

Respiratory monitoring using piezoresistive sensors based on graphene nanoplatelets: experiments during daily activities

The demand for wearable systems devoted to the monitoring of respiratory activity is growing more and more. Stretchable sensing elements based on graphene nanoplatelets (GNPs) ink may be a solution to instrument wearables. In this talk, I will report on recent progress on wearable systems instrumented by GNPs to monitor respiratory activity. In addition, I'll discuss our latest progress on the design of wearable systems based on this type of sensors and the implementation of these systems during daily activities. Some significant challenges related to both hardware and algorithms that need to be addressed will be presented. Finally, its feasibility for monitoring respiratory rate in occupational settings will be discussed.

Joshua Di Tocco, Carlo Massaroni, Fabrizio Marra, Alessio Tamburrano, Serena Minutillo, Emiliano Schena, Maria Sabrina Sarto