

# SOL AHN

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## EDUCATION

**Northwestern University**  
*McCormick School of Engineering*  
**PhD in Chemical Engineering**

- Cumulative GPA 3.67/4.0
- Notestein Research Group & Hupp/Farha Research Group

**Evanston, IL**  
**September 2014-Present**

**Yonsei University**  
*College of Engineering*

**Master of Science in Chemical Engineering**

- Cumulative GPA 4.15/4.3
- Thesis: *2bed/4bed PSA processes for H<sub>2</sub> recovery from coal gas* (Advisor: Prof. Chang-Ha Lee)
- Scholarship for RA, TA and Brain Korea 21: USD 17K

**Bachelor of Science in Chemical Engineering**

- Cumulative GPA 3.94/4.3, graduated with high honors (rank in department: 2<sup>nd</sup>/126 students)
- University Scholarship & National Science and Technology Scholarship: USD 14K
- Awards: Honors (06/2006, 12/2007), High Honors (06 & 12/2005), Highest Honors (12/2006)

**Seoul, Korea**  
**February 2010**

**February 2008**

## EXPERIENCE

**POSCO Technical Research Laboratories**  
*Raw Material Research Group*

**Senior Researcher**

- Exemption of Korean military service for three years
- Personnel rating: Excellent performance (2010) and Exceptional performance (2011)
- Low rank coal upgrading technology
  - Studied strategies for improving coal quality by using Direct Coal Liquefaction (DCL) process
  - Designed and built three coal upgrading lab-scale apparatuses: DCL & solvent extraction method
- Coke cooling analysis
  - Devised strategies for reducing moisture content of coke cooling process
  - Developed a dynamic simulator for the Coke Wet Quenching (CWQ) process
- Consulting local small businesses: raw material handling know-how
- New employees training: Coke making process theory and coal upgrading technology

**Gwangyang, Korea**  
**January 2010 – June 2013**

**Yonsei University**  
*College of Engineering*

**Research Assistant**

- PSA process development project; POSCO
  - Studied adsorption and desorption dynamics at two- and four-bed PSA
  - Developed a mathematical model of H<sub>2</sub> recovery PSA process
- Carbon capture and storage project; Korean Ministry of Education, Science and Technology
  - Studied adsorption and desorption phenomena of CO<sub>2</sub> and CH<sub>4</sub> on coal

**Teaching Assistant**

- Chemical Engineering Thermodynamics for undergraduate

**Seoul, Korea**  
**March 2008 - December 2009**

## PUBLICATIONS

1. (Submitted) Sol Ahn, Nicholas E. Thornburg, Zhanyoung Li, Timothy C. Wang, Leighanne C. Gallington, Karena W. Chapman, Justin M. Notestein, Joseph T. Hupp, Omar K. Farha, "Stable metal-organic framework supported Nb catalysts", *ACS Catalysis*, **2016**.
2. (Under revision) Zhenyu Bo, Sol Ahn, M. Alexander Ardagh, Neil M. Schweitzer, Christian P. Canals, Omar K. Farha, Justin M. Notestein, "Synthesis and stabilization of small Pt nanoparticles on TiO<sub>2</sub> partially masked by SiO<sub>2</sub>", *ACS Catalysis*, **2016**.
3. Sol Ahn, Young-Woo You, Dong-Geun Lee, Ki-Hyun Kim, Min Oh, and Chang-Ha Lee, "Layered two- and four-bed PSA processes for H<sub>2</sub> recovery from coal gas", *Chemical Engineering Science*, Vol. 68, pp. 413-423, **2012**.
4. Junwei He, Yao Shi, Sol Ahn, Jeong-Won Kang, and Chang-Ha Lee, "Adsorption and desorption of CO<sub>2</sub> on Korean coal under subcritical to supercritical conditions", *Journal of Physical Chemistry B*, Vol. 114, pp. 4854-4861, **2010**.

## PRESENTATIONS

1. Sol Ahn, Dong-Geun Lee, Si-Hyung Lee, Ki-Hyun Kim, and Chang-Ha Lee "2-Layered-Bed H<sub>2</sub> PSA Process for Low H<sub>2</sub> Feed Gas", *AIChE*, Nashville TN, November 8-13, **2009**.
2. Junwei He, Yao Shi, Sol Ahn, and Chang-Ha Lee "High Pressure Adsorption of CO<sub>2</sub> On Dry and wet Coals", *AIChE*, Nashville TN, November 8-13, **2009**.
3. Sol Ahn, Min-Kyu Kim, Si-Hyung Lee, Ki-Hyun Kim, Chang-Ha Lee "H<sub>2</sub> PSA processes for low H<sub>2</sub> feed from coal gas", *5th PBAST*, Singapore, May 25-27, **2009**.
4. Junwei He, Yao Shi, Sol Ahn, Chang-Ha Lee "High Pressure Adsorption of CO<sub>2</sub> and CH<sub>4</sub> on Dry Coal", *5th PBAST*, Singapore, May 25-27, **2009**.