

Martino Trassinelli

Curriculum Vitæ

Nationality Italian and French

Current position Researcher at the Centre National de la Recherche Scientifique (CNRS, France) in the group “Clusters and Surfaces under Intense Excitation” at the Institut des NanoSciences de Paris

Scientific interests

- Structure of highly charged ions and exotic atoms for studies on quantum electrodynamics, strong and weak interactions.
- Dynamics of highly charged ion interaction with atoms, surfaces and clusters.
- Modifications of structural and magnetic properties of thin films irradiated with ions.
- High-resolution X-ray spectroscopy based on Bragg diffraction.
- Bayesian statistics and applications to data analysis.
- Foundations and interpretations of quantum mechanics.

Professional experiences

- March 2021 **Visiting professor at the ExtreMe Matter Institute, GSI/FAIR**, Darmstadt, Germany.
- Sept. 2017 **Habilitation à diriger des recherches (French habilitation)**, *Structure and dynamics of highly charged ions*, Université Pierre et Marie Curie, Paris, France.
- April 2017 **Abilitazione Scientifica Nazionale (Italian habilitation)**, *Fisica Sperimentale delle Interazioni Fondamentali (Fascia II, SC 02/A1) and Fisica Sperimentale della Materia (Fascia II, SC 02/B1)*.
- Since 2011 **Chargé de recherche de 1^{ère} classe**, CNRS, Institut des NanoSciences de Paris, Paris.
- 2007–2011 **Chargé de recherche de 2^{ème} classe**, CNRS, Institut des NanoSciences de Paris, Paris.
- 2006–2007 **Post-doc**, *Accurate measurement of intra-shell transitions and Balmer lines in heliumlike uranium*, GSI Helmholtzzentrum and Alexander von Humboldt-Stiftung, Darmstadt, Germany.

Formation

- 2002–2005 **Ph.D. thesis**, *Quantum Electrodynamics Tests and X-rays Standards using Pionic Atoms and Highly Charged Ions*, Laboratoire Kastler Brossel, Paris, France.
- 2001–2002 **2nd year of Master’s degree in Particle and Nuclear Physics (DEA Champs, Particules et Matières)**, Université Pierre et Marie Curie and E.N.S., Paris, France.
- 2000–2001 **1st year of Master’s degree in Physics (Maîtrise de Physique)**, Université Pierre et Marie Curie and E.N.S., Paris, France.
- 1999–2000 **Licence de Physique**, Université Pierre et Marie Curie and E.N.S., Paris, France.
- 1999–2002 **Magistère Inter-universitaire de Physique**, Université Pierre et Marie Curie and E.N.S., Paris, France.
- 1997–1999 **Bachelor’s degree in Physics (first two years)**, University of Florence, Italy.
- 1996 **Maturità Artistica**, Liceo Leon Battista Alberti, Firenze, Italia.

Awards and recognitions

- 2013 **CNRS Scientific Excellence award**, (formal version of CNRS Prime d’Encadrement Doctoral et de Recherche).
- 2006–2007 **Postdoctoral Humboldt Research Fellowships**.
- 1999–2003 **Élève fonctionnaire stagiaire**, École Normale Supérieure de Paris.

Foreign languages

- Italian **Mother tongue**
French **Fluent**
English **Fluent**

Organization of seminars and conferences

- 2022 Co-chair of the international conference *MAXENT 2022*
- 2019 – pres. Member of the international advisory board of the international conference *HCI*
- 2019 – pres. Member of *Les Ateliers du LKB* seminar committee
- 2016 – pres. Member of the seminar committee of the Institut des NanoSciences de Paris
- 2019 Member of the local organizing committee of the international conference *ICPEAC 2019*
- 2019 Member of the local organizing committee of the international symposium *ISIAC 2019*
- 2017 Member of the local organizing committee of the workshop *MPBT platform scientific day*
- 2017 Member of the local organizing committee of the workshop *SPARC 2017*
- 2017 Member of the international advisory board of the conference *Precision Physics, Quantum Electrodynamics and Fundamental Interactions 2017*

Research projects

- 2022 Principal investigator of the project for GSI/FAIR 2023-4 *Towards testing three-loop effects of bound-state QED in heliumlike uranium* (proposal G-22-00068 accepted with A- rank)
- 2021 – pres. Principal investigator of the international ANR project *Dynamics of ionmagnetized surface interaction probed by integrated x-ray and ion spectroscopy (DIMAS)*, international ANR/DFG founding
- 2018 – 2022 Participation to the ANR project *High-Performance Thermo-Magnetic Micro-Harvester*, ANR-18-CE05-0019, (PI: M. Lo Bue)
- 2017 – pres. Principal investigator of the project for FAIR phase-0 *High-resolution differential Measurements Between Two-and Three-Electron Uranium Ions for High-Precision Tests of Strong-Field QED* (proposal n. E125, accepted with A- rank)
- 2019 – 2021 Principal investigator of the project *X-ray spectroscopy of He-like U and measurement of the bound-state beta decay of bare ^{205}Tl ions* in the program ENSAR2 No. 654002 *Transnational Access to GSI*, Horizon 2020 EU Framework Programme for Research and Innovation Integrated Activity, Germany
- 2011 – 2021 Member of the collaboration *FISIC (Fast Ion – Slow Ion Collisions)*, part of the EQUIPEX S3 until 2021, founding from ANR, France
- 2016 – 2017 Principal investigator of the project *Detector development for atomic physics at FAIR* in the program ENSAR2 No. 654002 *Transnational Access to GSI*, Horizon 2020 EU Framework Programme for Research and Innovation Integrated Activity, Germany
- 2013 – 2018 Participation to the international ANR project *Fit-FISIC: First steps Towards atomic physics of Fast Ion Slow Ion Collision*, international ANR/DFG founding, ANR-13-IS04-0007, (PI: E. Lamour)
- 2014 – 2015 Principal investigator of the project *Measurement of the bound-state beta decay of bare ^{205}Tl ions* in the program ENSAR No. 262010 *Transnational Access to GSI*, FP7 Structuring the ERA - Integrated Activity, Germany
- 2007 Principal investigator of the project *Test of Strong-Field-QED: High Resolution Detection Systems for Spectroscopy in Atomic Physics Experiments at GSI and FAIR and for Precision X-Ray Imaging*, non-recurring financing from the Helmholtz association for the promotion of young researchers, Germany
- 2006 – 2010 Participation to the ANR project *La Spectroscopie X: Métrologie et Sonde de l'Interaction avec les Ions de SIMPA*, ANR-06-BLAN-0223, France

Current and recent collaborations

- 2011 – pres. Member of the collaboration *FISIC (Fast Ion – Slow Ion Collisions)*
- 2008 – pres. Member of the *ExtreMe Matter Institute EMMI*, institute of the Helmholtz Alliance *Cosmic Matter in the Laboratory*
- 2005 – pres. Member of the collaboration *SPARC (Stored Particles Atomic Research Collaboration)* for atomic physics at *FAIR (Facility for antiproton and ion research)*, Darmstadt, Germany
- 2002 – 2021 Member of the collaboration *Pionic Hydrogen et Pion Mass* for the study of strong interaction force in light pionic atoms and the measurement of the negatively charged pion mass
- 2012 – 2019 Member of Labex PLAS@PAR (PLASma à PARIS)
- 2011 – 2019 Member of Labex MATISSE (MATériaux InterfaceS Surface Environnement)
- 2003 – 2019 Member of the collaboration *FOCAL (FOcusing Compensated Asymmetric Laue spectrometer)* for the measurement of the Lamb shift in heavy hydrogenlike ions, Darmstadt, Germany