

## ON THE ARTHUR-BARBASCH-VOGAN CONJECTURE

**Speaker: Chengbo Zhu**  
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**Time: Sun, Jul. 28, 10:00-11:00**

**Venue: Room 102, SCMS**

**Abstract:** In this lecture, I will discuss the resolution of the Arthur-Barbasch-Vogan conjecture on the unitarity of special unipotent representations for any real form of a connected reductive complex Lie group, with contributions by several groups of authors (Barbasch-Ma-Sun-Zhu, Adams-Arancibia-Mezo, and Adams-Miller-van Leeuwen-Vogan). The representations concerned originated in Arthur's conjecture on  $L_2$  automorphic forms and were defined by Barbasch-Vogan in the 1980's. Their unitarity has very much been a mystery since then. The main part of the lecture will be on the approach of the first group of authors for the case of real classical groups: (algebraically) counting, (analytically) constructing and (geometrically) distinguishing representations, resulting in a full classification, and with unitarity as a direct consequence of the construction.

The lecture will be targeted at non-specialists and will therefore be non-technical.