



Sensing toxicants in Marine waters makes Sense using biosensors

# 1st WORKSHOP ON NANOBIOSENSORS FOR WATER MONITORING

March 24-26, 2015, ICN2, Bellaterra (Barcelona), Spain



Microbia  
Environnement



## March 24<sup>th</sup> 2015

14:00 Registration

14:45 Welcoming words by Arben Merkoçi

### Session 1. General consideration on fabrication of nanobiosensors and related platforms

15:00-15:30 Nanomaterials-based lab-on-a-chip platforms and applications (*Dr. S. Miserere, ICN2, Spain*)

15:30-16:00 From Biosensors to fully-integrated Lab-on-Chip Systems: A Technology Platform for quick sensor and assay integration (*M.Sc. Sascha Geidel, Fraunhofer, Germany*)

16:00-16:30: Discussion and Coffee break

16.30-17:30

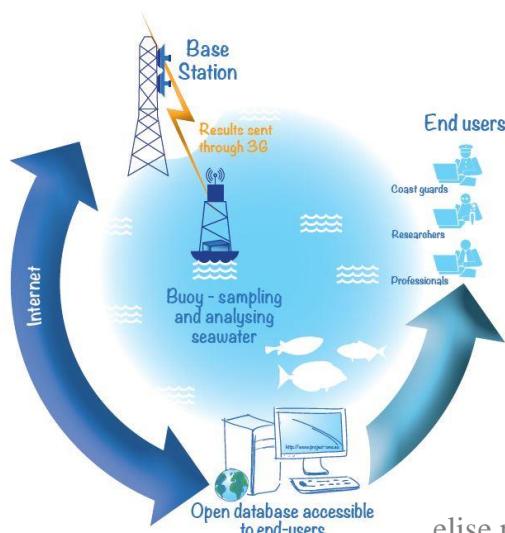
a) Probe design and testing

b) Two detection methods: electrochemical and colorimeter sandwich hybridisation

*Speakers: Prof. L. Medlin, Dr. J.Orozco, Ms. E. Villa (ME, France)*

The SMS project promotes the development of novel sensing devices for marine environmental protection. SMS is expected to have a major impact on marine water end-users and relevant stakeholders.

Running from 2013 to 2017, SMS will deliver a novel automated networked system that will enable real-time in-situ monitoring of marine water chemical and ecological status in coastal areas by the detection of a series of contaminants. The pollutants specifically targeted by the project have been indicated as having priority for quality control of seawater. They cover a wide spectrum of regulated chemicals that have detrimental effects on the marine environment such as the algal toxins, the antifouling pesticides, flame retardants and pharmaceuticals that will be measured using innovative probes.



## Contact

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**17:30-18:00: Discussion**

**21:00: Dinner offered by SMS**

*Balthazar - c/ Roselló 189, Barcelona - <http://www.grupandilana.com/en/restaurants/balthazar>*

## March 25<sup>th</sup> 2015

### *Session 2. Hands on experiments*

**9:00-9:30** Inks and printing methods for biosensors (*Dr. Robin W. Pittson, GWENT, UK*)

**9:30-13:00** Fabrications (in parallel groups)

a) Lab on chip fabrication and demonstrations;

b) Screen / ink-jet printed electrodes fabrication and testing/characterisation.

*Instructors: Dr. S.Miserere, W. Pittson, M.Sc. S. Geidel, Dr. A. de la Escosura, A.Chalupniak, D.Quesada, A.Zamora, F.Caetano, I.Álvarez.*

**11:00-11:30: Coffee break**

**13:00-15:00: Lunch**

**15:00-19:00**

a) Colorimeter test

b) Electrochemical test

*Instructors: Dr. J.Orozco, Ms. E. Villa (ME, France)*

**17:00-17:30: Coffee break**

## March 26<sup>th</sup> 2015

### *Session 3. Methods and demonstrations*

**9:00-11:00**

Molecular methods to detect toxic algae and freshwater pathogens: how and why

*Instructors: Prof. L. Medlin, Dr. D. Guillebault (ME, France), Dr. Kerstin Toebe (AWI, Germany)*

**11:00-11:30: Coffee break**

**11:30-12:00** Nanoparticle-based electrochemical biosensors (*Dr. A. de la Escosura, ICN2, Spain*)

**12:00-12:30** Nanomaterials-based Microarrays technology (*Dr. E. Morales, ICN2*)

**12:30-13:30** Demonstrations (in parallel groups).

*Instructors: Dr. A. de la Escosura, Dr. E. Morales, A.Chalupniak, D.Quesada, A.Zamora; ICN2, Spain)*

**13:30-14:00: Concluding words by Arben Merkoçi**



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