

Asst. Prof. Jaeyoung Jang

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Education

Ph.D. Chemical Engineering, POSTECH, Feb 2012

B.S. Chemical Engineering, POSTECH, Aug 2006

Research Interests

1. Electronic and energy devices –field-effect transistors, thermoelectrics, solar cells
2. Organic and polymeric electronic materials – semiconductors & dielectrics
3. Surface functionalization of colloidal quantum-dot nanocrystals with inorganic ligands
4. Organic-inorganic hybrid materials and organometallic perovskite materials

Career

2015 – Present, *Assistant Professor*, Dept. of Energy Engineering, Hanyang University

2014 – 2015, *Postdoctoral Research Associate*, James Franck Institute, University of Chicago, USA

2012 – 2014, *Postdoctoral Research Associate*, Dept. of Chemistry, University of Chicago, USA

2012 – 2013, *Postdoctoral Research Associate*, Polymer Research Institute, POSTECH

Authors of about 55 scientific papers (last update: May 2016)

Selected Publications (H-index 18)

1. **Jang** et al. “Solution-processed transistors using colloidal nanocrystals with composition-matched molecular “solders”: approaching single crystal mobility”, *Nano Letters*, 15, 6309-6317 (2015).
2. Dolzhanov, Hao, and **Jang** et al. “Composition-matched molecular “solders” for semiconductors”, *Science* 347, 425-428 (2015).
3. **Jang** et al. “Temperature-dependent Hall and field-effect mobility in strongly coupled all-inorganic nanocrystal arrays”, *Nano Letters*, 14, 653-662 (2014).
4. Kim[†] and **Jang**[†] et al. “The origin of excellent gate-bias stress stability in organic field-effect transistors employing fluorinated-polymer gate dielectrics”. *Advanced Materials*. 26, 7241-7246 (2014) [**Back Cover Article**] († equally contributed authors).
5. **Jang** et al. “Self-organizing properties of triethylsilylethynyl-anthradithiophene on monolayer graphene electrodes in solution-processed transistors”, *Nanoscale*, 5, 11094-11101 (2013).
6. **Jang** et al. “Highly crystalline soluble acene crystal arrays for organic transistors: mechanism of crystal growth during dip-coating”, *Advanced Functional Materials*, 22, 1005-1014 (2012).
7. **Jang** et al. “High T_g cyclic olefin copolymer gate dielectrics for N,N'-ditridecyl perylene diimide-based field-effect transistors: improving performance and stability with thermal treatment”, *Advanced Functional Materials*, 20, 2611-2618, (2010) [**Front Cover Article**].