

## TGTC 2020: TITLE AND ABSTRACT

### **Convergence of Manifold and Metric Spaces**

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Abstract: Since introducing Gromov-Hausdorff convergence in 1981, Gromov has relentlessly asked how various notions of curvature on Riemannian manifolds can be extended to notions on metric spaces and what notions of convergence can provide compactness theorems. In this talk we will deal with Intrinsic Flat convergence defined by Sormani and Wenger using work of Ambrosio and Kirchheim. This is a generalization of Federer and Fleming Flat convergence for currents. We will contrast both notions of convergence, i.e. Gromov-Hausdorff and Intrinsic Flat, and state several results concerning sequences of manifolds with uniform Ricci or Scalar curvature lower bounds. In particular, we will state several results in which both limits agree and stability results that only hold for Intrinsic Flat convergence but not for Gromov-Hausdorff convergence.