



The Math/Stats Colloquium  
Department of Mathematics and Statistics  
San José State University



**Andrew J. Bernoff**

Harvey Mudd College

*Energy driven pattern formation in  
thin fluid layers:*

*The good, the bad and the beautiful*

JANUARY 24, 2018, MH320

**Abstract:** We consider three problems that arise in the study of thin fluid layers. Each of these problems can be described in terms of an energy that is dissipated which allows us to describe equilibrium solutions as energy minimizers. We show how to exploit these energies numerically, analytically, and asymptotically to characterize the observed behavior. While the governing physics in these systems are similar, the observed dynamics and equilibrium solutions are quite different, earning them the nicknames the good, the bad and the beautiful.

*Background:* Multivariable calculus and differential equations.

**About the speaker:** Andrew Bernoff is the Kenneth & Diana Jonsson Professor of Mathematics at Harvey Mudd College. His research specializes in bridging the gaps between Mathematics, Physics, Biology and Engineering, with an emphasis on dynamical systems methods. He is passionate about helping students learn how mathematics can be used to model and understand the world around us.

SNACKS IN MH331B AT 2:30 PM

TALK STARTS AT 3:00 PM

For more information, see our full schedule at:

<http://www.math.sjsu.edu/~hsu/colloq/>