

Evolution and Computation

Speaker: Nisheeth Vishnoi

École Polytechnique Fédérale de
Lausanne, Switzerland

Date: Wednesday, 17 February 2016

Time: 6:30 - 7:30 pm

Venue: NUS University Hall Auditorium
Lee Kong Chian Wing Level 2,
21 Lower Kent Ridge Road,
Singapore 119077



About the Speaker

Nisheeth Vishnoi is a professor in the School of Computer and Communication Sciences at École Polytechnique Fédérale de Lausanne. His research focuses both on foundational problems in algorithms, complexity and optimization, and on how computation can be used to gain insight into processes in nature and society. He is the recipient of the Best Paper Award at FOCS 2005, the IBM Research Pat Goldberg Memorial Award for 2006, the Indian National Science Academy Young Scientist Award for 2011 and the IIT Bombay Young Alumni Achievers Award for 2016. He is an associate of the International Center for Theoretical Sciences, Bangalore. Prior to joining EPFL, he held positions at Microsoft Research, the Simons Institute for the Theory of Computing, CNRS, UC Berkeley and IBM Research.

Abstract

Billions of years of evolutionary forces have shaped life as we know it: diverse, complex and fascinating. Over the last two centuries there have been tremendous scientific and mathematical advances in our understanding of evolution, life and its mysteries. Recently, the relatively new and powerful tool of computation has joined forces to develop this understanding further: the underlying tenet is that several natural processes, including evolution itself, can be viewed as a form of computation. Not only does this viewpoint give us fundamental insights into life, it holds promise that we will unveil new computational models and techniques in this quest. In this talk, we will present some vignettes on this interplay between evolution and computation.



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