Fall Colloquium Series

Understanding interfaces and their applications in modern technology

Prof. Nick Brubaker
CSU Fullerton

Abstract:

Ever since recorded observations were made during antiquity, questions about the behavior of liquid-air interfaces have intrigued the scientific community and attracted the attention of luminaries such as Gauss, Laplace and da Vinci. And it is not surprising to see why. For example, have you ever asked yourself why does soda rise up a straw? Or, why do jets of water break-up after coming out of a faucet? Most surely you have pondered the spherical shape of soap bubbles and dew on leaves. Well, it turns out that investigating these simple questions leads to rich mathematical problems that have, historically, driven fields of study. The results in these fields can be seen throughout modern technology. In this talk, we will review the scientific history of these interfaces, discuss the involvement of mathematics in specific problems, and preview potential applications to future technologies.

Key Words: mathematical modeling, differential equations, curves and surfaces, bifurcations

Wednesday, Oct. 18, 1:05 - 1:50pm in 3-1637