



European Network on New Sensing Technologies for Air Pollution  
Control and Environmental Sustainability - *EuNetAir*

COST Action TD1105

**1<sup>ST</sup> TRAINING SCHOOL**

**Universitat de Barcelona, Spain, 13 - 15 June 2013**

**organized by UB, MIND-IN2UB - Dept. of Electronics and CSIC-IDAEA**

Action Start date: 01/07/2012 - Action End date: 30/06/2016

Year 1: 2012 - 2013 (*Ongoing Action*)

**Trainee Affiliation**  
**Logo**

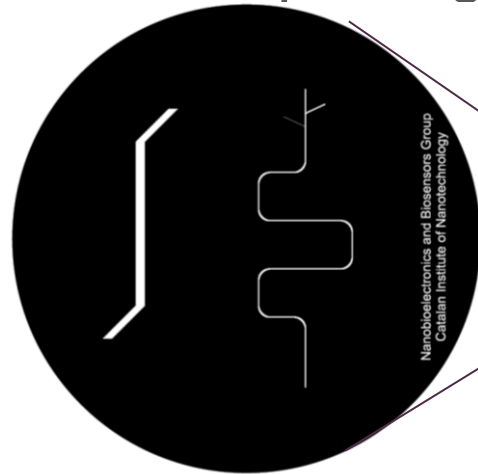
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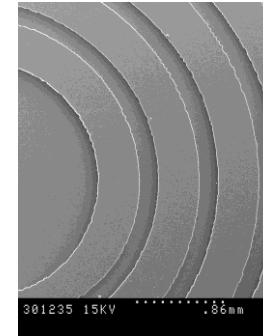
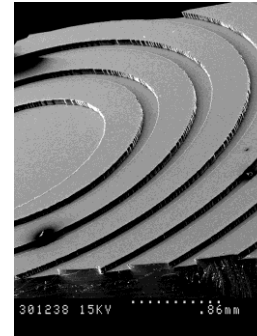
Catalan Institute of Nanotechnology - UAB

# Expertise of the Trainee related to the Action

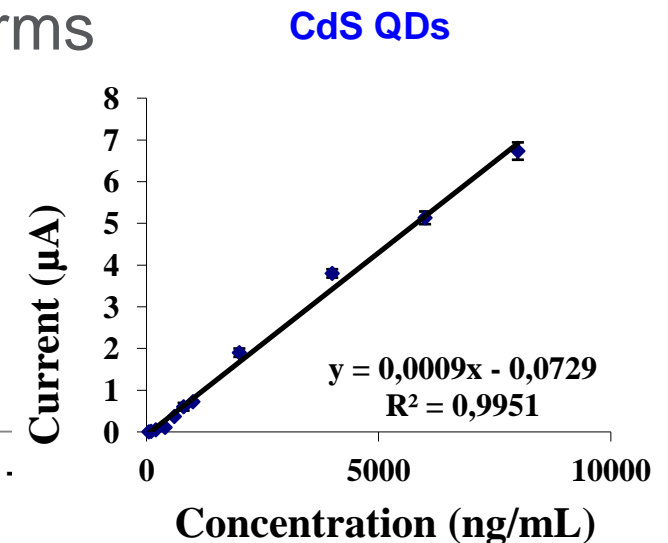
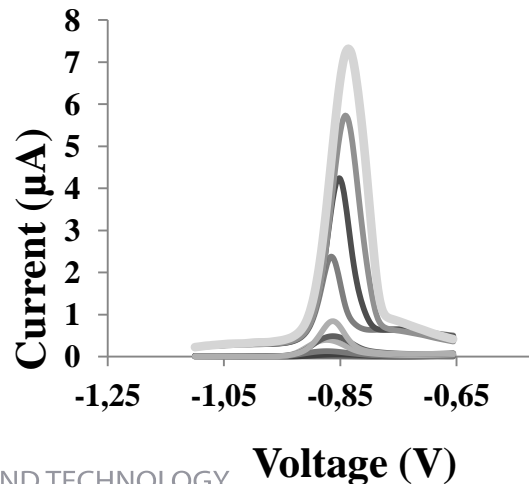
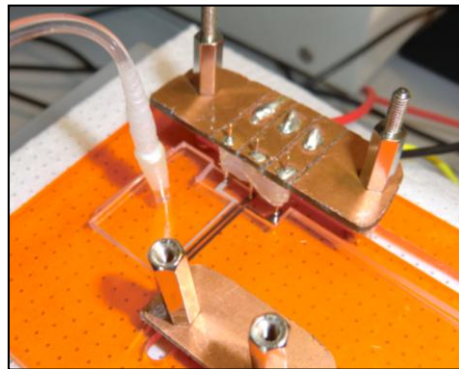
- Lab on a chip design and fabrication



Cell Micro fluidic  
Platform (Mixing,  
Hydro dynamic  
studies and filtration  
with membrane on a  
chip.

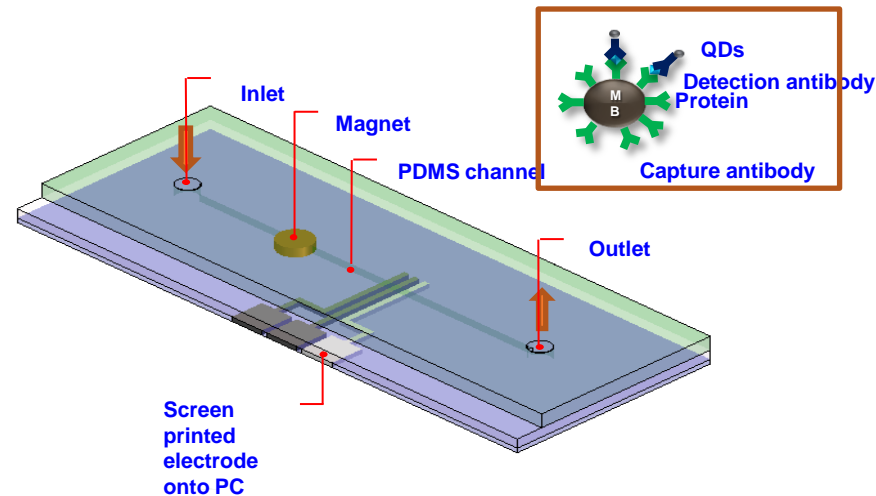


- Nanoparticles detection in microfluidic platforms



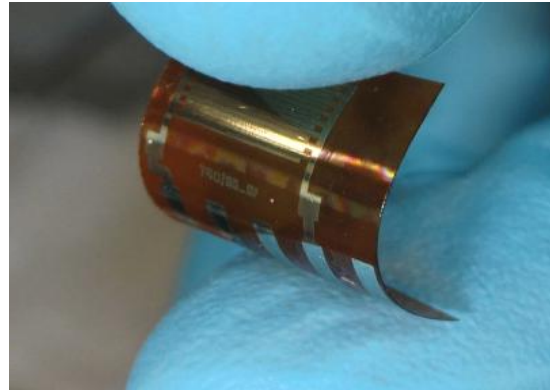
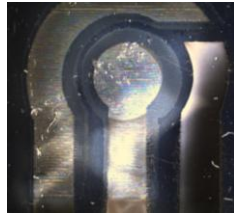
# Expertise of the Trainee related to the Action

- Magneto-immunoassay into microfluidics



- Printed electronics

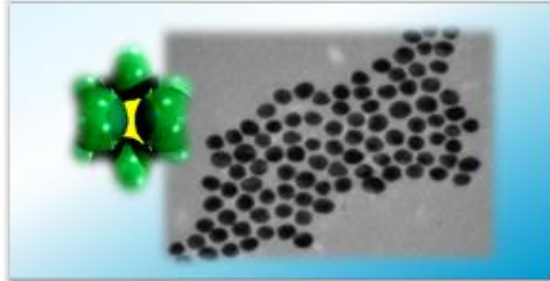
## Inkjet printed electrodes



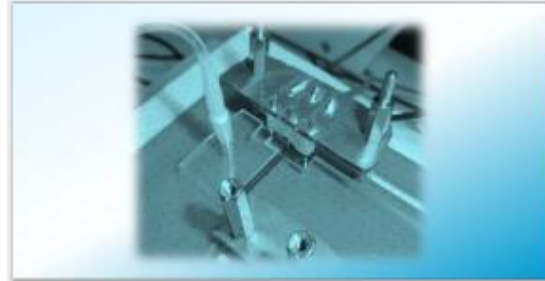
Flexible substrates

# Current research activities of the Trainee (1/2)

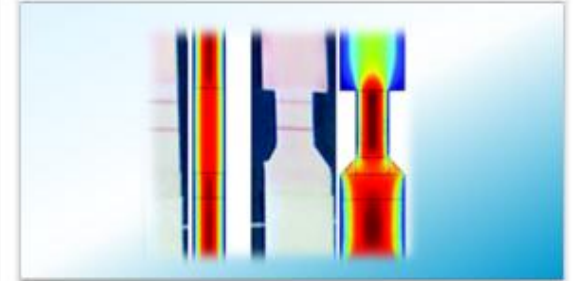
**Catalytic nanomaterials**



**Microfluidics**



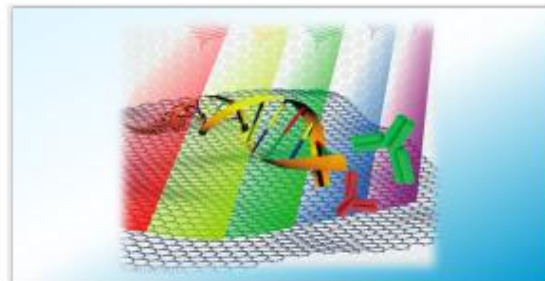
**P Paper nanobiosensors**



**Nanochannels**



**Graphene**



**Nanomotors**

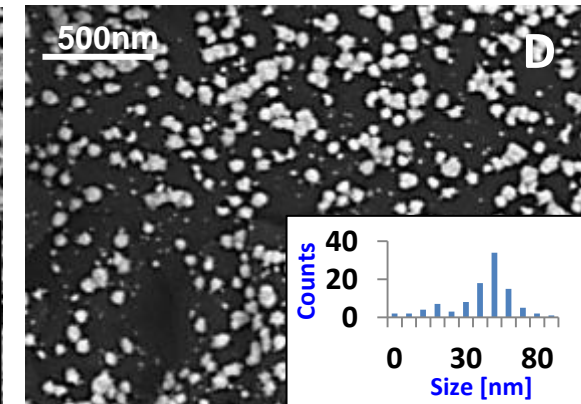
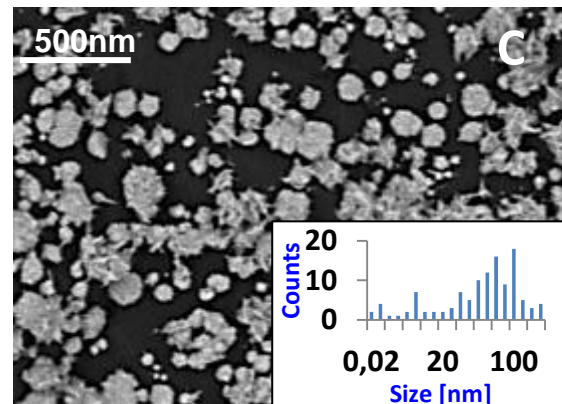
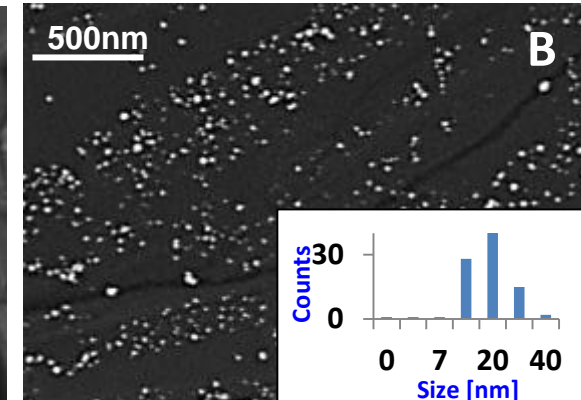
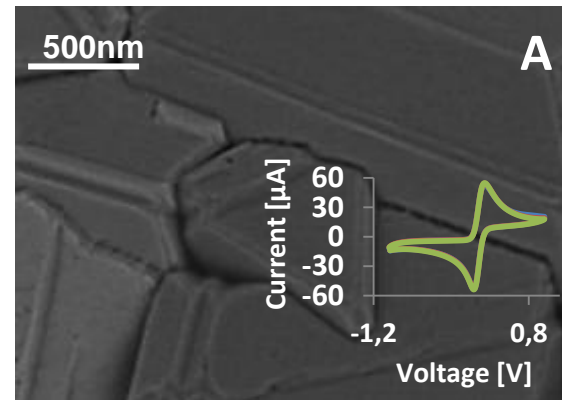
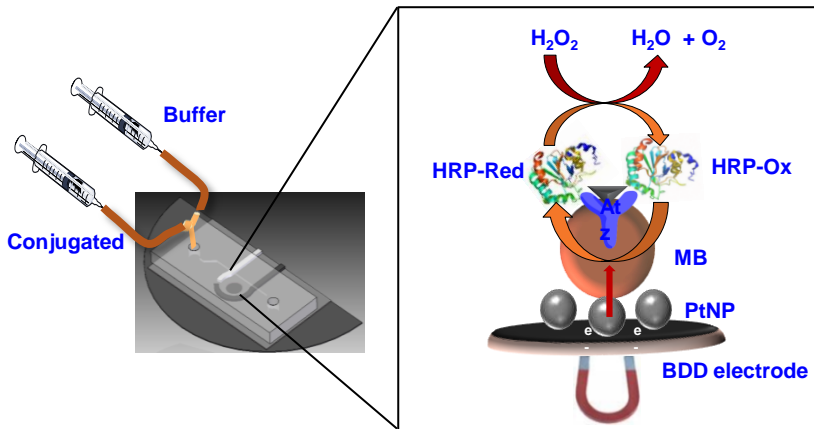


# Achieved **RESULTS** and future activities

**Microfluidic chip with integrated BDD electrode for electrochemical detection of Atrazine by magneto-immunoassay strategy**

## SEM images

### Set-up



# CONCLUSIONS

- Magneto-immunoassay for atrazine detection.
- The use of microfluidic allows to achieve very low limits of detection, less than the previously reported in the literature, with very good repeatability and reproducibility, as well the use of very small quantity of sample (in case of microfluidic platform was 5 $\mu$ L of sample).