



IMS DISTINGUISHED VISITOR LECTURE SERIES

Steve Evans

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Infinite bridges for Rémy's algorithm

7 August 2017 (Monday), 9.30 - 10.30am

FREE ADMISSION
IMS Auditorium

An infinite bridge for a transient Markov chain is a Markov chain that has the same backwards-in-time transition probabilities. Delineating all the infinite bridges for a given Markov chain is equivalent to describing all the ways it is possible to condition that Markov chain to “do something at large times” or, analytically, to describing the Doob-Martin boundary of the state space. Rémy (1985) introduced a simple tree-valued Markov chain that at step n produces a random tree which is uniformly distributed over the rooted, planar, binary trees with $n+1$ leaves. We obtain a concrete description of the infinite bridges for this Markov chain in terms of a certain class of real-trees (that is, tree-like metric spaces) equipped with additional structure.

About the speaker:

Steven Evans was born and raised in rural Australia. He received his undergraduate education at the University of Sydney and his PhD from the University of Cambridge. After a stint working for the Commonwealth Bank of Australia and a post-doctoral position at the University of Virginia he joined the faculty at the University of California at Berkeley, where he has been ever since. Evans is a Fellow of the Institute of Mathematical Statistics, a Fellow of the American Mathematical Society, and a Member of the National Academy of Sciences.