

# Towards a consistent approach for nuclear structure and reactions: microscopic optical potentials

Direct nuclear reactions, processes such as nucleon transfer, knockout, anti-nucleon capture have been extensively exploited by experiments to learn about the structure of exotic isotopes far away from stability, to infer properties of the nuclear forces, to describe nucleosynthesis and to learn about the nuclear equation of state. In this respect, nucleon-nucleus optical potentials are of great importance since they are the fundamental building blocks needed to predict reaction observables to address such a wide range of Nuclear Physics facets. Traditional phenomenological optical potential parameterizations are fully reliable only in specific regions of the nuclear chart, near the stable isotopes they were fitted to. On the contrary, microscopically derived potentials can be systematically extended to isotopes far from stability that are the focus of modern experimental searches. This workshop will address the state-of-the-art of nuclear optical potentials to foster advances in their accuracy and handling of uncertainty propagation

## **Organizers**

**C.Barbieri (Uni Milano), A.Obertelli (TU Darmstadt), C.Elster (Ohio Uni), C.Hebborn (FRIB)**

## **Key-note speakers**

M. Atkinson (Lawrence Livermore National Laboratory), G. Blanchon (CEA, DAM, DIF), A. Bonaccorso (INFN, Pavia), S. Brolli (Uni Milano and INFN), P. Capel (Johannes Gutenberg Universität Mainz), W. Dickhoff (Dept of Physics, Washington University In St. Louis), P.-Y. Duerinck (Université Libre De Bruxelles), P. Finelli (Uni of Bologna and INFN), A. Flores (Washington University In St. Louis), J. Gomez Camacho (CNA – Uni of Sevilla), A. Gottardo (INFN LNL), A. Kedia (North Carolina State University), J.P. Linares Fernandez (Louisiana State University), G. Lotay (University of Surrey), F. Nunes (Michigan State University), A. Obertelli (TU Darmstadt), F. Pederiva (University of Trento and INFN-TIFPA), S.S. Perrotta (Lawrence Livermore National Laboratory), G. Potel Aguilar (Lawrence Livermore National Laboratory), G. Sargsyan (Facility For Rare Isotope Beams, Michigan State University), E. Vigezzi (INFN Milano), M. Vorabbi (University of Surrey), S. Wang (Southwest University), G. Yang (Chongqing University), K. Yoshida (Japan Atomic Energy Agency)

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