

# “Next generation *ab initio* nuclear theory”

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**ECT\* Villa Tambosi, Villazzano**



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**Abstract:** Ab initio applications in nuclear theory have grown dramatically over the past two decades thanks to the rapid development of effective field theories (EFT) for the nuclear force and the introduction of advanced algorithms for large scale many-body computations. To achieve new breakthroughs in predictive power, beyond that of current ab initio theory, it is necessary to pursue advances at three major frontiers: First, advancing the accuracy and precision of EFT interactions and currents. Second, it will be necessary to propagate uncertainties from the data used to calibrate such interactions all the way to the predicted observables. Last, better truncation schemes in current many-body approaches and/or new methods must be devised to match the accuracy of the new interactions.  
This workshop aims at fostering discussions and new ideas within the community to pursue these goals.

**ECT\* Director: Prof. Ubirajara van Kolck**

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