

CURRICULUM VITAE ET STUDIORUM

of Prof. Claudio CASSARDO

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Personal data

Date and place of birth: Torino (Turin), Italy, 4 November 1963

Citizenship: Italian

Marital status: married.

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Present position: Associate Professor of Atmospheric Physics at the Faculty of Sciences of University of Torino (since November 2000). Teacher of the following courses: Physics of the Climate for undergraduate student in Physics, and Physics of the Atmosphere and Meteorology for graduate students in Physics, at the University of Torino.

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Formation, training and specializations

- Meteorological Training Course MET1 at ECMWF (European Meteorological Medium-range Weather Forecast) of Reading, U.K. (1995);
- Meteorological Training Course MET2 at ECMWF (European Meteorological Medium-range Weather Forecast) of Reading, U.K. (1994);
- Ph.D. in Geophysics at the Genoa University (May 1992). Ph.D. thesis title: "The Land Surface Process Model: a physical model for energetic, thermal and hydrological exchanges between soil and low atmosphere";
- course of formation in meteorology in the period september-december 1987 at Florence at the Italian Meteorological Service;
- Graduation in Physics at the Torino University (14 March 1987). Thesis title (field: atmospheric physics): "Interaction of atmospheric flows at synoptic scale with the Alps";
- Diploma of A-level G.C.E. at the Classical Lycée in Chieri (1982)

Tasks, assignments and occupations:

- Associate Professor at the Faculty of Sciences of the Turin University (2000 – today);
- Vicedirector, scientific coordinator and teacher docente for the first edition of the II level master in Meteorology organized by the Faculty of Sciences of the Turin University in 2004-05;
- Consulente of CSI Piemonte in 2001 on the argument “The models in agrometeorology” in the frame of the agreement between the General Physics Department and the Piedmont Region;

- Referee since 2000 of several papers for some national and international journals: Hydrological Processes, Journal of Atmospheric and Oceanic Technology, Il Nuovo Cimento C, il Bollettino Geofisico, Nimbus;
- Permanent member, responsabile of the Meteorology Section, and Webmaster since 1999 of the Commission on Water Sustainability of IGU (International Geographic Union);
- Member since 1999 of the working group on boundary layer in the frame of the European consortium COSMO (COntortium for Small scale MOdeling);
- Member of the Mission Selection Team and Mission Scientist at the Project Operation Centre (POC) of the Regional Meteorological Center of Milan during the intensive phase (September 1999) of the international experimental campaign of measurements MAP (Mesoscale Alpine Programme);
- Since 1994, member of the working group on boundary layer in the frame of the international research programme MAP (Mesoscale Alpine Programme);
- Researcher at the Faculty of Sciences of Eastern Piedmont University, located in Alessandria (1995 - 2000);
- Researcher at the II Faculty of Sciences of Turin University, located in Alessandria (Nov 1993 – Oct 1995);
- Since 1993 editorial consultant of the official organism of the Italian Society of Meteorology: the journal Nimbus;
- Post-Ph.D. research grant at Torino University (1993);
- Grant on "Atmospheric Turbulence Mechanics" within the Project ERCOFTAC (1992);
- Meteorological Forecaster (1988) at the Regional Meteorological Center of Milan, belonging to the Italian Meteorological Service, during compulsory military service.

Funded projects:

- Scientific Responsible of a biennial (2002-3) Italian University Research Ministry project entitled: “*The variability of local climate linked to the phenomena of global climatic change*”, in the frame of the national project named: “*Search of CO₂ sources and sinks with a multi-receptor model*” (total funding: 34602€);
- Scientific Responsible of a project of “*updating of the instruments for the remote sensing of the meteorological data gathered in the urban area of the Alessandria municipalità by the Department of Sciences and Advanced Technologies of the Eastern Piedmont University, in Alessandria*” for which the “Direzione Servizi Tecnici di Prevenzione” of Piedmont Region, in the frame of an agreement expressly drawn up, gave a funding of £ 9.400.000;
- Scientific Responsible of the triennial (1997-9) CNR (National Research Council) project entitled: “*Analysis of physical processes in the surface layer with model RAMS-LSPM: application to the 1994 flood event in Piedmont*”, in the frame of the national strategic project named “*MAP: Study and verification of the influence of parametrizations for fluxes and turbulence in the boundary layer on the mesoscale circulation*” (total funding: £ 90.000.000).

Other projects and collaborations:

- Scientific Responsible of an agreement of scientific cooperation between the Faculty of Sciences of Turin University and the College of Engineering of the Ewha Womans University of Seoul, Republic of Korea (Korean Scientific Responsible: prof. Park Seong-Ki), on the theme: “*Answers of meteorological and climatic systems induced by the variations of the terrestrial surface and soil characteristics*”;
- Free collaboration with the Institute of Sciences and Climate (ISAC) of the National Research Council (CNR) in the period Jan - Dec 2004 on the argument: “*Study of the behaviour of atmospheric pollutants in the urban area of Turin in occasion of foehn events*”;
- Free collaboration with the Institute of Sciences and Climate (ISAC) of the National Research Council (CNR) in the period Jul 2002 - Dec 2003 on the argument: “*Meteorology at local scale with particular regard to the episodes of foehn in Piedmont*”;
- Participation since 1999 to the project of European consortium COSMO (Consortium for Small scale MOdeling), with the aim to improve the predictive capabilities of the European limited area model model of atmospheric circulation developed by the Consortium itself and used by the member states;
- Collaboration with the Institute of Sciences and Climate (ISAC) of the National Research Council (CNR) in the year 1996 on the argument: “*Study on the correlations between the synoptic flows and the concentration of measured carbon dioxide at Plateau Rosà*”;
- Participation since 1994 to the working group on boundary layer in the frame of the international research project MAP (Mesoscale Alpine Programme), with the aim to improve the physical representation of the exchange processes at the interface between atmosphere, vegetation and soil in the terrestrial surface layer;

- Participation (1990-1991) to the project WORLD LABORATORY (Project Land 2 n. 305 - DMP Subproject - Drought and Desertification) with close collaboration with the Academia Sinica of Beijing (China) regarding studies on the interaction surface-vegetation-atmosphere.

Other informations:

- Possesses an excellent knowledge of the foreigner languages French and English, a good knowledge of the foreigner languages Spanish and Portuguese, a superficial knowledge of Korean, and scholastic reminiscences of Latin and ancient Greek;
- Possesses more than 50 public web pages (on the site: <http://www.ph.unito.it/cassardo/>), periodically updated;
- Official webmaster of the IGU (International Geographic Union) Commission on Water Sustainability (web address: <http://water-sustainability.ph.unito.it/>) and of the Group of Atmospheric Physics of the University of Turin (web address: <http://www.ph.unito.it/dfg/ricerca/geofit/>);
- Ha installato e gestisce la stazione meteorologica dell'università di Alessandria (acquisizione, controllo di qualità dei dati, memorizzazione, visualizzazione in tempo reale, grafica su pagina web, archivio);
- Main programming languages known: Fortran 90, C++, Visual Basic, Assembler, HTML, Java;
- Main application packages known: Office (Word, Excel, Access, Powerpoint), Matlab, Scilab, Mathematica, NCAR graphics, GrADS, R project;
- Main operative system known: Windows, Linux, Unix, Apple, VMS, MS-DOS;
- Associated to the following societies: Italian Society of Meteorology, Italian Geophysical Association, European Meteorological Society, European Geophysical Union.

Sinthetic scientific activity:

In the following the main research topics developed in the last 10 years are listed; the order does not follow a criterion of importance.

- Localization of regions acting as sources and sink of greenhouse gases by means of a multi-receptor model and the synoptic trajectories of air, and analysis of their seasonal modulations
- Impact of the initialization of soil moisture on the estimate of precipitations in the meteorological forecasting models in case of strongly developed convection
- Simulation of intense flood events and estimates of the associated hydrological budget
- Reconstruction of the energy and enthalpy budget in the antarctic surface layer
- Simulation of the hydrological, thermal and energy budgets with LSPM in the urban boundary layer of Turin
- Simulation of the hydrological, thermal and energy budgets with LSPM in the antarctic boundary layer
- Simulation of the hydrological, thermal and energy budgets with LSPM in the desert tropical boundary layer
- Estimate of the leaf wetness with measurements "in situ" and models

- Analysis of the ultracentennial historical meteorological series of Alessandria (Italy)
- Study of the air-sea interactions in occasion of bora and sirocco events on the Adriatic sea
- Climatology of the foehn in Piedmont
- Bioclimatic and territorial analysis of the Piedmont with particular reference to the habitat of “vitis vinifera”

Teaching activity:

- Coordinator and vice-director of the Master (II level) in Meteorology (Faculty of Sciences, University of Turin) since 2004;
- Modules of Meteorology (64h, 8 CFU, Master in Meteorology, Faculty of Sciences) since 2004;
- Module of Micrometeorology (16h, 2 CFU, Master in Meteorology, Faculty of Sciences) since 2004;
- Module of Boundary Layer Physics (16h, 2 CFU, Master in Meteorology, Faculty of Sciences) since 2004;
- Module of Meteorology (48h, 6 CFU, Faculty of Sciences, graduation in Environmental Physics) since 2000;
- Module of Environmental Physics II (48h, 6 CFU, Faculty of Sciences, graduation in Environmental Physics) since 2002;
- Module of Introduction to Meteorology (8h, 1 CFU, Faculty of Sciences, graduation in all Physics classes) since 2001;
- Modules of Meteorology I and II (32h, 4 CFU, Faculty of Sciences, School of Specialization in Physics) since 2001;
- Module of General Physics II and III (57h, 6CFU, Faculty of Sciences, graduation in Chemistry) in the period 1997-2002;
- Module of Laboratory of General Physics (34h, 4CFU, Faculty of Sciences, graduation in Chemistry) in the period 1997-2000;
- Module of Physics of Fluids (16h, 2CFU, Faculty of Sciences, graduation in Physics) in the period 1997-1999;
- Exercises and support to teaching activities of General Physics (Faculty of Sciences, graduation in Physics, Biology and Chemistry) in the period 1992-1996, for an yearly total of 95-130 hours;