

---

## Fabrication of stretchable electrodes using spray-coated silver nanowire

JongHyun Jeong<sup>1</sup> and Jaewook Jeong<sup>1</sup>

<sup>1</sup>School of Information and Communication Engineering, Chungbuk National University, Korea, Republic of

In this talk, Silver nanowire (AgNW) stretchable electrodes are demonstrated and characterized for different thickness of the AgNW electrodes. Two different elastomeric polymer of polydimethylsiloxane (PDMS) and EcoFlex substrates were used to compare the stretching capability and to obtain optimum conditions of fabrication process. By controlling plasma treatment time and spray coating process parameters, the best stretching capability (>50%) of the stretchable AgNW electrodes were obtained with good stability under multi-cycle stress condition (>500 cycle). Crack evolutions of the stretchable AgNW electrodes depending on external strains were analyzed using optical microscopic and atomic force microscopic images and their Fourier transform data.

This research was supported by a National Research Foundation of Korea (NRF) grant funded by the Korean government (No. NRF-2017R1D1A1B03035271). This research was also supported by the Ministry of Science and ICT (MSIT), Korea, under the Information Technology Research Center (ITRC) support program (IITP-2017-2015-0-00448) supervised by the Institute for Information & Communications Technology Promotion (IITP).