

CURRICULUM VITAE

PERSONAL DATA

Surname: Corregidor Berdasco
Name: Victoria
Birth place and date: 20-11-1974, Madrid
Nationality: Spanish
National identity card: 52.379.572-Q
Address: Praça Afrónio Peixoto, 8, 2 esq
1000-009, Lisboa, Portugal
Telephone: + 351 91 896 50 09 / +34 687 70 03 04
e-mail: vicky.corregidor@ies-def.upm.es; victoria.corregidor@impersol.pt

ACADEMIC DEGREES

2005 - 2006 "Solar Energy" Post-graduate courses.
The courses are included in the "Solar Energy" Program for Doctorate Studies of the Polytechnic University of Madrid.

1998 - 2003 Doctorate in Physics Science.
Growth and characterization of undoped and doped CdTe crystals with high resistivity
Director: Prof. Ernesto Diéguez . June 2003
Autónoma University of Madrid.

1992 - 1998 Physics Degree (5 years).
Speciality: Optics and Materials Science. Autónoma University of Madrid.

PREVIOUS AND CURRENT SCIENTIFIC/PROFESSIONAL POSITIONS

06/2005 – 05/2008 Post-Doctorate Researcher "Juan de la Cierva" Contract.
Solar Energy Institute. Polytechnic University of Madrid (Spain).

01/2007 – 05/2008 Mobility Grant "José Castillejo" of the Spanish Ministry of Education and Science for young researchers.
ITN - Technological and Nuclear Institute, Sacavém (Portugal).

06/2003 - 05/2005 Post-Doctorate Researcher under an European RTN Project.
ITN - Technological and Nuclear Institute, Sacavém (Portugal).

06/2000 – 12/2000 Doctorate Student under a European RTN Project.
Rutherford Appleton Laboratory, (United Kingdom).

09/1998 – 06/2003 Doctorate Student.
Autónoma University of Madrid (Spain).

SCIENTIFIC ACTIVITIES

June 2005- May 2008:

At the Solar Energy Institute the work was focused in the elaboration and characterization of thermophotovoltaic GaSb-cells. These cells were assembled into arrays to build a thermophotovoltaic prototype.

During the stay at the Technological and Nuclear Institute, ion beam based techniques were applied to multi-junction solar cells structures for compositional and structural characterization. These structures were ternary and quaternary III-V semiconductor (GaInP, AlInP or AlGaInP) grown by MOVPE on GaAs or Ge substrates.

June 2003- May 2005:

At the Technological and Nuclear Institute, characterization by ion beam based techniques (RBS, PIXE) and X-ray diffraction were used to study different materials used for thermophotovoltaics devices. Mainly GaSb wafers from Wafer Technology (United Kingdom); GaSb /GaInSb crystals grown at different laboratories (Autónoma University of Madrid-Spain, CNRS- EPM-France and LETI-CEA-France); MBE structures such as GaInSb y GaInAsSb on GaSb substrates grown by Fraunhofer Institute for Solar Energy (Germany); ceramic materials used as burners provided by LETI-CEA (France);.

June – December 2000:

During this period at the neutron pulsed source ISIS were done different studies on VESTA, an experiment for storing cold/thermal neutrons and release them in various controlled pulsed forms. The neutron optical components used for the storage cavity are a perfect silicon single crystal and a float glass neutron guide.

September 1998- June 2003:

During the doctorate different growth techniques (from the melt and from vapor phase) were developed to growth II-VI semiconductors, especially pure CdTe and co-doped for obtaining high resistivity values. The crystals were characterized and compared with other crystals grown under micro-gravity conditions for the study of structural defects and the dopant distribution along the growth direction. Different characterization techniques such as compositional, structural, electric, optics were used during the Ph.D.

PARTICIPATION IN RESEARCH PROJECTS

Project Title:	New materials generation, cells and systems for photovoltaic generation.
Fund Entity:	Spanish Ministry of Education and Science (MEC), CSD2006-04; Consolider Program
Duration:	2007 - 2010
Principal Researcher:	Dr. D. Antonio Luque
Project Title:	New materials generation, devices and photovoltaic strategies for a better sun energy exploitation.
Fund Entity:	Madrid Community Funds for Research, S-05050/ENE/0310; NUMANCIA Program
Duration:	2005 - 2009
Principal Researcher:	Dr. D. Antonio Luque
Project Title:	Exploitation of sun radiation through multi-junction solar cells and TPV converters.
Fund Entity:	Spanish Ministry of Education and Science (MEC), TEC 2004-22300-E
Duration:	2005 - 2009
Principal Researcher:	Dr. D. Carlos Algora del Valle
Project Title:	FULLSPECTRUM - A new PV wave making more efficient use of the solar spectrum
Fund Entity:	6Th Framework Programme of the European Commission. CE-SES6-CT-2003-502620
Duration:	2003 - 2008
Principal Researcher:	Dr. D. Antonio Luque
Project Title:	RTN – Thermophotovoltaic cells based on GaSb
Fund Entity:	Research Training Networks, European Community
Duration:	2002 - 2005
Principal Researcher:	Dr. D. Thierry Duffar

Project Title: Materials crystallization based on CdTe
Fund Entity: Spanish Ministry of Industry, Tourism and Commerce, PROFIT- PNE-005/2001-C
Duration: 2001 - 2003
Principal Researcher: Dr. D. Ernesto Diéguez Delgado

Project Title: Crystallization of CdTe and related compound
Fund Entity: ESA, MAP Project number AO-99-035, ESA Contract Number 14240/00/NL/SH
Duration: 2000 - 2002
Principal Researcher: Dr. D. M.Fiederle

Project Title: Crystallization of CdTe semiconductors:key technologies related to industrial application
Fund Entity: ESA 12588/97
Duration: 1998 - 2001
Principal Researcher: Dr. D. M.Fiederle

Project Title: RTN – Perfect crystal neutron optics
Fund Entity: Research Training Networks, European Community
Duration: 1997 - 2001
Principal Researcher: Dr. D. Helmut Rauch

PUBLICATIONS

Thesis Growth and characterization of undoped and doped CdTe crystals with high resistivity. Autónoma University of Madrid. June 2003.

Chapters in Books Exercises of Basic Electronics. Chapter 1.
 Authors: C. Algora, P. Benítez, C. del Cañizo, V. Corregidor, A. Santamaría, C.Tablero, I. Tobías
 Editorial: Fundación Rogelio Segovia para el Desarrollo de las Telecomunicaciones.

Books, Editor 2007 Spanish Conference on Electron Devices 6^a CDE (2007)
 January 31- February 2, 2007, Madrid (Spain)
 Editors: C. Algora, V. Corregidor, I.Rey-Stolle
 IEEE Publishing Department. ISBN: 1-4244-0868-7

7th World Conference on Thermophotovoltaic Generation of Electricity
 September 25-27 2006, Madrid (Spain)
 Editors: C. Algora, V. Corregidor
 AIP Conference Proceedings 890. ISBN 978-0-7354-0392-5

Journals Growth of GaInSb concentrated alloys under alternating magnetic field
 A. Mitric, T. Duffar, V. Corregidor, L.C. Alves, N.P. Barradas
 Journal of Crystal Growth 310, 1424–1432, 2008

Development of GaSb Photoreceiver Arrays for Solar Thermophotovoltaic Systems
 D. Martín, C. Algora, V. Corregidor, A. Datas
 J. of Solar Energy Engineering, 129, 2007

Combination of IBA techniques for composition analysis of GaInAsSb films.
V. Corregidor, P.C. Chaves, M.A.Reis, C. Pascual-Izarra, E. Alves, N.P. Barradas
 Advanced materials forum, 1-2, 1603-1607, 2006

Phase separation on GaInAsSb films for thermophotovoltaic devices
V. Corregidor, N. Franco, E. Alves, N. P. Barradas
 Advanced materials forum, 1-2, 447-451, 2006

Cathodoluminescence of Ga(1-x)InxAsySb(1-y) epitaxial layers
 C.Cheze, B. Mendez, J. Piqueras, V. Corregidor
 J. Optoelect. And Adv. Materials, 8, 304 - 307, 2006

Growth of Ga(1-x)InxSb alloys by Vertical Bridgman technique under alternating magnetic field
 A. Mitric, T. Duffar, C. Diaz-Guerra, V. Corregidor, L.C. Alves, C. Garnier, G. Vian
 J. Crystal Growth, 287, 224-229, 2006

Journals

- Células solares de semiconductores III-V para generación de electricidad a costes competitivos
C. Algora, I. Rey-Stolle, B. Galiana, I. García, J. R. González, M. Baudrit, V. Corregidor
Revista Española de Física, 20, 2006
- Ion beam analysis of GaInAsSb films grown by MOVPE on GaSb
V. Corregidor, N.P. Barradas, E. Alves, N. Franco, L.C. Alves, P. C. Chaves, M.A. Reis
Nucl. Instruments and Methods, B, 241, 326-330, 2005
- Compositional and structural characterization of GaSb and GaInSb
V. Corregidor, E. Alves, L.C. Alves, N.P. Barradas, T. Duffar, N. Franco, C. Marques, A. Mitric
Nucl. Instruments and Methods, B, 240, 360-364, 2005
- Synthesis and characterisation of GaSb and GaInSb feed materials
A. Mitric, V. Corregidor, L.C. Alves, A. Amariei, C. Diaz-Guerra, J. Piqueras
J. Crystal Growth, 275, 601-607, 2005
- Growth of concentrated GaInSb alloys with improved chemical homogeneity at low and variable pulling rates
C. Stelian, T. Duffar, A. Mitric, V. Corregidor, L.C. Alves and N.P. Barradas
J. Crystal Growth, 283, 124-133, (2005)
- Grazing Detection Geometry and the Equivalent Depth Concept in Thin Films Characterization by PIXE
M. A. Reis, P. C. Chaves, V. Corregidor, N. P. Barradas, E. Alves, F. Dimroth, A. Bett
X-Ray Spectrometry, 34, 372-375, 2005
- Comparison between Vertical Bridgman and feeding techniques for GaInSb alloy growths
J. Vincent, V. Bermudez, E. Dieguez, L.C. Alves, V. Corregidor, N.P. Barradas
J. Crystal Growth, 275, 1-2, 537-542, 2005
- CdTe polycrystalline films for X-ray digital imaging applications
E. Saucedo, V. Corregidor, L. Fornaro, A. Cuña, E. Dieguez
Thin Solid Films, 471, 304-309, 2005
- Dependence of the hydrogen spin dynamics on the conductivity type in CdTe as evidenced by its muonium analogue
V. Corregidor, D. Martín y Marero, J.M. Gil, E. Diéguez
Europhysics Letters, 67, 247-253, 2004
- The use of neutron diffraction in the quantitative characterization of semiconductors dopant dependent dynamical properties
D. Martín y Marero, V. Corregidor, M. Fiederle, E. Diéguez
Physica B, 250, 549-552, 2004
- Morphology and electrical properties of PbxCd1-xTe/CdTe heterostructures
E. Saucedo, V. Corregidor, L. Fornaro, N.V. Sochinskii, J. Silveira, E. Diéguez
Eur. Phys. J.-Appl. Phys, 27, 207-211, 2004
- Some structural aspects of PbxCd1-xTe bulk material
E. Saucedo, L. Fornaro, V. Corregidor, E. Diéguez
Eur. Phys. J.-Appl. Phys, 27, 427-430, 2004
- Addition of an insulating element to the Modified Markov for CdTe single crystals growth
E. Saucedo, C. M. Ruiz, L. Fornaro, V. Corregidor, E. Diéguez
Crystal Research Tech, 39, 892 – 898, 2004
- Dewetted growth and characterisation of high-resistivity CdTe
M. Fiederle, T. Duffar, J. P. Garandet, V. Babentsov, A. Fauler, K. W. Benz, P. Dusserre, V. Corregidor, E. Dieguez, P. Delaye
J. Crystal Growth, 267, 429-435, 2004
- Dewetted growth of CdTe in microgravity (STS-95)
M. Fiederle, T. Duffar, V. Babentsov, K. W. Benz, P. Dusserre, V. Corregidor, E. Dieguez, P. Delaye, G. Roosen, V. Chevrier, J. C. Launay
Crystal Research Tech., 39, 481-490, 2004

Journals

- Boron oxide encapsulated Bridgman growth of high-purity high-resistivity cadmium telluride crystals
M. Zha, A. Zappettini, F. Bissoli, L. Zanotti, V. Corregidor, E. Dieguez
J. Crystal Growth, 260, 291-297, 2004
- Heavy Metal doping of CdTe crystals
E. Saucedo, L. Fornaro, N.V. Sochinskii, A.Cuña, V. Corregidor, D. Granados, E. Diéguez
IEEE Trans. Nucl. Sci, 51, 3105-3110, 2004
- Correlation of resistivity with Zinc content in a vapour grown CdZnTe:Se
V. Corregidor, V. Babentsov, J. L. Castaño, M. Fiederle, A. Fauler, K. Benz, E. Diéguez
Appl. Phys. Letters, 81, 5153-5155, 2002
- Characterization of CdTe:Zn:V crystals grown under microgravity conditions
V. Corregidor, V. Babentsov, J.L. Castaño, M. Fiederle, T. Feltgen, K. Benz, E. Dieguez
J. Materials Research, 17, 3037-3041, 2002
- Identification of Cl and Na impurities in inclusions of CdTe doped with Zn and Cl
V. Corregidor, V. Babentsov, M. Fiederle, T. Feltgen, K. Benz, E. Dieguez
J. Materials Research, 17, 1069-1073, 2002
- Temperature Dependence of Thermal and Lattice Parameters of n and p type CdTe
V. Corregidor, D. Martín y Marero, E. Diéguez
Appl. Physics A, 1205-1208, 2002
- Defects in CdTe polycrystalline films grown by physical vapour deposition
V. Corregidor, E. Saucedo, L. Fornaro, E. Diéguez
Mat. Science & Engineering B, 91-92, 525-528, 2002
- Defect engineering in CdTe, based on the total energies of elementary defects
V. Babentsov, V. Corregidor, M. Fiederle, T. Feltgen, K. Benz, E. Dieguez
Nuclear Instruments and Methods A, 458, 85-89, 2001
- Compensation problem of CdTe doped with gallium
V. Babentsov, V. Corregidor, M. Fiederle, T. Feltgen, K. Benz, E. Dieguez
Crystal Research and Technol. 36, 535-542, (2001)

Conference Proceedings

- Growth of GaInSb concentrated alloys under alternating magnetic field
A. Mitric, T. Duffar, V. Corregidor, L.C. Alves, N.P. Barradas
15th International Conf. on Crystal Growth, August 12-17, 2007 Salt Lake City, (USA)
To be published in the Journal of Crystal Growth
- Thermophotovoltaic Systems based on Gallium Antimonide Infrared Cells
D. Martín, A. Datas, V. Corregidor, C. Algora
2007 Spanish Conf. on Electron Devices, January 31- February 2, 2007, Madrid (Spain)
IEEE, Conference Proceedings, 1-4244-0869-5/07/ 2007
- Thermophotovoltaics converters based on poly-crystalline GaSb
V. Corregidor, J. Vincent, D. Martín, A. Datas, C. Algora, E. Dieguez
7th World Conf. on Thermophotovoltaic Generation of Electricity, September 25-27
2006, Madrid (Spain)
AIP Conference Proceedings 890, 157-164, 2007
- Modification of Electrical Properties in Pure and Doped GaSb by Doping with Er and Yb
J.L. Plaza, V. Corregidor, J. Olvera, C. Algora, E. Diéguez
7th World Conf. on Thermophotovoltaic Generation of Electricity, September 25-27
2006, Madrid (Spain)
AIP Conference Proceedings 890, 99-106, 2007
- Optimisation of germanium cells arrays in Solar TPV (STPV) systems
A. Datas, C. Algora, V. Corregidor, D. Martín, A.W. Bett, F. Dimroth
7th World Conf. on Thermophotovoltaic Generation of Electricity, 25-27 September
2006, Madrid (Spain)
AIP Conference Proceedings 890, 227-237, 2007
- Solar TPV (STPV) system based on low band-gap germanium cells
A. Datas, C. Algora, J.C. Zamorano, V. Corregidor, D. Martín, A.W. Bett, F. Dimroth, M. Baudrit, B. Hernández
7th World Conf. on Thermophotovoltaic Generation of Electricity, September 25-27

- 2006, Madrid (Spain)
AIP Conference Proceedings 890, 280-290, 2007
- Conference Proceedings** Bridgman Solidification of Concentrated GaInSb alloys with variable growth rate
C. Stelian, A. Mitric, V. Corregidor, L.C. Alves, N.P. Barradas, T. Duffar
6th World Conf.on Thermophotovoltaic Generation of Electricity, *June 14-16, 2004*, Freiburg (Germany)
AIP Conference Proceedings 738 415-423, 2004
- Self-cleaning effect and compensation mechanisms in Cl-doped high-resistivity cadmium telluride
V. Babentsov, V. Corregidor, K. Benz, T. Feltgen, M. Fiederle, E. Dieguez
Materials and Electronics for High-Speed and Infrared Detectors, July 19-23, 1999, Denver (USA)
Proceedings of SPIE, 3794, 88-95, 1999
- Compensation in semi-intrinsic CdTe-based materials
V. Babentsov, V. Corregidor, J.L.Castaño, E. Dieguez, M. Fiederle, T. Feltgen, K.Benz,
5th International Conference on Material Science and Material Properties for Infrared Optoelectronics, May 22-24, 2000, Kiev, (Ukraine)
Proceedings of SPIE , 4355, 238-251, 2001

CONGRESS PARTICIPATION

- Characterization of GaSb and GaInSb with the IBA Techniques
V. Corregidor,
Oral Presentation
Workshop on New Trends and Applications of Ion Beams, April, 1 – 3, 2008 Sacavém, (Portugal)
- Thermophotovoltaic Converters Based on Poly-crystalline GaSb
V. Corregidor, J. Vincent, C. Algora, E. Diéguez
Oral Presentation
7th World Conf. on Thermophotovoltaic Generation of Electricity, September 25-27 2006, Madrid (Spain)
- Phase separation on GaInAsSb films for thermophotovoltaic devices
V. Corregidor, N. Franco, E. Alves, N. P. Barradas
Oral Presentation
3rd International Materials Symposium, March 20-23, 2005, Aveiro (Portugal)
- Combination of IBA techniques for composition analysis of GaInAsSb films
V. Corregidor, P.C. Chaves, M.A.Reis, C. Pascual-Izarra, E. Alves, N.P. Barradas
Poster Presentation
3rd International Materials Symposium, March 20-23, 2005, Aveiro (Portugal)
- Composition control of quaternary GaInAsSb films grown by MOVPE
V. Corregidor, P.C.Chaves, M.A. Reis, N.P.Barradas, E.Alves, F. Dimroth, A.Bett, G. Boglio, B. Mendez, J.Piqueras
Poster Presentation
ICCG-14. International Conference on Crystal Growth, August 9-13 2004, Grenoble (France)
- Bridgman Solidification of Concentrated GaInSb alloys with variable growth rate
C. Stelian, A. Mitric, V. Corregidor, L.C. Alves, N.P. Barradas, T. Duffar
Poster Presentation
6th World Conf. on Thermophotovoltaic Generation of Electricity, June 14-16 2004, Freiburg (Germany)
- Use of neutron diffraction in the quantitative characterization of semiconductor dependent dynamical properties
D. Martín y Marero, V. Corregidor, E. Diéguez
Poster Presentation
European Conference on Neutron Scattering-ECNS3, September 3-6 2003, Montpellier (France)
- Temperature Dependence of Thermal and Lattice Parameters of n and p Type CdTe
V. Corregidor, D. Martín y Marero, E. Diéguez
Poster Presentation
ICNS 2001 International Conference on Neutron Scattering, September 9-13 2001, München (Germany)
- Análisis Composicional en Monocristales de CdTe puros y dopados
V. Corregidor, V. Babentsov, K. Benz, T. Feltgen, M. Fiederle, E. Diéguez
Poster Presentation

XIX Reunión Bienal de la Sociedad Española de Microscopía Electrónica, April 27-29 1999, Murcia (Spain)

La estructura de defectos y mecanismos de compensación en semiconductores basados en CdTe

V. Corregidor, V. Babentsov, J.L. Castaño, M. Fiederle, T. Feltgen, K. Benz, E. Diéguez

Poster Presentation

VI Reunión de Materiales, June 22-24 1999, San Sebastián (Spain)

Isothermal post-growth annealing for testing defects in semi-insulating wide-gap materials

V. Babentsov, V. Corregidor, J.L. Castaño, M. Fiederle, T. Feltgen, K. Benz, E. Diéguez

Poster Presentation

E-MRS Spring Meeting, June 1-4 1999, Strasbourg (France)

MOBILITY IN RESEARCH CENTRES

01/2007 - 05/2008	ITN - Technological and Nuclear Institute, Sacavém (Portugal). Application of Ion Beam Analysis techniques to characterize III-V semiconductor films for solar cells applications.
06/2003 - 6/2005	ITN - Technological and Nuclear Institute, Sacavém (Portugal). Application of Ion Beam Analysis techniques and x-ray diffraction to characterize the components of thermophotovoltaic systems.
05/2002 - 07/2002	F.M.F. Kristallographisches Institut, University of Freiburg, Freiburg (Germany) Electrical and DLTS characterization of doped and pure CdTe with high resistivity. Structural and compositional characterization of CdTe crystals grown under microgravity conditions.
02/2002 - 02/2002	Coimbra University, Coimbra (Portugal). Three weeks for data analysis obtained at ISIS by muons spectroscopy.
2001 - 2002	ISIS, Rutherford Appleton Laboratory, Salford (United Kingdom). Three visits of one week. Muons spectroscopy applied to CdTe pure and doped crystals.
06/2000 - 12/2000	ISIS, Rutherford Appleton Laboratory, Salford (United Kingdom). Study of Silicon crystals to be used in neutron optics.
03/2000 - 5/2000	F.M.F. Kristallographisches Institut, University of Freiburg, Freiburg (Germany) Growth from the vapour (Modified Markov Method) of CdTe crystals. Electrical characterization of pure and doped CdTe wafers

EDUCATIONAL EXPERIENCE

2005/2006	Basic Electronic. 1st Course: Telecommunication Engineering Degree. 22 hours Polytechnic University of Madrid.
2001/2002	Experimental Techniques I. 1st Course: Environment Science Degree subject. 40hours Autónoma University of Madrid
2000/2001	Experimental Techniques II. 3rd Course: Physics Degree subject. 40 hours Autónoma University of Madrid

LANGUAGES

	Reading	Writing	Conversation
Spanish	Excellent	Excellent	Excellent
English	Excellent	Good	Good
Portuguese	Excellent	Good	Excellent
German	Basic	Basic	Basic

OTHERS SKILLS AND COMPETENCES

Big Facilities used:	Neutrons Diffractometer at ISIS. Rutherford Appleton Laboratory, (United Kingdom). Muons Diffractometer at ISIS. Rutherford Appleton Laboratory, (United Kingdom). 2,5 MV Van de Graaff accelerator at ITN. ITN - Technological and Nuclear Institute, Sacavém (Portugal).
Other Facilities used:	X-ray diffractometer, at ITN. ITN - Technological and Nuclear Institute, Sacavém (Portugal). UV photolithographer at Solar Energy Institute. Polytechnic University of Madrid (Spain). Clean room at Solar Energy Institute. Polytechnic University of Madrid (Spain). Joule effect evaporator for metals at Solar Energy Institute. Polytechnic University of Madrid (Spain). MOCVD equipment. Basic experience, at Solar Energy Institute. Polytechnic University of Madrid (Spain). Electron beam evaporator at Science Material Department. Autónoma University of Madrid (Spain). High temperature furnaces at Crystal Growth Laboratory. Autónoma University of Madrid (Spain). Low Temperature Photoluminescence at Applied Physics Department. Autónoma University of Madrid (Spain).
Competences	Local Scientific Committee member. 2007 Spanish Conf. on Electron Devices, January 31- February 2,2007, Madrid (Spain) Vice-chairman and Local Scientific Committee member. 7th World Conf. on Thermophotovoltaic Generation of Electricity, September 25-27 2006, Madrid (Spain) Local Committee member. Latin-American Summer School on Crystal Growth, July 3-7, 2002, Madrid (Spain). ASME Referee: Journal of Solar Energy Engineering: "Analysis of high-efficiency solar cells in mobile robot applications", F. Calderón, A. Lüders, D. Wettergreen, J. Teza, A. Guesalaga
Other Competences	Curso de Formação Pedagógica – Certificado de Aptidão Profissional (C.A.P.) August 2007, Lisbon (Portugal). Java Programming Language