





# International Workshop

On

## Low-cost sensors and Microsystems for environment monitoring

Toulouse, France May 20<sup>th</sup>-21<sup>st</sup>, 2019

https://nanosen-aqm.sciencesconf.org/

This workshop aims to bring together European academic and industrial actors in the field of air and water quality monitoring.

These 2 days are dedicated to highlight **the state of the art in miniaturized sensors** (micro- and nanotechnologies) for pollutants detection in air and in water, and/or **associated embedded microsystems**, both in academic prototypes and commercial products. The existing **field measurement campaigns** (urban and rural sites) will also be addressed. Special emphasis will be put on improvements for addressing the issues that generate measurement errors (calibration, cross-sensitivity, aging ...).

Topics :	Registration Fees		
<ul> <li>✓ Improvement of sensitive materials</li> <li>✓ Gas micro- and nanosensors</li> </ul>		Early bird (before May 3 <sup>rd</sup> 2019)	Full rates (after May 3 <sup>rd</sup> 2019
<ul> <li>✓ Chemical microsensors in liquid phase</li> </ul>	Students	190€	250€
✓ Communicating embedded microsystems	Academic	280€	335€
<ul> <li>Calibration and cross-sensitivities (selectivity)</li> </ul>	Non Academic	385€	445€
<ul> <li>Trends on low-cost sensors deployment</li> <li>Field measurement semanians and surrent standards</li> </ul>			
✓ Field measurement campaigns and current standards	Key Dates!		
	February 15 <sup>th</sup> , 2019: Opening call for abstracts and		

February 15", 2019: Opening call for abstracts and announcement of confirmed invited speakers and scientific committee

- April 30<sup>th</sup>, 2019: Deadline for abstract submission
- May 2<sup>nd</sup>, 2019: Notification of acceptance
- May 3<sup>rd</sup>, 2019: Deadline for early bird registration
- May 13<sup>th</sup>, 2019: Closing registrations

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### **Confirmed invited speakers:**

- Eduard LLOBET (Full Professor, Univ. Rovira i Virgili, Tarragona, Spain):
   "2D nanomaterials beyond graphene: opportunities and challenges for selective gas sensing"
- Laurent SPINELLE (Engineer R&D, INERIS Pôle CARA- Unit ASUR, France):
   "Sensors and air quality: an assessment of what can we expect today from low-cost sensors"
- ✓ Giorgio SBERVEGLIERI (Professor Emeritus, Univ.of Brescia, Italy; President of NANO SENSOR SYSTEMS SRL): "Nano MOX chemical sensors applied to agri-food field"
- Jean-Christophe MIFSUD (President and founder of RUBIX SI, Toulouse, France):
   "Sensors selectivity versus sensors orthogonality: The human being as the ultimate example of sensors fusion"
- Adrian ARFIRE (Metrology Engineer, Airparif, France):
   "A Holistic Approach to Low-Cost Air Quality Sensor Evaluation: The AIRLAB Microsensors Challenge"

### Scientific committee:

Khalifa Aguir (CMC2, IM2NP, Marseille, France)
Marcel Bouvet (CMC2, ICMUB, Dijon, France)
Hélène Débéda (CMC2, IMS, Bordeaux, France)
Esther Hantanon (NanoSen-AQM, CSIC-ITFI, Madrid, Spain)
Philippe Menini (NanoSen-AQM, LAAS, Toulouse, France)

Christophe Pijolat (CMC2, EMSE, St-Etienne, France) Edouardo Pinilla-Gil (Nanosen-AQM, IACYS, Badajoz, Spain) Lionel Presmanes (Nanosen-AQM, CIRIMAT, Toulouse, France) Jean-Paul Viricelle (CMC2, EMSE, St-Etienne, France)

#### Workshop program overview:

Monday, May 20 <sup>th</sup> ,2019	Tuesday, May 21 <sup>st</sup> ,2019	
08:45-09:30 → Registration opening, welcome	08:30-10:30 🗲 Embedded microsystems (Sess.4)	
09:30-10:15 🗲 Workshop opening	10:30-11:30 🗲 Poster & coffee break	
10:15-11:00 <b>→</b> Keynote	11:30-13:30  → Calibration and cross sensitivity (Sess.5)	
11:00-12:30 → Improvement in sensing materials (Sess.1)	13:30-14:30 🗲 Lunch (buffet)	
12:30-14:00 → Lunch	14:30-16:15 🗲 Field measurements (Sess. 6)	
14:00-16:00  → Micro-nano gas sensors / trends on low cost sensors (Sess.2)	16:15-16:30 → Closing	
16:00-17:00 → Poster & coffee break		
17:00-19:00  → (bio)Chemical sensors in liquid phase (Sess.3)		
20:30-23:00 🗲 Gala dinner		



Workshop Venue: MERCURE Hotel Compans 8 Espl. Compans Caffarelli, 31000 Toulouse Tel.: +33 561 11 09 09 Contact: nanosen-aqm@laas.fr