The 2016 Kailath Lecture and Colloquium

November 4, 2016
Mackenzie Room (Huang 300)
Jen-Hsun Huang Engineering Center
475 Via Ortega, Stanford, CA 94305
*Check In 3:00 – 3:50 pm
(Seating is limited. Register here)
Program 4:00 – 5:30 pm
Reception 5:30 – 7:00 pm

Professor Christos Papadimitriou
Professor of Computer Science
University of California, Berkeley

Title: Computation as a Scientific Weltanschauung

Abstract: Looking at the natural, life, and social sciences from the point of view of computation often results in unexpected insights, and progress in important problems. I will focus on some recent work in the life sciences: Evolution of a population through sexual reproduction can be rethought of as a repeated game between genes played through a well known, and powerful, algorithm. When selection acts not on genes alone but on gene combinations, fixation can take exponentially many generations. Finally, we speculate on the possibility that a rudimentary computational model, consistent with data from neuroscience experiments about learning and synaptic plasticity, can emerge as a useful framework for understanding brain computation.

Biography: Christos H. Papadimitriou is the C. Lester Hogan Professor of Computer Science at UC Berkeley. Before joining Berkeley in 1996, he taught at Harvard, MIT, NTU Athens, Stanford, and UCSD. He has written many books and articles on the theory of algorithms and complexity, and its applications to optimization, databases, control, AI, robotics, economics and game theory, the Internet, evolution, and the brain. He holds a PhD from Princeton, and honorary doctorates from nine universities. He is a member of the National Academy of Sciences of the US, the American Academy of Arts and Sciences, and the National Academy of Engineering, and is a recipient of the Knuth prize, the Gödel prize, the Kalai prize for CS in Game Theory, the EATCS award, and the von Neumann medal. He has also written three novels: "Turing," "Logicomix" (with Apostolos Doxiadis) and "Independence" (in Greek).

http://kailathlecture.stanford.edu/

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