

Speaker: Prof. Hod Lipson, Department of Engineering, Columbia University, USA

Title: Automating discovery: From cognitive robotics to particle physics

Abstract: Can machines discover scientific laws automatically? Despite the prevalence of big data, the process of distilling data into scientific laws has resisted automation. Particularly challenging are situations with small amounts of data that is difficult or expensive to collect. This talk will outline a series of recent research projects, starting with self-reflecting robotic systems, and ending with machines that can formulate hypotheses, design experiments, and interpret the results, to discover new scientific laws. We will see examples from psychology to cosmology, from classical physics to modern physics, from big science to small science.

Bio:

Hod Lipson is a professor of Engineering at Columbia University in New York, and a co-author of the award winning books “Fabricated: The New World of 3D printing”, and “Driverless: Intelligent cars and the road ahead”. His work on self-aware and self-replicating robots challenges conventional views of robotics, and his TED talk on self-aware machines is one of the most viewed presentations on AI. Lipson directs the Creative Machines Lab, which pioneers new ways to make machines that create, and machines that are creative. For more information visit <http://hodlipson.com>.