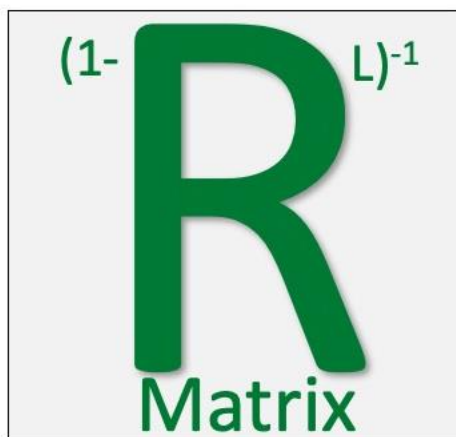# R-MATRIX SCHOOL 2025

Nuclear Data School on Nuclear Data Evaluation with SAMMY and AZURE2 R-matrix codes

First announcement

June 2—6, 2025, Oak Ridge National Laboratory
Oak Ridge, TN, USA

The R-matrix school 2025 is the first of three nuclear data schools on resonance analysis evaluation—including realistic evaluation cases using two publicly available R-matrix codes, SAMMY and AZURE2 (developed and maintained at Oak Ridge National Laboratory and the University of Notre Dame, respectively). As the school is targeting different levels of expertise and diverse needs, two options are available. A 2-day option will be set up to assist users with basic concepts of the evaluation work; sessions include a brief theoretical background and a focus on the pipeline nuclear data work for understanding the impact of the evaluation work on selected applications. A 5-day option will be set up to include advanced information on the R-matrix theory; evaluation work including the use of two R-matrix codes, SAMMY and AZURE2; and validation of the generated nuclear data evaluations. Moreover, the series will be set up such that different topics for in-depth-analysis concepts are offered each year.

The R-matrix school 2025—held at Oak Ridge National Laboratory (ORNL), Oak Ridge, TN, USA on June 2–6, 2025—will focus on nuclear data libraries, with an emphasis on neutron-induced reactions. The agenda features lectures in the mornings followed by practical sessions or topical presentations in the afternoons.

Future R-matrix schools are planned to be held at University of Notre Dame (UND) in 2027 and Ohio University (OU) in 2029 focusing on different topics.

Website and registration

Information and updates related to this event will be posted on our website, Rmatrixschool2025.ornl.gov, including online registration for a limited number of

attendees—30. As the R-matrix school 2025 is an in-person event only, participants must be approved in the ORNL Personal Access System (PAS) for foreign nationals and nonemployees, and it is advisable not to make travel arrangements until you are approved. The PAS request should be initiated via e-mail by contacting Jordon Hardy at hardyjr@ornl.gov. The registration deadlines are as follows:

- US citizens May 2nd 2025

- Non-US citizens 18th April, 2025

The fee for the 5-day option is $200, and the fee is $100 for the 2-day option. The lectures for the 2-day option will be on Monday and Tuesday.

Venue and Lodging

The event will be held on site at Oak Ridge National Laboratory.

Attendees may reserve a room at hotels in Oak Ridge, TN about a 15 minute drive to the event venue although there is a wide choice of hotels in Knoxville metropolitan area. A list of hotels is provided on the event website.

School Agenda and Lectures

Coming soon.

Prior installation of SAMMY and AZURE2 R-matrix codes on personal laptops is preferable for in-class excersises although a limited number of workstation will be available in the class room. Links to the codes are below

- SAMMY
- AZURE2

ORNL Tour

Students will be provided the opportunity to visit the Graphite Reactor, a designated historical landmark, and the Oak Ridge Leadership Computing Facility's supercomputer Frontier. More information can be found at Graphite Reactor and User Facilities.

Organizing Committee

- Marco Pigni (ORNL)
- Dorothea Wiarda (ORNL)
- James deBoer (UND)
- Carl Brune (OU)

Any question to the organizing committee should be directed to the e-mail addresses pignimt@ornl.gov and wiardada@ornl.gov .

Acknowlegments