

# NA SEUNG-HEON MASTER'S COURSE

Solar Cell & Aerosol Science Laboratory  
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## RESEARCH INTERESTS

- **Solar cell application:** Nano-particle(CIGS) coating Thin film, Solution-type(CIS/CIGS) coating Thin film Solar cell(II-Gen.), Nano Fiber Coating, Dye-Sensitized Solar cell(III-Gen.)
- **Graphene/CNT thin-film coating applications:** Water purification, Desalination
- **Titanium dioxide(TiO<sub>2</sub>) thin-films coating applications:** Antibacterial activity, Water purification, Self-cleaning, Dye-Sensitized Solar cell(III-Gen.)
- **Oil-water separation membrane**
- Electrohydrodynamics Spray Coating for thin-film applications

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## EDUCATION

- **Master of Science** in Mechanical Engineering, Feb. 2011 ( 4.19/4.5)  
Korea University, Seoul, Korea  
Advisor: Prof. Sam Sukgoo Yoon
- **Bachelor of Science** in Physics, Feb. 2012 (3.19/4.5)  
Dankook University, Chon-an, Korea

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## PUBLICATION

### INTERNATIONAL JOURNAL PAPERS

1. Hyun Yoon, **Seung-Heon Na**, Jae-Young Choi, Sanjay S. Latthe, Mark T. Swihart, Salem S. Al-Deyab, Sam S. Yoon, Gravity-driven hybrid membrane for oleophobic-superhydrophilic oil-water separation and water purification by graphene, Langmuir(SCI,IF=4.384), 30(39),11761-11769, 2014
2. 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)<sub>2</sub> Solar Cell with a 4.63% Conversion Efficiency by Electrostatic Spray Deposition, ACS Applied Materials and Interfaces(SCI,IF=5.900), 6(11), 8369-8377, 2014

- Hyun Yoon<sup>1</sup>, Bhavana N. Joshi<sup>2</sup>, **Seung-Heon Na**, Jae-Young Choi, Sam S. Yoon<sup>3</sup>, Photodegradation of methylene blue of niobium-doped zinc oxide thin films produced by electrostatic spray deposition, Ceramics International(SCI,IF=2.086), 40(5), 7567-7571,2014
- Bhavana Joshi<sup>1</sup>, Hyun Yoon<sup>1</sup>, **Seung-Heon Na**, Jae-Young Choi, Sam S. Yoon<sup>\*</sup>, Enhanced Photocatalytic Performance of Graphene-ZnO Nanoplatelet Composite Thin Films Prepared by Electrostatic Spray Deposition, Ceramics International(SCI,IF=1.789), 40(2), 3647-3654, 2014
- Hyun Yoon, Bhavana Joshi, **Seung-Heon Na**, Scott C. James, Sam S. Yoon<sup>3</sup>, Antibacterial Activity and Photocatalysis of Electro sprayed Titania Films, Journal of The Electrochemical Society(SCI, IF=2.427), 159 (11), H823-H827, 2012

#### Proceeding/Conference Papers

- Hyun Yoon, **Seung-Heon Na**, Jae-Young Choi, Sam S. Yoon<sup>3</sup>, Hui Sang Ahn, Byoung Koun Min, SeJin Ahn, Jae Ho Yun, Jihye Gwak, KyungHoon Yoon, Electrostatically Sprayed Cu(InGa)(SSe)<sub>2</sub> Thin Film Solar Cell with 4.63% Efficiency, The Global Photovoltaic Conference 2013(GPVC 2013), Busan, Korea, Nov. 23-26, 2013(poster)
- Seung-Heon Na**, Hyun Yoon, Sam S. Yoon<sup>\*</sup>, fabrication of CIGS/CZTS Thin Film Solar Cell via Electrostatic Spray Deposition, Korea Photovoltaic Society, Gyeonggi, Korea April 29-30, 2013
- Young Min Ra, Hyun Yoon, Bhavana Joshi, **Seung-Heon Na**, Sam S. Yoon<sup>\*</sup>, Solution/Particle type Thin Film Coating via Electrostatic Spray Deposition, Global Photovoltaic Conference 2012(GPVC 2012), Busan, Korea, Nov 19-21, 2012

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## CERTIFICATE

- 고려대학교, 제 2차 실리콘태양전지 기술교육 수료, 2012.02.20~25

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## FUND GRANTS

- Research Assistant, 2012Spring Semester / 2012Fall Semester / 2013 Spring Semester

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## REFERENCE

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