

Gianrico Lamura

Adjunct professor

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Education and training

2000

PHD in solid state physics

Study of low energy excitations by means of magnetic penetration depth measurements in low and high critical temperature superconductors. - Très honorable avec felicitation

Ecole Supérieure de Physique et Chimie Industrielle de la Ville - Paris - FR

Academic experience

2017 - ONGOING

Contract professor

University of Genoa DITEN - Genoa - IT

teaching. General Physics course. Pleasure Craft Engineering University of Genoa at Polo G. Marconi La Spezia

Work experience

2005 - ONGOING

Researcher

CNR-SPIN - Genoa - IT
researcher

Language skills

Italian

Mother tongue

French

Proficient

English

Independent

Teaching activity

TEACHING

A. A. 2017-2018 Contract Professor for 'General physics I', Pleasure Craft Engineering, University of Genoa, at Polo G. Marconi , La Spezia.

A. A. 2017-2018. 'muon spin spectroscopy course' for Phd students.

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A. A. 2016-2017 Contract Professor for 'General physics I', Pleasure Craft Engineering, University of Genoa, at Polo G. Marconi , La Spezia.

2016-2018, Assistant of Professor M. Putti for 'Classical mechanics'. Chemical and Electrical Engineering, University of Genoa.

2012-2018, Assistant of Professor A. S. Siri for 'Electromagnetism'. Chemical and Electrical Engineering, University of Genoa.

2012-2015, Assistant of professor M. Putti for 'Classical mechanics and electromagnetism', Informatics, University of Genoa.

A. A. 2007-2008 Contract Professor for 'General physics I'. University of Naples, Federico II, Mechanical and Naval Engineering.

A. A. 2005-2006 Contract Professor for 'General physics I', University of Naples, Federico II, Informatics Engineering.

01/02/2003 to 31/10/2009 assistant of Prof. A. Andreone for the 'General physics I'. University of Naples, Federico II, Informatics Engineering.

MEMBER OF JURY AT UNIVERSITY:

i) 01/07/2016 Jury for the 'Habilitation à Diriger des Recherches' (HDR) en 'Chimie' de l'Université de Lorraine. Candidate : Sébastien CAHEN. Title : 'Composés d'intercalation du graphite et nanomatériaux carbonés : point de vue du chimiste du solide'.

ii) 31/03/2011 Jury for the 'habilitation à diriger des recherches' (HDR). Chemistry, University of Nancy, (France). Candidate : B. Vigolo. Title : 'Vers le contrôle des échantillons de nanotubes de carbone monofeuillets'.

iii) 18/03/2011 Jury for the PhD Degree in 'Physique et Chimie de la Matière et des Matériaux'. Chemistry, University of Nancy, (France). Candidate : H. Rida. Title : 'Nouvelles données sur les systèmes graphite - lithium - europium et graphite - lithium - calcium'.

iv) 25/09/07 Jury for the PhD Degree in 'Physique et Chimie de la Matière et des Matériaux'. Nancy University, Nancy (France). Candidate: N. Emery. Title: 'Sur l'intercalation dans le graphite des alcalino-terreux et de l'europium en présence de lithium'.

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral fellows

TUTORING:

i. Co-tutor for Federico Cagliaris's PhD thesis work on thermoelectric properties of iron based compounds (2011-2015).

ii. Two masters in Information-Communication Engineering for 'Laurea' degree (2007-2008)

iii. project for student training (2006).

iv. Master in Electronic engineering (2003).

Research interests

Research sectors:

A) Magnetic properties of heavy Fermions compounds near quantum criticalities: $\text{Yb}_2\text{Pd}_2(\text{In}_{1-x}\text{Sn}_x)$ by muon spin spectroscopy as a function of temperature and applied pressure and magnetic field.

B) Electric and magnetic properties of iron based superconductors (pnictides) belonging to 11, 1111 and 122 families as polycrystalline, single

crystals and thin film samples by means of the following techniques:

- i. dc magnetization measurements;
 - ii. muon spin spectroscopy at Paul Scherrer Institute (PSI), Zurich, Switzerland;
 - iii. inductive measurements of the Meissner state properties (in collaboration with Prof. A. Andreone, University of Naples "Federico II");
 - iv. thermoelectric transport : Seebeck and Nernst effect at the High Magnetic Field Facility in Nijmegen (The Netherlands).
- C) Magnetic properties of nanostructured materials:
- i. Nanostructured (nanoparticles) ferrites;
 - ii. Molecular magnetism: magnetic properties of Cyclodextrin-Polynitroxides as potential supramolecular vectors for Magnetic Resonance Imaging measured by DC SQUID magnetometry as a function of temperature and applied magnetic field.
 - iii. Analysis of spectroscopic (Raman effect), magnetic (dc magnetization) and electric (transport) properties of carbon nanotubes (CNTs) synthesized by arc discharge, before and after purification and intercalation with alkaline earth metals. This study is ongoing at Jean Lamour Institute (University of Nancy, France).
 - iv Inductive measurement of the effective first penetration field (BC1) by means of third harmonic analysis in artificial multilayer $\text{Al}_2\text{O}_3/\text{Nb}/[\text{Al}_2\text{O}_3/\text{Nb}]_i=\text{N}$ and $\text{Al}_2\text{O}_3/\text{Nb}/[\text{MgO}/\text{NbN}]_i=\text{N}$. The goal of this study is evaluation of the efficiency of superconducting/insulating multilayer in increasing the effective first penetration field respect to the intrinsic value of a single superconducting layer. This is one possible promising way to increase the RF superconducting cavities performances. This work is running in collaboration with Dr. Claire Antoine, CEA, Saclay (France).

Editorial activity

Editorial Committee

Guest Editor for the section 'Electronics' of 11th European Conference on Applied Superconductivity (EUCAS2013) Proceedings published in 'Journal of Physics: Conference series': <http://www.eucas2013.org/>.

International Advisory Committee member for the international conference 'Muon Spin Rotation, Relaxation and Resonance' held in Grindelwald, Switzerland, 1-6 June 2014.

<http://indico.psi.ch/internalPage.py?pageId=0&confId=2039>

Referee for peer-reviewed journals

- i. American Physical Society (APS): Physical Review Letters et Physical Review B.
- ii. Institute of Physics (IOP): Journal of Physics: condensed Matter, New Journal of Physics, Smart Materials and Structures, Superconductor Science and Technology, Science and Technology of Advanced Materials.
- iii. American Chemical Society (ACS): Journal of Physical Chemistry.
- iv. IEEE: Transactions on Applied Superconductivity.
- v. Elsevier: Physica C, Journal of Alloys and Compounds.

Assignments abroad

Invited Professor at IJL, University of Lorraine, France. Duration: one month.
Equipe ' Matériaux Carbonés' directed by Dr. C. Hérold. Periods: from 2010 to 2016.

Invited researcher at the University of Nancy, France. Duration: one month.
Equipe ' Matériaux Carbonés' directed by Dr. C. Hérold. Periods: from 2008 to 2009.