

SPECIAL COLLOQUIUM On the functional equation of automorphic L-functions



Ngô Bảo Châu (University of Chicago) 29 April 2022 - 12:00

Aula Naranja, ICMAT Streaming: youtu.be/is-aCE3ZwNw

Automorphic L-functions introduced by Langlands in the late 1960s are expected to satisfy a functional equation similar to the functional equation of Riemann's zeta function. The functional equation would follow from the Langlands' functoriality conjecture which is one of the far-reaching goals of the Langlands program. Around 2000, Braverman and Kazhdan formulated a new approach to the functional equation not following the route of functoriality but attempting to generalize Fourier analysis on adeles used by Tate to prove the functional equation of the Riemann zeta function. I will report on some recent progress in this approach.

Ngô Bảo Châu

Ngô Bảo Châu is Francis and Rose Yuen Distinguished Service Professor at the Mathematics Department of the University of Chicago, USA. His main mathematical contributions fall in the fields of algebraic geometry, number theory and geometric representation theory. He is best known for his proof of the Fundamental Lemma of the Langlands Programme, for which he was awarded a Fields Medal in 2010. In his proof he uses in an essential way the Hitchin fibration of the moduli space of Higgs bundles introduced by Hitchin in 1987. Ngô's proof has opened the door to many further advances in mathematics.

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