

# Jae-Hyun Lee

Assistant Professor  
Dept. of Materials Science and Engineering  
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## Education

<b>Ph.D Nano- Engineering</b>	SKKU Advanced Institute of Nanotechnology (SAINT)	<b>Sungkyunkwan University, Suwon, Korea</b> Thesis: Synthesis and Application of Group-IV Semiconductor NWs, Graphene and its Hybrid Structures <i>Advisor : Prof. Dongmok Whang</i>	~ 2014.02 2009.03
<b>B.S.</b>	Materials Science and Engineering	<b>Sungkyunkwan University, Suwon, Korea</b>	~ 2009.02 2002.03

## Work Experience

▪ <b>Ajou University, Suwon, Korea</b> -Dept. of Materials Science and Engineering	Assistant Professor	~ Present 2017.03
▪ <b>The University of Manchester, Manchester, UK.</b> - National Graphene Institute (NGI)	Researcher <i>/Advisor: Prof. K. S. Novoselov</i> <i>2010 Nobel laureate</i>	~ 2017.02 2015.11
▪ <b>Sungkyunkwan University, Suwon, Korea</b> - SKKU Advanced Institute of Nanotechnology (SAINT)	Research Professor <i>/Presidential Post-Doc. Fellow</i>	~ 2017.02 2014.11
▪ <b>Sungkyunkwan University, Suwon, Korea</b> - School of Advanced Material Science & Engineering	Post-Doc. <i>/Advisor: Prof. Dongmok Whang</i>	~ 2014.10 2014.03
▪ <b>Samsung Advanced Institute of Technology, Korea</b> - Frontier Research Lab.	Research Intern	~ 2012.02 2011.03
▪ <b>Korea Army, Paju, Korea</b> - Artillery Fire Direction	Sergeant, Artillery man (Military service)	~ 2005.10 2003.10

## Awards and Honors

▪ <b>Cheong-Am Science Fellowship (Professor)</b>	POSCO T. J. Park Foundation	2019.10
▪ <b>Presidential Post-Doc. Fellowship</b>	NRF_Grant	~2019.10 2014.11
▪ <b>Cheong-Am Science Fellowship (Post-Doc.)</b>	POSCO T. J. Park Foundation	2014.10
▪ <b>2015 Dow Chemical Award in Korea</b>	Grand Prize	2015.04
▪ <b>The top 10 science and technology news of 2014</b>	The Korean Federation of S & T Societies (KOFST)	2014.12

### Selected Publications

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1. **J. H. Lee**, E. K. Lee, W. J. Joo, Y. Jang, B. S. Kim, J. Y. Lim, S. H. Choi, S. J. Ahn, J. R. Ahn, M. H. Park, C. W. Yang, B. L. Choi, S. W. Hwang, and D. Whang, "Wafer-scale growth of single-crystal monolayer graphene on reusable hydrogen-terminated germanium" *Science* 344, 286-289 (2014).
2. W. J. Joo\*, **J. H. Lee\***, Y. Jang, S. G. Kang, Y. N. Kwan, J. K. Jung, S. Lee, C. Kim, T. H. Kim, C. W. Yang, B. L. Choi, D. Whang, and S. W. Hwang, "Realization of Continuous 2D Zachariasen Carbon Monolayer" *Sci. Adv.* 3:e1601821 (2017) (\*: equal contribution)
3. **J.-H. Lee**, S. G. Kang, H. S. Jang, J. Y. Moon, D. Whang, "Graphene on Group IV Elementary Semiconductors: The Direct Growth Approach and Its Applications" *Adv. Mater.* 31, 1803469 (2019).
4. J. Y. Moon, S. I. Kim, S. K. Son, S. G. Kang, J. Y. Lim, D. K. Lee, B. Ahn, D. Whang, H. K. Yu, **J.-H. Lee\*** "An Eco-Friendly, CMOS-Compatible Transfer Process for Large Scale CVD-Graphene" *Adv. Mater. Interfaces* 6, 1900084 (2019) ; *selected as a back cover*
5. H. U. Kim, M. Kim, Y. Jin, Y. Hyeon, K. S. Kim, B. S. An, C. W. Yang, V. Kanade, J. Y. Moon, G. Y. Yeom, D. Whang, **J.-H. Lee\***, T. Kim "Low-temperature wafer scale growth of MoS<sub>2</sub> on graphene heterostructure" *Appl. Surf. Sci.* 470, 129-134 (2019).
6. T.Z. Shen, S.H. Hong, **J.-H. Lee\***, S.G. Kang, B. Lee, D. Whang, J. K. Song, "Selectivity of Threefold Symmetry in Epitaxial Alignment of Liquid Crystal Molecules on Macroscale Single Crystal Graphene" *Adv. Mater.* 30, 1802441 (2018). (\*: equal contribution) ; *selected as a front cover*
7. H. U. Kim, M. Kim, K. S. Kim, B. S. An, H. Seok, H. Yoo, L. E. Chaney, S. I. Kim, C. W. Yang, G. Y. Yeom, D. Whang, **J.-H. Lee\***, T. Kim "Wafer-scale and low temperature growth of 1T-WS<sub>2</sub> Film for Efficient and stable hydrogen evolution reaction" *Small* In press (2020). ; *selected as a back cover*