

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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