

Prof. Ungyu Paik

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Education

Ph.D. Department of Ceramic Eng., Clemson University 1991

M.E. Materials Sci. and Eng., Virginia Polytechnic Inst. and State Univ. 1988

B.S. Ceramic Engineering, Hanyang University 1986

Research Interests

Energy Materials, Nano Patterning, Nano Devices Fabrication

Career

2010 – Present, Professor, Department of Energy Engineering, Hanyang University

2008 – Present, Technology counselor, Samsung SDI Corporate Research & Development Center

2007 – Present, Executive Director, Research & Development Planning Center for Energy & Resources

2007 – Present, Technology counselor, Hynix semiconductor

2006 – 2010, Professor, Division of Materials Science Engineering, Hanyang University

1999 – 2006, Professor, Department of Ceramic Engineering, Hanyang University

Recent Projects

1. Global Research Laboratory Program of Global Joint R&D Program
2. International Collaborative R&D Program for Energy
3. Research Center for Converging Technology in Advanced Gas Turbine System
4. Development of Combustion Liner and Transition Piece Component for Advanced Gas Turbine

Professional Activities & Awards

2015.03 – Present, Head, Department of Energy Engineering, Hanyang University

2015.03 – Present, Director, Future convergence Energy-Leaders BK21+ Program

2016.03 – Present, Editorial Board, Journal of Scientific Report

2014.01 – Present, Editorial Board, Journal of Nanomaterials

2012.01 – 2014.01, Director, International Collaborative R&D Program for Energy

2011.01 – Present, Director, Gas-turbine R&D Program

2009.01 – Present, HYU Distinguished Professor, Department of Energy Engineering, Hanyang Univ.

2007.06 – Present, Director, Global Research Laboratory for Nano Device Processing Laboratory

2011, 2011 One of 100 people who will lead Korea after 10 years by Dong-A Newspaper

2009, The Great Scholar Award from Hanyang University

2008, Scientist of the Month Award from Korea Science and Engineering Foundation

2007, Minister's Award from the Ministry of Commerce

Author of about 280 scientific papers, 90 patents, and 3 books**Selected Publications (Recent 3 Years)**

1. Etching-in-a-Box: A Novel Strategy to Synthesize Unique Yolk-Shelled Fe₃O₄@Carbon with an Ultralong Cycling Life for Lithium Storage, *Advanced Energy Materials* (2016)
2. Graphene as an Interfacial Layer for Improving Cycling Performance of Si Nanowires in Lithium-Ion Batteries, *Nano Letters* (2015)
3. Construction of hybrid bowl-like structures by anchoring NiO nanosheets on flat carbon hollow particles with enhanced lithium storage properties, *Energy & Environmental Science*, (2015)
4. Assembly of micro/nanomaterials into complex, three-dimensional architectures by compressive buckling, *Science* (2015)

5. Soft network composite materials with deterministic and bio-inspired designs, *Nature Communication* (2015).
6. Porosity-Controlled TiNb₂O₇ Microspheres with Partial Nitridation as A Practical Negative Electrode for High-Power Lithium-Ion Batteries, *Advanced Energy Materials* (2015)
7. Surface-Coverage-Dependent Cycle Stability of Core-Shell Nanostructured Electrodes for Use in Lithium Ion Batteries, *Advanced Energy Materials* (2014)