

Jin-Wook Lee, Ph.D.

Current Affiliation:

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1. Education and professional careers

March, 2005-February, 2011	B.S. in Electronic and Electrical Engineering Sungkyunkwan University (SKKU)
March, 2011-February, 2016	Ph.D. in Energy Science, Sungkyunkwan University Advisor: Prof. Nam-Gyu Park
Ph.D. Thesis	Highly Efficient Photovoltaics Based on Organolead Iodide RPbI_3 ($\text{R}=\text{CH}_3\text{NH}_3$, $\text{HC}(\text{NH}_2)_2$) Perovskite
March, 2016-August, 2016	Postdoctoral researcher, Sungkyunkwan University Advisor: Prof. Nam-Gyu Park
September, 2016-July, 2019	Postdoctoral researcher, University of California Los Angeles (UCLA) Department of Materials Science & Engineering, Advisor: Prof. Yang Yang
August, 2019-present	Assistant Professor, SAINT and Department of Nanoengineering Sungkyunkwan University

2. Research interests

- 1) Optoelectronic devices (solar cells, light emitting diodes, photodetectors)
- 2) Nanostructured organic/inorganic materials (perovskites, chalcogenides, polymers, carbon allotropes, metal oxides)
- 3) Doping, crystal growth and defect engineering of semiconducting materials
- 4) Optoelectronic device physics
- 5) Wearable devices and electronic skin based on flexible/stretchable devices

3. Awards and grants

- 1) *Global Ph.D. Fellowship grant* by National Research Foundation of Korea, (from 2011.03 to 2015.02)
(글로벌 박사 펠로우십, 한국연구재단)
- 2) *Oversea Postdoctoral fellow grant* by Sungkyunkwan University (from 2016.09 to 2017.08)
- 3) *Oversea Postdoctoral fellow grant* by National Research Foundation of Korea (from 2017.09 to 2018.08)
(학문후속세대 양성사업 박사후국외연수 지원사업, 한국연구재단)
- 4) *Young Scientist Award*, E-MRS 2013 Spring Meeting presented by European Materials Research Society.

- 5) Selected as an *Excellent Fellow* among the *Global Ph.D. Fellows*, 2015, National Research Foundation of Korea
- 6) *Best Poster Award*, MRS 2014 Spring Meeting presented by Material Research Society.
- 7) *Best Poster Award*, 2014 KSP & KSOP Regular Meeting, presented by Korean Society of Photoscience and Korean Society of Organic Photovoltaics Society.
- 8) *Excellent paper Award*, 2014, Department of Energy Science, Sungkyunkwan University
- 9) *Best Poster Award*, 2015 Summer Symposium, presented by Korean Chemical Society.
- 10) *Excellent paper Award*, 2015, Department of Energy Science, Sungkyunkwan University

4. Full Publication list (chronological order from latest to earliest)

(†equal contribution, *corresponding author, IF=JCR impact factor, citation= according to *Google Scholar*)

- 63) Shaun Tan, Ilhan Yavuz, Nicholas De Marco, Tianyi Huang, Sung-Joon Lee, Christopher S. Choi, Minhuan Wang, Selbi Nuryyeva, Rui Wang, Yepin Zhao, Hao-Cheng Wang, Tae-Hee Han, Bruce Dunn, Yu Huang, Jin-Wook Lee* and Yang Yang*, Steric Impediment of Ion Migration Contributes to Improved Operational Stability of Perovskite Solar Cells, **Advanced Materials**, 2020, accepted.
- 62) Haoran Wang, Yepin Zhao, Zhenyu Wang, Yunfei Liu, Zipeng Zhao, Guangwei Xu, Tae-Hee Han, Jin-Wook Lee, Chen Chen, Daqian Bao, Yu Huang, Yu Duan, Yang Yang, Hermetic seal for perovskite solar cells: An improved plasma enhanced atomic layer deposition encapsulation, **Nano Energy**, 2020, 69, 104375.
- 61) Jin-Wook Lee, Nam-Gyu Park, Chemical Approaches for Stabilizing Perovskite Solar Cells, **Advanced Energy Materials**, 2019, 1903249. DOI: <https://doi.org/10.1002/aenm.201903249>. [IF=24.884]
- 60) Tae-Hee Han†, **Jin-Wook Lee† (co-first author)**, Yung Ji Choi, Chungseok Choi, Shaun Tan, Sung-Joon Lee, Oliver Lin, Le Cai, Yu Huang, Dongho Kim, Yang Yang*, Surface-2D/ bulk-3D Hetero-phased Formamidinium Perovskite Nanograins for Long-term Stable Light-Emitting Diodes, **Advanced Materials**, 2019, 1905674, DOI: <https://doi.org/10.1002/adma.201905674>. [IF=25.809]
- 59) Il Jeon, Ahmed Shawky, Hao-Sheng Lin, Seungju Seo, Hiroshi Okada, **Jin-Wook Lee**, Amrita Pal, Shaun Tan, Anton Anisimov, Esko I Kauppinen, Yang Yang, Sergei Manzhos, Shigeo Maruyama, Yutaka Matsuo, Controlled Redox of Lithium-Ion Endohedral Fullerene for Efficient and Stable Metal Electrode-Free Perovskite Solar Cells, **Journal of American Chemical Society**, 2019, 141, 16553-16558. [IF=14.695]
- 58) Jingjing Xue, Rui Wang, Kai-Li Wang, Zhao-Kui Wang*, Ilhan Yavuz, Yang Wang, Yingguo Yang, Xingyu Gao, Tianyi Huang, Selbi Nuryyeva, **Jin-Wook Lee**, Yu Duan, Liang-Sheng Liao*, Richard Kaner, Yang Yang, Crystalline Liquid-like Behavior: Surface-Induced Secondary Grain Growth of Photovoltaic Perovskite Thin Film, **Journal of American Chemical Society**, 2019, 141, 13948-13953. [IF=14.695]
- 57) Seungju Seo†, Il Jeon†*, Rong Xiang, Changsoo Lee, Hao Zhang, Takeshi Tanaka, **Jin-Wook Lee**, Donguk Suh, Tatsuro Ogamoto, Ryosuke Nishikubo, Akinori Saeki, Shohei Chiashi, Junichiro Shiomi, Hiromichi Kataura, Hyuck Mo Lee, Yang Yang, Yutaka Matsuo*, Shigeo Maruyama*, Semiconducting Carbon Nanotubes as Crystal Growth Templates and Grain Bridges in Perovskite Solar Cells, **Journal of Materials Chemistry A**, 2019, 7, 12987-12992. [IF=10.733]
- 56) Jingjing Xue, Rui Wang, Lan Chen, Selbi Nuryyeva, Tae-Hee Han, Tianyi Huang, Shaun Tan, Jiahui Zhu, Minhuan Wang, Zhao-Kui Wang, Chunfeng Zhang, **Jin-Wook Lee* (corresponding author)**, Yang Yang*, A Small Molecule ‘Charge Driver’ Enables Perovskite Quantum Dot Solar Cells Efficiency Approaching 13%, **Advanced Materials**, 2019, 31, 1900111.[IF=25.809]
- 55) Rui Wang, Jingjing Xue, Lei Meng, **Jin-Wook Lee**, Zipeng Zhao, Pengyu Sun, Le Cai, Tianyi Huang, Zhengxu Wang, Zhao-Kui Wang*, Yu Duan, Jonathan Lee Yang, Shaun Tan, Yonghai Yuan, Yu Huang, and Yang Yang*, Caffeine Improves the Performance and Thermal Stability of Perovskite Solar Cells, **Joule (Cell Press)**, 2019, 3, 1464-1477. [IF=N/A]
- 54) **Jin-Wook Lee**, Seul-Gi Kim, June-Mo Yang, Yang Yang*, Nam-Gyu Park*, Verification and Mitigation of Ion Migration in Perovskite Solar Cells, **APL Materials**, 2019, 7, 041111. [IF=4.296]
- 53) Rui Wang, Sheng-Yung Chang, Lei Meng, Wenchao Huang, **Jin-Wook Lee**, Hao-Wen Cheng, Tianyi Huang, Yuqiang Liu, Jingjing Xue, Pengyu Sun, Chenhui Zhu, Pei Cheng and Yang Yang*, Design of a Rigid Scaffold Structure toward Efficient and Stable Organic Photovoltaics, **Matter (Cell Press)**, 2019, 1, 402-411. [IF=N/A]
- 52) Abhishek Thote†, Il Jeon*†, **Jin-Wook Lee**, Seungju Seo, Haosheng Lin, Yang Yang, Hirofumi Daiguji*, Shigeo

Maruyama*, Yutaka Matsuo*, Stable and Reproducible 2D/3D Formamidinium–Lead–Iodide Perovskite Solar Cells, **ACS Applied Energy Materials**, 2019, 2, 4, 2486-2493. [IF=N/A]

- 51) Tae-Hee Han[†], Shuan Tan[†], Jingjing Xue[†], Lei Meng, **Jin-Wook Lee*** (corresponding author), Yang Yang*, Interface and Defect Engineering for Metal Halide Perovskite Optoelectronic Devices, **Advanced Materials**, 2019, 31, 1803515. [IF=25.809]
- 50) Tae-Hee Han[†], **Jin-Wook Lee[†]** (co-first author), Chungseok Choi, Shaun Tan, Changsoo Lee, Yepin Zao, Zhenghong Dai, Nicholas De Marco, Sung-Joon Lee, Sang-Hoon Bae, Yonghai Yuan, Hyuckmo Lee, Yu Huang and Yang Yang*, Perovskite-Polymer Composite Cross-linker Approach for Highly-stable and Efficient Perovskite Solar Cells, **Nature Communications**, 2019, 10, 520. [IF=11.878]
- 49) **Jin-Wook Lee^{†*}**, Do-Kyoung Lee[†], Dong-Nyuk Jeong, Nam-Gyu Park*, Control of Crystal Growth towards Scalable Fabrication of Perovskite Solar Cells, **Advanced Functional Materials**, 2018, 1807047. [IF=15.621]
- 48) **Jin-Wook Lee[†]**, Il Jeon[†], Haosheng Lin, Seungjoo Seo, Tae-Hee Han, Anton Anisimov, Esko I. Kauppinen, Yutaka Matsuo*, Shigeo Maruyama*, Yang Yang*, Vapor-Assisted *Ex-Situ* Doping of Carbon Nanotube towards Efficient and Stable Perovskite Solar Cells, **Nano Letters**, 2018, DOI: 10.1021/acs.nanolett.8b04190 (cover article). [IF=12.279]
- 47) Lei Meng, Chenkai Sun, Rui Wang, Wenchao Huang, Zipeng Zhao, Pengyu Sun, Tianyi Huang, Jingjing Xue, **Jin-Wook Lee**, Chenhui Zhu, Yu Huang, Yongfang Li*, Yang Yang*, Tailored phase conversion under conjugated polymer enables thermally stable perovskite solar cells with efficiency exceeding 21%, **Journal of American Chemical Society**, 2018, 140, 17255-17262. [IF=14.695] [citation=1]
- 46) Hao-Sheng Lin, Il Jeon*, Rong Xiang, Seungju Seo, **Jin-Wook Lee**, Chao Li, Amrita Pal, Sergei Manzhos, Mark S. Goorsky, Yang Yang, Shigeo Maruyama, Yutaka Matsuo*, Achieving High Efficiency in Solution-Processed Perovskite Solar Cells Using C₆₀/C₇₀ Mixed Fullerenes, **ACS Applied Materials & Interfaces**, 2018,10, 39590-39598. [IF=8.456] [citation=4]
- 45) Jingjing Xue[†], **Jin-Wook Lee[†]** (co-first author), Zhenghong Dai, Rui Wang, Selbi Nuryyeva, Michael E. Liao, Sheng-Yung Chang, Lei Meng, Dong Meng, Pengyu Sun, Oliver Lin, Mark S. Goorsky, Yang Yang*, Surface Ligand Management for Stable FAPbI₃ Perovskite Quantum Dot Solar Cells, **Joule (Cell Press)**, 2018, 2, 1866-1878. [IF=N/A] [citation=4]
- 44) Annie Ng, Zhiwei Ren, Hanlin Hu, Patrick W. K. Fong, Qian Shen, Sin Hang Cheung, Pingli Qin, **Jin-Wook Lee**, Aleksandra B. Djurišić, Shu Kong So, Gang Li, Yang Yang, Charles Surya*, A Cryogenic Process for Antisolvent-Free High-Performance Perovskite Solar Cells, **Advanced Materials**, 2018, 30, 1804402. [IF=25.809] [citation=3]
- 43) **Jin-Wook Lee**, Zhenghong Dai, Tae-Hee Han, Chungseok Choi, Sheng-Yung Chang, Sung-Joon Lee, Nicholas De Marco, Hongxiang Zhao, Pengyu Sun, Yu Huang, Yang Yang*, 2D Perovskite Stabilized Phase-pure Formamidinium Perovskite Solar Cells, **Nature Communications**, 2018, 9, 3021. [IF=11.878] [citation=21]
- 42) Zonghao Liu[†], Qi Chen[†], **Jin-Wook Lee**, Zhixin Zhao*, Xiaobao Xu, Yao-Tsung Hsieh, Lei Meng, Pengyu Sun, Nicholas De Marco, Huanping Zhou*, Yi-Bing Cheng, Yang Yang*, Rationally Induced Interfacial Dipole in Planar Heterojunction Perovskite Solar Cells for Reduced J-V Hysteresis, **Advanced Energy Materials**, 2018, 8, 1800568. [IF=24.884] [citation=1]
- 41) **Jin-Wook Lee[†]**, Zhenghong Dai[†], Changsoo Lee, Hyuck Mo Lee, Tae-Hee Han, Nicholas De Marco, Oliver Lin, Christopher S. Choi, Bruce Dunn, Jaekyung Koh, Dino Di Carlo, Jeong Hoon Ko, Heather D. Maynard, Yang Yang*, Tuning Molecular Interactions for Highly Reproducible and Efficient Formamidinium Perovskite Solar Cells via Adduct Approach, **Journal of the American Chemical Society**, 2018, 140, 6317-6324. [IF=14.695] [citation=14]
- 40) **Jin-Wook Lee**, Sang-Hoon Bae, Yao-Tsung Hsieh, Nicholas De Marco, Mingkui Wang, Pengyu Sun, Yang Yang*, A Bi-Functional Lewis Base for Microscopic Homogeneity in Perovskite Solar Cells, **Chem (Cell Press)**, 2017, 3, 290-302. [IF=18.205] [citation=34]
- 39) **Jin-Wook Lee[†]**, Sang-Hoon Bae[†], Nicholas De Marco[†], Yao-Tsung Hsieh[†], Zhenghong Dai, Yang Yang*, The Role of Grain Boundaries in Perovskite Solar Cells, **Materials Today Energy**, 2018, 7, 149-160. [IF=N/A] [citation=21]
- 38) Jia-Wen Xiao, Liang Liu, Deliang Zhang, Nicholas De Marco, **Jin-Wook Lee**, Oliver Lin, Qi Chen,* Yang Yang*, The Emergence of the Mixed Perovskites and Their Applications as Solar Cells, **Advanced Energy Materials**, 2017, 7, 1700491. [IF=24.884] [citation=39]
- 37) **Jin-Wook Lee[†]**, Seul-Gi Kim[†], Sang-Hoon Bae, Do-Kyoung Lee, Oliver Lin, Yang Yang*, Nam-Gyu Park*, The Interplay between Trap Density and Hysteresis in Planar Heterojunction Perovskite Solar Cells, 2017, **Nano Letters**, 2017, 17, 4270-4276. [IF=12.279] [citation=58]
- 36) **Jin-Wook Lee[†]**, Yao-Tsung Hsieh[†], Nicholas De Marco[†], Sang-Hoon Bae[†], Qifeng Han, Yang Yang*, Halide

- Perovskites for Tandem Solar Cells, **Journal of Physical Chemistry Letters**, 2017, 8, 1999-2011 (cover article). [IF=7.329] [citation=24]
- 35) **Jin-Wook Lee**[†], Yung Ji Choi[†], June-Mo Yang, Sujin Ham, Sang Kyu Jeon, Jun Yeob Lee*, Young-Hyun Song, Eun Kyung Ji, Dae-Ho Yoon, Seongrok Seo, Hyunjung Shin, Gil Sang Han, Hyun Suk Jung, Dongho Kim*, Nam-Gyu Park*, Type I Nanocrystalline Perovskite Film for Highly Efficient Light Emitting Diode, **ACS Nano**, 2017, 11, 3311-3319. [IF=13.903] [citation=59]
 - 34) Sujin Ham, Yung Ji Choi, **Jin-Wook Lee**, Nam-Gyu Park*, Dongho Kim*, Impact of Excess CH₃NH₃I on Free Carrier Dynamics in High-Performance Nonstoichiometric Perovskites, **Journal of Physical Chemistry C**, 2017, 121, 3143-3148. [IF=4.309] [citation=18]
 - 33) **Jin-Wook Lee**, Hui-Seon Kim, Hyunjung Shin, Hyun Suk Jung, Pil J. Yoo, Jong Hyeok Park, Duk-Young Jung, Nam-Gyu Park*, A Sharp Focus on Perovskite Solar Cells at Sungkyun International Solar Forum (SISF), **ACS Energy Letters**, 2016, 1, 500-502. [IF=16.331] [citation=3]
 - 32) Dae-Yong Son[†], **Jin-Wook Lee**[†] (co-first author), Yung Ji Choi, In-Hyuk Jang, Seonhee Lee, Pil J. Yoo, Hyunjung Shin*, Namyoung Ahn, Mansoo Choi, Dongho Kim*, Nam-Gyu Park*, Self-Formed Grain Boundary Healing Layer for Highly Efficient CH₃NH₃PbI₃ Perovskite Solar Cell, **Nature Energy**, 2016, 1, 16081. [IF=54] [citation=348]
 - 31) Seong Min Kang,[†] Segeun Jang[†], Jong-Kwon Lee, Jungjin Yoon, **Jin-Wook Lee**, Dong-Eun Yoo, Mansoo Choi*, Nam-Gyu Park*, Moth-eye TiO₂ Layer for Improving Light Harvesting Efficiency in Perovskite Solar Cell, **Small**, 2016, 12, 2443-2449. [IF=10.856] [citation=49]
 - 30) **Jin-Wook Lee**, Hui-Seon Kim, Nam-Gyu Park*, Lewis Acid-Base Adduct Approach for High Efficiency Perovskite Solar Cells, **Accounts of Chemical Research**, 2016, 49, 311-319. [IF=21.661] [citation=284]
 - 29) Min-cheol Kim, Byeong Jo Kim, Jungjin Yoon, **Jin-Wook Lee**, Dongchul Suh, Nam-Gyu Park, Mansoo Choi*, Hyun Suk Jung*, Electro-spray Deposition of Mesoporous TiO₂ Charge Collection Layer: Toward Large Scale and Continuous Production of Highly Efficiency Perovskite Solar Cell, **Nanoscale**, 2015, 7, 20725-20733. [IF=6.97] [citation=23]
 - 28) Jae-Min Cha[†], **Jin-Wook Lee**[†] (co-first author), Dae-Yong Son, Hui-Seon Kim, In-Hyuk Jang, Nam-Gyu Park*, Mesoscopic Perovskite Solar Cell with the Admixture of Nanocrystalline TiO₂ and Al₂O₃: Role of Interconnectivity of TiO₂ in Charge Collection, **Nanoscale**, 2016, 8, 6341-6351. [IF=6.97] [citation=19]
 - 27) Gill Sang Han, Young Hyun Song, Young Un Jin, **Jin-Wook Lee**, Nam-Gyu Park, Bong Kyun Kang, Jung-Kun Lee, In Sun Cho, Dae Ho Yoon*, Hyun Suk Jung*, Reduced Graphene Oxide/Mesoporous TiO₂ Nanocomposite Based Perovskite Solar Cells, **ACS Applied materials & interfaces**, 2015, 7, 23521-23526. [IF=8.456] [citation=72]
 - 26) **Jin-Wook Lee**[†], Deok-Hwan Kim[†], Hui-Seon Kim, Seung-Woo Seo, Sung Min Cho, Nam-Gyu Park*, Formamidinium and Cesium Hybridization for Photo- and Moisture-Stable Perovskite Solar Cell, **Advanced Energy Materials**, 2015, 5, 1501310. [IF=24.844] [citation=565]
 - 25) Gill Sang Han, Hyun Suk Chung, Dong Hoe Kim, Byeong Jo Kim, **Jin Wook Lee**, Nam-Gyu Park, In Sun Cho, Jung-Kun Lee, Sangwook Lee*, Hyun Suk Jung*, Epitaxial 1D Electron Transport Layers for High Performance Perovskite Solar Cells, **Nanoscale**, 2015, 7, 15284. [IF=6.97] [citation=24]
 - 24) Namyoung Ahn[†], Seong Min Kang[†], **Jin-Wook Lee**, Mansoo Choi*, Nam-Gyu Park*, Thermodynamic Regulation of CH₃NH₃PbI₃ Crystal Growth and Its Effect on Photovoltaic Performance of Perovskite Solar Cell, **Journal of Materials Chemistry A**, 2015, 3, 19901. [IF=10.733] [citation=47]
 - 23) **Jin-Wook Lee**, Nam-Gyu Park*, Two-step Deposition Method for High-Efficiency Perovskite Solar Cells, **MRS Bulletin**, 2015, 40, 654. [IF=4.655] [citation=27]
 - 22) Hyun-Woo Kang[†], **Jin-Wook Lee**[†] (co-first author), Dae-Yong Son, Nam-Gyu Park*, Modulation of Photovoltage in Mesoscopic Perovskite Solar Cell by Controlled Interfacial Electron Injection, **RSC Advances**, 2015, 5, 47334. [IF=3.049] [citation=15]
 - 21) Dong Hoe Kim, Gill Sang Han, Won Mo Seong, **Jin-Wook Lee**, Byeong Jo Kim, Nam-Gyu Park, Kug Sun Hong, Sangwook Lee*, Hyun Suk Jung*, Niobium Doping Effects on TiO₂ Mesoscopic Electron Transport Layer-Based Perovskite Solar Cells, **ChemSusChem**, 2015, 8, 2392. [IF=7.804] [citation=82]
 - 20) Dong-Jin Seol, **Jin-Wook Lee**, Nam-Gyu Park*, On the Role of Interfaces in Planar-Structured HC(NH₂)₂PbI₃ Perovskite Solar Cells, **ChemSusChem**, 2015, 8, 2414. [IF=7.804] [citation=44]
 - 19) Hyun-Suk Ko, **Jin-Wook Lee**, Nam-Gyu Park*, 15.76% Efficiency Perovskite Solar Cell Prepared under High Relative Humidity: Importance of PbI₂ Morphology in Two-Step Deposition of CH₃NH₃PbI₃, **Journal of Materials Chemistry A**, 2015, 3, 8808. [IF=10.733] [citation=221]

- 18) Luca Bertoluzzi, Rafael S. Sanchez, Linfeng Liu, **Jin-Wook Lee**, Elena Mas-Marza, Hongwei Han, Nam-Gyu Park, Ivan Mora-Sero, Juan Bisquert*, Cooperative kinetics of depolarization in CH₃NH₃PbI₃ perovskite solar cells, **Energy & Environmental Science**, 2015, 8, 910. [IF=33.25] [citation=71]
- 17) **Jin-Wook Lee**[†], Seung Hee Lee[†], Hyun-Suk Ko, Jeong Kwon, Jong Hyeok Park, Seong Min Kang, Namyoung Ahn, Mansoo Choi, Jong Kyu Kim*, Nam-Gyu Park*, Opto-Electronic Property of TiO₂ Nanohelices-Embedded HC(NH₂)₂PbI₃ Perovskite Solar Cells, **Journal of Materials Chemistry A**, 2015, 3, 9179-9186. [IF=10.733] [citation=47]
- 16) Seong Min Kang, Namyoung Ahn, **Jin-Wook Lee**, Mansoo Choi*, Nam-Gyu Park*, Water-Repellent Perovskite Solar Cell, **Journal of Materials Chemistry A**, 2014, 2, 20017. [IF=10.733] [citation=41]
- 15) Gill Sang Han, Hyun Suk Chung, Byung-Jo Kim, Dong Hoe Kim, **Jin-Wook Lee**, Bhabani Sankar Swain, Khalid Mahmood, Jin Sun Yu, Nam-Gyu Park, Jung Heon Lee*, Hyun Suk Jung*, Retarding Charge Recombination in Perovskite Solar Cells Using Ultrathin MgO-coated TiO₂ Nanoparticulate Films, **Journal of Materials Chemistry A**, 2015, 3, 9160. [IF=10.733] [citation=89]
- 14) Lee Seul Oh, Dong Hoe Kim, Jin Ah Lee, Seong Sik Shin, **Jin-Wook Lee**, Ik Jae Park, Min Jae Ko, Nam-Gyu Park, Sung Gyu Pyo*, Kug Sun Hong, Jin Young Kim*, Zn₂SnO₄-Based Photoelectrodes for Organolead Halide Perovskite Solar Cells, **The Journal of Physical Chemistry C**, 2014, 118, 22991. [IF=4.309] [citation=61]
- 13) Jun-Ho Yum*, **Jin-Wook Lee**, Yongjoo Kim, Robin Humphry-Baker, Nam-Gyu Park*, Michael Grätzel, Panchromatic Light Harvesting by Dye- and Quantum Dot-Sensitized Solar Cells, **Solar Energy**, 2014, 109, 183-188. [IF=4.674] [citation=13]
- 12) Hyun-Woo Kang, **Jin-Wook Lee**, Nam-Gyu Park*, Effect of Double Blocking Layers at TiO₂/Sb₂S₃ and Sb₂S₃/spiro-MeOTAD Interfaces on Photovoltaic Performance, **Faraday Discussions**, 2014, 176, 287-289. [IF=3.712] [citation=9]
- 11) **Jin-Wook Lee**, Nam-Gyu Park*, Perovskite Solar Cell, **Vacuum Magazine (domestic)**, 2014, 1, 10-13. [IF=N/A]
- 10) Rafael S. Sanchez, Victoria Gonzalez-Pedro, **Jin-Wook Lee**, Nam-Gyu Park*, Yong Soo Kang, Ivan Mora-Sero*, Juan Bisquert*, Slow Dynamic Processes in Lead Halide Perovskite Solar Cells. Characteristic Times and Hysteresis, **Journal of Physical Chemistry Letters**, 2014, 5, 2357. [IF=7.329] [citation=447]
- 9) **Jin-Wook Lee**, Dong-Jin Seol, An-Na Cho, Nam-Gyu Park*, High-Efficiency Perovskite Solar Cells Based on the Black Polymorph of HC(NH₂)₂PbI₃, **Advanced Materials**, 2014, 26, 4991. [IF=25.809] [citation=565]
- 8) **Jin-Wook Lee**, Sungmin Park, Min Jae Ko, Hae Jung Son, Nam-Gyu Park*, Enhancement of the Photovoltaic Performance of CH₃NH₃PbI₃ Perovskite Solar Cells through a Dichlorobenzene-Functionalized Hole-Transporting Material, **ChemPhysChem**, 2014, 15, 2595. [IF=3.077] [citation=34]
- 7) **Jin-Wook Lee**, Taek-Yong Lee, Pil J. Yoo, Michael Grätzel, Subodh Mhaisalkar, Nam-Gyu Park*, Rutile TiO₂-Based Perovskite Solar Cells, **Journal of Materials Chemistry A**, 2014, 2, 9251. [IF=10.733] [citation=129]
- 6) **Jin-Wook Lee**, Jong-Deok Hong, Nam-Gyu Park*, Sixfold Enhancement of Photocurrent by Surface Charge Controlled High density Quantum Dot coating, **Chemical Communications**, 2013, 49, 6448. [IF=6.164] [citation=18]
- 5) Hui-Seon Kim, **Jin-Wook Lee**, Natalia Yantara, Pablo P. Boix, Sneha A. Kulkarni, Subodh Mhaisalkar, Michael Grätzel, Nam-Gyu Park*, High Efficiency Solid-State Sensitized Solar Cell-Based on Submicrometer Rutile TiO₂ Nanorod and CH₃NH₃PbI₃ Perovskite Sensitizer, **Nano Letters**, 2013, 13, 2412. [IF=12.279] [citation=717]
- 4) **Jin-Wook Lee**, Dae-Yong Son, Tae Kyu Ahn, Hee-Won Shin, In Young Kim, Seong-Ju Hwang, Min Jae Ko, Soohwan Sul, Hyouksoo Han, Nam-Gyu Park*, Quantum-Dot-Sensitized Solar Cell with Unprecedentedly High Photocurrent, **Scientific Reports**, 2013, 3, 1050. [IF=4.011] [citation=237]
- 3) **Jin-Wook Lee**, Jeong-Hyuk Im, Nam-Gyu Park*, Quantum confinement of CdSe induced by nanoscale solvothermal reaction, **Nanoscale**, 2012, 4, 6642. [IF=6.97] [citation=11]
- 2) Jeong-Hyeok Im, Chang-Ryul Lee, **Jin-Wook Lee**, Sang-Won Park, Nam-Gyu Park*, 6.5% efficient perovskite quantum-dot-sensitized solar cell, **Nanoscale**, 2011, 3, 4088. [IF=6.97] [citation=2168]
- 1) Woo-Seok Jeong, **Jin-Wook Lee**, Soonil Lee, Jae Ho Yun, Nam-Gyu Park*, Evaluation of external quantum efficiency of a 12.35% tandem solar cell comprising dye-sensitized and CIGS solar cells, **Solar Energy Materials and Solar Cells**, 2011, 95, 3419. [IF=6.019] [citation=52]

6. Book chapters

- 1) **Jin-Wook Lee**, Hui-Seon Kim, and Nam-Gyu Park, Organic-Inorganic Halide Perovskite Photovoltaics, Chapter 9,

APbI₃ (A = CH₃NH₃ and HC(NH₂)₂)₂ Perovskite Solar Cells: From Sensitization to Planar Heterojunction. 2016, 223-253, Springer International Publishing, ISBN: 978-3-319-35112-4

- 2) **Jin-Wook Lee**, Lei Meng, and Yang Yang, The Future of Semiconductor Oxides in Next-Generation Solar Cells, Chapter 7, Semiconducting Metal Oxides for High Performance Perovskite Solar Cells. 2017, 241-265, Elsevier, ISBN: 9780128111659.

7. Patents

- 1) Nam-Gyu Park; **Jin-Wook Lee**; Dae-Yong Son, *DYE-SENSITIZED SOLAR CELL AND PREPARING METHOD OF THE SAME*, Korea (grant, 10-1359440), USA (grant, 9214286).
- 2) Nam-Gyu Park; **Jin-Wook Lee**; Dong-Jin Seol; An-Na Cho, *PRECURSOR FOR PREPARING PEROVSKITE AND PREPARING METHOD OF THE SAME, AND PEROVSKITE SOLAR CELL AND PREPARING METHOD OF THE SAME*, Korea (grant, 10-1757198), PCT (application), Europe (application, 15 786 622.9).
- 3) Nam-Gyu Park; **Jin-Wook Lee**; Dong-Jin Seol; An-Na Cho, *PEROVSKITE SOLAR CELL AND PREPARING METHOD OF THE SAME*, Korea (grant, 10-1666563), PCT (application), Europe (application, 15 785 727.7).
- 4) Man Soo Choi; Seong Min Kang; Namyong Ahn; Nam-Gyu Park; **Jin-Wook Lee**, *POLYMERIC FILM HAVING A HYBRID STRUCTURED PATTERN AND MANUFACTURING METHOD OF SAME*, Korea (grant, 10-1719407).
- 5) Nam-Gyu Park; **Jin-Wook Lee**; Deok-Hwan Kim *PEROVSKITE SOLAR CELL FOR ENHANCED PHOTO-STABLE AND MOISTURE-STABLE AND PREPARING METHOD OF THE SAME*, Korea (grant, 10-1715253), PCT (application).
- 6) Nam-Gyu Park; **Jin-Wook Lee**, *ORGANIC-INORGANIC HYBRID PEROVSKITE-BASED X-RAY DETECTION DEVICE AND X-RAY DETECTION APPARATUS*, Korea (application, 10-2016-0039732).
- 7) Nam-Gyu Park; **Jin-Wook Lee**, *FILM COMPRISING ORGANIC-INORGANIC HYBRID PEROVSKITE CRYSTAL AND ITS PREPARING METHOD, AND X-RAY IMAGING SYSTEM USING THE SAME*, Korea (application, 10-2016-0039748).
- 8) Nam-Gyu Park; **Jin-Wook Lee**; June-Mo Yang, *PEROVSKITE NANOCRYSTAL THIN FILM, PREPARING METHOD THEREOF, AND LIGHT EMITTING DIODE INCLUDING THE SAME*, Korea (grant, 10-1908708), PCT (application).
- 9) Yang Yang; **Jin-Wook Lee**; Tae-Hee Han, *A BI-FUNCTIONAL LEWIS BASE ADDITIVE FOR MICROSCOPIC HOMOGENEITY IN PEROVSKITE SOLAR CELLS*. USA (application, 62/539389).
- 10) Yang Yang; **Jin-Wook Lee**; Tae-Hee Han, *2D PEROVSKITE STABILIZED PHASE-PURE FORMAMIDINIUM PEROVSKITE SOLAR CELLS*, USA (application, 62/698689)

8. Presentations at international conferences

- 1) Poster Presentation, Sixfold Enhancement of Photocurrent Density in Hg-doped PbS Quantum Dot Sensitized Solar Cell by Surface Charge Control, E-MRS 2013 Spring Meeting, May 2013, Strasbrug, France.
- 2) Oral Presentation, Chlorinated Hole Transporting Polymer for High Efficiency Perovskite Solar cell. DSC-OPV8, November 2013, Busan, Korea.
- 3) Poster Presentation, High Efficiency Rutile TiO₂ based Perovskite Solar Cell, MRS 2014 Spring Meeting, April 2014, San Fransisco, USA.
- 4) Oral Presentation, 16% efficient HC(NH₂)₂PbI₃ perovskite solar cell, GPVC 2014, November 2014, Busan, Korea.
- 5) Poster Presentation, HC(NH₂)₂PbI₃ Perovskite Solar Cells Based on TiO₂ Nanohelices. HOPV15, May 2015, Rome, Italy.
- 6) Oral Presentation, PV-SEC 25, Strategy for Improving Photo- and Moisture Stability of Perovskite Solar Cell, PV-SEC25, November 2015, Busan, Korea.
- 7) Oral Presentation, Interface and Intermediate Phases Engineering for Achieving Efficient Perovskite Solar Cells. MRS 2017 Spring meeting, April 2017, Phoenix, USA
- 8) Oral Presentation, Strategies for achieving highly efficient and stable perovskite solar cells. SPIE Photonics West 2018, Feburary 2018, San Francisco, USA
- 9) Oral Presentation, Defect Engineering for Efficient and Stable Planar Perovskite Solar Cells. Sungkyun International

9. Refereeing activities

- 1) *Joule, Chem* by Cell Press
- 2) *Nature, Nature Communications* by Springer Nature
- 3) *Materials Today, Materials Today Energy, Nano Energy, Journal of Alloys and Compounds, Materials Chemistry and Physics, Electrochimica Acta* by Elsevier
- 4) *Journal of Physical Chemistry Letters, Journal of Physical Chemistry C, ACS Applied Materials & Interfaces* by American Chemical Society
- 5) *Journal of Photovoltaics* by IEEE
- 6) *Advanced Energy Materials, Physica Status Solidi* by Wiley
- 7) *Journal of Materials Chemistry C, Sustainable Energy & Fuels, Materials Chemistry Frontier* by Royal Society of Chemistry