

NANO KOREA 2020

July 1~3, KINTEX, Korea

Jangwon Seo

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EDUCATION

Seoul National University	Ph.D	School of Materials Science and Engineering	2006
Seoul National University	MS	Department of Fiber and Polymer Science	2000
Seoul National University	BS	Department of Fiber and Polymer Science	1998

PROFESSIONAL ACTIVITIES

- Senior/Principal researcher, Advanced Materials Division, KRICT, Republic of Korea, (September 2013 to Present.)
- Research professor, Department of Materials Science and Engineering, SNU, Republic of Korea, (September 2012 to August 2013)
- Postdoctoral associate, Institute for Lasers, Photonics, and Biophotonics, University at Buffalo, USA (August 2007 to August 2013).
- Postdoctoral associate, School of Materials Science and Engineering, SNU, Republic of Korea, (March 2006 to August 2007)

AWARD AND HONORS

- 2017, Chemical industry day, commendation by minister (of trade, industry and energy)
- 2017, National Academy Engineering of Korea, The top 100 technologies and leaders to lead Korea in 2025
- 2017, Government funded research institute, 10 excellent technologies
- 2018, 100 National excellent research & development achievements (MIST, the grand prize)
- 2018, Science and Technology medal
- 2019, S-Oil, Next-generation scientist award

MAIN SCIENTIFIC PUBLICATION

- Kim, Y. C.; Yang, T.-Y.; Jeon, N. J.; Im, J.; Jang, S.; Shin, T. J.; Shin, H.-W.; Kim, S.; Lee, E.; Kim, S.; J. H. Noh.; S. I. Seok*; Seo, J.* "Engineering interface structures between lead halide perovskite and copper phthalocyanine for efficient and stable perovskite solar cells", *Energy. Environ. Sci.*, **2017**, 10, 2109.

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- Lee, S. J.; Shin, S. S.; Im, J.; Ahn, T. K.; Noh, J. H.; Jeon, N. J.; Seok, S. I.*; Seo, J.* “Reducing carrier density in foraminidinium tin perovskites and its beneficial effects on stability and efficiency of perovskite solar cells”, *ACS energy Lett.* **2018**, 3, 46.
- Jeon, N. J.; Na, H.; Jung, E. H.; Yang, T.-Y.; Lee, Y. G.; Kim, G.; Shin, H. W.; Seok, S. I.; Lee, J.*; Seo, J.* “A fluorene-terminated hole-transporting material for highly efficient and stable perovskite solar cells”, *Nat. Energy* **2018**, 3, 682.
- Kim, Y.; Jung, E. H.; Kim, G.; Kim, D.; Kim, B. J.*; Seo, J.* “Sequentially Fluorinated PTAA Polymers for Enhancing Voc of High-Performance Perovskite Solar Cells”, *Adv. Energy Mater.* **2018**, 8, 1801668.
- Kim, Y. Y.; Yang, T.-Y.; Suhonen, R.; Valimaki, M.; Maaninen, T.; Kemppainen, A.; Jeon, N. J.; Seo, J.* “Gravure-Printed Flexible Perovskite Solar Cells: Toward Roll-to-Roll Manufacturing”, *Adv. Sci.* **2019**, 1802094.
- Jung, J.; Shin, S. S.; Kim, G.; Jeon, N. J.; Yang, T.-Y.; Noh, J. H.; Seo, J.* “Impact of Electrode Materials on Processing Environmental Stability of Efficient Perovskite Solar Cells”, *Joule* **2019**, 3, 1977.
- Yang, T.-Y.; Jeon, N. J.; Shin, H.-W.; Shin, S. S.; Kim, Y. Y.; Seo, J.* “Achieving Long-term Operational Stability of Perovskite Solar Cells with a Stabilized Efficiency Exceeding 20 % after 1,000 Hours”, *Adv. Sci.* **2019**, 1900528.
- Jung, E. H.; Jeon, N. J.; Park, E. Y.; Moon, C. S.; Shin, T. J.; Yang, T.-Y.; Noh, J. H.*; Seo, J.* “Efficient, stable and scalable perovskite solar cells using poly(3-hexylthiophene)”, *Nature* **2019**, 567, 511.

RESEARCH INTERESTS

- Organic-polymeric materials for optoelectronic applications
- Organic-inorganic hybrid perovskite solar cells