

Title: Connected sums and lower curvature bounds**Abstract:**

The connected sum operation is a simple but useful tool in geometric topology to connect two given manifolds. However, if both manifolds are equipped with Riemannian metrics that satisfy a lower curvature bound, it is surprisingly difficult to determine if this lower curvature bound can be preserved under the connected sum. In this talk, I will introduce several curvature notions and discuss the connected sum problems for each of them, with a focus on positive Ricci curvature. I will then present some recent developments, including joint work with David Wraith and with Francesca Tripaldi.