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INPP Seminar | Combining Structure and Reactions: Microscopic Optical Potential and Description of Weakly-bound/unbound Systems, April 10

Ohio University College of Arts & Sciences

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Categories: Events
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The Institute of Nuclear and Particle Physics (INPP) presents Jimmy Rotureau, of NSCL, Michigan State University on Combining Structure and Reactions: Microscopic Optical Potential and Description of Weakly-bound/unbound Systems , on Tuesday, April 10, at 4 p.m. in Edwards Accelerator Lab, Roger W. Finlay Conference Room.

Abstract: Nuclei in the vicinity of the driplines display exotic features (halo configurations, unbound ground states) which do not occur for systems near the valley of stability. All these particularities are manifestations of the strong coupling with the decay/reaction channels in these regions of the nuclear chart. Similarly, the structure of nuclei involved in reactions has an impact on scattering observables. This calls for theoretical development where both structure and reactions are combined in unified approaches.

During this talk, I will present our latest results for (i) the construction of microscopic nucleon-nucleus optical potential using the Coupled Cluster theory with recent chiral-EFT Hamiltonians and (ii) the description of neutronrich oxygen and helium isotopes where the coupling to continuum is accounted for microscopically.