

# Joohoon Kang, Ph.D.

## Assistant Professor

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## ACADEMIC TRAININGS

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<b>Postdoctoral Scholar</b> in Chemistry <b>University of California at Berkeley</b> , Berkeley, CA, USA Project: “Single-Crystalline Perovskite Nanostructures-based Optoelectronics” Advisor: Professor Peidong Yang	2018-2019
<b>Ph.D.</b> in Materials Science and Engineering <b>Northwestern University</b> , Evanston, IL, USA Dissertation Title: “Solution-Based Processing of Monodisperse Two-Dimensional Nanomaterials” Advisor: Professor Mark C. Hersam	2012-2018
<b>M.S.</b> in Materials Science and Engineering <b>Yonsei University</b> , Seoul, South Korea Thesis Title: “Highly Suppressed Thermal Transport in Individual Heterostructure Nanowires” Advisor: Professor Wooyoung Lee	2009-2011
<b>B.S.</b> in Metallurgical System Engineering <b>Yonsei University</b> , Seoul, South Korea	2003-2009

## PROFESSIONAL APPOINTMENTS

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<b>Assistant Professor</b> – School of Advanced Materials Science and Engineering Sungkyunkwan University (SKKU), Suwon, South Korea	2019- Present
<b>Research Affiliate</b> – Organic and Macromolecular Synthesis in Molecular Foundry Lawrence Berkeley National Laboratory, Berkeley, CA, USA	2018-2019

## HONORS AND AWARDS

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<b>IIN Outstanding Researcher Award</b> – International Institute for Nanotechnology	2017
<b>MRS Graduate Student Award in 2016 MRS Fall Meeting</b> – Materials Research Society	2016
<b>Distinction in Honor of Outstanding Contributions in Natural Science</b> – Yonsei University	2011

## SELECTED PUBLICATIONS

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“High-crystalline monolayer transition metal dichalcogenides films for wafer-scale electronics”

Kim, M.; Seo, J.; **Kim, J.**; Moon, J.S.; Lee, J.; Kim, J.-H.; **Kang, J.\***; Park, H.\*  
*ACS Nano* 15, 3038-3046 (2021)

“Structural and Spectral Dynamics of Single Crystalline Ruddlesden-Popper Phase Halide Perovskites Blue Light-Emitting Diodes”

Chen, H.\*; Lin, J.\*; **Kang, J.\***; Kong, Q.; Lu, D.; Kang, J.; Lai, M.; Quan, L.N.; Lin, Z.; Jin, J.; Wang, L.-W.; Toney, M.F.; Yang, P.  
*Science Advances* 6, eaay4045 (2020)

“Nanowires for Photonics”

Quan, L.N.\*; **Kang, J.\***; Ning, C.Z.; Yang, P.  
*Chemical Reviews* 119, 9153-9169 (2019); Selected as a front cover.

“Solution-Based Processing of Optoelectronically-Active Indium Selenide”

**Kang, J.\***; Wells, S.A.\*; Sangwan, V.K.\*; Lam, D.; Liu, X.; Luxa, J.; Sofer, Z.; Hersam, M.C.  
*Advanced Materials* 30, 1802990 (2018)

“Thickness Sorting of Two-Dimensional Transition Metal Dichalcogenides via Copolymer-Assisted Density Gradient Ultracentrifugation”

**Kang, J.**; Seo, J.-W.T.; Alducin, D.; Ponce, A.; Yacamán, M.J.; Hersam, M.C.  
*Nature Communications* 5, 5478 (2014)

## SELECTED PATENTS

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“Composition Comprising Optically and Electronically Active Phosphorene”

Hersam, M.C.; **Kang, J.**; Wood, J.D.  
U.S. Patent Granted: US10906811B2 (Feb. 2, 2021)

“Hybrid Silicon Lasers and Amplifiers with 2D Phosphorene Film”

Husko, C.; Hersam, M.C.; **Kang, J.**; Wood, J.D.  
U.S. Patent Granted: US10374385B2 (Aug. 6, 2019)

“Stable Aqueous Dispersions of Optically and Electronically Active Phosphorene”

Hersam, M.C.; **Kang, J.**; Wood, J.D.  
U.S. Patent Granted: US10343909B1 (Jul. 9, 2019)

“Layer-by-Layer Sorting of Rhenium Disulfide via High-Density Isopycnic Density Gradient Ultracentrifugation”

Hersam, M.C.; **Kang, J.**  
U.S. Patent Granted: US10702803B2 (Jul. 7, 2020)

“Sorting Two-Dimensional Nanomaterials by Thickness”

Hersam, M.C.; **Kang, J.**; Seo, J.-W.T.; Green, A.A.  
U.S. Patent Granted: US9221064B2 (Dec. 29, 2015)