

Convocatoria de ayudas para la realización de proyectos coordinados en el marco de IBEROS. Anualidad 2017

Proyecto concedido

DATOS GENERALES:

Título proyecto: <u>Novel approaches for the production of SPEs -NovSPE-</u>
Entidades participantes (mínimo 2 entidades): Instituto Superior de Engenharia do Porto (ISEP) Universidade de Vigo
Grupos de investigación: BioMark – Sensor Research Nuevos Materiales
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OBJETIVOS DEL PROYECTO (máximo 100 palabras):

To develop new screen printed electrodes (SPEs) for the production of low cost and renewable devices that can be used in commercial context in diagnosis of age-related diseases (e.g. similar to glucose strip supports, carrying innovative features).

PLAN DE TRABAJO:

Different substrate materials are considered herein, namely paper, PVC, Kapton strips (for flexible devices), as well as, Glass substrates and Si wafers (for LabOnChips) to deposit/cast conductive materials on a specific design (similar to current SPEs). The electrical features of the obtained patterned conductive materials will be evaluated electrochemically in order to optimize the design and to evaluate the best material/pattern approach.

The tested conductive materials will include metals (Ag, Au, Pd, Ti and Al thin films), as well as, highly doped thin films group IV semiconductors (amorphous or nanocrystalline Si, Ge, SiGe or SiGeSn).

Nanoparticles of silicon, germanium and Germanium-tin to develop new screen printed electrodes (SPEs) for the production of low cost and renewable devices that can be used in commercial context in diagnosis of age-related diseases (e.g. similar to glucose strip supports, carrying innovative features).

Nanoparticles of these materials made with different compounds and arrangements will also be tested as standard redox probes.

The final configuration will be applied to glucose readings, first.