



## Colloquium

# Institute Colloquium: Lillian Pierce (Duke University)

**Lillian Pierce**

Duke University

Host: Tim Browning

Many questions in number theory can be phrased as counting problems. How many primes are there? How many elliptic curves are there? How many integral solutions to this system of equations are there? How many number fields are there? If the answer is “infinitely many,” we want to understand the order of growth for the “family” of objects we are counting. But in many settings we are also interested in finer-grained questions that zoom in to focus on just one part of the family. For example: how many number fields are there, with fixed degree and fixed discriminant? We know the answer is “finitely many,” but it would have important consequences if we could show the answer is always “very few indeed.” In this talk, we will describe several “counting problems” that remain mysterious, and explore how one way to prove finer-grained properties is by understanding the behavior of infinite families of mathematical objects.

**Monday, October 18, 2021 04:00pm - 05:00pm**

Online



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

Please find a schedule of the ISTA Shuttle on our webpage:

<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.