Frontiers of Mathematics Lecture
Arithmetic and geometric Langlands program

Abstract

The Langlands program, proposed by Robert Langlands in 1960s, unifies many questions in number theory and representation theory, and has found significant applications to solving classical Diophantine equations. Its geometric version, formulated by Drinfeld and Laumon in 1980s, enlarges the scope of the Langlands philosophy and makes it contact with other subjects such as physics. Interestingly, in recent years, some ideas from the geometric theory also inspire and lead developments of the traditional arithmetic theory and related problems. I will give an impression of some of these recent developments.

Professor Xinwen Zhu
Stanford University

Date :
12 December, 2024 (Thursday)

Time :
3:30 – 4:30 pm
(Tea Reception starts at 3:00 pm)

Venue :
Lecture Theatre A, G/F,
Chow Yei Ching Building
The University of Hong Kong

Biography

Xinwen Zhu is a professor at Stanford University. He received his Bachelor degree in Mathematics at Peking University in 2004, and his Ph.D. in mathematics at University of California, Berkeley in 2009. His main interests are representation theory, algebraic and arithmetic geometry and number theory, in particular problems related to the Langlands program. Xinwen Zhu has received multiple awards such as the AMS Centennial Fellowship in 2013 - 2014, Alfred Sloan Fellowship in 2015-2017, The ICCM Gold Medal of Mathematics in 2019, and both the New Horizon prize in Mathematics along with the Simons Fellowship in 2020.

Photoed by Do Pham / Stanford University.