

## **New materials and characterisation techniques for magnonic applications**

*Tuesday 3 June 2025 15:00 (1h 15m)*

Magnonics is the field of science that studies the physical properties of spin waves and uses them for data processing. Scalability down to atomic dimensions, operation in the GHz to THz frequency range, exploitation of pronounced nonlinear and non-reciprocal phenomena, compatibility with CMOS are just a few of the many advantages offered by magnons. In this talk I will introduce the basic concepts of magnonics, discuss the current devices and computational concepts, and the most common materials and characterisation techniques used in this field. I will also present our recent results in the development of magnetic (meta)materials for magnonic applications and in the development of characterisation techniques suitable for probing magnons, such as propagating spin wave spectroscopy and Brillouin light scattering spectroscopy and microscopy.

**Presenter:** URBÁNEK, Michal (CEITEC Brno University of Technology)