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An Introduction to Ricci Flow

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One of the most exciting areas of mathematical research today is in the study of Ricci flow. Most notably, Ricci flow was recently employed by mathematician Grigori Perelman as a means by which he provided arguments to complete the proof Thurston's geometrization conjecture, of which the Poincaré conjecture, a famous Millennium prize problem, is a corollary. In addition, Ricci flow has some interesting applications to physics, in particular to general relativity.

In this talk, I will give an introduction to Ricci flow. I will also mention some of the fascinating results Ricci flow has produced, as well as some of the hypotheses for which it is hoped that Ricci flow can be used to provide a result.