

Curriculum Vitæ

Keywords: Materials Characterisation, Compound Semiconductor, Photovoltaics, Optoelectronic Devices
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Present position: Researcher by RSE.S.p.a. Concentrating Photovoltaics group in Piacenza (Italy), from January 2nd 2012.

Previous Positions: Researcher by IMEM-CNR institute (Parma) from October 2007, to December 2011.

20 months post-doctoral fellowship at by IMEM-CNR institute (Parma) from February 2005, to September 2007.

Education: March 3rd 2005: Ph.D degree in “Material Science” (XVII cycle of the national doctoral school) by the University of Parma.

February 20th 2002: Specialisation School Diploma in “Material Science and Technology” by the University of Parma (2 years long course), note 50/50.

February 17th 1999: First Degree in Physics, (Solid State Physics) by the University of Parma.

Research Interests: The main field of interest is the study of optical and structural material properties by means of high-resolution and high sensitivity techniques. The research activity was focused on both the optoelectronic and photovoltaic materials.

The majority of the scientific activity has been conducted by the Institute of Materials for Electronic and Magnetism (IMEM) of the National Research Council, by the research group of materials characterisation. The activity has been therefore mainly dedicated to the study of opto-electronic and structural properties of compound semiconductors, made of both II-VI and III-V group elements. The research has been focused on the investigation of epitaxial hetero-structures as well as devices for micro-, opto-electronic and photovoltaic applications.

High analytical and lateral resolution investigation techniques have been applied to the study of structural and electro-optical properties of bulk materials as well as low-dimensional structures, in particular SEM-cathodoluminescence (CL), Electron Beam Induced Current (EBIC) and X-ray diffraction techniques.

Beginning with January 2012, I moved to the Concentrating Photovoltaics laboratory of the company RSE Spa (Research on Energy System), where I make use of the experience in the materials characterisation for the study of the materials properties of III-V compounds in epitaxial structures for multi-junction solar cells application. During this period I can work on the characterisation of devices, by developing a method for the triple-junction characterisation by means of a multi-source solar simulator. The activity was part on the 7th framework program project (APOLLON) and is now continuing on the development of new materials for quadruple-junction solar cells based on group IV materials compounds (Horizon 2020

CPVMatch project).

Publications:

- Co-author of 61 peer-reviewed articles on international journals or conference proceedings, 52 of which on journals quoted by Journal of Citation Reports, with an up to date h-index of 14. Co-author of 4 scientific book chapters.
- Referee of several journals edited by “Elsevier” (Materials Science and Engineering A and B, Journal of Physics and Chemistry of Solids, Nuclear Instruments and Methods in Physics Research, B, Superlattices and Microstructures and Vacuum), by “Institute of Physics” (Nanotechnology and Journal of Physics D – Applied Physics) and by IEEE (Transaction on Nuclear Science and Transaction on Electron Devices).
- Member of the editorial board of the journal “Open Surface Science Journal (ISSN 1876-5319)” edited by Bentham science publishers.
- He has presented his work in about 15 international workshop and conferences (3 invited).

SIGNATURE