

COLLOQUIUM

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11-21-19

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Mathematical Logic and Probability

[ABSTRACT]

In the late 19th centuries, logic and probability were frequently treated as closely related disciplines. Each has, in an important sense, gone its own way, so that neither, in its modern form, is in any proper sense a systematization of the "Laws of Thought," as Boole Called them.

However, the last four decades have seen a remarkable rapprochement. Algorithmic randomness has become central to computability, machine learning has become deeply entangled with model-theoretic notions of independence, and the study of random combinatorial objects and zero-one laws has arisen as a major area in neostability.

The present talk will survey some parts of the new nexus of probability and logic, along with some open questions.