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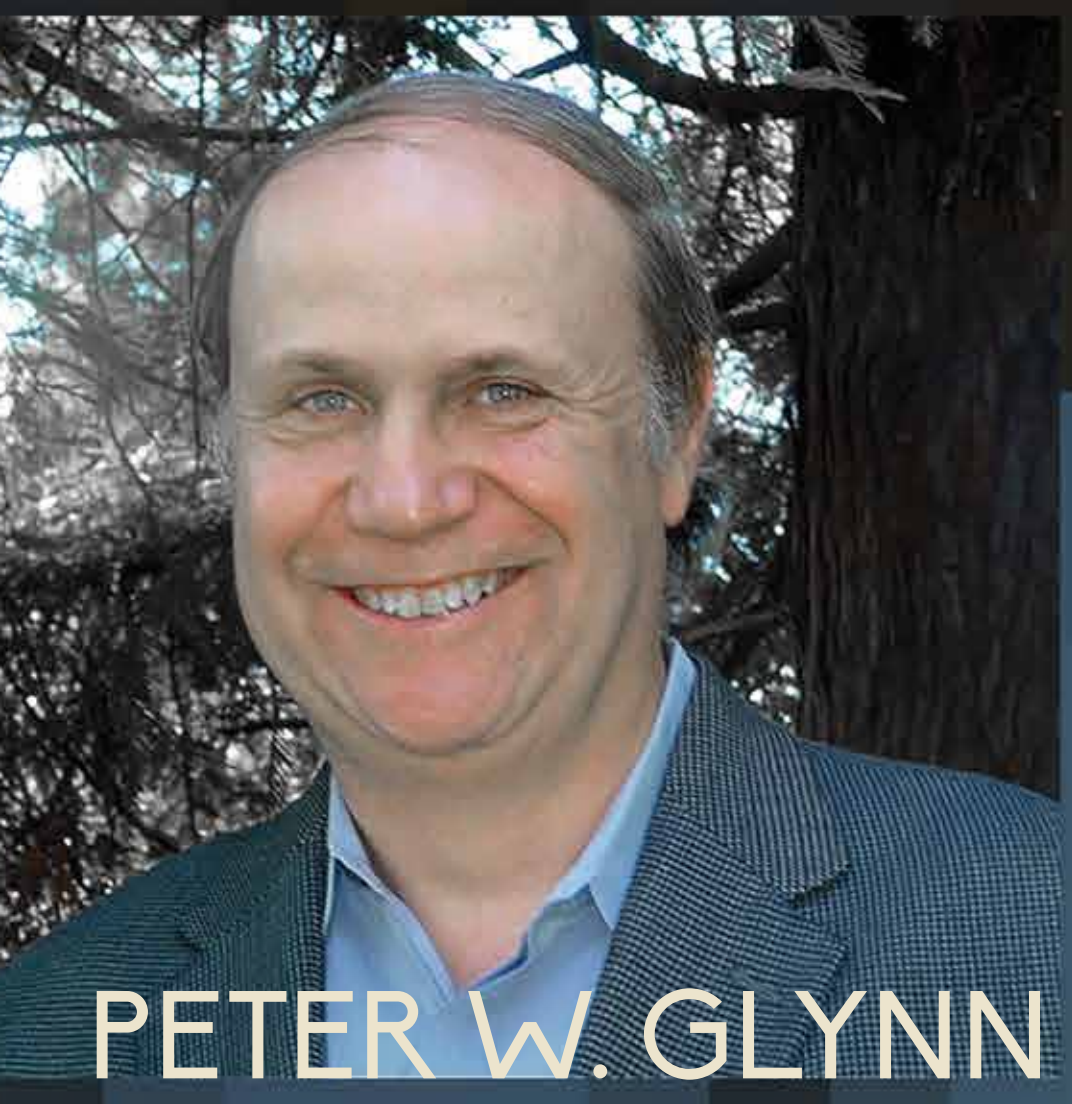
ALAN TURING LECTURES

The Alan Turing Lecture Series is a new initiative of ICTS. In this series, eminent Biologists, Computer Scientists, and Engineers are invited to deliver lectures on significant developments in their areas. The first lecture in this series is aimed at a general scientific audience, while the remaining two pedagogical lectures are aimed at specialists.



PETER W. GLYNN

Stanford University, USA

Peter W. Glynn is the Thomas Ford Professor in the Department of Management Science and Engineering (MS&E) at Stanford University, and also holds a courtesy appointment in the Department of Electrical Engineering. He received his Ph.D in Operations Research from Stanford University in 1982. He has served as faculty at University of Wisconsin at Madiso and at Stanford, as Deputy Chair of the Department of Management Science and Engineering, Director of the Institute for Computational and Mathematical Engineering and the Chair of MS&E . He is a Fellow of INFORMS and a Fellow of the Institute of Mathematical Statistics, and was an IMS Medallion Lecturer in 1995 and INFORMS Markov Lecturer in 2014. He was co-winner of the Outstanding Publication Awards from the INFORMS Simulation Society in 1993, 2008, and 2016, was a co-winner of the Best (Biannual) Publication Award from the INFORMS Applied Probability Society in 2009, and was the co-winner of the John von Neumann Theory Prize from INFORMS in 2010. In 2012, he was elected to the National Academy of Engineering. He was Founding Editor-in-Chief of Stochastic Systems and also served as Editor-in-Chief of Journal of Applied Probability and Advances in Applied Probability. His research interests lie in simulation, computational probability, queueing theory, statistical inference for stochastic processes, and stochastic modeling.

THE POWER OF SAMPLING

Sampling-based methods arise in many statistical, computational, and engineering settings. In engineering settings, sampling can provide an easy means of constructing distributed algorithms that scale well and avoid the need for centralized information-gathering. In computational environments, the use of sampling often leads to algorithms that have complexities that are relatively insensitive to dimensional effects, and that largely overcome the “curse of dimensionality”. In this talk, we will give an overview of these ideas and discuss some additional problem contexts within which sampling-based approaches are proving fruitful.

This lecture is a part of the ICTS program *Advances in Applied Probability*

4 pm, 14 AUGUST 2019

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