

## **Eos for neutron stars and core-collapse supernovae**

*Tuesday, 27 June 2017 16:20 (25 minutes)*

Modelling compact stars is a complex task which depends on many ingredients, among others the properties of dense matter. In this talk I will discuss models for the equation of state (EoS) of dense matter, relevant for the description of core-collapse supernovae, compact stars and compact star mergers. Such EoS models have to cover large ranges in baryon number density, temperature and isospin asymmetry. The characteristics of matter change dramatically within these ranges, from a mixture of nucleons, nuclei, and electrons to uniform, strongly interacting matter containing nucleons, and possibly other particles such as hyperons or quarks. The EoS models will be confronted with relevant experimental and observational constraints. I will highlight some implications for compact star astrophysics.

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**Session Classification:** Session 4 (Chair: P. Papakonstantinou)