BI-CO MATHEMATICS COLLOQUIUM

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"The Moving Surface Analogs of Classical Equations of Applied Mathematics"

Monday, September 14, 2015

Talk at 4:00 – H109
Tea at 3:30 – KINSC Math Lounge, H208

Abstract:
The calculus of moving surfaces (CMS) is an extension of differential geometry to deforming manifolds. The fundamental equations of applied mathematics (the Laplace equation, the heat equation and the wave equation) find intriguing CMS equivalents, in which the surface itself is the unknown quantity. I will describe the fundamental elements of the CMS and illustrate a few of its many applications in differential geometry, shape optimization and dynamics of fluid films. Along the way, I will touch on a few interesting computational questions.

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