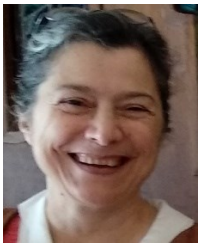
LUISA BARBA CURRICULUM VITAE

PERSONAL INFORMATION



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Sex f | *Date of birth* 15/08/1963 | *Nationality* Italian

WORK EXPERIENCE

01.09.2001- 31/12/2025: CNR contract, role: researcher III band. 01.01.2023- present day: CNR contract, role: researcher II band

Name and address of employer:	CNR (Institute of Crystallography) c/o Area Science Park, SS14 Km 163.5 I-34149 Basovizza (TS) Italy
Type of business or sector	Public Research
Occupation or position held	Researcher III band
Main activities and responsibilities	Participation in development and management of the Experimental Station of the XRD1 Beamline at ELETTRA as a member of the research group of the Beamline, with particular emphasis on Grazing Incidence Diffraction experiments and Soft Matter characterization. Assistance and/or participation in the experiments in synchrotron light at the Beamline. Collaborations with other research groups, both within the CNR and other institutions and research bodies. Since 2015, responsible for the CNR of XRD1 beamline experimental station.

03.02.1997 - 31.08.2001: CNR contract, fixed

Name and address of employer	CNR (Institute of Structural Chemistry) c/o Area Science Park, SS14 Km 163.5 I-34149 Basovizza (TS) Italy
Type of business or sector	Public Research
Occupation or position held	Researcher III band
Main activities and responsibilities	Participation in development and management of the Experimental Station of the XRD1 Beamline at ELETTRA as a member of the research group of the Beamline, with particular emphasis on Multiwavelength Anomalous Diffraction experiments. Assistance and/or participation in the experiments in synchrotron light at the Beamline. Collaborations with other research groups, both within the CNR and other institutions and research bodies.

01.06.1993 - 31.01.1997: CNR scholarships

Name and address of employer	CNR (Institute of Structural Chemistry) c/o Area Science Park, SS14 Km 163.5 I-34149 Basovizza (TS) Italy
Type of business or sector	Public Research
Occupation or position held	Grant recipient
Main activities and responsibilities	Participation in development and management of the Experimental Station of the XRD1 Beamline at ELETTRA as a member of the research group of the Beamline, with particular emphasis on the setup of Single Crystal Diffraction experiments. Assistance and/or participation in the experiments in synchrotron light at the Beamline. Collaborations with other research groups, both within the CNR and in other institutions and research bodies.

01.04.1992 - 31.05.1993: Coordinated Continuative Collaboration Contracts

Name and address of employer	Sincrotrone Trieste S.c.p.A c/o Area Science Park, Padriciano 99, 34149 Trieste
Type of business or sector	Public Research
Occupation or position held	Researcher
Main activities and responsibilities	Set up of a conventional crystallographic station at the Hard X-ray Optics

Laboratory of "Sincrotrone Trieste" S.c.p.A. X-Ray Diffractometry from conventional source and structural characterization of organometallic compounds. Participation in mounting and commissioning of XRD1 Beamline at ELETTRA and of its Experimental Station.

EDUCATION AND TRAINING

Physics

Name and type of organization providing education and training	University of Rome “La Sapienza”
Principal subjects	Physics of Condensed Matter
Title of qualification awarded	Laurea diploma

RESEARCH ACTIVITIES

Research sectors: Synchrotron X-Ray Diffraction experiments from single crystal, powders and thin films. Grazing Incidence X-Ray Diffraction. Phase transition characterization as a function of non-ambient conditions. Structural characterization.

RECENT SCIENTIFIC ACTIVITIES.

- Structural studies of high temperature superconductors correlated with thermally induced phase transitions
- Structural studies of organic semiconductors correlated with energy conversion, transfer and storage properties
- Structural studies of polymer/oligomer systems deposited onto self-assembled monolayers to assess crystalline quality and size.
- Characterization of lipid phase crystallization behavior.
- Characterization of functionalized food lipid phase crystallization behavior.

PERSONAL SKILLS

Mother tongue(s)	Italian
Other language(s)	English (c1)
Digital skills	Advanced

SCOPUS H-INDEX.	**29**
RESEARCHER ID:	**D-3162-2012**
SCOPUS AUTHOR ID:	**7003988007**
ORCID ID:	**0000-0001-8832-7056**

LAST 3 YEARS PUBLICATIONS

(1)

Rossi, F.; Rydzyk, M. M.; Barba, L.; Malucelli, E.; Palamà, M. E. F.; Gentili, C.; Mastrogiacomo, M.; Cedola, A.; Mancini, L.; Salomé, M.; Castillo-Michel, H.; Donati, D. M.; Gambarotti, M.; Lucarelli, E.; Fratini, M.; Iotti, S. Insights into the Osteosarcoma Microenvironment: Multiscale Analysis of Structural and Mineral Heterogeneity. *Acta Biomaterialia* **2025**. https://doi.org/10.1016/j.actbio.2025.04.057.

(2)

Provinciali, G.; Consoli, N. A.; Caliandro, R.; Mangini, V.; Barba, L.; Giannini, C.; Tuci, G.; Giambastiani, G.; Lelli, M.; Rossin, A. Ammonia Borane and Hydrazine Bis(Borane) Confined within Zirconium Bithiazole and Bipyridyl Metal–Organic Frameworks as Chemical Hydrogen Storage Materials. *J. Phys. Chem. C* **2025**, *129* (13), 6094–6108. https://doi.org/10.1021/acs.jpcc.5c00187.

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Tavormina, F.; Quadrivi, E.; Biagini, P.; Po, R.; Marrazzo, R.; Loi, M. A.; Barba, L.; Masciocchi, N.; Guagliardi, A. Crystal Orientation, Strain, and Microstrain of Perovskite Films in a Complex Compositional Parameter Space. *Chem. Mater.* **2024**, *36* (18), 8880–8893. https://doi.org/10.1021/acs.chemmater.4c01714.

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Sabet, S.; Kazerani García, A. A.; Kirjoranta, S.; Pinto, T. C.; Siven, M.; Bhattarai, M.; Barba, L.; Valoppi, F. Development of the First "Encapsulated Oleogel-in-Oleogel" System with Tailorable Lipid Digestion. *Food Hydrocolloids* **2024**, *153*, 110068. https://doi.org/10.1016/j.foodhyd.2024.110068.

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Rubio-Giménez, V.; Carraro, F.; Hofer, S.; Fratschko, M.; Stassin, T.; Rodríguez-Hermida, S.; Schrode, B.; Barba, L.; Resel, R.; Falcaro, P.; Ameloot, R. Polymorphism and Orientation Control of Copper-Dicarboxylate Metal–Organic Framework Thin Films through Vapour- and Liquid-Phase Growth. *CrystEngComm* **2024**, *26* (8), 1071–1076. https://doi.org/10.1039/D3CE01296D.

(6)

Montanaro, A. Dynamics of Nonthermal States in Optimally Doped $Bi_2Sr_2Ca_{0.92}Y_{0.08}Cu_2O_{8+\delta}$ Revealed by Midinfrared Three-Pulse Spectroscopy. *Phys. Rev. B* **2024**, *110* (12). https://doi.org/10.1103/PhysRevB.110.125102.

(7)

Duchenko, A.; Masi, A.; Augieri, A.; Barba, L.; Campi, G.; Celentano, G.; Gigli, L.; Plaisier, J. R.; Pompeo, N.; Rizzo, F.; Varsano, F. Relation Between Composition and Crystalline Structure in Substituted CaKFe4As4. *IEEE Trans. Appl. Supercond.* **2024**, *34* (3), 1–5. https://doi.org/10.1109/TASC.2023.3336613.

(8)

Duchenko, A.; Augieri, A.; Barba, L.; Celentano, G.; Masi, A.; Pompeo, N.; Rizzo, F.; Rufoloni, A.; Varsano, F. Influence of Rare-Earth Inclusion on Structure and Properties of Ca/K-1144 IBSC. *IEEE Trans. Appl. Supercond.* **2024**, *34* (3), 1–5. https://doi.org/10.1109/TASC.2024.3363675.

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Calabrese, G.; Cecchini, R.; Gentili, D.; Marini, D.; Ferri, M.; Mancarella, F.; Barba, L.; Cavallini, M.; Morandi, V.; Liscio, F. Enhancing zT in Organic Thermoelectric Materials through Nanoscale Local Control Crystallization. *ACS Nano* **2024**, *18* (47), 32781–32792. https://doi.org/10.1021/acsnano.4c10801.

(10)

Basso, F.; Ciuffarin, F.; Chiodetti, M.; Alinovi, M.; Carini, E.; Barba, L.; Manzocco, L.; Nicoli, M. C.; Calligaris, S. Effect of Moderate Hydrostatic Pressure on Crystallization of Palm Kernel Stearin-Sunflower Oil Model Systems. *CRFS* **2024**, *8*, 100700. https://doi.org/10.1016/j.crfs.2024.100700.

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Barba, L.; Peyronel, F. Synchrotron-Based Analysis. In *Advances in Oleogel Development, Characterization, and Nutritional Aspects*; Palla, C., Valoppi, F., Eds.; Springer International Publishing: Cham, 2024; pp 521–533. https://doi.org/10.1007/978-3-031-46831-5_21.

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Skafi, Z.; Xu, J.; Mottaghitalab, V.; Mivehi, L.; Taheri, B.; Jafarzadeh, F.; Podapangi, S. K.; Altamura, D.; Guascito, M. R.; Barba, L.; Giannini, C.; Rizzo, A.; De Rossi, F.; Javanbakht Lomeri, H.; Sorbello, L.; Matteocci, F.; Brunetti, F.; Brown, T. M. Highly Efficient Flexible Perovskite Solar Cells on Polyethylene Terephthalate Films via Dual Halide and Low-Dimensional Interface Engineering for Indoor Photovoltaics. *Solar RRL* **2023**, *n/a* (n/a), 2300324. https://doi.org/10.1002/solr.202300324.

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Milita, S.; Zaquin, T.; Fermani, S.; Montroni, D.; Pinkas, I.; Barba, L.; Falini, G.; Mass, T. Assembly of the Intraskeletal Coral Organic Matrix during Calcium Carbonate Formation. *Crystal Growth & Design* **2023**. https://doi.org/10.1021/acs.cgd.3c00401.

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Ciuffarin, F.; Alongi, M.; Peressini, D.; Barba, L.; Lucci, P.; Calligaris, S. Role of the Polyphenol Content on the Structuring Behavior of Liposoluble Gelators in Extra Virgin Olive Oil. *Food Chemistry* **2023**, *412*, 135572. https://doi.org/10.1016/j.foodchem.2023.135572.

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Campi, G.; Barba, L.; Zhigadlo, N. D.; Ivanov, A. A.; Menushenkov, A. P.; Bianconi, A. Q-Balls in the Pseudogap Phase of Superconducting HgBa2CuO4+y. *Condensed Matter* **2023**, *8* (1), 15. https://doi.org/10.3390/condmat8010015.

(16)
Calligaris, S.; Ciuffarin, F.; Basso, F.; Barba, L.; Manzocco, L.; Nicoli, M. C. *AFSG - ISFRS - Program / Abstract booklets*. https://event.wur.nl/isfrs2023/wiki/882444/program-abstract-booklets (accessed 2024-01-15).

(17)
Basiricò, L.; Fratelli, I.; Verdi, M.; Ciavatti, A.; Barba, L.; Cesarini, O.; Bais, G.; Polentarutti, M.; Chiari, M.; Fraboni, B. Mixed 3D–2D Perovskite Flexible Films for the Direct Detection of 5 MeV Protons. *Advanced Science* **2023**, *n/a* (n/a), 2204815. https://doi.org/10.1002/advs.202204815.

(18)
Augieri, A.; Duchenko, A.; Armenio, A. A.; Barba, L.; Plaisier, J. R.; Gigli, L.; Masi, A.; Rizzo, F.; Rufoloni, A.; Vannozzi, A.; Varsano, F.; Ciccioli, A.; Celentano, G. The Effect of Aliovalent Substitution on Magnetic Properties of PolyCrystalline Ca/K-1144. *IEEE Transactions on Applied Superconductivity* **2023**, *33* (5), 1–5. https://doi.org/10.1109/TASC.2023.3259921.