

機械工学セミナー Mechanical Engineering Seminar

第2回 No. 2

主催：慶應義塾大学理工学部機械工学科
Department of Mechanical Engineering, Keio University

日時(Date):

2016年7月28日(木) (July 28, 2016 (Thu.)) 13:00~14:30

場所(Venue):

厚生棟大会議室 (16A-301)

講演題目(Title):

**Clathrate hydrates:
Opportunity to develop innovative applications**

講演者(Speaker):

Dr. Praveen Linga, Associate Professor
Department of Chemical and Biomolecular Engineering
National University of Singapore, Singapore



Abstract: Clathrate hydrate science has evolved over the centuries from a mere academic curiosity to being a nuisance to oil and gas industry (flow assurance) and now is being seen as a future energy resource (natural gas hydrates deposits).

In this presentation, the state of the art on gas hydrate technology for applications pertaining to carbon capture, seawater desalination and natural gas storage will be discussed. The focus will be on pre-combustion carbon capture from IGCC power plants. Hydrate based gas separation (HBGS) process is the most environmental friendly approach as water is used as a solvent to capture CO₂ via forming clathrate hydrates.

Another application that has received renewed interest is seawater desalination using the hydrate based desalination (HBD) process. Our advancements on enhancing the kinetics can be applied to efficiently desalinate seawater to produce potable water. An innovative approach to offset the refrigeration cost for the HBD process will be discussed.

Finally, our recent findings on solidified natural gas (SNG) technology via clathrate hydrates for large-scale natural gas storage will be highlighted.

お問合せcontact: 植田利久 Toshihisa Ueda , Email: ueda@mech.keio.ac.jp phone: 045-566-1496