



Colloquium

Lean: Collaboration Using Formalization

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Host: Matthew Kwan

Lean is a proof assistant which has a large mathematical library containing results from most areas of mathematics. It contains a good foundation to verify current research problems in various areas of mathematics, and enables new collaborative projects. In this talk I will give an overview of Lean and its mathematical library Mathlib, and describe some of the exciting formalization projects in this area. In particular, I will describe a recently finished project formalizing a generalization of Carleson's 1966 theorem in harmonic analysis, about the pointwise convergence of Fourier series. This is a major result in harmonic analysis with a difficult proof, and this result has been fully verified in Lean. The formalization was a large collaborative project with 17 main contributors.

Monday, March 30, 2026 11:30am - 12:30pm

ISTA | Central Building | Raiffeisen Lecture Hall



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.