

Andrea PIOVANO

Date of Birth 31st December 1982
Nationality Italian
ORCID <http://orcid.org/0000-0002-5005-6307>
Phone +33 (0) 476207525
E-mail piovano@ill.fr
Division Science division, spectroscopy group



Research scientist and instrument team leader

WORKING EXPERIENCE

- Jan 2023 - present **Permanent contract as IN8 instrument team leader and scientist at Institut Laue Langevin, Grenoble, France.**
- Main research topics: spectroscopy of catalysts and porous materials, dynamics and disorder in non-stoichiometric oxides, magnetism and superconductivity in condensed matter.
- Jul 2011 – Dec 2022 **Permanent contract as scientist and instrument responsible of IN8 triple axis instrument at Institut Laue Langevin, Grenoble, France.**
- Jan 2011 – Jul 2011 **Post-Doc at University of Torino, Department of Chemistry, Italy.**
Agreement with ENI SPA society for the joint project “Collaboration on new morphologies and different compositions of titanium dioxide deposited on FTO for the application in photovoltaic solar cells”.
- Oct 2007 - Dec 2007 **INSTM research grant at University of Torino, Department of Chemistry, Italy.**
“Characterization of non stoichiometric oxides using neutron sources and synchrotron light”.

EDUCATION

- 2008 - 2010 **PhD in Material Science** (with government fellowship) **at University of Torino, Italy.** – Experimental research thesis on “Low temperature oxygen mobility in non-stoichiometric Brownmillerite-type oxides investigated by Raman, X-Rays and Neutrons”.
- 14 - 28 Sep 2007 **MaMaSELF summer school: Master in Material Science Exploiting Large Scale Facilities,** University of Rennes 1, France.
- 2004 - 2007 **Master degree with 110/110 in Physics of Advanced Technologies at University of Torino, Italy.** –Experimental research thesis on “Study of elastic deformations of single crystal silicon components used in GAMS5 experiment”.
- 2001 - 2004 **Bachelor Degree in Physics at University of Torino, Italy.** – Research thesis “Building of a self-test circuit of new conception photodetectors used in Finuda Experiment”

TEACHING ACTIVITY (ACADEMIC)

- 2014, 2015, 2016, 2017, 2018 **Practicals** (2 days) on “Neutron spectroscopy with triple axis instruments” for the SISN neutron school Giornate Didattiche at ILL, Grenoble, France.
- 2013, 2014, 2015, 2022, 2023 **Practicals** (1 day) on “Neutron spectroscopy with triple axis instruments” for the HERCULES master course, EPN campus, Grenoble, France.
- 2013, 2014, 2015, 2017, 2018 **Lecture and Tutorials** (1 day) on “Neutron spectroscopy instrumentation” for the “Giornate didattiche SISN” Val Aurina and Fenestrelle, Italy
- 2008 - 2011 **Teaching Assistant** (Honorary Fellowship). Professor assistant for three years of the “Physics” course at SUISM institute, Torino, Italy. Duties included lessons and exams.

21-25 May 2007	Tutorials on “Introduction on FEM software use” in the frame of “Physics Technology Laboratory” course at Physics University of Torino, Italy.
Mar 2006	Tutorials in the sphere of “Scienze dal vivo” project at Physics University of Torino, Italy.
2004, 2005	Laboratory assistant (Fellowship 100h). Exposition of some mechanic and thermodynamic devices functioning and assistant during experiments with those.

MANAGEMENT ACTIVITY

2022	Organiser of the DYNAFUN workshop, 11-15 september, Saint-Jorioz (F)
2018	Organiser of workshop Neutron Vibrational Spectroscopy, 10-12 october, Grenoble (F)
2016, 2017, 2018	Coordinator of the SISN neutron school “Giornate Didattiche” of SISN society.
2014- present	Co-supervisor of 5 PhD theses: 4 defended and 1 ongoing.
2015, 2019, 2022	Supervisor of three Master 2 stages.
2012 - 2015	Project scientific advisor. The upgrade of IN8 monochromator (budget 500keuro).
2016 - 2020	Project Manager. Thermes: the upgrade of IN8 spectrometer (budget 350keuro).
2022 -present	Project Manager. Implementation of Be filter and Brillouin scattering options on IN8.
Jan 2023 - present	Instrument team leader. Head of 1 scientist and 1 technician.

SCIENTIFIC OUTPUT

2009- present	72 articles on ISI journals (70 published, 2 in press)
	12 articles on non-ISI journals.
	2 books chapters.
	10 invited talks, 17 oral presentations and 16 poster contributions as presenter.
	3 scientific interviews.
	Statistics: 1689 citations, 24 h-index

MEMBERSHIPS AND INSTITUTIONAL RESPONSIBILITIES

2021- present	Editor board member of ournal Materials (MDPI).
2016	Guest Editor for Journal of Nanomaterials (Hindawi).
2015 - 2018	Secretary of proposal selection panel” college 7” at ILL (F)
2022	Member of candidates selection panel for HERCULES school (F)
2023	Member of candidates selection panel for GNeuS European COFUND programm
2023 - 2026	Member of proposal selection panel FAP4 Excitations at ISIS-STFC (UK)

TECHNICAL SKILLS

- Neutron techniques: inelastic scattering on TAS and TOF spectrometers, powder diffraction.
- Synchrotron techniques: X-ray absorption spectroscopy, X-ray emission spectroscopy, powder diffraction.
- Laboratory techniques: UV-VIS-NIR, Raman and IR spectroscopies.
- Quantum-mechanics calculation software: CRYSTAL, VASP.

SOCIAL SKILLS

- Collaboration with different multidisciplinary teams.
- Participated to national and international conferences with talk or poster contributions.
- Made several general public visit of the institute and three interview on my research.

COMPUTER SKILLS

Operating Systems	Unix and Windows.
Applications	In 2004 obtained the ECDL, Openoffice, Latex, Gimp.
Analysis software	Mathematica, Matlab, IFEFFIT, RESTRAX, Origin.
Programming Languages	C + + and Java basics, Python advanced.

LANGUAGE SKILLS

Languages	Native Italian , Fluent English (both written and spoken), Fluent French (both written and spoken), Basic German (both written and spoken).
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HOBBIES

Basket, ski, guitar, photography and travels.

SELECTED PUBLICATIONS (2019-2023)

Vottero E., Carosso M., Jiménez-Ruiz M., Pellegrini R., Groppo E., Piovano A.
Inelastic neutron scattering study of the H₂ interaction with carbon-supported Pt and Pd catalysts
Catalysis Today, *In press*, online 24 January 2023, <https://doi.org/10.1016/j.cattod.2023.01.016>

Vottero E., Carosso M., Ricchebuono A., Jiménez-Ruiz M., Pellegrini R., Chizallet C., Raybaud P., Groppo E., Piovano A.
Evidence for H₂-induced ductility in a Pt/Al₂O₃ catalyst
ACS Catalysis 12, 5979-5989 (2022)

Vottero E., Carosso M., Pellegrini R., Piovano A., Groppo E.
Assessing the functional groups in activated carbons through a multi-technique approach
Catalysis Science & Technology 12, 1271-1288 (2022)

Vottero E., Carosso M., Jiménez-Ruiz M., Pellegrini R., Groppo E., Piovano A.
How do the graphenic domains terminate in activated carbons and carbon-supported metal catalysts?
Carbon 169, 357-369 (2020)

Carosso M., Vottero E., Lazzarini A., Morandi S., Manzoli M., Lomachenko K.A., Jiménez-Ruiz M., Pellegrini R., Lamberti C., Piovano A., Groppo E.
Dynamics of reactive species and reactant-induced reconstruction of Pt clusters in Pt/Al₂O₃ catalysts
ACS Catalysis 9, 7124-7136 (2019)

