65th GREEN Open Seminar

2018/3/9(Fri) 14:00～15:00

Venue : Seminar room#409,410, 4F, Collaborative Research Bldg., Namiki Site

Progress in highly efficient and stable perovskite solar cells

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Abstract

Inorganic-organic hybrid perovskite solar cells hinder their practical applications due to a lack of device stability under operating conditions. In order to surmount the instability of perovskite solar cells, recent attempts have been focussed on chemical modification of the perovskites by introducing additives. However, their stability has mostly been assessed under humid conditions, indicating that environmental resistance against heat or light has not been achieved yet. Moreover, inorganic hole transporting materials as an alternative to organic hole conductors have been applied to perovskite solar cells, but their stability and photovoltaic performance are not satisfactory compared with organic hole conductor-based devices. This presentation will demonstrate our recent progress in the study of surfactant-modified MAPbI3 perovskite solar cells and inorganic hole conductor-based perovskite solar cells.

Biography

Dr. Minsu Jung received his B.S. (with high honours) and M.S. degrees in Chemistry from Yonsei University, South Korea in 2003 and 2005. Prior to commencing his PhD, he worked at LS Cable & System as a Research Associate for two years and was promoted to a Senior Research Associate in 2007 and a Senior Researcher in 2011. He has been awarded a University International Postgraduate Award (UIPA) in 2011 and completed his PhD under supervision of Prof. Rose Amal from University of New South Wales (UNSW), Australia in 2016. Afterwards, he moved to Ulsan National Institute of Science and Technology (UNIST), South Korea for his postdoctoral research with Prof. Sang Il Seok. He was promoted to a Research Assistant Professor in December 2017 and currently holds a three-year National Research Foundation of Korea (NRF) Research Fellowship. His main research focuses on studying fundamental properties of inorganic-organic hybrid perovskite materials, inorganic hole transporting materials and their photovoltaic applications.

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