



Youngmin Lee Ph.D.

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Youngmin Lee, Ph.D. is a Patent Agent who concentrates her practice on nanochemistry and renewable energy systems such as batteries and fuel cells, while her analytics experience spans across the areas of chemistry/polymer, advanced materials, chemical/mechanical engineering, biotechnology, food/beverage, telecommunications, optics, consumer goods, medical devices, electronics, IoT, and artificial intelligence. She has a Ph.D. in inorganic chemistry from Brown University, and post-doctoral research experience at MIT and NIST focused on sustainable energy systems.

Beyond patent drafting and prosecution experience, Youngmin led or participated in numerous IP consulting projects including IP landscaping, portfolio development, risk analysis, technology scouting, prior art search, and due diligence as an IP analyst. She also led technology transfer (licensing agreement negotiation) and patent strategy development at a bio-startup.

CAPABILITIES

Practice Areas

- Biotechnology/Life Sciences
- Environmental, Energy & Sustainability
- Intellectual Property & Technology
- Patent Prosecution & Protection

BAR ADMISSIONS

- United States Patent and Trademark Office

RECENT NEWS, ARTICLES & SPEAKING ENGAGEMENTS

- IP Seminar for Korean Companies Entering the U.S.
Invited speaker, Korea Intellectual Property Protection Agency under the Korean Intellectual Property Office, Atlanta, GA, May 20, 2024
- Ph.D. Career Beyond Academia Series
Invited alumni speaker, Brown University, Career Center, Providence, RI, May 4, 2024
- Patent Agent as a Career Presentation
Invited speaker, Georgia State University Chemistry Club, Atlanta, GA, March 20, 2023
- Deconvoluting the Influences of 3D Structure on the Performance of Photoelectrodes for Solar-Driven Water Splitting
co-author with D.V. Esposito, H.P. Toon, P.M. Haney, N.Y. Labrador, T. Moffat, A.A. Talin, and V.A. Szalai, *Sust. Energy Fuels*, 1, 154, 2017
- Design Considerations for Enhancing Absorption in Semiconductors on Metals Through Surface Plasmon Polariton
co-author with C.D. Bohn, A. Agrawal, C.J. Choi, M.S. Davis, P.M. Haney, H.J. Lezec and V.A. Szalai, *Phys. Chem. Chem. Phys.*, 16, 6084, 2014
- High-Resolution Photocurrent Microscopy Using Near-Field Cathodoluminescence of Quantum Dots
co-author with H.P. Yoon, C.D. Bohn, S.H. Ko, A.G. Gianfrancesco, J.S. Steckel, S. Coe-Sullivan, A.A. Talin, and N.B. Zhitenev, *AIP Adv.*, 3, 062112, 2013
- Photoelectrochemical Water-Splitting with Plasmonic Al-based Nanostructures
Speaker, 20th Annual Sigma Xi Postdoctoral Poster Presentation, National Institute of Standards and Technology, Gaithersburg, MD, February 27, 2013
- Plasmonically Enhanced Photoelectrochemical Water-Splitting with Al-based Nanostructures
Speaker, 68th IUVSTA Workshop (Multifunctional Surface Engineering for Advanced Energy Applications, City University of Hong Kong, December 9-13, 2012
- Synthesis and Activities of Rutile IrO₂ and RuO₂ Nanoparticles for Oxygen Evolution in Acid and Alkaline Solutions
co-author with J. Suntivich, K.J. May, E.E. Perry, and Y. Shao-Horn, *J. Phys. Chem. Lett.*, 3, 399, 2012

- Self-Standing Positive Electrodes of Oxidized Few-Walled Carbon Nanotubes for Light-Weight and High-Power Lithium Batteries
co-author with S.W. Lee, B.M. Gallant, N. Yoshida, D.Y. Kim, Y. Yamada, S. Noda, A. Yamada, and Y. Shao-Horn, *Energy Environ. Sci.*, 5, 5437, 2012
- Non-Crystallographic Atomic Arrangement Driven Enhancement of the Catalytic Activity of Au Nanoparticles
co-author with V. Patkov, S. Sun, and Y. Ren, *J. Phys. Chem. C.*, 116, 26668, 2012
- Development of Composite Nanocatalysts and Their Enhanced Electrocatalytic Activity
Speaker, Materials Research Society (MRS) 2010 Fall Meeting, Boston, MA, Nov.29-Dec. 3, 2010
- Synthetic Tuning of the Catalytic Properties of Au-Fe₃₀₄ Nanoparticles
co-author with M.A. Garcia, N.A.F. Huls, and S. Sun, *Angew. Chem. Int. Ed.*, 49, 1271, 2010
- Surface- and Structure-Dependent Catalytic Activity of Au Nanoparticles for Oxygen Reduction Reaction
Co-author with A. Loew and S. Sun, *Chem. Mater.*, 22, 755, 2010
- Structurally Ordered FePt Nanoparticles and Their Enhanced Catalysis for Oxygen Reduction Reaction
co-author with J. Kim and S. Sun, *J. Am. Chem. Soc.*, 132, 4996
- Recent Development of Active Nanoparticle Catalysts for Fuel Cell Reactions
Co-author with V. Mazumder and S. Sun, *Adv. Funct. Mater.*, 20, 1224
- Synthesis of Composite Nanoparticles and their Electrocatalytic Applications
Speaker, Gordon Research Conference (Electrochemistry) 2010, Ventura, CA, January 10-15, 2010
- Synthesis of Monodisperse Au, Au-Fe₃₀₄ Composite Nanoparticles and their Applications
Speaker, Materials Research Society (MRS) 2009 Spring Meeting, San Fransisco, CA, April 13-17, 2009
- From Core/Shell Structured FePt/Fe₃₀₄/MgO to Ferromagnetic FePt Nanoparticles
co-author with J. Kim, C. Rong, J. Liu and S. Sun, *Chem. Mater.*, 20, 7242, 2008
- Synthesis of Dumbbell-like Au-Fe₃₀₄ Nanoparticles and their Applications
Speaker, IEEE Magnetic Society Summer School 2008, University of Colorado at Colorado Springs, CO, August 3-9, 2008

- A Facile Synthesis of Monodisperse Au Nanoparticles and Their Catalysis for CO Oxidation
co-author with S. Peng, C. Wang, H. Yin, S. Dai and S. Sun, *Nano Res.*, 1, 229, 2008
- Synthesis of Fe₃O₄-NM (NM: Au, Ag, AuAg) Dumbbell-like Nanoparticles
Speaker, Materials Research Society (MRS) 2007 Fall Meeting, Boston, MA, November 26-30, 2007
- Synthesis of Monocubes and Their Enhanced Catalysis for Oxygen Reduction
co-author with C. Wang, H. Dalmon, J. Kim and S. Sun, *J. Am. Chem. Soc.*, 129, 6974, 2007

MEMBERSHIPS

- Intellectual Property Owners Association (IPO) , Member
- SEMI , Member

EDUCATION

Brown University Ph.D., Inorganic Chemistry 2010

- Department of Energy Research Assistantship (2009-10)
- Graduate Assistance in Areas of National Needs (GAANN) Fellowship, U.S. Department of Education, (2007-09)
- Teaching assistant for undergraduate level general chemistry laboratory (2006) and graduate level inorganic chemistry laboratory (2007)

Korea University B.S., Chemistry 2006

- Scholarship for Excellence in Academic Studies (2002-03)
- Scholarship for Studying Abroad as an Exchange Student (2004-05)

University of British Columbia, Canada Exchange Student 2004-05

BESIDES STITES & HARBISON

Prior to joining Stites & Harbison, Youngmin worked as a Patent Agent at a large intellectual property firm based in Hartford, CT (2022-24); Director of Strategy and Patent Technology at a bio startup focused on organ-on-a-chip manufacture and drug delivery, Atlanta, GA (2020-22); and Intellectual Property Analytics Leader at an IP consulting firm, Atlanta, GA (2014-19).

Beyond her IP practice, Youngmin has eight years of research experience including her doctoral research at Brown University centered on functional nanomaterial synthesis and applications, postdoctoral research at the Massachusetts Institute of Technology (MIT) and at the National Institute of Standards and Technology (NIST) on Li-ion/Li-air batteries, fuel cells, and solar-to-hydrogen water-splitting systems.

LANGUAGES

Korean

*Non-attorney

ACCOLADES

- National Research Council (NRC) Research Associate Fellowship (NIST), 2011-13
- Best Poster Award (2nd prize), 68th International Union of Vacuum Science Technique and Applications (IUVSTA) Workshop, 2012