

Prof. Ho Bum Park

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Education

Ph.D. Chemical Engineering, Hanyang University 2002

M.S. Chemical Engineering, Hanyang University 1998

B.S. Chemical Engineering, Hanyang University 1996

Research Interests

Gas Separation, Water Purification and Desalination, Graphene and Its Use in Separation Technology, Nanoporous Materials and Fabrication, Lithium-Air Battery, Molecular Rotor for Energy Generation

Career

2011 – Present, Associate Professor, Dept. of Energy Engineering, Hanyang University

2014 – 2015, Visiting Professor, University of Texas at Austin

2010 – 2011, Assistant Professor, Dept. of Energy Engineering, Hanyang University

2008 – Present, Assistant Professor, Dept. of Chem. Eng., Hanyang University

2008, Assistant Professor of Chemical Engineering, University of Ulsan

2005 – 2008, Technical Consultant of Johnson & Johnson Vision Care, Inc. USA

Recent Projects

Polydopamine-based membrane modification for antifouling and permanent hydrophilization; Next generation novel membrane for water purification and desalination; Removal of organic acid from fermentation broth in biomass utilization; Ultrathin single-layered composite materials; Molecular design of molecular rotor for energy generation; Power generation using pressure-retarded osmosis

Professional Activities & Awards

2016, HYU Distinguished Research Fellow

2014, Excellent Research Award, Ministry of Science, ICT and Future Planning (MSIP)

2008, Excellent Scientist Award, Ministry of Science and Technology, Korea

2007, Outstanding Young Scientist Award, North American Membrane Society (NAMS)

2003, Best Scientific Paper Award, The Membrane Society of Korea

2002, Excellent Scientific Thesis Award, Hanyang University

Author of 120 scientific papers (h-index: 42), 6 book chapters, 87 patents, and 250 international proceedings

Selected Publications

1. H. W. Yoon, Y. H. Cho, H. B. Park, Graphene-Based Membranes: Status and Prospects, *Phil. Trans. R. Soc. A* 374: 201500024 (2016).
2. S. H. Kim, J. S. Nham, Y. S. Jeong, C. S. Lee, S. H. Ha, H. B. Park, Y. J. Lee, Biomimetic Selective Ion Transport through Graphene Oxide Membranes Functionalized with Ion Recognizing Peptides, *Chem. Mater.* 27, 1255-1261 (2015).
3. H. B. Park, Graphene-Based Membranes – a New Opportunity for CO₂ Separation, *Carbon Management*, 251-253 (2014).
4. H. D. Lee, H. W. Kim, Y. H. Cho, H. B. Park, Experimental Evidence of Rapid Water Transport through Carbon Nanotubes Embedded in Polymeric Desalination Membranes, *Small*, 10, 2653-2660 (2014).
5. M. Y. Yoo, H. W. Kim, B. M. Yoo, H. B. Park, Highly Soluble Polyetheramine-Functionalized Graphene oxide and Reduced Graphene Oxide both in Aqueous and Non-Aqueous Solvents, *Carbon*, 75, 149-160 (2014).
6. H. B. Park et al. Selective Gas Transport through Few layered Graphene and Graphene

- Oxide Membranes, *Science*, 342, 91 (2013).
7. H. B. Park et al., Polymers with Cavities Tuned for Fast Selective Transport of Small Molecules and Ions, *Science* 318, 254 (2007).