

# TAEGUN KIM

## Master course



### *Solar Cell & Aerosol Science Laboratory*

School of Mechanical Engineering

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## RESEARCH INTERESTS

- **Thin film coating process** : Cold Gas Dynamic Spray (CGDS) & Aerosol Deposition (AD)
- **Photocatalysis applications** : Water purification, Self-cleaning
- **Materials research** : Graphene(TCO, Heat sink), Lithium ion battery(Anode), Ceramic(TiO<sub>2</sub>), Metal(Copper)

## EDUCATION

- Master course in Mechanical Engineering  
**Korea University**, Seoul, Korea  
Advisor: Prof. Sam S. Yoon
- Bachelor of Mechanical System Design Engineering, Feb. 2016  
**Seoul National University of Science and Technology**, Seoul, Korea

## EMPLOYMENT

- 2016/Aug. to 2016/Dec. : Teaching Assistant, School of Mechanical Engineering, **Korea University**, Creativity in machine design: Capstone design.
- 2017/Mar. to 2017/June : Teaching Assistant, School of Mechanical Engineering, **Korea University**, Thermodynamics I.

## PUBLICATIONS

1. B Joshi<sup>†</sup>, JG Lee<sup>†</sup>, E Samuel, HS Jo, **TG Kim**, WY Yoon\*, SS Yoon\*, “Supersonically Blown reduced graphene oxide intertwined Fe-Fe<sub>3</sub>C nanofibers for lithium ion battery anodes”, **Electrochemistry Communications**, Submitted, **2016**
2. E Samuel<sup>†</sup>, JG Lee<sup>†</sup>, B Joshi, **TG Kim**, MW Kim, IW Seong, WY Yoon\*, SS Yoon\*, “Supersonic Cold Spraying of Titania Nanoparticles on Reduced Graphene Oxide for Lithium Ion Battery Anodes”, **Journal of Alloys and Compounds**, **2017**
3. JG Lee, DY Kim, **TG Kim**, JH Lee, SS. Al-Deyab, HW Lee, JS Kim, DH Yang, AL. Yarin\*, SS Yoon\*, “Supersonically Sprayed Copper-Nickel Microparticles as Flexible and Printable Thin-Film High-Temperature Heaters”, **Advanced Materials Interfaces**, **2017**
4. JG Lee, JH Lee, S An, DY Kim, **TG Kim**, SS. Al-Deyab, A Yarin, SS Yoon\*, “Highly Flexible, Stretchable, Wearable, Patternable, Transparent Heaters on Complex 3D Surface formed from Supersonically Sprayed Silver Nanowires”, **Journal of Materials Chemistry A**, **2016**
5. JG Lee, B Joshi, JH Lee, **TG Kim**, DY Kim, SS. Al-Deyab, IW Seong, M Swihart, WY Yoon, SS Yoon\*,

“ Stable High-Capacity Lithium Ion battery Anodes Produced by Supersonic Spray Deposition of Hematite Nanoparticles and Self-Healing Reduced Graphene Oxide”, *Electrochimica Acta* (IF=4.803), 2016

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## PRESENTATIONS

1. **Tae-Gun Kim**, Jong-Hyuk Lee, Jong-Gun Lee, Supersonic sprayed Fe-Fe<sub>3</sub>C nanofibers entangled with reduced graphene oxide for lithium ion battery anodes, Hong Kong, China, Jan. 19-21, 2017
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## SKILLS

- Technique: SEM (Scanning electron microscopy), EDX (Energy dispersive x-ray spectroscopy), AFM (Atomic force microscopy), XRD (X-ray diffraction), XPS (X-ray photoelectron spectroscopy), FTIR (Fourier transform infrared spectroscopy), Raman spectroscopy, UV-VIS spectrometer, TEM (Transmission electron microscopy).
  - Device fabrication: Aerosol deposition, Cold spray thin film deposition
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## REFERENCE

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