

## STUDENT PRESENTATION TOPICS

Format: 30-min presentations, 2 per late afternoon session. Include beamer file if unable to deliver in person when scheduled. (Use of beamer optional otherwise.)

1. Maps from  $n$ -complexes to the  $n$ -sphere (Hopf)—Dalen (ref: [Bredon])
2. Rips complexes, interleaving and Gromov-Hausdorff distances—Ivy (ref: Polterovich et al., ch. 1)
3. Applications of Rips complexes—Jared (ref: Polterovich et al., ch. 5)
4. Normal bundles and immersions of manifolds—Amer (ref: R. Cohen's notes, ch 3.4.2)
5. Connections and Chern classes of complex line bundles—George (ref: R. Cohen's notes, ch. 3.6, case  $n=1$ .)
6. Classification of maps from the  $(n+1)$ -sphere to the  $n$ -sphere—Sam (ref: Pontrjagin ch. IV.3)
7. Spin structures on manifolds--Tariq (ref: Milnor 1963.)

Details on the references:

Polterovich, L. et al., *Topological Persistence in Geometry and Analysis*, AMS/University Lecture Series vol. 74, 2020.

Pontrjagin, L., *Smooth Manifolds and their Applications in Homotopy Theory*, in Topological Library.

Milnor, J. *Spin Structures on Manifolds*, L'Enseignement Mathématique, 1963.