## Comparison principles, minimal surfaces, and eigenvalue inequalities

Gerasim Kokarev University of Leeds

August 31, 2020

I will talk about comparison principles in (spectral) geometry, describe related phenomena and applications to eigenvalue inequalities. In particular, I will tell about new inequalities for Laplace eigenvalues in terms of Berger's embolic volume. Time permitting, I will also discuss comparison principles and eigenvalue bounds for minimal surfaces.