

第 1 8 4 回講演会

【開催：平成 2 5 年 8 月 3 0 日（金）】

International Symposium on Advances in Membrane Separation

主催：化学工学会分離プロセス部会膜工学分科会

共催：CREST プログラム「多様な水源に対応できるロバスト RO/NF 膜の開発」(JST)

中国地区化学工学懇話会，広島大学無機多孔体プロジェクトセンター

下記の要領で講演会を開催します。多数の方のご参加を頂きますようお願い致します。

記

日 時：平成 2 5 年 8 月 3 0 日（金） 1 4 : 0 0 ~ 1 7 : 0 0

場 所：広島大学 工学部 1 1 5 講義室

交 通：山陽本線西条駅下車、バス 15 分、大学会館前下車

山陽新幹線東広島駅下車、タクシー 10 分

広島バスセンターから直行バス約 1 時間、大学会館前下車

プログラム：

Keynote lecture; 14:00 – 15:30

"Membranes for CO₂/N₂ separation based on zeolites/polymer/ionic liquids"

Dr. Clara Casado-Coterillo (カンタブリア大学(スペイン) Assistant Professor)

講演内容：

An overview of the membrane material selection and film fabrication for CO₂ selective membranes will be presented, in the light of CO₂ separation and capture processes requirements. The main requirements are high permeability and separation selectivity, as well as thermal and mechanical resistance. Polymer and inorganic membranes have been long studied for CO₂ separation in postcombustion capture. RTILs are molten organic salts at ambient conditions, with unique physicochemical properties. However, their development is still mostly limited to laboratory or pilot plant scale. The work being performed in the DEPRO group regarding supported ionic liquid membranes and mixed-matrix membranes (MMMs), which combine the processability of polymers with the molecular sieving effect of inorganic fillers, was used as basis to explore the membrane development to overcome commercial membranes limitations and explore the interaction between polymer matrices and ionic liquids in CO₂ capture and integration in other processes.

Invited lectures; 15:30 – 17:00

1. Preparation of Organosilica membrane on polymer support and applied in vapor separation and gas permeation

Dr. Jinhui Wang, 広島大学

2. Simulation and experimental studies of ammonia decomposition in microporous membrane reactors for CO_x-free hydrogen production

Dr. Gang Li, 広島大学

3. Effect of membrane pre-treatment and operation temperature on the gas permeation and pervaporation properties of composite polyamide reverse osmosis membranes

Dr. Jonathan A. Sanchez, 広島大学

4. Development of organically-bridged silica membranes and application to water purification

Mr. Xu Rong (Ph.D. candidate), 広島大学

参加費：無料

申込先：FAX または電子メールでお申し込み下さい。

中国地区化学工学懇話会

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International Symposium on Advances in Membrane Separation

August 30, 2013 Higashi-Hiroshima, JAPAN

Organized and Sponsored by:

Division of Membrane Engineering, Society of Chemical Engineers, Japan
CREST Program, "Development of ROBUST reverse osmosis/nanofiltration (RO/NF) membranes for various types of water resources" (JST)
Porous Materials Project Research Center, Hiroshima University, 中国地区化学工学懇話会

Date:

August 30, 2013, 14:00 – 17:00

Venue:

B4-115 (Lecture room), Faculty of Engineering, Hiroshima University

Program:

Keynote lecture; 14:00 – 15:30

"Membranes for CO₂/N₂ separation based on zeolites/polymer/ionic liquids"

Prof. Clara Casado-Coterillo,

Dept. Chemical Engineering & Inorganic Chemistry,
Universidad de Cantabria, SPAIN

Abstract

An overview of the membrane material selection and film fabrication for CO₂ selective membranes will be presented, in the light of CO₂ separation and capture processes requirements. The main requirements are high permeability and separation selectivity, as well as thermal and mechanical resistance. Polymer and inorganic membranes have been long studied for CO₂ separation in postcombustion capture. RTILs are molten organic salts at ambient conditions, with unique physicochemical properties. However, their development is still mostly limited to laboratory or pilot plant scale. The work being performed in the DEPRO group regarding supported ionic liquid membranes and mixed-matrix membranes (MMMs), which combine the processability of polymers with the molecular sieving effect of inorganic fillers, was used as basis to explore the membrane development to overcome commercial membranes limitations and explore the interaction between polymer matrices and ionic liquids in CO₂ capture and integration in other processes.

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Fee: Free

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