Minwoo Kim **Ph.D candidate**

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RESEARCH INTERESTS

- **Water splitting application**: $BiVO_4$, $WO_3/BiVO_4$, In_2O_3/Bi_2WO_6, CIGS, CuO,
- **Solar cell application**: Nano-particle(CIGS) coating Thin film, Solution-type(CIS/CIGS) coating Thin film Solar cell(II-Gen), CIS 3D nanostructure
- **Superhydrophobic application**: Al_2O_3
- Electrohydrodynamics spray for thin-film applications
- Electro-spinning for nano-fiber applications
- Fluidic heat and mass transfer

EDUCATION

- **Master of Science**, expected in Aug. 2016 (4.19/4.5)
  Green School (Graduate School of Energy and Environment), Korea University, Seoul, Korea
  Advisor: Prof. Sam Sukgoo Yoon
- **Bachelor of Science** in Mechanical Engineering, Feb. 2014 (2.81/4.5)
  Hanyang University, Seoul, Korea

PUBLICATION

International Journal Papers

1. **Min Woo Kim**[1], Hyun Yoon[1], Tae Yun Ohm[1], Mukund G. Mali[1], Sung Kyu Choi, Hyunwoong Park, Salem S. Al-Deyab, Dong Chan Lim[*], SeJin Ahn[*], Sam S. Yoon[*], Platinium Decorated Cu(InGa)Se_2/CdS/ photocathodes: The role of CdS and Pt on photoelectrochemistry of solar water splitting, submitted
2. **Min Woo Kim**[1], Hyun Yoon[1], Tae Yoon Ohm, Seongpil An, Hong Seok Jo, Sung Kyu Choi, Hyunwoong Park, Salem S. Al-Deyab, Mar T. Swihart, Sam S. Yoon[*], Thorny Devil Nanotextured Cupric Oxide Nanofibers as Highly Efficient Photocathods, submitted†
3. Jong Gun Lee, Do-Yeon Kim, Jong-Hyuk Lee, **Min-woo Kim**, Seongpil An, Hong Seok Jo, Carlo Nervi, Salem S. Al-Deyab, Mark T. Swihart, Sam S. Yoon, Scalable Binder-Free Supersonic Cold Spraying of Nanotex Cupric Oxide (CuO) Films as Efficient Photocathodes, ***ACS Appl. Mater. Interfaces***, **2016**, *8* (24), pp 15406–15414
4. Hyun Yoon[1], **Min-woo Kim**[1], Hayong Kim[1], Do-Yeon Kim, Seongpil An, Jong-Gun Lee, Bhavana N. Joshi, Hong Seok Jo, Jeehoon Choi, Salem S. Al-Deyab, Alexander L. Yarin[*], Sam S. Yoon[*], Efficient heat removal via thorny devil nanofiber, silver nanowire, and graphene nanotextured surfaces, ***International Journal of Heat and Mass Transfer*** 101 (2016) 198–204, Oct. 2016
5. Seongpil An[1], Do-Yeon Kim[1], Jong-Gun Lee, Hong Seok Jo, **Min-woo Kim**, Salem S. Al-Deyab,

Jeehoon Choi[*], Sam S. Yoon[*], Supersonically sprayed reduced graphene oxide film to enhance critical heat flux in pool boiling, ***International Journal of Heat and Mass Transfer*** 98 (2016) 124–130, Jul. 2016

6. Mukund G. Mali[1], Hyun Yoon[1], **Min Woo Kim**, Salem S. Al-Deyab, Sam S. Yoon[*], Electrostatic Spray Deposition of Transparent Tungstun Oxide Thin Film Photoanodes for Solar Water Splitting, ***Catalysis Today***, Feb. 2016
7. Hyun Yoon[1], **Min Woo Kim**[1], Ha Yong Kim, Salem S. Al-Deyab, Scott C. James, SeJin Ahn[*], Sam S. Yoon[*], Three Dimensional Web-like Fibrous $CuInS_2$ Films, ***Applied Surface Science***, 351, 588-593, Oct. 2015
8. Bhavana Joshi[1], Hyun Yoon[1], Hayong Kim, **Min Woo Kim**, Mukund G. Mali, Salem S. Al-Deyab, Sam S. Yoon[*], Heterojunction photoanodes for solar water splitting using chemical-bath-deposited In_2O_3 micro-cubes and electro-sprayed Bi_2WO_6 textured nanopillars, ***RSC Advances***, 5, 85323-85328, Sep. 2015
9. Hyun Yoon[1], Ha Yong Kim[1], Sanjay S. Latthe, **Min Woo Kim**, Salem S. Al-Deyab, Sam S. Yoon[*], Highly Transparent Self-Cleaning Superhydrophobic Surface by organosilane-coated alumina particles deposited via electrospraying, ***Journal of Materials Chemistry A***, 3(21), 11403-11410, Apr. 2015
10. Mukund G. Mali[1], Hyun Yoon[1], **Min Woo Kim**, Mark T. Swihart, Salem S. Al-Deyab, Sam S. Yoon[*], Electrosprayed heterojunction $WO_3/BiVO_4$ films of nanotextured pillar structure for enhanced photoelectrochemical water splitting, ***Applied Physics Letters***, 106(15), 151603, Apr.2015
11. Hyun Yoon[1], Mukund G. Mali[1], Jae Young Choi, **Min Woo Kim**, Sung Kyu Choi, Hyunwoong Park, Salem S. Al-Deyab, Mark T. Swihart, Alexander L. Yarin[*], Sam S. Yoon[*], Nano-textured Pillars of Electrosprayed Bismuth Vanadate for Efficient Photoelectrochemical Water Splitting, ***Langmuir***, Mar. 2015
12. Hyun Yoon, Seung-Heon Na, Jae Young Choi, **Min Woo Kim**, Ha Yong Kim, Hui Sang Ahn, Byoung Koun Min, SeJin Ahn, Jae Ho Yun, Jihye Gwak, KyungHoon Yoon, Sanjay S. Kolekard, Maikel F.A.M.van Hest, Salem S. Al-Deyab, Mark T. Swihart, Sam S. Yoon[*], Carbon- and Oxygen-Free $Cu(InGa)(SSe)_2$ Solar Cell with a 4.63% Conversion Efficiency by Electrostatic Spray Deposition, ***ACS Applied Materials & Interfaces***, 6(11), 8369-8377, Apr. 2014

Proceeding/Conference Papers

1. Hyun Yoon, Seongpil An, **Min Woo Kim**, Ha-yong Kim, and Sam S. Yoon[*], Optical and Electrical Properties of Electrospun CIS Nanofibers of 3D Network, **The 6th World Conference on Photovoltaic Energy Conversion(WCPEC-6)**, Kyoto, Japan, Nov. 23-27, 2014(poster)
2. Hyun Yoon, Jae-Young Choi, **Min Woo Kim**, Ha Yong Kim, SeJin Ahn, Jae Ho Yun, Jihye Gwak, KyungHoon Yoon, Sam S. Yoon[*], $CuInS_2$ Nanofibers of 3D Nanostructure by Electrospinning for Efficient Thin Film Solar Cell via Enhanced Light Diffusion, Charge Separation and Transfer, **Korea Photovoltaic Society(KPVS 2014)**, Daegu, Korea April 2-3, 2014(poster)

FUND GRANTS

1. Green School(Graduate School of Energy and Environment) 2014.3-present

REFERENCE

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