

Real-life applications of biosensor based on PEDOT:PSS

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In the world of Internet of Things (IoT), where everyone is connected to each other and where the monitoring of vital signal has become fundamental for biomedical applications and for hobbies and sport activities, many efforts are spent on the innovative research field of wearable technology.

This talk deals with the framework of this field, presenting different kind of organic wearable sensors. The common proprieties of those devices are: an organic sensing elements, mainly based on PEDOT:PSS, a low cost fabrication process directly on fibers, a low energy consumption and an easy readout electronic system. All these elements permit to create new wearable devices, connected together wireless in the IoT.

First, wearable biosensors for the detection of biomarkers directly on sweat are presented. Then, exploiting the PEDOT:PSS in a different configuration, we obtain low cost and light weight textile pressure sensors, that are used in different contents, both for medical application but also for enhance sports performance. In the end, an unconventional application of PEDOT:PSS based biosensors in the food packaging field is reported.