

# Massimo Gervasi

University of Milano Bicocca, Physics Department

Piazza della Scienza, 3 – 20126 Milano Italy

## Current Position:

- **Staff Associate Professor** for Experimental Physics (since 2005)
- INFN research associate (since 1996)
- CERN research associate (since 1996)
- INAF research associate (since 2005)

## Previous Positions:

- Staff Researcher at the University of Milano Bicocca - Department of Physics (1998 - 2005).
- Staff Researcher at the University of Milano - Department of Physics (1995 - 1998).
- Post-Doctoral fellow at Center for Particle Astrophysics - University of California – Berkeley (1994 - 1995).

## Qualifications:

- PhD in Astronomy: University La Sapienza - Rome, Italy (1990 - 1994)
- Laurea “Master Degree” in Physics: University La Sapienza - Rome, Italy (1988)

## Appointments:

- Member of the CNR Polar Research Committee for Astrophysics (since 2012)
- Member of the scientific committee of the International School of AstroParticle Physics – European Doctorate School – ISAPP (since 2011)
- Member of the Advisory committee of ICATPP Conference (since 2010)
- Member of IAU - International Astronomical Union (since 2006)
- Coordinator of the ASI (Italian Space Agency) working group on "Cosmology and Fundamental Physics" (2007 – 2008).

## Teaching:

- Professor of Laboratory of Astrophysics for Bachelor degree in Physics at the University of Milano Bicocca (since 2000).
- Professor of Cosmic Ray Physics for the Master degree in Astrophysics at the University of Milano Bicocca (since 2011).
- Supervisor of more than 30 Master degree students and 10 PhD students.

## Former Teaching:

- Professor of Physics for Bachelor degree in Chemistry at the University of Milano Bicocca (2006 – 2011).
- Professor of Astronomy for degree in Physics at the University of Pavia (1998 – 2002).

## Relevant background

- Research activity in Cosmic Microwave Background (CMB) instrumentation development and observation from the ground and from space. Design and realization of radiometers and polarimeters for CMB observation at microwave and mm-wave bands. Design and realization of cryogenic systems for scientific instruments and optics at microwaves and mm-waves.

- Expert of microwave and mm-wave instrumentation and of CMB observations.
- Research activity in Cosmic Rays observation from space. Cosmic Rays observations from ISS with the AMS spectrometer; Cosmic Rays propagation in Heliosphere and Magnetosphere.
- Research activity in Radiation environment and damage in Space. Development of component radiation degradation models. Development of charged particle tracing in space.
- Experience working in national and international science/technology research programs, collaborations with several Universities and Laboratories, space agencies (NASA, ESA, ASI), and with commercial partners (microelectronics, technology and aerospace companies).
- Author of more than 80 peer-reviewed publications; author of more than 100 paper in proceedings of international conferences; reviewer of scientific journals (among them: Journal of Cosmology and Astroparticle Physics; Infrared Physics & Technology; Journal of Instrumentation, Computer Physics Communications; Advances in Space Research).

### **Research activity**

- He leads the research group on Cosmic Rays in Space and is co-leader of the research group on observational cosmology. His main fields of research are Cosmology, in particular Cosmic Microwave background (CMB) and astrophysics of Cosmic rays.
- Co-investigator of QUBIC and LSPE collaborations searching for primordial B-modes polarization of CMB; co-investigator of COSMO collaboration, searching for CMB spectral distortions from Concordia Station (Antarctica).
- Member of AMS-02 collaboration, and co-ordinator of Milano Bicocca group (since 2016), for Cosmic rays and fundamental physics (Antimatter and Dark Matter in space) research program from Space on board of the International Space Station.
- Coordinator of Unimib activities for ASIF (ASI Supported Irradiation Facilities) programme, regarding the space radiation environment.

### **Relevant research projects**

- Program manager of technological programs on Component Radiation Degradation Models and Non-Ionising Energy Loss (NIEL) Calculation Software and Verification with European Space Agency (ESA) (2011 – 2017).
- coordinated the Milano Bicocca group for the feasibility study for the differential spectrometer of MILLIMETRON space observatory (ROSCOSMOS mission) (2011 – 2012) and for SAGACE satellite, a small mission for Italian Space Agency (ASI) (2008).
- Co-PI in polarimetric observation of CMB from ground with Mipol experiment (1998 – 2011)
- Member of SPORt collaboration, for the measurements of CMB polarization, on the International Space Station (1998 – 2005).
- Co-PI in absolute temperature observation of CMB from ground with TRIS experiment (1990 – 2005).
- Contributed to CMB anisotropy observation with ARGO, a balloon borne experiment (1988 – 1993).