

## Takhee Lee's Curriculum Vitae



### 1. Information

- Currently, Professor at Department of Physics, Seoul National University (SNU), Korea
- E-mail: tlee@snu.ac.kr
- Website: <http://mnelab.com>

### 2. Education

- 1995 - 2000: Purdue University, USA, Department of Physics (Ph.D.)
- 1992 - 1994: Seoul National University, Korea, Department of Physics (M.S.)
- 1988 - 1992: Seoul National University, Korea, Department of Physics (B.S.)

### 3. Experience

- 2012 - present: Professor, Seoul National University, Korea
- 2004 - 2011: Professor, Gwangju Institute of Science and Technology (GIST), Korea
- 2000 - 2004: Postdoctor, Yale University, USA
- 2015 - 2016: Visiting scholar (Sabbatical), University of California, Berkeley, USA
- 2016 - 2018: Associate Dean for Research Affairs, College of Natural Sciences, SNU, Korea

### 4. Research Interests

- Molecular electronics: self-assembled monolayers, functional molecular electronics devices
- Organic electronics: polymer-based non-volatile memory devices, flexible organic electronics
- 2D film nanoelectronics: graphene-electrode optoelectronics, 2D atomic film nanoelectronics

### 5. Awards

- Korea Science Award (2018 December)
- Korean Physical Society Research Award (2016 October)
- Outstanding Research Award of College of Natural Sciences, Seoul National University (2014)
- Fifty Outstanding Research Achievements of the Year 2013 in Korea (2013 July)
- Ten Outstanding Science Research Achievements of Year 2012 in Korea (2012 December)
- S-Oil Best Thesis Advisor Award of the Year (2011) in Physics (2012 February)
- Minister of Education, Science and Technology Award (2010 August)
- Korean Scientist of the Month Award (2010 June)
- Prime Minister Award (2010 April)
- Hundred Outstanding Research Achievements of the Year 2010 in Korea (2010)
- Minister of Education, Science and Technology Award (2008 April)
- Nano-Korea Researcher Award (2007 August)

### 6. Members, Activities and Committee

- Journal Editorial Board Members in ACS Nano (2014 - present), Nanotechnology (2011 - present), Advanced Electronic Materials (2015 - present), Flexible and Printed Electronics journals (2015 - present)
- Committee Activities:
  - Electronic Materials Conference (EMC), USA, Program committee (2013 - present)

- International Conference of Molecular Electronics and Devices (IC ME&D), Organizing committee (2000 - Present), Conference chair (2015, 2019)
- International Discussion & Conference on Nano Interface Controlled Electronic Devices (IDC-NICE), Program committee, Local organizing committee (2005 - present)
- Korean Physical Society, Academic director (2017 - 2018)
- Korean Semiconductor Society, Nano Science & Technology topic committee chair (2013 - 2015)
- Nano Korea Symposium, Nano Electronics and Circuit topic committee chair (2014), Publication chair (2012)
- AsiaNANO Conference 2014 Program vice chair (2014)

## 7. Research Summary

- Edited 2 books, wrote 15 review articles, wrote 11 book chapters, published > 280 SCI journal papers, 24 cover picture articles
- Google Scholar Citation (by June 13, 2019): Citation number = 12,921, h index = 57
- A few selected publications:
  1. Hyunwook Song, Youngsang Kim, Yun Hee Jang, Heejun Jeong, Mark A. Reed, and Takhee Lee\*, “Observation of molecular orbital gating”, *Nature*, 462, 1039, (2009).
  2. Sungjun Park, Gunuk Wang, Byungjin Cho, Yonghun Kim, Sunghoon Song, Yongsung Ji, Myunghan Yoon, Takhee Lee\*, “Flexible molecular-scale electronic devices”, *Nature Nanotechnology*, 7, 438 (2012).
  3. Hyunwook Song, Mark A. Reed, and Takhee Lee\*, “Single-molecule electronic devices”, *Advanced Materials*, 23, 1583 (2011).
  4. Wenying Wang, Takhee Lee, Mark A. Reed\*, “Mechanism of electron conduction in self-assembled alkanethiol monolayer devices”, *Phys. Rev. B* 68, 035416 (2003).
  5. Byungjin Cho, Sunghun Song, Yongsung Ji, Tae-Wook Kim, and Takhee Lee\*, “Organic resistive memory devices: Performance enhancement, integration, and advanced architectures”, *Advanced Functional Materials*, 21, 2806 (2011).
  6. Dong Xiang, Xiaolong Wang, Chuancheng Jia, Takhee Lee\*, and Xuefeng Guo\*, “Molecular-scale electronics: From concept to function”, *Chemical Reviews*, 116, 4318 (2016).
  7. Gunuk Wang, Yonghun Kim, Minhyeok Choe, Tae-Wook Kim, Takhee Lee\*, “New approach for molecular electronic junctions with multi-layer graphene electrode”, *Advanced Materials*, 23, 755 (2011).
  8. Kyungjune Cho, Misook Min, Tae-Young Kim, Hyunhak Jeong, Jinsu Pak, Jae-Keun Kim, Jingon Jang, Seok Joon Yun, Young Hee Lee, Woong-Ki Hong, and Takhee Lee\*, “Electrical and optical characterization of MoS<sub>2</sub> with sulfur vacancy passivation by treatment with alkanethiol molecules”, *ACS Nano*, 9, 8044 (2015).
  9. Keehoon Kang, Heebeom Ahn, Younggul Song, Woocheol Lee, Junwoo Kim, Youngrok Kim, Daekyoung Yoo and Takhee Lee, “High-Performance Solution-Processed Organo-Metal Halide Perovskite Unipolar Resistive Memory Devices in a Cross-bar Array Structure”, *Advanced Materials*, 31, 1804841 (2019).
  10. Youngrok Kim, Seungjun Chung, Kyungjune Cho, David Harkin, Wang-Taek Hwang, Daekyoung Yoo, Jae-Keun Kim, Woocheol Lee, Younggul Song, Heebeom Ahn, Yongtaek Hong, Henning Sirringhaus, Keehoon Kang and Takhee Lee, “Enhanced Charge Injection Properties of Organic Field Effect Transistor by Molecular Implantation Doping”, *Advanced Materials*, 31, 1806697 (2019).

And about 270 more papers. \*Detailed Publication list can be found at <http://mne.snu.ac.kr>