



Contribution ID: 3

Type: **Invited**

## **Nuclear Structure Theory: today and tomorrow**

*Monday 15 December 2014 16:00 (30 minutes)*

The long-term vision of nuclear theory is to arrive at a comprehensive and unified description of nuclei and their reactions, grounded in the interactions between the constituent nucleons. Theorists seek to replace current phenomenological models of nuclear structure and reactions with a well-founded microscopic theory that delivers maximum predictive power with well-quantified uncertainties. A new and exciting focus in this endeavor lies in the description of exotic and short-lived nuclei at the limits of proton-to-neutron asymmetry, mass, and charge.

In this talk, theoretical advances in rare isotope research will be reviewed in the context of the main scientific questions. Particular attention will be given to the progress in theoretical studies of nuclei due to the advent of extreme-scale computing platforms.

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**Session Classification:** Ground-State Properties