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Birth date: December 9, 1964

Educational Background

1) B. S., Seoul National University, Chemistry, 1987
2) M. S., Seoul National University, Chemistry, 1989
3) Ph. D., University of Illinois at Urbana-Champaign, Inorganic Chemistry, 1996
Thesis: Nanostructured Catalytic and Magnetic Materials: Sonochemical Synthesis and Characterization; Advisor: Kenneth S. Suslick

Other Research Experience

Postdoctoral Research Associate, Northwestern University, Catalysis Center, June 1996-July 1997, Advisor: Wolfgang M. H. Sachtler

Honor and Awards

1) *The 4th DuPont Science and Technology Award,* April 2005, DuPont Korea.
2) *5th Korean Young Scientist Award,* March 2002, Awarded to one researcher in a given field per every other year by the President of Korea.
3) *Scientist of the Month Award*, August 2002, Ministry of Science and Technology, Korea.
4) *Excellent Researcher Award,* April 2005, Division of Inorganic Chemistry of the Korean Chemical Society.
5) *The first Korean Chemical Society-Wiley Young Chemist Award,* October 2001, Korean Chemical Society.
6) *T. S. Piper Award,* University of Illinois at Urbana-Champaign, Inorganic Chemistry, 1996 (Best thesis award in the Inorganic Chemistry Division of

UIUC).

7) *Fellow of Royal Society of Chemistry, UK,* since September 2006.
8) 1993-1996 University of Illinois Chemistry Department Fellowship.
9) 1991-1996 Korean Government Oversea Fellowship.
10) Peer reviewer for *J. Am. Chem. Soc., Angew. Chemi, Adv. Mater., J. Phys. Chem., Chem. Mater., and ChemComm.*

Editorial Board

1) *Advanced Materials (Wiley-VCH),* since August 2005.
2) *Chemical Communications (Royal Society of Chemistry),* since March 2006.
3) *Small (Wiley-VCH),* ***Founding*** **Editorial Board Member,** since 2004.
4) *International Journal of Nanotechnology,* ***Founding*** **Editorial Board Member** since 2003.

Selected International Invited Lectures

Materials Research Society National Meeting: Spring 2002, Fall 2003, Spring 2004, Spring 2005

American Chemical Society National Meeting: Fall 2002, Spring 2003, Fall 2005.

American Ceramic Society National Meeting: Spring 2002.

AsiaNANO 2001 (RIKEN, Japan, October 9); Nanocarbon 2001 (Nagano, Japan, November 2001).

Gordon Research Conference on Hydrocarbon Resources, January 2005.

Representative Publications: Prof. Hyeon has published more than 100 papers for the last ten years and they have been cited more than 3800 times as of February 2007.

Review Papers

1) "Synthesis of Monodisperse Spherical Nanocrystals," *Angew. Chem. Int. Ed. (invited review)* **2007**, 46, in press.

2) "Recent Progress in the Synthesis of Porous Carbon Materials," *Adv. Mater. (invited review)* **2006**, 18, 2073.

3) "Chemical synthesis of magnetic nanoparticles", *Chem. Comm*. (*Invited Feature Article)* **2003,** 927.

4) "Synthesis of New Nanoporous Carbon Materials using Silica Nanostructured Materials as Templates," *J. Mater. Chem.* (Invited feature article) **2004**, 14, 478.

Uniform-sized Nanocrystals

1) "Ultra-Large Scale Syntheses of Monodisperse Nanocrystals via a Simple and Inexpensive Route," *Nature Mater.* **2004**, 3, 891. Also highlighted in *Chemical and Engineering News*, December 6, 2004 (News of the Week, http://pubs.acs.org/cen/news/8249/8249notw4.html) And CNN News on December 6, 2004 (http://edition.cnn.com/2004/TECH/12/06/explorers.nano/index.html).

- Thomson-Scientific Essential Science Indicators^{SM} has selected our article as a New Hot Paper as of March 1, 2006 (Top 0.1% highly cited for year 2005)

2) "Synthesis of Highly-Crystalline and Monodisperse Maghemite Nanocrystallites without a Size-Selection Process," *J. Am. Chem. Soc.* **2001**, 123, 12798; highlighted in the Editor's Choice of *Science* **2001**, 294, 2951 and *News of the Week* of *Chem. & Eng. News*, Dec. 24, **2001** issue.

4) "A Generalized and Facile Synthesis of Semiconducting Metal Sulfide Nanocrystals," *J. Am. Chem. Soc.* **2003**, 125, 11100.

4) "Multi-gram Scale Synthesis and Characterization of Monodisperse Tetragonal Zirconia Nanocrystals," *J. Am. Chem. Soc.* **2003**, 125, 6553.

5) "Low-Temperature Solution-Phase Synthesis of Quantum Well Structured CdSe Nanoribbons," *J. Am. Chem. Soc* **2006**, 128, 5632.

- Highlighted in "Nanoribbon glow," *Chemical & Engineering News (*Science Concentrate), **2006** (May 1), vol. 84, p. 28.

6) "One-Nanometer-Scale Size-Controlled Synthesis of Monodisperse Magnetic Iron Oxide Nanoparticles," *Angew. Chem. Int. Ed. (Frontipiece article)* **2005**, 44, 2872.

Highlighted in *Materials Today*, **2005**, July/August issue, 18, "Synthesis of nanoparticles with 1 nm size accuracy.".

7) "Designed Synthesis of Atom Economical Pd/Ni Bimetallic Nanoparticle-based Catalysts for Sonogashira Coupling Reactions," *J. Am. Chem. Soc.* **2004**, 126, 5026.

Nanoporous Materials

1) "Fabrication of Hollow Palladium Spheres and Their Successful Application to the Recyclable Heterogeneous Catalyst for Suzuki Coupling Reactions," *J. Am. Chem. Soc.* **2002**, 124, 7642; also cited in Science Concentrate of *Chem. & Eng. News*, July 4, 2002.

2) "Synthesis of a new mesoporous carbon and its application to electrochemical double capacitors," *Chem. Comm.* **1999**, 2177.

3) "Fabrication of Novel Mesocellular Carbon Foams with Uniform Ultralarge Mesopores" *J. Am. Chem. Soc*. **2001**, 123, 5146.

4) "Development of a New Mesoporous Carbon through HMS-aluminosilicate template," *Adv. Mater*., **2000**, 12, 359.

Biomedical Applications of Nanomaterials

1) "Designed Fabrication of Multifunctional Magnetic Gold Nanoshells and their Applications to Immunotargeted Magnetic Resonance Imaging and Rapid Noninvasive Photothermal Therapy," *Angew. Chem. Int. Ed.* **2006**, 45, 7754.

2) "Ni/NiO Core/shell Nanoparticles for Selective Binding and Magnetic Separation of Histidine-Tagged Proteins," *J. Am. Chem. Soc* **2006**, 128, 10658.

3) "Magnetic Fluorescent Delivery Vehicle using Uniform Mesoporous Silica Spheres Embedded with Monodisperse Magnetic and Semiconductor Nanocrystals," *J. Am. Chem. Soc* **2006**, 128, 688.

4) "Simple Fabrication of Highly-Sensitive and Fast Glucose Biosensor using Enzyme Immobilized in Mesocellular Carbon Foam, *Adv. Mater*. **2005**, 17, 2828.

5) "Designed Fabrication of Magnetically Switchable Bioelectrocatalytic System Using Crosslinked Enzyme Aggregates Shipped in Magnetic Mesocellular Carbon Foam," *Angew. Chem. Int. Ed.* **2005**, 44, 7427.

6) "Development of a new T1 contrast agent for magnetic resonance imaging using MnO nanoparticles," *Angew. Chem. Int. Ed. (Issue Cover Article)* **2007**, 46, in press.

2.3 Media Recognition

1) "Green breakthrough for nanoscience," CNN News on December 6, 2004 (http://edition.cnn.com/2004/TECH/12/06/explorers.nano/index.html).

2) "Tiny Crystrals In Large Quantities: Method produces monodisperse nanocrystals on multigram scale," *Chemical and Engineering News* (News of the Week), December 6, 2004, http://pubs.acs.org/cen/news/8249/8249notw4.html)

3) "South Korean scientists report nano-technology breakthrough," AFP Press (through Yahoo Finance), November 29, 2004.

4) "Ultra-large-scale contribution to nanocrystal production," Press Release from Nature Publishing Group, November 27, 2004.

5) "Large-scale production of uniform-sized nanoparticles," November 29, 2004: KBS News, MBC News, YTN News, Chosun Ilbo, Donga Ilbo, Joongang Ilbo, HanKyoreh,

Junja Shinmun, Kookmin Ilbo, Maeil Kyungje, The Korea Economy Daily, Hankook Ilbo, Kyunghang Shinmun, Financial News, Digital Times, Yonhapnews, Korea Times.