

# 中央研究院數學研究所

Institute of Mathematics, Academia Sinica

## Taipei Postdoc Seminar

**Speaker** : Dr. Tomohiro Uchiyama  
(National Center for Theoretical Sciences)

**Title** : *Complete reducibility, geometric invariant theory, and spherical buildings*

**Abstract** :

In this talk, I will talk about Serre's notion of complete reducibility for algebraic groups (matrix groups). Complete reducibility nicely generalizes the notion of completely reducible representations and it is very useful to study representations in positive characteristic. I will explain how to use geometric invariant theory (a branch of algebraic geometry) and Tits' spherical buildings (highly symmetrical combinatorial objects) to study complete reducibility. The recently proved 50-years-old center conjecture of Tits in spherical buildings comes into play. No background in algebraic groups or algebraic geometry is necessary. All welcome!

**Time** : 11:00 – 12:30, Wednesday, February 22, 2017

**Venue** : **Room 201**, Astro-Math. Buidling (NTU Campus)

**Organizer** : Yu-Yen Chien (NCTS), Jyun-Ao Lin (Academia Sinica)

**Refreshment** : 10:30

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