Special talk by Alice Roth Lecture Speaker
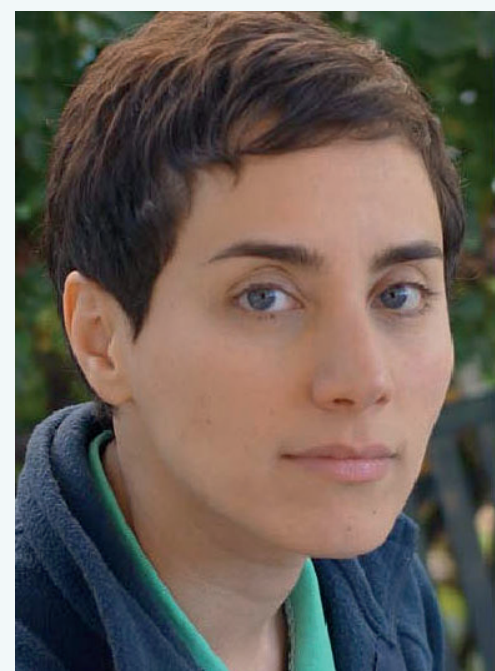
Caroline Series (Warwick University)

Mirzakhani's starting point

13 May 2025 | 16:00 - 17:00 | HG F3

The talk is suitable for all mathematicians including graduate and advanced undergraduates.

Abstract

In 2014, Maryam Mirzakhani of Stanford University became the first women to be awarded the Fields medal. The starting point of her work was a remarkable relationship called McShane's identity, about the lengths of simple closed curves on certain hyperbolic surfaces. The proof of this identity, including the Birman-Series theorem about simple curves on surfaces, uses only quite basic ideas in hyperbolic geometry which I will try to explain. We will then look briefly at Mirzakhani's ingenious way of exploiting the identity and where it led.

More information: https://math.ethz.ch/news-and-events/events/lecture-series/alice-roth-lectures/arl-2025.html