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**Research Summary:**

My research topic during Ph.D. research was the morphology studies of polymer:fullerene bulk heterojunction (BHJ) for photovoltaics. My research was focused on thermal annealing, dependence of BHJ thickness, processing additives, and solution sequential processes that affect/control the BHJ morphology. To discover the nanomorphology, image analysis with transmission electron microscopy and atomic force microscopy as well as field effect transistors and internal quantum efficiency measurement were used.

**Selected Recent Publications:**

Nanomorphology of PCDTBT:PC<sub>70</sub>BM Bulk Heterojunction Solar Cells, J. S. Moon, J. Jo, and A. J. Heeger, *Adv. Energy Mater.* 2, 304 (2012).

Sequential Processing: Control of Nanomorphology in Bulk Heterojunction Solar Cells, D. H. Wang\*, J. S. Moon\*, J. Seifter, J. Jo, J. H. Park, O. O. Park and A. J. Heeger, *Nano Lett.* 11, 3163 (2011). \*Authors contributed equally to this work

Spontaneous Formation of Bulk Heterojunction Nanostructures: Multiple Routes to Equivalent Morphologies, J. S. Moon, C. J. Takacs, Y. Sun, A. J. Heeger, *Nano Lett.* 11, 1036 (2011).

Effect of Processing Additive on the Nanomorphology of a Bulk Heterojunction Material, J. S. Moon, C. J. Takacs, S. Cho, R. Coffin, H. Kin, G. Bazan, A. J. Heeger, *Nano Lett.* 10, 4005 (2010).

Columnlike Structure of the Cross-sectional Morphology of Bulk Heterojunction Materials, J. S. Moon, J. K. Lee, S. Cho, J. Byun, A. J. Heeger, *Nano Lett.* 9, 230 (2009).