

Curriculum Vitae

Contact Information

Full Name: Jin Young Kim (김진영, 金鎮泳)

Graduate School of Carbon Neutrality

School of Energy and Chemical Engineering

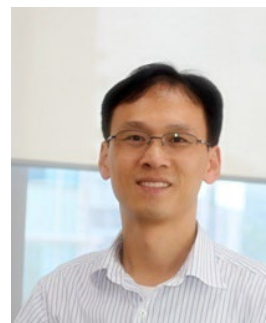
Ulsan National Institute of Science & Technology (UNIST)

50 UNIST-gil, Eonyang-eup, Ulju-gun, Ulsan, 44919, S. Korea

Phone: 82-52-217-2911

E-mail: jykim@unist.ac.kr

Homepage: <http://ngel.unist.ac.kr>



Education

Ph. D.: September 2000 ~ February 2005, Department of Physics, Pusan National University, Busan, S. Korea

M. S.: September 1998 ~ August 2000, Department of Physics, Pusan National University, Busan, S. Korea

B. S.: March 1992 ~ August 1998, Department of Physics, Pusan National University, Busan, S. Korea (included 26.5 months' obligatory military service)

Appointments

Jan. 2020 ~ present: Dean of Research Affairs, Ulsan National Institute of Science and Technology (UNIST), Ulsan, S. Korea

July 2008 ~ present: UNIST Chair Professor, School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology (UNIST), Ulsan, S. Korea

July 2007 ~ June 2008: Assistant Research Professor, Heeger Center for Advanced Materials, Gwangju Institute of Science and Technology (GIST), Gwangju, S. Korea

April 2005 ~ July 2007: Post Doc. Researcher, Center for Polymers and Organic Solids, UC Santa Barbara, Santa Barbara, USA

Research Interests

- Photo-physics of conjugated and conducting polymers
- Electrical properties of conjugated polymers
- Polymer and perovskite light-emitting diodes
- Polymer, colloidal quantum dot, and perovskite solar cells
- Organic-inorganic hybrid optoelectronic devices

Selected Awards and Honors

- Award for Excellency in Publication in "Science" (Minister of MOST of Korea 2007, 12).

- Award for “Best Scientist of the Month’s” (Minister of MSIP of Korea, 2014. 3).
- 2017~2018 Highly Cited Researchers (Web of Science, Clarivate Analytics)

Memberships and Professional Activities

- The Korean Physical Society, since 2001
- The Polymer Society of Korea, since 2003
- The Korean Institute of Chemical Engineers, since 2008
- The Chemical Society of Korea, since 2011
- Korea Photovoltaic Society, since 2014
- March 2009 ~ present: Group Leader of ‘Next Generation Solar Cells’ Research Group, UNIST
- November 2013 ~ October 2016: Associate Editor, Current Applied Physics
- Refereeing more than 50 papers per year including Nature Energy, Nano Letters, Advanced Materials, Energy & Environmental Science, Advanced Energy Materials, Advanced Functional Materials, ACS Nano, and so on.
- Supervision: 3 assistant research professor and 1 postdoctoral fellows, and 18 Master-Ph D combined students.

Summary of Publications

I have authored and co-authored over 300 peer-reviewed journal papers, 5 international and 42 Korean patents. Many of papers are published in top 7% (> 50 papers) journals including ten top 1% and Nature sister journals (*Nature*, *Science*, *Nature Materials*, *Nature Photonics*, *Joule*, *Energy & Environmental Science*, *Nature Communications*) in solar cell field. Many of them have been also published in the top journals in the fields of multidisciplinary materials. The total citation number of my publications is around 33,300 with *h*-index of 70 as of May 1, 2024 (Google Scholar).

Selected Publications

1. Seongheon Kim, Soo-Chan An, Yonggon Kim, Yun Seop Shin, Alexander A. Antonov, In Cheol Seo, Byung Hoon Woo, Yeonsoo Lim, Maxim V. Gorkunov*, Yuri S. Kivshar*, **Jin Young Kim***, and Young Chul Jun*, “Chiral electroluminescence from thin-film perovskite metacavities”, *Science Adv.* **2023**, 9, adh0414.
2. Young Kyeong Kim¹, Tack Ho Lee¹, Jiwoo Yeop, Woo Jin Byun, Jin Hyun Kim*, Jin Young Kim*, Jae Sung Lee*, “Hetero-tandem organic solar cells drive water electrolysis with a solar-to-hydrogen conversion efficiency up to 10%”, *Appl. Catal. B: Environ.* **2022**, 309, 121237.
3. Na Gyeong An, **Jin Young Kim*** and Doojin Vak *, “Machine Learning-Assisted Development of Organic Photovoltaics via High-Throughput In-Situ Formulation”, *Energy Environ. Sci.* **2021**, 14, 3438.
4. Jaeki Jeong, Minjin Kim, Jongdeuk Seo, Haizhou Lu, Paramvir Ahlawat, Aditya Mishra, Yingguo Yang, Michael A. Hope, Felix T. Eickemeyer, Maengsuk Kim, Yung Jin Yoon, In Woo Choi, Barbara Primera Darwich, Seung Ju Choi,

- Yimhyun Jo, Jun Hee Lee, Bright Walker, Shaik M. Zakeeruddin, Lyndon Emsley, Ursula Rothlisberger, Anders Hagfeldt*, Dong Suk Kim*, Michael Grätzel*, **Jin Young Kim***, “Pseudo-Halide Anion Engineering for α -FAPbI₃ Perovskite Solar Cells”, *Nature* **2021** 592, 381.
5. Minjin Kim, Gi-Hwan Kim, Tae Kyung Lee, In woo Choi, Hye Won Choi, Yimhyun Jo, Yung Jin Yoon, Jae Won Kim, Jiyun Lee, Daihong Huh, Heon Lee*, Sang Kyu Kwak*, **Jin Young Kim***, Dong Suk Kim*, “Methylammonium Chloride Induces Intermediate Phase Stabilization for Efficient Perovskite Solar Cells”, *Joule* **2019**, 3, 2179.
 6. Yung Jin Yoon, Kang Taek Lee, Tae Kyung Lee, Su Hwan Kim, Yun Seop Shin, Bright Walker, Song Yi Park, Jungwoo Heo, Junghoon Lee, Sang Kyu Kwak, Gi-Hwan Kim, **Jin Young Kim***, “Reversible, Full-Color Luminescence by Post-treatment of Perovskite Nanocrystals” *Joule*, **2018**, 2, 2105.
 7. Hak-Beom Kim, Yung Jin Yoon, Jaeki Jeong, Jungwoo Heo, Hyungsu Jang, Jung Hwa Seo, Bright Walker, and **Jin Young Kim***, “Peroptronic Devices: Perovskite-Based Light-Emitting Solar Cells”, *Energ. Environ. Sci.* **2017**, 10, 1950.
 8. Tack Ho Lee, Mohammad Afsar Uddin, Chengmei Zhong, Seo-Jin Ko, Bright Walker, Taehyo Kim, Yung Jin Yoon, Song Yi Park, Alan J. Heeger, Han Young Woo, **Jin Young Kim***, “Investigation of Charge Carrier Behavior in High Performance Ternary Blend Polymer Solar Cells”, *Adv. Energy Mater.* **2016**, 6, 1600637.
 9. Thanh Luan Nguyen, Hyosung Choi, Seo-Jin Ko, Mohammad Afsar Uddin, Bright Walker, Seungjib Yum, Ji-Eun Jeong, Myoung Hee Yun, Tae Joo Shin, Sungu Hwang, **Jin Young Kim***, and Han Young Woo, Semi-crystalline photovoltaic polymers with efficiency exceeding 9% in a ~300 nm thick conventional single-cell device, *Energ. Environ. Sci.* **2014**, 7, 3040.
 10. Hyosung Choi, Seo-Jin Ko, Yuri Choi, Piljae Joo, Taehyo Kim, Bo Ram Lee, Jae-Woo Jung, Hee Joo Choi, Myoungsik Cha, Jong-Ryul Jeong, In-Wook Hwang, Myoung Hoon Song, Byeong-Su Kim*, **Jin Young Kim***, “Versatile surface plasmon resonance of carbon dot-supported silver nanoparticles in polymer optoelectronic devices”, *Nature Photon.* **2013**, 7, 732.
 11. Seo-Jin Ko, Hyosung Choi, Wonho Lee, Taehyo Kim, Bo Ram Lee, Jae-woo Jung, Jong-Ryul Jeong, Myoung Hoon Song, Jeong Chul Lee, Han Young Woo*, **Jin Young Kim***, “Highly Efficient Plasmonic Organic Optoelectronic Devices Based on a Conducting Polymer Electrode Incorporated with Silver Nanoparticles”, *Energy Environ. Sci.* **2013**, 6, 1949.
 12. Mihee Heo, Heesook Cho, Jae-Woo Jung, Jong-Ryul Jeong, Soojin Park* and **Jin Young Kim***, “High-Performance Organic Optoelectronic Devices Enhanced by Surface Plasmon Resonance”, *Adv. Mater.* **2011**, 23, 5689.
 13. Jeff Peet, **Jin Young Kim**, Nelson E. Coates, Wanli Ma, Daniel Moses, Alan J. Heeger*, G. C. Bazan*, “Efficiency enhancement in low-bandgap polymer solar cells by processing with alkane dithiols” *Nature Mater.* **2007**, 6, 497.

14. **Jin Young Kim**, Kwanghee Lee*, Nelson E. Coates, Daniel Moses, Thuc-Quyen Nguyen, Mark Dante, Alan J. Heeger, “Efficient Tandem Polymer Solar Cells Fabricated by All-Solution Processing” *Science* **2007**, 317, 222.
15. **Jin Young Kim**, Sun Hee Kim, Hyun-Ho Lee, Kwanghee Lee*, Wanli Ma, Xiong Gong, Alan J. Heeger, “New Architecture for High-Efficiency Polymer Photovoltaic Cells Using Solution-Based Titanium Oxide as an Optical Spacer”, *Adv. Mater.* **2006**, 18, 572.