



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Guest Seminar

Room 1 ,Ziskind Building  
on Tuesday, Feb 20, 2018  
at 10:00

Prof. David Sontag  
MIT

AI for Health Needs Causality

Abstract:

Recent success stories of using machine learning for diagnosing skin cancer, diabetic retinopathy, pneumonia, and breast cancer may give the impression that artificial intelligence (AI) is on the cusp of radically changing all aspects of health care. However, many of the most important problems, such as predicting disease progression, personalizing treatment to the individual, drug discovery, and finding optimal treatment policies, all require a fundamentally different way of thinking. Specifically, these problems require a focus on \*causality\* rather than simply prediction. Motivated by these challenges, my lab has been developing several new approaches for causal inference from observational data. In this talk, I describe our recent work on the deep Markov model (Krishnan, Shalit, Sontag AAAI '17) and TARNet (Shalit, Johansson, Sontag, ICML '17).