Dr. Alessandro Romeo
University of Verona
Ca' Vignal 1
Strada Le Grazie15
37134 Verona
Italy
ph +39 045 8027974
e-mail: alessandro.romeo@univr.it

Curriculum Vitae

Personal Data:

Bachelor
Italian nationality
Born on the 6th October 1969

Short presentation

Graduated in Physics at the University of Parma in 1996 with a thesis on: "Thin Film solar cells of $CuInGaSe_2$". In October 1997 he is a research fellow at the Swiss Federal Institute of Technology in Zurich (ETHZ), Switzerland during this period he develops a process for the deposition of thin film solar cells of CdTe/CdS obtaining cells with exceeding 10 % efficiency.
In March 1998 Alessandro Romeo starts his PhD work at the Swiss Federal Institute of Technology Zurich, continuing research on thin film solar cells.
From February 2002 to March 2004, Alessandro has worked as Post-Doc at ETHZ on alternative buffer layers of CIGS cells. In April 2004 doctor Romeo is appointed as Assistant Professor at the University of Verona working on absorption and fluorescence spectroscopy and continuing his work on chalcogenide thin film solar cells.
In December 2013 Alessandro got qualified for Associate Professorship from the Italian Ministry of Science and Education (MIUR) in both Experimental Physics and Applied Physics and from 2014 Alessandro Romeo is appointed as associate professor at the University of Verona.
He has been invited for several talks and papers, he is member of the scientific committee for the European Photovoltaic Solar Energy Conference in 2010, 2011, 2012 and 2013 and he has also been organizer of the E-MRS Spring Meeting "Thin Film Chalcogenide Solar Cells" Symposium in 2010 and in 2012 and in 2014.
Prof. Romeo is author of more than 80 international publications and of 5 international patents.

Qualifications:

- **Qualification for Associate Professor (2013) in:**
  1) Experimental Physics (Sector 02/B1)
  2) Applied Physics for Biology, Medicine and Cultural Heritage (Sector 02/B3)

- **PhD in Physics (2002)**

"High Efficiency CdTe/CdS solar cells: process and characterisation"
Faculty of Science, Swiss Federal Institute of Technology, Zurich, Switzerland

- **Mathematics specialisation teacher course (1997)**

Mathematics Department, Faculty of Science, University of Parma, Parma, Italy
Project presented "The Trigonometry with computers"

- **Master Degree in Physics, specialisation in Solid State Physics (1995)**

Final mark: 106/110
Department of Physics, Faculty of Science, University of Parma, Italy
Thesis Title: "Thin Film Solar Cells of $CuInGaSe_2$/CdS"

Career path:

- 2014-now **Associate Professor**
  Department of Computer Science, University of Verona, Italy.

- (April 2004-2014) **Assistant Professor & Group Leader**

Faculty of Science, University of Verona, Italy.

Thin Films & Photovoltaics:

-2009 European Project "ALPINE" Advanced Lasers for Photovoltaic INdustrial processing Enhancement (Unit leader), three years.
-2008 National Project (PRIN) for thin film flexible CdTe solar cells (Project leader), two years.
-Collaboration Project for thin film laser scribing with Arendi S.r.l. (2008)
-International Project for CdTe Solar Cells (Internationalization Project MIUR 2005)
-Solarpact (Solar Power from Advanced Cadmium Telluride Solar Cells) Consortium member

Biophysics:

-2011 Nanomedicine Project (Cariverona Foundation), three years.

Atomic force microscopy of nanoparticles for environmental and biomedical applications
Differential Transient Absorption Spectroscopy on pulsed laser for photosynthesis.

- (February 2002-March 2004) **Post-doc position.**

Research project on alternative buffer layers for thin film $CuInGaSe_2$ based solar cell.
Faculty of Science, Swiss Federal Institute of Technology, Zurich, Switzerland.

- (March 1998-January 2002) **PhD-position.**

Research project for preparation of high efficiency CdTe/CdS solar cells
Faculty of Science, Swiss Federal Institute of Technology, Zurich, Switzerland.

- (September 1997-December 1997) **Post-degree position.**

Study of a process for high efficiency CdTe/CdS solar cells

Faculty of Science, Swiss Federal Institute of Technology, Zurich, Switzerland.

- (September 1996-August 1997) **Post-degree position.**

Research project for " A stable ohmic contact for CdTe/CdS solar cells"
Department of Physics, University of Parma, Parma, Italy.

- (1994-1995) **Degree.**

Research Project (among the thesis degree) for development of "High efficiency $CuInGaSe_2$/ CdS" solar cells"
Department of Physics, Faculty of Science, University of Parma, Parma, Italy.

Spin-off and consulting activities:

- (2006) Partner of Arendi S.p.A. (EuroEnergy-Marcegaglia Group) for the industrialization of a thin film photovoltaic modules production process
- (2000-now) Co-founder and partner of SSE (Solar Systems and Equipments) S.r.L.

Teaching activities:

- (2005-now) **Professor in Biophysics** (Biotechnology Degree)

Faculty of Science, University of Verona, Verona, Italy.

- (2010) (2014-now) **Professor in Physics** (Biotechnology Degree)

Faculty of Science, University of Verona, Verona, Italy.

- (2007- 2009) **Professor in Mathematics** (Viticultural and Oenological Science and Technology Degree)

Faculty of Science, University of Verona, Verona, Italy.

- (2006) **Lecturer in Photo-Bioreactors** (Biotechnology Degree)

Faculty of Science, University of Verona, Verona, Italy.

- (2001-2003) **Supervisor of two degree theses and one stage work.**

Faculty of Science, Swiss Federal Institute of Technology, Zurich, Switzerland.

- (1998-2004) **Teaching assistant in several university physics courses**

Faculty of Science, Swiss Federal Institute of Technology, Zurich, Switzerland.

Institutional Roles:

(2009-2013) – Member of the Administration Board of the University of Verona.

(2012-now) – Member of the Scientific Committee of Veneto Nanotech.

(2008-now) –Member of the environmental commission at the University of Verona.

Scientific and technical know-how:

Growth and deposition techniques such as: electron beam gun, RF and DC sputtering, physical vapour deposition (also with molecular beam epitaxy machines), chemical bath deposition, spin coating, doctor blading, screen printing.

Electro-optic and physical properties characterisation: such as: X-ray, scanning electron microscopy, energy dispersive x-ray analysis, atomic force microscopy, current-voltage measurements, fluorescence spectroscopy, capacitance-voltage, drive level capacitance profiling, admittance spectroscopy.

Spectroscopy: Transient Absorption Spectroscopy, fluorescence and absorption spectroscopy.

Languages:
English: fluent
German: fair
Italian: mother tongue

Awards and acknowledgments:

January 2014- **Organizer** of Symposium A "Thin Film Chalcogenide Photovoltaic Materials" 2014 E-MRS Spring Meeting, Lille, France.

September 2013**- Invited Speaker at the 3rd New Energy Forum,** Xian, China

January 2013**- Member of the Scientific Committee** for the 2013 European Photovoltaic Solar Energy Conference and Exhibition.

September 2012**- Chairman** at the 27th Phototovoltaic Solar Energy Conference and Exhibiton, Frankfurt, Germany

September 2012- **Invited speaker** at the Italian-Japanese symposium on Science and Technology, Miyazaki, Japan.

February 2012**- Member of the Scientific Committee** for the 2012 European Photovoltaic Solar Energy Conference and Exhibition.

January 2012- **Principal Organizer** of Symposium B "Thin Film Chalcogenide Photovoltaic Materials" 2012 E-MRS Spring Meeting, Strasbourg, France.

October 2011-**Invited speaker** at Science and Innovation Week 2011, Palacio de Minerìa, Mexico City, Mexico

August 2011-**Invited speaker** at IMRC11-International Conference on Materials Research, Cancun, Mexico.

May 2011-**Invited speaker** at the *Optics: Phenomena, Materials, Devices, and Characterization, Calicut, India*

February 2011**- Member of the Scientific Committee** for the 2011 European Photovoltaic Solar Energy Conference and Exhibition

February 2010**- Member of the Scientific Committee** for the 2010 World Photovoltaic Conference and Exhibition

January 2010- **Organizer** of Symposium M "Thin Film Chalcogenide Photovoltaic Materials" 2010 E-MRS Spring Meeting, Strasbourg, France.

September 2008- **Invited speaker** at the *28th Annual Meeting* International Conference on Surfaces, Materials and Vacuum**,** Veracruz, México

July 2008- **Invited speaker** at the X World Renewable Energy Conference and Exhibition, Glasgow, Scotland.

July 2008- **Invited speaker** at the 2008 International Symposium on Optoelectronic devices and Solar Cells, University of Chicago, Chicago (IL) USA.

May 2008- **Chairman** at the 2008 European Material Research Society Spring Meeting (Strasbourg, Francia).

August 2006- **Invited speaker** and Chairman at the XV Internation Materials Research Society Conference (Cancun, Mexico).

June 2005- **Invited speaker** at the 2005 European Material Research Society Spring Meeting (Strasbourg, France).

October 2004- **Invited speaker** at the 14th PV-Net Workshop, Kranijska Gora, Slovenia

October 2002- **Chairman** at the "PV in Europe from PV Technology to Energy Solutions" Conference and Exhibition (Rome, Italy)

April 2001- American Material Research Society **Student Silver Award** (S. Francisco, USA)

May 2000- European Material Research Society **Poster Award** (as co-author) (Strasburg, France)

Referee Activity:
Journal of Applied Physics, American Institute of Physics
Thin Solid Films, Elsevier
Solar Energy, Elsevier
Solar Energy Materials and Solar Cells, Elsevier
PV Progress in Photovoltaics, Elsevier
Journal of Materials Science, Elsevier
Journal of Materials Science & Technology, China

Main Patents:

N. Romeo, **A.Romeo**, A.Bosio, 2012
Method for the Activation of CdTe Thin Films for the Application in CdTe/CdS type thin film solar cells.
(Worldwide)

N.Romeo, **A.Romeo**, A.Bosio, 2011
Process for the production of Cu(In,Ga)Se2/CdS thin film solar cells
(Worldwide)

N.Romeo, A.Bosio, **A.Romeo**, 2010
Method for the Formation of a non-rectifying back-contact in a CdTe/CdS thin film solar cell

N. Romeo, A. Bosio, **A. Romeo -**August 2006
"A Process for Large-Scale Production of CdTe/CdS Thin Film Solar Cells Without the Use of CdCl2"
(Worldwide)

N.Romeo, A.Bosio, **A.Romeo**- 2003
"A Process for Large-Scale Production of CdTe/CdS Thin Film Solar Cells"
(Worldwide)

A.N. Tiwari, Prof. G. Khripunov, **A.Romeo**, D. Bätzner, F. Kurdesau - 2003
"Bifacial Thin Film Solar Cell"