

## List of Publication

### Work in progress:

1. Federico L, Santorufo L, Nigro L, Pozzi S, Riva S, Zizolfi M, Bergami E, Prevedelli D, Maisto G, **Lorenzi R**, Collini M, Villa S  
*Plastic mulch debris alters behaviour and intrinsic growth in soil detritivores*
2. Cova F, Vigorito V, Hostaša J, Picelli F, Esposito L, Biasini V, Paleari A, Vedda A, **Lorenzi R**  
*Energy and direction sensitive photonic detector based on layered optical ceramics*
3. Lamanna N, Muhyuddin M, Bettinelli D, **Lorenzi R**, Comincioli N, Rocca L, Vergalli S, Vassallini I, Nadeem I, Kalin M, Berretti E, Perissi I, Lavacchi A, Franzetti A, Sabatini F, Termopili V, Zoia L, Santoro C  
*Upgrading Polyurethane using Pyrolytic Methods: Exploring the Liquid and Solid Fractions towards Fuels and Electrocatalyst Production*

### Publication in peer-reviewed journals (94 items; 27 as first, last or corresponding):

1. Zhou X, Karakkal H, Wang C, Fratelli A, Bruni F, Zaffalon M, Poletti L, Chakraborty S, Mazzola E, **Lorenzi R**, Carulli F, Rossi F, Meinardi F, Gironi L  
*High-Yield, 150-ps Polymer Scintillators via Synergistic Purcell and High-Z Enhancement*  
(2026) Submitted
2. Novati B, Salvioni L, Saibene M, Colombo A, **Lorenzi R**, Monguzzi A, Garbujo S, Colombo M, Giustra M, Prosperi D  
*A Predictive Framework for the Reproducible Seed-Mediated Synthesis and Functionalization of Gold Nanorods*  
(2025) Submitted
3. Paleari A, Cova F, Secchi V, Golubev NV, Ignat'eva ES, Sigaev VN, **Lorenzi R**  
*Light-emitting electron-hole recombination sites in gallium oxide nanocrystals in glass – role of the interface at the glass transition of the embedding matrix*  
(2025) Submitted
4. Secchi V, D'Alessio D, Erroi A, Mostoni S, Capitani G, Calloni A, Bussetti G, D'Arienzo M, **Lorenzi R**, Keinan-Adamsky K, Rahimpour S, Monguzzi A, Campione M  
*Tunable functional coverage of biocompatible magnesium silicate nanotubes by microwave-assisted silanization*  
(2025) NANOSCALE, vol. 17, 20259  
doi: 10.1039/D5NR02385H
5. Pellini IC, Pianta N, Callegari D, Conte G, **Lorenzi R**, Simari C, De Bonis M, Leonardi S, Jusys Z, Espinos-Angeles JC, Bresser D, Mustarelli P, Ruffo R  
*Use of DMSO as a cosolvent for aqueous lithium-ion batteries*  
(2025) ELECTROCHIMICA ACTA, vol. 537, 146903  
doi: 10.1016/j.electacta.2025.146903
6. Cova F, Ronchi A, Hostaša J, Picelli F, Esposito L, Biasini V, Paleari A, **Lorenzi R**  
*NIR-emitting scintillation of YAG optical ceramics as a testing platform for radio-bioimaging*  
(2025) MRS COMMUNICATIONS, vol. 15, 714–720  
doi: 10.1557/s43579-025-00776-z
7. Tamburini G, Gasser F, Charry EM, Resel R, Tarricone G, Piva S, Sassella S, **Lorenzi R**, Paleari A  
*Eu-modified poly (L-lactic acid) microspheres with enhanced crystallinity and stability by incorporation of rare-earth ions interacting with polymer chains via temperature-tuned emulsification*  
(2025) REACTIVE AND FUNCTIONAL POLYMERS, Vol. 215, 106382  
doi: 10.1016/j.reactfunctpolym.2025.106382
8. Pianta N, Florenzano DA, Navarini L, Santoro C, **Lorenzi R**, Ruffo R  
*Hard Carbon derived from spent coffee grounds for applications in sodium ions batteries*  
(2025) ADVANCED SUSTAINABLE SYSTEMS, Vol. 9, 2500027  
doi: 10.1002/adsu.202500027
9. Secchi V, Armanni A, Barbieri L, Bruno A, Colombo A, Fumagalli S, Kukushkina E, **Lorenzi R**, Marchesi L, Moukham H, Paleari A, Ronchi A, Tomaino G, Tripodi F, Colombo M, Sironi L, Monguzzi A  
*Advanced techniques and nanotechnologies for point-of-care (POC) testing*  
(2024) FRONTIERS IN NANOTECHNOLOGY, Vol. 6, 1465429  
doi: 10.3389/fnano.2024.1465429
10. Tamburini G, Tarricone G, Piva S, Sassella A, Bertagnoli S, **Lorenzi R**, Paleari A  
*Tuning crystallinity of poly(L-lactic acid) microspheres through emulsification temperature changes*  
(2024) MACROMOLECULES, Vol. 57, 18, 8826–8836  
doi: 10.1021/acs.macromol.4c01749
11. Bruno A, Tripodi F, Armanni A, Barbieri L, Colombo A, Fumagalli S, Moukham H, Tomaino G, Kukushkina E, **Lorenzi R**, Marchesi L, Monguzzi A, Paleari A, Ronchi A, Secchi V, Sironi L, Colombo M  
*Advancements in nanosensors for detecting pathogens in healthcare environments*  
(2024) ENVIRONMENTAL SCIENCE: NANO, Vol. 11, 4449–4474  
doi: 10.1039/D4EN00381K
12. Orfano M, Perego J, Bezuidenhout CX, Villa I, **Lorenzi R**, Sabot B, Pierre S, Bracco S, Piva S, Comotti A, Monguzzi A  
*Reabsorption-free scintillating hetero-ligand MOF crystals activated by ultrafast energy transfer*  
(2024) ADVANCED FUNCTIONAL MATERIALS, 2404480  
doi: 10.1002/adfm.202404480
13. Villa I, Monguzzi A, **Lorenzi R**, Orfano M, Babin V, Hájek F, Kuldová K, Kučerková R, Beitlerová A, Mattei I, Buresova H, Pjatkan R, Čuba V, Procházková LP, and Nikl M

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14. Tawfilas M, Bartolini Torres G, **Lorenzi R**, Mauri M, Simonutti R  
*Transparent and high refractive index titanium dioxide/thermoplastic polyurethane nanocomposites*  
(2024) ACS OMEGA, vol. 9, 27, 29339–29349  
doi: 10.1021/acsomega.4c01053
  15. Khalid S, Pellini I, Pianta N, **Lorenzi R**, Leonardi S, Meda L, Rizzo C, Roccaro E, Johansson P, Mustarelli P, Ruffo R  
*Stable lithium-ion batteries based on a hybrid aqueous/organic electrolyte*  
(2024) JOURNAL OF POWER SOURCES, vol. 612, 234803  
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  16. Carena E, Mezzomo L, Vallana N, Ceribelli N, Di Liberto G, Mostoni S, Ferrara C, **Lorenzi R**, Giordano L, Ruffo R, Mustarelli P  
*PVDF-HFP-based, quasi-solid nanocomposite electrolytes for lithium metal batteries*  
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  17. Orfano M, Pagano F, Mattei I, Cova F, Secchi V, Bracco S, Rogers E, Barbieri L, **Lorenzi R**, Bizzarri G, Auffray E, Monguzzi A  
*Fast emitting nanocomposites for high-resolution ToF-PET imaging based on multicomponent scintillators*  
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  18. Vallana N, Carena E, Ceribelli N, Mezzomo L, Di Liberto G, Mauri M, Ferrara C, **Lorenzi R**, Giordano L, Ruffo R, Mustarelli P  
*Host-guest interactions and transport mechanism in poly(vinylidene fluoride)-based quasi solid electrolytes for lithium metal batteries*  
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  19. Muhyuddin M, Berretti E, Mirshokraee SA, Orsilli J, **Lorenzi R**, Capozzoli L, D'Acapito F, Murphy E, Guo S, Atanassov P, Lavacchi A, Santoro C  
*Formation of the active site structures during pyrolysis transformation of Fe-phthalocyanine into Fe-N<sub>x</sub>-C electrocatalysts for the oxygen reduction reaction*  
(2023) APPLIED CATALYSIS B: ENVIRONMENTAL, Vol. 343, 123515  
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  20. Tamburini G, Bertagnoli S, Tarricone G, Piva S, Sassella A, **Lorenzi R**, Paleari A  
*Early stages of x-ray induced molecular unit modifications in poly(lactic acid)*  
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  21. Ostroman I, Ferrara C, Stefano M, Gentile A, Vallana N, Cheptiakov D, **Lorenzi R**, Ruffo R  
*Highly reversible Ti/Sn oxide nanocomposite electrodes for lithium ion batteries obtained by oxidation of Ti<sub>3</sub>Al<sub>1-3</sub>Sn<sub>x</sub>C<sub>2</sub> phases*  
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  22. Cova F, Hostaša J, Piancastelli A, Esposito L, Paleari A, Vedda, **Lorenzi R**  
*Layered Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Pr/Gd<sub>5</sub>(Ga,Al)<sub>5</sub>O<sub>12</sub>:Ce optical ceramics: synthesis and photo-physical properties*  
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  23. Khalid S, Pianta N, Bonizzoni S, Ferrara C, **Lorenzi R**, Paleari A, Johansson P, Mustarelli P, Ruffo R  
*Structure-property correlations in aqueous binary Na<sup>+</sup>/K<sup>+</sup>-CH<sub>3</sub>COO<sup>-</sup> highly concentrated electrolytes*  
(2023) THE JOURNAL OF PHYSICAL CHEMISTRY C, Vol. 127, 9823-9832  
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  24. Ciulla MG, Fontana F, **Lorenzi R**, Marchini A, Campone L, Sadeghi E, Paleari A, Gelain F  
*Novel self-assembling cyclic peptides with reversible supramolecular nanostructures*  
(2023) MATERIALS CHEMISTRY FRONTIERS, Vol. 7, 3680  
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  25. Testa D, Zuccante G, Muhyuddin M, Landone R, Scommegna A, **Lorenzi R**, Acciarri M, Petri E, Soavi F, Poggini L, Capozzoli L, Lavacchi A, Lamanna N, Franzetti A, Zoia L, Santoro C  
*Giving new life to waste cigarette butts: transformation into platinum group metal-free electrocatalysts for oxygen reduction reaction in acid, neutral and alkaline environment*  
(2023) CATALYSTS, Vol. 13, 635  
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  26. Remondina J, Golubev NV, Ignat'eva ES, Sigaev VN, Acciarri M, Paleari A, **Lorenzi R**  
*Random networks of disconnected nanoparticles in dielectric layers as a source of electric responsivity*  
(2023) MATERIALS & DESIGN, Vol. 228, 111825  
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*Lignin-derived bimetallic platinum group metal-free oxygen reduction reaction electrocatalysts for acid and alkaline fuel cells*  
(2023) JOURNAL OF POWER SOURCES, Vol. 556, p. 232416  
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  28. Golubev NV, Ignat'eva ES, Lipatiev AS, Ziaiydinova MZ, Lapushkin GI, Sigaev VN, Paleari A, **Lorenzi R**  
*Effects of Al<sub>2</sub>O<sub>3</sub> addition on microstructure and luminescence of transparent germanosilicate glass-ceramics with incorporated spinel Ga-oxide nanocrystals*  
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*Litchi derived platinum group metal-free electrocatalysts for oxygen reduction reaction and hydrogen evolution reaction in alkaline media*  
(2022) SUSMAT, 1 - 15  
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*Unveiling the role of PEO-capped TiO<sub>2</sub> nanofiller in stabilizing the anode interface in lithium metal batteries*  
(2022) NANO LETTERS, Vol. 22, p. 8509–8518  
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31. Muhyuddin M, Testa D, **Lorenzi R**, Vanacore GM, Poli F, Soavi F, Specchia S, Giurlani W, Innocenti M, Rosi L, Santoro C  
*Iron-based Electrocatalysts Derived from Scrap Tires for Oxygen Reduction Reaction: Evolution of Synthesis-Structure-Performance Relationship in Acidic, Neutral and Alkaline Media*  
(2022) ELECTROCHIMICA ACTA, Vol. 433, p. 141254  
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32. Crapanzano R, Villa I, Mostoni S, D'Arienzo M, Di Credico B, Fasoli M, **Lorenzi R**, Scotti R, Vedda A  
*Photo- and Radio-luminescence of porphyrin functionalized ZnO/SiO<sub>2</sub> nanoparticles*  
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33. Muhyuddin M, Zocche N, **Lorenzi R**, Ferrara C, Poli F, Soavi F, Santoro C  
*Valorization of the inedible pistachio shells into nanoscale transition metal and nitrogen doped carbon-based electrocatalysts for hydrogen evolution reaction and oxygen reduction reaction*  
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34. **Lorenzi R**, Zullino A, Gagliardi V, Prosperi L, Paleari A, Adamo I  
*Atomic and microstructural origin of banded colours in purple-blue variety of agate from Yozgat Province, Turkey*  
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35. Malik B, Majumder S, **Lorenzi R**, Perelshtein I, Eijgenberg M, Paleari A, Nessim G  
*Promising Electrocatalytic Water and Methanol Oxidation Reaction Activity by Nickel Doped Hematite-Surface Oxidized Carbon Nanotubes Composite Structures*  
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37. Stigliano P, Ferrara C, Pianta N, Gentile A, Mezzomo L, **Lorenzi R**, Berbenni V, Ruffo R, Appetecchi GB, Mustarelli P  
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38. Muhyuddin M, Filippi J, Zoia L, Bonizzoni S, **Lorenzi R**, Berretti E, Capozzoli L, Bellini M, Ferrara C, Lavacchi A, Santoro C  
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39. **Lorenzi R**, Golubev NV, Ignat'eva ES, Sigaev VN, Ferrara C, Acciarri M, Vanacore GM, Paleari A  
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41. Remondina J, Trabattoni S, Sassella A, Golubev NV, Ignat'eva ES, Sigaev VN, Acciarri M, Schrode B, Resel R, Paleari A, **Lorenzi R**  
*Native occurrence and size control of lenticular Ga-oxide nanostructures in thin amorphous layers of germanosilicates*  
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42. Golubev NV, Ignat'eva ES, Maurus AA, Ziyatdinova MZ, Lopatina EV, **Lorenzi R**, Paleari A, Sigaev VN  
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47. Remondina J, Paleari A, Golubev NV, Ignat'eva ES, Sigaev VN, Acciarri M, Trabattoni S, Sassella A, **Lorenzi R**  
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*Sol-gel synthesis of Ge nanophase in silica*  
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94. Paleari A, Meinardi F, Brovelli S, Lauria A, **Lorenzi R**, Chiodini N  
*High-energy shift of the Urbach ultraviolet absorption from attenuated dynamical disorder in fluorine modified sol-gel silica*  
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#### Patent (4 items):

1. Paleari A, Zullino A, **Lorenzi R**  
*Sistema e metodo di analisi spettroscopica su diamanti/ System and method for spectroscopic analysis of diamonds*  
(2017) WO 2019/123383 A1
2. Golubev NV, Ignat'eva ES, Sigaev VN, **Lorenzi R**, Paleari A  
*Люминесцирующий стеклокристаллический материал/ Luminescent glassceramic materials*  
(2016) Russian Patent N. RU2604614
3. Paleari A, Zullino A, **Lorenzi R**  
*Methods of spectroscopic analysis of a diamond and apparatuses thereof*  
(2014) WO 2015/127990 A1
4. Paleari A, **Lorenzi R**, Sigaev VN, Golubev NV  
*Sistema di rivelazione di radiazione UV, convertitore ottico UV-visibile e metodo di rivelazione di radiazione ultravioletta/ UV radiation detector system, UV-visible optical converter and method for detection of ultraviolet radiation.*  
(2012) Italian patent N. MI2012A001951

#### Conferences and seminars (80 items)

##### Invited (8 items):

1. *Defect-mediated persistent luminescence in Ga<sub>2</sub>O<sub>3</sub> containing glassceramics probed by synchrotron radiation*  
SiO<sub>2</sub> 2023 - 14th Symposium on Advanced Dielectrics and related Devices, Palermo (Italy)  
(2023) – **Invited keynote**
2. *Defect-mediated photocatalytic activity of glassceramics containing wide-bandgap nanoparticles*  
ICOOPMA-EuroDIM 2022 - 9th International Conference on Optical, Optoelectronic and Photonic Materials and Applications & 14th Europhysical Conference on Defects in Insulating Materials, Ghent (Belgium)  
(2022) – **Invited oral**
3. *Interband decay and absorption mechanisms in amorphous silica probed by synchrotron light*  
PIERS 2019 - 41st Photonics & Electromagnetics Research Symposium, Rome (Italy)  
(2019) – **Invited oral**
4. *Identification of a new defect in diamonds: application of Raman spectrometers beyond Raman scattering*  
3rd Raman Workshop, ETH Zurich (Switzerland)  
(2018) – **Invited seminar**
5. *Charge transport in oxide-in-oxide nanostructured silica-based dielectrics*  
SiO<sub>2</sub> 2018 - 12th Symposium on Advanced Dielectrics and related Devices, Bari (Italy)  
(2018) – **Invited keynote**
6. *Luminescence and photonics of silica based nanomaterials*  
Institute of Physics, Academy of Sciences of The Czech Republic, Prague (Czech Republic)  
(2016) – **Invited seminar**
7. *Application of Raman spectroscopy for the study of glasses and related materials*  
1st Raman Workshop, ETH Zurich (Switzerland)  
(2016) – **Invited seminar**
8. *Optical materials based on silica and nanostructured glassceramics*  
Department of Materials, ETH Zurich (Switzerland)  
(2015) – **Invited seminar**

##### Oral (17 items):

1. **Lorenzi R**, Moiraghi P, Vigorito V, Ronchi A, Hostaša J, Picelli F, Paleari A, Cova F  
*UV-VUV induced thermally stimulated luminescence in scintillating crystals using synchrotron radiation*

- EURODIM 2026 - 15th Europhysical Conference on Defects in Insulating Materials, Timisoara (Romania)  
(due July 2026) – **Oral Lorenzi**
2. **Lorenzi R**, Paleari A, Erroi A, Fasoli M, Ronchi A, Hostaša J, Picelli F, Cova F  
*Bridging UV and soft X-ray excitation in luminescent materials for scintillation and dosimetry*  
SCINT2026 - 18th International Conference on Scintillating Materials and their Applications, Gyeongju (Korea)  
(due May 2026) – **Oral Lorenzi**
  3. **Lorenzi R**, Golubev NV, Ignat'eva ES, Sigaev VN, Fasoli M, Paleari A, Secchi V, Cova F  
*Investigation of the role of defects in the scintillation mechanism of Ga<sub>2</sub>O<sub>3</sub> glass-ceramics*  
ICG 2025 - 27th International Congress on Glass, Kolkata (India)  
(January 2025) – **Oral Lorenzi**  
**Awarded Best Oral Presentation**
  4. **Lorenzi R**, Hostaša J, Piancastelli A, Esposito L, Biasini V, Picelli F, Paleari A, Vedda A, Cova F  
*Innovative approaches to advanced X-ray detection with layered garnet optical ceramics*  
LUMDETR – 12th International Conference on Luminescent Detectors and Transformers of Ionizing Radiation, Riga (Latvia)  
(2024) – **Oral Lorenzi**
  5. **Lorenzi R**, D'Arienzo M, Mostoni S, Scotti R, Paleari A  
*Silica glassceramics containing zinc oxides nanoparticles by solgel derived bottom-up approach*  
ICG 2022 - 26th International Congress on Glass, Berlin (Germany)  
(2022) – **Oral Lorenzi**
  6. **Lorenzi R**, Golubev NV, Ignat'eva ES, Sigaev VN, Trabattoni S, Sassella A, Paleari A  
*Crystallization processes of spinel-like gallium oxide nanocrystals in germano-silicate bulk glassceramics and thin films*  
Italian Crystal Growth 2021, Turin (Italy)  
(2021) – **Oral Lorenzi**
  7. **Lorenzi R**, Golubev NV, Ignat'eva ES, Sigaev VN, Paleari A  
*Photocatalytic activity of germanosilicate glassceramics containing Ga<sub>2</sub>O<sub>3</sub> nanostructures*  
ICG 2019 - 25th International Congress on Glass, Boston (USA)  
(2019) – **Oral Lorenzi**
  8. **Lorenzi R**  
*Radio-luminescence of rare earth doped yttria-aluminoborate glasses with huntite-like composition*  
CCC 2018 - 70<sup>th</sup> Crystal Clear Conference general meeting, CERN Geneva (Switzerland)  
(2018) – **Oral Lorenzi**
  9. **Lorenzi R**, Zullino A, Paleari A  
*A new method and related spectroscopic apparatus for the analysis of coloured diamonds*  
45<sup>th</sup> International Exhibition of Inventions, Geneva (Switzerland)  
**Awarded with Gold Medal and "With the Congratulation of the Jury"**  
(2017) – **Exhibitor Lorenzi**
  10. **Lorenzi R**, Azarbod A, De Trizio L, Ignat'eva ES, Sigaev VN, Golubev NV, Paleari A  
 *$\gamma$ -Ga<sub>2</sub>O<sub>3</sub> nanocrystals in germano-silicate glass as multipurpose photonic material*  
FISMAT 2015 – Italian National Conference on Condensed Matter Physics, Palermo (Italy)  
(2015) – **Oral Lorenzi**
  11. **Lorenzi R**, Azarbod A, De Trizio L, Ignat'eva ES, Sigaev VN, Paleari A, Golubev NV  
*Energy transfer process between  $\gamma$ -Ga<sub>2</sub>O<sub>3</sub> nanocrystals and Gd<sup>3+</sup> ions in nanostructured germano-silicate glassceramic*  
LUMDETR 2015 - 9<sup>th</sup> International Conference on Luminescent Detectors and Transformers of Ionizing Radiation, Tartu (Estonia)  
(2015) – **Oral Lorenzi**
  12. **Lorenzi R**, Azarbod A, De Trizio L, Ignat'eva ES, Sigaev VN, Golubev NV, Paleari A  
*Phase separation and optical properties of nanostructured oxide-in-oxide Ga<sub>2</sub>O<sub>3</sub>-containing germanosilicate glasses*  
E-MRS 2015 – European Materials Research Society Fall Meeting, Warsaw (Poland)  
(2015) – **Oral Lorenzi**
  13. **Lorenzi R**, Brovelli S, Meinardi F, Paleari A  
*Band-to-Band Excitation and Decay in SiO<sub>2</sub> – Can We Get Evidences of such a Path?*  
10<sup>th</sup> SiO<sub>2</sub>, Advanced Dielectrics and Related Devices, Cagliari (Italy)  
(2014) - **Oral Lorenzi**
  14. **Lorenzi R**, Brovelli S, Paleari A  
*SnO<sub>2</sub>:SnO<sub>x</sub> core-shell QD in glass: charge transport and UV emission in fully inorganic electroluminescent devices*  
7<sup>th</sup> International Conference on Quantum Dots, Santa Fe (USA)  
(2012) - **Oral Lorenzi**
  15. **Lorenzi R**, Brovelli S, Meinardi F, Lauria A, Chiodini N, Paleari A  
*Role of sol-gel networking and fluorine doping in the silica Urbach energy*  
8<sup>th</sup> SiO<sub>2</sub>, Advanced Dielectrics and Related Devices, Varenna (Italy)  
(2010) - **Oral Lorenzi**
  16. Chiodini N, **Lorenzi R**, Lauria A, Spinolo G, Paleari A  
*Ge nanoparticles growth in Ge-doped sol-gel silica by e-beam exposure*  
SPIE Nanophotonic Materials V, San Diego (USA)  
(2008) - **Oral Lorenzi**

17. Paleari A, Brovelli S, **Lorenzi R**, Chiodini N, Spinolo G  
*Second harmonic generation from bulk glassceramics containing laser-poled dielectric nanocrystals*  
SPIE Nonlinear Optics and Applications II, Prague (CZ)  
(2007) - **Oral Lorenzi**

**Poster (8 items):**

1. **Lorenzi R**, Golubev NV, Ignat'eva ES, Sigaev VN, Fasoli M, Paleari A, Cova F  
*Trapping mechanisms in nanostructured glassceramics with embedded Ga<sub>2</sub>O<sub>3</sub> nanoparticles*  
SCINT2024 – 17th International Conference on Scintillating Materials and their Applications, Milano (Italy)  
(2024) – **Poster Lorenzi**
2. **Lorenzi R**, Ziyatdinova MZ, Jarý V, Paleari A, Sigaev VN, Nikl M, Fasoli M, Golubev NV  
*Radioluminescence of yttria-aluminoborate glasses with huntite-like composition*  
LUMDETR 2018 - 10<sup>th</sup> International Conference on Luminescent Detectors and Transformers of Ionizing Radiation, Prague (Czech Republic)  
(2018) – **Poster Lorenzi**
3. **Lorenzi R**, Golubev NV, Ignat'eva ES, Sigaev VN, Azarbod A, Mereu RA, Paleari A  
*Optical and electrical response of germanosilicate glass-based films nanostructured by alkali-assisted incorporation of gallium oxide*  
SiO2 2016 - 11th Symposium on Advanced Dielectrics and related Devices, Nice (France)  
(2016) – **Poster Lorenzi**
4. **Lorenzi R**, Sigaev VN, Golubev NV, Ignat'eva ES, Azarbod A, Paleari A  
*Blue-emitting Ga<sub>2</sub>O<sub>3</sub> QDs in glass for solar-blind UV-converters*  
8<sup>th</sup> International Conference on Quantum Dots (QD 2014), Pisa (Italy)  
(2014) - **Poster Lorenzi**
5. **Lorenzi R**, Lauria A, Mochenova N, Chiodini N, Paleari A  
*Study of the absorption edge of SnO<sub>2</sub> nanoparticles embedded in silica films*  
8<sup>th</sup> SiO<sub>2</sub>, Advanced Dielectrics and Related Devices, Varenna (Italy)  
(2010) - **Poster Lorenzi**
6. Palanza V, Galli A, **Lorenzi R**, Moretti F, Mozzati MC, Paleari A, Spinolo G  
*Luminescence study of transition metal ions in natural magmatic and metamorphic yellow sapphires*  
11<sup>th</sup> Europhysical Conference on Defects in Insulating Materials (EURODIM 2010), Pécs (Hungary)  
(2010) - **Poster Lorenzi**
7. Palanza V, Chiodini N, Galli A, **Lorenzi R**, Moretti F, Paleari A, Spinolo G  
*Updating of the interpretation of the optical absorption and emission of Verneuil synthetic and natural metamorphic blue sapphire: the role of V<sup>2+</sup>, V<sup>3+</sup> and Cr<sup>2+</sup>*  
11<sup>th</sup> Europhysical Conference on Defects in Insulating Materials (EURODIM 2010), Pécs (Hungary)  
(2010) - **Poster Lorenzi**
8. Paleari A, Brovelli S, Meinardi F, **Lorenzi R**, Lauria A, Mochenova N, Vodopivec B, Chiodini N  
*Optical activity of Sn-variants of oxygen deficient centers in fluorine-modified silica*  
7<sup>th</sup> SiO<sub>2</sub>, Advanced Dielectrics and Related Devices, St-Etienne (France)  
(2008) - **Poster Lorenzi**

**Co-authored (47 items):**

1. *Luminescence Dynamics of CsPbI<sub>3</sub> Perovskite Nanocrystal Scintillators*  
EURODIM 2026 - 15th Europhysical Conference on Defects in Insulating Materials, Timisoara (Romania)  
(due July 2026) – **Oral Lorenzi**
2. Zhou X, Karakkal HH, Chakraborty S, Bruni F, Zaffalon ML, Fratelli A, Wang C, Poletti L, He M, **Lorenzi R**, Rossi F, Li L, Meinardi F, Gironi L, Brovelli S  
*Harnessing Collective Phenomena in Hybrid Nanocomposites for Bright and Fast Scintillation*  
SCINT2026 - 18th International Conference on Scintillating Materials and their Applications, Gyeongju (Korea)  
(due May 2026) – Oral Zhou
3. Vigorito V, Cova F, **Lorenzi R**, Paleari A, Bellotti V, Ronchi A, Locardi F, Pratalongo D, Nargelas S, Veronese I, Fasoli M  
*Near-infrared scintillation of lead halide perovskite nanocrystals for ultra-high dose rate dosimetry*  
SCINT2026 - 18th International Conference on Scintillating Materials and their Applications, Gyeongju (Korea)  
(due May 2026) – Oral Vigorito
4. Cova F, Vigorito V, Fasoli M, Ciarrocchi E, Morrocchi M, Bisogni MG, Tonelli M, Locardi F, Pratalongo D, Mattiello S, Beverina L, Bellotti V, Ronchi A, Nargelas S, **Lorenzi R**, Vedda A, Veronese I  
*Infrared scintillation dosimetry for FLASH radiotherapy*  
FisMat 2025 - Italian National Conference on Condensed Matter Physics, Venice (Italy)  
(July 2025) – Oral Cova
5. Hostaša J, Cova F, Picelli F, **Lorenzi R**  
*Ce-doped gadolinium gallium aluminum garnet (GGAG:Ce) ceramic scintillators, influence of additives with different valency on optical performance*  
FisMat 2025 - Italian National Conference on Condensed Matter Physics, Venice (Italy)  
(July 2025) – Oral Hostaša
6. Hostaša J, **Lorenzi R**, Picelli F, Cova F  
*Impact of process conditions on scintillating performance of Ce-doped mixed gallium gadolinium aluminium garnet ceramics*  
EcERS 2025 - XIXth Conference of the European Ceramic Society, Dresden (Germany)  
(August 2025) – Oral Hostaša

7. Hostaša J, Picelli F, Hřibálová S, Biasini V, Esposito L, Piancastelli A, Chernomorets D, Cova F, Vedda A, **Lorenzi R**  
*Transparent ceramic composites: materials design and structuring for lasers, scintillators and IR windows*  
MS&T24 – Materials Science and Technology – ACerS-ECerS Joint Symposium: Emerging Leaders in Glass and Ceramics, Pittsburgh (USA)  
(October 2024) – Oral Hostaša
8. Muhyuddin M, Berretti E, Mirshokraee SA, Orsilli J, **Lorenzi R**, Capozzoli L, D'Acapito F, Murphy E, Guo S, Atanassov P, Lavacchi L, Santoro C  
*Evolution of Active Sites in Iron Phthalocyanine Functionalized Carbon during Pyrolysis: Transforming into Active Fe-Nx-C Electrocatalysts for Oxygen Reduction Reaction*  
Understanding Iron & Friends – Collaborative Research Center 1487 Symposium 2024, Darmstadt (Germany)  
(September 2024) – Oral Muhyuddin
9. Villa I, Monguzzi A, **Lorenzi R**, Orfano M, Babin V, Hajek F, Kuldova K, Kučerková R, Beitlerová A, Mattei I, Buresova H, Vaclav C, Prochazkova L, Nikl M  
*On the origin of the light yield enhancement in polymeric composites scintillators loaded with dense nanoparticles*  
LUMDETR – 12th International Conference On Luminescent Detectors and Transformers of Ionizing Radiation, Riga (Latvia)  
(June 2024) – Oral Villa
10. Ronchi A, Cova F, Hostaša J, Picelli F, Esposito L, Biasini V, Paleari A, Vedda A, **Lorenzi R**  
*NIR-emitting scintillation of YAG:Yb optical ceramics as testing platforms for medical bioimaging*  
SCINT2024 – 17th International Conference on Scintillating Materials and their Applications, Milano (Italy)  
(July 2024) – Poster Ronchi
11. Cova F, Hostasa J, Colucci M, Piancastelli A, Esposito L, Biasini V, Picelli F, Veronese I, Paleari A, Vedda A, **Lorenzi R**  
*Structure-property relationship of scintillating garnet optical ceramics towards effective radiation detection schemes*  
SCINT2024 – 17th International Conference on Scintillating Materials and their Applications, Milano (Italy)  
(July 2024) – Oral Cova
12. Tamburini G, **Lorenzi R**, Gasser F, Charry ME, Resel R, Paleari A  
*Crystallinity of Eu-doped Poly(L-lactic acid) Microspheres by Emulsification*  
NESY2024 – 12th European NESY Winterschool & Symposium on Neutron and Synchrotron Radiation, Bad Aussee (Austria)  
(due Feb 25th- March 1st, 2024) – Poster Tamburini
13. Musa M, Caucia F, Riccardi MP, Barucca S, Croce A, Langone A, Zatti G, **Lorenzi R**, Frezzotti ML  
*L'opale Rosa Australiano: nuovi giacimenti di interesse commerciale/The Australian Pink Opal: new deposits of commercial interest*  
VI Conferenza Nazionale Diamanti e Gemme di Colore (Italian national conference on diamonds and gemstones) – Torino (Italy)  
(due July, 2024) – Oral Musa
14. Cova F, Hostaša J, Piancastelli A, Esposito L, Paleari S, Vedda A, **Lorenzi R**  
*X-ray energy and direction-sensitive layered Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Pr/Gd<sub>3</sub>(Ga,Al)<sub>5</sub>O<sub>12</sub>:Ce scintillating ceramics*  
SSD20 – 20<sup>th</sup> International Conference on Solid State Dosimetry, Viareggio (Italy)  
(2023) – Oral Cova
15. Ciulla MG, Marchini A, **Lorenzi R**, Gelain F  
*The Role of SAPs and hybrid SAP-PNAs in the Fabrication of a Synthetic Erythrocyte*  
Next NanoInnovation Conference, Rome (Italy)  
(2022) – Poster Ciulla
16. Muhyuddin M, Testa D, **Lorenzi R**, Vanacore GM, Poli F, Soavi F, Giurlani W, Innocenti M, Rosi L, Santoro C  
*Development of Fe-N-C Electrocatalysts for Oxygen Reduction Reaction using Waste Tires as a Cost-effective Carbon Source*  
International Society of Electrochemistry Regional Meeting, Prague (Czech Republic)  
(2022) – Oral Muhyuddin
17. Cova F, **Lorenzi R**, Fasoli M, Hostaša J, Biasini V, Esposito L, Vedda A  
*Layered Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Pr/Gd<sub>3</sub>(Ga,Al)<sub>5</sub>O<sub>12</sub>:Ce garnet scintillating ceramics: synthesis and photo-physical properties*  
SCINT 2022, 16th International Conference on Scintillating Materials & their Applications, Santa Fe (USA)  
(2022) – Oral Vedda
18. Villa I, Crapanzano R, Mostoni S, d'Arienzo M, Di Credico B, Fasoli M, **Lorenzi R**, Bulin AL, Villa C, Torrente Y, Secchi V, Campione M, Procházková L, Cuba V, Nikl M, Scotti R, Vedda A, Monguzzi A  
*Hybrid nanoscintillators and ionizing radiation: can they get along well? Investigation on hybrid nanoscintillators for medical diagnostic and therapy.*  
9th International Conference on Optical, Optoelectronic and Photonic Materials and Applications & 14th Europhysical Conference on Defects in Insulating Materials, Gent (Belgium)  
(2022) – Oral Villa
19. Muhyuddin M, Filipi J, Zoia L, Bonizzoni S, **Lorenzi R**, Berretti E, Ferrara C, Lavacchi A, Santoro C  
*Upcycling of Disposable Surgical Masks into Platinum Group Metal-free Electrocatalysts for Oxygen Reduction Reaction and Crude Oil*  
ISE 2021, 30th Topical Meeting of the International Society of Electrochemistry, Taipei (Taiwan) – Online  
(2021) – Oral Muhyuddin
20. Marcucci G, Scherillo A, Cazzaniga C, Lemasson Q, **Lorenzi R**, Clemenza M, Riccardi MP, Di Martino D  
*A non-destructive multi-analytical protocol for the characterisation of non-homogeneous samples*  
ART21, 13<sup>th</sup> Conference of non-destructive investigations and microanalysis for the diagnostics and conservation of cultural and environmental heritage, Buenos Aires (Argentina) - Online  
(2021) – Oral Marcucci
21. Cova F, Benedetto A, Chiodini N, **Lorenzi R**, Vedda A, Ouspenski V  
*Influence of the fiber drawing process on vibrational, mechanical, and scintillation properties of RE-doped sol-gel silica glass*  
13<sup>th</sup> SiO<sub>2</sub>, Advanced Dielectrics and Related Devices, Lille (France) - Online  
(2021) – Oral Cova

22. Crapanzano R, Villa I, Mostoni S, D'Arienzo M, Di Credico B, Fasoli M, **Lorenzi R**, Scotti R, Vedda A  
*Radio- and photo-luminescence of ZnO nanoparticles with different morphologies and functionalization*  
LUMDETR 2021 - 15th International Conference on Luminescent Detectors and Transformers of Ionizing Radiation, Bydgoszcz (Poland) - Online (2021) – Oral Crapanzano
23. Di Martino D, Rossini R, Colombi S, Perelli Cippo E, Scherillo A, **Lorenzi R**, Merlo C, Bonizzi C, Gorini G  
*Il degrado delle canne d'organo storiche a base stagno: Risultati delle analisi Raman e con neutroni*  
SIF 2020 – 106° Congresso Nazionale della Società Italiana di Fisica, Milano (Italy) - Online (2020) – Oral Di Martino
24. Marcucci G, **Lorenzi R**, Scherillo A, Cazzaniga C, Fedrigo A, Raspino D, Clemenza M, Di Martino D  
*Studying opacifiers with non-destructive techniques for manufacturing and provenance analysis of glass mosaic tesserae*  
ISA 2020 – 43rd International Symposium on Archaeometry, Lisbon (Portugal) (2020) – Poster Marcucci
25. Di Martino D, Merlo C, Bonizzi C, Scherillo A, Kasztovszky Zs, Harsányi H, Kovács I, Szókefalvi-Nagy Z, **Lorenzi R**, Perelli Cippo E, Gorini G  
*Looking for new insights in the composition of tin based historical organ pipes by nuclear and raman techniques*  
ISA 2020 – 43rd International Symposium on Archaeometry, Lisbon (Portugal) (2020) – Poster Di Martino
26. Marcucci G, Clemenza M, Di Martino D, **Lorenzi R**, Gorini G  
*Utilizzo di analisi non distruttive per lo studio degli opacizzanti di tessere musive*  
SIF 2019 – 105° Congresso Nazionale della Società Italiana di Fisica, L'Aquila (Italy) (2019) – Oral Marcucci
27. Di Martino D, Perelli Cippo E, Kockelmann W, Scherillo A, Minniti T, **Lorenzi R**, Malagodi M, Merlo C, Rovetta T, Fichera GV, Albano M, Kasztovszky Z, Harsányi I, Gorini G  
*A multidisciplinary non-destructive study of historical pipe organ fragments*  
TECHNART 2019 - Non-destructive and microanalytical techniques in art and cultural heritage, Bruges (Belgium) (2019) – Poster Di Martino
28. Remondina J, Acciarri M, **Lorenzi R**, Golubev N, Ignat'Eva E, Sigaev V, Paleari A  
*Oxide-in-Oxide Ga<sub>2</sub>O<sub>3</sub>-Containing Glass-Ceramics: from Bulks to Thin-Film Devices*  
GraFOx Summer School on Oxide Semiconductors for Smart Electronic Devices, Menaggio (Italy) (2019) – Poster Remondina
29. Di Martino D, Perelli Cippo E, Kockelmann W, Scherillo A, Minniti T, **Lorenzi R**, Malagodi M, Merlo C, Rovetta T, Fichera GV, Albano M, Kasztovszky Z, Harsányi I, Gorini G  
*A multidisciplinary non-destructive study of historical pipe organ fragments*  
ECNS 2019 – 7th European Conference on Neutron Scattering, Saint Petersburg (Russia) (2019) – Poster Di Martino
30. Remondina J, Acciarri M, Golubev NV, Ignat'eva ES, Paleari A, Sigaev VN, **Lorenzi R**  
*Electric Plasticity in Glass-Ceramic Thin Films*  
IWIS 2018 - 11th International Workshop on Impedance Spectroscopy, Chemnitz (Germany) (2018) – Poster Remondina
31. Remondina J, Acciarri M, Azarbod A, Golubev NV, Ignat'eva ES, Paleari A, Sassella A, Sigaev VN, Trabattoni S, **Lorenzi R**  
*Investigation of nanostructured glass-ceramic MOS devices*  
ICG 2017 - Italian Crystal Growth, Materials and Methods in Crystal growth, Milano (Italy) (2017) – Poster Remondina
32. Di Martino D, Perelli Cippo E, Kockelmann W, Scherillo A, Minniti T, **Lorenzi R**, Malagodi M, Merlo C, Rovetta T, Fichera GV, Albano M, Kasztovszky Z, Gorini G  
*A multidisciplinary non-destructive study of ancient pipe organ fragments*  
ART17 - 12th International Conference on non-destructive investigations and microanalysis for the diagnostics and conservation of cultural and environmental heritage, Torino (Italy) (2017) – Oral Di Martino
33. Remondina J, Acciarri M, Azarbod A, Golubev NV, Ignat'eva ES, Mereu RA, Paleari A, Sigaev VN, **Lorenzi R**  
*AC and DC characterization of  $\gamma$ -Ga<sub>2</sub>O<sub>3</sub>-containing glassceramic thin films*  
IWGO 2017 - 2nd International Workshop on Gallium Oxide and Related Materials, Parma (Italy) (2017) – Poster Remondina
34. Azarbod A, Lauria A, Paleari A, **Lorenzi R**  
*Intrinsic and Extrinsic Light Emission Properties of Metal Oxide Nanopowders Synthesized by Non-Aqueous Sol-Gel Route*  
2016 MRS Fall Meeting, Boston (USA) (2016) - Poster Azarbod
35. Golubev NV, Ignat'eva ES, Sigaev VN, **Lorenzi R**, Paleari A  
*Light emission enhancement in nanostructured gallium alkali-germanosilicate glasses*  
Наука будущего - Science of the future 2nd edition, Kazan (Russia) (2016) - Oral Golubev
36. Vedda A, Fasoli M, **Lorenzi R**, Villa I, Lauria A, Niederberger M, Dujardin C, Moretti F  
*Hafnium dioxide luminescent nanoparticles: structure and emission control through doping and thermal treatments*  
ICDIM 2016 – 19th International Conference on Defects in Insulating Materials, Lyon (France) (2016) – Oral Vedda

37. Adamo I, Zullino A, **Lorenzi R**, Prosperi L, Akkas B  
*Characterization of blue banded chalcedony (agate) from Corum province, Turkey*  
2<sup>nd</sup> European Mineralogical Conference, Rimini (Italy)  
(2016) – Oral Adamo
38. Di Martino D, Perelli Cippo E, Uda I, Riccardi MP, Paleari A, **Lorenzi R**, Scherillo A, Cucini C, Gorini G  
*Study of ancient metal samples from Valle delle Forme*  
TECHNART 2015 - Non-destructive and microanalytical techniques in art and cultural heritage, Catania (Italy)  
(2015) – Poster Di Martino
39. Golubev NV, Ignat'eva ES, Sigaev VN, Paleari A, **Lorenzi R**  
*Nanostructured gallium germanosilicate glasses: light emission spectroscopy and applications*  
Наука будущего - Science of the future, Saint Petersburg (Russia)  
(2014) - Poster Golubev
40. Paleari A, Sigaev VN, Golubev NV, Ignat'eva EV, Lauria A, Azarbod A, **Lorenzi R**  
*Phase changes and ripening of Ga-oxide QDs in solid host*  
8<sup>th</sup> International Conference on Quantum Dots (QD 2014), Pisa (Italy)  
(2014) - Poster Azarbod
41. Golubev N, Ignat'eva ES, Sigaev VN, Champagnon B, Vouagner D, Nardou E, Paleari A, **Lorenzi R**  
*Light emission from gamma-Ga<sub>2</sub>O<sub>3</sub> nanocrystals embedded in germanosilicate glass: structural and optical features*  
12<sup>th</sup> International Conference on the Structure of Non-Crystalline Materials (NCM12), Riva del Garda (Italy)  
(2013) - Oral Golubev
42. Ignat'eva ES, Golubev NV, Mamadzhanova EK, Sigaev VN, Lauria A, Paleari A, **Lorenzi R**  
*Crystallization processes in N<sup>2+</sup> doped glasses of Me<sub>2</sub>O-Ga<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub>-GeO<sub>2</sub> system features*  
12<sup>th</sup> International Conference on the Structure of Non-Crystalline Materials (NCM12), Riva del Garda (Italy)  
(2013) - Oral Ignat'eva
43. **Lorenzi R**, Jung Y, Brambilla G  
*In-line evanescent-wave microfluidic absorption sensor based on an embedded optical microfiber coil*  
Optical Sensors, Toronto (Canada)  
(2011) - Oral Brambilla
44. Ding M, Belal M, Chen G, Al-Azawi R, Lee T, Jung Y, Wang P, Zhang X, Song Z, Xu F, **Lorenzi R**, Newson T, Brambilla G  
*Optical microfiber passive devices and sensors*  
SPIE Passive Components and Fiber-Based Devices VIII, Shanghai (China)  
(2011) - Oral Brambilla
45. Paleari A, Brovelli S, **Lorenzi R**, Giussani M, Lauria A, Mochenova N, Chiodini N  
*Electrically tunable dielectric function in glass with tree like percolating pathways of chargeable conductive nanoparticles*  
MRS Fall Meeting - Oxide Nanoelectronics, Boston (USA)  
(2010) - Oral Brovelli
46. Magni E, Mazzone M, Pegolotti G, Lauria A, **Lorenzi R**, Chiodini N, Paleari A  
*Raman study of fluorine effects on silica with embedded SnO<sub>2</sub> nanoparticles*  
7<sup>th</sup> SiO<sub>2</sub>, Advanced Dielectrics and Related Devices, St-Etienne (France)  
(2008) - Poster Lauria
47. Paleari A, Chiodini N, Giussani M, Lauria A, **Lorenzi R**  
*Nanostructured SnO<sub>2</sub>-SiO<sub>2</sub> glass/ceramic thin films as electroluminescent material: An impedance spectroscopy analysis*  
SPIE Nanophotonic Materials IV, San Diego (USA)  
(2007) - Poster Chiodini