

NANO KOREA 2020

July 1~3, KINTEX, Korea

Hee-Dae Lim

Research Scientist, Korea Institute of Science and Technology (KIST)

Address: Hwarang-ro 14-gil 5, Seongbuk-gu, Seoul 02792, Korea

Telephone: (+82) 2-958-5249

Fax: (+82) 2-958-5229

E-mail: hdlim@kist.re.kr

Nationality: Republic of Korea

EDUCATION

Seoul National University	Ph.D	Department of Materials Science and Engineering	2016
Korea Advanced Institute of Science and Technology (KAIST)	MS	EEWS	2011
Hanyang University	BS	Department of Materials Science and Engineering	2010

PROFESSIONAL ACTIVITIES

- Researcher, Research Institute of Advanced Materials (RIAM), Seoul National University 《2016-03-01 ~ 2016-12-31》
- Post-doctor, University of California, San Diego (UCSD) 《2017-01-17 ~ 2018-03-19》
- Senior Research Scientist, Institute of Science and Technology (KIST), Korea 《2018-05-01 ~ present》

AWARD AND HONORS

- The Grand prize in the 2017 Global Top Talent Forum
-Institution: Hyundai Motor Group (2017/08/19)
- 2017 KECS Park Sumun Award
-Institution: The Korean Electrochemical Society (KECS) (2017/04/08)
- 2016 Best Graduate Award
-Institution: The Korea Institute of Materials Science (KIMS) (2016/01/21)
- 2016 The Best Graduate Thesis Award
-Institution: Seoul National University (2015/12/11)
- Best poster award, Grand Prize in 2014 Nano Korea
-Institution: Nano Korea (2014/07/02)

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MAIN SCIENTIFIC PUBLICATION

- **H.-D. Lim**, J.-H. Park, H.-J. Shin, J. Jeong, J. T. Kim, K.-W. Nam, H.-G. Jung, K. Y. Chung, **Energy Storage Mater.**, 2020, 25, 224. (A review of challenges and issues concerning interfaces for all-solid-state batteries)
- I. Moez, **H.-D. Lim**, J.-H. Park, H.-G. Jung, K. Y. Chung, **ACS Energy Lett.**, 2019, 4, 2060. (Electrochemically induced metallization of NaCl: Use of the main component of salt as a cost-effective electrode material for sodium-ion batteries)
- **H.-D. Lim**, H.-K. Lim, X. Xing, B.-S. Lee, H. Liu, C. Coaty, H. Kim, and P. Liu, **Adv. Mater., interface**, 2018, 1701328. (Solid electrolyte layers by solution deposition)
- **H.-D. Lim**,[†] B. Lee,[†] Y. Bae, H. Park, Y. Ko, H. Kim, J. Kim, and K. Kang, **Chem. Soc. Rev.**, 2017, 46, 2873. (Reaction chemistry in rechargeable Li-O₂ batteries) [†]Equal contribution
- **H.-D. Lim**, B. Lee, Y. Zheng, J. Hong, J. Kim, H. Gwon, Y. Ko, M. Lee, K. Cho, and K. Kang, **Nat. Energy**, 2016, 1, 16066. (Rational design of redox mediator for advanced Li-O₂ batteries)
- **H.-D. Lim**, H. Park, H. Kim, J. Kim, B. Lee, Y. Bae, H. Gwon, and K. Kang, **Angew. Chem., Int. Ed.**, 2015, 54, 9663. (A new perspective on Li-SO₂ batteries for rechargeable systems)
- **H.-D. Lim**, H. Song, J. Kim, H. Gwon, Y. Bae, K.-Y. Park, J. Hong, H. Kim, T. Kim, Y. H. Kim, X. Lepro, R. Ovalle-Robles, R. H. Baughman, and K. Kang, **Angew. Chem., Int. Ed.**, 2014, 53, 3926. [**VIP paper**] (Superior Rechargeability and Efficiency of Li-O₂ Batteries: Hierarchical Air-electrode Architecture Combined with a Soluble Catalyst)
- **H.-D. Lim**, H. Song, H. Gwon, K.-Y. Park, J. Kim, Y. Bae, H. Kim, S.-K. Jung, T. Kim, Y. H. Kim, X. Lepro, R. Ovalle-Robles, R. H. Baughman, K. Kang, **Energy Environ. Sci.**, 2013, 6, 3570. (A new catalyst-embedded hierarchical air electrode for high-performance Li-O₂ batteries)
- H.-K. Lim,[†] **H.-D. Lim**,[†] K.-Y. Park, D.-H. Seo, H. Gwon, J. Hong, W. A. Goddard, H. Kim, K. Kang, **J. Am. Chem. Soc.**, 2013, 135, 9733. (Toward a Lithium-“Air” Battery: The Effect of CO₂ on the Chemistry of a Lithium–Oxygen Cell) [†]Equal contribution
- **H.-D. Lim**, K.-Y. Park, H. Song, E. Y. Jang, H. Gwon, J. Kim, Y. H. Kim, M. D. Lima, R. O. Robles, X. Lepro, R. H. Baughman, K. Kang, **Adv. Mater.**, 2013, 25, 1348. (Enhanced Power and Rechargeability of a Li-O₂ Battery Based on a Hierarchical-Fibril CNT Electrode)

RESEARCH INTERESTS

- Multivalent Rechargeable Batteries
Mg/Al/Ca batteries
Material designs for Multivalent cathode and anode
- Metal-air Batteries
Metal-gas batteries (Li-O₂, Na-O₂, Li-SO₂, Li-O₂/CO₂ batteries etc.)
In-situ gas analysis & carbon based electrode design
Liquid catalyst
- Solid Electrolyte and All-solid-state Batteries
Solution-type synthesis for solid electrolyte
Analysis on electrode materials and interfaces