

Sang Hoon Lee

Postdoctoral Scholar

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WORK HISTORY

- Postdoctoral Scholar | University of California Irvine, CA, USA 2021 – Present
 - > Department of Chemical and Biomolecular Engineering
- Doctoral Researcher | Konkuk University, Seoul, Republic of Korea 2020
 - > Mechanical Design and Production Engineering

EDUCATION

- Konkuk University, Seoul, Republic of Korea (Ph.D.) 2015 – 2020
 - > Mechanical Design and Production Engineering
- Konkuk University, Seoul, Republic of Korea (M.S.) 2013 - 2015
 - > Mechanical Design and Production Engineering
- Kyonggi University, Kyonggi, Republic of Korea (B.S.) 2008 – 2012
 - > Mechanical System Design Engineering

HONORS AND AWARDS

- Bronze Prize, The 16th Samsung Electro-Mechanics Best Paper Award, 2020
- Graduation Academic Award, Konkuk University, 2020
- Outstanding Poster Paper Award, The 10th Display Valley Conference and Exhibition, 2014

SPEECHES/EVENTS, ARTICLES, PUBLICATIONS

Conference Presentations

- **S. H. Lee**; X. Chong; S. Lee. Fabrication of Cantilever Type Magnetic Actuators Using Roll-to-Roll Slot-Die Coating. KFPE 2020, The 2nd Conference of Korea Flexible & Printed Electronics Society, Online, Republic of Korea, December 3, 2020.
- **S. H. Lee**. Fabrication Technology of Cantilever-Structured Magnetic Actuators by Roll-to-Roll Slot-Die Coating. The 16th Samsung Electro-Mechanics Best Paper Award, Suwon,

Republic of Korea, November 27, 2020

- **S. H. Lee; S. Lee.** Fabrication of Capacitive Comb Acceleration Sensors by a Solution Process. ICFPE 2019, The 10th International Conference on Flexible and Printed Electronics, Taipei, Taiwan, October 24, 2019
- **S. H. Lee; S. Lee.** Fabrication of Solution Processed Comb Acceleration Sensors. KFPE 2019, The 1st Conference of Korea Flexible & Printed Electronics Society, Jeju, Republic of Korea, September 3, 2019
- **S. H. Lee; S. Lee.** Roll-to-Roll Printed Electronics Technology for Fabricating Capacitive Touch Sensors with Air-Gap. LOPEC 2019, Large-area, Organic & Printed Electronics Convention, Munich, Germany, March 21, 2019
- **S. H. Lee; D. G. Lee; S. Lee.** Development of Roll-to-Roll Printed Electronics Technology for Air-Gap Touch Sensors. ICFPE 2018, The 9th International Conference on Flexible and Printed Electronics, Changzhou, China, September 27, 2018
- **S. H. Lee; S. Lee.** Development of a Printed Electronics Method for Fabrication of Capacitive Air-Gap Touch Sensor. 2018 MRS Spring Meeting and Exhibit, Material Research Society, Phoenix, AZ, USA, April 4, 2018
- **S. H. Lee; S. Lee.** Printed Capacitive Air-Gap Touch Sensor. ICFPE 2017, The 8th International Conference on Flexible and Printed Electronics, Jeju, Republic of Korea, September 7, 2017
- **S. H. Lee; S. Lee.** Application of Calendering for Improving Electrical Characteristics of Printed Top-Gate, Bottom-Contact OTFT. ICFPE 2017, The 8th International Conference on Flexible and Printed Electronics, Jeju, Republic of Korea, September 6, 2017
- **S. H. Lee; S. Lee.** Improvement of Electrical Performance of Printed OTFT by Calendering Process. LOPEC 2017, Large-area, Organic & Printed Electronics Convention, Munich, Germany, March 29, 2017
- **S. H. Lee; S. Lee.** Experimental Analysis on the Effect of Calendering Process on Electrical Characteristics of Printed OTFT. 2016 MRS Spring Meeting and Exhibit, Material Research Society, Phoenix, AZ, USA, March 29, 2016
- **S. H. Lee; J.-M. Kim; S.-L. Ko; S. Lee.** Optimization of Calendering Process Using Taguchi Method for Improving the Performance of Printed OTFT. ICAE 2015, The 3rd International Conference on Advanced Electromaterials, Jeju, Republic of Korea, November 17, 2015
- **S. H. Lee; H. A. D Nguyen; J.-M. Kim; S.-L. Ko; S. Lee.** Analysis of Calendering Effect on the Performance of Printed OTFT. ICFPE 2014, The 5th International Conference on Flexible and Printed Electronics, Beijing, China, October 21, 2014
- **S. H. Lee; H. A. D. Nguyen; J.-M. Kim; S.-L. Ko; S. Lee.** Improvement of the Performance of Printed OTFT by Calendering Process. DVCE 2014, The 10th Display Valley Conference & Exhibition, Asan, Republic of Korea, November 12, 2014
- **S. H. Lee; H. A. D. Nguyen; S. Lee.** Experimental Study on Effect of Calendering Process on Performance of Printed OTFT. KSME 2014, The Korean Society of Mechanical Engineers, Jeju, Republic of Korea, April 24, 2014

Journal Publications

- **S. H. Lee**; S. Lee. Fabrication and Characterization of Roll-to-Roll-Coated Cantilever-Structured Touch Sensors. *ACS Appl. Mater. Interfaces* **2020**, 12, 41, 46797-46803. [<https://doi.org/10.1021/acsami.0c14889>]
- **S. H. Lee**; S. Lee. Cantilever Type Acceleration Sensors Made by Roll-to-Roll Slot-Die Coating. *Sensors* **2020**, 20, 13, 3748. [<https://doi.org/10.3390/s20133748>]
- **S. H. Lee**; S. Lee. Fabrication and Characterization of Roll-to-Roll Printed Air-Gap Touch Sensors. *Polymers* **2019**, 11, 2, 245. [<https://doi.org/10.3390/polym11020245>]
- **S. H. Lee**; H. Seo; S. Lee. Fabrication of a Printed Capacitive Air-Gap Touch Sensor. *Jap. J. Appl. Phys.* **2018**, 57, 5S, 05GC04. [<https://doi.org/10.7567/JJAP.57.05GC04>]
- **S. H. Lee**; D. G. Lee; H. Jung; S. Lee. Application of Calendering for Improving Electrical Characteristics of a Printed Top-Gate, Bottom-Contact Organic Thin Film Transistors. *Jap. J. Appl. Phys.* **2018**, 57, 5S, 05GC01. [<https://doi.org/10.7567/JJAP.57.05GC01>]
- **S. H. Lee**; S. Lee. Enhancement of the Electrical Performance of a Printed Organic Thin Film Transistor through Optimization of Calendering Process. *Org. Electron.* **2018**, 54, 126-132. [<https://doi.org/10.1016/j.orgel.2017.12.025>]
- **S. H. Lee**; S. Lee. Using an Optimized Calendering Process with a Grey-Based Taguchi Method to Enhance the Performance of a Printed OTFT. *Sci. Adv. Mater.* **2018**, 10, 4, 501-506. [<https://doi.org/10.1166/sam.2018.3051>]
- **S. H. Lee**; H. A. D. Nguyen; J.-M. Kim; S.-L. Ko; S. Lee. Improvement of the Performance of Printed Organic Thin Film Transistor by Calendering Process. *Sci. Adv. Mater.* **2016**, 8, 2, 363-368. [<https://doi.org/10.1166/sam.2016.2495>]
- H. A. D. Nguyen; **S. H. Lee**; K. Shin; S. Lee. Optimization of Calendering Process Using Taguchi Method to Improve the Performance of Printed Capacitor. *Jap. J. Appl. Phys.* **2014**, 53, 5S3, 05HC06. [<https://doi.org/10.7567/JJAP.53.05HC06>]

TECHNICAL SKILLS

- Printing/Coating: Roll-to-Roll Gravure Printing, Roll-to-Roll Slot-Die Coating, Inkjet Printing, Spin-Coating
- Drying/Sintering: Thermal, IR, UV
- Data Acquisition: LabVIEW, Probestation, Interferometer
- Simulation/Design: AutoCAD, MATLAB, UG-NX, Minitab

PROJECTS

- Roll-to-Roll Printed Electronics Technology for 3-Axis Comb Acceleration and Gyro Sensors 2019 – 2021
[funded by the Korean Government (Ministry of Education)]
- Roll-to-Roll Printed Electronics Technology for Air-Gap Sensors 2016 – 2018
[funded by the Korean Government (Ministry of Science and ICT)]
- Development of the Technologies on Flexible Multi-Layered Printed Electronics through the Collaboration of Konkuk University and VTT Finland Research Centre 2013 – 2016
[funded by the Korean Government (Ministry of Science and ICT)]
- Lateral Control System for Roll-to-Roll Fabrication Process of OPV through the Collaboration of Konkuk University and LG Electronics 2014
[funded by the Korean Government (Ministry of Science and ICT)]

TEACHING HISTORY

- Measurement Experiments 2014 – 2019
- Measurement System Design 2013