

## **3D-printed carbon-based electrodes for electrochemical sensing**

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In this talk I will show some recent contributions on the development of novel electrochemical sensors obtained by the most popular 3D-printing techniques, fused deposition modelling (FDM), using poly lactic acid (PLA) filament containing graphene [1-3]. Due to the presence of graphene this biodegradable polymeric material becomes conductive and for this reason has been used for electrochemical applications; however, some surface treatment is required to obtain improved electrochemical performance, especially for electroanalysis. Applications in the analysis of forensic, biological and environmental samples will be shown. Future directions of 3D-printing technology towards the development of electrochemical sensors will be presented.

### **Referências:**

- [1] Dos Santos et al., *Sensors Actuators B Chem.* 2019, 281, 837-848
- [2] Cardoso et al., *Anal. Chim. Acta* 2018, 1033, 49-57.
- [3] Manzanares-Plenzuela et al., *Anal. Chem.* 2018, 90, 5753-5757.

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