



THE CHINESE UNIVERSITY OF HONG KONG
Department of Physics
COLLOQUIUM

Taste of Saturn's Rings and Enceladus' Ocean Water

by



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ALL INTERESTED ARE WELCOME

Abstract

How old are Saturn's rings? Could life exist elsewhere in the solar system? Thanks to the 13-year-exploration of the Cassini-Huygens mission at Saturn, we are a step closer to answer these fundamental questions. In this talk, I will review the current understanding of Saturn's ring system and the plausible connection to the origin and evolution of Saturn's icy satellites. I will also discuss Enceladus, a 500-km-sized icy moon constantly emitting 200 kg of water vapor and ice grains from its south-polar fissures each second, and why it is considered a potentially habitable Ocean World in the solar system. The presentation will be summarized with highlights on the interactions between the ring-moon system and its host planet, connections to various astrophysical phenomena, and future solar system explorations.