nuclear Energy Policy and Deployment. In *ACDIS and SSG Seminar Series*, Coble Hall, Room 306, Urbana, IL, USA, Feb. 2025. The Program in Arms Control and Domestic and International Security, Security Studies Group. Published: Seminar (ACDIS and SSG Seminar Series), University of Illinois Urbana-Champaign. URL: <https://calendars.illinois.edu/detail/6457?eventId=33509118>
- [157] **K. Huff**. Closing Banquet Keynote. In *2024 American Nuclear Society Student Conference*, State College, PA, United States, Apr. 2024. URL: <https://www.ans.org/meetings/student2024/calendar/event-1144/>
- [158] **K. Huff**. U.S. Department of Energy, Office of Nuclear Energy Advanced Reactor Research, Design, Development and Demonstration - Sinclair Medal Awardee Keynote Address. In *2024 Annual Meeting of the National Council on Radiation Protection and Measurements (NCRP)*, Bethesda, MD, United States, Mar. 2024. URL: <https://ncrponline.org/wp-content/themes/ncrp/PDFs/2024/Huff-WKS.pdf>
- [159] **K. Huff**. Powering the Future of Clean Energy - Panel. In *SXSW 2024*, Austin, TX, United States, Mar. 2024. URL: <https://schedule.sxsw.com/2024/events/PP145870>
- [160] **K. Huff**. Nuclear Energy & Advanced Reactor Designs - Invited PSW Science Lecture. In *The 2,487th Meeting of the Philosophical Society of Washington*, Powell Auditorium at the Cosmos Club, Washington, D.C., Dec. 2023. URL: <https://pswscience.org/meeting/2487/>
- [161] **K. Huff**. Nuclear Energy at Scale: A New Pathway to Meet the Climate and Human Development Challenge - Panel. In *Clean Air Task Force Zero-Carbon Future pavilion COP 28*, Abu Dhabi, United Arab Emirates, Dec. 2023. URL: <https://www.youtube.com/watch?v=Gd-7sa6hraM>
- [162] **K. Huff**. Atoms4NetZero & Net Zero World Initiatives Panel. In *International Atomic Energy Agency Atoms4Climate COP28 Pavillion, Blue Zone*, Abu Dhabi, United Arab Emirates, Dec. 2023. <https://www.youtube.com/watch?v=Ick72fxSWQ8&t=29s>. URL: <http://www.iaea.org/topics/climate-change/the-iaea-and-cop/cop28/atoms4netzero-net-zero-world-initiatives-anl>
- [163] **K. Huff**. Prospects and challenges of the SMR and AMR technologies - Main Stage Panel. In *World Nuclear Exhibition*, Paris, France, Nov. 2023. URL: <https://www.world-nuclear-exhibition.com/en-gb/programme/conferences/details.3505.210828.prospects-and-challenges-of-the-smr-and-amr-technologies.htm>

- [164] **K. Huff.** The Publishing Balancing Act: Open Research and Export Control Policies - Panel. In *American Nuclear Society Winter Meeting*, Washington D.C., Nov. 2023. URL: <https://www.ans.org/meetings/wm2023/session/view-2197/>
- [165] **K. Huff.** Opening Plenary - Panel. In *American Nuclear Society Winter Meeting*, Washington D.C., Nov. 2023. URL: <https://www.ans.org/meetings/wm2023/session/view-2168/>
- [166] **K. Huff.** Nuclear in Transition - Plenary Panel. In *Young Professionals Congress*, Washington, D.C., Nov. 2023. <https://www.ans.org/meetings/wm2023/session/view-2045/>. URL: <https://www.ans.org/meetings/wm2023/session/view-2043/>
- [167] **K. Huff.** Grandey Lectureship: Nuclear Energy Deployment at Scale. In *Grandey Lectureship in Nuclear Science and Engineering*, Colorado School of Mines, Golden, CO, Nov. 2023. URL: <https://webapps.mines.edu/DailyBlast/Home/ShowDigestItem?ID=41678>
- [168] **K. Huff.** Roadmaps to New Nuclear Ministerial - US Representative. In *OECD NEA Roadmaps to New Nuclear Ministerial*, Paris, France, Sept. 2023. URL: <https://www.youtube.com/watch?v=ivXPR9bNEJY>
- [169] **K. Huff.** Atoms4NetZero - Panel. In *67th IAEA General Conference*, Vienna, Austria, Sept. 2023. URL: <https://www.iaea.org/newscenter/news/iaeas-atoms4netzero-models-energy-scenarios-that-include-nuclear-powers-full-potential>
- [170] **K. Huff.** Advanced Nuclear Energy: Opportunities and Challenges - Panel. In *Carnegie Science Capital Science Evening Lecture*, Martin Luther King Jr. Library, Washington, D.C., Sept. 2023. URL: <https://carnegiescience.edu/events/advanced-nuclear-energy-opportunities-and-challenges>
- [171] **K. Huff.** Nuclear Power in 2050. In *Understanding Tomorrow's Nuclear Energy lecture series*, West Lafayette, IN, United States, Jan. 2023. <https://www.purdue.edu/operations/nuclear/home/duke/huff-lecture/>. URL: [https://events.purdue.edu/event/understanding-tomorrows-nuclear-energy-lecture-series\\_1692](https://events.purdue.edu/event/understanding-tomorrows-nuclear-energy-lecture-series_1692)
- [172] **K. Huff.** Role of Nuclear Energy in the Clean Energy Workforce of the Future - Keynote. In *14th Clean Energy Ministerial*, Goa, India, July 2023. URL: [https://www.oecd-nea.org/jcms/pl\\_83770/focusing-on-the-clean-energy-transition-through-a-youth-lens-at-cem14](https://www.oecd-nea.org/jcms/pl_83770/focusing-on-the-clean-energy-transition-through-a-youth-lens-at-cem14)
- [173] **K. Huff.** Federal Nuclear Energy Policy Overview. In *ECA Nuclear Development Forum: Building Capacity and Opportunity*, Paducah, KY, May 2023. URL: <https://www.energyca.org/eca-updates/2023/5/19/3-takeaways-from-day-1-of-the-eca-new-nuclear-development-forum>
- [174] **K. Huff.** Strengthening Decarbonisation Ambition en route to COP28 and Beyond - Ministerial Panel. In *2nd World Utilities Congress*, Abu Dhabi, United Arab Emirates, May 2023. <https://www.utilities-me.com/news/uae-aims-to-become-major-power-trading-hub>. URL: <https://www.energyconnects.com/opinion/features/2023/may/world-utilities-congress-at-the-forefront-of-delivering-a-sustainable-energy-future/>
- [175] **K. Huff.** Intersection of Nuclear Energy and NNSA missions. In *NNSA Administrators Strategy Forum*, Washington D.C., May 2023
- [176] **K. Huff.** Monday Morning Keynote Address. In *First Nations Major Projects Coalition Values Driven Economy Conference*, Vancouver, British Columbia, Apr. 2023. URL: [https://fnmpc.ca/wp-content/uploads/FNMPC\\_TVDE\\_Conference\\_Overview\\_09222023-1.pdf](https://fnmpc.ca/wp-content/uploads/FNMPC_TVDE_Conference_Overview_09222023-1.pdf)
- [177] **K. Huff.** The State of Play for Nuclear Energy in the United States - Panel. In *Environmental and Energy Study Institute Briefing on Nuclear Energy*, US Senate Visitor's Center, Washington, DC, Apr. 2023. URL: <https://www.eesi.org/briefings/view/041923nuclear>
- [178] **K. Huff.** The International Landscape for SMRs - Keynote. In *Holtec International SMR Technical Advisory Council (HI-STAC)*, Camden, NJ, Apr. 2023. URL: <https://holtecinternational.com/2023/04/24/the-smr-160-reactor-program-makes-giant-strides-at-the-hi-stac-symposium/>
- [179] **K. Huff.** Nuclear Energy Policy - Keynote. In *American Nuclear Society Student Conference*, Knoxville, TN, United States, Apr. 2023. URL: <https://www.ans.org/meetings/student23/calendar/event-841/>

- [180] **K. Huff.** Overview of the National Nuclear Energy Landscape - Plenary. In *Research Explorations for Nuclear Energy in Wyoming (RENEW)*, Laramie, WY, Apr. 2023. URL: <https://www.uwyo.edu/news/2023/03/uw-ser-to-host-academic-workshop-to-promote-nuclear-related-research-opportunities.html>
- [181] Wood Mackenzie. Can SMRs scale fast enough to reach climate goals? - Podcast, Apr. 2023. URL: <https://www.woodmac.com/podcasts/the-interchange-recharged/can-smrs-scale-fast-enough-to-reach-climate-goals/>
- [182] **K. Huff.** More Important than Bombs - Richard K. Osborn Distinguished Lecture. In *The Nuclear Engineering & Radiological Sciences Department at the University of Michigan*, Ann Arbor, MI, Apr. 2023. URL: <https://leccap.engin.umich.edu/leccap/player/r/jtUnUC>
- [183] Veriten. Dr. Kathryn Huff, Assistant Secretary of Energy for the Office of Nuclear Energy at the US Department of Energy, Mar. 2023. URL: <https://veriten.com/stream/dr-kathryn-huff-assistant-secretary-of-energy-for-the-office-of-nuclear-energy-at-the-us-department-of-energy/>
- [184] **K. Huff.** Roy G Post Scholarship Winners Career Status and Keynote Luncheon Remarks. In *Waste Management Symposium*, Phoenix, AZ, Feb. 2023
- [185] **K. Huff.** Japan Atomic Energy Agency (JAEA) Symposium - Opening Remarks. In *Japan Atomic Energy Agency (JAEA) Symposium*, Washington D.C., Feb. 2023
- [186] **K. Huff.** Japan Roundtable - Keynote Address. In *Howard Baker Forum and Atlantic Council*, Willard Hotel, 1401 Pennsylvania Avenue NW, Washington, DC), Feb. 2023
- [187] **K. Huff.** Federal Agency Careers - Panel. In *ACC Advocacy Days*, Room 203-02, The U.S. Capitol Visitor Center, First St NE, Washington, DC 20515, USA, Jan. 2023
- [188] **K. Huff.** Workforce Development for the Next Generation of Reactors Plenary - Panel. In *Conference on Nuclear Training and Education (CONTE) 2023*, Amelia Island, Florida, Feb. 2023
- [189] **K. D. Huff.** Clean Energy and Nuclear Innovation – a path forward. In *NSCU Nuclear Engineering Distinguished Executive Lecture Series*, Raleigh, North Carolina, Jan. 2023. North Carolina State University. URL: <https://www.engr.ncsu.edu/news/2023/02/16/assistant-secretary-for-nuclear-energy-delivers-nc-state-nuclear-engineering-distinguished-executive-lecture/>
- [190] **K. D. Huff**, B. Anderson, and S. Satyapal. ASME Policy Impact 2022: Department of Energy Panel. In *ASME Policy Impact 2022*, Virtual, May 2022. <https://resources.asme.org/policy-impact>. URL: <https://www.youtube.com/watch?v=TOi4r565S8U>
- [191] **K. D. Huff.** Day 2 Keynote: Supply Chain. In *Investable Nuclear Energy*, George Washington University Law, Virtual, May 2022. URL: <https://www.law.gwu.edu/investable-nuclear-energy-0>
- [192] **K. D. Huff.** US-Japan Nuclear Energy Research Cooperation - Plenary. In *Fifth Symposium on US-Japan Nuclear Energy Research Cooperation*, Japan Atomic Energy Agency, Virtual, Nov. 2021. URL: <https://www.jaea.go.jp/04/kokusaibu/eng/event20211124.html>
- [193] **K. D. Huff.** Fireside Chat with DOE's Dr. Katy Huff. In *Nuclear Matters Fireside Chat Series*, Virtual, Jan. 2022. URL: [https://www.nuclearmatters.com/dr\\_huff\\_fireside\\_chat](https://www.nuclearmatters.com/dr_huff_fireside_chat)
- [194] **K. D. Huff.** Nuclear Energy Opportunities at DOE Sites. In *2021 National Cleanup Workshop: Capitalizing on a New Era of Cleanup Success*, Alexandria, VA, Dec. 2021. URL: <https://www.cleanupworkshop.com/2021-proceedings.html>
- [195] **K. D. Huff.** Consent-Based Siting Q&A With Dr. Kathryn Huff. In *Consent-Based Siting Q&A With Dr. Kathryn Huff*, Virtual, Dec. 2021. URL: <https://content.govdelivery.com/accounts/USDOEPNNL/bulletins/2ff882f>
- [196] **K. D. Huff.** Fueling Our Nuclear Future. In *American Nuclear Society 2021 Winter Meeting and Technology Expo*, Washington, D.C., Dec. 2021. URL: <https://www.ans.org/meetings/wm2021/session/view-673/>
- [197] **K. D. Huff.** "Let's Get Practical": The US Department of Energy's Forward-Looking Nuclear Waste Management Activities. In *2021 American Nuclear Society Winter Meeting and Technology Expo Executive Session*, Washington D.C., Dec. 2021. URL: <https://www.ans.org/meetings/wm2021/session/view-949/>

- [198] **K. D. Huff.** Achieving Net-Zero by 2050 - International Panel. In *Canadian Nuclear Society G4SR - 3 Virtual Summit*, (Virtual), Dec. 2021. URL: <https://www.cns-snc.ca/event/g4sr-3-virtual-summit/>
- [199] **K. D. Huff.** US Department of Energy, Office of Nuclear Energy (DOE-NE) Overview - Plenary. In *2021 Virtual Molten Salt Reactor (MSR) Workshop Building from a Strong Foundation*, Virtual, Oct. 2021. URL: [https://msrworkshop.ornl.gov/wp-content/uploads/2021/11/MSRWorkshopAGENDA\\_final.R3.pdf](https://msrworkshop.ornl.gov/wp-content/uploads/2021/11/MSRWorkshopAGENDA_final.R3.pdf)
- [200] **K. D. Huff.** Energy Opportunities in the Cowboy State - Panel. In *2021 NARUC Annual Meeting and Education Conference*, Virtual, Nov. 2021. URL: <https://www.naruc.org/events/past-meetings/2021-annual-meeting-and-education-conference-presentations/>
- [201] **K. D. Huff.** Office of Nuclear Energy Overview - Keynote. In *Energy Law Conference: Landscape Discussion of Energy Law & Policy in the Rockies*, University of Wyoming School of Energy Resources (Virtual), Oct. 2021. URL: <https://www.youtube.com/watch?v=ljuIFcqX1Kc>
- [202] J. M. Granholm, **K. D. Huff**, M. Kedra, A. Plater-Zyberk, and J. Duszynski. Energy, climate change and women's participation in science and technology - Distinguished Panel. In *Polska Akademia Nauk (Polish Academy of Sciences)*, Warsaw, Poland, Sept. 2021. <https://pan.pl/spotkanie-sekretarz-energii-usa-z-polskimi-badaczkami/>. URL: <https://www.youtube.com/watch?v=ECgRHp4Jl7g>
- [203] **K. D. Huff.** Nuclear Energy Opportunities at DOE Sites. In *2021 National Cleanup Workshop: Capitalizing on a New Era of Cleanup Success*, Alexandria, VA, Dec. 2021. URL: <https://www.cleanupworkshop.com/2021-proceedings.html>
- [204] **K. D. Huff.** Modeling and Simulation R&D at the U.S. DOE Office of Nuclear Energy. In *2021 Studsvik Scandpower User Group Meeting San Diego, CA*, San Diego, CA, Sept. 2021. URL: <http://www.studsvik.com/de/testing-new-web/start2/leistungen/nuclear-fuel--reactor-performance-optimisation/cms-users-group-meetings/>
- [205] **K. D. Huff.** Nuclear Energy and Climate Policy - Keynote. In *La Follette Forum: Climate Policy 2021*, La Follette School of Public Affairs, Madison, WI, Oct. 2021. URL: <https://lafollette.wisc.edu/outreach/la-follette-forum/2021-climate-policy/>
- [206] **K. D. Huff.** Nuclear energy financing and technologies - Ministerial Panel Session VII. In *Partnership for Transatlantic Energy and Climate Cooperation (P-TECC) Business Forum and Ministerial*, Warsaw, Poland, Sept. 2021. URL: <https://www.atlanticcouncil.org/event/partnership-for-transatlantic-energy-and-climate-cooperation-p-tecc-business-forum-and-ministerial-live-from-warsaw/>
- [207] **K. D. Huff.** Nuclear Energy and Society, Today and Tomorrow. In *Illinois Institute of Technology Great Problems, Great Minds Seminar Series*, Chicago, (Virtual), Sept. 2021. URL: <https://www.iit.edu/events/nuclear-energy-and-society-today-and-tomorrow>
- [208] **K. D. Huff.** Office of Nuclear Energy Update. In *Leadership in Nuclear Energy (LINE) Commission*, Virtual, Aug. 2021
- [209] **K. D. Huff.** Women In Nuclear Region III Conference - Keynote. In *Women In Nuclear Region III Conference*, Urbana, IL, Aug. 2021. URL: <https://www.winus.org/wp-content/uploads/2021/08/Win-Speakers-Final.pdf>
- [210] **K. D. Huff.** Prospects for Advanced Nuclear Energy - Closing Plenary. In *NEST Small Modular Reactor Prize Competition*, Aug. 2021. The Nuclear Education, Skills and Technology (NEST) Framework SMR Project is an ongoing collaboration between academic and research institutions in Belgium, Canada, France, Switzerland, and the United States. URL: <https://smrprize.com/>
- [211] **K. D. Huff.** Diversity, Equity, and Inclusion Efforts at the U.S. Department of Energy's Office of Nuclear Energy. In *Modeling, Experimentation and Validation (MeV) Summer School*, Argonne National Laboratory, July 2021. URL: <https://www.anl.gov/article/argonne-hosts-summer-school-for-nuclear-energy-scientists>
- [212] **K. D. Huff.** Mentoring the next generation of scientists in Kenya - Opening Remarks. In *OECD-NEA, IFNEC, NuPEA International Mentoring Workshop in Science, Technology, Engineering and Mathematics*, Kenya, July 2021. URL: [https://www.oecd-nea.org/jcms/pl\\_60344/mentoring-the-next-generation-of-scientists-in-kenya](https://www.oecd-nea.org/jcms/pl_60344/mentoring-the-next-generation-of-scientists-in-kenya)

- [213] **K. D. Huff.** Department of Energy Priorities - Keynote. In *Nuclear Energy Institute Fuel Supply Forum*, Virtual, July 2021
- [214] **K. D. Huff.** EnergyInnovates: Challenges and Opportunities Facing Nuclear Power - Panel. In *U.S. Chamber of Commerce EnergyInnovates Session*, Virtual, July 2021. URL: <https://www.youtube.com/watch?v=IG202YjiAeI>
- [215] **K. D. Huff.** Nuclear Energy Policy. In *U.S. DOE Policy Bootcamp*, United States Department of Energy, Aug. 2021
- [216] **K. D. Huff.** Small Modular Reactors and Finance - Keynote. In *Eurasia Green Energy and Clean Technologies Forum Day 2: Small Modular Reactors and Finance*, Virtual, July 2021. U.S. Department of Commerce, International Trade Administration, and U.S. Commercial Service. URL: <https://www.solar.ist/wp-content/uploads/2021/06/EurasiaGreenEnForumFlyer.pdf>
- [217] **K. D. Huff.** Accident Tolerant Fuel R&D at the Department of Energy. In *Nuclear Energy Institute Accident Tolerant Fuel Working Group*, Virtual, July 2021
- [218] **K. D. Huff.** Advanced Reactor R&D in the Department of Energy - Remarks with Q&A session. In *Nuclear Energy Institute Advanced Reactor Forum*, Virtual, June 2021. URL: <https://www.gotomeet.me/EverettRedmond/nei-arforum>
- [219] **K. D. Huff.** Multiphysics in Fluid-Fueled Reactors - Seminar. In *Oregon State University Nuclear Science and Engineering Seminar*, Corvallis, OR, May 2021. URL: <https://oregonstate.zoom.us/j/98589105007?pwd=MThpb1htM0xhR1lrb2c4a1NPK0IvZz09>
- [220] **K. Huff.** So You Want to Get Paid to Save the World? - Panel. In *The 2021 ARPA-E Energy Innovation Summit Student Program*, Virtual, May 2021. URL: <https://sites.duke.edu/gradstudentopps/files/2021/04/Student-Summit-Programming-One-Pager.pdf>
- [221] **K. D. Huff.** Multiphysics in Fluid-Fueled Reactors - Seminar. In *Oregon State University Nuclear Science and Engineering Seminar*, Corvallis, OR, May 2021. URL: <https://oregonstate.zoom.us/j/98589105007?pwd=MThpb1htM0xhR1lrb2c4a1NPK0IvZz09>
- [222] **K. D. Huff.** Nuclear Energy Opportunities at DOE Sites. In *2021 National Cleanup Workshop: Capitalizing on a New Era of Cleanup Success*, Alexandria, VA, Dec. 2021. URL: <https://www.cleanupworkshop.com/2021-proceedings.html>
- [223] **K. D. Huff.** The Essential Role of Universities in Advanced Reactor Deployment. In *Spring Nuclear Engineering Colloquium Series*, University of California - Berkeley, Berkeley, CA, Jan. 2021. URL: <https://nuc.berkeley.edu/the-essential-role-of-universities-in-advanced-reactor-deployment/>
- [224] **K. D. Huff.** Customer Perspective – Panel. In *Invited Panelist, GAIN-EPRI-NEI*, Virtual, Aug. 2020
- [225] **K. D. Huff.** Effective Writing (at home?). In *Society of Women Engineers*, Virtual, May 2020. URL: <https://katyhuff.github.io/2020-05-20-writing/>
- [226] **K. D. Huff.** SIAM CSE: Computational Methods for Kinetic Models of Gases and Plasmas Minisymposium - Invited Speaker. In *SIAM CSE 2019*, Feb. 2019
- [227] **K. D. Huff.** Conference Keynote. In *Hack Illinois*, University of Illinois at Urbana-Champaign, Urbana, IL, Feb. 2018
- [228] **K. D. Huff.** Modeling & Simulation of Advanced Reactors and Fuel Cycles. In *Nuclear Engineering and Radiological Sciences*, University of Michigan, Ann Arbor, MI, United States, Feb. 2018. URL: <https://events.umich.edu/event/48405>
- [229] **K. D. Huff.** Doing Our Best: Practices in Scientific Computing. In *PyData Ann Arbor*, Ann Arbor, MI, Feb. 2018. URL: <https://www.youtube.com/watch?v=wkboQuY8Tjg>
- [230] **K. D. Huff.** Why Nuclear? Invited Lecture. In *Olin College of Engineering*, Olin College, Neeham, MA, Oct. 2017
- [231] **K. D. Huff.** Seminar. In *NNSA Nuclear Nonproliferation*, Argonne National Laboratory, Lemont, IL, Sept. 2017

- [232] **K. D. Huff**. Keynote. In *Scientific Python Conference*, Austin, TX, United States, July 2017. URL: <https://scipy2017.scipy.org/>
- [233] **K. D. Huff**. Workforce Transition: How to Succeed-Panel. In *Panel, Young Members Group*, San Francisco, CA, June 2017. URL: <https://epubs.ans.org/?a=40958>
- [234] **K. D. Huff**, J. W. Bae, K. A. Mummah, R. R. Flanagan, and A. M. Scopatz. Current Status of Predictive Transition Capability in Fuel Cycle Simulation. In *Proceedings of Global 2017*, Seoul, South Korea, Sept. 2017
- [235] **K. D. Huff**. Keynote. In *Scientific Python Conference*, Austin, TX, United States, July 2017. URL: <https://scipy2017.scipy.org/>
- [236] **K. D. Huff**. Keynote. In *PyData 2016, Chicago, IL*, Chicago, IL, USA, Aug. 2016. URL: <https://pyvideo.org/pydata-2016/keynote-katy-huff.html>
- [237] **K. D. Huff**. A Computational Future for Science Education. In *Computational, Mathematics, Science & Engineering Seminar, Michigan State University*, East Lansing, MI, USA, Dec. 2015. URL: <https://kathyhuff.github.io/2015-11-06-ncsa/>
- [238] **K. D. Huff**. Seminar. In *NNSA Nuclear Nonproliferation, Argonne National Laboratory*, Lemont, IL, Sept. 2017
- [239] **K. D. Huff**. Seminar. In *RPNSD Seminar, Oak Ridge National Laboratory*, Oak Ridge, TN, USA, June 2017
- [240] **K. D. Huff**. Seminar. In *Mechanical and Aerospace Engineering Seminar, UC Davis*, Davis, CA, USA, Apr. 2017
- [241] **K. D. Huff**. Lightning Talk. In *AE3 Lightning Symposium, University of Illinois*, Urbana-Champaign, IL, USA, Mar. 2017
- [242] **K. D. Huff**. Undergraduate Seminar. In *Nuclear, Plasma, & Radiological Engineering Seminar, University of Illinois*, Urbana-Champaign, IL, USA, Feb. 2017
- [243] **K. D. Huff**. Symposium. In *Berkeley Institute for Data Science Symposium, UC Berkeley*, Berkeley, CA, USA, Jan. 2017
- [244] **K. D. Huff**. Seminar. In *Informatics Seminar, University of Illinois*, Urbana-Champaign, IL, USA, Oct. 2016
- [245] **K. D. Huff**. Seminar. In *RPNSD Seminar, Oak Ridge National Laboratory*, Oak Ridge, TN, USA, Mar. 2016
- [246] **K. D. Huff**. Seminar. In *Nuclear Engineering Seminar, University of Tennessee, Knoxville*, Knoxville, TN, USA, Mar. 2016
- [247] **K. D. Huff**. Seminar. In *Nuclear, Plasma & Radiological Engineering Seminar, University of Illinois*, Urbana-Champaign, IL, USA, Dec. 2015
- [248] **K. D. Huff**. Keynote. In *Python in High Performance Computing Workshop, SC15*, Austin, TX, USA, Nov. 2015
- [249] **K. D. Huff**. Colloquium. In *NCSA Colloquium, University of Illinois*, Urbana-Champaign, IL, USA, Nov. 2015
- [250] **K. D. Huff**. Colloquium. In *Nuclear Engineering Colloquium, North Carolina State University*, Raleigh, NC, USA, Oct. 2015
- [251] **K. D. Huff**. Colloquium. In *Nuclear Engineering Colloquium, Texas A&M University*, College Station, TX, USA, Sept. 2015
- [252] **K. D. Huff**. Invited Colloquium. In *Mechanical & Nuclear Engineering Colloquium, Rensselaer Polytechnic Institute*, Troy, NY, USA, Sept. 2015
- [253] **K. D. Huff**. What Can Academia Learn from Open Source? - Panel. In *What Can Academia Learn from Open Source?*, University of Washington, Seattle, WA, USA, Feb. 2015. URL: <https://ti.to/github-events/academia-town-hall->

ENGINEERING  
TEACHING

**University of Illinois at Urbana-Champaign**

DEPT. OF NUCLEAR, PLASMA, AND RADIOLOGICAL ENGINEERING

*NPRE 100, Introduction to Nuclear, Plasma, and Radiological Engineering*

Fall 2024

Fall 2025

*NPRE 247, Modeling Nuclear Energy Systems*

Fall 2018

*NPRE 412, Nuclear Power Economics and Fuel Management*

Fall 2016

Fall 2017

Spring 2020

Spring 2021

Spring 2025

Spring 2026

*NPRE 446, Radiation Interactions with Matter I*

Fall 2019

*NPRE 555, Reactor Theory I*

Spring 2018

Fall 2020

Fall 2025

*NPRE 560, Reactor Kinetics and Dynamics*

Spring 2019

Spring 2021

Fall 2024

GUEST  
LECTURES

**University of California, Berkeley, DEPT. OF NUCLEAR ENGINEERING**

Nov 10, 2020

*NE 100, Introduction to Nuclear Engineering*

Nuclear Fuel Cycle, Advanced Reactors

**University of California, Berkeley, DEPT. OF NUCLEAR ENGINEERING**

Apr 1,3,22, 2015

*NE 155, Introduction to Numerical Simulations in Radiation Transport Point Reactor Kinetics, Monte Carlo Methods*

**University of California, Berkeley, DEPT. OF NUCLEAR ENGINEERING**

Sep 11, 2014

*NE 255, Numerical Simulation in Radiation Transport*

Best Practices in Computational Nuclear Engineering

**University of Wisconsin - Madison, DEPT. OF NUCLEAR ENGINEERING**

Apr 1&3, 2013

*NE 571, Economic and Environmental Aspects of Nuclear Energy*

Nuclear Waste Repository Technology, Policy, and History

**University of Wisconsin - Madison, DEPT. OF NUCLEAR ENGINEERING**

Sep 9&11, 2009

*NE 406, Nuclear Reactor Analysis*

UNIX Shell, Basic Scripting, Environment Variables, Permissions, Regular Expressions, Makefiles

**University of Wisconsin - Madison, DEPT. OF NUCLEAR ENGINEERING**

Feb 10, 2010

*NE 506, Practicum in Monte Carlo Radiation Transport*

UNIX Shell, Basic Scripting, Environment Variables, Permissions, Regular Expressions, Makefiles

INVITED  
SCIENTIFIC  
COMPUTING  
TEACHING

**SciPy Conference, Austin, TX**

Jul 6–7, 2015

Introductory Python For Scientific Software

**University of Split, Split, Croatia**

Sep 8–13, 2014

G-Node Advanced Scientific Programming in Python Summer School

**SciPy Conference, Austin, TX**

Jun 25, 2013

Version Control and Unit Testing For Scientific Software

<b>University of Chicago, Graduate School</b> , Chicago, IL Computational Literacy Workshop	<b>Jan 12–13, 2013</b>
<b>University of California, Berkeley</b> , Berkeley, CA Department of Statistics Scientific Computing Workshop	<b>Oct 20–21, 2012</b>
<b>Lawrence Berkeley National Laboratory</b> , Berkeley, CA Software Carpentry Python Workshop	<b>Oct 17–18, 2012</b>
<b>International Center for Theoretical Physics</b> , Trieste, Italy UNESCO/IAEA Advanced School on Scientific Software Development	<b>Feb 20–Mar 2, 2012</b>
<b>University of Toronto</b> , Toronto, ON, Canada SciNet Consortium For High Performance Computing Software Carpentry Bootcamp	<b>Nov 7–8, 2011</b>
<b>American Nuclear Society Winter Meeting</b> , Washington, D.C. Young Professionals Congress Hacker Within Scientific Computing Tutorial	<b>Nov 1, 2011</b>
<b>Michigan State University</b> , East Lansing, MI Institute for Cyber Enabled Research (iCER) and BEACON Center THW Bootcamp	<b>Jun 4–5, 2011</b>

SCIENTIFIC  
COMPUTING  
TEACHING

<b>Berkeley Institute for Data Science</b> , Berkeley, CA Managing Databases in SQL	<b>Jan 14–15, 2015</b>
<b>Berkeley Institute for Data Science</b> , Berkeley, CA Testing for Scientific Software	<b>Jun 4–5, 2015</b>
<b>Lawrence Berkeley National Laboratory</b> , Berkeley, CA Women in Science and Engineering Bootcamp	<b>Apr 14–15, 2014</b>
<b>The University of Chicago</b> , Chicago, IL Software Carpentry Scientific Computing Workshop	<b>Apr 2–3, 2012</b>
<b>The University of Wisconsin</b> , Madison, WI The Hacker Within Software Carpentry Bootcamp	<b>Jan 12–14, 2011</b>
<b>The University of Wisconsin</b> , Madison, WI The Hacker Within Python Bootcamp	<b>Jan 12–14, 2010</b>
<b>The University of Wisconsin</b> , Madison, WI The Hacker Within C++ Bootcamp	<b>Mar 24–31, 2009</b>
<b>The University of Wisconsin</b> , Madison, WI University of Wisconsin, Hacker Within UNIX Bootcamp	<b>Jan 12–15, 2009</b>

POSTDOCTORAL  
RESEARCHERS

<u>NAME</u>	<u>DATES</u>	<u>ROLE</u>
<b>Mehmet Turkmen</b>	2019–2020	Advisor
<b>Alexander Lindsay</b>	2016–2017	Advisor

GRADUATE  
RESEARCHERS

<u>NAME</u>	<u>DEGREE - YEAR</u>	<u>ROLE</u>
<b>Michael Cheng</b>	MS - 2017	MS Second Reader
<b>Mark Kamuda</b>	MS - 2017	MS Second Reader
<b>Mark Kamuda</b>	PhD - 2019	PhD Advisor
<b>Gregory Westphal</b>	MS - 2019	MS Advisor
<b>Jin Whan Bae</b>	MS - 2019	MS Advisor
<b>Erik Medhurst</b>	MS - 2020	MS Advisor
<b>Andrei Rykhlevskii</b>	PhD - 2020	PhD Advisor
<b>Katherine C. Hepler</b>	PhD - 2020	Dissertation Committee Chair
<b>Alvin Lee</b>	MS - 2020	MS Second Reader
<b>Roberto Fairhurst-Agosta</b>	MS 2020	PhD Advisor
<b>Anshuman Chaube</b>	MS - 2021	PhD Advisor
<b>Gwendolyn Chee</b>	PhD - 2022	PhD Co-Advisor
<b>Amanda Bachmann</b>	PhD - 2023	PhD Co-Advisor

Sun Myung Park	PhD - 2024	PhD Advisor
Nathan Ryan	MS - 2024	MS Advisor
Samuel Dotson	PhD - 205	PhD Advisor
Zoë Richter	PhD - (est. 2026)	PhD Advisor
Luke Seifert	PhD - (est. 2026)	PhD Advisor
Oleksandr Yardas	PhD - (est. 2026)	PhD Advisor
Elijah Capps	PhD - (est. 2029)	PhD Advisor
Liam Pohlmann	PhD - (est. 2029)	PhD Advisor
Samar Abdelkawy	MS - (est. 2026)	MS Advisor

UNDERGRADUATE RESEARCHERS	<u>NAME</u>	<u>DEGREE - YEAR</u>	<u>SCHOLARSHIPS</u>
	<b>Jin Whan Bae</b>	BS - 2017	NPRE Outstanding Undergrad Research ANS Best Student Fuel Cycle Presentation
	<b>Kathryn Mummah</b>	BS - 2017	Roy G. Post Foundation Scholarship ANS FCWMD Randall Scholar
	<b>Eric Riewski</b>	BS - 2017	
	<b>GyuTae Park</b>	BS - (est. 2018)	
	<b>Yukun Tan</b>	BS - (est. 2018)	Students Pushing Innovation
	<b>Lu Kissinger</b>	BS - 2019	
	<b>Xin Wen</b>	BS - 2018	Students Pushing Innovation
	<b>Daniel Chiu</b>	BS - 2020	
	<b>Tyler Kennelly</b>	BS - 2019	
	<b>Bradley Ellis</b>	BS - 2019	
	<b>Adam Pichman</b>	BS - 2019	
	<b>Zoë Richter</b>	BS - 2018	
	<b>Gavin Davis</b>	BS - 2021	
	<b>Kip Kleimenhagen</b>	BS - 2021	
	<b>David Atwater</b>	BS - 2021	
	<b>Nathan Ryan</b>	BS - 2022	
	<b>Anna Balla</b>	BS - 2021	
	<b>Nataly Panczyk</b>	BS - 2024	
	<b>Bella Pequette</b>	BS - 2025	
	<b>Cesar Zambrano</b>	BS - 2025	
	<b>Rhys MacMillan</b>	BS - (est. 2026)	
	<b>Owen Strong</b>	BS - (est. 2028)	
	<b>Matthew Disimone</b>	BS - (est. 2027)	
	<b>Bryan Park</b>	BS - (est. 2027)	
	<b>Thomas Bohnert</b>	BS - (est. 2028)	
	<b>Madeleine Wallman</b>	BS - (est. 2028)	

VISITING RESEARCHERS	<u>NAME</u>	<u>DATES</u>	<u>LEVEL - INSTITUTION</u>
	<b>Gavin Ridey</b>	2017	BS–University of Tennessee, Knoxville
	<b>Aditya Bhosale</b>	2017	BS - IIT, Bombay
	<b>Snehal Chandan</b>	2017	BS - IIT, Bombay
	<b>Eleonora Skrzypek</b>	2019	PhD - Warsaw University of Technology, Poland

SCIENTIFIC COMPUTING SKILLS		
<b>Languages</b>		bash/csh, C++, FORTRAN, Perl, Python, XML
<b>Build Systems</b>		make, CMake, automake
<b>Databases</b>		HDF5, SQL
<b>Test Frameworks</b>		CTest, GoogleTest, nose
<b>Version Control</b>		cvs, git, hg, svn
<b>Other Tools</b>	Doxygen, Sphinx, GoldSim, L <sup>A</sup> T <sub>E</sub> X, Mathematica, MatLab, MCNP, MOOSE	

EDITING AND REVIEWING	<b>Editorial Board</b>	<i>Nuclear Technology</i> <b>2024 – present</b>
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*Journal of Open Source Education* 2018 – 2021

*Journal of Open Source Software* 2016 – 2021

*Nuclear Technology* 2018 – 2021

*Nuclear Engineering and Design* 2020 – 2021

*Papers in Physics* 2020 – 2023

*Proceedings of the SciPy Scientific Python Conference* 2013, 2015, & 2017

**Manuscript Referee**

*Annals of Nuclear Energy*

*Journal of Nuclear Energy Science and Power Generation Technology*

*Nuclear Engineering and Design*

*Nuclear Science and Engineering*

*Nuclear Technology*

*Progress in Nuclear Energy*

**Grant Proposal Referee**

*Dept. of Energy Nuclear Energy University Programs*

*Dept. of Energy Technology Commercialization Fund*

*Blue Waters Fellows Program*

*Alfred P. Sloan Foundation*

**Book Proposal Referee**

*O'Reilly Media*

*Elsevier*

PROFESSIONAL  
SERVICE

<b>Member</b> , Argonne Board of Governors Program Review for Nuclear Energy	<b>2025–present</b>
<b>Member</b> , Advocacy Council, Nuclear Matters, Washington D.C.	<b>2025–present</b>
<b>Member</b> , External Affairs Committee, ANS	<b>2025–present</b>
<b>Vice Chair</b> , Mathematics and Computation Division, ANS	<b>2025–present</b>
<b>Advisory Committee</b> , Digital Information Technology, Sloan Foundation	<b>2019–2021</b>
<b>Chair</b> , Nonproliferation and Policy Division, ANS	<b>2020–2021</b>
<b>Executive Committee</b> , Mathematics and Computation Division, ANS	<b>2020–2021</b>
<b>Vice Chair</b> , Nonproliferation and Policy Division, ANS	<b>2019–2020</b>
<b>Chair &amp; Host</b> , Technical Workshop on Fuel Cycle Simulation	<b>2019</b>
<b>Past Chair</b> ( <i>ex officio</i> ), Fuel Cycle & Waste Management Division, ANS	<b>2016–2017</b>
<b>Co-Organizer</b> , Technical Workshop on Fuel Cycle Simulation	<b>2017</b>
<b>Technical Program Committee</b> , IHLRWM Conference	<b>2017</b>
<b>Chair</b> , Fuel Cycle & Waste Management Division, ANS	<b>2016–2017</b>
<b>Vice Chair</b> , Fuel Cycle & Waste Management Division, ANS	<b>2015–2016</b>
<b>Chair</b> , Steering Committee, Software Carpentry Foundation	<b>2014–2015</b>
<b>Secretary–Treasurer</b> , Fuel Cycle & Waste Management Division, ANS	<b>2013–2015</b>
<b>Secretary</b> , Young Members Group, ANS	<b>2013–2014</b>
<b>Technical Program Co-Chair</b> , SciPy, Scientific Python Conference	<b>2013–2014</b>
<b>Member</b> , Next Generation Leadership Committee, Waste Management Symposium	<b>2013–2014</b>
<b>Moderator, Organizer, Panelist</b> , inSCIght Scientific Computing Podcast	<b>2011–2013</b>
<b>Co-Founder</b> , Nuclear Pride, LGBTQA Organization	<b>2011–2013</b>
<b>Co-Founder, Treasurer, President</b> , Hacker Within Scientific Computing Group	<b>2008–2011</b>
<b>Governor, Treasurer</b> , University of Wisconsin ANS student section	<b>2008–2010</b>

DEPARTMENTAL  
SERVICE

<b>Graduate Committee</b> , Qualifying Exam Sub-Committee	<b>2024–present</b>
<b>Graduate Committee</b> , Admissions Sub-Committee	<b>Spring 2024</b>
<b>Faculty Advisor</b> , UIUC ANS Student Section	<b>2024–present</b>
<b>Faculty Advisor</b> , UIUC ANS Student Section	<b>2016–2021</b>
<b>Undergraduate Committee</b> ,	<b>2019–2021t</b>
<b>Graduate Committee</b> , Qualifying Exam Sub-Committee	<b>2017-2019</b>
<b>Graduate Committee</b> , Admissions Sub-Committee	<b>Spring 2017</b>

	<b>Graduate Committee, Admissions Sub-Committee</b>	<b>Fall 2016</b>
	<b>Advisory Committee,</b>	<b>2017–2018</b>
	<b>Faculty Search Committee,</b>	<b>2017–2018</b>
	<b>Faculty Advisor, UIUC WiN Student Section</b>	<b>2017–2018</b>
COLLEGE SERVICE	<b>Member, Courses and Curriculum Committee</b>	<b>2025–present</b>
	<b>Fellow, Education Innovation Fellows</b>	<b>2025–present</b>
	<b>Member, Instructional Facility Working Group</b>	<b>2017–2018</b>
	<b>Selection Committee, Clare Boothe Luce (CBL) Research Scholars</b>	<b>2020–2021</b>
	<b>Member, Engineering IT Governance Education Working Group</b>	<b>2020–2021</b>
	<b>Faculty Mentor, ARISE program</b>	<b>2019–2020</b>
	<b>Member, ENG/TE Liaison Committee</b>	<b>2020–present</b>
	<b>Member, Instructional Facility Working Group</b>	<b>2017–2018</b>
	<b>Faculty Advisor, UIUC CSE The Hacker Within Scientific Computing Group</b>	<b>2016–2017</b>
CAMPUS SERVICE	<b>Senator, U. Illinois at Urbana-Champaign Faculty Senate</b>	<b>2025–present</b>
	<b>Steering Committee Member, Illinois Data Science Initiative</b>	<b>2018</b>
	<b>Hack Mentor, Hack Illinois</b>	<b>2017</b>
CONSULTING	<b>Amazon Web Services</b> Seattle, WA	<b>2024–Present</b>
	<i>Amazon Scholar</i>	
	Nuclear energy due diligence, data center planning and delivery	
	<b>Thomas Edison State University</b> Trenton, NJ	<b>2018–2019</b>
	<i>Subject Matter Expert</i>	
	Institute of Nuclear Power Operations (INPO) Academic Program Review	