

## Website update – ESR-ER presentation template

### Marie-Curie Fellow

Name: Constant

First Name: Aurore

Age: 26

Nationality: French

Position (ER/ESR): ESR

Host institution: Centro Nacional de Microelectronica (CNM), Barcelona, Spain

Contract duration: 36 months



### Short Education Background (10 lines max.)

November 2007

- present                      Ph.D. in Microelectronics  
  “SiC and GaN Processing Technology for MOSFET Devices Fabrication”  
  Universitat Politècnica de Catalunya (UPC), Spain  
  University Montpellier 2, France
- 2005-2007                      M.Sc. in Physics and Materials Engineering  
  University Montpellier 2, France  
  Title dissertation “Study and characterization of snap-back phenomenon in CMOS technology”
- 2002-2005                      B.A.Sc. in Applied Physics  
  University Montpellier 2, France  
  Dissertation title “Study and characterization of MOSFETs in (11-20) 4H-SiC”

### Research focus and main activities carried out in the scope of the project (10 lines max.)

To develop and design new devices based on the 3C-SiC/ $\alpha$ -SiC hetero-structures and 3C-SiC bulk. The research focuses on novel 3C-SiC lateral MOSFET structures, dealing with SiC technology and devices with the following aims:

- Development of 3C-SiC technological steps for devices fabrication;
- Fabrication of 3C-SiC devices grown on 3C-SiC bulk;
- Fabrication of hetero-junction 3C-SiC/ $\alpha$ -SiC.

The main research interests include interface and bulk trapping effects in gate dielectrics and fabrication issues for MOS capacitors and MOSFETs fabrication.

**Publications (please specify when the publication has been issued in the scope of the MANSiC project)**

1. **A. Constant**, N. Camara, P. Godignon, and J. Camassel, (ManSiC project)  
“Benefit of H<sub>2</sub> surface pre-treatment for 4H-SiC oxynitridation using N<sub>2</sub>O and rapid thermal processing steps”, Applied Physics Letters, 94, 063508, 2009
2. M. Placidi, A. Pérez-Tomás, **A. Constant**, G. Rius, N. Mestres, J. Millán and P. Godignon,  
“Effects of cap layer on ohmic Ti/Al contacts to Si<sup>+</sup> implanted GaN”, Applied Surface Science, 255, 6057-6060, 2009
3. A. Perez-Tomas, P. Brosselard, J. Hassan, M. Placidi, **A. Constant**, P. Bergman, P. Godignon,  
“Schottky versus Bipolar 3.3kV Diodes”, Semiconductor Science and Technology Volume: 23 Issue: 12 Article Number: 125004 (2008)
4. F. Dieudonné, **A. Constant**, J. Rosa, B. Gautheron, “Implantation of a non destructive snap-back characterization methodology in multi-finger power MOSFET’s”, IEEE Microelectronics Test Structures, 2008