Title: Geodesics, focal points and the transverse Jacobi equation.

Abstract:

A good understanding of geodesics helps to understand the metric and the topology of the Riemannian manifold where they are defined. Neighbouring geodesics to a known one are governed by the Jacobi equation, and great part of the known theorems in comparison geometry come from its study. In this talk, I will introduce a refinement of the Jacobi equation, *the transverse Jacobi equation*, due to Burkhard Wilking, and will show how to use it to obtain new results on submanifold focal points, as well as a new rigidity result that generalizes the diameter rigidity theorem of Gromoll and Grove.