PERSONAL INFORMATION

Maurizio Mattarelli

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Sex Male| Date of birth 26/11/1973 | Nationality Italian

WORK EXPERIENCE

From 08/02/2024 to present
Associate Professor of Physics of matter (FIS/03)
Physics and Geology Department of the University of Perugia, Italy
Sector Higher Education

From 08/02/2021 to 07/02/2024
Assistant professor (temporary position -RTDb)
Physics and Geology Department of the University of Perugia, Italy
Sector Higher Education

From 15/06/2018 to 14/06/2020
Research associate
Physics and Geology Department of the University of Trento, Italy
Sector Higher Education

From 03/06/2013 to 02/06/2018
Assistant professor (temporary position -RTDa)
Physics and Geology Department of the University of Perugia, Italy
Sector Higher Education

From 15/11/2004 to 31/05/2013
Research associate
Physics Department of the University of Trento, Italy
Sector Higher Education

From June to December 2001
Internship
R&D Department of Pirelli Cavi e Sistemi S.p.A in Milano , Italy
Business Engineering

From Dec. 1999 to Nov. 2000
Second Lieutenant in the Army Corps of Engineers
Ufficio Tecnico Territoriale in Torino,Italy.
Managerial and technical responsibilities
Sector Army

From June to September 1999
Research Assistant
Physics Department of the University of Perugia
Sector Higher Education

EDUCATION AND TRAINING

4/11/2004

Phd in Physics at University of Trento, Italy

- Supervisors: Prof. M. Montagna(Physics Department) and Dr M. Ferrari (CNR-IFN).
- Thesis title: "Tellurite glasses and oxy-fluoride glass ceramics activated by Er^{3+} and Tm^{3+} for photonic applications".

30/01/2002

Master Course “Materials for Information Technology and Energy Management” at Istituto Universitario di Studi Superiori, (Pavia, Italy).

Courses (February-May 2001) about deposition and characterization techniques of materials for photonics and microelectronics; Internship at Pirelli Cavi e Sistemi S.p.A

20/05/1999

M.Sc. in Physics at University of Perugia with marks 110/110 cum laude.

Supervisors: Prof. L. Verdini and Prof. D. Fioretto
Thesis title:“Study of dynamics of polybutadiene by inelastic scattering of light and X-ray”.

PERSONAL SKILLS

Languages: Italian: mother tongue, English (written and oral): very good. French (written and oral) basic

Digital skills: I am a proficient user of the following softwares: LaTeX, Microsoft Office, LabVIEW, Mathematica, Matlab, Origin COMSOL. Coding skills: Python.

JOB-RELATED SKILLS

Teaching (until 6/2/2021)

Teacher of the -Electromagnetism course for Degree Course in Chemistry (from AA 2013-2014, to 2017-2018 at the University of Perugia; **assistant** in several physics courses at the University of Trento (2002-2013). **Invited professor** at week teaching activities in the framework of Erasmus+ project and doctoral schools.

Teacher of "Imaging Technologies" course (FIS/03) for Bachelor's Degree in Biotechnology (from AA. 2020-2021 to AA 2022-2023). **Teacher of "Physics Applied To Biology And Medicine" course (FIS/07)** for Degree Course in Veterinary Medicine (from AA. 2021-2022 to AA 2023-2024).. **Co-Teacher of "Geometric Optics Laboratory" (FIS/03)** for Bachelor's Degree in Optics And Optometry (from AA. 2021-2022 to AA 2023-2024). **President** of the examination commission for the previous courses.

Supervisor and co-supervisor of several (8 B.Sc. and 5 M.Sc.) degree thesis in Physics, in Cultural Heritage Science and in Biotechnology

Supervisor of 2 PhD student in Physics

Research interest

My research interests are quite broad and not confined in a single direction. While I have a background in condensed matter physics, I have always been attracted by the possibility to apply my knowledge also to material science (especially since attending the master course in materials for information technology). Moreover,I have also exploited my competence in basic physics for more applied research such as cultural heritage or ***precision agriculture***, using in particular spectroscopic imaging techniques, or materials and devices for energy harvesting.

My main interests concern:

- *Properties, structure and processing of glasses (bulk and film) for optical applications and photonics.*
- *Nanostructured material for energy applications.*
- *Vibrational properties of nanoparticles and colloidal aggregates.*
- *Imaging technologies for material characterization and life science*

Finally, I note that starting from my degree thesis I have always enjoyed dividing my activity between performing experiments in lab, not disregarding the assembly of set-ups, and more theoretical work.

Scientific skills

Synthesis of glasses and waveguides by sol-gel route and rf sputtering.

Characterization techniques: • Optical spectroscopy (Raman, Brillouin, visible and IR absorption, time-resolved luminescence, FORS, spectroscopic imaging) • X-ray (diffraction, diffusion, and small-angle and inelastic scattering at ESRF Grenoble)• Optical and electron microscopy. Modelling of the excitation mechanisms in doped photonic materials and of the vibrational dynamics of nanostructured materials.

Scientific reviewer

Ad Hoc Reviewer for the following journals of applied and fundamental physics: Journal of Alloys and Compounds, Journal of Luminescence, Journal of Non-Crystalline Solids; Journal of Optics A: Pure and Applied Optics, Journal of Physics and Chemistry of Solids, Journal of Physics D: Applied Physics; Journal of Physics: Condensed Matter, European Physical Journal: Applied Physics, Material Research Bulletin; Optical Materials, Nanotechnology, Physical Review B, Physica B: Condensed Matter, Physica Status Solidi, Applied Science, Sensors, Applied Physics Letters, Light: Science & Applications..

External reviewer ("rapporteur") and **member of the commission** for a PhD defense at the University of Lyon (France).

Project Reviewer for ANR (Agencie National de la Recherche), Latvian Council of Science and COST Projects

Coordination of academic activities

Member of the PhD Board of the Physics PhD Course- University of Perugia, Italy

Member of the "Commissione paritetica" for Department Teaching

ADDITIONAL INFORMATION

The scientific activity has been carried out in the framework of many national and international collaborations. This is testified by 1) the published articles where authors from different institutions and from different countries are present; 2) from the funded projects at local, national and international level, in many of them with responsibility roles (PI); 3) from the presentations at conference, workshops and PhD schools.

Publications The outcome of the research activities was published in more than 100 papers on peer-reviewed international journals and conference proceedings. A comprehensive evaluation can be obtained by the h-index, and by the total number of citations, which are respectively **26** and **1900+** according to **SCOPUS** and **28** and **2300+** according to **Google Scholar**. (see attached list).

Presentations Also, the results were disseminated, by presenting them at several national and international conferences and workshops (see attached list).

Projects

MIUR PRIN 2002: Nanostructured Materials for Integrated Optics as a **PhD Student**.
MIUR -PRIN 2004: Nanocomposite glasses for Photonics as a **Research Associate**.
PAT- Post Doc 2006: Study of Deterioration of Materials for Contemporary Art by Spectroscopic Imaging as the **Principal Investigator** (138 k€ Grant).
EC-FP7 2013 LANDAUER: Operating ICT basic switches below the Landauer limit.
EC -H2020 2015 : PROTEUS: AdaPtive MicROfluidic and nano-enabled smart systems for water qUality Sensing as **Key Scientist**
Erasmus+ 2015 : "Innovative European studies on renewable energy systems" as a **Teacher**
Fondazione CRPG 2016: “Energy harvesting da fluidi per il monitoraggio delle risorse idriche” as the **Principal Investigator** (40 k€ Grant).
PSR 2014-2020: PPM-A (Study of a cultivation protocol for reducing alcaloyd contamination) as **Co-Scientific Director** (200 k€ Grant)
Project2017 Cost Action BioBrillouin “Brillouin Light Scattering Microspectroscopy for Biological and Biomedical Research and Applications” as **Network Member** .
Royal Society Grant - International Exchanges 2020 Cost Share (Italy) - IEC\R2\202232 : "Novel tools for mechanobiology: from Atomic Force Microscopy to Brillouin spectroscopy", as **Network Member**
Fondo Ricerca di Ateneo 2021: “Studio di scenari multirischio per i disastri naturali nell’area dell’Italia centro-meridionale e della Sicilia: capire il passato e il presente per proteggere il futuro.”(94680 € Grant) - **WP leader** and **Research Associate supervisor.**
2022-2023 Progetto **Fondo di Funzionamento** Dept. Physics and Geology, University of Perugia “Microspectrometer for transmittance and fluorescence imaging”, as the **Principal Investigator** (8 k€)
PRIN2022 -Coexistence between Ordered and DIsordered Regions in proteins: a multiscale overview on the mechanisms regulating aggregate-associated diseases (CODIR) as **Local Coordinator** (294762 € Grant).
PNRR cofounded PhD 2022: Environmental monitoring by remote sensing and by a network of energetically autonomous ground sensors (**Proposer** and **PhD supervisor**)
2022-2025 Ecosystem of Innovation Project “Vitality: Innovation, Digitalization and Sustainability for the diffused economy In central Italy” as a **Key Scientist** and **RTDa supervisor.**

Scientific organisations **Board Member** of the recently established “International Bio-Brillouin society” https://www.biobrillouin.org/about

Scientific qualifications 2011 Qualification at CNR competition for Phys. Science Res.(FI32/3).
2013 and 2021 National Scientific Qualification (**ASN**) to function as Associate Professor in Italian Universities in sector 02/B1 – Experimental Physics of Matter

Perugia 06/11/2023 Maurizio Mattarelli

SCIENTIFIC PAPERS

Self-powered temperature sensors harnessing membrane potential of living cells
G Clementi, I Neri, F Cottone, A Di Michele, M Mattarelli, L Sforna, S.Chiappalupi, G. Sorci, A.Michelucci, L. Catacuzzeno, L. Gammaitoni
Nano Energy 121, 109211

Real-Time AI-Assisted Push-Broom Hyperspectral System for Precision Agriculture
I Neri, S Caponi, F Bonacci, G Clementi, F Cottone, L Gammaitoni, S. Figorilli, L. Ortenzi, S. Aisa, F. Pallottino, M. Mattarelli
Sensors 24 (2), 344

3D-Printed Piezoelectret Based on Foamed Polylactic Acid for Energy-Harvesting and Sensing Applications
Autori
G. Perna, F. Bonacci, S. Caponi, G.Clementi, A. Di Michele, L.Gammaitoni, M. Mattarelli, I. Neri, D. Puglia, F. Cottone
Nanomaterials 13 (22), 2953

Size and environment: The effect of phonon localization on micro-Brillouin imaging
Passeri, A.A., Di Michele, A., Neri, I. Cottone F., Fioretto D., Mattarelli, M., Caponi, S.
(2023)Biomaterials Advances, 147, 213341

Using Brillouin and Raman microspectroscopy to diagnose musculoskeletal disorders: From characterizing healthy phenotypes to detecting human osteoarthritic lesions
Cardinali, M.A., Govoni, M., Dallari, D., Vivarelli, L.,Tschon, M., Brogini, S., Mattarelli, M., Caponi, S. Morresi, A., Sassi, P., Fioretto, D.
(2023) Proceedings of SPIE - The International Society for Optical Engineering, 12627, 126271X

Polarization gated Brillouin spectroscopy: new perspectives for turbid media analysis
Caponi, S.,Capponi, G., Cardinali, M.A., Passeri A.A., Fioretto, D., Mattarelli, M.
(2023) Progress in Biomedical Optics and Imaging - Proceedings of SPIE, 12381, 1238107

Tissue fluidification promotes a cGAS–STING cytosolic DNA response in invasive breast cancer
Frittoli, E., Palamidessi, A., Iannelli, F., Zanardi, F., Villa, S., Barzaghi, L., Abdo, H., Cancila, V., Beznoussenko, G.V., Della Chiara, G., Pagani, M., Malinverno, C., Bhattacharya, D., Pisati, F., Yu, W., Galimberti, V., Bonizzi, G., Martini, E., Mironov, A.A., Gioia, U., Ascione, F., Li, Q., Havas, K., Magni, S., Lavagnino, Z., Pennacchio, F.A., Maiuri, P., Caponi, S., Mattarelli, M., Martino, S., d'Adda di Fagagna, F., Rossi, C., Lucioni, M., Tancredi, R., Pedrazzoli, P., Vecchione, A., Petrini, C., Ferrari, F., Lanzuolo, C., Bertalot, G., Nader, G., Foiani, M., Piel, M., Cerbino, R., Giavazzi, F., Tripodo, C., Scita, G.
(2023) Nature Materials 22, 644-655.

An Autonomous Sensing System for Monitoring Dissolved Carbon Dioxide of Naturl Water for Geochemical Applications
Tinivelli, P., Cardellini, C., Clementi, G. . Fano, L., Mattarelli, M., Neri, I., Turrioni, C., Cottone, F.
(2022) 21st International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications, PowerMEMS 2022, pp. 294–297

Mancuso, F, Arato, I., Alunni Cardinali M., Calvitti M, Bellucci, C., Lilli, C., Puglia, D.,, Donnadio,A., di Michele, C., Fabi,C., Mattarelli, M., Luzi,F., Eugeni,E., Fioretto,D., Luca, G.
Production and characterization of a decellularized extracellular matrix (dECM) from porcine pre-pubertal tunica albuginea
(2022) Italian Journal of Anatomy and Embryology 126, 149-149

Clementi, G., Cottone, F., Di Michele, A., Gammaitoni, L., Mattarelli, M., Perna, G., López-Suárez, M., Baglio, S., Trigona, C., Neri, I.
Review on Innovative Piezoelectric Materials for Mechanical Energy Harvesting
(2022) Energies, 15 (17), art. no. 6227, .

Capponi, G., Zambito, M., Neri, I., Cottone, F., Mattarelli, M., Vassalli, M., Caponi, S., Florio, T.
Cellular Mechanosensitivity: Validation of an Adaptable 3D-Printed Device for Microindentation
(2022) Nanomaterials, 12 (15), art. no. 2691, .

Mattarelli, M., Capponi, G., Passeri, A.A., Fioretto, D., Caponi, S.
Disentanglement of Multiple Scattering Contribution in Brillouin Microscopy
(2022) ACS Photonics, 9 (6), pp. 2087-2091.

Caponi, S., Passeri, A., Capponi, G., Fioretto, D., Vassalli, M., Mattarelli, M.
Non-contact elastography methods in mechanobiology: a point of view
(2022) European Biophysics Journal, 51 (2), pp. 99-104.

Alunni Cardinali, M., Di Michele, A., Mattarelli, M., Caponi, S., Govoni, M., Dallari, D., Brogini, S., Masia, F., Borri, P., Langbein, W., Palombo, F., Morresi, A., Fioretto, D.
Brillouin-Raman microspectroscopy for the morpho-mechanical imaging of human lamellar bone
(2022) Journal of the Royal Society Interface, 19 (187), art. no. 20210642, .

Donnadio, A., Bini, M., Centracchio, C., Mattarelli, M., Caponi, S., Ambrogi, V., Pietrella, D., Di Michele, A., Vivani, R., Nocchetti, M.
Bioinspired Reactive Interfaces Based on Layered Double Hydroxides-Zn Rich Hydroxyapatite with Antibacterial Activity
(2021) ACS Biomaterials Science and Engineering, 7 (4), pp. 1361-1373.

Pagano, S., Lombardo, G., Caponi, S., Costanzi, E., Di Michele, A., Bruscoli, S., Xhimitiku, I., Coniglio, M., Valenti, C., Mattarelli, M., Rossi, G., Cianetti, S., Marinucci, L.
Bio-mechanical characterization of a CAD/CAM PMMA resin for digital removable prostheses
(2021) Dental Materials, 37 (3), pp. e118-e130.

Neri, I., López-Suárez, M., Caponi, S., Mattarelli, M.
Fast MoS 2 thickness identification by transmission imaging
(2021) Applied Nanoscience (Switzerland), 11 (2), pp. 605-610.

Caponi, S., Mattarelli, M., Fioretto, D.
Multimodal imaging for mechanical and chemical mapping at the microscale: Applications on single cells and tissues
(2021) Progress in Biomedical Optics and Imaging - Proceedings of SPIE, 11921, art. no. 119210B, .
https://www.scopus.com/inward/record.uri?eid=2-s2.0-85122956431&doi=10.1117%2f12.2615462&partnerID=40&md5=31740003694b1553bfec3520fe2e4a1b

Caponi, S., Mattarelli, M., Fioretto, D.
Multimodal imaging for mechanical and chemical mapping at the microscale: Applications on single cells and tissues
(2021) Optics InfoBase Conference Papers, art. no. ETh2B.6, .

Caponi, S., Fioretto, D., Mattarelli, M.
Transition across a sharp interface: Data from Raman and Brillouin imaging spectroscopy
(2020) Data in Brief, 33, art. no. 106368, .

Mattarelli, M., Vassalli, M., Caponi, S.
Relevant Length Scales in Brillouin Imaging of Biomaterials: The Interplay between Phonons Propagation and Light Focalization
(2020) ACS Photonics, 7 (9), pp. 2319-2328.

Pizzolitto, C., Menegazzo, F., Ghedini, E., Innocenti, G., Di Michele, A., Mattarelli, M., Cruciani, G., Cavani, F., Signoretto, M.
Ethanol Steam Reforming on Lanthanum Ni-ZrO2Catalysts
(2020) ACS Sustainable Chemistry and Engineering, 8 (29), pp. 10756-10766.

Caponi, S., Mattana, S., Mattarelli, M., Alunni Cardinali, M., Urbanelli, L., Sagini, K., Emiliani, C., Fioretto, D.
Correlative Brillouin and Raman spectroscopy data acquired on single cells
(2020) Data in Brief, 29, art. no. 105223, .

Caponi, S., Fioretto, D., Mattarelli, M.
On the actual spatial resolution of Brillouin Imaging
(2020) Optics Letters, 45 (5), pp. 1063-1066.

Pizzolitto, C., Pupulin, E., Menegazzo, F., Ghedini, E., Di Michele, A., Mattarelli, M., Cruciani, G., Signoretto, M.
Nickel based catalysts for methane dry reforming: Effect of supports on catalytic activity and stability
(2019) International Journal of Hydrogen Energy, 44 (52), pp. 28065-28076.

Barelli, L., Bidini, G., Di Michele, A., Gammaitoni, L., Mattarelli, M., Mondi, F., Sisani, E.
Development and validation of a Ni-based catalyst for carbon dioxide dry reforming of methane process coupled to solid oxide fuel cells
(2019) International Journal of Hydrogen Energy, 44 (31), pp. 16582-16593.

Bonacci, F., Di Michele, A., Caponi, S., Cottone, F., Mattarelli, M.
High charge density silica micro-electrets fabricated by electron beam
(2018) Smart Materials and Structures, 27 (7), art. no. 075052, .

Mattana, S., Mattarelli, M., Urbanelli, L., Sagini, K., Emiliani, C., Serra, M.D., Fioretto, D., Caponi, S.
Non-contact mechanical and chemical analysis of single living cells by microspectroscopic techniques
(2018) Light: Science and Applications, 7 (2), art. no. 17139, .

Kurt, E., Cottone, F., Uzun, Y., Orfei, F., Mattarelli, M., Özhan, D.
Design and implementation of a new contactless triple piezoelectrics wind energy harvester
(2017) International Journal of Hydrogen Energy, 42 (28), pp. 17813-17822.

Cottone, F., Mattarelli, M., Vocca, H., Gammaitoni, L.
Effect of boundary conditions on piezoelectric buckled beams for vibrational noise harvesting
(2015) European Physical Journal: Special Topics, 224 (14-15), pp. 2855-2866.

Caponi, S., Corezzi, S., Mattarelli, M., Fioretto, D.
Stress effects on the elastic properties of amorphous polymeric materials
(2014) Journal of Chemical Physics, 141 (21), art. no. 214901, .

Ramamoorthy, R.K., Bhatnagar, A.K., Rocca, F., Dalba, G., Mattarelli, M., Montagna, M.
Er3+ local structure and its optical properties in ZnO-PbO tellurite glasses
(2014) Journal of Non-Crystalline Solids, 383, pp. 153-156.

Mattarelli, M., Secchi, M., Montagna, M.
Phononic crystals of spherical particles: A tight binding approach
(2013) Journal of Chemical Physics, 139 (17), art. no. 174710, .

Schneider, D.,Beltramo, P.J.,Mattarelli, M.,Pfleiderer, P.,Vermant, J.,Crespy, D.,Montagna, M.,Furst, E.M.,Fytas, G.
Elongated polystyrene spheres as resonant building blocks in anisotropic colloidal crystals
(2013) Soft Matter, 9 (38), pp. 9129-9136.

Caponi, S., Mattarelli, M., Gambi, C.M.C., Rossi, F., Montagna, M.
The Action of Ligands in the Aggregation Process of Soft Colloidal Solution Monitored by Raman Spectroscopy
(2013) Food Biophysics, 8 (3), pp. 203-208.

Ramamoorthy, R.K., Bhatnagar, A.K., Mattarelli, M., Montagna, M.
Effect of heat treatment on green luminescence broadening of Er-doped ZnO-PbO tellurite glass ceramics
(2013) AIP Conference Proceedings, 1512, pp. 560-561.

Caponi, S., Liguori, L., Giugliarelli, A., Mattarelli, M., Morresi, A., Sassi, P., Urbanelli, L., Musio, C.
Raman micro-spectroscopy: A powerful tool for the monitoring of dynamic supramolecular changes in living cells
(2013) Biophysical Chemistry, 182, pp. 58-63.

Ramamoorthy, R.K., Bhatnagar, A.K., Vachhani, R.S., Dalba, G., Grisenti, R., Mattarelli, M., Montagna, M., Armellini, C., Rocca, F.
Investigation of Er3+ coordination in zinc-lead tellurite bulk glasses and silica-hafnia glass ceramics waveguides
(2013) Journal of Physics: Conference Series, 430 (1), art. no. 012089, .

Ramamoorthy, R.K., Bhatnagar, A.K., Rocca, F., Mattarelli, M., Montagna, M.
Structural and optical characterization of the local environment of Er 3+ ions in PbO-ZnO tellurite glasses
(2012) Journal of Physics Condensed Matter, 24 (50), art. no. 505101, .

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Aggregation processes in micellar solutions: A Raman study
(2012) Journal of Raman Spectroscopy, 43 (12), pp. 1877-1883.

Mattarelli, M., Montagna, M., Still, T., Schneider, D., Fytas, G.
Vibration spectroscopy of weakly interacting mesoscopic colloids
(2012) Soft Matter, 8 (15), pp. 4235-4243.

Mattarelli, M., Montagna, M.
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(2012) Chemical Physics Letters, 524, pp. 112-115.

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Artificial or natural origin of hematite-based red pigments in archaeological contexts: The case of riparo dalmeri (trento, italy)
(2011) Archaeometry, 53 (5), pp. 950-962.

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On the goethite to hematite phase transformation
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(2010) Physical Review B - Condensed Matter and Materials Physics, 82 (9), art. no. 094204, .

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Eigenvibrations of submicrometer colloidal spheres
(2010) Journal of Physical Chemistry Letters, 1 (16), pp. 2440-2444.

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Femtosecond laser direct writing of gratings and waveguides in high quantum efficiency erbium-doped Baccarat glass
(2009) Journal of Physics D: Applied Physics, 42 (20), art. no. 205106, .

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Raman and Er3+ spectroscopy of hafnia single crystals and nanocrystals
(2009) Optical Materials, 31 (9), pp. 1362-1365.

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(2007) Physica Status Solidi (C) Current Topics in Solid State Physics, 4 (3), pp. 793-796.

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CONFERENCE AND WORKSHOP PRESENTATIONS

Talk at “Fotonica 2003”, April 2003, Riva del Garda.
Title: “Vetri telluriti drogati con erbio con alta efficienza quantica”.

Talk at “X conference of non-crystalline solids”, Parma 2003
Title: “Tm3+-activated transparent oxy-fluoride glass ceramics: structural and spectroscopic properties”.

Talk at SPIE Photonics Europe 2004, Strasbourg, France.
Title: “Optical spectroscopy of Er3+ and Ce3+ -codoped TeO2-WO3-Na2O glasses”

Talk at “Fotonica 2005”, 2005, Trani.
Title: “Vetroceramiche attivate Er3+ e Tm3+ per applicazioni WDM”.

Talk at VI Symposium SiO2 and Advanced Dielectrics, 2006, Mondello (PA).
Title:"Silver to erbium energy transfer in phosphate glasses".

Talk at “EURODIM 2006 10th Europhysical conference on defects in insulating materials conference”, 2006, Milano.
Title:"Effect of Eu3+ and Ce3+ codoping on the relaxation of Er 3+ in silica-hafnia and tellurite glasses"

Talk at Photoluminescence in Rare Earths: Photonic Materials and Devices ”, 2007, Trento.
Title: "Ultratransparent glass ceramics: The structure factor and the quenching of the Rayleigh scattering".

Talk at AIAr 2008, February 2008, Siracusa.
Title: ”Caratterizzazione di pigmenti preistorici con metodi spettroscopici e diffrattometrici”

Talk at "11th International workshop on complex systems" 2008, Andalo (Trento).
Title: "Optical scattering in glass ceramics"

Talk at AIAr 2010, February 2010, Pavia.
Title: “Deterioration of contemporary paints: the case of Emilio Vedova.”

Talk at "EUCMOS 2010, 30th European Congress on Molecular Spectroscopy", 2010, Firenze.
Title: "Emilio Vedova’s paintings: materials and conservation issues."

Talk at XCVI Congresso Nazionale SIF 2010, 2010, Bologna.
Title: "Materiali e problematiche di conservazione delle opere contemporanee: il caso di Emilio Vedova.”

Talk at AIAr 2011, 2011, Ferrara.
Title :“De Pisis a Cortina: uno studio storico e conservativo su opere della Collezioni Rimoldi”

Talk at 13th International workshop on complex systems, 2012, Andalo (Trento).
Title: "Vibrational dynamics and Brillouin scattering in crystals of weakly interacting soft spheres".
dal 18-03-2012 al 22-03-2012

Talk at "EMRS-2016 Spring meeting", 2016 Lille (France).
Title: “SiO2 nanoelectrets: charging behavior and dynamical properties”.

Lecture at the "Teaching/learning activity" – Pitesti (Romania) in the framework of ERASMUS+ H2020 IESRES, Innovative European Studies On Renewable Energy Systems
Title: "Electroactive Materials for Energy Harvesting"

Invited talk at Institute Lumière Matière, Université Claude Bernard di Lyon, 12/07/2016
Title “Particle spectroscopy: size, shape and interaction effects”

Lecture at the "Teaching/learning activity" – Klaipeda (Lituania) in the framework of the ERASMUS+ H2020 project: IESRES, Innovative European Studies On Renewable Energy Systems, 2017
Title: " Materials for Energy Harvesting"

Invited Lecture at International PhD Summer School “Energy Harvesting: models and applications”, 2017 Gubbio (Italy).
Title: “Light and Electromagnetic Radiation Energy Harvesting”

Lecture at the "Teaching/learning activity" Vitoria Gasteiz (Spain) in the framework of the ERASMUS+ H2020 project: IESRES, Innovative European Studies On Renewable Energy Systems, 2017
Title: "Energy Harvesting from Fluid Flux"

Invited Talk at XXIII School of Pure and Applied Biophysics on "Emerging Tools in Biomechanics:from tissues down to single molecules" 2019, Venice (Italy)
Title: “Relevant Length Scales in Brillouin Spectroscopy”

Invited Lecture alla International PhD Summer School “Powering the Internet of Things 2019”, Perugia (Italy)
Title: “Electroactive Materials for Energy Conversion”

Talk at 3rd Biobrillouin Meeting, 2019 Porto (Portugal).
Title: “On the actual spatial resolution of Brillouin Imaging”

Talk at 4th Biobrillouin Meeting, September 2020 Exeter (England).
Title: “On the measure of mechanical properties by Brillouin scattering in small sized samples”

Invited Lecture at 5th BioBrillouin Virtual Training School -satellite event of 5th Biobrillouin Meeting,11-14 October 2021 Title: Light and sound interaction: The theory of Brillouin Light Scattering

Talk at Advanced Research Centre (ARC), University of Glasgow, 16/08/2022
Title “Elasticity measurements by Brillouin spectroscopy: from macro to nano”

Quanto sopra indicato si interpreti come dichiarazione sostitutiva ai sensi degli articoli 19, 46 e 47 del DPR 28 dicembre 2000 numero 445; dichiaro a tal proposito di essere consapevole delle responsabilità e delle sanzioni penali previste dall’articolo 76 del medesimo decreto per false attestazioni e dichiarazioni mendaci.

Perugia 23/05/2024 *Maurizio Mattarelli*