

GENERAL INFORMATION and CAREER OVERVIEW

- Born in Torino (Italy), 4 October 1967
- Present Institute:
Istituto di Scienze dell'Atmosfera e del Clima - ISAC
(*Institute of Atmospheric Sciences and Climate*)
Consiglio Nazionale delle Ricerche – C.N.R. (*National Research Council*)
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SCIENTIFIC CAREER OVERVIEW – brief

Present position: researcher at the Institute of Atmospheric Sciences and Climate (Torino Seat) of the National Research Council.

I graduated in Physics in 1993 and earned my Ph.D. in Geophysics in 1997, then I have been Associate Researcher at the Institute of Cosmo-Geophysics of the National Research Council (CNR, Italy, 1997-1999), at the Department of Sciences and Advanced Technologies of the University of Piemonte Orientale (Italy, 1999-2001) and Guest Scientific Researcher at the Department of Environmental Quality of The Netherlands Organisation for Applied Scientific Research (TNO-MEP, The Netherlands, 2000-2001). Since 2001 I am Researcher at the Institute of Atmospheric Sciences and Climate of the CNR (Torino, Italy). From 2001 to 2008 I was short-term Professor at the University of Piemonte Orientale and since 2010 I collaborate as appointed Professor with the University of Torino. Since 2011 I am Responsible of the Seat of Torino of the Institute of Atmospheric Sciences and Climate (ISAC) of the CNR.

My **main research fields** are atmospheric physics, planetary boundary layer meteorology, turbulence, atmospheric dynamics and dispersion modelling. I specialized in numerical modelling of atmospheric circulation, transport and pollutant dispersion, in particular over complex terrain.

I was/am involved in several national and international research projects and I am author of more than 50 articles published on ISI or peer-reviewed international journals, more than 50 peer-reviewed conference proceedings and am co-author of 27 book chapters. I presented more than 60 works at more than 40 international conferences.

SCIENTIFIC CAREER OVERVIEW – details

2012. Qualified for the National Scientific Qualification (Abilitazione Scientifica Nazionale) for the role of Associate Professor in Geophysics (Sector 04/A4)

Since **2011.** Responsible of the Torino Seat of the Institute of Atmospheric Sciences and Climate (ISAC), nominated by the ISAC Director.

Since **2011.** Member of the Joint Committee for the Framework Agreement between the National Research Council and the University of Piemonte Orientale “A. Avogadro”, nominated by the CNR President.

2010-2011. Visiting Professor at the Institute of Meteorology, Free University of Berlin (Germany) (15.03-15.05.2010, 16.05-06.06.2011)

April **2006**, May **2011.** Qualified in the CNR selection, through national competitions, for Senior Researcher position

Since December **2001.** Researcher at the Institute of Atmospheric Sciences and Climate, National Research Council, Torino.

February **2000** - March **2001.** Scientific Researcher (Part-time collaboration) at the Department of Environmental Quality – Institute of Environmental Sciences, Energy Research and Process Innovation, the Netherlands Organisation for Applied Scientific Research TNO-MEP, Apeldoorn (NL), *in the framework of the international project TRAPOS (Optimisation of Modelling Methods for Traffic Pollution in Streets)*

December **1999** – November **2001.** Associate Researcher in Physical Sciences c/o the Department of Sciences and Advanced Technologies, University of Piemonte Orientale, Alessandria.

1999. CNR Fellowship in the MAP (Mesoscale Alpine Programme) Project – II, at the Institute of Cosmo-Geophysics - CNR, Torino. Research group of Physics of the Environment, Head of Research: Dr. D. Anfossi.

1998. CNR Fellowship in Physics of the Earth - National Committee of Physical Sciences, at the Institute of Cosmo-Geophysics - CNR, Torino. Research group of Physics of the Environment, Head of Research: Dr. D. Anfossi.

1997. CNR Fellowship in the MAP (Mesoscale Alpine Programme) Project, at the Institute of Cosmo-Geophysics - CNR, Torino. Research group of Physics of the Environment, Head of Research: Dr. D. Anfossi.

...and before I was studying

1993-1996. Ph.D. in Geophysics, consortium of Universities of Genova, Torino and Modena
Ph.D. research activity in Physics of the Atmosphere carried on at the Institute of Cosmo-Geophysics-C.N.R., Torino, in the research group of Physics of the Environment, Head of Research: Dr. D. Anfossi.
tutors: Prof. A. Longhetto – Dep. of General Physics - University of Torino and Dr. D. Anfossi - Institute of Cosmo-Geophysics- C.N.R. – Torino

Title of the PhD dissertation : *Studio modellistico della circolazione e della turbolenza a mesoscala su terreno complesso (Study of mesoscale circulation and turbulence modelling over complex terrain)*

1993. Degree in Physics (*Laurea, corresponding to a Master*) received from the University of Torino

Thesis in Physics of the Atmosphere c/o the research group of Physics of the Environment at the Institute of Cosmo-Geophysics - C.N.R.' Torino; tutors: Prof. A. Longhetto – Dep. of General Physics - University of Torino and Dr. D. Anfossi - Institute of Cosmo-Geophysics- C.N.R. – Torino

Title of the dissertation: *Studio modellistico della dispersione a lunga distanza degli effluenti della centrale di Chernobyl (Study of long-range dispersion modelling of the pollutant from the Chernobyl nuclear plant)*

1986. Scientific High School graduation (*Diploma di Maturità Scientifica*) received from the Liceo Scientifico Ettore Majorana of Torino.

... and attending TRAINING COURSES

2005

Introduzione alle tecniche di calcolo parallelo e distribuito. CILEA, Segrate (MI, Italy), 6 – 9 June 2005

1997

NATO Advanced Study Institute: Buoyant Convection in Geophysical Flows
c/o Institut für Hydrologie und Wasserwirtschaft - Universität Karlsruhe
(TH, Germany) - Pforzheim, 17-27 March 1997

LECTURES ON LAGRANGIAN DISPERSION, C.N.R. - ISIATA,
Lecce (Italy), September 29 - October 3 1997

1996

Meteorological Training Course MET2: General Circulation, Systematic Model Errors and Predictability
c/o European Centre for Medium-Range Weather Forecasts (ECMWF), Reading (England),
18 - 22 March 1996

1995

Meteorological Training Course MET1: Numerical methods and adiabatic formulation of models, c/o European Centre for Medium-Range Weather Forecasts (ECMWF), Reading (England), 26 April - 5 May 1995

Meteorological Training Course MET2: Parameterisation of diabatic processes. c/o European Centre for Medium-Range Weather Forecasts (ECMWF), Reading (England), 9 - 19 May 1995

1994

College on Atmospheric Boundary Layer and Air Pollution Modelling. c/o International Centre for Theoretical Physics (ICTP), Trieste (Italy), 16 May - 3 June 1994

International responsibilities

Since April **2011**. Vice-Chair of the COST Action ES1006 “Evaluation, improvement and guidance for the use of local-scale emergency prediction and response tools for airborne hazards in built environments” (2011-2015).

Since October **2010**. Italian Representative in the Scientific Committee of NATO/SPS International Technical Meeting (ITM) on Air Pollution Modelling and its Application.

2009-2011. Invited External Expert in the External Expert Panel of the Project “HIRMOD-High-resolution atmospheric modelling in complex terrain for future climate simulations”, Funded by the Austrian Climate Research Programme.

Responsible: Prof. Petra Seibert, Institute of Meteorology, University of Natural Resources and Applied Life Sciences, Vienna

2006-2009. Italian Delegate in the Management Committee of the COST Action 732 “Quality Assurance and Improvement of Micro-Scale Meteorological Models” (2005-2009)

2005-2007. Member of the Joint Project Steering Committee ALPNAP – MONITRAF in the frame of the INTERREG III-B Alpine Space Project ALPNAP.

Other responsibilities

2014. Responsible for the organization of the 10th COST ES1006 Managing Committee and Working Groups Meeting and of the 3rd Open Workshop on Local-Scale Airborne Hazards Modeling and Emergency Response, CNR Headquarters, Rome (Italy), 7-9 May 2014

2013- 2014. Member of the Scientific Board of the 6th International Symposium on Computational Wind Engineering - CWE2014, Hamburg (Germany), 8 – 12 June 2014

2010. Organized, as responsible for the Host Country, the 31st NATO/SPS International Technical Meeting on Air Pollution modelling and its Application, held in Torino (Italy) from 27 September 2010 to 01 October 2010

2008. Responsible for the organization of the 12th COST 732 Managing Committee and Working Groups Meeting. Torino, Italy. 11-12 September 2008

2005 – 2008. Leader of the Working Package 6: Meteorology - Monitoring and Prediction, in the framework of ALPNAP Alpine Space Project INTERREG IIIB

2003 – 2009. Elected member of the Managing Committee of the Institute of Atmospheric Sciences and Climate (ISAC-CNR), in the role of Representative of the Researchers.

Editorial and Review activity

Since November **2013**. Associate Editor for the Journal of Air and Waste Management Association

Since November **2010**. Editor for Meteorology and Atmospheric Physics journal, Springer Publisher

2012. Co-editor of the volume:

COST ES1006 - Background and Justification Document, COST Action ES1006, May 2012. Andronopoulos S., Armand P., Baumann-Stanzer K., Herring S., Leitl B., Reisin T., Trini Castelli S. Eds., COST Office Publishers, 80 pp.

2011. Co-editor of the volume:

Air Pollution Modeling and its Application XXI, Steyn D.G. and Trini Castelli S. Eds., Springer Publishers, 750 pp.

2007. Editor of chapter 3 and part of chapter 7 in:

D. Heimann, M. de Franceschi, S. Emeis, P. Lercher, P. Seibert (Eds.), D. Anfossi, G. Antonacci, M. Baulac, G. Belfiore, D. Botteldooren, A., Cemin, M. Clemente, D. Cocarta, J. Defrance, E. Elampe, R. Forkel, E. Grießer, B. Krüger, B. Miège, F. Obleitner, X. Olny, M. Ragazzi, J. Rüdissler, K. Schäfer, I. Schicker, P. Suppan, S. Trini Castelli, U. Uhrner, T. Van Renterghem, J. Vergeiner, D. Zardi, 2008: Air Pollution, Traffic Noise and Related Health Effects in the Alpine Space: A Guide for Authorities and Consultants, ALPNAP comprehensive report. Università degli Studi di Trento, Dipartimento di Ingegneria Civile e Ambientale, Trento, Italy, 335 pp. ISBN: 978-88-8443-208-7

Reviewer for the following International Journal:

Advances in Science and Research
Air Pollution Research
Atmosphere
Atmospheric Chemistry and Physics
Atmospheric Environment
Atmospheric Research
Boundary-Layer Meteorology
Communications in Nonlinear Science and Numerical Simulation
Environmental Fluid Mechanics
Environmental Modelling and Software
Environmental Science and Policy
International Journal of Environment and Pollution
Journal of the Air and Waste Management Association
Journal of Hazardous Materials
Meteorology and Atmospheric Physics
Natural Hazards and Earth System Science
Nuovo Cimento B and C
Physica A
Physics of Fluids

Teaching

Since **2014**. Lecturer (co-tenure) in “Environmental Physics with Laboratory” course for the Department of Science for the Cultural Heritage, University of Torino

2013, 5 December. Continuing Vocational Education Course for the Regional Environmental Agency ARPA PIEMONTE, “Modellistica per la valutazione della qualità dell’aria”, Torino, Italy

Since **2010**. Lecturer (tenure) in “Atmospheric pollutant dispersion” for the Post-laurea Specialization School in Medical Physics (Scuola di Specializzazione in Fisica Medica), University of Torino

May **2010**. One lecture in “Modelle für Wetter und Umwelt” course at the Institute of Meteorology of the Free University of Berlin (Germany)

Since **2009**. Seminars for “Environmental Physics” Course, Department of Physics, University of Torino

2009.

- Lectures in “Atmospheric pollutant dispersion” course for the Post-laurea Specialization School in Medical Physics (Scuola di Specializzazione in Fisica Medica), University of Torino

- Lectures in “Dynamics of Extended Systems” course, Department of Physics, University of Torino

2001 – 2008. Short-term Professor at the University of Piemonte Orientale, as lecturer in “Microclimate for Cultural Heritage Protection” course, Faculty of Literature and Philosophy.

1991-1992. Lecturer and laboratory assistant in “General Physics Laboratory Experiments” course, Department of Experimental Physics, University of Torino, at the former Alessandria seat of the University of Torino, now University of Piemonte Orientale.

Educational training

2010-2013. Co-tutor for the PhD Course in Physics, Dept. of Physics, University of Torino

2010. Co-tutor for two Laurea in Fisica (Bachelor degree), Dept. of Physics, University of Torino

Since **2008**. Host and tutor of Short-Term Scientific Mobility Programs in the frame of COST Action 732 and COST Action ES1006

Since **2006**. Scientific Responsible for eight temporary-position grants to associate researchers

1996 – 2002: Training of six graduating (Master Degree) and PhD students, Dept. of Physics, University of Torino.

Experiences in the experimental field

2007-2008. Collaborator in the Urban Turbulence Project campaign, held in Torino from January 18th, 2007 to April 23rd, 2008, during which low-wind and turbulence measurements were carried out in a suburban site.

2001. Responsible, for the Department of Science and Advanced Technologies of University of Piemonte Orientale and for the Institute of Cosmo-Geophysics of CNR (ICGF-C.N.R.) of Torino, to the experimental radiosounding campaign in the framework of HUPROMED Project, on the Oceanographic C.N.R. ship URANIA in the Mediterranean basin (14 – 26 October 2001).

1999. Responsible, for the Institute of Cosmo-Geophysics of CNR (ICGF-C.N.R.) of Torino, of the radio-sounding campaign at Genova Research Radio-Sounding Station for MAP (Mesoscale Alpine Programme) Intensive Observationl Period (September the 7th - November the 15th, 1999), carried out as a collaboration between the ICGF-C.N.R. and the Physics Department of the University of Genova.

Computing experience

Excellent skills and large experience in FORTRAN language programming, some experience in C language.

Excellent experience in LINUX, UNIX, VMS, DOS environments and in Microsoft Office applications. Good experience in using NCAR and PV-WAVE graphics.

I am the reference manager for the net system at Turin section of ISAC since 2002.

Collaborations

Univ. of Piemonte Orientale, Dep. of Science and Advanced Technologies, Alessandria, Italy

University of Torino, Dep. of General Physics, Torino, Italy

Free University of Berlin, Institute of Meteorology, Berlin, Germany

Universidade Federal de Santa Maria (RS), Brazil

University of Graz, Austria

ARPA – Environment Protection Agency of Regione Piemonte, Italy

ARIANET srl, Milano, Italy;

ATMET LLC, Boulder, Colorado, USA;

SOREQ Nuclear Research Centre, Tel Aviv, Israel

Mitsubishi Heavy Industries - Fluid Dynamics Laboratory, Nagasaki, Japan

Institute of Meteorology, Free University Berlin, Germany