

LEE Hyoyoung

Professor
Department of Chemistry



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Key Words Organic semiconducting materials and devices, Graphene flakes, Transition metal chalcogens

Research Area (1) Organic semi-conducting materials and devices including non-volatile molecular/organic resistive memory (M/O RM), organic thin film transistor (OTFT), organic light emitting diode (OLED), and organic photovoltaic cell (OPC) materials and devices. (2) 2D materials including graphene oxide, reduced graphene oxide, graphene quantum dots, flexible transparent electrodes using Ag and Cu nanowires and nanoparticles. (3) Transition metal dichalcogenide (TMD) materials and devices

Education

• 1992-1997	PhD	Organic Chemistry, University of Mississippi
• 1889-1991	MSc	Analytical Chemistry, Kyung-Hee University
• 1982-1989	BSc	Chemistry, Kyung-Hee University

Experience

- 1997-1999 Postdoc, North Carolina State University
- 2000-2009 Principal Researcher, Electronics and Telecommunications Research Institute (ETRI), Daejeon
- 2007-2009 Adjunct Professor, University of Science and Technology

Position

- 2009-Present Professor of Department of Chemistry, Sungkyunkwan University
- 2010- Present Director of Creative Research Institute
- 2015- Present Associate director of IBS (CINAP)

Selected Publication

- Hanleem Lee, Meeree Kim, Ikjoon Kim and Hyoyoung Lee*, "Flexible and Stretchable Optoelectronic Devices using Silver Nanowire and Graphene", *Advanced Materials*, doi: 10.1002/adma.201505559, 2016
- Kan Zhang, Luyang Wang, Jung Kyu Kim, Ming Ma, Ganapathy Veerappan, Chang-Lyoul Lee, Ki-jeong Kong, Hyoyoung Lee* and Jong Hyeok Parka*, "An order/disorder/water junction system for highly efficient co-catalyst-free photocatalytic hydrogen generation", *Energy & Environmental Science*, DOI: 10.1039/C5EE03100A, Advance Article, 2016
- Hanleem Lee(Co-1st), Guebum Han (Co-1st), Meeree Kim, Hyo-sok Ahn* and Hyoyoung Lee*, "High Mechanical and Tribological Stability of an Elastic Ultrathin Overcoating Layer for Flexible Silver Nanowire Films", *Advanced Materials*, 27(13), 2252-9, 2015.
- Hanleem Lee, Keunsik Lee, Jin Taek Park, Woon Chun Kim*, and Hyoyoung Lee*, Well-ordered and High density Coordination-type bonding to Strengthen Contact of Silver nanowires on Highly Stretchable Polydimethylsiloxane, *Advanced functional materials*, 24 (21, 3276-3283, 2014.
- Eunhee Hwang, Sohyeon Seo, Sora Bak, Hanleem Lee, Misook Min, and Hyoyoung Lee*, "An Electrolyte-Free Flexible Electrochromic Device Using Electrostatically Strong Graphene Quantum Dot-Viologen Nanocomposites", *Advanced materials*, 26, 5125-5136, 2014.
- Sohyeon Seo, Misook Min, Saemi Lee, and Hyoyoung Lee*, "Photo-switching molecular monolayer anchored between highly transparent and flexible graphene electrodes" *Nature Communications*, 2013, 4, 1920
- Yeohung Yoon, Keunsik Lee, Chul Baik, Heejoun Yoo, Misook Min, Younghun Park, Sae Mi Lee, Hyoyoung Lee*, "Anti-Solvent Derived Non-Stacked Reduced Graphene Oxide for High Performance Supercapacitors", *Advanced Materials*, 25, 4437-4444, 2013.
- Misook Min, Sohyeon Seo,* Sae Mi Lee, and Hyoyoung Lee*, "Voltage-Controlled Nonvolatile Molecular Memory of an Azobenzene Monolayer through Solution-Processed Reduced Graphene Oxide Contacts", *Advanced Materials*, 25, 7045-7050, 2013.

Others

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