



13th Spanish Conference on Electron Devices

Sevilla, Spain, 9-11 June 2021



Preliminary Program

8 June 2021, Tuesday

16:00-20:00 **PLATFORM TESTING**

9 June 2021, Wednesday

Session We I: Materials: Processing and characterization

Chairperson Oral Session: Á. L. Álvarez-Castillo (Universidad Rey Juan Carlos)

Chairperson Poster Session: F. Campabadal (CSIC)

8:45-9:00 **OPENING**
Chairperson: M. Nafría (UAB)

9:45-11:00 **ORAL SESSION I (Materials: Processing and characterization)**

ID-60 **9:45-10:00**
D. Caudevilla¹, Y. Berencén², S. Algaidy¹, F. Zenteno¹, J. Olea¹, E. San Andrés¹, R. García-Hernansanz¹, A. del Prado¹, D. Pastor¹ and E. García-Hemme¹.
¹Universidad Complutense de Madrid, Spain, ²HZDR, Dresden, Germany.
Overcoming the solid solubility limit of Te in Ge by ion implantation and pulsed laser melting recrystallization

ID-24 **10:00-10:15**
F. Jiménez¹, H. García², M. B. González³, S. Dueñas², H. Castán², E. Miranda⁴, F. Campabadal³ and J. B. Roldán¹.
¹Universidad de Granada, Spain, ²Universidad de Valladolid, Spain, ³IMB-CNM (CSIC), Barcelona, Spain, ⁴Universitat Autònoma de Barcelona, Spain.

Fabrication, characterization and modeling of TiN/Ti/HfO₂/W memristors: programming based on an external capacitor discharge

ID-78 **10:15-10:30**
J. Martín¹, G. Pedreira¹, P. Saraza², J. Díaz³, R. Castro-López⁴, R. Rodríguez¹, E. Roca², X. Aymerich¹, F. Vidal² and M. Navafría¹.
¹Universitat Autònoma de Barcelona, Spain, ²IMSE-CNM, Sevilla, Spain, ³IMEC, Belgium, ⁴Nil.
A complete smart approach for the RTN characterization and modelling of scaled MOSFETs

ID-89 **10:30-10:45 (ID:89)**
A. L. Álvarez¹, F. Borrás¹, S. J. Quesada¹, A. López¹, A. de Andrés² and C. Coya¹.
¹Universidad Rey Juan Carlos, Madrid, Spain, ²ICMM, Madrid, Spain.
Massive covalent functionalization of graphene by local electric-fields: a path for multianalyte biosensors

ID-20 **10:45-11:00 (ID:20)**
M. Bargalló¹, M. Zabala¹, K. Kalam², A. Tamm², F. Jiménez³, J. B. Roldán³ and F. Campabadal¹.
¹IMB-CNM (CSIC), Barcelona, Spain, ²University of Tartu, Estonia, ³Universidad de Granada, Spain.
Analysis of the Characteristic Current Fluctuations in the High Resistance State of HfO₂-based Memristors

11:00-11:30 **Meet with friends**

11:30-13:15 **POSTER SESSION I (Materials: Processing and characterization)**

H1. MATERIALS AND PROCESSING TECHNOLOGY

ID-12 G. López-Rodríguez¹, G. Masmitjà¹, I. Martín¹, J. M. Moreno², M. Rodríguez², J. M. Quero³, J. García³ and P. R. Ortega¹.
¹Universitat Politècnica de Catalunya, Barcelona, Spain, ²Solar MEMS Technologies S.L., Sevilla, Spain, ³Universidad de Sevilla, Spain.

Base and work vacuum pressure influence during sputtering of Al films for sun sensor applications

ID-14 A. Torrens, G. Masmitjà, R. E. Almache, B. Pusay, E. Ros, G. López-Rodríguez, I. Martín, C. Voz, J. Puigdollers and P. R. Ortega.
Universitat Politècnica de Catalunya, Barcelona, Spain.

Atomic layer deposition of SnO₂ films for c-Si solar cells

ID-15 E. San Andrés¹, R. García¹, E. García¹, R. Barrio², I. Torres², D. Caudevilla¹, D. Pastor¹, J. Olea¹, A. del Prado¹, S. M. Algaidy¹ and F. Pérez¹.
¹Universidad Complutense de Madrid, Spain, ²CIEMAT, Madrid, Spain.

High Pressure Sputtering of materials for selective contacts in emerging photovoltaic cells

ID-56 R. Barrio.
CIEMAT, Madrid, Spain.

Light-trapping improvement of limited-quality silicon wafers for silicon heterojunction solar cell applications

ID-73 S. Sánchez.
Ceit, Donostia-San Sebastián, Spain.

Nanosecond laser assisted chemical vapor deposition process for the growth of ZnO thin films

ID-80 K. B. Saddik¹, J. Grandal², B. J. García¹ and S. Fernández-Garrido³.
¹Universidad Autónoma de Madrid, Spain, ²Instituto de Sistemas Optoelectrónicos y Microtecnología, Universidad Politécnica de Madrid, Spain, ³Dpto. Física Aplicada, Universidad Autónoma de Madrid, Spain.
Chemical beam epitaxy of GaP_{1-x}N_x for the integration of III-V solar cells and light-emitting devices on Si(001)

H3. CHARACTERIZATION AND RELIABILITY

ID-18 A. Pacheco¹ and D. Jiménez².
¹Dpto. Ingeniería Electrónica., Universitat Autònoma de Barcelona, Spain, ²Universitat Autònoma de Barcelona, Spain.

A contact resistance extraction method of 2D-FET technologies without test structures

- ID-29** M. Maestro-Izquierdo¹, M. B. González¹, P. Martín-Holgado², Y. Morilla², and F. Campabadal¹.
¹IMB-CNM (CSIC), Spain, ²CNA, Sevilla, Spain.
Gamma Radiation Effects on HfO₂-based RRAM Devices
- ID-32** V. M. Orejuela.
IES, Universidad Politécnica de Madrid, Spain.
Advances in the development of high efficiency III-V multijunction solar cells on Ge|Si virtual substrates
- ID-43** S. Fernández-Garrido¹, C. Pisador¹, J. Lähnemann², S. Lazic³, A. Ruiz⁴ and A. Redondo-Cubero¹.
¹Dpto. Física Aplicada, Universidad Autónoma de Madrid, Spain, ²Paul-Drude-Institut für Festkörperelektronik, Berlin, Germany, ³Dpto. de Física de Materiales, Universidad Autónoma de Madrid, Spain, ⁴Instituto de Ciencia de Materiales de Madrid, CSIC, Spain.
Coalescence, crystallographic orientation and luminescence of ZnO nanowires grown on Si(001) by chemical vapour transport
- ID-45** A. Ruiz¹, N. Seoane², S. Claramunt¹, A. J. García-Loureiro², M. Porti¹ and M. Nafría¹.
¹Universitat Autònoma de Barcelona, Spain, ²Universidad de Santiago de Compostela, Spain.
Analysis of metal gate workfunction fluctuations on MOSFETs variability using KPFM characterization and device simulation tools
- ID-51** K. Ben¹, J. Lähnemann², M. Pérez¹, M. A. Pampillón¹, J. Grandal³, B. J. García¹ and S. Fernández-Garrido⁴.
¹Universidad Autónoma de Madrid, Spain, ²Paul-Drude-Institut für Festkörperelektronik, Berlin, Germany, ³Instituto de Sistemas Optoelectrónicos y Microtecnología, Universidad Politécnica de Madrid, Spain, ⁴Dpto. Física Aplicada, Universidad Autónoma de Madrid, Spain.
Luminescence of GaP_{1-x}N_x grown by chemical beam epitaxy: correlation with growth conditions
- ID-91** L. Martínez-Herraiz.
LCC, Madrid, Spain.
Effects of Surface Treatments on the Performance of CdZnTeSe Radiation Detectors

15:00-16:30 **PANEL DISCUSSION (Spin Off: From research to society)**

16:30-17:00 **Meet with friends**

17:00-18:30 **SOCIAL EVENT**

10 June 2021, Thursday

Session Th II: Photovoltaic, optoelectronic and photonic devices

Chairperson Oral Session: J. R. Ramos-Barrado (Universidad de Málaga)

Chairperson Poster Session: J. Pallares (Universitat Rovira i Virgili)

9:00-10:15 **ORAL SESSION II (Photovoltaic, optoelectronic and photonic devices)**

- ID-9** **9:00-9:15**
A. J. García-Loureiro¹, E. Fernández², N. Seoane¹, P. Rodrigo², E. Comesaña¹ and F. Almonacid².
¹Universidad de Santiago de Compostela, Spain, ²Universidad de Jaén, Spain.
High-efficiency intrinsic-Vertical-Tunnel-Junction multi-band-gap concentrator solar cells up to 15,000 suns

- ID-16** **9:15-9:30**
L. F. Marsal, J. Pallares and E. Moustafa.
Universitat Rovira i Virgili, Tarragona, Spain.
Influence of Spray Pyrolysis Deposition Technique on the Performance and stability of Polymer Solar Cells
- ID-27** **9:30-9:45**
E. Navarrete-Astorga¹, J. Rodríguez-Moreno¹, M. C. López-Escalante¹, J. J. Peinado¹, F. Martín¹, E. Dalchiele² and J. R. Ramos-Barrado¹.
¹Universidad de Málaga, Spain, ²Instituto de Física, Facultad de Ingeniería de Montevideo, Uruguay.
Flexible and transparent supercapacitors based on ZnO nanowires
- ID-46** **9:45-10:00**
C. Coya¹, C. D. Redondo-Obispo¹, T. Ripolles¹, E. Climent-Pascual², A. de Andrés³ and A. L. Álvarez¹.
¹Universidad Rey Juan Carlos, Madrid, Spain, ²Universidad Politécnica de Madrid, Spain, ³ICMM, Madrid, Spain.
Influence of graphene on hybrid perovskites-based solar cells performance
- ID-63** **10:00-10:15**
D. Sánchez¹, J. D. López¹, M. Delgado², R. Altuna¹, C. Vázquez¹, A. Fresno¹, P. Contreras¹, R. Rodríguez¹, A. Nuñez¹, I. Rey-Stolle², M. Gabás², M. Honojosa², C. Algora², I. García², X. Barrero¹, I. Lombardero², L. Cifuentes² and J. Bautista².
¹Universidad Carlos III de Madrid, Spain, ²Instituto de Energía Solar, Universidad Politécnica de Madrid, Spain.
Optimized Power-over-Fiber System to Remotely Feed Smart Nodes for Low-Power Consumption Applications

10:15-10:45 **Meet with friends**

10:45-12:00 **POSTER SESSION II (Photovoltaic, optoelectronic and photonic devices)**

V2. PHOTOVOLTAIC AND OPTOELECTRONIC/PHOTONICS DEVICES AND DISPLAYS

- ID-8** C. Outes¹, E. Fernández¹, N. Seoane², F. Almonacid¹ and A. J. García-Loureiro².
¹Universidad de Jaén, Spain, ²Universidad de Santiago de Compostela, Spain.
Study of Recombination Effects in a Vertical-Tunnel-Junction GaAs Solar Cell
- ID-11** A. A. A. Torimtubun, J. Pallares and L. F. Marsal.
Universitat Rovira i Virgili, Tarragona, Spain.
Effect of Thermal Annealing on the Performance of PTB7-Th:PC70BM-Based Ternary Organic Solar Cells
- ID-13** J. Olea, S. Algaidy, D. Caudevilla, E. García-Hemme, A. del Prado, D. Pastor, R. García-Hernansanz, F. Zenteno, E. San-Andrés, G. González-Díaz, I. Mártil, D. Montero, P. Gomez, J. Gonzalo, and J. Siegel.
Universidad Complutense de Madrid, Spain.
Advances on GaP:Ti material and solar cells
- ID-30** M. Fisse¹, L. López¹, L. Yedra¹, F. Peiró¹, S. Estradé¹, S. Paetel², R. Fonoll-Rubio³, M. Guc³ and V. Izquierdo-Roca³.
¹Universitat de Barcelona, Spain, ²Zentrum für Sonnenenergie und Wasserstoff-Forschung, Stuttgart, Germany, ³Institut de Recerca en Energia de Catalunya, Barcelona, Spain.
Characterization of thin CIGS solar cells by electron microscopy techniques
- ID-38** G. López-Rodríguez, E. Ros, P. R. Ortega, C. Voz, J. Puigdollers and I. Martín.
Universitat Politècnica de Catalunya, Barcelona, Spain.
Thin c-Si Solar Cells Based on VOx Heterojunctions
- ID-47** S. Algaidy¹, J. Olea¹, D. Caudevilla¹, E. García-Hemme¹, A. del Prado¹, D. Pastor¹, D. Montero¹, R. García-Hernansanz¹, E. San Andrés¹, G. González-Díaz¹, I. Mártil¹, J. Siegel², J. Gonzalo², M. Wang³ and Y. Berencén³.
¹Universidad Complutense de Madrid, Spain, ²IO-CSIC, Madrid, Spain, ³Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany.
Recrystallization of GaAs supersaturated with Ti

- ID-52** L. K. Acosta, J. Ferre-Borrull and L. F. Marsal.
Universitat Rovira i Virgili, Tarragona, Spain.
Progress in Engineering Photonic Structures based on Nanoporous Anodic Alumina
- ID-55** I. Torres.
CIEMAT, Madrid, Spain.
Silicon heterojunction solar cells with Graphene-modified front transparent conductive electrodes
- ID-57** R. Barrio.
CIEMAT, Madrid, Spain.
Laser Fired Contacts in multicrystalline silicon solar cells
- ID-61** L. F. Marsal¹ and J. G. Sánchez².
¹*Universitat Rovira i Virgili, Tarragona, Spain,* ²*ICIQ, Tarragona, Spain.*
Bulk-Heterojunction Organic Solar Cells Towards 20% of Power Conversion Efficiency
- ID-64** E. García, D. Caudevilla, S. M. Algaidy, F. Pérez, R. García, J. Olea, D. Pastor, A. del Prado, E. San Andrés, I. Mártil and G. González.
Universidad Complutense de Madrid, Spain.
Unveiling the optoelectronic mechanisms ruling Ti hyperdoped Si photodiodes
- ID-66** E. López-Aymerich.
Universitat de Barcelona, Spain.
Simulations and nanofabrication of photonic crystals based on silicon pillars for mechanical biosensors
- ID-74** S. González-Torres.
Universitat de Barcelona, Spain.
Inkjet-printed ZnO and NiOx: layer and device characterization for optoelectronics
- ID-81** R. Izquierdo-López, J. Pedrós, R. Fandan, A. Boscá and F. Calle.
Instituto de Sistemas Optoelectrónicos y Microtecnología, Dpto. de Ingeniería Electrónica, Universidad Politécnica de Madrid, Spain.
SAW-driven plasmons in graphene heterostructures for fingerprinting ultrathin polymer layers

V1. SENSORS, ACTUATORS AND MICRO/NANO SYSTEMS

- ID-25** C. Reig¹, F. Pardo¹, J. A. Boluda¹, F. Vegara¹, M. D. Cubells¹, J. Sanchis¹, S. Abrunhosa² and S. Cardoso².
¹*Universidad de Valencia, Spain,* ²*INESC-Microsystems and Nanotechnologies, Lisbon, Portugal.*
Advanced Giant Magnetoresistance (GMR) sensors for Selective-Change Driven (SCD) circuits

Session Th III: Device modelling, simulation and beyond

Chairperson Oral Session: A. García-Laureiro (Universidad de Santiago de Compostela)

Chairperson Poster Session: S. Dueñas (Universidad de Valladolid)

12:00-13:15 **POSTER SESSION III (Device modelling, simulation and beyond)**

H2. DEVICE MODELLING AND SIMULATION

- ID-3** A. Atamuratov.
Physics Department, Urgench State University, Uzbekistán.
Self-heating effect in nanoscale SOI Junctionless FinFET with different geometries
- ID-7** A. J. Pérez-Ávila¹, E. Pérez², J. B. Roldán¹ and C. Wenger² and F. Jiménez¹.
¹*Universidad de Granada, Spain,* ²*IHP.*
Multilevel memristor based matrix-vector multiplication: influence of the discretization method

- ID-19** F. Pasadas¹, T. Grou², A. Medina-Rull³, M. Najari⁴, E. G. Marin³, A. Toral-López³, M. C. Pardo³, F. J. G. Ruiz³, A. Godoy³, L. Elmir² and D. Jiménez¹.
¹Universitat Autònoma de Barcelona, Spain, ²GEEE, ³Universidad de Granada, Spain, ⁴Jazan University, Saudi Arabia.
Modeling of ion-sensitive FETs based on 2D-TMDs
- ID-31** A. Valera.
Universidad de Jaén, Spain.
Modelling and potential of hybrid micro-scaling MJ solar cell and thermoelectric generator
- ID-37** C. Santa Cruz¹, G. Vinuesa¹, O. G. Osorio¹, H. García¹, B. Sahelices¹, H. Castán¹, S. Dueñas¹, J. Jiménez¹, M. Bargalló² and F. Campabadal².
¹Universidad de Valladolid, Spain, ²IMB-CNM (CSIC), Barcelona, Spain.
Semiempirical Memdiode Model for Resistive Switching Devices in Dynamic Regimes
- ID-40** N. Mavredakis¹, A. Pacheco², P. C. Feijoo¹ and D. Jiménez¹.
¹Universitat Autònoma de Barcelona, Spain, ²Dpto. Ingeniería Electrónica, Universitat Autònoma de Barcelona, Spain.
Analysis of traps-related effects hindering GFETs performance
- ID-53** J. Cuesta-Lopez, A. Toral-Lopez, M. C. Pardo, E. G. Marin, F. G. Ruiz, F. Pasadas and A. Godoy.
Universidad de Granada, Spain.
Variability assessment of the performance of MoS₂ based BioFETs
- ID-65** P. C. Feijoo¹, F. Pasadas¹, A. Pacheco², F. Alveiro¹ and D. Jiménez¹.
¹Universitat Autònoma de Barcelona, Spain, ²Dpto. Ingeniería Electrónica, Universitat Autònoma de Barcelona, Spain.
Impact of Self-Heating on Small-Signal Parameters of Graphene Field-Effect Transistors over a Wide Frequency Range
- ID-76** F. A. Chaves, P. C. Feijoo and D. Jiménez.
Universitat Autònoma de Barcelona, Spain.
Electrically and Chemically Doped 2D lateral pn junctions: Equilibrium and out-of-the equilibrium properties
- ID-90** J. J. Santaella¹, F. M. Gómez-Campos², S. Rodríguez-Bolívar² and K. Critchley³.
¹VALEO, Paris, France, ²Universidad de Granada, Spain, ³University of Leeds, United Kingdom.
Electrical simulation of a QLED device based on quantum dots using the Transfer Hamiltonian approach
- V4. NEW DEVICE CONCEPTS: QUANTUM DEVICES, NANO-DEVICES, RF, MICROWAVE AND POWER DEVICES**
- ID-2** G. González¹, M. Bargalló², F. Jiménez¹, F. Campabadal² and J. B. Roldán¹.
¹Universidad de Granada, Spain, ²IMB-CNM (CSIC), Barcelona, Spain.
RTN study of TiN/Ti/HfO₂/Pt resistive switching devices based on neural network analysis
- ID-10** J. G. Fernández¹, N. Seoane¹, K. Kalna² and A. J. García-Loureiro¹.
¹Universidad de Santiago de Compostela, Spain, ²Swansea University, United Kingdom.
Threshold voltage variability study in a 12 nm gate length Nanosheet FET
- ID-22** M. Saludes-Tapia¹, S. Poblador¹, F. Campabadal², J. Suñé¹, E. Miranda¹ and M. Bargalló².
¹Universitat Autònoma de Barcelona, Spain, ²IMB-CNM (CSIC), Barcelona, Spain.
Complementary Resistive Switching in Anti-Serially Connected HfO₂-based Memristors
- ID-33** J. Martínez
ISOM, Universidad Politécnica de Madrid, Spain.
Towards a hybrid graphene device for Green Energy
- ID-59** G. Paz¹, I. Íñiguez de la Torre¹, H. Sánchez¹, V. Hoel², Y. Cordier², T. González¹ and J. Mateos¹.
¹Universidad de Salamanca, Spain, ²IEMN, France.
GaN-based HEMTs operating as zero-bias microwave detectors at low temperature
- ID-84** F. M. Gómez-Campos.
Universidad de Granada, Spain.
Influence of dimensionality and stoichiometry in the electronic structure of InAs quantum dot solids

15:00-15:45 **INVITED TALK**

Y. Chen.
Duke University, U.S.A.
Hardware/Software Co-design for AI Systems

15:45-17:00 **ORAL SESSION III (Device modelling, simulation and beyond)**

ID-28 **15:45-16:00**
E. Pérez-Martín¹, I. Íñiguez de la Torre¹, T. González¹, C. Gaquiere² and J. Mateos¹.
¹Universidad de Salamanca, Spain, ²IEMN, France.
Bias-dependence of surface charge at low temperature in GaN nano-diodes

ID-26 **16:00-16:15**
B. Orfao E Vale.
Universidad de Salamanca, Spain.
Technological Parameters and Edge Fringing Capacitance in GaN Schottky Barrier Diodes: Monte Carlo Simulations

ID-39 **16:15-16:30**
F. Pasadas¹, A. Pacheco², A. Mansouri³, P. Kumar⁴, G. Calabrese⁴, K. Patel⁴, A. Zurutuza⁵, O. Habibpour³, H. Zirath³, R. Sordan⁴ and D. Jiménez¹.
¹Universitat Autònoma de Barcelona, Spain, ²Dpto. Ingeniería Electrónica, Universitat Autònoma de Barcelona, Spain, ³CUT, ⁴POLIMI, Italy, ⁵Graphenea, Gipuzkoa, Spain.
Towards the experimental demonstration of non-quasi-static effects in graphene field-effect transistors

ID-72 **16:30-16:45**
M. M. Al Chawa¹, R. Tetzlaff², S. Stavrinides³, C. de Benito⁴ and R. Picos⁴.
¹Technische Universität Dresden, Germany, ²Nil, ³International Hellenic University, Greece, ⁴Universitat de les Illes Balears, Spain.
Energy Based Analysis of Reset Transition in ReRAM Memristive Devices

ID-75 **16:45-17:00**
E. Salvador¹, M.B. Gonzalez², F. Campabadal², J. Martin-Martinez¹, R. Rodriguez¹ and E. Miranda¹.
¹Dpto. de Ingeniería Electrónica, Universitat Autònoma de Barcelona, Spain, ²IMB-CNM (CSIC), Barcelona, Spain.
In-depth Analysis of the Statistical Distribution of RRAM Electrical Parameters Intended for Compact Modeling

11 June 2021, Friday

Session Fr IV: Sensors, actuators and biomedical devices

Chairperson Oral Session: C. Aracil (Universidad de Sevilla)

Chairperson Poster Session: C. García Núñez (University of the West of Scotland)

9:00-9:45 **INVITED TALK**

M. Dominguez-Pumar.
Universitat Politècnica de Catalunya, Spain.
Mars 2020: the third NASA mission with Spanish wind sensing technology in Mars

9:45-11:00 **ORAL SESSION IV (Sensors, actuators and biomedical devices)**

- ID-62** **9:45-10:00**
M. Rovira¹, C. Jiménez-Jorquera¹, D. Briand² and S. Demuru².
¹IMB-CNM (CSIC), Barcelona, Spain, ²EPFL, Switzerland.
Paper-based wearable patch for sweat biomonitoring
- ID-50** **10:00-10:15**
M. Moreno¹, V. Parra-Monreal², M. Ortega-Machuca², J. Ramón-Azcon², W. Svendsen³ and A. Romano-Rodríguez¹.
¹Universitat de Barcelona, Spain, ²IBEC, Barcelona, Spain, ³Technical University of Denmark-DTU, Denmark.
Detection of cytokines in skeletal muscle tissue using optical SPR sensing platform
- ID-41** **10:15-10:30**
A. Peña¹, D. Matatagui², C. Cruz², P. de la Presa¹, P. Marín¹ and C. Horrillo².
¹Instituto de Magnetismo Aplicado, Madrid, ²Instituto de Tecnologías Físicas y de la Información, CSIC, Madrid, Spain.
Study of magnetoelastic resonance for chemical sensors: Ribbons vs microwires
- ID-70** **10:30-10:45**
I. Sayago¹, C. Sánchez², J. L. Sanjurjo¹, J. P. Santos¹, S. Ogilvie³, H. J. Wood³, A. Graf³, M. Large³, A. B. Dalton³, R. Garriga⁴ and E. Muñoz⁵.
¹ITEF-CSIC, Madrid, Spain, ²Up Devices and Technologies, Madrid, Spain, ³University of Sussex, United Kingdom, ⁴Universidad de Zaragoza, Spain, ⁵Instituto de Carboquímica ICB-CSIC, Zaragoza, Spain.
Resistive gas sensors based on MoS₂ nanosheets with high response to low NO₂ concentrations
- ID-68** **10:45-11:00**
A. Alcacer¹, H. Ben Halima², A. Errachid² and J. Bausells¹.
¹IMB-CNM (CSIC), Barcelona, Spain, ²Institute of Analytical Sciences (UCBL), France.
eHealth system with ISFET-based immunosensor for heart failure biomarker detection in saliva

11:00-11:30 **Meet with friends**

11:30-13:15 **POSTER SESSION IV (Sensors, actuators and biomedical devices)**

V1. SENSORS, ACTUATORS AND MICRO/NANO SYSTEMS

- ID-4** J. M. Moreno¹, M. Rodríguez¹, P. R. Ortega² and J. M. Quero³.
¹Solar MEMS Technologies S.L., Sevilla, Spain, ²Universitat Politècnica de Catalunya, Barcelona, Spain, ³Universidad de Sevilla, Spain.
In orbit data of miniaturized 2-axis sun sensors for attitude control applications in spacecrafts
- ID-6** A. Rodríguez, D. Vega, D. Cardador and D. Segura.
Universitat Politècnica de Catalunya, Spain.
Study of the performance impact by fabrication imperfections in electrochemically etched macroporous silicon photonic crystals
- ID-17** M. Tomić, I. Gràcia, E. Figueras, C. Cané and S. Vallejos.
IMB-CNM (CSIC), Barcelona, Spain.
ZnO nanorods and their modification with Au nanoparticles for UV-light activated gas sensing
- ID-36** O. Ferrer.
IMB-CNM (CSIC), Barcelona, Spain.
3D Detectors for timing applications
- ID-42** M. Pelayo¹, K. McAughey², D. Gibson¹, D. Hughes² and C. García¹.
¹University of the West of Scotland, United Kingdom, ²Novosound, Scotland, United Kingdom.
Glancing Angle Deposition of Nanostructured ZnO Thin Films for Ultrasonics
- ID-44** C. Pérez-González.
Universidad de Valladolid, Spain.
Development of a potentiometric bioelectronic tongue modified with gold nanoparticles for dairy industry

- ID-54** J. Gómez-Suárez, F. Meléndez, P. Arroyo, S. Rodríguez, S. Palomeque, J. I. Suárez and J. Lozano.
Universidad de Extremadura, Spain.
Detection of 2,4,6 Trichloroanisole at low concentrations by means of machine olfaction
- ID-58** M. Pozo-Gómez, J. D. Aguilera-Martín, P. de la Presa, C. Cruz, P. Marín, M. C. Horrillo and D. Matatagui.
Instituto de Tecnologías Físicas y de Información, CSIC, Madrid, Spain.
Modeling and simulation of a magnonic gas sensor to detect diseases in human breath
- ID-67** C. Sánchez¹, J. P. Santos², A. Azabal¹, S. Ruiz-Valdepeñas¹, J. Lozano³, I. Sayago² and J. L. San Jurjo².
¹Up Devices and Technologies, Madrid, Spain, ²ITEF-CSIC, Madrid, Spain, ³Universidad de Extremadura, Spain.
Automation and optimization device for the fabrication of sensors with nanomaterials
- ID-71** A. Doblas.
IMB-CNM (CSIC), Barcelona, Spain.
Technology Developments on iLGAD Sensors at IMB-CNM
- ID-77** D. Estrada¹, M. Dolcet¹, R. Soriano¹, J. Santander¹, M. Salleras¹, L. Fonseca¹, J. M. Sojo², A. Morata² and A. Tarancon².
¹IMB-CNM (CSIC), Barcelona, Spain, ²IREC, Ciudad Real, Spain.
Highly-packed arrangement of an all-Si based thermoelectric microgenerator
- ID-82** A. Doblas.
IMB-CNM (CSIC), Barcelona, Spain.
Proton Low Gain Avalanche Detector (pLGAD) for Low Energy Particles Detection
- ID-83** C. I. Douglas.
University of the West of Scotland, United Kingdom.
Development of a Highly Sensitive and Flexible Graphene Foam Based Pressure Sensors

V3. BIOMEDICAL DEVICES AND LAB-ON-CHIP

- ID-69** L. Lefaix¹, A. Blanquer², L. Bacakova², J. Esteve¹ and G. Murillo¹.
¹IMB-CNM (CSIC), Barcelona, Spain, ²Institute of Physiology of the Czech Academy of Sciences, Prague, Czech Republic.
Development of hybrid piezoelectric microdevices for bioapplications
- ID-86** J. A. Fontanilla and A. Luque.
Universidad de Sevilla, Spain.
Low-cost voltage amplifier for biological signal acquisition through generic micro-electrode array
- ID-88** C. Aracil, J. D. Urbano-Gámez, F. Perdignes, J. A. Fontanilla and J. M. Quero.
Universidad de Sevilla, Spain.
Towards a 3D-Printed and Autonomous Culture Platform Integrated with Commercial Microelectrode Arrays

13:15-13:30 **CLOSING**
Chairperson: M. Nafría (UAB)