

## DR. GIANCARLO MAERO – CURRICULUM VITAE

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### *Research interests*

Fundamental physics of trapped charged particles, plasmas, and beams with relevance to basic properties of matter, fluid physics, nonlinear behaviour of complex systems and accelerator physics. Within this range of interests I have carried out both theoretical/simulation activities and experiments involving all aspects from the concept and the technical/physical design to the construction and installation of the set-ups and the performance of experimental campaigns.

### *Academic and research activity*

- 1 April 2015 – present: fixed-term researcher (“ricercatore a tempo determinate – lettera B”), subfield 02/B1 (Experimental Physics of Matter) / FIS/03 (Physics of Matter). Work performed within the Groups “Astrophysics and Plasma Physics” and “Physics of Complex Systems”. Participant in INFN-Group III and V research projects.
- 1 November 2012 – 21 October 2015: fixed-term researcher (“ricercatore a tempo determinate – lettera A”), subfield 02/A1 (Experimental Physics of Fundamental Interactions) / FIS/01 (Experimental Physics). Work performed within the Groups “Astrophysics and Plasma Physics” and “Physics of Complex Systems”. Participant in INFN-Group V research projects.
- 1 April 2010 – 31 October 2012: post-doc collaborator (“assegnista”) of the Plasma and Astrophysics Group at Università degli Studi di Milano, Italy within the research topic “Fenomeni collettivi in plasmi complessi” (“Collective phenomena in complex plasmas” and several INFN-Group V projects.  
Funded by a research grant (type A) of the Università degli Studi di Milano.
- 1 April 2009 – 30 September 2009 and 1 November 2009 – 28 February 2010: collaborator of the Plasma and Astrophysics Group at Università degli Studi di Milano, Italy, within the PRIN 2007 project “Processi non lineari nei plasmi non neutri – Analisi sperimentale della dinamica non lineare di un plasma di elettroni confinato in una macchina di Malmberg-Penning” (“Non-linear processes in non-neutral plasmas – Experimental analysis of the non-linear dynamics of an electron plasma confined in a Malmberg-Penning trap”).  
Funded by the PRIN 2007 project.
- January 2006 – November 2008: PhD student in the Faculty of Physics and Astronomy of the Ruprecht-Karls Universität Heidelberg. Thesis: “Cooling of Highly Charged Ions in a Penning Trap for HITRAP” discussed on 12 November 2008, awarded with magna cum laude. Supervisor: prof. emeritus H.-Jürgen Kluge.
- 8 October 2004 – 10 December 2008: researcher in the GSI (Gesellschaft für Schwerionenforschung, Center for the Research on Heavy Ions) Helmholtzzentrum, Darmstadt, Germany, within the HITRAP (Highly-charged Ion TRAP) and SHIPTRAP projects of the Atomic Physics Division.  
Funded by:

GSI (October 2004 – October 2007 and March 2008 – December 2008);  
Eberhard Karls Universität Tübingen (November 2007 – February 2008).

- 19 July 2004: master diploma in Nuclear Engineering (Laurea in Ingegneria Nucleare) at Politecnico di Torino (110/110 cum laude), with the thesis “Radiative Recombination in Electron Cooling: Recent Results and Interpretations”. Supervisor: prof. Piero Quarati.
- Summer 2003: unpaid associate at CERN, Geneva, Accelerators and Beams Division. Subject: FLUKA simulations for ADS (Accelerator Driven Systems) reactors for radioactive waste burning and energy production. Supervisor: dr. Yacine Kadi.

### ***Teaching***

- Elettromagnetismo (basic course in electricity and magnetism) – exercises and complements [BSc course].
- Laboratorio di fisica dei plasmi I (laboratory course in plasma physics) –lab experiments [MSc course].
- Supervision of bachelor and master theses.