

Abstract

Many fundamental results in geometry and topology have been established through the development of minimal submanifold theory and geometric flow techniques. In this mini course, I will start by discussing minimal submanifolds and scalar/vectorial maximum principles for elliptic and parabolic PDEs. Then, I will use these tools to prove Bernstein type theorems for graphical minimal submanifolds. Finally, I will focus on the mean curvature flow in high codimensions and will demonstrate how to use this powerful method to derive topological results for maps between Riemannian manifolds.