Advanced MCNP6

19-23 May 2025
OECD/NEA Headquarters in Boulogne-Billancourt, France
Minimum enrollment: 12; maximum enrollment: 22

This 4.5-day advanced class is designed for people who have experience in running MCNP Monte Carlo calculations, but who would like to advance their skills. Provided examples will be assembled, executed, and examined. Time will be available throughout the week to discuss individual questions and problems with MCNP experts.

Tentative Agenda

Day 1, 1000–1200; 1300–1700
- AM: MCNP Basic Input File Structure and Calculation Execution Review
- PM: MCNP Criticality Theory & Practice

Day 2, 0900–1200; 1300–1700
- AM: Fission Matrix Calculations & Visualization
- PM: CSG Criticality Accident Alarm System Exercise

Day 3, 0900–1200; 1300–1700
- AM: Tally Diagnostics, Biasing, and Deterministic Variance Reduction Techniques
- PM: Advanced Output Processing & Visualization

Day 4, 0900–1200; 1300–1700
- AM: Unstructured Mesh Geometry Overview
- PM: Visualization with ParaView

Day 5, 0900–1200
- AM: CSG+UM Hybrid Criticality Accident Alarm System Exercise
- PM (Optional): Open Discussion / Questions and Answers

The class is based on version 6.3 of the MCNP code. Students must provide their own laptop with MCNP6.3 installed (with a Windows installation tutorial here, respectively). ParaView 5.12 or later must also be installed

Students are expected to have introductory/intermediate-level experience with the MCNP code.

More information on the MCNP code is available at mcnp.lanl.gov.