

Website update – ESR-ER presentation template

Marie-Curie Fellow

Name: Caboni

First Name: Alessandra

Age: 27

Nationality: Italian

Position (ER/ESR): ER

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

Contract duration: 12 months



Short Education Background (10 lines max.)

2006-2008	PhD in Bioengineering University of Genoa, Italy Dissertation title “Conception, development and test of biosensors for DNA detection in CMOS and organic technology”
2003-2005	M.Sc. Degree in Electronics Engineering University of Cagliari, Italy Dissertation title “Development and realization of field-effect biosensors”
2000-2003	B.Sc. Degree in Electronics Engineering University of Cagliari, Italy

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/ α -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 micro-nano technology processes for FET devices fabrication;
- Fabrication of FET devices based on graphene on 3C-SiC;
- Integration of sensing elements with 3C-SiC/ α -SiC FET circuitry.

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

Active devices based on organic semiconductors for wearable applications

M. Barbaro, **A. Caboni**, P. Cosseddu, G. Mattana, A. Bonfiglio

Submitted to IEEE Transactions on Information Technology in BioMedicine in July 2009

Flexible Organic Thin - Film Transistors for pH Monitoring

A.Caboni, E. Orgiu, M. Barbaro, A. Bonfiglio

Accepted for publication on IEEE Sensors Journal

Organic - based sensor for chemical detection in aqueous solution

A.Caboni, E. Orgiu, E. Scavetta, M. Barbaro, A. Bonfiglio

Accepted for publication on Applied Physics Letters

A flexible floating-gate organic thin-film transistor for detection of chemical species

A.Caboni, W. Cambarau, E. Orgiu, M. Barbaro, A. Bonfiglio

Proc. of IEEE SENSORS 2008, pp.859-862, Lecce (Italy), 26–29 October 2008

A CMOS integrated DNA - chip for hybridization detection

A.Caboni, D. Loi, M. Barbaro, L. Raffo

Proc. of Congresso Nazionale di Bioingegneria, pp. 817-818,

Pisa (Italy), 3-5 July 2008

Organic field - effect based sensors for body parameters monitoring

I.Manunza, **A. Caboni**, E. Orgiu, M. Barbaro, A. Bonfiglio

Proc. of Congresso Nazionale di Bioingegneria, pp.819-820,

Pisa (Italy), 3-5 July 2008

Integration of a microfluidic flow cell on a CMOS biosensor for DNA detection

A.Caboni, M. Barbaro, A. Homisy, P.van der Wal, V. Linder, N. de Rooij

Proc. of IEEE Ph.D. Research in Microelectronics and Electronics (IEEE PRIME 2008), pp.121-124,

Istanbul (Turkey), 22–25 June 2008

Dispositivi attivi basati su semiconduttori organici per applicazioni indossabili

M. Barbaro, **A. Caboni**, W. Cambarau, P. Cosseddu, I. Manunza, E. Orgiu, A. Spanu, A. Bonfiglio

chapter in book “Sistemi indossabili intelligenti per la salute e la protezione dell’uomo”, pp. 145-178, Patron editore, 2008

Organic field effect based sensors for body parameters monitoring

A.Bonfiglio, I. Manunza, **A. Caboni**, W. Cambarau, M. Barbaro

Proceedings of SPIE, pp. 665904.1-665904.11, San Diego (USA), 25-28 August 2007

A CMOS integrated circuit for DNA hybridization detection with digital output and temperature control

A.Caboni, D. Loi, M. Barbaro

Proc. of IEEE Ph.D. Research in Microelectronics and Electronics (IEEE PRIME 2007), pp.137-140, Bordeaux (France), 2–5 July 2007

A CMOS integrated DNA-chip for hybridization detection with digital output

M. Barbaro, **A. Caboni**, D. Loi

Proc. of IEEE International Workshop On Advances in Sensors and Interfaces (IEEE IWASI 2007),
pp.1-5,

Bari (Italy), 26–27 June 2007

Producing Smart Sensing Films by Means of Organic Field Effect Transistors

I.Manunza, E. Orgiu, **A. Caboni**, M. Barbaro, A. Bonfiglio

Proc. of IEEE Engineering in Medicine and Biology (EMB 2006), pp.4344-4346,

New York (USA), 30 August - 3 September 2006