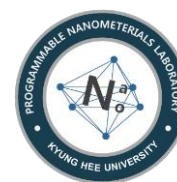




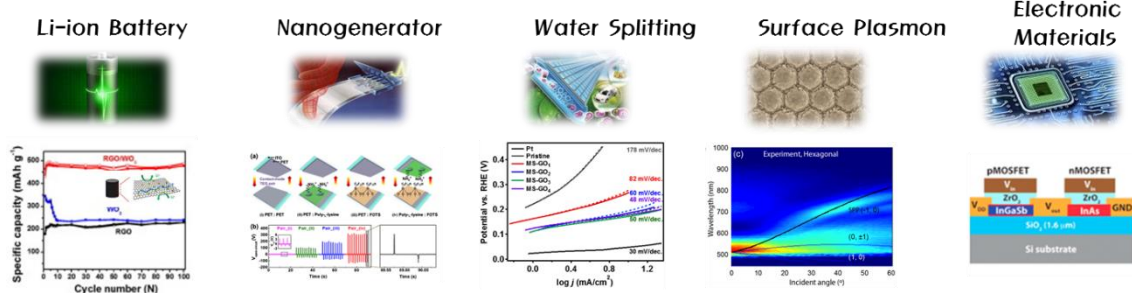
Graduate Recruitment at Programmable Nanomaterials Laboratory (PNL)



Programmable Nanomaterials Laboratory (PNL, <http://nanolab.khu.ac.kr>) at Department of Applied Chemistry, Kyung Hee University (www.khu.ac.kr) is looking for highly self-motivated students to study in graduate programs (MS/PhD combined degree). PNL students have been focused on nanotechnology and its application for energy generation, conversions and storages. PNL has funded by Korean government, Korean national labs, and Samsung Electronics due to publications in top journals in chemistry.

Research Areas

- Solar-to-chemical energy conversion (water splitting, CO₂ conversion)
- Novel Nanopatterning for plasmonics and electronic applications
- Energy storages (supercapacitors, Li-ion Batteries)
- Nanogenerators (piezoelectric and triboelectric generators)



Requirements

- Education and research background in Chemistry and Material Sciences or related fields
Students with hands-on experience in Li-ion battery and supercapacitor, or nanomaterial synthesis (TEM, XPS, XRD analysis knowledge) will be the first choice.
- Decent English for communications (English test score of TOEFL, IELTS, TOEIC, or TEPS is required)
- Motivated statements of research purpose
- Meet the admission requirements of the Kyung Hee University

Sponsorship and Benefit

- Sponsor: Kyung Hee University and Brain Korea 21+ (BK 21+)
 - Scholarship coverage: 100% (but can be changed depending on funding)
- Or students recommend to apply for graduate scholarship program by Korean governments

(<http://www.studyinkorea.go.kr>)

- Stipend: Yes
- International and domestic conferences: MRS (USA), EMRS (Europe), KCS (Korea), etc.
- Location: Yongin (30 ~ 50 min. driving from Gangnam, Seoul), South Korea

Current research funding



Conferences and lab activities

Please check PNL website: <http://nanolab.khu.ac.kr>

Contact informations

Students who have interests in applying the graduate program at energy related nanoscience of PNL, please send resume and motivational statements of research to Prof. Min Hyung Lee (minhlee@khu.ac.kr) or to Mai Khanh Binh (Vietnamese PhD student in the department, khanhbinh183@yahoo.com) in advance. Feel free to transfer or to post this information to public websites for students.

About Professor

Prof. Min Hyung Lee holds PhD degree in Material Chemistry from Northwestern University, USA (Top rank in Nanoscience and Nanotech.) under advice of Prof. Teri W. Odom. During PhD course, he focused on developing new nanofabrication techniques to fabricate large-area nanoscale plasmonic crystals, and investigated optical properties of the plasmonic crystals. After finishing PhD programs, he performed post-doctoral researches in University California at Berkeley and Joint Center for Artificial Photosynthesis (JCAP), USA with Prof. Ali Javey and Dr. Joel Ager. During the post-doctoral training, he developed III-V semiconductor-based nanoscale devices including thin film MOSFETs, photovoltaics, and PEC water splitting electrodes. After he joined to Kyung Hee University as a faculty, his research have focused on application of nanostructures in plasmonics, solar-to-fuel conversion, and nanogenerators.



Representative SCI papers

- [1] "Hierarchically Reduced Graphene Oxide/WO₃ Frameworks for an Application into Lithium Ion Battery Anodes" Park, S. K.; Lee, H. J.; Lee, M. H.*; Park, H. S.* *Chem. Eng. J.*, **2015**, 281, 724.
- [2] "Triboelectric Charging Sequence Induced by Surface Functionalization as a Method to Fabricate High Performance Triboelectric Generators" Shin, S. -H.; Kim, Y. -H.; Kwon, Y. H.; Jung, J. Y.; Lee, M. H.*; Nah, J.* *Acs Nano*, **2015**, 9, 4621.

- [3] "Programmable Soft Lithography: Solvent-assisted Nanoscale Embossing" Lee, M. H.; Huntington, M. D.; Zhou, W.; Yang, J. -C.; Odom, T. W.* *Nano Letters*, . **2011**, 11, 311. (**cover article**)
- [4] "Large-area Nanocontact Printing with Metallic Nanostencil Masks" Lee, M. H. Lin, J. Y.; Odom, T. W.* *Angew. Chem. Int. Ed.*, **2010**, 49, 3057
- [5] "Refractive Index Sensing Using Quasi One-Dimensional Nanoslit Arrays," Lee, M. H.; Gao, H.; Odom, T. W.* *Nano Letters*, **2009**, 7, 2584
- [6] "Multi-scale Patterning of Plasmonic Metamaterials" Henzie, J.; Lee, M. H. Odom, T. W.* *Nature Nanotech.* **2007**, 2, 549 (**cover article**)