

SCIENTIFIC CAREER OVERVIEW

Present position

Senior Researcher at the Institute of Atmospheric Sciences and Climate (ISAC, Torino Branch) of the Italian National Research Council (CNR).

Responsible of the CNR-ISAC Torino Branch.

Adjunct Professor at the Department of Physics, University of Torino.

- Since **2020** Qualified in the National Scientific Habilitation (Abilitazione Scientifica Nazionale) for the role of Full Professor in Geophysics (Sector 04/A4)
- Since **2012** Qualified in the National Scientific Habilitation (Abilitazione Scientifica Nazionale) for the role of Associate Professor in Geophysics (Sector 04/A4)
- Since **2011** Responsible of the Torino Branch of the Institute of Atmospheric Sciences and Climate (ISAC), nominated by the ISAC Directors, [REDACTED] (2011-2017) and Dr. M.C. Facchini (since 2018).
- Since **2011** Member of the Managing Committee of the CNR Research Area in Torino.
- 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, Prof [REDACTED].
- Since **2010** Leader of the Group of Environmental Physics at CNR-ISAC, Torino.
- Since **2002** Qualified in CNR selections, through national competitions, for Senior Researcher positions.
- Since **12/2001** Researcher at the Institute of Atmospheric Sciences and Climate, National Research Council, Torino.
- 02/2000 – 03/ 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)*
- 12/1999 – 11/2001** Associate Researcher in Physical Sciences c/o the Department of Sciences and Advanced Technologies, University of Piemonte Orientale, Alessandria.
- 12/1998 – 11/1999** CNR Research Fellow in the MAP (Mesoscale Alpine Programme) Project – II, at the Institute of Cosmo-Geophysics - CNR, Torino. Research group of Physics of the Environment
- 12/1997 – 11/1998** CNR Research Fellow 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.

01/1997 – CNR Research Fellow in the MAP (Mesoscale Alpine Programme) Project, at the Institute of
12/1997 Cosmo-Geophysics - CNR, Torino. Research group of Physics of the Environment.

EDUCATION

- 1993-1996** Ph.D. in Geophysics, consortium of Universities of Genova, Torino and Modena
Title of the PhD dissertation: *Study of mesoscale circulation and turbulence modelling over complex terrain*
- 1993** Laurea Degree in Physics (*Master*) from the University of Torino
Title of the dissertation: *Study of long-range dispersion modelling of the pollutant from the Chernobyl nuclear plant*
- 1986** Scientific High School graduation (*Diploma di Maturità Scientifica*) from the Liceo Scientifico Ettore Majorana of Torino.

Post-Laurea/Post-PhD training courses

- 2005** Introduzione alle tecniche di calcolo parallelo e distribuito
CILEA, Segrate (Italy), 6 – 9 June 2005
- 1997** NATO Advanced Study Institute: Buoyant Convection in Geophysical Flows
Institut für Hydrologie und Wasserwirtschaft - Universität Karlsruhe, Pforzheim (Germany), 17-27 March 1997
- 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
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
European Centre for Medium-Range Weather Forecasts (ECMWF), Reading (England), 26 April - 5 May 1995
- 1995** Meteorological Training Course MET2: Parameterisation of diabatic processes.
European Centre for Medium-Range Weather Forecasts (ECMWF), Reading (England), 9 - 19 May 1995
- 1994** College on Atmospheric Boundary Layer and Air Pollution Modelling.
International Centre for Theoretical Physics (ICTP), Trieste (Italy), 16 May - 3 June 1994

PROFESSIONAL ACTIVITIES AND RESPONSIBILITIES

Professional Appointments

- Since October **2017** Chairperson of the Initiative on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, and related conference.
- Since May **2016** Member of the Steering Committee of the Initiative on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, and related conference.
- Since October **2010** Italian Representative in the Scientific Committee of NATO/SPS International Technical Meeting (ITM) on Air Pollution Modelling and its Application.
- 2005-2019** Member or Chair in 20 Search Committees for temporary positions (national competition) at CNR-ISAC and ARPA-Piemonte (Regional Environmental Agency)
- 2011-2015** 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".
- 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. ██████████, 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".
- 2005-2008** Member of the Joint Project Steering Committee ALPNAP – MONITRAF in the frame of the INTERREG III-B Alpine Space Project ALPNAP.
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.
- Since **2002** Reference manager for the net system at Turin section of ISAC.
- 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-CNR) of Torino, of the experimental radiosounding campaign in the framework of HUPROMED Project, on the Oceanographic CNR ship URANIA in the Mediterranean basin. 14/10-26/10/2001.
- 1999** Responsible, for the Institute of Cosmo-Geophysics of CNR (ICGF-CNR) of Torino, of the radio-sounding campaign at Genova Research Radio-Sounding Station for MAP (Mesoscale Alpine Programme) Intensive Observational Period, carried out as a collaboration between the ICGF-CNR and the Physics Department of the University of Genova. 07/09-15/11/1999

Collaborations: visiting and hosting scientist

- 2019–2020** Responsible and Host of a sabbatical-year program. Visiting Scientist: ██████████, Israelian Atomic Research Centre, at CNR-ISAC Torino. Research subject: *“Atmospheric boundary-layer dynamics and simulation of the atmospheric circulation and pollutant dispersion”*. 19/08/2019 – 18/08/2020
- 2018** Responsible and Host of a CNR Short Term Scientific Mobility funding program. Visiting Professor: ██████████ ██████████ ██████████, Centre d'Enseignement et de Recherche en Environnement Atmospherique, joint Laboratory between Ecole des Ponts et Chaussees and Electricite de France R&D, at CNR-ISAC Torino. Research Subject: *“Atmospheric dispersion model intercomparison for releases of harmful dense gases and emissions in low-wind conditions in the context of emergency response”*. 19 – 30/11/2018
- 2015** Responsible and Host of a CNR Short Term Scientific Mobility funding program. Visiting Professor: Prof. ██████████, Institute of Meteorology, Hamburg University, at CNR-ISAC Torino. Research subject: *“Feasibility study for a European urban-scale dispersion field experiment for models intercomparison in the emergency response framework”*. 20/09 – 3/10/2015
- 2012** Invited Visiting Scientist at the Fluid Dynamics Laboratory, Mitsubishi Heavy Industries, Tokyo, Japan. Research subject: *“Development of an interface to combine RAMS and Micro-Spray”*. 28/01-04/02/2012
- 2011** Visiting Scientist at the Institute of Meteorology, Free University of Berlin, Germany, in the frame of the CNR Short Term Scientific Mobility funded programme. Research subject: *“Characterization of the urban meteorology and study of its effects on the pollutant dispersion in cities”*. 16/05-06/06/2011
- 2010** Invited Visiting Scientist at the Institute of Meteorology, Free University of Berlin, Germany, under a visiting-researcher contract “Internationale Netzwerkuniversität”. Research subject: *“Urban Modelling, with a focus on coupling and downscaling a regional meteorological model with an urban model”*. 15/03-15/05/2010
- 2007; 2008** Invited Visiting Scientist at the SOREQ Nucelar Research Centre, Yavne, Israel. Research Subject: *“Urban air pollution modelling”*. 25-30/08/2007 and 01-07/11/2008
- 2005; 2009** Host of a short-term mobility program. Visiting Scientist: ██████████, Applied Physics Division SOREQ NRC (Yavne, Israel), at CNR-ISAC Torino. Research Subject: *“Urban air pollution modelling”*. 12-16/12/2005 and 06-11/06/ 2009.
- 2002–2005** Visiting Researcher at ATMET Company (Boulder, CO, USA) and Colorado State University (Fort Collins, CO, USA), funded by CNR-ISAC research projects. Research subject: *“Development and test of new turbulence closures in RAMS model”*. Two weeks in 03/2002, in 02/2004 and in 09/2005.
- 2001** Invited Visiting Scientist at the Fluid Dynamics Laboratory, Mitsubishi Heavy Industries, Nagasaki, Japan. Research subject: *“Joint study on atmospheric dispersion modelling”*. 01/03-25/03/2001

Conferences: organization and committee membership

- 2017–2019** Member of the Local Scientific Committee of the 17th European Turbulence Conference - EUROMECH, Torino (Italy), 3-6 September 2019
- 2017** Co-Convener of the AGU Session GC13E-GC23E “Climate Change Impacts on Human Health and the Environment”, 2017 AGU Fall Meeting, New Orleans (USA), 11-15 December 2017.

- 2016–2017** Responsible for the organization of the 18th Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Bologna (Italy), 9-12 October 2017.
- 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
- 2009–2010** Responsible for the Host Country of the organization of the 31st NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application, held in Torino (Italy) from 27 September 2010 to 1 October 2010
- 2008** Responsible for the organization of the 12th COST 732 Managing Committee and Working Groups Meeting. Torino, Italy. 11-12 September 2008

EDITORIAL ACTIVITIES

- Since **2013** Associate Editor for the *Journal of Air and Waste Management Association*
- Since **2010** Editor for *Meteorology and Atmospheric Physics* journal, Springer Publisher
- 2021-2022** Guest Editor of the *Air quality, Atmosphere and Health* Special Issue on “Harmonisation within Atmospheric Dispersion Modelling”
- 2019-2020** Guest Editor of the *Atmosphere* Special Issue on “Atmospheric Pollutant Dispersion over Complex Terrain”
- 2019-2020** Guest Editor of the *Atmosphere* Special Issue on “Atmospheric Dispersion of Pollutants in Urban Environment”
- 2018** Guest Editor of the *International Journal of Environment and Pollution* Special Issue on “Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes”

Volumes

- 2015** Co-editor of the volumes:
 COST ES1006 Model evaluation case studies: Approach and results. Baumann-Stanzer, S. Trini Castelli, S. Stenzel (Eds), 2015. Publisher: University of Hamburg, ISBN: 987-3-9817334-2-6, 114

 COST ES1006 Best Practice Guidelines for the use of Atmospheric Dispersion Models in Emergency Response Tools at local-scale in case of hazmat releases into the air. Andronopoulos S., P. Armand, K. Baumann-Stanzer, S. Herring, B. Leidl, T. Reisin, S. Trini Castelli (Eds), 2015. Publisher: University of Hamburg, ISBN: 987-3-9817334-0-2, 143
- 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., Leidl B., Reisin T., Trini Castelli S. Eds., COST Office Publishers, 80
- 2011** Co-editor of the volume:
 Air Pollution Modeling and its Application XXI, Steyn D.G. and Trini Castelli S. Eds., Springer Publishers, 750

2007 Editor of chapter 3 and co-editor 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 ISBN: 978-88-8443-208-7

REVIEW ACTIVITIES

Reviewer for Projects

2020–2021 Invited expert for the evaluation of scientific proposals for the 13th Austrian Climate Research Programme from the Austrian Climate and Energy Fund.

2019–2020 Invited expert for the evaluation of scientific proposals for the 12th Austrian Climate Research Programme from the Austrian Climate and Energy Fund.

2018–2019 Invited expert for the evaluation of scientific proposals for the 11th Austrian Climate Research Programme from the Austrian Climate and Energy Fund.

2017 Action Rapporteur for EU COST Action Programme, Earth System Science and Environmental Management.

2017 Invited expert for the evaluation of scientific proposals for the 10th Austrian Climate Research Programme from the Austrian Climate and Energy Fund.

2016 Remote Reviewer for ERC Consolidator Grant 2016 Call for Proposals, Earth System Science Panel.

2010 Reviewer and supporter of a project on Boundary Layer Characterization in Urban Areas submitted to the National Science Foundation, USA.

2009–2011 Reviewer and supporter for two projects submitted to the Natural Environment Research Council, United Kingdom.

2008 Invited External Expert and Reviewer for MITACS-NCE Programme, Mathematics of Information Technology and Complex Systems Network of Centres of Excellence, Canada.

2003 Reviewer and supporter for a project on Planetary Boundary Layers, Theory and Role in Earth Systems, submitted to Marie Curie Chair Project EXC FP6-2002-Mobility-10.

Reviewer (multiple reviews each) for the following International Journals:

I received the 2019 Editors' Citation for Excellence in Refereeing by the *Journal of Geophysical Research – Atmospheres*

1. Advances in Science and Research	EMS journal
2. Aerosol and Air Quality Research	IF 2.735
3. Air Quality Atmosphere and Health	IF 2.297
4. Atmosphere	IF 2.046
5. Atmosphere-Ocean	IF 1.197

6. Atmospheric Chemistry and Physics	IF 5.668
7. Atmospheric Environment	IF 4.012
8. Atmospheric Measurement Techniques	IF 3.400
9. Atmospheric Pollution Research	IF 2.918
10. Atmospheric Research	IF 4.114
11. Atmospheric Science Letters	IF 1.796
12. Boundary-Layer Meteorology	IF 3.149
13. Communications in Nonlinear Science and Numerical Simulation	IF 3.967
14. Environmental Fluid Mechanics	IF 1.605
15. Environmental Modeling and Assessment	IF 1.253
16. Environmental Modelling and Software	IF 4.552
17. Environmental Science and Policy	IF 4.816
18. Environmental Science and Pollution Research	IF 2.914
19. European Physical Journal Plus	IF 2.612
20. International Journal of Environment and Pollution	IF 0.690
21. Journal of the Air and Waste Management Association	IF 1.858
22. Journal of Applied Meteorology and Climatology	IF 2.364
23. Journal of Geophysical Research	IF 3.633
24. Journal of Hazardous Materials	IF 7.650
25. Journal of Wind Engineering & Industrial Aerodynamics	IF 3.010
26. Meteorology and Atmospheric Physics	IF 1.656
27. Natural Hazards and Earth System Science	IF 2.883
28. Nuovo Cimento B and C	IF 0.277
29. Physica A	IF 2.500
30. Physics of Fluids	IF 2.627
31. Process Safety and Environmental Protection	IF 4.384
32. Science of the Total Environment	IF 5.589
33. Sustainable Cities and Society	IF 4.624
34. Urban Climate	IF 3.834

TEACHING AND EDUCATIONAL ACTIVITY

- Since 2016** Adjunct Professor, course of “Environmental Physics – Atmospheric Processes and Air Pollution” for the Master course in Physics of the Environment and Advanced Technologies, Department of Physics, University of Torino
- 2014-2018** Adjunct Professor, course of “Environmental Physics with Laboratory” for the Master course in Science of Materials for the Cultural Heritage, Department of Chemistry, University of Torino
- 2018,**
26 Sep Continuing Vocational Education Course for the Politecnico di Torino “*La modellistica della dispersione degli inquinanti in atmosfera*” (*The modelling approach for the dispersion of pollutants in the atmosphere*, 8 hours), Torino, Italy.
- 2010-2015** Adjunct Professor, course of “Atmospheric pollutant dispersion” for the Post-laurea Specialization School in Medical Physics (Scuola di Specializzazione in Fisica Medica), University of Torino
- 2009-2015** Seminars for “Environmental Physics” Course, Department of Physics, University of Torino

- 2013,**
5 Dec Continuing Vocational Education Course for the Regional Environmental Agency ARPA PIEMONTE, “*Modellistica per la valutazione della qualità dell’aria*” (*The modelling approach for the air quality evaluation*, 8 hours), Torino, Italy
- May 2010** Lectures in “*Modelle für Wetter und Umwelt*” course at the Institute of Meteorology of the Free University of Berlin (Germany)
- 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
“*Dynamics of Extended Systems*” course, Department of Physics, University of Torino
- 2001-2008** Adjunct Professor at the University of Piemonte Orientale, course of “*Microclimate for Cultural Heritage Protection*”, 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.

Supervision and educational training

Post-doc and associate researcher supervision

- 2006-2019** Scientific Supervisor and Responsible of ten temporary-position grants for post-doc associate researchers and short-term researcher positions.
- 1 March 2018 – 30 June 2019. [REDACTED]. *Development and validation of a meteo-dispersive modelling system for complex topography on the Italian territory. (Sviluppo e validazione di modellistica meteo-dispersiva per orografia complessa sul territorio italiano).*
- 1 March 2017 – 28 February 2018. [REDACTED]. *Modelling the atmospheric circulation and pollutant dispersion in Val d’Agri (PZ, Italy). (Studio modellistico della circolazione atmosferica e della dispersione di inquinanti nella Val d’Agri (PZ)).*
- 1 May 2014 – 30 April 2015. [REDACTED]. *Simulation of the atmospheric circulation with a non-hydrostatic model for climate studies (Simulazioni della circolazione atmosferica con modello non-idrostatico per studi di interesse climatico).*
- 1 March 2014 – 30 June 2015. [REDACTED]. *High-resolution simulation of the atmospheric circulation with RAMS model in complex orography regions: Italian Alps and Hindu-kush Karakorum (Simulazioni ad alta risoluzione con il modello RAMS della circolazione atmosferica in regioni a orografia complessa: Alpi Italiane e Hindu-kush Karakorum).*
- 17 May – 15 July 2014. [REDACTED] (Short-time research contract). *Data analysis and formulation of parameterizations for the wind velocity standard deviations in different types of areas, urban and rural (Analisi dati e formulazione di parametrizzazioni per le varianze della velocità del vento in diverse tipologie di aree, urbane e rurali).*
- 5 March – 7 July 2012. [REDACTED] (Short-time research contract). *Study of the turbulence in calm regime and urban areas: data analysis, parameterizations of the turbulent variables, their implementation in RMS modelling system (Studio della turbolenza in calma di vento e aree urbane: analisi dati, formulazione di parametrizzazioni per le variabili turbolente, loro implementazione e verifica nel sistema modellistico RMS).*
- 1 April 2010 – 31 January 2011 [REDACTED]. *Development of modelling algorithms for the simulation of transport and dispersion of jet emissions with density effect, at local scale and microscale and in presence of obstacles (Sviluppo di algoritmi modellistici per la simulazione a scala locale e microscala con ostacoli del trasporto e dispersione di emissioni a jet e con effetto densità).*
- 1 July 2008 – 31 March 2010. [REDACTED]. *Study of the dispersion of hydrogen from*

accidental releases with a Lagrangian particle dispersion model (Studio della dispersione di idrogeno da fuoriuscite accidentali con un modello di dispersione Lagrangiano a particelle).

1 September 2007 – 31 August 2008. [REDACTED]. *Lagrangian modelling for the particulate dispersion in the atmosphere (Modellistica Lagrangiana per la dispersione del particolato in atmosfera).*

1 September 2005 – 31 August 2007. [REDACTED]. *RMS modelling study of the meteorology and traffic emission dispersion in the Frejus Alpine transect (Studio modellistico con RMS della meteorologia e della dispersione di emissioni da traffico nel corridoio alpino del Frejus).*

2008-2014 Host and tutor of three Short-Term Scientific Mobility Programs

2013. Tutor for the Short Term Scientific Missions (STSM) young researcher (post-PhD) Program, COST Action ES1006. [REDACTED] (Greece). *The Model Evaluation Protocol.*

2012. Tutor for the Short Term Scientific Missions (STSM) young researcher (post-PhD) Program, COST Action ES1006. [REDACTED] (Greece). *Drafting inventory of reference data available for model testing.*

2008. Tutor for the Short Term Scientific Missions (STSM) young researcher (post-PhD) Program, COST Action 732. [REDACTED] (Greece). *The MUST Field Experiment.*

Doctoral Supervision

2010-2014 Tutor for the XXVI PhD Course, School of Natural Sciences and Advanced Technologies, Physics and Astrophysics course, Dept. of Physics, Univ. of Torino of (3 years). [REDACTED] *Turbulence parameterization in the atmospheric boundary layer: data analysis and new developments in urban roughness and low wind.*

2012 Examiner for a PhD thesis in Hydraulic Engineering, Faculty of Engineering, Univ. of Roma La Sapienza. [REDACTED]. *Analysis of the impact of the urban heterogeneity on the UHI modelling, inside a mesoscale meteorological model based on a parametric subgrid scheme. (Analisi dell'impatto della disomogeneità del tessuto urbano, sulla modellizzazione della UHI, all'interno di un modello meteorologico a mesoscala, mediante uno schema parametrico di sottogriglia.)*

Master Supervision

2019 Examiner for the Master thesis (Laurea Magistrale) in Environmental Engineering, Dept. of Civil and Environmental Engineering, Politecnico di Milano. [REDACTED] [REDACTED]. *Development and application of a kernel method in Lagrangian particle models at the local scale and microscale. (Sviluppo e applicazione del metodo kernel in modelli lagrangiani a particelle a scala locale e a microscala)*

2019 Tutor for the stage and co-tutor of the Master thesis (Laurea Magistrale) in Environmental Engineering, Dept. of Environment, Land and Infrastructure Engineering, Politecnico di Torino. [REDACTED]. *The airborne particulate: ultrafine particles and their measurement instruments. Analysis of case studies. (Il Particolato aerodisperso: le particelle ultrafini e i loro strumenti di misura. Analisi caso studio)*

2018 Co-tutor for the stage and the Master thesis (Laurea Magistrale) in Environmental Physics, School of Science of Nature, Dept. of Physics, Univ. of Torino. [REDACTED]. *Study of CO₂ high concentration events at Plateau Rosa station with atmospheric trajectories and Lagrangian dispersion models*

2016 Examiner for the Master thesis (Laurea Magistrale) in Environmental Physics, Dept. of Physics, University of Torino. [REDACTED]. *Near-surface Turbulence in complex terrain.*

Example of the Mountain-top Site Abeser Kogel.

- 2015** Tutor for the stage and co-tutor of the Master thesis (Laurea Magistrale) in Environmental Physics, School of Science of Nature, Dept. of Physics, Univ. of Torino. [REDACTED]. *Modelling the pollutant dispersion of the Fukushima nuclear plant release*
- 2010** Tutor for the stage and co-tutor of the Bachelor thesis (Laurea Triennale) in Physics, Dept. of Physics, University of Torino. [REDACTED]. *Study of the flow and turbulence around an obstacle with RAMS atmospheric model modified for the microscale. (Studio del flusso e della turbolenza intorno ad un ostacolo con il modello atmosferico RAMS modificato per la microscala)*
- 2010** Tutor for the stage and co-tutor of the Bachelor thesis (Laurea Triennale) in Physics, Dept. of Physics, University of Torino. [REDACTED]. *Analysis of the surface-layer parameters based on data from the Urban Turbulence Project experimental campaign (Studio dei parametri di strato atmosferico superficiale con i dati della campagna sperimentale Urban Turbulence Project, Torino)*
- 1996-2002** Training of six graduating (Master Degree) and PhD students, Dept. of Physics, University of Torino:
- 2002.** [REDACTED]. *Modelli di chiusura della turbolenza ad ordini elevati per lo strato limite atmosferico neutro* (Master thesis)
- 2002.** [REDACTED]. *Studio della dispersione relativa di traccianti passivi in atmosfera attraverso un modello Lagrangiano a due particelle* (Master thesis)
- 1999.** [REDACTED], *Estudo dos processos de transporte e difusão na camada limite planetária utilizando os modelos RAMS e SPRAY: aplicação ao caso do experimento TRACT.* from the Univ. of São Paulo (Brazil), Instituto Astronômico e Geofísico (PhD thesis)
- 1999.** [REDACTED]. *Simulazioni della dispersione turbolenta su terreno complesso nello strato limite neutro.* (Master thesis)
- 1998.** [REDACTED], *Studio di chiusure della turbolenza in modello di circolazione atmosferica a mesoscala.* (Master thesis)
- 1996.** [REDACTED]. *Studio della diffusione atmosferica con modelli Lagrangiani stocastici a distribuzione di probabilità non gaussiana.* (Master thesis)

PROJECTS

Projects – Principal Investigator/Head of Unit

- 2020–2021** Research Agreement between CNR-ISAC and Autorità di Sistema Portuale del Mar Tirreno Centro Settentrionale
Research Title: HARMONIA: HARbour MOdeling and measuremeNts In support to Air quality
Financed by: Autorità di Sistema Portuale del Mar Tirreno Centro Settentrionale
Role: CO-Principal Investigator, responsible of Modelling task
Budget: 72.600 euro
- 2013–2018** Special Project RECCO (REgional Climate in Complex Orography), in Project of Interest NextData – National Research Council CNR
Research Title: Development of ensembles of regional climate change scenarios, with focus on variability, extremes and uncertainties in areas of complex topography
Financed by: Italian Ministry of Education, University, Research
Role: Principal Investigator, Responsible of the Special Project
Budget: 750.000 euro
- 2015–2016** TRESSE – Research agreement for the study of the environmental status of the Lagoon of Venice.

Research Title: Environmental impact assessment of the air pollution due to the ship emissions through a modelling evaluation.

Financed by: Autorità Portuale di Venezia

Responsible of the Project: ██████████, CORILA

Role: Head of Unit ISAC-TO

Budget, total: 1.270.000 euro

Budget ISAC-TO Unit: 57.000 euro

2011–2015

COST Action ES1006

Research Title: Evaluation, improvement and guidance for the use of local-scale emergency prediction and response tools for airborne hazards in built environments.

Financed by: European Union

Role: Vice-chair

Budget: COST Program provides funds for meetings, short-term mobility, workshop, schools

2011–2013

Programma Nazionale di Ricerche in Antartide – Ministero dell'Istruzione, dell'Università e della Ricerca

Research Title: Artide ed Antartide: influenza dello strato limite atmosferico sul clima (ABLCLIMAT)

Financed by: Italian Ministry of Education, University, Research

Responsible of the Project: ██████████, ISAC CNR

Role: Head of Unit ISAC-TO

Budget, total: 105.000 euro

Budget ISAC-TO: 25.000 euro

2010

Research Agreement - Convenzione per un programma di collaborazione e di consulenza tecnico scientifica tra Arianet SRL e Consiglio Nazionale delle Ricerche - ISAC Sezione di Torino

Research Title: Sviluppo di algoritmi modellistici per la simulazione a scala locale e microscala con ostacoli del trasporto e dispersione di emissioni a jet e con effetto densità.

Financed by : ARIANET SRL

Role: Responsible of the Project

Budget: 24.000 euro

2007–2010

Bando regionale per la ricerca industriale e lo sviluppo precompetitivo, per l'anno 2006 D.D. n. 583/06

Research Title: From waste to renewable gaseous fuels for current and future vehicles, BioH2Power

Financed by: Regione Piemonte

Role: Head of Unit ISAC-TO; Leader of WP 5: Detailed modelling for a safe design of the unit

Budget, total: 1.560.157 euro

Budget ISAC-TO Unit: 145.239 euro

2006–2008

Bando regionale sulla ricerca scientifica applicata – CIPE 2

Research Title: Studio modellistico e sperimentale della turbolenza atmosferica e della dispersione di inquinanti in ambiente urbano

Financed by: Regione Piemonte

Role: Head of Unit ISAC-TO

Budget, total: 140.000

Budget ISAC-TO Unit: 18.760

2005–2008

INTERREG III B – ALPINE SPACE, ALPNAP

Research Title: ALPNAP: Monitoring and Minimisation of Traffic-Induced Noise and Air Pollution Along Major Alpine Transport Routes

Financed by : European Union

Role: Head of Unit ISAC-TO, Leader of Work Package 6: Meteorology - Monitoring and Prediction

Budget, total: 1.989.478 euro

Budget ISAC-TO Unit: 101.489 euro

- 2004** Renovation of the Research Agreement between MHI and ISAC/TO-CNR
 Research Title: Improvements of turbulence models used in a mesoscale model
 Financed by: Mitsubishi Heavy Industries Ltd (Nagasaki, Japan)
 Role: Responsible of the Project
 Budget: 8.000 euro (1.000.000 J Yen)
- 2004** Research agreement - Contratto di ricerca N. U0785
 Research Title: Interfacciamento della nuova versione 4.4 del codice meteorologico RAMS con il modello di diffusione SPRAY
 Financed by: CESI – Centro Elettrotecnico Sperimentale Italiano G. Motta S.p.A. (Milano)
 Role: Responsible of the Project
 Budget: 18.000 euro
- 2003** Research Agreement - DISTA-UNIPMN e ISAC/TO - CNR
 Research Title: Analisi di dati anemometrici in condizioni di vento debole
 Financed by: University of Piemonte Orientale
 Role: Responsible of the Project
 Budget: 10.000 euro
- 2002–2003** Research Agreement - Refinement of numerical model and technology of global and regional water cycle
 Research Title: Improvements of turbulence models used in a mesoscale model
 Financed by: Mitsubishi Heavy Industries Ltd (Nagasaki, Japan)
 Role: Responsible of the Project
 Budget: 12.000 euro (1.500.000 J Yen)
- 1999** European Project MAP - Mesoscale Alpine Programme
 Financed by: European Union, World Meteorological Organization
 Role: Responsible, for the Institute of Cosmo-Geophysics of CNR (ICGF-CNR) of Torino, of the radio-sounding campaign at Genova Research Radio-Sounding Station for the Intensive Observationl Period (September the 7th - November the 15th, 1999).

Projects – partner/collaborator

- 2019–2021** Research Agreement
 Research Title: NOSE - Valutazione delle molestie olfattive in aree AERCA della Regione Siciliana
 Financed by: Agenzia Regionale per la Protezione dell’Ambiente della Regione Sicilia “ARPA Sicilia
 Responsible of the Project: ██████████
 Role: responsible of the numerical modelling developments
 Budget: 275.000 euro
- 2017–2019** Progetto di Ateneo
 Research Title: Extreme events in turbulent convection
 Financed by: University of Torino
 Responsible of the Project: ██████████
 Role: responsible of the numerical simulations and environmental impact assessment
 Budget: 85.000 euro
- 2015–2017** Convenzione di Ricerca
 Research Title: Progetto per la realizzazione di una valutazione di impatto sanitario nei comuni di Viggiano e Grumento Nova (PZ) in Val d’Agri (Italy)
 Financed by: Comuni Val d’Agri
 Responsible of the Project: ██████████, ISAC-CNR
 Role: responsible of the numerical simulations for UNIT 3
 Budget: 64.000 euro
- 2009** Convenzione di Ricerca.

Research Title: Studio Climatologico dei sedimi aeroportuali di Torino Caselle, Venezia Tessera e Ancona Falconara
Financed by: ENAV, Ente Nazionale di Assistenza al Volo
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the meteorological modelling
Budget: 66.600 euro

2008 Convenzione per un programma di collaborazione e di consulenza tecnico scientifica tra Ecoplan SRL e Consiglio Nazionale delle Ricerche - ISAC Sezione di Torino
Research Title: Analisi della dispersione degli inquinanti in atmosfera da Centrale termoelettrica nell'ambito urbano torinese e da impianti di riscaldamento tradizionali – Analisi delle concentrazioni al suolo dell'ammoniaca usata nel processo di produzione della Centrale, nella medesima situazione di emissione, ante e post intervento.
Financed by : Ecoplan SRL
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the meteorological work package
Budget: 9.600 euro

2007 Convenzione per un programma di collaborazione e di consulenza tecnico scientifica tra Ecoplan SRL e Consiglio Nazionale delle Ricerche - ISAC Sezione di Torino
Research Title: Progetto di una rete di termodotti nel Comune di Nichelino
Financed by : Ecoplan SRL
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the numerical modeling and data analysis
Budget: 16.800 euro

2007 Convenzione per un programma di collaborazione e di consulenza tecnico scientifica tra Ecoplan SRL e Consiglio Nazionale delle Ricerche - ISAC Sezione di Torino
Research Title: Aggiornamento analisi della dispersione degli inquinanti in atmosfera da centrali nell'ambito urbano torinese e da impianti di riscaldamento tradizionali
Financed by : Ecoplan SRL
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the numerical modeling and data analysis
Budget: 12.000 euro

2005–2009 COST Action 732
Research Title: Quality Assurance and Improvement of Micro-Scale Meteorological Models
Financed by: European Union
Role: Italian Delegate in the Management Committee
Budget: COST Program provides funds for meetings, short-term mobility, workshop, schools

2006–2008 Bando regionale sulla ricerca scientifica applicata – CIPE 1
Research Title: Modellizzazione su scala regionale della dinamica e della chimica del particolato atmosferico
Financed by: Regione Piemonte
Responsible of the Project: ██████████, University of Piemonte Orientale
Role: responsible of the data analysis
Budget, total: 140.000 euro
Budget: 19.100 euro

2005–2006 Convenzione di ricerca.
Research Title: Studio del Windshear - Realizzazione di un sistema di previsione per l'Aeroporto di Palermo
Financed by: Selex (ex Alenia Marconi System SpA)
Responsible of the Project: Prof. F. Prodi, ISAC-CNR (Director)
Role: responsible of the meteorological package
Budget: 108.000 euro

2005 Convenzione per un programma di collaborazione e di consulenza tecnico scientifica tra Ecoplan SRL e Consiglio Nazionale delle Ricerche - ISAC Sezione di Torino

Research Title: Analisi della dispersione degli inquinanti in atmosfera da centrali nell'ambito urbano torinese e da impianti di riscaldamento tradizionali – valutazione delle alternative ed approfondimento della soluzione prescelta
Financed by : Ecoplan SRL
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the meteorological work package
Budget: 54.000 euro

2005 Contratto di ricerca CESI N. ODA05989
Research Title: Sviluppo di algoritmi in grado di simulare condizioni di calma di vento nei modelli Lagrangiani
Financed by: CESI – Centro Elettrotecnico Sperimentale Italiano G. Motta S.p.A. (Milano)
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the numerical programming and data analysis
Budget: 21.600 euro

2005–2006 Contratto di Ricerca tra E-ON-Italia Produzione S.p.A. e Consiglio Nazionale delle Ricerche - ISAC – Sezione di Torino
Research Title: Studio modellistico della dispersione in atmosfera - Centrale Termoelettrica di Livorno Ferraris (VC)
Financed by : E-ON-Italia Produzione S.p.A.
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the meteorological work package
Budget: 30.000 euro

2004–2005 Project Brenner Basistunnel - Galleria di Base di Brennero
Research Title: Brenner Project – Italian Side: dispersion modelling of vehicle traffic along the Brenner highway and main South-Tyrol roads
Financed by : Institut fuer Hygiene und Sozialmedizin Universitaet Innsbruck
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the meteorological work package
Budget: 40.000 euro

2004 Convenzione tra TRM S.p.A. e Consiglio Nazionale delle Ricerche – ISAC Sezione di Torino
Research Title: Studio modellistico della dispersione in atmosfera degli effluenti da un Impianto Termovalorizzatore in diversi scenari emissivi e meteorologici da localizzarsi in Provincia di Torino.
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the meteorological work package and data analysis
Budget: 60.000 euro

2002 Convenzione per un programma di collaborazione e di consulenza tecnico scientifica tra Ecoplan SRL e Consiglio Nazionale delle Ricerche - ISAC Sezione di Torino
Research Title: Analisi della dispersione degli inquinanti in atmosfera da Centrali in ambito urbano e da impianti di riscaldamento tradizionali – caso di Torino”
Financed by: ECOPLAN Company S.p.A
Responsible of the Project: ██████████, ISAC-CNR
Role: responsible of the meteorological work package and data analysis
Budget: 9.300 euro

2001 Joint Study on Atmospheric Dispersion Modelling
Financed by: Mitsubishi Heavy Industries Ltd (Nagasaki, Japan)
Responsible of the Project: ██████████, University of Piemonte Orientale
Role: responsible of the model development and data analysis
Budget: 30.000 euro

2000–2001 International Project TRAPOS (Optimisation of Modelling Methods for Traffic Pollution in Streets); carried out at the Department of Environmental Quality – Institute of Environmental Sciences, Energy Research and Process Innovation, the Netherlands Organization for Applied Scientific Research TNO-MEP (Apeldoorn, NL)

Responsible of the Project for TNO: Prof. [REDACTED].
Role: scientific researcher, modeller

- 2001** Progetto di modellistica applicata finalizzato all'indagine sulla qualita' dell'aria nella zona ovest di Torino
Financed by: Provincia di Torino, Servizio Qualita' dell'aria e Inquinamento Atmosferico, Acustico ed Elettromagnetico,
Responsible of the Project: [REDACTED], ICGF-CNR
Role: atmospheric dispersion numerical modelling
Budget: 37.185 euro (72.000.000 lire)
- 2001** Convenzione per un programma di collaborazione e di consulenza tecnico scientifica
Research Title: Analisi della dispersione degli inquinanti in atmosfera da una Centrale Termoelettrica - Caso di Novi Ligure
Financed by: ECOPLAN Company S.p.A
Responsible of the Project: [REDACTED], ICGF-CNR
Role: responsible for the meteorology numerical modelling
Budget: 12.395 euro (24.000.000 lire)
- 1999–2001** PNRA (Programma Nazionale di Ricerca in Antartide)
Settore di Ricerca 6: Fisica e Chimica dell'atmosfera
Progetto di Ricerca 6.7: Evoluzione chimica e fisica dei componenti atmosferici nella troposfera
Unita' Operativa: sigla COL-ANF, titolo: Traiettorie delle masse d'aria nella troposfera antartica
Responsible of the Project: [REDACTED], ICGF-CNR
Role: responsible for the data analysis
Budget: 6.460 euro (12.500.000 lire)
- 2000** Convenzione per un programma di collaborazione e di consulenza tecnico scientifica
by: ECOPLAN Company S.p.A
Research Title: Ripotenziamento Centrale di Moncalieri – Analisi della dispersione degli inquinanti in atmosfera
Responsible of the Project: [REDACTED], ICGF-CNR
Role: responsible for the meteorological and dispersion modelling
Budget: 12.400 euro (24.000.000 lire)
- 1999** Contratto di Ricerca N.RAAZS111/0/00 tra ENEL-Ricerca e CNR-ICGF
Titolo: Implementazione e verifica di algoritmi innovativi per la generazione dei campi di turbolenza necessari al codice SPRAY
Financed by: ENEL (Italy's National Entity for Electricity)// Polo Ambiente
Contratto di Ricerca: N.RAAZS111/0/00
Responsible of the Project: [REDACTED], ICGF-CNR
Role: responsible of new model developments
Budget: 37.185 euro (72.000.000 lire)
- 1998** Studio di fattibilità e realizzazione di un prototipo di un sistema integrato di modellistica numerica relativa al trasporto e alla diffusione di sostanze inquinanti in atmosfera in aree ad orografia complessa
Financed by: Parco Scientifico e Tecnologico della Liguria di Genova
Responsible of the Project: [REDACTED], ICGF-CNR
Role: responsible of model development
- 1997–1998** Progetto speciale CNR HUPROMED (Humidity Profiles over the Mediterranean Sea)
Responsible of the Project: [REDACTED], ICGF-CNR
Role: Responsible for the Institute of Cosmo-Geophysics of CNR (ICGF-C.N.R.) of Torino, of the experimental radiosounding campaign on the Oceanographic C.N.R. ship URANIA in the Mediterranean basin (14 – 26 October 2001).
Budget: 156.000 euro
- 1997–1998** PNRA, Area Tematica: 2b.1, Fisica e Chimica dell'atmosfera Antartica

Progetto di Ricerca: 2b.1.2: "Studio dei processi chimici dell'atmosfera Antartica rilevanti per i cambiamenti climatici"

Responsible of the Project: ██████████, ICGF-CNR

Role: collaborator to data analysis

Budget: 12.290 euro (23.800.000 lire)

1997

Contratto di Ricerca N. R25WC0071/00 tra ENEL-CRAM e CNR-ICGF

Research Title: Realizzazione della connessione tra il modello di circolazione atmosferica non idrostatico RAMS e il modello di dispersione SPRAY

Financed by: ENEL (Italy's National Entity for Electricity)/Polo Ambiente

Responsible of the Project: ██████████, ICGF-CNR

Role: responsible of the interface code development, numerical simulations

Budget: 55.312 euro (107.100.000 lire)

1995–1997

Progetto Strategico Meteorologia a Mesoscala della Regione Alpina: Partecipazione Italiana al Map - Mesoscale Alpine Programme

Research Title: Studio della struttura 3-D del PBL nella regione alpina e modellistica della circolazione atmosferica a mesoscala col modello RAMS

Responsible of the Project: ██████████, ICGF-CNR

Role: responsible for the atmospheric model simulations

Budget: 18.000 euro

1995–1996

Contratto di Ricerca ENEL/ICGF-CNR N. R25TC0115/00

Research Title: Potenziamento del codice di diffusione a particelle SPRAY

Financed by: ENEL (Italy's National Entity for Electricity)/ - Centro di Ricerca Ambiente e Materiali

Responsible of the Project: ██████████, ICGF-CNR

Role: collaborator to model development

Budget: 61.458 euro

1992–1994

Convenzione di ricerca ENEL-CNR n. 3.2.1: Studio del trasporto transfrontaliero

Research title: Modellistica avanzata per la Valutazione di Impatto Ambientale

Financed by: ENEL (Italy's National Entity for Electricity)/- Centro di Ricerca Ambiente e Materiali

Responsible of the Project: ██████████, ICGF-CNR

Role: collaborator to model development

Budget: 155.000 euro

SCIENTIFIC DISSEMINATION ACTIVITY

Invited talks and seminars

2019

The Lagrangian approach to dispersion modelling: why we like it (and what we did with it).

37th International Technical Meeting on Air Pollution Modelling and its Application, Hamburg, Germany, 23-27 September 2019

2019

Updates on high-resolution simulation of atmospheric circulation and pollutant dispersion in complex orography.

Institute of Meteorology, Hamburg University (Germany) - Seminar near-ground flow above orographically structured terrain, 8 February 2019

2019

Lagrangian modelling in ISAC – Torino. Results and new developments.

VI Giornata sulla modellistica in ARIA(NET), Milano (Italy), 31 January 2019

2018

UDINEE was SMART....?

V Giornata sulla modellistica in ARIA(NET), Milano (Italy), 31 January 2018

2017

High resolution simulations of the atmospheric circulation in very complex orography.

Institute of Meteorology, Hamburg University (Germany) - Workshop near-ground flow above orographically structured terrain, 23 February 2017

- 2016** *Modelling the dispersion of ship emissions in different scenarios and sensitivity analysis. An environmental impact study in the Venice Lagoon.*
IV Giornata sulla modellistica in ARIA(NET), Milano (Italy), 25 January 2016
- 2010** *Air Pollution modelling.*
ESOF - European Science Open Forum, 2-7 July 2010, CNR area - Torino (Italy)
- 2009** *Modellistica della dispersione di traccianti in atmosfera alla microscala ed in presenza di ostacoli.*
CNR-ISAC, 10 November 2009, Roma (Italy)
- 2009** *Turbulent meeting between circulation and dispersion in the atmospheric boundary layer.*
Institute für Meteorologie – Freie Universität Berlin, 04 May 2009, Berlin (Germany)
- 2008** *L'influenza degli schemi di chiusura della turbolenza nei modelli meteorologici e di dispersione. Applicazioni con il sistema modellistico RMS.*
ARPA Emilia Romagna – Servizio IdroMeteoClima, 16 September 2008, Bologna (Italy)
- 2006** *Developments of turbulence closure schemes in RAMS for high resolution simulations over complex terrain*
6th RAMS/BRAMS/OLAM International Users Workshop, 10 - 12 Maggio 2006, Ubatuba (Brazil)
- 2005** *La modellistica numerica nella fisica dell'atmosfera: meteorologia e qualità dell'aria*
Seminars for PhD Course in Physics, University of Piemonte Orientale, Department of Science and Advanced Technologies, 14 March 2005, Alessandria (Italy)
- 2005** *Turbulence closure coefficients in stratified atmospheric boundary layer flow*
5th Annual Meeting of the European Meteorological Society; A.W. 1.2: Boundary layer physics in weather and climate predictions. 12-16 September 2005, Utrecht (The Netherlands)
- 2004** *Modellistica numerica per la circolazione atmosferica e la dispersione di inquinanti*
Seminars for PhD Course in Engineering of Computing, University of Brescia, Faculty of Engineering for Automation, 3 December 2004, Brescia (Italy)
- 2004** *Modellistica numerica per la circolazione atmosferica e la dispersione di inquinanti*
8th Workshop CAPI04: Il Calcolo ad alte prestazioni nella simulazione dell'ambiente e dell'azione degli agenti atmosferici", 24-25 November 2004, CILEA, Milano (Italy)
- 2001** *The parameterisation of the Traffic Produced Turbulence*
Department of Environmental Quality – Institute of Environmental Sciences, Energy Research and Process Innovation", TNO-MEP, 24 January 2001, Apeldoorn (The Netherlands)
- 2000** *Interfacing meteorological and dispersion models. An application with RAMS and SPRAY models*
Leerstoel groep Meteorologie en Luchtkwalitet, Wageningen University, 31 October 2000, Wageningen (The Netherlands)
- 2000** *Implementation and sensitivity analysis of turbulence closures in fluid-dynamic models. Inclusion of traffic induced turbulence*
Institute for Marine and Atmospheric research, Utrecht University, 2 November 2000, Utrecht (The Netherlands)
- 2000** *Studio dei modelli di chiusura della turbolenza. Simulazione di un flusso neutro su una valle schematica con il modello fluidodinamica RAMS*
ISIAAta – CNR, 19 April 2000, Lecce (Italy)
- 1999** *Modelli di circolazione atmosferica e dispersione di inquinanti*
Convegno Gestione Ambientale: le necessarie interazioni tra Università, ARPA, industria e provincia di Alessandria., 19-20 March 1999, Alessandria (Italy)

- 1995 *Interfacing RAMS and SPRAY models: 3-D turbulence parametrization over complex terrain.* Università degli Studi di Torino, Istituto di Fisica Generale, 13 June 1995, Torino (Italy)

Conferences: participation and presentations to 54 conferences; 26 presentations by co-authors

LIST OF PUBLICATIONS

Peer-reviewed Journal articles and Book chapters indexed in ISI Web of Science

- 78 Haikin N., Trini Castelli S., **2021**. On the Effect of LLJ on Atmospheric Pollutants Dispersion: A Case Study over a Coastal Complex Domain, Employing High-resolution Modelling. *Boundary-Layer Meteorology*, published online 14 September 2021, doi: 10.1007/s10546-021-00661-x
- 77 Amicarelli A., Alessandrini S., Agate G., Ferrero E., Pirovano G., Tinarelli G., Trini Castelli S. **2021**. A dry deposition scheme for particulate matter coupled with a well-known Lagrangian Stochastic Model for pollutant dispersion. *Environmental Fluid Mechanics*. Published online 8 March 2021 <https://doi.org/10.1007/s10652-021-09780-y>
- 76 Carissimo B., Trini Castelli S., Tinarelli G, **2021**. JR11 Special sonic anemometer study: a first comparison of building wakes measurements with simple and high resolution numerical modelling. *Under revision for Atmospheric Environment Special Issue "Comparison of Widely-Used Dense Gas Dispersion Models using Observations from the 2015-2016 Jack Rabbit II Field Experiment"*, 244, 1 January 2021, 117798
- 75 Giovannini L., Ferrero E., Karl T, Rotach M.W., Staquet C., Trini Castelli S, Zardi D., **2020**. Atmospheric pollutant dispersion over complex terrain: challenges and needs for improving air quality measurements and modelling. *Special Issue "Atmospheric Processes over Complex Terrain"*, Atmosphere, 11, 646, <http://dx.doi.org/10.3390/atmos11060646>
- 74 Trini Castelli S., Bisignano A., Donato A., Landi T.C., Martano P., Malguzzi P., **2020**. Evaluation of the turbulence parameterisation in the MOLOCH meteorological model. *Quart J Roy Meteorol Soc.* 146,124-140. <https://doi.org/10.1002/qj.3661>, WOS:000498705000001
- 73 Bisignano A., Trini Castelli S., Malguzzi P., **2020**. Development and verification of a new meteo-dispersive modelling system for accidental releases in the Italian territory: SMART. *Air Pollution Modeling and its Application XXVI*, C. Mensink, W. Gong and A. Hakami (eds.) Springer Proceedings in Complexity, Springer International Publishing Switzerland, 77-81. https://doi.org/10.1007/978-3-030-22055-6_13
- 72 Schiavon M., Tampieri F., Bosveld F.C., Mazzola M., Trini Castelli S., Viola A.P., Yague C., **2019**. The Share of the Mean Turbulent Kinetic Energy in the Near-Neutral Surface Layer for High- and Low-Wind Conditions. *Boundary-Layer Meteorology*, 172(1), 81-106. WOS:000470736100005
- 71 Mangia C., Bisignano A., Cervino M., Mortarini L., Trini Castelli S., **2019**. Modeling air quality impact of pollutants emitted by an oil/gas plant in complex terrain in view of a health impact assessment. *Air Quality, Atmosphere & Health*, 12(4), 491-502. WOS:000463724900011
- 70 Hernández-Ceballos M.A, Hanna S., Bianconi R., Bellasio R., Chang J., Mazzola T., Andronopoulos S., Armand P., Benbouda N., Čarný P. Ek N., Fojciková E., Fry R., Huggett L., Kopka P., Korycki M., Lipták L., Millington S., Miner S., Oldrini O., Potemski S., Tinarelli G., Trini Castelli S., Venetsanos A., Galmarini S., **2019**. UDINEE: evaluation of multiple models with data from the JU2003 puff releases in Oklahoma City. Part II: simulation of puff parameters. *Boundary-Layer Meteorology*, 171(3), 351-376. WOS:000467685000003
- 69 Hernández-Ceballos M.A, Hanna S., Bianconi R., Bellasio R., Chang J., Mazzola T., Andronopoulos S., Armand P., Benbouda N., Čarný P. Ek N., Fojciková E., Fry R., Huggett L., Kopka P., Korycki M., Lipták L., Millington S., Miner S., Oldrini O., Potemski S., Tinarelli G., Trini Castelli S., Venetsanos A., Galmarini S., **2019**. UDINEE: evaluation of multiple models with data from the JU2003 puff releases in Oklahoma

- City. Part I: comparison of observed and predicted concentrations. *Boundary-Layer Meteorology*, 171(3), 323-349. *WOS:000467685000002*
- 68 Tinarelli G.L., Trini Castelli S., **2019**. Assessment of the sensitivity to the input condition with a Lagrangian Particle Model in UDINEE Project. *Boundary-Layer Meteorology*, 171(3), 491-512. *WOS:000467685000009*
- 67 Trini Castelli S., Armand P., Tinarelli G., Duchenne C., Nibart M., **2018**. Validation of a Lagrangian particle dispersion model with wind tunnel and field experiments in urban environment. *Atmospheric Environment*, 193, 273-289. *WOS:000448091600027*
- 66 Linzalone N., Bianchi F., Cervino M. et al., **2018**. EPICHANGE/2. Recommendations from a health impact assessment in Viggiano and Grumento Nova (Basilicata Region, Southern Italy). *Epidemiologia e prevenzione*, 42(1), 15-19. *WOS:000443381100010*
- 65 Minichilli F., Bianchi F., Ancona C.; et al. **2018**. Residential cohort study on mortality and hospitalization in Viggiano and Grumento Nova Municipalities in the framework of HIA in Val d'Agri (Basilicata Region, Southern Italy). *Epidemiologia e prevenzione*, 42(1), 20-33. *WOS:000443381100011*
- 64 Balanzino A., Trini Castelli S., **2018**. Numerical experiments with RAMS model in highly complex terrain. *Environmental Fluid Mechanics*, 18:357–381. *WOS:000429374800002*
- 63 Trini Castelli S., Tinarelli G., Mortarini L., Radice P., Carlino G., Pozzi C., Anfossi D., **2018**, Modelling the dispersion of ship emissions in different scenarios and sensitivity analysis. Chapter 42 in *Air Pollution Modeling and its Application XXV*, C. Mensink and G. Kallos (eds.) Springer Proceedings in Complexity, Springer International Publishing Switzerland, 269-274. *WOS:000447860400042*
- 62 Boetti M., Trini Castelli S., Ferrero E., **2018**. Reviving MILORD long-range model for simulating the dispersion of the release during Fukushima nuclear power plant accident. Chapter 62 in *Air Pollution Modeling and its Application XXV*, C. Mensink and G. Kallos (eds.) Springer Proceedings in Complexity, Springer International Publishing Switzerland, 387-391. *WOS:000447860400061*
- 61 Trini Castelli S., Tinarelli G., Reisin T.G., **2017**. Comparison of atmospheric modelling systems simulating the flow, turbulence and dispersion at the microscale within obstacles. *Environmental Fluid Mechanics*, 17, 879-901. *WOS:000411165600001*
- 60 Falabino S, Trini Castelli S., **2017**. Estimating wind velocity standard deviation values in the inertial sublayer from observations in the roughness sublayer. *Meteorology and Atmospheric Physics*, 129, 83-98. *WOS:000393663100007*
- 59 Mortarini L., Stefanello M., Degrazia G., Roberti D., Trini Castelli S., Anfossi D., **2016**. Characterization of wind meandering in low-wind speed conditions *Boundary-Layer Meteorology*, 161, 165-182. *WOS:000384412900008*
- 58 Baumann-Stanzer, K., Skomorowski P., Polreich E., Trini Castelli Silvia, Leitl B., and Carny P, **2016**. Atmospheric transport models for hazardous releases: Variability and uncertainties-findings of COST Action ES1006 and operational experiences. *Chemical Engineering Transactions*, 48, 103-108. *WOS:000383876200018*
- 57 Reisin, T.G., B. Leitl, S. Trini Castelli, K. Baumann-Stanzer, P. Armand, F. Barmpas, S. Andronopoulos, and K. Jurcakova, **2015**. Evaluation, improvement and guidance for the use of local-scale emergency prediction and response tools for airborne hazards in built environments. *COST Action ES1006 – A European experience*, NATO Science for Peace and Security Series B: Physics and Biophysics, vol. 73, 137-145. ISSN: 1874-6500. *WOS:000456713600013*
- 56 Trini Castelli S., Baumann-Stanzer K., Leitl B., Berbekar E., Rakai A., Fuka V., Hellsten A., Milliez M., Petrov A., Efthimiou G., Andronopoulos S., Tinarelli G., Tavares R., Armand P., Gariazzo C., Jurcakova K., Gašparac G., Nibart M., **2015**. Evaluation of local-scale models for accidental releases in built environments – results of the modelling exercises in COST Action ES1006. *Air Pollution Modeling and its Application XXIV*, D. Steyn and N. Chaumerliac (eds.) Springer Proceedings in Complexity, Springer International Publishing Switzerland, 497-502. *WOS:000393786100080*
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