

CHANG MIN LEE

MS. CANDIDATE



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RESEARCH INTERESTS

- Electrohydrodynamics (Electrospinning/Electrospray applications)
- Electroplating applications
- Membrane (Water/oil separation, graphene)
- Photocatalysis applications (Water purification, Water splitting, Antimicrobial activity)
- Supersonic gas flow
- Transparent conductive film (carbon nanofibers)

EDUCATION

Master in Mechanical Engineering, Candidate (4.22/4.5)
Korea University, Seoul, Korea
Advisor: Prof. Sam S. Yoon

Bachelor of Science in Mechanical Engineering, Feb. 2013 (3.55/4.5)
Seoul National University of Science and Technology, Seoul, Korea
Advisor: Prof. Jeong yup Kim

Certificate

TOEIC: 890, ETS, 2014.02
TOEIC Speaking: Level 6, ETS, 2014.08
AutoCad, Autodesk, 2011. 10
SCUBA Master, Scuba International, 2008.12
Life Saving Qualification, Korea Red Cross, 2008.12

PUBLICATIONS (* corresponding author, †equal contribution)

International Journal Papers

1. S An, C Lee, M Liou, HS Jo, JJ Park, AL Yarin, and SS Yoon*, “Supersonically Blown Ultrathin Thorny Devil Nanofibers for Efficient Air Cooling”, *ACS Applied Materials & Interfaces* (IF=5.9), 6, 13657, 2014.
2. MW Lee†, S An†, C Lee, M Liou, AL Yarin and SS Yoon*, “Hybrid Self-Healing Matrix Using Core-Shell Nanofibers and Capsuleless Microdroplets”, *ACS Applied Materials & Interfaces*

- (IF=5.9), 6, 10461-10468, 2014.
3. MW Lee[†], S An[†], C Lee, M Liou, AL Yarin and SS Yoon*, “Self-healing transparent core-shell nanofiber coatings for anti-corrosive protection”, *Journal of Materials Chemistry A* (IF=6.626), 2, 7045, 2014.
 4. MW Lee[†], S An[†], SS Latthe, C Lee, S Hong, SS Yoon*, “Electrospun Polystyrene Nanofiber Membrane with Superhydrophobicity and Superoleophilicity for Selective Separation of Water and Low Viscous Oil”, *ACS Applied Materials & Interfaces* (IF=5.008), 5, 10597-10604, 2013.
 5. S An, MW Lee, Na Young Kim, Changmin Lee, Salem S. AlDeyab, Scott C. James, and Sam S. Yoon, Effect of viscosity, electrical conductivity, and surface tension on direct current-pulsed drop-on-demand electrohydrodynamic printing frequency, *APPLIED PHYSICS LETTERS* (IF = 3.515), 105, 2014

Patents

1. Min Wook Lee, Seongpil An, **Chang Min Lee**, Suk Goo Yoon, *Self-healing nanofiber via electrospinning*, in preparation.

Proceeding/Conference Papers

1. Hyun Yoon, Jong-Gun Lee, Seongpil An, Jae-Young Choi, You-Hong Cha, **Changmin Lee**, Sam S. Yoon, “Enhanced Photodegradation Performance of Nb doped ZnO Thin Films prepared by Electrostatic Spray Deposition”, *Electrochemical Conference on Energy & the Environment (ECEE)*, Shanghai, P.R. China, March 13-16, 2014.

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, DSC (Differential scanning calorimetry), TGA (Thermogravimetry analysis), 4-point probe station, Optical surface profiler, Fluidic properties (Viscosity, electrical conductivity, surface tension, dielectric constant)
- Device fabrication: Electrospinning/electrospray device, Electroplating device, Supersonic flow nozzle, Water contact angle measurement device
- Computational fluid dynamics code: FLUENT
- Design software program: CATIA, Pro Engineering, AUTO CAD

REFERENCE

- Prof. Sam S. Yoon, Associate Professor of Department of Mechanical Engineering at Korea University, skyoon@korea.ac.kr, 82-2-3290-3376.