



Program
**Conference on Particle Transport Methods, Benchmarking,
and Applications**
in Recognition of Barry D. Ganapol on his Retirement
Virginia Tech Research Center, Arlington, VA, Oct 1-3, 2025

Wednesday, Oct 1

- Reception, 6:00-7:30 pm

Day 1 – Thursday, October 2

- Opening Remarks (8:45 – 9:00 am) (A. Haghighat & F. Rahnema)

Morning Session (9:00 am – 12:00 pm)

9:00 – 9:30 Opening & Tribute

- *Laudatio to Barry Ganapol: A Review of His Scientific Contributions* — **P. Ravetto**

9:30 – 10:00

- *1D Monoenergetic Discrete Ordinates Transport with Faux Quadrature and Nascent Delta Function Source* — **B.D. Ganapol**

10:00 – 10:30

- *Acceleration Aspects for the Eigenvalue Problem and Generation of Reference Results in Integral Transport* — N. Abrate, B.D. Ganapol, **S. Dulla**, P. Saracco, P. Ravetto, A. Zoia

10:30 – 11:00 — Break

11:00 – 11:30

- *Coarse Mesh Coupled Neutron-Photon Transport Method* — D. Zhang & **F. Rahnema**

11:30 – 12:00

- *RAPID Code System's MRT Methodology for High-Fidelity Real-Time Whole-Core Simulation* — **B. Stroh** & A. Haghighat

12:00 – 1:30 — Lunch

Afternoon Session (1:30 PM – 4:30 PM)

1:30 – 2:00

- *Evolutionary Discovery of Sequence Acceleration Methods for Slab Geometry Neutron Transport* — **J.K. Patel** et al.

2:00 – 2:30

- *Contributions of Nuclear Data to Today's Particle Transport Ecosystem* — **R.C. Little**

2:30 – 3:00

- *Experience with Neutron Shielding Benchmark Evaluation Using Deterministic and Monte Carlo Transport and Sensitivity/Uncertainty Tools* — **A. Kodeli**

3:00 – 3:30 — Break

3:30 – 4:00

- *Calculation of Multiplicity Rates in Nuclear Safeguards via Explicit Eigenfunctions* — **L.B. Barichello**, P.A.B. Antunes & I. Pazit

4:00 – 4:30

- *A Monte Carlo Laplace Transform Estimator for Radiation Transport* — **C.A. Weaver**

4:30 – 5:00

- *Input Data Error Propagation Analysis for Predictor-Corrector Quasi-Static Transient Model* — **S. Jiang** & K. Wang

Banquet, 6:30 pm (location)

Day 2 – Friday, October 3

Morning Session (9:00 AM – 12:00 PM)

9:00 – 9:30

- *An Explanation of the Initial Approach to Criticality for CP-1* — **W.R. Martin**

9:30 – 10:00

- *A Fresh Take on the Quasi-Static Factorization for Neutron Transport Transients* — **E. Gilad**

10:00-10:30

- *A Note on the CMFD-Based PCQS Algorithm for Reactor Kinetics* — **D. Wang**

10:30 – 11:00 — Break

11:00 – 11:30

- *Computational Verification of BSOLVE: A New Multi-Group Burnup, Depletion, and Decay Code for Advanced Nuclear Power Systems* — **M.-J. Wang & G.E. Sjoden**

11:30 – 12:00

- *Real Variance Estimation Using Dirichlet Distribution in the iDTMC Method and Its Application to Neutronics–Thermal Hydraulics Coupled Simulations (iDTMC/START Framework)* — **J. Jang, I. Kim, Y. Kim**

12:00 – 1:30 — Lunch

Afternoon Session (1:30 PM – 4:30 PM)

1:30 – 2:00

- *Feasibility Study of History-Based Batch Method for Coupled Monte Carlo–Thermal-Hydraulics Analysis Using the iMC Code* — **T. Oh, J. Jang, I. Kim, Y. Kim**

2:00 – 2:30

- *Machine Learning–Inspired Markov Chain Approaches for Generating Importance Maps in Fixed-Source Variance Reduction* — **J. Miao**

2:30 – 3:00

- *Accelerating Neutron Transport Solutions: From Reduced-Order Models to AI-Driven Surrogates* — **W. Ji**

3:00 – 3:30 — Break

3:30 – 4:00

- *Development of Physics-Based AI/ML Models Using the RAPID Code System* — **A. Haghighat, T. Franck & L. Snoj**

4:00 – 4:30

- Wrap up and discussion; special issue of NSE (**F. Rahnema & A. Haghighat**)