

# Valerio Mascolino

PHD IN NUCLEAR ENGINEERING · NEUTRONICS MODELING, SIMULATION, & SOFTWARE DEVELOPMENT FOR NUCLEAR REACTOR PHYSICS APPLICATIONS

Brown Hall, Room W370C, Colorado School of Mines, 1610 Illinois St, Golden, CO 80401

+1 (303)-384-2091 | ✉ valerio.mascolino@mines.edu | 🏠 www.vmascolino.com | 📱 mascovale | 🌐 valerio-mascolino | 📄 ORCID | 🎓 Google Scholar

## Summary

**PhD in Nuclear Engineering**, my main research interests revolve around the development, verification, and validation of **novel algorithms and methodologies for time-dependent particle transport and multi-physics analysis of nuclear reactors**. Focus on nuclear software development, high-fidelity reactor physics and kinetics. Expert in **HALEU design, conversion and design of research and test reactors**, and development of **software for reactor and fuel cycle analysis**.

## Work Experience

### Colorado School of Mines (Mines)

Golden, CO, USA

**ASSISTANT PROFESSOR** (NUCLEAR SCIENCE AND ENGINEERING PROGRAM, MECHANICAL ENGINEERING DEPT.)

Aug. 2025 - Present

- Instructor of: NUGN585/586 Nuclear Reactor Design; ENGY/MENG475 Intro to Nuclear Engineering; MEGN351 Fluid Mechanics

### Argonne National Laboratory (ANL)

Lemont, IL, USA

PRINCIPAL NUCLEAR ENGINEER

Apr. 2025 - Aug. 2025

- Neutronics analyses for the **design of HALEU fuel** for the conversion of the **US High Performance Research Reactors (USHPRR)**.
- Development of neutronics and automation software** and algorithms within the framework of the **USHPRR conversion project**.
- Technical Lead** for the **LEU conversion** of the **Missouri University Research Reactor (MURR)**.
- Responsible Software Engineer and developer** for the **depletion and fuel management code ADDER** (NQA-1).
- Organization and teaching of **ADDER software training** for USHPRR collaborators (from national labs and universities).
- Preparation of technical reports, journal and conference papers
- Funding applications (Laboratory Directed Research and Development - LDRD, Nuclear Energy University Program - NEUP).

NUCLEAR ENGINEER

Jun. 2022 - Mar. 2025

POSTDOCTORAL APPOINTEE

Aug. 2021 - Jun. 2022

### Virginia Polytechnic Institute and State University (Virginia Tech)

Falls Church, VA, USA

GRADUATE RESEARCH & TEACHING ASSISTANT

Aug. 2015 - May 2021

- Development of methodologies, algorithms, and software** for steady-state and time-dependent **particle transport**.
- Development of a virtual reality web-application (VRS)** for visualization of nuclear software input and data. <https://vrs.ncr.vt.edu>
- Management of the research group's HPC cluster and IT systems.
- Teaching Assistant** for nuclear engineering courses including: *Nuclear Reactor Analysis* (NSEG5124), *Monte Carlo Methods for Particle Transport* (NSEG 5134), *Particle Transport Theory, Methods, and Application* (NSEG 6124)
- Preparation of numerous **journal and conference papers, internal and DOE funding proposals** (e.g., NEUP, IRP).
- Advised and developed thesis topics for MS students**.
- Organization and teaching of several workshops and training** for the RAPID Code System.

### Jožef Stefan Institute

Ljubljana, Slovenia

VISITING RESEARCH ASSISTANT

Nov. 2018 - May 2019

- Designed and performed experiments to validate software and methodologies developed during my PhD.

### Politecnico di Torino

Turin, Italy

GRADUATE TEACHING ASSISTANT

Oct. 2011 - Jul. 2015

### Self-Employed

Italy

PRIVATE TUTOR

Oct. 2011 - Jul. 2015

- Hundreds of hours of private tutoring sessions** for various **undergraduate and graduate engineering subjects**, including: calculus, physics, programming, energy of buildings, computational methods, thermal-hydraulics, reactor physics.

## Skills

|                                   |                                                                                         |
|-----------------------------------|-----------------------------------------------------------------------------------------|
| <b>Quality Assurance Programs</b> | NQA-1 (engineering and software)                                                        |
| <b>Programming</b>                | Python, FORTRAN, C/C++, MATLAB, JavaScript, Node.JS, bash, Perl, TurboPascal, FreeFEM++ |
| <b>Neutron Transport Codes</b>    | Serpent, MCNP, OpenMC, SCALE, RAPID, ADDER, PENTRAN, TITAN, FRENETIC                    |
| <b>Thermal-Hydraulic Codes</b>    | RELAP5, PARET/ANL, PLTEMP/ANL, STAT7, FRENETIC                                          |
| <b>Web Development</b>            | Express with Node.JS, HTML5, JavaScript, jQuery                                         |
| <b>General Software</b>           | LaTeX, Office Package, git, GitHub, svn, TRAC                                           |
| <b>Languages</b>                  | English (full proficiency), French (elementary), Italian (mother tongue)                |

## Education

### Virginia Tech (Virginia Polytechnic Institute and State University)

Falls Church, VA, USA

PH.D. IN NUCLEAR ENGINEERING - GPA: 4.0

Aug. 2015 - May 2021

- **Dissertation:** "Development and benchmarking of advanced FM-based particle transport algorithms for steady-state and transient conditions, implementation in RAPID and its VRS web-application" - [Link](#)

### Politecnico di Torino

Turin, Italy

M.S. IN NUCLEAR AND ENERGY ENGINEERING - FINAL GRADE: 110 SUMMA CUM LAUDE (WITH HONORS)/110

Oct. 2013 - Jul. 2015

- **Thesis:** "Thermal-hydraulic analysis of LMFBF with the multi-physics FRENETIC code" - [Link](#)

### Alta Scuola Politecnica (ASP) / Politecnico di Milano

Milan, Italy

HONOUR M.S. IN ENERGY ENGINEERING - FINAL GRADE: 110 SUMMA CUM LAUDE (WITH HONORS)/110

Oct. 2013 - Jun. 2016

- **Admission:** 60 students selected from all the engineering and architecture graduates from Politecnico di Torino.
- **Degree Info:** M.S. issued by Politecnico di Milano after completing the ASP coursework and project.
- **Thesis:** "Micro Combined generation for Residential Applications (MICRA)" - [Link](#)

### Politecnico di Torino

Turin, Italy

B.S. IN ENERGY ENGINEERING - FINAL GRADE: 110 SUMMA CUM LAUDE (WITH HONORS)/110

Oct. 2010 - Oct. 2013

- **Final project:** "Solution of neutronic oscillation problems in nuclear reactors"

## Outreach & Engagement

Since 2025 **MURR Reactor Safety Subcommittee (RSS) Member**

Columbia, MO

Since 2023 **Italian Nuclear Young Generation (INYG) seminar host**, organizer and host of [INYG/AIN seminars](#).

Italy

2023-2024 **Associazione Italiana Nucleare (AIN) Board of Directors (BOD)**, observer member of AIN's BOD.

Italy

2020-2024 **IYNC Italian representative**, represented INYG at the International Youth Nuclear Council (IYNC).

International

2021 **Young expert for waste repository**, invited as young nuclear expert to the [National Seminary](#) organized by the Italian govt. for localization of a low and medium level radwaste deposit in Italy.

Italy

Since 2019 **STEM outreach and volunteering**, volunteered at several grade schools for STEM outreach programs (nuclear and non-nuclear related), both in the United States and in Italy.

International

## Honors & Awards

2025 **"Impact Argonne" Award**, For NQA-1 contributions to nuclear coding best practices workshop.

ANL, USA

2024 **"Impact Argonne" Award**, For the development of NQA-1 software for research reactor analysis.

ANL, USA

2021 **Tau Beta Pi (TBP) member**, Inducted into the Tau Beta Pi (TBP) Engineering Honor Society.

USA

2019 **ENEN+ mobility award**, Recipient of the ENEN+ mobility award to perform research in Slovenia.

Europe

2016 **Alta Scuola Politecnica (ASP)**, Admitted to & completed the [ASP double-degree honour program](#).

Italy

## Journal Articles

1. D. S. Yoon, E. H. Wilson, G. S. Wilson, C. Braun, M. Pinilla, G. Wang, E. E. Feldman, **V. Mascolino**, and W. Mohamed. Evaluation of locked rotor accident in support of MURR low-enriched uranium conversion. *Nuclear Engineering and Design*, 455:114930, Aug. 2026. ISSN 0029-5493. doi:10.1016/j.nucengdes.2026.114930. URL <https://www.sciencedirect.com/science/article/pii/S0029549326001822>
2. **V. Mascolino**, A. Haghighat, and J. Link. Monte Carlo modeling of the MicroCHANDLER antineutrino detector during neutron beam irradiation experiments. *Nuclear Science and Engineering*, pages 1–22, 2025b. URL <https://doi.org/10.1080/00295639.2025.2471698>
3. **V. Mascolino**, S. Yang, L. M. Jamison, K. E. Anderson, D. S. Yoon, J. A. Stillman, L.-w. Hu, W. M. Mohamed, and E. H. Wilson. Impact of U-10Mo HALEU Fuel Element Tolerances on the Massachusetts Institute of Technology Reactor Safety and Operational Performance – Neutronics. *Annals of Nuclear Energy*, 219:11307, 2025c. ISSN 0306-4549. URL <https://doi.org/10.1016/j.anucene.2025.11307>
4. S. Yang, **V. Mascolino**, L. M. Jamison, K. E. Anderson, L.-w. Hu, D. S. Yoon, J. A. Stillman, W. M. Mohamed, and E. H. Wilson. Impact of U-10Mo HALEU Fuel Element Tolerances on the Massachusetts Institute of Technology Reactor Safety and Operational Performance – Thermal Hydraulics. *Annals of Nuclear Energy*, 219:111376, 2025. ISSN 0306-4549. URL <https://doi.org/10.1016/j.anucene.2025.111376>
5. F. Cetinbas, W. M. Mohamed, D. S. Yoon, J. A. Stillman, **V. Mascolino**, M. Pinilla, and E. H. Wilson. MURR LEU Structural and Thermal Hydraulics Analyses: Part I - Preliminary Irradiation Thermo-Mechanical Behavior. *Annals of Nuclear Energy*, 217:111350, 2025. ISSN 0306-4549. doi:10.1016/j.anucene.2025.111350
6. D. S. Yoon, F. Cetinbas, G. Wang, J. A. Stillman, **V. Mascolino**, M. Pinilla, E. E. Feldman, W. Mohamed, and E. H. Wilson. MURR LEU structural and thermal hydraulics analyses: Part II – Impacts of irradiation thermo-mechanical behavior on thermal hydraulics safety analyses. *Annals of Nuclear Energy*, 215:111236, 2025. ISSN 0306-4549. doi:10.1016/j.anucene.2025.111236

7. L. Snoj, **V. Mascolino**, T. Goričanec, et al. A half-century of nuclear research, education and training: Story of the JSI TRIGA reactor. *Annals of Nuclear Energy*, 214:111122, 2025. ISSN 0306-4549. doi:10.1016/j.anucene.2024.111122
8. **V. Mascolino**, A. Pungerčič, L. Snoj, and A. Haghighat. Experimental Validation of the 3-D Neutron Kinetics Algorithm of RAPID using the JSI TRIGA Mark-II reactor. *Progress in Nuclear Energy*, 176(November 2024):105391, 2024. doi: 10.1016/j.pnucene.2024.105391
9. **V. Mascolino** and A. Haghighat. A Novel Hybrid Deterministic and Monte Carlo Neutron Transport Formulation and Algorithm (tRAPID) for Accurate and Fast 3-D Reactor Kinetics. *Nuclear Science and Engineering*, 198(3):592–627, mar 2024. ISSN 0029-5639. doi:10.1080/00295639.2024.2111122
10. G. Wang, C. Bojanowski, W. Mohamed, M. Sitek, J. Stillman, **V. Mascolino**, M. Pinilla, and E. Wilson. Evaluation of Flow-Induced Plate Deflection for University of Missouri Research Reactor Low-Enriched Uranium Fuel Element. *Nuclear Engineering and Design*, 426: 113369, sep 2024a. ISSN 0029-5493. doi:10.1016/j.nucengdes.2024.113369
11. A. Pungerčič, **V. Mascolino**, A. Haghighat, and L. Snoj. Verification of a novel fuel burnup algorithm in the RAPID code system based on Serpent-2 simulation of the TRIGA Mark II research reactor. *Nuclear Engineering and Technology*, 2023. ISSN 1738-5733. doi:10.1016/j.net.2023.06.001
12. **V. Mascolino**, A. Haghighat, and L. Snoj. Development and validation of new algorithms for control rods insertion modeling in the RAPID code system using the JSI TRIGA Mark-II reactor. *Annals of Nuclear Energy*, 166:108711, feb 2022a. ISSN 0306-4549. doi:10.1016/J.ANUCENE.2021.108711
13. **V. Mascolino**, A. Haghighat, and L. Snoj. Verification and Validation of RAPID Formulations and Algorithms Based on Dosimetry Measurements at the JSI TRIGA Mark-II Reactor. *Nuclear Science and Engineering*, 195(9):937–953, sep 2021b. ISSN 0029-5639. doi:10.1080/00295639.2021.1890321
14. C. Awe, P. Barbeau, A. Haghighat, S. Hedges, T. Johnson, S. Li, J. M. Link, **V. Mascolino**, J. Runge, and J. Steenis. Measurement of proton quenching in a plastic scintillator detector. *Journal of Instrumentation*, 16(02):P02035, 2021. ISSN 1748-0221. doi:10.1088/1748-0221/16/02/P02035
15. D. Caron, R. Bonifetto, S. Dulla, **V. Mascolino**, P. Ravetto, L. Savoldi, D. Valerio, and R. Zanino. Full-core coupled neutronic / thermal-hydraulic modelling of the EBR-II SHRT-45R transient. *International Journal of Energy Research*, 42(1):134–150, 2018. ISSN 0363-907X. doi:10.1002/er.3571
16. **V. Mascolino**, A. Haghighat, and N. J. Roskoff. Evaluation of RAPID for a UNF cask benchmark problem. *EPJ Web Conf.*, 153(ICRS-13 & RPSD-2016, 13th International Conference on Radiation Shielding & 19th Topical Meeting of the Radiation Protection and Shielding Division of the American Nuclear Society - 2016):05025, 2017. doi:10.1051/epjconf/201715305025

## Technical Reports

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1. **V. Mascolino**, D. S. Yoon, J. A. Stillman, C. Bojanowski, L. M. Jamison, F. Cetinbas, W. Mohamed, A. Schnieders, M. Pinilla, and E. H. Wilson. Technical Considerations on MURR Control Blade Design Change and Testing using a New Metal Matrix Composite. Technical Report ANL/RTR/TM-24/27, Argonne National Laboratory (ANL), Argonne, IL (United States), July 2025d. URL <https://www.osti.gov/biblio/2588704>
2. **V. Mascolino**, K. Anderson, C. Castagna, M. Elsayi, and E. Wilson. ADDER v1.1.0 User Guide. Technical Report ANL/RTR/TM-24/25, Argonne National Laboratory, Lemont, IL, 2025a. URL <https://www.osti.gov/biblio/2564957>
3. K. Anderson, **V. Mascolino**, and A. G. Nelson. User Guide to the Advanced Dimensional Depletion for Engineering of Reactors (ADDER) Software. Technical Report ANL/RTR/TM-21/8, Rev.1, Argonne National Laboratory, Lemont, IL, 2022. URL <https://www.osti.gov/biblio/1866062>
4. G. Wang, C. Bojanowski, A. Weiss, A. Westerberg, A. Hebden, R. T. Kmak, W. Mohamed, T. Howard, W. Marcum, **V. Mascolino**, D. Yoon, M. Pinilla, and E. Wilson. The University of Missouri Research Reactor (MURR) LEU Fuel Element Flow Test Preliminary Design. Technical Report ANL/RTR/TM-24/9, Argonne National Laboratory, Lemont, USA, 2024b. URL <https://www.osti.gov/biblio/2447596>

## Patent Applications

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1. C. Smidts, A. Haghighat, T. Aldemir, F. Aydogan, **V. Mascolino**, M. Khafizov, J. Horack, L. R. Cao, and J.-C. Zhao. Nuclear reactor core with rotating fuel modules and related systems, June 2024. URL <https://patents.google.com/patent/US20240212871A1/fr>. US20240212871A1, Provisional application No: 63/181,676, April 4, 2022
2. N. Polys, **V. Mascolino**, and A. Haghighat. Collaborative Virtual Reality System for Scientific Computing. Provisional Patent Application filed, U.S. Patent Application No: 62/657,047, April 23, 2018 (VTIP No.: 18-105)

## Peer-reviewed Conference Papers (select)

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1. D. Paine and **V. Mascolino**. Neural Network-Enabled Thermal Feedback Modeling in the Fission Matrix Method. In *Transaction of the American Nuclear Society*, Denver, CO, June 2026
2. C. Vita, W. Walters, **V. Mascolino**, N. Roskoff, F. Franceschini, N. Abrate, and S. Dulla. A Correction Ratio Approach to Fission Matrix Interpolation in Systems with Large Temperature Differences. In *Proceedings of the International Conference on the Physics of Reactors (PHYSOR 2026)*, Turin, Italy, Apr. 2026
3. A. Haghighat, T. Franck, B. Seidulla, and **V. Mascolino**. Next-Generation Research Reactors: Novel Virginia Research and Education Reactor (VA-RER). In *Proceedings of the International Conference on the Physics of Reactors (PHYSOR 2026)*, Turin, Italy, Apr. 2026
4. A. G. Macris, S. Shahbazi, O. Chvala, **V. Mascolino**, and K. Clarno. Modeling the Effects of Salt Loop Flow Rate on Molten Salt Reactor Off-gas Isotopics. In *Proceedings of the International Conference on the Physics of Reactors (PHYSOR 2026)*, Turin, Italy, Apr. 2026

5. M.-J. Wang, J. Johnson, G. Sjoden, N. J. Roskoff, and **V. Mascolino**. Solving Large Scale Fission Surface Power Reactor Shielding Problems. In *Proceedings of the International Conference on the Physics of Reactors (PHYSOR 2026)*, Turin, Italy, Apr. 2026
6. L. Piccinini, A. Stinchelli, F. di Fonzo, **V. Mascolino**, and N. Cefis. On the impact of Lithium Diffusion on the Neutron Activation of Alumina Coatings in the DEMO WCLL Breeding Blanket. In *Proceedings of the International Conference on the Physics of Reactors (PHYSOR 2026)*, Turin, Italy, Apr. 2026
7. S. Shahbazi, L. Chierici, T. Fei, K. Anderson, **V. Mascolino**, A. Nelson, P. Romano, and A. Stubsgaard. Development of a Fuel Depletion Benchmark Model for the Molten Salt Reactor Experiment and Demonstration with MCNP-ADDER. In *Proceedings of the International Conference on the Physics of Reactors (PHYSOR 2026)*
8. C. Sears, J. Yu, L. W. Hu, B. Forget, K. Anderson, **V. Mascolino**, and E. H. Wilson. Preliminary Analysis of Low-Enriched Uranium (LEU) Fuel Performance in the MIT Reactor Fission Converter Experimental Facility. In *Transactions of the American Nuclear Society*, volume 131, pages 1136–1139, Orlando, FL, November 17–21, 2024. URL <https://www.ans.org/pubs/transactions/article-57174/>
9. G. Wang, C. Bojanowski, A. Hebden, W. M. Mohamed, **V. Mascolino**, E. E. Feldman, E. H. Wilson, A. Weiss, A. Westerberg, W. Marcum, and M. Pinilla. Fluid-Structure Interaction Evaluation of LVDT for Deflection Measurements of MURR LEU Fuel Plate. In *Proceedings of Advances in Thermal Hydraulics (ATH 2024)*, pages 72–82, November 17–21, 2024. URL <https://www.ans.org/pubs/proceedings/article-57300/>
10. M. Garanzini, K. Anderson, **V. Mascolino**, L. W. Hu, and E. Wilson. Preliminary Comparison of Depletion and Fuel Management Software for the MIT Research Reactor. In *Transactions of the American Nuclear Society*, volume 129, pages 1011–1014, Washington, DC, Nov. 12–15, 2023. URL <https://www.ans.org/pubs/transactions/article-54861/>
11. **V. Mascolino**, L. M. Jamison, W. M. Cowherd, K. E. Anderson, J. A. Stillman, L.-w. Hu, and E. H. Wilson. Impact of LEU U-10Mo Fuel Impurities on the Massachusetts Institute of Technology Reactor's Neutronics Performance. In *Transactions of the American Nuclear Society*, volume 126, pages 558–561, Anaheim, CA, June 12–16, 2022c. URL <https://www.ans.org/pubs/transactions/article-51500/>
12. **V. Mascolino**, A. Haghighat, and L. Snoj. On the Novel 3-D Neutron Transport Kinetic tRAPID Algorithm and its Validation. In *Proceedings of the International Conference on Physics of Reactors (PHYSOR 2022)*, pages 2243–2253, Pittsburgh, PA, May 15–20, 2022, 2022b. URL <https://www.ans.org/pubs/proceedings/article-50029/>
13. W. M. Cowherd, J. A. Stillman, D. S. Yoon, **V. Mascolino**, G. Wang, C. Bojanowski, E. H. Wilson, K. Kutikkad, L. P. Foyto, R. Astrino, M. Pinilla, and N. J. Peters. A Progress Update on the Highly Enriched Uranium to Low-Enriched Uranium Fuel Conversion at the University of Missouri Research Reactor. In *Proceedings of the 42nd International Meeting on Reduced Enrichment for Research and Test Reactors (RERTR 2022)*, Vienna, Austria, Oct. 2–5, 2022. URL [https://www.rertr.anl.gov/RERTR42/pdfs/S7-P4\\_Pinilla\\_paper.pdf](https://www.rertr.anl.gov/RERTR42/pdfs/S7-P4_Pinilla_paper.pdf)
14. **V. Mascolino**, A. Haghighat, A. Pungerčič, and L. Snoj. Validation of RAPID's Algorithm for Control Rods Movement Using the JSI TRIGA Reactor. In *Proceedings of The International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering (M&C2021)*, pages 572–582, October 3–7, 2021, Raleigh, NC, 2021a. URL <https://www.ans.org/pubs/proceedings/article-50029/>
15. **V. Mascolino**, V. Radulović, A. Haghighat, and L. Snoj. Experimental Validation of RAPID Based on JSI TRIGA Reactor Dosimetry. In *Proceedings of the 29th International Conference Nuclear Energy for New Europe (NENE2020)*, pages 7–10, Portorož, Slovenia, Sep. 7–10, 2020. URL [https://arhiv.djs.si/proc/nene2020/pdf/NENE2020\\_0209.pdf](https://arhiv.djs.si/proc/nene2020/pdf/NENE2020_0209.pdf)
16. A. Pungerčič, **V. Mascolino**, A. Haghighat, and L. Snoj. Extension of RAPID for TRIGA Reactor Real-Time 3D Burnup Calculations. In *Proceedings of the International Conference Nuclear Energy for New Europe (NENE2020)*, Portorož, Slovenia, Sep. 7–10, 2020. URL [https://arhiv.djs.si/proc/nene2020/pdf/NENE2020\\_0202.pdf](https://arhiv.djs.si/proc/nene2020/pdf/NENE2020_0202.pdf)
17. **V. Mascolino**, A. Haghighat, N. Polys, N. J. Roskoff, and S. Rajamohan. A Collaborative Virtual Reality System (VRS) with X3D Visualization for RAPID. In *Proceedings of the 24th International Conference on 3D Web Technology (Web3D 2019)*, pages 1–8, Los Angeles, CA, July 26–28, 2019a. ACM. ISBN 1450367984. doi:10.1145/3329714.3338135
18. **V. Mascolino** and A. Haghighat. Validation of the Transient Fission Matrix Code tRAPID against the Flattop-Pu Benchmark. In *Proceedings of the International Conference on Mathematics and Computational Methods applied to Nuclear Science and Engineering (M&C 2019)*, pages 1338–1347, Portland, OR, 2019. URL <https://www.ans.org/pubs/proceedings/article-46718/>
19. **V. Mascolino**, A. Pungerčič, A. Haghighat, and L. Snoj. Experimental and Computational Benchmarking of RAPID using the JSI TRIGA MARK-II Reactor. In *Proceedings of the International Conference on Mathematics and Computational Methods applied to Nuclear Science and Engineering (M&C 2019)*, pages 1328–1337, Portland, OR, 2019d. URL <https://www.ans.org/pubs/proceedings/article-46717/>
20. **V. Mascolino**, A. Haghighat, N. Polys, M.-J. Wang, and S. Rajamohan. A Collaborative Virtual Reality System (VRS) with X3D Visualization for RAPID. In *Proceedings of the International Conference on Mathematics and Computational Methods applied to Nuclear Science and Engineering (M&C 2019)*, pages 690–699, Portland, OR, 2019b. URL <https://www.ans.org/pubs/proceedings/article-46654/>
21. **V. Mascolino**, A. Haghighat, and L. Snoj. Optimization of Axial Interpolation for the FM Control Rods Algorithm in RAPID. In *Transactions of the American Nuclear Society*, volume 121, pages 781–783, Washington DC, USA, November 17–21, 2019, 2019c. URL <https://www.ans.org/pubs/transactions/article-47685/>
22. **V. Mascolino**, N. J. Roskoff, and A. Haghighat. Benchmarking of the Rapid Code System Using the GBC-32 Cask With Variable Burnups. In *Proceedings of the International Conference on Physics of Reactors (PHYSOR 2018)*, pages 697–708, Cancun, Mexico, Apr. 22–26, 2018. URL <https://tinyurl.com/3nh2kymx>
23. N. J. Roskoff, **V. Mascolino**, and A. Haghighat. Accuracy of RAPID for Simulation of Pools With Diverse Spent Fuels. In *Proceedings of the International Conference on Physics of Reactors (PHYSOR 2018)*, pages 685–696, Cancun, Mexico, Apr. 22–26, 2018
24. **V. Mascolino**, A. Haghighat, and N. J. Roskoff. External SNF Cask Dose Calculation Using RAPID. In *Proceedings of the Advances in Nuclear Nonproliferation Technology & Policy Conference (ANTPC 2016)*, Santa Fe, NM, Sep. 25–30, 2016. URL <https://tinyurl.com/bdhxkcb>