

SERPENT-2 online training course for beginners

[Register for the event](#)

Practical information

Dates: 2-6 November 2026

Time: 17:00-21:00 (CET, Paris time)

Minimum enrollment: 12 participants

Maximum enrollment: 15 participants

Registration fee: 500 EUR

Registration deadline: 9 October 2026

Contact: hedvig.nahon@oecd-nea.org with copy to programs@oecd-nea.org

This five-day course will be taught in English.

Course description

SERPENT is a 3D continuous-energy Monte Carlo neutron and photon transport code, with built-in burnup calculation routine. The code is applicable to a wide range of reactor physics and radiation transport problems including traditional reactor physics, coupled multiphysics simulation, neutron and photon transport simulations for radiation dose calculation, etc.

This five-day online course is designed for beginners with no prior knowledge of SERPENT. The course focuses on reactor physics applications and equips the students with the necessary skills to independently set up and run their SERPENT models.

The course comprises lectures, step-by step examples and hands-on exercises allowing students to practice and reinforce their understanding of SERPENT. The topics covered include:

- Overview of general input syntax rules and SERPENT input structure;
- Setting up nuclear data libraries;
- Material definition;
- Geometry definition started from a simple 2D fuel on level and progressing to 3D core reactor models;
- Plotting and visualisation of the modeled geometry;

- Setting up and initiating critical calculations;
- Post-processing SERPENT outputs to extract meaningful insights;
- Visualisation of results using mesh plots;
- Defining detectors and mesh detectors to gather extended information from simulations;
- Introduction to generating multi-group cross sections for diffuse core simulators.

When?

2 - 6 November 2026

Online training course

Contact

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Tags

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