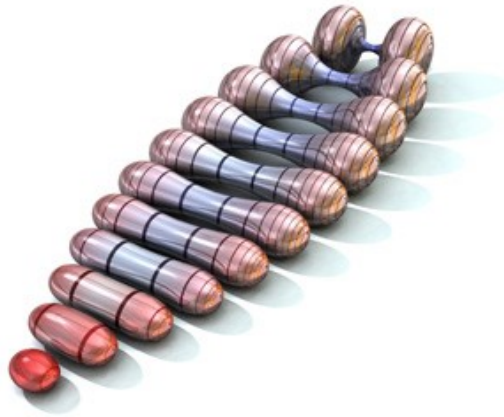# SUMO Symposium

Wednesday, January 19
5:45-6:30 PM
380-380W

The Tensor Maximum Principle

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ABSTRACT:

The maximum principle is a property of solutions to many differential equations
that arise in mathematics and physics, such as the heat equation. Roughly, it states that
the quantity of interest improves over time. Maximum principle arguments are central
to study of geometric flows such as the Ricci flow, a heat-type equation which tends to
"simplify" geometric objects that may be complicated to begin with. When working
with in dimension three or greater, standard maximum principle techniques are not
enough; we need a maximum principle for systems of equations, i.e. a "tensor
maximum principle." In the talk, we will introduce the standard maximum principle and
sketch a proof of the tensor maximum principle (due to Hamilton, 1982) with a focus on
applications to geometric flow problems.