

Invitation Report

Speaker: Hyungtaek Kim, Ph.D. Professor, Div. of Energy Systems, Ajou University, S. Korea

Topic: Overview of CCS technology and experimental results from Ajou-EPL' s carbon capture based projects

Date & Time: **2:30-4:00 (pm) Oct, 12, 2012 (Friday)**

Venue: **Meeting Room 308, IPE Mansion**

Abstract

During the lecture, overview of CCS technology including CO₂ capture, transportation and storage will be covered. The basic principle and current technologies of every category will be discussed.

In the second part of the lecture, the results from on-going project concerning CCS in Ajou-EPL group will be introduced, including

- 1) Simulation of Membrane CO₂ Separation Process
- 2) Mineral Carbonation and CO₂ fixation into Spent Oil Sand
- 3) CO₂ adsorption by Zeolite and Selective CO₂ adsorption from Landfill Gas
- 4) Optimization of CO₂ geological storage

Resume of Professor Hyungtaek Kim

Professor Hyungtaek Kim, Ph.D.

Professor, Div. of Energy Systems, Division of Energy Systems, Ajou University San 5, Wonchon-dong, Suwon, S. Korea



Professional Experience

Assistant, Associate & Full Professor in Division of Energy Systems, Graduate School, Ajou University (1992.12 - Now)

Chairman of Korea Gasification Technology Council (2010.12 – Now)

Director of Institute of Energy & Climate Change, Ajou University (2008.9 - Now)

Expert Advisor, Energy Technology Planning Group, Korea Energy Management Corporation (2007.3 – 2008.2)

Visiting Professor of Combustion Laboratory, University of California at Irvine, USA. (2000.3 -2001.2)

Research Professor of Electric Energy Research Laboratory, Institute of Advanced Engineering (1992.12 – 1994.12)

Senior Researcher in Energy & Environmental Division, Korea Institute of Energy (1989.5-1992.12)

Senior Engineer in Center for Applied Energy Research, University of Kentucky, USA (1985.6 – 1989.4)

Education

Dept. of Chemistry, Yonsei University , B.S., 1976.2

Dept. of Chemistry, Yonsei University, M.S., 1978.8

Thesis Title: A Study on the Electrical Conductivity of the MgO – TiO₂ System

Dept. of Fuel Science, Pennsylvania State University, M.S. 1983.3

Thesis Title: Temperature and Particle Size Dependence of Sodium Bicarbonate Inhibition of Methane/Air Flames

Dept. of Fuel Science, Pennsylvania State University, Ph.D. 1985.8

Thesis Title: Particle Size Effects on Combustion Characteristics of Pulverized High-Volatile Bituminous Coal

Selected Honors

Award for Honorable Mention to Technical Poster “Investigation of Slag Formation Mechanism by Using DTF” 17th Annual International Pittsburgh Coal Conference, Sept. 12-14, 2000 in Pittsburgh, PA, USA

Minister’s Award in R&D of Alternative Energy, Ministry of Commerce, Industry & Energy, Korean Government, November 7, 2002

Award for Best Technical Paper “Optimization of CO₂ Absorption Process with MEA Solution’, The Korea Federation of Science and Technology Societies, May 19, 2005

Academic Award in Korean Energy Engineering Society, November 23, 2006