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ARNOLD SOMMERFELD
CENTER FOR THEORETICAL PHYSICS



Arnold Sommerfeld Lecture Series

Professor Christopher Jarzynski
University of Maryland, USA

Public Lecture:

Adventures of an Idea – the Life and Travels of Maxwell's Demon

In a letter written in 1867, James Clerk Maxwell described a hypothetical creature: a “neat-fingered being” capable of separating fast molecules from slow ones. Maxwell mused that such a creature would seem to violate the second law of thermodynamics, which had recently been enunciated by Rudolf Clausius and is now a pillar of our understanding of the natural world. Over the past century and a half, that hypothetical creature – Maxwell's demon – has wandered through the thoughts of eminent scientists, has appeared in research articles and popular cultural references, and in recent years has been observed in laboratory experiments. Along the way, the mischievous devil has sharpened our understanding of the second law of thermodynamics, exposing a deep relationship between physics and information. I will give an overview of the questions raised and the lessons learned from contemplating Maxwell's demon, and I will summarize our current understanding of this topic. This story highlights the importance of imagination and whimsy in scientific discovery.

Tuesday, November 19, 2019, 5.15pm, Room B052, Theresienstr. 39, LMU