

Thursday, April 2, 2009
3:00–3:50 p.m.
Harrelson 330

Why don't we (usually) faint when we stand up?

Mette Olufsen

Basic physics suggests that when we stand up, the blood pressure in our brain should drop dramatically. Such a pressure drop should cause us to faint. But most of us don't faint when we stand up. In this talk I'll discuss a mathematical model that explains why most of us don't, and why some people do. The model is a compartmental model formulated as a system of ordinary differential equations. Another important question is: How do we make this model predict what is observed in a specific patient? Mathematically this relates to the question: How do we estimate a set of model parameters that allow the model to predict responses observed in data?

NCSU Society for Undergraduate Mathematics

SUM Series