



9èemes Journées Franco-Espagnoles

9as Jornadas Franco-Españolas

IBERNAM – CMC2

Universitat Rovira i Virgili - ETSE

Campus Sescelades

Sala de Graus

Avinguda dels Països Catalans, 26

43007 Tarragona, Spain

Local Organising committee:

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Preface

From the Spanish Network on Micro and Nanosystems IBERNAM we greet all attendants to “The ninth Spanish –French Workshop IBERNAM-CMC2” that is to be held at Universitat Rovira i Virgili, in Tarragona.

Since 2002, every two years (Madrid 2002, Biarritz 2004, San Sebastian 2006, Toulouse 2008, Barcelona 2010, Marseille 2012, Bilbao 2014, Toulouse 2016) we hold a joint Workshop between IBERNAM and CMC2 (the French thematic network on sensors and microsystems) in which we have the opportunity to meet our colleagues and discuss informally about results, collaboration opportunities and future joint actions.

This year we are very pleased to have the attendance of a few representatives from the Italian sensor research network, which will surely enrich the Workshop and widen its scope and opportunities for collaboration.

The workshop is organised as a collection of plenary talks and a poster session, giving the chance for every attendee not to miss a thing. A Student Poster Contest has been set to motivate students to present their work. Finally, there is also a social programme to the Workshop, which we hope you will enjoy.

We express our gratitude to the International Organizing Committee and to all participants and we wish you a very fruitful Workshop and a very enjoyable time in Tarragona.

Eduard Llobet
President of IBERNAM

Programme

Thursday, October the 4th 2018

9:00 Registration

9:30 Opening Ceremony

LECTURE SESSION 1

Chair: Jean-Paul Viricelle

10:00 Luis Fonseca, [All-silicon thermoelectric micro-nanogenerators](#). IMB-CNM-CSIC (Bellaterra-Spain)

10:20 Ayman Chmayssem, [Microwave extraction of arsenic from solid marine products and analysis by electrochemical pathways](#). CEA (Grenoble, France)

10:40 Coffee break

LECTURE SESSION 2

Chair: Khalifa AGUIR

11:10 Maria Luz Rodriguez-Mendez, [Synergy in nanostructured voltammetric sensors.applications in the food industry](#). Universidad de Valladolid (Spain)

11:30 Sara Tombelli, [Optical sensing for POCT: the case of sepsis biomarker detection and immunosuppressant monitoring](#). CNR (Sesto Fiorentino, Italy)

- 11:50 Bruno Lawson, [*Tin dioxide multisensors for a selective detection of transdermal ethanol.*](#) IM2NP (Marseille, France)
- 12:10 Alejandro Ansón Casaos, [*Liquid-Resistant Functional Films Made of Carbon Nanotubes.*](#) ICB-CSIC (Zaragoza, Spain)
- 12:30 Nicole Jaffrezic-Renault, [*A biomimetic platform based on electropolymerization of oligothioaniline-functionalized gold nanoparticles for the electrochemical detection of environmental, food and biomedical targets.*](#) UNIV-LYON1 (Villeurbanne, France)

13:00 Lunch

LECTURE SESSION 3

Chair: Eduard Llobet

- 14:10 Giorgio Sberveglieri, [*Electronic Nose with Metal Oxide Nanowires for food quality control and safety.*](#) Università di Brescia (Brescia, Italy)
- 14:30 Marta Lafuente, [*Novel strategies based on Surface-enhanced Raman Spectroscopy \(SERS\) for gas phase detection of neurotoxic agents at sub-ppm level.*](#) INA-UNIZAR (Zaragoza, Spain)
- 14:50 Aymen Sendi, [*Effect of Nanostructured octahedral SnO₂ added with a binary mixture p-type and n-type metal oxide on CO detection.*](#) LAAS-CNRS (Toulouse, France)
- 15:10 Stefania-Alexandra Iakab, [*Gold-coated Black Silicon: An Efficient Substrate for Laser Desorption Ionization Mass Spectrometry Applications.*](#) URV (Tarragona, Spain)

- 15:30 Jean-Paul Viricelle, [*SnO₂ sensors: towards functionalization and low temperature operation on flexible substrate?*](#) SPIN-EMSE (St Étienne, France)
- 15:50 *Homage to Luis Castañer, chips 'still' in Mars.* Universitat Politècnica de Catalunya (Barcelona, Spain)
- 16:20 Coffee break
- 16:30 **POSTER SESSION**
Student Poster Contest
- 16:30 *General Assembly of IBERNAM (for IBERNAM members only)**
- 17:00 *Steering Committee Meeting**
- 18:30 Gala Dinner (Viticulture Experience at Nulles)
Bus transport available from URV to Nulles (and back!)

*To be run in parallel to the poster session.

Friday, October the 5th 2018

LECTURE SESSION 4

Chair: Corrado di Natale

- 9:30 Fernando Almazán Román, [Mesoporous Silica based u-preconcentrators for Chemical Warfare Agents sampling at trace level](#). INA-UNIZAR (Zaragoza, Spain)
- 9:50 Giulia Selvolini, [Characterization and applications of conducting polymer nanocomposites as platforms for electrochemical biosensors](#). University of Florence (Sesto Fiorentino, Italy)
- 10:10 Vignesh Gunasekaran, [Development of a new type of gas sensor based on Zener diode network covered by metal oxide](#). LAAS-CNRS (Toulouse, France)
- 10:30 Coffee break

ORAL SESSION 5

Chair: Maria Luz Rodríguez-Mendez

- 11:00 *Homage to Keka Mayora*, IK4-IKERLAN (Arrasate, San Sebastián, Spain)
- 11:10 Manuel Domínguez-Pumar, [Acceleration of the time response of thermal sensors for space applications – novel trends](#), UPC (Barcelona, Spain)
- 11:30 Marcel Bouvet, [On the interest of ambipolar materials for gas sensing](#). ICMUB (Dijon, France)
- 11:50 Laura Parellada-Monreal, [Surface and in depth composition characterization of thin film ZnO processed by](#)

[Direct Laser Interference Processing](#). CEIT-IK4 (San Sebastián, Spain)

12:10 Corrado Di Natale, [Porphyrins based Chemical Sensors](#).
UNIROMA2 'Tor Vergata' (Rome, Italy)

12:30 Sandrine Bernardini, [Sensor Development on Flexible Substrate](#). IM2NP (Marseille, France)

13:00 Closing Ceremony. Eduard Llobet. URV.
Student Poster Awards announced.

13:10 Lunch and Farewell

Poster Session on Thursday October the 4th at 16:30

José Pedro Santos Blanco, ITEFI-CSIC Spain

1. [ODORAMANITA: Humans vs. Machines \(I\)](#)
2. [Chemiresistive devices based on graphene decorated with metal oxide nanoparticles for NO₂ detection](#)

Raquel Cumeras Olmeda, URV Spain

3. [Sensing platforms for biogenic VOCs analysis](#)

Diego Lopez Torres, UPNA Spain

4. [Sensors based on Microstructured Optical Fibers for the detection of Volatile Organic Compounds, Gases and Humidity](#)

Adrian Vicente Gómara, UPNA Spain

5. [Automated microfluidic system for fiber optic biosensors](#)

Maryam Baradaran, URV Spain

6. [Gas sensing properties of ZnO and ZnO/GZO thin films grown by aerosol assisted chemical vapor deposition](#)

Iosu Gabilondo Hoz, IK4-Ikerlan Spain

7. [Contributions to energy harvesting for rotational sources in industrial environments: a general purpose adaptive approach](#)
8. [Wireless torque sensor for press machine monitoring](#)

Lionel Presmanes, Université de Toulouse France

- 9.1. [NanoSen-AQM: Development and field validation on an electronic system based on low cost, low consumption nanosensors for real-time air quality monitoring](#)
- 9.2. [NanoSen-AQM: Nanostructured resistive sensors for the detection of atmospheric pollutants](#)

Miriam Alvarado Perez, URV Spain

10. [Comparing performance of flexible and rigid substrates for In₂O₃ based gas sensors](#)

Judith Santana Abril, ULPGC Spain

11. [Antenna Design for Magnetic Energy Transmission to Low Frequency RFID Tags in Small Aquaculture Tanks](#)

Yanira Elejalde Roman, ULPGC Spain

12. [Effective Parameters for Ferrite-Core RFID Tag Antenna Coil Modeling](#)

Alejandro Márquez, UNIZAR Spain

13. [A Fully Integrated Signal Generator for Impedance Spectroscopy Systems](#)

Onuma Santawitee, Université de Bordeaux France

14. [A microstructural investigation of mesoporous silica used as sensitive coating for cantilever-based VOCs gas sensors](#)

Càndid Reig, U València Spain

15. [Electrical modeling of monolithically integrated GMR based current sensors](#)

Celia Garcia Hernandez, U Valladolid Spain

16. [Complementary study of red wines combining voltammetric sensors and spectroscopic techniques](#)

Coral Salvo Comino, U Valladolid Spain

17. [Multisensor system based on layer by layer films. Discrimination of milks](#)

Ernesto González Fernández, URV Spain

18. [Fabrication and characterization of hydrogen sulfide sensor based on silver doped tungsten trioxide](#)

Eric Navarrete Gatell, URV Spain

19. [Gas Sensing properties of WO₃ Nanowires Decorated with Iridium Oxide Nanoparticles](#)

Juan Casanova Chafer, URV Spain

20. [Chemical gas sensor based on carbon nanotubes decorated with iridium oxide nanoparticles](#)

Angel Rodríguez Martínez, UPC Spain

21. [Impact in gas absorbance of the number of modulations in macroporous silicon photonic crystals](#)

Jose Luis Sanchez-Rojas, UCLM Spain

22. [An object transport system based on piezoelectric actuated flexural standing waves](#)

Carles Cané, IMB-CNM-CSIC Spain

23. [TEMINAIR+: Nanostructuring MOX Materials for Gas Sensors](#)

Anna Vilà, UB Spain

24. [Nanostructuring of PEDOT:PSS films for organic photodetectors](#)

A. Sánchez-González, UNIZAR Spain

25. [Multisensor actuation and measuring system based on multicore processors for Impedance Spectroscopy](#)