

COLLOQUIUM

DEPARTMENT OF MATHEMATICS AND STATISTICS
OAKLAND UNIVERSITY
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The Principle of Least Action: History and Physics

Abstract

The principle of least action originates in the idea that, if nature has a purpose, it should follow a minimum or critical path. This simple principle, and its variants and generalizations, applies to optics, mechanics, electromagnetism, relativity, and quantum mechanics, and provides an essential guide to understanding the beauty of physics. My talk will be a tour of the history of the principle based on the book with the same title that I wrote in collaboration with Anthony Bloch, and published by Cambridge University Press. The book examines the principle and its fundamental role in science. including – with varying levels of mathematical sophistication - explanations from historical sources, discussion of classic papers, and original worked examples. The result is a story that is understandable to those with a modest mathematical background, as well as to researchers and students in physics and the history of physics.

Tuesday, February 18, 2020
12:00 – 12:50 P.M.
372 Mathematics and Science Center (MSC)

(Refreshments at 11:30-12:00 PM in the kitchen area adjacent to 368 MSC)