

Anna Vedda – Curriculum vitae

Place and date of birth: Novara (Italy), November 6th, 1957

Nationality: Italian

Personal address: Via T. Grossi 6, 20152 Monza (Italy)

Marital status: married, one son and one daughter

Foreign languages spoken: French (excellent) – English (good) – Spanish (basic)

Work address: Dipartimento di Scienza dei Materiali - Università di Milano - Bicocca, Via Cozzi 55, 20125 Milano. tel. 39 039 64485162 e-mail Anna.Vedda@unimib.it

ACADEMIC CAREER

1981: Graduated in Physics at the University of Milano.

1982 – 1987: Scholarship holder at the Solid State Division of the Physics Department of the University of Milano.

1988-1996: Researcher at the Physics Department of the University of Milano.

Since 1997: Joined the Department of Materials Science of the University of Milano - Bicocca.

Since 2005: Associate Professor in Experimental Physics of Matter at the University of Milano - Bicocca.

2013: Received the Italian National Scientific Qualification for full professor position in the sectors 02/B1 (Experimental Physics of Matter) and 02/B3 (Applied Physics).

2015 - 2024: Delegate of the University of Milano - Bicocca, core partner in the EIT-Raw Materials consortium.

2017-2020: Member of the Education Committee of EIT-RM consortium.

Since 2017: Full Professor of Experimental Physics of Matter at the University of Milano - Bicocca

October 2018-2021: Deputy Director of the Department of Materials Science

2019-2021: Member of the Academic Senate of the University of Milano - Bicocca

2021 - 2024: Director of the Department of Materials Science

PRINCIPAL FIELDS OF RESEARCH

- Optical properties of scintillating and dosimetric materials for medical applications and high energy physics (scintillating glasses and fibers, lead tungstate, perovskites, garnets, complex fluorides).

- Optical and structural properties of nanoparticles for scintillator and lighting applications.

- Optical and electrical properties of silicon dioxide - based materials (bulk silicon dioxide and SiO₂ layers grown on silicon) for micro- and opto-electronics applications.

My scientific activity has an experimental character and it includes radio- and photo-luminescence studies, wavelength resolved thermo-luminescence and thermostimulated currents, optical absorption, impedance spectroscopy, micro-Raman scattering, infrared spectroscopy.

PUBLICATIONS

I have published more than 280 papers in refereed international journals and refereed conference proceedings, one book, and I was co-author of three patents. My publications received more than 8000 citations; my *h* factor is 46 (source: Scopus).

PRINCIPAL COLLABORATIONS

- Dipartimento di Fisica – Università di Milano (Italy)
- ISTEC - CNR (Faenza, Italy)
- ETH – (Switzerland)
- Shanghai Institute of Ceramics - Chinese Academy of Sciences (China)
- Academy of Sciences of the Czech Republic (Prague, Czech Republic)
- Université Claude-Bernard – Lyon (France)
- CERN (Switzerland)
- Lawrence Berkeley Laboratory (US)

RESEARCH GRANTS (principal investigator)

- INFM PAIS "LUMIX": "Novel luminescent materials for x-ray detection" - (2001).

- NATO SFP "New scintillator materials for scientific, medical and industrial applications" - (2000-

2003).

- NATO grant "Ce-doped Aluminium Perovskite and Garnet Single Crystal Scintillators" - (2000-2002).
- Regione Lombardia "New scintillating glasses" - (2006-2008).
- INTAS grant "Ce-doped aluminium perovskite and garnet single crystal and single crystalline film scintillators for high spatial resolution detectors" - (2005-2007).
- Fondazione CARIPLO - "Energy transfer and trapping in nanostructured scintillator materials" - (2008-2011).
- INFN "DOLMEEN" (Dosimetry by Luminescence in Medical and Environmental exposures) - (2008-2009).
- INFN "FIBERSCINT" (Radiation Monitoring with Scintillating Fibers) - (2011-2012).
- MIUR Piano Lauree Scientifiche - Scienza dei Materiali - Università di Milano-Bicocca (from 2012 to present).
- INFN "CALOCUBE" (Calorimetria omogenea per esperimenti di Raggi Cosmici nello spazio) - (2014-2016).
- M.CURIE RISE "INTELUM" (Advanced scintillating fibres and Cerenkov fibres for new hadron and jet calorimeters for future colliders) - (2014-2018).
- H2020-TWINN-2015 "ASCIMAT" (Increasing the scientific excellence and innovation capacity in Advanced Scintillation Materials of the Institute of Physics from the Czech Academy of Sciences) - (2016-2019).
- COST Action MP1401 "Advanced Fibre Laser and Coherent Source as tools for Society, Manufacturing and Lifescience" - (2014-2018) - local responsible and vice member in the MC.
- EIT-RawMaterials (EIT-RM) "IDS-FunMat -International Doctoral School in Functional Materials and Innovation" (2016-2018).
- EIT-RM "OPTNEWOPT - Materials substitution in optoelectronic devices" (2016-2018).
- EIT-RM "SPARK - Substitution and recycling of critical elements in materials for ionizing radiation detection" (2017-2019).
- H2020 ATTRACT "SCINTIGLASS" (2019-2020).
- EIT-RM "BRIEFCASE - Learning the use of minerals with non conventional teaching tools" (2020-2021)
- Responsible of two industrial research grants with Prysmian (2012-2013 and 2014-2015).

CONFERENCE ORGANIZATION

Chair of the 10th Europhysical Conference on Defects in Insulating Materials, (EURODIM 2006, Milano, July 10-14, 2006, with 240 participants).

Co-chair of the 8th Symposium "SiO₂, Advanced Dielectrics and Related Devices" (Varenna, Italia, 2010, with 70 participants).

Co-chair of the 17th International Conference on Scintillating Materials and their Applications, (SCINT 2024, Milano, July 8 - 12, 2024).

Member of the scientific committees of the following conferences:

- ICDIM/EURODIM (International/European Conference on Defects in Insulating Materials)
- LUMDETR (International Conference on Luminescent Detectors and Transformers of Ionizing Radiation)
- SiO₂, Advanced Dielectrics and Related Devices

SCIENTIFIC SCHOOL ORGANIZATION

Organizer of the following Summer Courses:

- EIT-Raw Materials Summer School for PhD students and young researchers RAMSES "Advanced School on Critical Raw Materials Substitution for Energetics and Photonics" - University of Milano-Bicocca, 5-10 September 2016.
- Summer School "ASCIMAT - School on Advanced Scintillator Materials" - University of Milano-Bicocca, 11-12 September 2016, for PhD students and young researchers (school organized in the frame of the H2020 Ascimat project).

INVITED TALKS AND SEMINARS

32 invited talks at international conferences and invited seminars from 2003 to 2024.

EDITORIAL ACTIVITIES

I serve as referee for the following scientific journals: Journal of Luminescence - Physical Review B - Optical Materials - Journal of Applied Physics - Radiation Measurements - Journal of Non-Crystalline Solids - Crystal growth and design - Journal of Materials Chemistry.

1. Guest Editor of the Journal of Non-Crystalline Solids (JNCS) vol. 216 (1997) - Proc. of the

Franco-Italian Symposium "Structure and Defects in SiO₂, Fundamentals and Applications"
Agelonde, France, 1996.

2. Guest Editor of the JNCS vol. 245 (1999) – Proc. of the "2nd Franco-Italian Symposium on SiO₂ and advanced dielectrics", L'Aquila (Italy), 1998.

3. Guest Editor of the JNCS vol. 280 (2001) – Proc. of the "3rd Symposium on SiO₂ and advanced dielectrics", Fuveau (France), 2000.

4. Guest Editor of the JNCS vol. 322 (2003) "Proc. of the 4th Symposium on SiO₂ and advanced dielectrics", Trento (Italy), 2002.

5. Guest Editor of the JNCS vol. 351 (2005) – Proc. of the "5th Symposium on SiO₂, Advanced Dielectrics and Related Devices", Chamonix Mont-Blanc (France), 2004.

6. Guest Editor of Physica Status Solidi c vol. 204 (3) (2007) – Proc. 10th Europhysical Conference on Defects in Insulating Materials (EURODIM 2006), Milano (Italy), 2006.

7. Guest Editor of Radiation Measurements vol. 45, (2010) – Proc. of the 7th European Conference on Luminescent Detectors and Transformers of Ionizing Radiation (LUMDETR 2009), Krakov (Poland), 2009.

8. Guest Editor of the JNCS vol. 357 (8-9) (2011) – Proc. of the "8th Symposium on SiO₂, Advanced Dielectrics and Related Devices", Varenna (Italy), 2010.

9. Guest Editor of IEEE Transactions on Nuclear Science vol. 61 (2014) – Proc. of the 12th International Conference on Inorganic Scintillators and their Applications (SCINT 2013) Shanghai (China), 2013.

10. Guest Editor of Radiation Measurements, Proc. of the 10th European Conference on Luminescent Detectors and Transformers of Ionizing Radiation (LUMDETR 2018), Prague (Czech Republic), 2018.

11. Chief Editor Radiation Measurements (Elsevier) from October 1, 2023.

TEACHING ACTIVITIES

Courses:

"General Physics: Mechanics and Waves", undergraduate course in Science and Nanotechnology of Materials.

"Materials Spectroscopy and Microscopy", international graduate course in Materials Science and Nanotechnology.

Tutor of more than 20 master theses in Physics and Materials Science.

Tutor of the following PhD theses:

- M. Fasoli: "Insights into microscopic processes governing rare-earth (Ce³⁺, Tb³⁺) scintillation efficiency in sol-gel silica", PhD in Materials Science (2006).

- F. Moretti: "Clustering Effects and Optical Properties of Rare Earth-doped Glasses", PhD in Nanostructures and Nanotechnology (2007).

- I. Villa, "Optical and structural properties of rare-earth doped Hafnium-based nanocrystalline phosphors", PhD in Materials Science (2015).

- F. Cova, "Scintillating fiber optics for ionizing radiation detection", PhD course in Materials Science and Nanotechnology (2019).

- R. Crapanzano, "Novel materials for X-ray induced photodynamic therapy", PhD course in Materials Science and Nanotechnology (2022).

Member of 8 PhD thesis evaluation boards in France.

Responsible of several post-doc activities.

Member of the scientific board of the Doctorate in Materials Science and Nanotechnology of the University of Milano-Bicocca and of the Physics and Chemistry of Advanced Materials European Doctorate (PCAM).

October 16, 2024