

CURRICULUM VITAE ET STUDIORUM

Born in Torino, 14/10/1945

Master ('Laurea') in Physics at the University of Torino, 19/12/1968

Contract as young researcher at the Physical Institute of the University of Torino from 1/10/1969 to 28/2/1970

Fellowship of the National Research Council (CNR) at the Physical Institute of the University of Torino from 1/3/1970 to 31/5/1974

Temporary assistant at the Physical Institute of the University of Torino from 1/7/1974 to 31/10/1974

Research contract from the Italian 'Ministero della Pubblica Istruzione' at the Physical Institute of the University of Torino from 1/11/1974 to 15/11/1975

Researcher at the Institute of Cosmogeophysics of the CNR of Torino from 16/11/1975 to 1/10/1989

Associated Astronomer at the Astronomical Observatory of Torino from 2/10/1989 to 15/11/2001

Full Astronomer at the Astronomical Observatory of Torino from 16/11/2001

Co-author of more than 80 articles published on international refereed scientific journals (ref.: SAO/NASA Astrophysical Data System, ADS)

Local PI of research national projects of the Italian Institut for Astrophysics (INAF), the Italian Ministry of the Research and University (MIUR) and of the Italian Space Agency (ASI)

Director of the Astronomical Observatory of Torino (1/1/2002 - 15/7/2005)

Component of the Committee 'High Energy Astrophysics' (*Macroarea IV*) of the Italian Institute of Astrophysics, INAF (2006 - 2007)

Component of the panel for the selection of research proposals in the framework of INAF-ASI projects (2007-2008)

Vice-President of the *Planetario di Torino* (2006-2008)

Summary of the scientific activity

Since the preparation of my thesis for the master degree in 1968 ('Laurea') my field of research referred mainly to theoretical astrophysics. The initial activity was addressed to problems concerning the final evolution of massive stars of Pop I and to the structure of open galactic clusters. From 1970 my research activity was always addressed to problems of plasma and high energy astrophysics. I faced first problems on pulsar electrodynamics, referring in particular to mechanisms of acceleration and emission of particles from large amplitude e.m. waves originated by rotating neutron stars. Later this kind of study was extended to the more general process of interaction between the pulsar and the Supernova Remnant (in this

framework I was involved in X-ray observations of these kinds of objects), including recently also other compact galactic objects (novae and micorquasars). Since 1974 I started the study of plasma instabilities in connection with the phenomenology of extragalactic radio sources and jets, and later (1982) I extended my research also to the problem of the origin and propagation of astrophysical jets. In the framework of this problem until very recently I was involved in the systematic analysis of steady MHD solutions for collimated outflows and the temporal evolution of hydrodynamic instabilities by means of numerical simulations. At the same time from 1990 I was also involved in observational activity, in particular in the analysis of X-ray data on radio galaxies from the satellites Rosat and SAX. At the beginning I studied the properties of the environment through which extragalactic jets propagate, then I extended the analysis to the central core of low power radio galaxies, in the framework of the unified model for active nuclei, using mainly data from Chandra and XMM observations.

At the moment, these are the main two branches of my scientific activity:

- Acceleration and collimation of astrophysical jets: study of steady and time dependent MHD solutions
- X-ray observations (Chandra) and analysis of the emission from the cores of low power radio galaxies: test for the unified models and for the accretion-ejection mechanisms.