

# 國立清華大學數學系學術演講

## NTHU MATH Colloquium

講題 An invitation to non-commutative probability theory

講者 黃皓瑋 教授 (中山大學)

時間 2021.03.29 (Mon.) 16:00 – 17:00

地點 第三綜合大樓4F Lecture Room B

茶會 15:30, R707

### **Abstract**

It has been thirty-plus years since Voiculescu invented noncommutative probability theory. This theory is a branch of pure mathematics and is often regarded as the noncommutative likeness of classical probability theory. Combinatorics and analysis are the core instruments of developing the theory so far. Its upgrowth has contributed various breakthroughs to the researches of von Neumann algebra and other fields. Especially, surprising links to matrices with randomly sampled entries, the so-called random matrices, have made this young theory an attractive and promising research field. Besides, the techniques developed in free probability theory have been applied to quantum information theory. In this talk, we will first offer a brief introduction to noncommutative probability theory and then mention its association to other research areas. In the end, some other relevant topics and the latest developments will be discussed.

\*歡迎參加，敬請張貼\* <http://www.math.nthu.edu.tw>