

Curriculum Vitae

Dr Fabio Orlandi

ISIS neutron and muon source
Science and Technology Facilities Council (STFC), Rutherford Appleton Laboratory
UK Research and Innovation (UKRI)
Harwell Campus, Didcot, OX11 0QX United Kingdom

Education

- **Spring 2015** Ph.D. in Science and Technology of Innovative Materials from the chemistry department, Parma University (Italy). Thesis title: *'New forms of polar and spin ordering in $Pb_2(Mn,Co)WO_6$ double perovskites: symmetry analysis of ferroic properties'* supervised by Prof. Gianluca Calestani and Prof. Lara Righi
- **2011** Master Degree *cum laude* in Science and Technology of Innovative Materials with a thesis entitled *'Synthesis and characterization of lead based double perovskite'*
- **2009** Degree *cum laude* in Science and Technology of Materials, Parma University (Italy)

Professional Positions

- **2016–today** Instrument Scientist at the ISIS neutron and muon source (STFC-UKRI), co-responsible of the user programme on the WISH cold neutron diffractometer and of the design of the new cold neutron diffractometer WISH-II part of the ISIS Endeavour program.
- **2015** Post-doc position at the chemistry department, Parma University in the group of Prof. Gianluca Calestani

Committee Membership

- **April 2025–today** Chair of the ILL subcommittee college 5B “Magnetic Structures”
- **November 2022–November 2024** Member of the ILL subcommittee college 5B “Magnetic Structures”

Awards

- **March 2021** 2020 Outstanding Reviewer for the Journal of Physics: Condensed Matter, Institute of Physics (UK)
- **September 2015** Best Ph.D. thesis in Crystallography, Italian Association of Crystallography

Invited talks and Teaching

- **12-16th June 2023** Lecturer at the “Workshop on data analysis of neutron scattering”, JNCASR Bangalore India
- **11-14th July 2022** Lecturer at the “PCG Intensive Summer School 2022”, Abingdon UK

- **August 2021** invited talk at the 25th congress of the International Union of Crystallography
- **April 2021** invited talk at the British Crystallographic Association Conference
- **July 2018** invited talk at the annual conference of the “Società italiana scattering neutronico” SISN
- **July 2013** invited seminar at the ILL (Grenoble) title: “Superspace application on magnetic structure analysis”

Research interest and skills

Fabio's research interests are focused on the correlation between properties, crystal structure and symmetry in complex multifunctional magnetic materials and quantum materials, in particular exploiting the use of magnetic symmetry extended to the superspace formalism. His research skills are related to diffraction techniques using conventional sources as well as synchrotron and neutron facilities, complex crystallography and symmetry analysis using group theory.

Since 2016, Fabio covers the role of instrument scientist on the WISH diffractometer at the ISIS neutron and muon source (UK), driving the cutting-edge user program dealing with neutron diffraction on powder, single crystal and thin film samples also under extreme condition (high-magnetic field, high pressure and ultra-low temperatures). Since then, he developed his knowledge in neutron instrumentation, and he is now co-responsible for the design of a new cold neutron single crystal and thin film diffractometer WISH-II which is part of the funded ISIS Endeavour program.

Fabio maintains high profile collaborations with world leading groups in condensed matter physics and solid-state chemistry as it can be appreciated from his publication profile (see Scopus-ID:57195561524 or Google Scholar). He contributes to these collaborations providing expertise in neutron diffraction and magnetic symmetry, regarding incommensurate structures and symmetry properties relations using group and Landau theory. He is a co-author of 115 peer reviewed publications and have he been cited more than 2200 times (Scopus-ID:57195561524).

Selected Recent Publications

- [1] M. Iraola, H. Guo, F. Orlandi, S. Klemenz, M. Soldini, S. Sajan, P. Manuel, J. van den Brink, T. Neupert, M. M. Ugeda, L. M. Schoop, and M. G. Vergniory, (2025), arXiv:2504.02063 [cond-mat.str-el] .
- [2] G. Skorupskii, F. Orlandi, I. Robredo, M. Jovanovic, R. Yamada, F. Katmer, M. G. Vergniory, P. Manuel, M. Hirschberger, and L. M. Schoop, *Nature Communications* **15**, 10112 (2024).
- [3] T. H. Salters, F. Orlandi, T. Berry, J. F. Khoury, E. Whittaker, P. Manuel, and L. M. Schoop, *Phys. Rev. Mater.* **7**, 044203 (2023).
- [4] F. Orlandi, D. Delmonte, G. Calestani, E. Cavalli, E. Gilioli, V. V. Shvartsman, P. Graziosi, S. Rampino, G. Spaggiari, C. Liu, W. Ren, S. Picozzi, M. Solzi, M. Casappa, and F. Mezzadri, *Nature Communications* **13**, 7968 (2022).
- [5] A. Szabó, F. Orlandi, and P. Manuel, *Phys. Rev. Lett.* **129**, 247201 (2022).
- [6] T. Zhu, F. Orlandi, P. Manuel, A. S. Gibbs, W. Zhang, P. S. Halasyamani, and M. A. Hayward, *Nature Communications* **12**, 1 (2021).
- [7] D. D. Khalyavin, R. D. Johnson, F. Orlandi, P. G. Radaelli, P. Manuel, and A. A. Belik, *Science* **369**, 680 (2020).
- [8] F. Orlandi, S. Fabbrici, F. Albertini, P. Manuel, D. D. Khalyavin, and L. Righi, *Phys. Rev. B* **94**, 140409 (2016).

For the complete list and citation trends please look on Web of Sciences (R-6403-2016), Scopus (Scopus-ID:57195561524) or Google Scholar