

第209回講演会
【開催：2019年6月28日(金)】

主催：中国地区化学工学懇話会

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：2019年6月28日(金) 15:00～16:00

場所：広島大学工学部 A4-112

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

演題：Expedite Engineering of Molecular Sieving Membranes for Gas Processing and Water Treatment Applications

講師：Dr. David Wang

School of Chemical and Biomolecular Engineering, The University of Sydney

講演内容：

Efficient separation of industrial gases and wastewater will have a global impact on environmental sustainability and cost-efficiency of (petro)chemical, water desalination, wastewater treatment and food engineering processes. Membrane technology offers a superior separation efficiency, smaller footprint and easier maintenance, as well as saves on energy consumption as it can occur at near-equilibrium. Important separations that require much improved energy efficiency include capture of CO₂ and N₂ enrichment, and zero liquid discharge water treatment. In this presentation, I will discuss and show a new generation of molecular sieving membranes for controlling gas transport exclusively across the internal porous surface of a ceramic support and crystalline domains of thermoplastic polymers for gas processing applications. Nanoconfined crystallization of thermoplastic polymers in hierarchical nanoporous ceramic supports, where the membranes have been shown to produce extremely high gas selectivities such as >2200 for CO₂/N₂ and >4000 for H₂/N₂ by extending beyond the theoretical Robeson's Upper Boundary. In the second part of my talk, I present an overview of our work on the use of molecular sieving silica-based membranes for desalting raw wetland saline water and the discovery of pervaporative crystallization integrated membrane process to demonstrate continuous salt crystallization and liquid separation.

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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