



# Andrea Perucchi - CV







Family name: Perucchi  
First name: Andrea  
Working address: Sincrotrone Trieste, S.S. 14 km 163.5, 34012 Basovizza, Trieste, Italy  
e-mail: andrea.perucchi@elettra.eu  
Tel:   
Fax:   
Present Position: Senior Scientist - Elettra Sincrotrone Trieste

**Research Topics:** Strongly Correlated Electron Systems, Low-dimensional Electron Systems, Charge-Density-Wave, Superconductivity, Spin Liquids, Colossal and Giant Magnetoresistance, Oxide Heterostructures

**Experimental Techniques:** Optical Spectroscopy, Infrared Synchrotron Radiation, Infrared Spectroscopy under Extreme Experimental Conditions (High Pressures, Low Temperatures, High Magnetic Fields), THz Coherent Synchrotron Radiation, Ultra-fast THz Spectroscopy with Free-Electron-Lasers.

## Education:

February 2005	PhD in Natural Sciences at ETH Zurich Advisor: Prof. Dr.  Co-examiners: Prof. Dr.  Dr.  <i>Electrodynamic Response of Broken Symmetry Ground States</i>
2001 - 2005	PhD Student and teaching assistant at ETH Zurich
September 2001	Laurea in Physics, University of Rome La Sapienza Advisor: Prof.  <i>Infrared Spectroscopy of Manganites Reduced in Oxygen</i>
1999	Work as undergraduate student in the Quantum Optics Group
1993-2001	Study of Physics at the University of Rome La Sapienza
1981-1993	Lycee Chateaubriand (French school) in Rome Baccalaureat (type C: mathematics and physics)

## Working Experience:

July 2017 - present	Senior Scientist - Sincrotrone Trieste S.C.p.A.
November 2015 - June 2017	Beamline Scientist - Sincrotrone Trieste S.C.p.A.
July 2013 - November 2015	Research Scientist - INSTM
July 2008 - June 2013	Beamline Scientist - Sincrotrone Trieste S.C.p.A.
July 2007 - June 2008	Fellowship from Sincrotrone Trieste S.C.p.A.
July 2005 - June 2007	Post-Doc (Assegno di Ricerca) CNR-INFM-COHERENTIA
May 2005 - June 2005	Fellowship from Sincrotrone Trieste S.C.p.A.

## Present Activity:

Beamline responsible of TeraFERMI, the THz beamline at the FERMI Free-Electron-Laser.

The TeraFERMI beamline produces ultrashort, broadband, high power, coherent THz pulses to be used in order to manipulate and achieve control on several materials properties, by coupling to electronic, magnetic, and vibrational degrees of freedom. The construction of the TeraFERMI beamline extended to the THz range the unique pulse properties of the 4th generation facility FERMI.

## Publications:

Author of over 120 publications on international peer-reviewed journals (25 times as first author), between which: Nature, Nature Physics, Nature Communications (4), Nano Letters (2), Physical Review Letters (11), Physical Review B (16), Soft Matter, Scientific Reports (2).

## Scopus H-index: 26

## Book Chapters:

- A Perucchi, L Vaccari, and S Lupi  
Infrared Synchrotron Radiation: From the Production to the Scientific Applications  
In *Synchrotron Radiation. Basics, Methods and Applications*, ed. S Mobilio, F Boscherini, C. Meneghini, Springer (2015)
- A Perucchi, L Baldassarre, and S Lupi  
Electrodynamics of Mott Insulators and Insulator to Metal Transitions,  
In *Insulators: Type, Properties and Uses*, ed. KL Richardson, Nova Publishers Inc., NY (2010)

### Conference Organization:

- Special session *Nanophotonic tools for exploring low-energy excitations in nanomaterials* at META2019 - The 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics  
Lisbon (P), 23 -26 July 2019
- LEES2018 - Low Energy Electrodynamics of Solids  
Portonovo (AN), 24-29 June 2018
- Smaller and Faster: Infrared and Terahertz Spectral-Imaging at the Nanoscale with Synchrotron Radiation and Free Electron Laser Sources  
Trieste, 1-2 December 2016
- SCSR2014 - Novel Superconductors and Synchrotron Radiation  
Trieste, 10-11 December 2014
- THz2012 - New Sources for Terahertz Research  
Trieste, 4-5 October 2012
- HP Italia 2012 - 5th Italian Workshop on High-Pressure Science  
Trieste, 12-13 March 2012
- WIRMS 2011 - 6th Workshop on Infrared Spectroscopy and Microscopy with Accelerator-Based Sources  
Trieste, 4-8 September 2011

### Panels, recognitions and memberships:

- Member of Scientific Committee for International Conference on Free Electrons Laser Applications in Infrared and THz Studies of New States of Matter, Warsaw 5-8 July 2022
- Member of the LEES2020 Program Committee
- Since 2018, member of the Synchrotron Soleil (Paris) Peer Review Committee
- Member of the WIRMS-2019 conference International Advisory Committee
- Since 2018, member of the Scientific Advisory Committee for ELBE (Dresden)
- Member of the International Advisory Committee of the ICOPVS-2018 conference at BARC (Mumbai)
- April 2018: Member of the panel for the evaluation of the THz beamline at FLASH (Hamburg)
- 2017 Stephenson Distinguished Visitor at DESY (Hamburg) to work and to collaborate with DESY scientists in the field of photon science research
- Since 2017, external reviewer for the Diamond Light Source (UK)

- Member of the WIRMS-2017 conference International Advisory Committee
- Since 2016, external reviewer for the TELBE facility in Dresden
- Member of the WIRMS-2015 conference International Advisory Committee
- Member of the WIRMS-2013 conference International Advisory Committee
- Since 2009, external reviewer for the Canadian Light Source

**Lectures:**

Lecturer at international advanced synchrotron schools:

- Hercules 2018
- Hercules 2017
- ICTP 2011
- ICTP 2009
- ICTP 2007
- SynCro 2007

**Activity as PhD Supervisor and Reviewer:**

- Reviewer of the PhD thesis from [REDACTED]  
 Doctorate in Physics - Université Paris-Saclay  
*Ultrafast study of Dirac fermions in topological insulators*  
 Supervisor: Prof. [REDACTED]
- Reviewer of the PhD thesis from Dr. [REDACTED]  
 Doctorate in Bioengineering and Robotics- Universit degli Studi di Genova  
*Non-conventional plasmonic architectures for enhanced infrared spectroscopy*  
 Supervisors: Dr. F. De [REDACTED] and Dr. [REDACTED]
- Co-supervisor (with Prof. [REDACTED] of Dr. [REDACTED]  
 Dottorato in Fisica XXIV Ciclo - Università degli studi di Trieste  
*High pressure studies of amyloid proteins*

**Peer Review Activity:**

Infrared Physics and Technology, Journal of Applied Physics, Journal of Physics D: Applied Physics, Journal of Physical Chemistry, Journal of Physics and Chemistry of Solids, Nano Letters, New Journal of Physics, Nuclear Instrumentation and Methods, Optics Express, Physica B, Physical Review

B, Physical Review Letters, Solid State Communications, Scientific Reports, Surface and Coating Technologies.

**Editorial Activity:**

Editor of Applied Sciences special issue, June 2021

*Advances of THz Spectroscopy*

Editor of Volume 30, No.4 of Synchrotron Radiation News, July/August 2017

*Infrared Spectral Imaging with Synchrotron Radiation*

Editor of Volume 359 of Journal of Physics: Conference Series

*6th Workshop on Infrared Spectroscopy and Microscopy with Accelerator-Based Sources (WIRMS11)*

*4-8 September 2011, Trieste, Italy*

**Grants:**

ATTRACT Project

Graphene golyay micro-cell arrays for a colour-sensitive TeraHertz imaging sensor (GRANT)

FIRB Futuro in Ricerca 2010 grant no. RBFR10PSK4 (Principal Investigator)

TeraFermi - A THz beamline at the FERMI Free-Electron-Laser

Budget approved: 1.008 kEuro

MIUR contribution: 786 kEuro

**Language Skills:**

- English: fluent
- French: mothertongue
- German: average
- Italian: mothertongue