

**February 23, 2021**

**11.30 am, Room R, via Marzolo 8**

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## **Flexible Electronics: Physics, Materials and Devices for a new Technological Paradigm**

Although advances in silicon-based electronics are going towards the miniaturization of devices and the amelioration of their performance, the field of flexible electronics is rapidly expanding in the last years, to target new fields of research. In this regards, the combination of physics, materials science, chemistry and engineering has paved the route for a new class of electronics devices (i.e. sensors, circuits,..) with novel functionalities, such as mechanical flexibility, unobtrusiveness and biocompatibility. This has resulted in pioneering applications, including wearables, biomedicine and smart agriculture. In this talk, I will go through all the recent progress in the field of flexible electronics, as well as all the limitations still to overcome. Main focus of the talk will be stretchable thin-film electronics (i.e. sensors, transistors, circuits,..), as well as green devices, for applications, ranging from robotics to smart implants and the Internet-of-Things (IoT).



Flexible Electronics with different functionalities (from left to right): transparency, mechanical flexibility and biocompatibility.