

Giulia Fulvia Mancini

Nationality: Italian

Date of birth: 29.12.1986

Google Scholar ID: Giulia Fulvia Mancini

ORCID: 0000-0002-7752-2822

Scopus Author ID: 57201126139

Languages: Italian (mother tongue), English (C2), French (C1), German (A1)

Email: giuliafulvia.mancini@unipv.it



Employment History and Research Experience

- 4/2021 – present: **Associate Professor – Department of Physics, University of Pavia (IT). P.I. of ERC-StG ULTRAIMAGE and Cariplo Foundation NanoFast.**
Research group topics: Time-resolved soft X-ray and electron coherent diffractive imaging of nanomaterials, structure-property relations, light-activated functionality.
- 7/2017 – 3/2021: **Senior Research Associate – Team Leader. Paul Scherrer Institut – Swiss Free Electron Laser (SwissFEL) and École Polytechnique Fédérale de Lausanne, Laboratory for Ultrafast Spectroscopy (EPFL, LSU - CH).**
Research topic: Charge-carrier dynamics in functional oxides and perovskites (TR-XAS and TR-XES). Design, and implementation of hard X-ray spectrometers (TR-RIXS) at SwissFEL, Bernina. Ultrafast X-ray Diffraction: beamline commissioning, pilot and users experiments at SwissFEL Bernina.
- 5/2015 – 7/2017: **Postdoctoral Research Associate. JILA (Joint Institute for Laboratory Astrophysics), University of Colorado-Boulder and NIST, Kapteyn-Murnane Group (USA).**
Research topic: Dynamic X-ray Coherent Diffractive Imaging (CDI) of nanostructured materials and interfaces using soft X-rays, tabletop light sources based on High-order Harmonic Generation.
- 9/2010 – 3/2015: **Ph.D. in Chemistry and Chemical Engineering. École Polytechnique Fédérale de Lausanne, Laboratory for Ultrafast Microscopy and Electron Scattering (EPFL, LUMES - CH).**
Research topics: Ultrafast Electron Diffraction (UED). Green-field design and implementation, Photo-induced ordering/disordering phenomena of ligand-capped nanoparticle supracrystals. Cryo-Lorentz Transmission Electron Microscopy: diffractive imaging of skyrmion spin textures.
- 7/2009 – 6/2010: **Master of Science in Physical Chemistry.** University of Pavia (Pavia, Italy) and ELETTRA Synchrotron Light Laboratory in Trieste (Italy).
Research topic: X-ray Absorption Spectroscopy (XAS), micro-Raman and EPR of Mn-doped SrTiO₃ ferroelectrics, and of Vanadium-based catalysts.

Education

- 9/2010 – 3/2015: **Ph.D. in Chemistry and Chemical Engineering.** École Polytechnique Fédérale de Lausanne(CH).
Ph.D. defense: 28.01.2015. *Special Ph.D. thesis distinction.* Advisor : Prof. Fabrizio Carbone.
- 9/2008 – 6/2010: **Master of Science in Physical Chemistry, *summa cum laude.*** University of Pavia (IT)
- 9/2005 – 7/2008: **Bachelor of Science in Chemistry, *summa cum laude.*** University of Pavia (IT).
- 10/2005 – 7/2010: **Alumna, Istituto Universitario di Studi Superiori IUSS– Pavia (IT).** Graduated with *full marks.*

Commission of Trust

- Associate Professor – Italy**
- INROAD+ Committee member. ERC applicants funding & mentoring platform – University of Pavia.
 - Deputy for Technology & Infrastructure upgrade - HighLight@UniPv

Senior Research Associate – Switzerland

- Chair, Swiss Physical Society annual meeting. Geneva, Switzerland.
- SwissFEL/SLS deputy and experimental coordinator.
- Formal deputy at users Meeting and Workshops at large-scale facilities:
 - EXFEL and DESY Early Users Meeting. Germany (2018).
 - SCS and MID Early Users Meeting. Germany (2018).
- Proposal internal evaluation committee, SwissFEL, Switzerland.
- Assessment committee - PhD student candidacy exam, EPFL, Switzerland.
- Committee member – training for Faculty and PhD defense talks.

Postdoctoral Research Associate – USA

- Reporting deputy at formal grant review meetings:
 - EPIQS Gordon and Betty Moore Foundation, Aspen (2/2017)
 - DARPA PULSE, Arlington (4/2017).
 - NSF STROBE Retreat, Berkeley (1/2017).
 - DARPA PULSE, Berkeley (4/2016).
- Technology Transfer: 1 patent deposited and 1 licensed, R&D coordinator DARPA & KMLabs Inc.

Doctoral Research Associate – Switzerland

- Thesis defense committee member:
 - Master Program in Chemistry, University of Pavia, Italy.
 - Master Program in Computer Engineering, University of Genova, Italy.

Presentations at International Conferences, Academic and Research Institutions

Invited Talks

- International Workshop "Fluctuation X-Ray Scattering", European XFEL. June 2021 *online*
- OSA Virtual Vision Science Seminars, invited by Technical Group (org. G. Vampa). May 2021 *online*
- MUST2020: International conference, Grindelwald, CH, *Postponed to June 2022*
- Annual Meeting 2020 CUI: Advanced Imaging of Matter, University of Hamburg, DE. Oct.2020 *online*
- Italian Institute of Technology (IIT), invited by Prof. L. Manna, Genova, IT. May 2020 *online*
- ARCNL, invited by Prof. S. Witte, Amsterdam, NL. April 2020.
- Workshop in Time-Resolved Chemistry, Advanced Photon Source, Chicago IL, USA Oct. 2019.
- Sixth Banff Meeting on Structural Dynamics, Alberta, Canada, Feb. 2019.
- Max Born Institut, invited by Prof. S. Eisebitt, Berlin, D. Nov. 2019.
- EMPA, invited by Prof. A. Neels, Zurich, CH. Nov 2019.
- University of Pavia, invited by Prof. P. Carretta, Pavia, IT. Oct 2019.
- University of Zurich, invited by Prof. J. Osterwalder, Zurich, CH. Oct 2019.
- Swiss Physical Society Annual Meeting, Lausanne, Switzerland, Aug. 2018.
- Zernike Institute for Advanced Materials, invited by Prof. P. Rudolf, Groningen, NL, Sep. 2017.
- 4th International Conference on Ultrafast Structural Dynamics, Trieste, Italy, Dec. 2017.
- École polytechnique fédérale de Lausanne, invited by Prof. M. Chergui, Lausanne, CH. Nov. 2016.
- Paul Scherrer Institut, invited by Dr. C. Milne, Villigen PSI, CH. Nov. 2016.
- Gordon Research Conference “Noble Metal Nanoparticles”, South Hadley, USA, Jun. 2014.
- JILA, invited by Prof. M. Murnane and Prof. H. Kapteyn, Boulder USA, Jun. 2014.
- MIT, invited by Prof. N. Gedik, Boston USA, Jun 2014 Italian National Conference on Condensed Matter Physics (FisMat), Milan, Italy, Sep.2013.
- Caltech Institute of Technology, invited seminar in the group of Nobel Laureate Prof. Dr. Ahmed Zewail, Pasadena, USA, Mar. 2011.
- UCLA, invited by Prof. P. Musumeci, Los Angeles, USA, Feb. 2011.
- TU/Eindhoven, invited by Prof. O.J. Luiten, Eindhoven,NL, Jan. 2011.
- Max-Planck-Institute for Quantum Optics, invited by Prof. P. Baum, Garching, D, Oct. 2010.

Contributed Talks

- 21st International Conference on Ultrafast Phenomena (UP 2018). Hamburg, Germany. 2 talks. 2018.
- Femtochemistry Conference (FEMTO13). Cancun, Mexico. Aug. 2017
- 20th International Conference on Ultrafast Phenomena (UP 2016). Santa Fe, USA. 2 talks. Jul. 2016
- OSA High-Brightness Sources and Light-Driven Interactions Congress. Long Beach, USA. 2016

- Femtosecond Electron Imaging and Spectroscopy (FEIS-2) 2015. Lansing, Michigan USA. May 2015
- Ultrafast Dynamic Imaging of Matter (UDIM) 2015. Grindelwald, CH. Mar. 2015
- Molecular Ultrafast Science and Technology (MUST) Annual Meeting 2015. Engelberg, CH. 2015
- 19th International Conference on Ultrafast Phenomena (UP 2014). Okinawa, Japan. Jul. 2014
- Workshop on Ultrafast Electron Sources for Diffraction and Microscopy Applications (UESDM) 2012. Los Angeles, USA. Dec 2012.

Supervision and mentoring of junior researchers

- 4/2021 – present: University of Pavia (IT).
Doctoral thesis co-promotor: P. Usai, O. Cannelli. EPFL, CH. Simone Restelli. UniPv (IT).
Postdoctoral researcher: Dr. Charles Bevis.
- 7/2017 – 3/2021: SwissFEL, PSI and EPFL (CH).
Graduate student: Oliviero Cannelli. **Completed PhD:** Dominik Kinschel.
Postdoctoral researcher: Dr. Camila Bacellar.
- 5/2015 – 6/2017: JILA (U.S.A.).
Completed PhDs: Dr. Dennis Gardner, Dr. Elisabeth Shanblatt, Dr. Christina Porter, Dr. Robert Karl, Dr. Charles Bevis. **Graduate students:** Michael Tanksalvala.
- 10/2011 – 9/2013: EPFL (CH).
Completed PhDs: Dr. Francesco Pennacchio. **Undergraduate student:** Saverio Pagano.

Teaching activities

- 4/2021 – present: Lecturer. Ultrafast Methods for Materials Science – Doctoral School in Physics
Lecturer. Academic Year 2021-2022 (Courses preparation & Teaching development):
– B.Sc.: General Physics I for Biotechnology (200 students)
– M.Sc.: Ultrafast Phenomena (50 students)
University of Pavia (IT).
- 6/2017: Co-Lecturer. Ultrafast imaging with electron and soft X-ray pulsed sources.
Summer Research Experience opportunities for Undergraduates – NSF STROBE. JILA.
- 5/2014: Co-Lecturer. Symmetry retrieval in colloidal nanoparticles.
Structural Properties of Condensed Matter (Prof. Fabrizio Carbone). EPFL.
(50 students)
- 9/2013 – 1/2014: Teaching assistant. General Physics I for Civil Engineering (Prof. Davor Pavuna). EPFL.
(150 students)
- 2/2013 – 6/2013: Teaching assistant. General Physics II for Civil Engineering (Prof. Fabrizio Carbone). EPFL.
2/2012 – 6/2012: (150 students)

Membership of Scientific Societies

- 2021 – present: HighLight@UniPv: Competence center for sustainable bio-nanotechnology.
- 2021 – present: WavemiX: International network for the development of nonlinear X-ray techniques.
- 2019 – present: Laser-lab Europe.
- 2018 – present: European Physical Society, EPS.
- 2016 – present: The Optical Society, OSA.
- 2017 – 2020: Swiss Physical Society, SPS.
- 2013 – 2020: Molecular Ultrafast Science and Technology Women Scientists, Switzerland.
- 2016 – 2017: NSF STROBE Science and Technology Center, USA
- 2015 – 2017: Women in Science Association, University of Colorado Boulder, USA.
- 2015 – 2017: Postdoctoral Association, University of Colorado Boulder, USA.
- 2014 – 2016: Swiss Chemical Society, SCS, Switzerland.
- 2014 – 2016: Mentoring Program for Women in Science of Suisse Romande, Switzerland.

Reviewing Activities

2020	Reviewer for Surface Review and Letters (World Scientific).
2019	Reviewer for Science Advances (AAAS) and Matter (Cell Press).
2016	Reviewer for NIST, Z. Tao, C. Chen, et al., Science 353, 62-67 (2016).
2015	Reviewer, articles in Chemical Physics and Light: Science & Applications.
2012 – present:	Thesis reviewer, Graduate, Master, Bachelor (EPFL-CH and JILA-USA)

Organization of Scientific Meetings and Lectures

7/2017	<u>Organizer</u> : Lectures and Seminars. Ph.D. level. Summer Research Experience opportunities for Undergraduates – NSF STROBE. JILA.
5/2014	<u>Organizer</u> : Lectures and student activities. M. Sc. Level. Structural Properties of Condensed Matter. École Polytechnique Fédérale de Lausanne, Switzerland.
6/2013	<u>Co-organizer</u> : First Workshop in Ultrafast Electron Diffraction and Microscopy. EPFL, CH.
2/2013	<u>Organizer</u> : Lectures on General Physics II for Civil Engineering, EPFL, CH.
1 – 9/2013	<u>Co-Organizer</u> : Physics Lunch Seminars. Dept. of Condensed Matter Physics, EPFL, CH.
7/2012	<u>Co-organizer</u> : International conference on Ultrafast Phenomena 2012, EPF, CH.