**Balázs Szendrői**

**Title: Hilbert schemes of points on surfaces and threefolds: combinatorics, geometry and representation theory**

**Abstract:** I will explain some connections between the objects in the title: the geometry of Hilbert schemes of points on smooth and (some) singular surfaces and threefolds, the combinatorics of coloured partitions and other combinatorial arrangements, and the representation theory of (finite dimensional and affine) Lie algebras. Based on joint works with Gyenge and Némethi; Craw, Gammelgaard and Gyenge; and Davison and Ongaro.