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Carbon nanotube thin films for flexible and formable electronics

Flexible and stretchable electronics are attracting much attention because of the variety of potential applications from flexible e-papers through wearable healthcare devices. Among various kinds of electronic materials, carbon nanotube thin films have advantages in flexibility, stretchability, and performance because of the excellent electronic and mechanical properties. Three-dimensional formability is also a unique property of carbon nanotube thin film devices, leading to a new form of electronic devices. Low cost manufacturing is also possible with printing techniques due to the good processability of carbon nanotube films. In the presentation, I will talk about the recent works on flexible and stretchable devices based on carbon nanotube thin films for realizing wearable healthcare electronics, including high-mobility thin-film transistors, integrated circuits, and biosensors fabricated on plastic films. The simple fabrication processes based on micro-patterning technique of CNT films and high-throughput printing techniques will also be presented.

Biography

Yutaka Ohno is Professor of EcoTopia Science Institute, Nagoya University, Japan. He received the PhD degree from Nagoya University in 2000. He became an Assistant Professor in 2000 and an Associate Professor in 2008 of Nagoya University. He was also Research Fellow of JSPS from 1999 to 2000, Research Scientist of JST from 2004 to 2007, and Visiting Professor of Aalto University, Finland from 2012 to 2013. He is also Visiting Professor of Kyoto University in 2015. He published 120 papers in major journals and talked more than 50 invited talks in international conferences.

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