**SPEAKER:** Dr. Martin Kerin, NUI Galway.

**TITLE:** Highly connected 7-manifolds with non-negative sectional curvature.

**ABSTRACT:**
Although non-negative sectional curvature is one of the most fundamental notions in Riemannian geometry, there are few known constructions, and, hence, few known examples, of manifolds admitting such a Riemannian metric. In this talk, I'll briefly survey some of the known constructions, then describe a new construction which yields a rich family of non-negatively curved 7-manifolds, including many examples that exhibit interesting topological properties. For example, this family contains all exotic 7-spheres, as well as infinitely many spaces not even homotopy equivalent to previously known examples. This is joint work with Sebastian Goette (Freiburg) and Krishnan Shankar (Oklahoma/NSF).