

Prof. Yang-Kook Sun

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Education

Ph.D. in Chemical Engineering, Seoul National University 1992

M.S. in Chemical Engineering, Seoul National University 1988

B.S. in Chemical Engineering, Chonnam University 1985

Research Interests

Cathode materials for lithium secondary battery, anode materials for lithium secondary battery, Lithium-Air battery, Lithium-Sulfur battery, Sodium-ion battery

Career

2013 – 2014, Dean, Department of Energy Engineering, Hanyang University

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

2007 – 2008, Research Professor, Illinois Institute of Technology (U.S.A.)

2000 – 2009, Professor Dep. of Chem. Eng., Hanyang University, Republic of Korea

2002 – 2004, Visiting Professor Dep. of Chem. Eng., Illinois Institute of Technology, USA

1996 – 2000, Principal Researcher (Team Leader of Lithium Polymer Battery), Samsung Advanced Institute of Technology, Republic of Korea

Recent Projects

2009 – Present, Tailor-designed materials with nano-heterostructure for next generation lithium batteries

2009 – Present, Development of Core Material & Element Technology of High-Capacity for V2G

Professional Activities & Awards

2016, Senior Editor of ACS Energy Letters

2012 – 2016, Editor of Journal of Power Sources

2011, The Battery Division of the Electrochemical society, Inc. presents its research award (U.S.A.)

2007, The Energy Technology Division of the Electrochemical society, Inc. presents its research award (U.S.A.)

2008, Distinguish Professor award, Hanyang University

2003, Award for Science Citation Index (SCI), Hanyang University

2001, Excellence in publication, (The Korean Society of Industrial and Engineering Chemistry)

Author of about 441 scientific papers, 236 patents, and 4 books

Selected Publication

1. "High-energy cathode material for long-life and safe lithium batteries", **Yang-Kook Sun**, Seung-Taek Myung, Byung-Chun Park, Jai Prakash, Ilias Belharouak and Khalil Amine, *Nat. Mater.*, 8 (4), 320-324, 2009.

2. "An improved high-performance lithium-air battery", Hun-Gi Jung, Jusef Hassoun, Jin-Bum Park, **Yang-Kook Sun** and Bruno Scrosati, *Nat. Chem.*, 4 (7), 579-588, 2012.

3. "Nanostructured high-energy cathode materials for advanced lithium batteries", **Yang-Kook Sun**, Zonghai Chen, Hyung-Joo Noh, Dong-Ju Lee, Hun-Gi Jung, Yang Ren, Steve Wang, Chong Seung Yoon, Seung-Taek Myung and Khalil Amine *Nat. Mater.*, 11 (11), 942-947, 2012.

4. "Aprotic and Aqueous Li-O₂ Batteries", Jun Lu, Li Li, Jin-Bum Park, **Yang-Kook Sun**, Feng Wu, and Khalil Amine, *Chem. Rev.*, 114 (11), 5611-5640, 2014.

5. "A Lithium-Oxygen Battery Based on Lithium Superoxide", Jun Lu, Yun Jung Lee, Xiangyi Luo, Kah Chun Lau, Jianguo Wen, Hsien-Hau Wang, Dengyun Zhai, Dean Miller, Yo-Sub Jeong, Jin-Bum Park, Zhigang Zak Fang, **Yang-Kook Sun**, Larry A. Curtiss, Khalil Amine, *Nature*, 529 (7856), 377-382, 2016.