

# 國家理論科學研究中心數學組 (臺北辦公室)

## IAMS / NCTS-TPE Applied Math Seminar

**Speaker:** Masayasu Mimura (Director, Meiji Institute for Advanced Study of Mathematical Sciences, Meiji University)

**Title:** Modeling of Combustion Waves in Smoldering Combustion under Microgravity

**Abstract:**

Unlike the expanding growth in normal gravity, it is observed in microgravity that smolder spreading over a thin filter paper exhibits a complex and unexpected fingering growth pattern. E. Moses and his group made the 2D experimental device where the fuel is filter paper. A rectangular sheet of the paper is put between two plates. Here the oxidizing gas is supplied in a uniform flow, opposite to the direction of the front propagation. Taking the gas flow velocity, qualitatively different combustion waves appear. In this talk, we model smoldering combustion introduced above from macroscopic level and analyze it from pattern formation viewpoints.

This is a joint work with E. Ijioma (Meiji Univ.) and H. Izuhara (Miyazaki Univ.)

**Time:** Dec. 15 (Mon.) 11:10 – 12:10

**Venue:** R440, Astro-Math Building (NTU Campus)

**Organizer:** Chiun-Chuan Chen (NTU)

For more information, please refer to <http://www.cts.ntu.edu.tw/> or contact [cts\\_tpe@math.cts.ntu.edu.tw](mailto:cts_tpe@math.cts.ntu.edu.tw).