

CHANWOO PARK

DOCTOR COURSE



Solar Cell & Aerosol Science Laboratory

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RESEARCH INTERESTS

- **Thin film coating process** : Cold Gas Dynamic Spray (CGDS) & Aerosol Deposition (AD)
- **Semiconductor industry** : Advanced wafer cleaning process by using blowing & mesh
- **Pool boiling** : Pool boiling by using nano-textured surfaces
- **Materials research** : Silver nanowire(AgNW), Lithium ion battery(Anode), Ceramic(TiO₂), Metal(Copper, Nickel), Carbon(CNT)

EDUCATION

- Master course in Mechanical Engineering, (4.38 /4.5)
Korea University, Seoul, Korea
Advisor: Prof. Sam S. Yoon
- Bachelor of Automotive Engineering, Feb. 2017 (4.31/4.5)
Catholic University of Daegu, Daegu, Korea
Advisor: Prof. Sam S. Yoon

EMPLOYMENT

- 2017/Sep. to 2017/Dec.: Teaching Assistant, School of Mechanical Engineering, **Korea University**, Fluid mechanics I
- 2018/Mar. to 2018/June.: Teaching Assistant, School of Mechanical Engineering, **Korea University**, Fluid mechanics II.

PUBLICATIONS (†equal contribution, *corresponding author)

International Journal Papers (6 published, 1 submitted)

1. Chan-Sol Ahn[†], Chan-Woo Park[†], Min-Woo Kim, Tae-Gun Kim, Scott C. James, Youngbin Yoon, Alexander L*. Yarin, Sam S. Yoon*, Experimental and numerical investigation of

- smoke dynamics in vertical cylinders and open-air environment, *international journal of Heat and Mass Transfer* (IF= 3.891), 2019
- Hong Seok Jo[†], Hyuk-Jin Kwon[†], TG Kim, **CW Park**, SP An*, Alexander L. Yarin*, SS Yoon*, Wearable transparent thermal sensors and heaters based on metal-plated fibers and nanowires, *Nanoscale* (IF=3.387), 2018
 - Bhavana Joshi[†], Edmund Samuel[†], TG Kim, **CW Park**, YI Kim, Mark T. Swihart, WY Yoon*, SS Yoon*, Supersonically Spray-coated zinc ferrite/graphitic-carbon nitride composite as a stable high-capacity anode material for lithium-ion batteries, *Journal of Alloys and Compounds*(IF=3.133), 2018
 - Tae-Gun Kim[†], Edmund Samuel[†], Bhavana Joshi, **CW Park**, MW Kim, Mark T. Swihart, WY Yoon*, SS Yoon*, Supersonically sprayed rGO-Zn₂SnO₄ composites as flexible, binder-free, scalable, and high-capacity lithium ion battery anodes, *Journal of Alloys and Compounds*(IF=3.133), 2018
 - Tae-Gun Kim[†], **Chan-Woo Park**[†], JG Lee, MW Kim, MS Choi, WY Kim, JS Yang, SS Yoon*, Supersonically sprayed clay, silica, and silica aerogel hybrid films as thermal and electrical barriers, *Ceramics International* (IF=3.0857), 2018
 - Tae-Gun Kim[†], Jong-Gun Lee[†], CW Park, HS Jo, MW Kim, Maikel F.A.M. Van Hest, DH Cho, YD*, Chung, SS Yoon*, *Journal of Alloys and Compounds*(IF=3.133), 2018

Conference Papers

- CW Park**, TG Kim, Effect of supersonic spraying impact velocity on opto-electric properties of transparent conducting flexible films consisting of silver nanowire, ITO, and polyimide multilayers, *International Conference on Liquid Atomization & Spray Systems (ICLASS)*, July. 22-26, 2018
- CW Park**, TG Kim, SS Yoon*, Effect of supersonic spraying impact velocity on opto-electric properties of transparent conducting flexible films consisting of silver nanowire, ITO, and polyimide multilayers, *Global Photovoltaic Conference (GPVC)*, Gwang-ju, Republic of Korea, Mar. 15-17, 2018.
- CW Park**, TG Kim A study on transparent conducting films by using the supersonically flowed silver nanowires, *International Conference on Mechanical & Production Engineering (ICMPE)*, Tokyo, Japan, Nov. 4-6, 2017

SKILLS

- Technique:** SEM (scanning electron microscopy), EDX (energy dispersive x-ray spectroscopy), TEM (transmission electron microscopy), AFM (atomic force microscopy), XRD (X-ray diffraction), XPS (X-ray photoelectron spectroscopy), FTIR (Fourier transform infrared spectroscopy), Raman spectroscopy, UV-VIS spectrometer, DSC (Differential scanning calorimetry), TGA (thermogravimetric analysis), 4-point probe station, Optical surface profiler, Fluidic properties (viscosity, electrical conductivity, surface tension, dielectric constant)

- **Device fabrication** : Aerosol deposition, Cold spray thin film deposition
- **Design software program**: CATIA, CFD, Fluent, XEI.

REFERENCE

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