2026 R-matrix workshop on methods and applications

First announcement

July 13—17, 2026, Oak Ridge National Laboratory
Oak Ridge, TN, USA

The 2026 R-matrix workshop—held at Oak Ridge National Laboratory (ORNL), Oak Ridge, TN, USA on July 13–17, 2026—will focus on several topics specific to the phenomenological R-matrix analysis of nuclear reactions with particular emphasis on neutron induced reactions. Among these,

- theoretical advances such as breakup reaction models, fission channel in the R-matrix framework, secondary gamma reactions, relativistic R-matrix models, primary gammas, polarization observables,
- experimental techniques,
- recent R-matrix evaluation work having direct impact to application topic areas ranging from criticality safety applications and astrophysics,
- statistical methods of resonance parameters applied to unresolved resonance region

Novel optimization techniques devoted to uncertainty quantification and computational methods implemented in R-matrix codes to improve nuclear data evaluation productivity will be one of the goals set for the 2026 R-matrix workshop.

The R-matrix workshop is an event taking place every three years and its aim is to bring together students, early career researchers and specialists in the field utilizing the R-matrix formalism. The workshop structure will be set up such that different topics for in-depth-analysis concepts are offered in each session.

This workshop is the third in person meeting of the R-matrix workshop series. Previous in person meetings were held at Ohio University (OU) in 2023 and in Santa Fe, New Mexico organized by Los Alamos National Laboratory (LANL) in 2016 where the R-matrix workshop series started.

Website and registration

Information and updates related to this event will be posted on our website including online registration that is estimated to be open in February 2026. As the 2026 R-matrix workshop 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. After registration, the PAS request should be initiated via e-mail by contacting Lynsey Schreiner at

schreinerlr@ornl.gov. The registration fee is $200 and PAS approval time is as follows: US citizens (~4 weeks before the event) and Non-US citizens (~6 weeks before the event).

Venue and Lodging

The event will be held on site at ORNL. 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.

Workshop Agenda

The detailed agenda will be posted on the R-matrix workshop website (when available). The event will be held from 8 am to 5 pm including breaks, talks, and two planned tours.

ORNL Tours

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

Organizing Committee

- Marco Pigni (ORNL)
- Carl Brune (OU)
- James deBoer (UND)*
- Mark Paris (LANL)
- Gerry Hale (LANL)
- Konstantinos Kravvaris (LLNL)**
- Edward Simpson (ANU)^
- Jakub Skowronski (INFN)^^
- Ian Thompson (LLNL)**

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

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