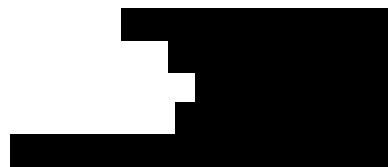


Laura Parellada Monreal

Curriculum Vitae



Personal information

Birth



Nationality



Education

- Nov. 2015 - March 2019 **Ph.D. in Applied Engineering,**
University of Navarra, San Sebastián - Donostia, Spain,
Laser-nanostructured metal oxide semiconductors for conductometric gas sensors.
Distinction: International Cum Laude
Under the supervision of Dra. Gemma G^a. Mandayo and Dra. Irene Castro Hurtado
- Sept. 2014 - July 2015 **International MSc of Nanosciences & Nanotechnologies:**
MSc 2 Nanophysics and Nanostructures,
Joseph Fourier University, Grenoble, France.
- Sept. 2008 - June 2013 **BSc in Physics,**
University of Barcelona (UB), Barcelona, Spain.
- Sept. 2006 - June 2009 **Grade in Viola,**
Conservatori Municipal de música de Barcelona, Spain.

Professional experience

- Sept. 2020 - Present **Researcher,**
Fondazione Bruno Kessler, Trento, Italy.
Main tasks:
 - Fabrication process and technology development of Silicon Photomultipliers.
 - TCAD process simulation.
- Dec. - June 2020 **Postdoctoral researcher,**
Cirimat, Toulouse, France.
Main tasks:
 - RF magnetron sputtering of metal oxide thin films.
 - Electrical and microstructural material characterization.
 - Study the performance of silicon microsenors platforms for NO₂ detection.
 - Analysis, interpretation and presentation of results.
 - Ph.D. supervision.
- Nov. 2015 - March 2019 **Predoctoral researcher,**
Ceit-IK4, San Sebastián - Donostia, Spain.
Main tasks:
 - Cleanroom microfabrication of gas sensing devices using photolithography and sputtering of metal oxide thin films (mainly ZnO and WO₃).

- Nanostructuration of metal oxide thin films by nano- and femtosecond laser systems.
- Nanostructures characterization compared to thin film.
- Gas sensing experiments: acquisition of the sensor conductance as a function of target gas concentration in controlled atmospheres.
- 2D heat transfer equation simulation using Matlab.
- Implementation and validation of the sensor devices into a wireless electronic platform able to operate in a real environment.
- Communication of the results in international conferences and peer-review journals.

March - July 2015

MSc Thesis,

Alternative Energies and Atomic Energy Commission, Institute for Nanoscience and Cryogenics & European Synchrotron Radiation Facility CGR/IF BM32, Grenoble, France.

GISAXS analysis of platinum nanoparticles grown on graphene/Ir(111)

Under the supervision of Dr. Gilles Renaud

Main tasks:

- GISAXS data analysis and simulation.
- Interpretation of the results and development of a growth model.

January - June 2014

Internship,

European Synchrotron Radiation Facility - Surface Science Laboratory, Experiments Division, Scientific Infrastructure, Grenoble, France.

Main tasks:

- Provide AFM expertise to the European Photon & Neutron Science Campus scientists.
- Development of the Surface Science Laboratory website.

Skills

Microfabrication and nanostructuration techniques

Photolithography, DC and RF sputtering deposition, annealing treatments, RIE, direct laser interference patterning (DLIP), femtosecond laser subwavelength patterning.

Characterization techniques

AFM, SEM, GIXRD, Mechanical profilometer, Raman spectroscopy, TOF-SIMS, XPS, GDOES, TEM.

Computer skills

Good command of Origin, MATLAB, Victory Process, LabVIEW, Microsoft Office™ tools, LaTeX, SciDAVis (Scientific Data Analysis Visualization), IsGISAXS, PyRod (GISAXS Data treatment) and Jahia (website editor).

Basic command of Fortran 77, Python and AutoCAD.

Personal skills

Organized, self-motivated, analytical, proactive, hands-on problem-solving skills, team player

Ceit-IK4.

Teaching activities

Jan. - May 2017 and

Professor's assistant,

Jan. - May 2016

Nanotechnology and photonics course, Telecommunications MSc, Tecnun-University of Navarra