

國立中央大學數學系

專題演講

主 講 人：陳昱宇博士 (Department of Mathematics,
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演講題目：*L*-FUNCTIONS AND MODULAR FORMS

演講茶會：2023年03月09日(星期四) 3:30 p.m. ~ 4:00 p.m.

茶會地點：中央大學鴻經館M306

演講時間：2023年03月09日(星期四) 4:00 p.m. ~ 5:00 p.m.

演講地點：中央大學鴻經館M107

Abstract：

In this talk, we introduce L -functions based on examples. We consider L -functions associated to three types of objects in number theory: Galois representations, elliptic curves, and modular forms. For a given object, we have local information provided by each prime number p , namely the trace of Frobenius at p , the number of solutions modulo p , and the Satake parameters at p , respectively. The L -function associated to the object is defined by glue together these local information. On the other hand, we have global invariant associated to the object, namely the irreducibility, the rank of the group of rational points, and the periods, respectively. In the literature, we have the celebrated Artin conjecture, Birch–Swinnerton-Dyer conjecture, and Deligne conjecture which relate these global invariants to special values of L -functions. If time permits, we also introduce our recent work on Deligne conjecture for symmetric power L -functions of modular forms.

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