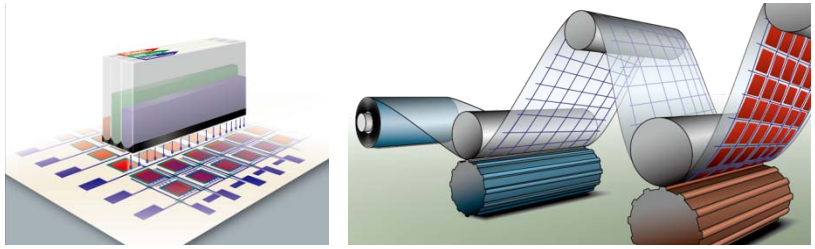
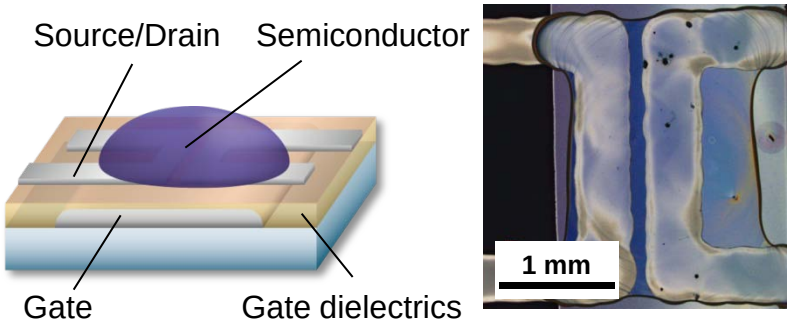
Organic integrated circuits fabricated by printing processes

Assistant professor Kenjiro Fukuda

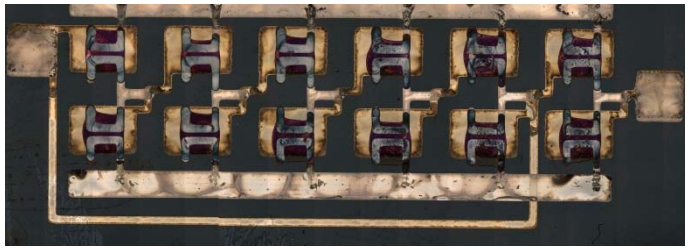
Illustration



Images of solution processed organic integrated circuits



Schematic illustration and photograph of the organic TFT.



Fully-solution processed organic integrated circuits (ring-oscillator)

Content:

Large-area electronics are key technologies for realizing “ambient” electronics that are expected to support our safety and security of life. Organic semiconductors have attracted much attention because they can be processed on plastic substrates and by printing fabrication techniques at room temperature. These features allow large-area and flexible applications of organic semiconductors, including solar cells, thin-fi lm transistors (TFTs), sensors, or memory devices. We study about organic TFTs and integrated circuits fabricating with solution processed such as ink-jet, screen, gravure, flexo and/or other printing techniques.

We also try to reveal the physics of the organic TFTs, such as the interaction between the metal and semiconductors. The main focus is to develop the strategies for improving stabilities and electrical performances of organic TFTs.

Yamagata University
Graduate School of Science and Engineering
Research Interest : Organic thin-film transistors
E-mail : fukuda@yz.yamagata-u.ac.jp
Tel : +81-238-26-3594
Fax : +81-238-26-3788

HP : http://tokitolabo.yz.yamagata-u.ac.jp/html/index.html