

## Project: Title

**Grantee:** Litescu Simona Carmen

**Affiliation + contact data:** National Institute of R&D for Biological Sciences

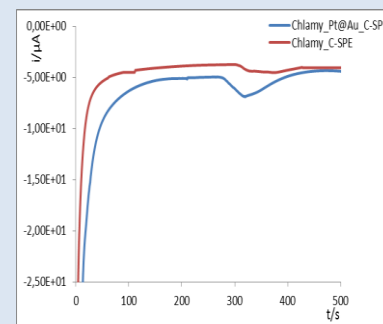
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**Period of STMS** (begin- and end date): 16.02.2014-22.02.2014

**Host institution** (address): Institute of Crystallography, CNR

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**Mentor(s)** (name and contact data): Dr. REA Giuseppina, [giuseppina.rea@ic.cnr.it](mailto:giuseppina.rea@ic.cnr.it)



**Aims & subject of work** (480 characters, no spaces; Calibri 12):

New immobilization procedures enabling signal amplification and bio-hybrid stability increase for amperometric and FET (bio-)sensors  
Stabilization of the bio-recognition element *Chlamidomonas reinherdtii* by immobilization on bimetallic nanoparticle supports; (bio-)sensor performance characteristics assessment

**Argumentation of necessity of STSM** (100 characters, no spaces; Calibri 12):

Included in TD1102 objective “Delivering robust, reliable, environmental-friendly and sensitive biosensor prototypes” contributing to the accomplishment of deliverables D5 – D8 “

**Workplan/timeschedule followed** (4 bullets max., Calibri 12):

- Evaluation of the appropriateness of nanoparticles/nanowires use (C nanowires modified with Au NP, respectively Pt@M bimetallic nanoparticles, M: Au, Cu, Ag) as amplifiers of electrochemical signal while testing the efficiency of new immobilization procedures. *utrum ut, mauris. Ut vulputate, ligula eu vehicula nonummy, augue dolo*
- Testing the bio-hybrid response stability as bio- mediator

**Main results and outcome** (conclusions):

Electrochemical characterization of the Pt@M modified C-SPE led to confirming the hypothesis that the charge transfer was increased, according to the values of the constants of electron rate transfer and those for active electrode area (Pt@Au :  $64.6 \times 10^{-3} \text{ cm}^2$ , Pt@Ag the obtained value was  $43.7 \times 10^{-3} \text{ cm}^2$ )

The response of biosensor with nonyl-phenol concentration was studied proving to be linear, the biosensor sensitivity being  $15 \text{ nA}/\mu\text{molL}^{-1}$