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Carbon nanotube flexible devices for wearable healthcare electronics

Flexible, body-worn healthcare/medical devices have the potential to revolutionize preventive medical care and health promotion. Carbon nanotube thin films are promising electronic materials for transistors, biosensors and other passive components to build such flexible devices because of the excellent electronic and mechanical properties and biocompatibility. In the presentation, we introduce our recent works on flexible transistors and biosensors based on carbon nanotube thin films, including the wafer-scale fabrication and characterization of carbon nanotube thin-film transistors, the improvement of sensitivity of electrochemical biosensors based on redox cycling process, the development of thin film transistor-based biosensors with ultra-high sensitivity and wide dynamic range.

Biography

Yutaka Ohno is a Professor and Vice-Director of Center of Integrated Research for Future Electronics, Nagoya University, Japan. He has received his 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 Visiting Professor of Aalto University, Finland from 2012 to 2013 and Visiting Professor of Kyoto University in 2015. He has published 120 papers in major journals and gave more than 50 invited talks in international conferences.

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