

# Lie Groups and Representation Theory Seminar at the University of Tokyo

リ一群論・表現論セミナー

DATE March 10 (Fri), 2017, 17:00–18:30  
PLACE Room 056, Graduate School of Mathematical Sciences  
SPEAKER **Lizhen Ji** (University of Michigan, USA)  
TITLE Satake compactifications and metric Schottky problems  
ABSTRACT The quotient of the Poincaré upper half plane by the modular group  $SL(2, \mathbb{Z})$  is a basic locally symmetric space and also the moduli space of compact Riemann surfaces of genus 1, and it admits two important classes of generalization:

- (1) Moduli spaces  $M_g$  of compact Riemann surfaces of genus  $g > 1$ ,
- (2) Arithmetic locally symmetric spaces  $\mathbb{H}^n/\Gamma$  such as the Siegel modular variety  $A_g$ , which is also the moduli of principally polarized abelian varieties of dimension  $g$ .

There have been a lot of fruitful work to explore the similarity between these two classes of spaces, and there is also a direct interaction between them through the Jacobian (or period) map

$$J : M_g \longrightarrow A_g.$$

In this talk, I will discuss some results along these lines related to the Satake compactifications and the Schottky problems on understanding the image  $J(M_g)$  in  $A_g$  from the metric perspective.

(joint with topology seminar)