



## Flexible Organic Electronic Devices for Eco-Sustainable Electronics

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■ Flexible electronics has become an enormously explored contender for next-generation low cost electronics due to its applicability in a broad range of applications towards smart textiles and wearable electronics. Moreover, in recent times, devices are being explored for eco-friendly and green electronics, to eventually reduce the impact of increasing E-waste on environment, which has become a severe issue for earth, ecology, and health.

■ Organic transistors receive significant attention as a key device for flexible electronics due to their potential use for multifunctional, circuit, and sensing applications. Along with a suitable substrate, one or many biocompatible or nature inspired material components can be incorporated during the fabrication process to enhance the eco-friendliness of a device. Paper has been demonstrated as one of the most suitable substrates to achieve biodegradability. Moreover, various natural proteins such as cellulose, gelatine, chitosan, and albumen can be suitable gate dielectric candidates. However, multiple processing challenges have to be addressed for demonstrating high performance flexible devices with natural material components.

■ In this talk, firstly, approaches for designing high performance flexible transistors will be discussed. Moreover, demonstrations of high performance devices with biodegradable components will be presented. Many of these devices have shown potential to be used for applications such as real time health monitoring and other circuit, sensing, and memory capabilities.

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