

Giulia Fulvia Mancini

Nationality: Italian

Date of birth: 29.12.1986

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

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Professional Experience & Education

- 2021 – :** **Tenured Associate Professor in Physics**
P.I. of Laboratory for Ultrafast X-ray and Electron Microscopy (LUXEM)
Department of Physics, University of Pavia, Italy
Research topics: Time-resolved soft X-ray and electron coherent diffractive imaging of nanomaterials, structure-property relations, light-activated functionality.
- 2017 – 2021:** **Senior Scientist – Team Leader**
Swiss Free Electron Laser (SwissFEL, PSI) and École Polytechnique Fédérale de Lausanne, Laboratory for Ultrafast Spectroscopy (EPFL, LSU), Switzerland
Research topics: Charge-carrier dynamics in functional oxides and perovskites (TR-XAS and TR-XES, TR-RIXS). Beamline commissioning, pilot & users experiments at SwissFEL Bernina.
- 2015 – 2017:** **Postdoctoral Research Associate**
JILA (Joint Institute for Laboratory Astrophysics), University of Colorado-Boulder and NIST, Kapteyn-Murnane Group (USA)
Research topics: 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.
- 2015:** **Ph.D. Degree in Chemistry and Chemical Engineering – *Special Distinction***
École Polytechnique Fédérale de Lausanne, Laboratory for Ultrafast Microscopy and Electron Scattering (EPFL, LUMES), Switzerland. Director: Prof. Fabrizio Carbone
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.
- 2010:** **M. Sc. in Physical Chemistry – *summa cum laude***
Physical Chemistry Department, University of Pavia, Italy
Research topics: X-ray Absorption Spectroscopy (XAS), micro-Raman and EPR of Mn-doped SrTiO₃ ferroelectrics, and of Vanadium-based catalysts.
Diploma Degree in Science & Technology
University School for Advanced Studies IUSS – Pavia, Italy
- 2008:** **B. Sc. in Physical Chemistry – *summa cum laude***
University of Pavia, Italy

Honors & Awards

- 2021:** **ICO/IUPAP Young Scientist Prize in Optics**
for “contributions to imaging and scattering of nanostructured materials using high- harmonic soft X-ray sources and research on extreme ultraviolet imaging”
- 2020:** **Mildred Dresselhaus Prize for Junior Researchers**
for “outstanding scientific achievements”
Cluster of Excellence “CUI: Advanced Imaging of Matter” - University of Hamburg

- 2019:** **Aspasia Prize**
NWO - Netherlands Organisation for Scientific Research
- 2016:** **Special distinction for Ph.D. thesis**
“Femtosecond Diffractive Imaging of Structures, Charge and Spin Textures”
Research Commission - École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
- 2014:** **SCNAT/SCS Chemistry Travel Award**
Invited talk at *Gordon Research Conference* “Noble Metal Nanoparticles” 2014
Swiss Chemical Society
- 2014:** **Teaching assistant award**
École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Awarded Grants & Career Advancement

- 2022:** **PI of FARE - MUR grant R207A8MNNJ – PiXiE**
“Tailoring intra- and inter-structural interactions in hybrid superlattices: correlative ultrafast X-ray and cryo-electron microscopy”
Italian Ministry of University and Research
Host PI of HORIZON-MSCA-2021-PF-01 – DECIPHER
“Dynamic Electron Imaging with Phase Retrieval” – Dr. Charles Bevis
Marie Skłodowska-Curie Actions
- 2021:** **co-PI of Competence center for sustainable bio-nanotechnology**
“Development of collaboration agreement with Universities for Research, Innovation and Technology Transfer”
Bando Regione Lombardia
- 2020:** **PI of Fondazione Cariplo Grant 2020-2544 – NanoFast**
“Probing functionality at the nanoscale: multimodal electron and soft X-ray ultrafast imaging”
Fondazione Cariplo
- 2020:** **Mildred Dresselhaus Guest Professorship**
The program provides excellent research conditions (funds for organizing workshops, travel funds, research budget, and housing costs) in order to enable a successful female researcher to work within CUI for a period of two to six months and serve as a role model for young women in the physical sciences as well as attract world leading researchers to Hamburg.
Cluster of Excellence “CUI: Advanced Imaging of Matter” - University of Hamburg
- 2019:** **PI of ERC Starting Grant – ULTRAIMAGE**
“Advanced EUV/soft X-ray microscopy in the ultrafast regime: imaging functionality of nanomaterials across length scales”
European Research Council
- 2019:** **ASPASIA Grant**
Funded to encourage the promotion of top-ranked Vidi grant female candidates to an associate professorship through a fast (2 years) tenure-track.
Dutch Ministry of Education, Culture and Science, the Association of Universities in the Netherlands and NWO
- 2019:** **PI of VIDI-NWO Grant VI.Vidi.192.037**
“Controlling functionality in the ultrafast regime: advanced microscopy of nanoparticle superlattices”
NWO - Netherlands Organisation for Scientific Research
- 2019:** **Rosalind Franklin Tenure-Track Assistant Professorship**
University of Groningen
- 2017:** **NCCR MUST: InterMUST Grant**
Swiss National Science Foundation
- 2015:** **PI of SNSF Early.PostDoc Mobility Grant (P2ELP2_158887)**

**PI of SNSF Gender Equality Grant
Swiss National Science Foundation**

Presentations at International Conferences, Academic and Research Institutions

Invited Talks

- Materials for Sustainable Development Conference (MAT-SUS, NANOMAT), Barcelona, E, Oct. 2022.
- The 5th International Conference on Application of Optics and Photonics, Guimarães, P, July 2022.
- Advances in Sustainable Bio- and Nano- Materials and Technologies, Como, I. June 2022.
- Gordon Research Conference “Multiphoton Processes”, Smithfield, USA, Jun. 2022.
- MUST2022: International conference, Grindelwald, CH, June 2022.
- 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*
- 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, I. Oct 2019.
- University of Zurich, invited by Prof. J. Osterwalder, Zurich, CH. Oct 2019.
- Swiss Physical Society Annual Meeting, Lausanne, CH, Aug. 2018.
- Zernike Institute for Advanced Materials, invited by Prof. P. Rudolf, Groningen, NL, Sep. 2017.
- 4th International Conference on Ultrafast Structural Dynamics, Trieste, I, 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, I, 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.

Commission of Trust

Associate Professor –
Italy

- UniPv formal representative at Looking4 – 30th Anniversary of Cariplo Foundation.
- PhD Colloquia in Physics: Scientific Committee Member - Doctoral School in Physics.
- Scientific Board Advisor - Foundation Santa Caterina University College (Italy).
- UniPv formal representative at Stati Generali of Regione Lombardia.
- INROAD+ Committee member. Grant applicants funding & mentoring platform –

<p>Senior Research Associate – Switzerland</p>	<ul style="list-style-type: none"> University of Pavia. – <u>Deputy for Technology & Infrastructure upgrade</u> - HighLight@UniPv – <u>Chair</u>, Swiss Physical Society annual meeting. Geneva, Switzerland. – <u>SwissFEL local experimental coordinator</u>. – <u>LSU deputy at users Meeting and Workshops at large-scale facilities</u>: <ul style="list-style-type: none"> ○ EXFEL and DESY Early Users Meeting. Germany (2018). ○ SCS and MID Early Users Meeting. Germany (2018). – <u>Assessment committee</u> - PhD student candidacy exam, EPFL, Switzerland. <u>Committee member</u> – trainer for Faculty and PhD defense talks.
<p>Postdoctoral Research Associate – USA</p>	<ul style="list-style-type: none"> – <u>Presenter at formal grant review meetings</u>: <ul style="list-style-type: none"> ○ EPIQS Gordon and Betty Moore Foundation, Aspen (2/2017) ○ DARPA PULSE, Berkeley (4/2016) & Arlington (4/2017). ○ NSF STROBE Retreat, Berkeley (1/2017). – <u>Technology Transfer</u>: 1 patent deposited and 1 licensed, R&D coordinator DARPA & KMLabs Inc.
<p>Doctoral Research Associate – Switzerland</p>	<ul style="list-style-type: none"> – <u>Thesis defense committee member</u>: <ul style="list-style-type: none"> ○ Master Program in Chemistry, University of Pavia, Italy. ○ Master Program in Computer Engineering, University of Genova, Italy.

Supervision and mentoring of junior researchers

<p>2021 –:</p>	<p>Doctoral thesis director: C. Grova Restelli. UniPv (IT). S. Restelli. UniPv (IT). Postdoctoral researcher: Dr. C. S. Bevis. University of Pavia (IT)</p>
<p>2017 – 2021:</p>	<p>Doctoral thesis co-director: O. Cannelli. EPFL SwissFEL, PSI and EPFL (CH)</p>
<p>2015 – 2017:</p>	<p>Supervisor - completed PhDs: D. Gardner, E. Shanblatt, C. Porter, R. Karl, C. S. Bevis, M. Tanksalvala. JILA (U.S.A.)</p>
<p>2013 – 2015:</p>	<p>Supervisor - completed PhDs: F. Pennacchio Supervisor - completed M.Sc.: S. Pagano EPFL (CH)</p>

Teaching

<p>2021:</p>	<p>Lecturer - Doctoral School in Physics. University of Pavia (IT). - Ultrafast Laser Physics - Professional soft skills development for academia & industry Reference Lecturer for B.Sc. Biotechnology. General Physics I</p>
<p>2017:</p>	<p>Co-Lecturer. Ultrafast imaging with electron and soft X-ray pulsed sources. Summer Research Experience opportunities for Undergraduates – NSF STROBE. JILA.</p>
<p>2014:</p>	<p>Co-Lecturer. Symmetry retrieval in colloidal nanoparticles. Structural Properties of Condensed Matter (Prof. Fabrizio Carbone). EPFL.</p>
<p>2013 – 2014:</p>	<p>Teaching assistant. General Physics I for Civil Engineering (Prof. Davor Pavuna). EPFL.</p>
<p>2011 – 2013:</p>	<p>Teaching assistant. General Physics II for Civil Engineering (Prof. Fabrizio Carbone). EPFL.</p>

Outreach

<p>2022:</p>	<p>Sumo Science - National Championship 2022/23 - Sharper European Researchers Night</p>
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Since 2015: **Mentoring for Women in Science:**

- “Stories by the fireplace” - sharing career path with the mentees of dynaMENT mentoring program, University of Hamburg, D
- NCCR:MUST Molecular Ultrafast Science and Technology Women Scientists, CH
- Women in Science Association, University of Colorado Boulder, USA
- Fix the Leaky Pipeline Program for female Researchers in the ETH Domain, CH

Reviewing Activities

Since 2022 : **Grant Reviewer:** Austrian Science Fund (FWF), APRE agency.

Project Review Panel (PRP): Stanford Synchrotron Radiation Lightsource (SSRL).

Since 2015 : **Peer – Review in Journals:** ACS Nano, Science Advances (AAAS), Matter (Cell Press), Ultramicroscopy, Chemical Physics (Elsevier), J.Phys.Chem. (ACS), Structural Dynamics (ACA), Surface Review and Letters (World Scientific), Crystals (MDPI).

Membership of Scientific Societies

2022 – : **ERC in Italy:** Italian network of ERC winners fostering Training, Outreach and Advising

2021 – : **WavemiX:** International network for the development of nonlinear X-ray techniques

2019 – : **Laserlab Europe:** European network facilitating the development & efficient utilization of advanced laser facilities by users from academia and industry

2018 – : **European Physical Society (EPS)**

2016 – : **The Optical Society (OSA) – now OPTICA**

2017 – 2020: **Swiss Physical Society (SPS)**

2013 – 2020: **NCCR:MUST - Molecular Ultrafast Science and Technology Women Scientists**

2016 – 2017: **NSF STROBE Science and Technology Center (USA)**

2014 – 2016: **Swiss Chemical Society (SCS)**

Organization of Conferences & Scientific Meetings

2017: **Organizer:** Lectures and Seminars. Ph.D. level. Summer Research Experience opportunities for Undergraduates – NSF STROBE. JILA

2014: **Organizer:** Lectures and student activities. M. Sc. Level. Structural Properties of Condensed Matter. École Polytechnique Fédérale de Lausanne, Switzerland

2013: **Co-organizer:** First Workshop in Ultrafast Electron Diffraction and Microscopy. EPFL, CH