



May 27 – 31, 2025

**ICTP-SAIFR/MITP
SCHOOL ON
MULTINEUTRON
CLUSTERS IN NUCLEI
AND IN STARS**



CHEN JI
**Central China Normal
University, China**
*Halo nuclei, clustering
and universality*



INGO TEWS
**Los Alamos National
Laboratory, USA**
*Ab-initio approach
and applications*



FRANCESCA BONAITI
Michigan State University, USA
*Extension of the ab-initio
approach to heavier nuclei*



TAKASHI NAKAMURA
**Tokyo Institute of
Technology, Japan**
*Experimental probes of
multineutron systems*

Neutron-rich nuclei at the edge of instability pose significant challenges to experimental investigations and our theoretical understanding of their structure and reactions. Novel experimental tools are being developed to probe multineutron correlations and clustering, where emerging low-energy universal phenomena exposes the limits of current ab initio approaches. While these approaches have been successful in describing properties of nuclei close to the valley of stability, they may struggle to account for the long-range multinucleon correlations present in exotic neutron-rich nuclei. The study of such systems is also very relevant for neutron stars and astrophysical phenomena.

The one-week joint ICTP-SAIFR/MITP School on Multineutron Clusters in Nuclei and Stars will address topics such as the emergence of multineutron systems, the dynamics of weakly bound systems, few- and many-body ab initio approaches, and their connections to the equation of state of nuclear matter.

This activity will be followed by the Workshop on Multineutron Clusters in Nuclei and Stars from June 2 to 6.

There is no registration fee and limited funds are available for travel and local expenses.

Application deadline:
March 15, 2025

Online application and more information:
ictp-saifr.org/smcons2025



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