

Curriculum vitæ et studiorum

Dino Zardi

Last updated: 23 November 2023

Working address

Department of Civil, Environmental and Mechanical Engineering (DICAM),
University of Trento
Via Mesiano, 77 I-38123 Trento, Italy
Phone: +39 0461 28-2682
Mobile: +39-347-4469347
E-mail: dino.zardi@unitn.it

ISI Web of Science Researcher ID: J-3237-2012.

Scopus Author ID: 6603536554.

ORCID: 0000-0002-3573-3920

[Google Scholar](#)

Dino Zardi was born on 10 October 1966 in San Giorgio di Mantova (Italy). He has Italian citizenship.

He is presently full professor for the scientific-educational sector FIS/06 “*Physics for the Earth system and the circumterrestrial medium*” at the University of Trento, Department of Civil, Environmental and Mechanical Engineering, where he is responsible of the Atmospheric Physics Group.

Education

- 1985 School Leaving Certificate with full marks (60/60) at the Lyceum “Virgilio”, Mantova (Italy).
- 1985 – 1991 First degree (“Laurea”) in Physics *cum laude* at the University of Bologna (Italy).
Dissertation “*On some mathematical models of turbulence in fluids*”.
Supervisors: prof. Francesco Mainardi, University of Bologna, Department of Physics; dr. Francesco Tampieri, Institute for Physics and Chemistry of the High and Low Atmosphere, National Research Council (FISBAT-CNR), Bologna.
- 1992 – 1995 Doctoral degree in Hydrodynamics at the University of Genova (Italy).
Dissertation “*Modal competition in the oscillations of some hydrodynamic systems*”
Supervisor: Prof. Giovanni Seminara Ph. D., Institute of Hydraulics, Faculty of Engineering University of Genova.

Academic positions

- 1995 – 2002 Assistant Professor of Atmospheric Physics (GEO/12) at the University of Trento
- 2002 – 2006 Associate Professor of Hydraulics (ICAR/01) at the University of Trento
- 2006 – 2018 Associate Professor of Atmospheric Physics (FIS/06) at the University of Trento
- 2018 – present Full Professor of Atmospheric Physics (FIS/06) at the University of Trento

Appointments

- 2015 – present Director of [Festivalmeteorologia](#)
- 2016 – present President of [AISAM - Italian Association of Atmospheric Sciences and Meteorology](#)

- 2018 – present Coordinator of the joint [MSc in Environmental Meteorology](#)
- 2018 – present: Member of the Editorial Board of the Springer Nature and AISAM journal [Bulletin of Atmospheric Science and Technology -BAST](#)
- 2019 – present Co-chief Editor of the Royal Meteorological Society and Wiley journal [Meteorological Applications](#)
- 2019 – 2021 Deputy Director of the [Centre Agriculture Food Environment \(C3A\)](#)

Memberships

- 2000 – 2009; Associate Fellow of the Royal Meteorological Society
- 2018 – present
- 2000 – present Member of the American Meteorological Society.
- 2004 – 2018 Delegate of the Rector of the University of Trento in the Steering Committee of Italian National University Consortium for the Physics of the Atmospheres and the Hydrospheres (CINFAI: www.cinfai.it)
- 1998 – present Member of the European Geosciences Union.
- 2010 – 2016 Corresponding fellow of the Academy of Agriculture, Sciences and Letters in Verona (www.aaslvv.it)
- 2016 – present Effective fellow of the Academy of Agriculture, Sciences and Letters in Verona
- 2013 – present Member of the Italian Society for Climate Sciences
- 2015 – 2016 Member of the Italian Geophysical Association; elected member of the Steering Committee.
- 2016 – present: Member of the [Italian Association of Atmospheric Sciences and Meteorology AISAM](#)

International cooperation

- April-July 2001 Visiting scientist at the Mesoscale and Microscale Meteorology Division, National Center for Atmospheric Research (NCAR), Boulder, Colorado, USA. Invited by Dr. Richard Rotunno.
- 2002-2004 Main organiser of the *Summer School on Mountain Meteorology* (see Appendix 1 for further details)
- 2002-2006 Member of the Scientific Steering Committee of the Mesoscale Alpine Programme (<http://www.map.ethz.ch>).
- June-Aug. 2010 Visiting scientist at the Mesoscale and Microscale Meteorology Division, at the National Center for Atmospheric Research (NCAR), Boulder, Colorado, USA. Invited by Dr. Richard Rotunno.
- Acad. year 2010/2011 Appointed “Guest Professor from Italy” at the Institute of Meteorology and Geophysics, University of Innsbruck, Austria.
- 2005-2008 Project manager of the EU funded project FORALPS (see Appendix 2 for further details)
- 2005-2007 Member of the ALPNAP Project Steering Group (<http://www.alpnap.org/index.html>)
- 2011 – present Member of the Editorial Board of *Tethys* Journal of Mediterranean Meteorology and Climatology (<http://www.tethys.cat/en>)
- Winter Semesters 2009-10, 2010-11 and 2011-12: Lecturer of *Mountain Meteorology* (30 hours), Institute of Meteorology and Geophysics, University of Innsbruck, Austria (<http://imgi.uibk.ac.at/>).
- 2012 – present Member of the Scientific Steering Committee of the [International Conference on Alpine Meteorology](#).
- 2015 Member of the Programme Committee of the International Conference on Alpine Meteorology. Innsbruck Austria, 31 August – 4 September 2015 (<http://www.uibk.ac.at/congress/icam2015/>).
- 2014-2016 Convenor of the session “*Atmospheric processes over complex terrain*” at the European Geosciences Union General Assembly:
- 2014 (<http://meetingorganizer.copernicus.org/EGU2014/session/14954>),
 - 2015 (<http://meetingorganizer.copernicus.org/EGU2015/session/17084>)
 - 2016 (<http://meetingorganizer.copernicus.org/EGU2016/session/19967>).

- 2018 – 2019 Chair of the Organising Committee of the [35th International Conference on Alpine Meteorology](#) Riva del Garda (Trento), 2-6 September 2019.
- 2018 – present Member of the steering Committee of the International Research Initiative [“TEAMx - Multi-scale transport and exchange processes in the atmosphere over mountains – programme and experiment”](#)
- 2022 – present Member of the Scientific Committee of the [9th International Conference on Mediterranean Meteorology and Climatology](#), Genova (Italy) 22-24 May 2023.

Overview of scientific achievements

Entering as assistant professor at the Department of Civil and Environmental Engineering of the University of Trento in 1995, Dino Zardi had to establish *ex novo* a research activity in the field of atmospheric physics, as no previous one had been ever activated there (neither at this Department, nor at any other in the same university).

Accordingly he has implemented and managed various research lines, especially focused on atmospheric and climate processes in mountain environments, and related to environmental and land engineering applications.

In particular he promoted the following actions:

- a) Set-up and use of a system for airborne atmospheric measurement based on a light airplane;
- b) Setup of a laboratory equipped with instruments for ground based measurements in the atmospheric boundary layer (incl. conventional weather stations, sonic anemometer, sodar, fast response hygrometer, HoBo sensors for air temperature and humidity);
- c) Analysis of time series of data collected by ground meteorological stations for the characterisation of local scale and mesoscale atmospheric processes;
- d) Mathematical and numerical modelling of valley winds;
- e) Reconstruction and climatological analysis of long time series of atmospheric measurements from historical observation for detection of impacts from global climate change and variability at local scale;
- f) Development of a simple mathematical and numerical model reproducing the mechanisms implied in the processes for production of artificial snow for skiing purposes;
- g) Analysis of urban-scale atmospheric phenomena, including the setup and management since 2002 of an urban observatory in the city of Trento, on top of an old building tower: <http://www.ing.unitn.it/~prometeo/home.htm>

The above activities have been supported within the following research projects (an asterisk * indicates those in which Dino Zardi has acted as P. I.):

| Project title | Funding Agency | Duration | Budget (k€) |
|--|--|-----------|-------------|
| Vortex, turbulent and chaotic flows: engineering and environmental applications. | Italian Ministry of University and Scientific and Technological Research | 1998-99 | 35 |
| Advanced applications of informatics: Informatics for the environment (*) | Autonomous Province of Trento | 1997-99 | 70 |
| Study of the atmospheric boundary layer dynamics in the Adige Valley (*) | Environmental Protection Agency, Autonomous Province of Trento | 1999-2001 | 40 |
| Analysis of coherent structures in environmental fluid flows | Italian Ministry of University and Scientific and Technological Research | 2000-01 | 45 |
| Study of emissions, atmospheric diffusion and deposition of contaminants from sources located within Bolzano area. | Municipality of Bolzano | 2000-01 | 72 |
| Study of atmospheric dynamics in alpine valleys (*) | Italian National Institute for Research on the Mountain (INRM) | 2001-02 | 36 |
| Assessment of possible tendencies in environmental variables relevant for safety and civil protection in Trentino and proposals for improving the observational resources for environmental monitoring and control | Special project for Land Security, Autonomous Province of Trento | 2001-02 | 47 |

| | | | |
|---|--|---------|---|
| Environmental impact study of a project for a waste incinerator in Trento | Società Industriale Trentina SpA | 2001-03 | 240 |
| SALTO: Study on missing blooming of Lake Tovel (Trento) | Autonomous Province of Trento, “Fondo Unico per la Ricerca” | 2001-04 | 90 |
| AQUAPAST: Water and speleothemes as tools for high resolution palaeoclimate reconstruction in the Trento Province | Autonomous Province of Trento, “Fondo Unico per la Ricerca” | 2001-04 | 94 |
| GEPRI: Late frost in Trentino: climatology, micro-meteorological characterisation and applied modelling. | Autonomous Province of Trento, “Fondo Unico per la Ricerca” | 2002-05 | 90 |
| Detection of possible systematic errors in the strong precipitation forecasts from the global scale ECMWF numerical model (*) | Autonomous Province of Trento, Service for Prevention of Public Disasters | 2004-05 | 36 |
| Wind power in Trentino: Part I – Preliminary assessment (*) | Autonomous Province of Trento, Service for Energy | 2005 | 46 |
| Analysis of total daily precipitation 24-h forecast provided by ALADIN and ECMWF models and of data from rain gauge measurements for forecast verification in the years of 2003-2004 (*), | Autonomous Province of Trento, Service for Prevention of Public Disasters | 2005 | 24 |
| Analysis of the emission of fine particulate matter from the industrial area south of Bolzano and assessment of their impact on air quality for the urban area. | Municipality of Bolzano | 2005 | 30 |
| FORALPS: Meteo-hydrological forecasting and observation for water resource management in the Alps www.foralps.net (*) | European Union, Community Initiative Programme Interreg III B “Alpine Space” | 2005-07 | 600 (Lead Partners’ budget) 2,800 (Overall Project budget) |
| ALPNAP: Monitoring and Minimisation of Traffic-Induced Noise and Air Pollution Along Major Alpine Transport Routes www.alpnap.info | European Union, Community Initiative Programme Interreg III B “Alpine Space” | 2005-08 | 208 |
| Environmental impact study of the movement to an underground settlement of a factory for treatment of building materials | Tassullo SpA | 2005-06 | 40 |
| Development of software for the <i>downscaling</i> at hydrological basin scale of precipitation forecast (sub-contract of the UE Interreg III B CADSES project “HYDROCARE”) | Autonomous Province of Trento, Service for Hydraulic Works, Office for Dams | 2006-07 | 120 |
| Technical and scientific assistance for the Air Quality Plan. | Municipality of Verona and 17 minor municipalities in the surroundings | 2009-10 | 194 |
| Assessment of the impact of the Brenner Highway on air quality in the Adige Valley between Bolzano and Verona | Autostrada del Brennero SpA | 2012-14 | 208 |

| | | | |
|--|--|-----------|--------|
| Climatic Atlas of Trentino – Subproject: Analysis and mapping of solar radiation in the Province of Trento. | Autonomous Province of Trento, Service of Environmental Assessment | 2012-13 | 40 |
| Climatic Atlas of Trentino – Subproject: Analysis of synoptic-scale situations and related weather in the Province of Trento. | Autonomous Province of Trento, Service of Environmental Assessment | 2012-13 | 40 |
| Climatic Atlas of Trentino – Subproject: Preliminary activities for the production of a wind atlas for the Province of Trento. | Autonomous Province of Trento, Service of Environmental Assessment | 2012-13 | 25 |
| Climatic Atlas of Trentino – Subproject: Wind atlas for the Province of Trento. | Autonomous Province of Trento, Service of Environmental Assessment | 2013-15 | 70 |
| Climatic Atlas of Trentino – Subproject: Spatialisation of atmospheric variables. (*) | Autonomous Province of Trento, Service of Environmental Assessment | 2015 | 17 |
| High-resolution forecast of thermal comfort conditions in the main urban areas of the Province of Trento | CARITRO Foundation | 2015-17 | 65 |
| Climatic Atlas of Trentino – Subproject: Reconstruction and analysis of the historic time series of temperature measurements in Trento 1816-2015 | Autonomous Province of Trento, Service of Environmental Assessment | 2016-17 | 10 |
| BrennerLEC – Brenner Low Emission Corridor | European Union, LIFE Programme | 2016-20 | 470,12 |
| Assessment of dispersion of emissions from the incinerator of Bolzano (BTEX) | Ecocenter SpA | 2015-18 | 196,9 |
| Innovative OT technologies for studying climate change impacts on environment. | European Union. PON | 2019-2021 | 64 |
| Development of meteorological prediction models for optimised use of water for irrigation through integration of satellite data | Autonomous Province of Trento (Law 6) | 2019-2021 | 100 |
| Prevention of risk for agriculture from frost events | Edmund Mach Foundation | 2017-2021 | 60 |
| Assessment of wind power availability at selected mountain sites | AGSM | 2018-2020 | 38 |
| Extension of LifeBrennerLEC | | | |
| Assessment of wind power availability over Apennines between in Emilia Romagna and Tuscany | AGSM SpA | 2023 | 38 |
| | | | |

Community service

1998 - 2008: Secretary of the Council of the School of Environmental and Land Planning Engineering staff at the University of Trento since 1998.

1996 - 2000 and 2001-2004: elected representative of the Assistant Professors in the Board of Directors of the University of Trento.

1998 - 2000 and 2001-2003: elected representative of the Assistant Professors in the Council of the Faculty of Engineering of the University of Trento.

1999 - present: member of the Council of the Doctoral School on Environmental Engineering at the University of Trento.

2010 - present: member of the Executive committee of the Doctoral School on Environmental Engineering at the University of Trento

2002 - present: member of the Board of Governors of the University Center for Advanced Studies of Hydrogeological Risk of Mountain Areas (CUDAM) established in 2001 at the University of Trento.

2004 - present: delegate of the Rector of the University of Trento in the Steering Committee of Italian National University Consortium for the Physics of the Atmospheres and the Hydrospheres (CINFAI: www.cinfai.it)

Reviewer for the following journals:

- Journal of Applied Meteorology,
- Journal of Geophysical Research
- Journal of the Atmospheric Sciences,
- Quarterly Journal of the Royal Meteorological Society,
- Atmospheric Environment,
- Natural Hazards and Earth System Sciences
- Boundary-Layer Meteorology
- Meteorology and Atmospheric Physics
- Meteorological Applications
- Atmospheric Chemistry and Physics
- Journal of Fluid Mechanics
- Meteorologische Zeitschrift.
- Bulletin of the American Meteorological Society

Educational Activities

University lectures and student supervision

Course of *Atmospheric Physics* for the master degree School of Environmental and Land Planning Engineering, since its inception in the academic year 1995/96 till present.

Course of *Meteorology* for the master degree School of Environmental and Land Planning Engineering, since the academic year 2004/05 till present.

Course of *Electronics* in the academic year 1999/2000 and *Electronic Instruments and Measurements* in 2000/2001 for the bachelor degree in Environmental Engineering.

Class lectures of *Fluid Mechanics* for the students of the Doctoral Program in Environmental Engineering every other year 2001-2009.

Class lectures of *Geophysical Fluid Dynamics* for the students of the Doctoral Program in Environmental Engineering every year since 2011.

Supervisor of more than 100 master dissertations on various topics of atmospheric dynamics and environmental fluid mechanics.

Supervisor or co-supervisor of 16 PhD Candidates in the Doctoral School on the Department of Civil, Environmental and Mechanical Engineering at the University of Trento:

| Candidate | Duration | Title |
|-------------------------------|-------------|--|
| 1. Massimiliano de Franceschi | 1999 – 2003 | Investigation of Atmospheric Boundary Layer Dynamics in Alpine Valleys |

| | | |
|-------------------------|----------------|---|
| 2. Gabriele Rampanelli | 1999 – 2004 | Investigation of Diurnal Atmospheric Boundary Layer Dynamics in Alpine Valleys |
| 3. Alessio Bertò | 2001 – 2005 | Lagrangian trajectory analysis for the identification of moist airflows producing intense precipitation events over the Alps |
| 4. Stefano Serafin | 2002 – 2006 | Boundary Layer Processes and Thermally Driven Flows over Complex Terrain |
| 5. Lorenzo Giovannini | 2008 – 2012 | Urban scale phenomena and boundary layer processes in mountain valleys |
| 6. Lavinia Laiti | 2009 – 2013 | Investigation of local atmospheric circulations in the Alpine region: a combined approach of field measurements and numerical modelling |
| 7. Maria Pina Castelli | 2010 – 2015 | Estimation of atmospheric attenuation of solar radiation using satellite data |
| 8. Elena Tomasi | 2014 – 2018 | Assessments of parameterisations of surface processes in numerical weather prediction models |
| 9. Gianluca Pappaccogli | 2015 – 2018 | Effects of vegetation in urban-scale atmospheric processes |
| 10. Andrea Zonato | 2017 – 2021 | Numerical modelling of the effects of green roofs and facades on building energetics and urban environment |
| 11. Federica Ive | 2018 – present | Improvement of turbulence parameterisation in numerical weather prediction models over complex terrain |
| 12. Federica Gucci | 2018 – present | Improvement of numerical forecast for energy conversion plants from renewable energy resources |
| 13. Livia Serrao | 2018 – present | Meteorological observations, high-resolution modelling and analysis of river-floodplain dynamics to support agricultural practices in tropical environments |
| 14. Rossella Urganì | 2018 – present | Measurement and modelling of particulate matter air pollution from biomass burning |
| 15. Mattia Marchio | 2019 – present | Characterization of land-atmosphere exchange processes over simple slopes by means of data analysis, numerical modelling and similarity scaling. |
| 16. Sofia Farina | 2020 – present | Assessment of atmospheric flows and turbulence over sloping terrain and their impacts on agricultural operations and crop protection |
| 17. Giorgio Doglioni | 2021-present | Development and testing of new parameterisation schemes and downscaling procedures for high-resolution numerical weather prediction and reanalysis |
| 18. Giulio Bongiovanni | 2021-present | Assessment of past and future climate changes in the extended Alpine area |
| 19. Sudheer Bakhare | 2022-present | Monitoraggio, previsione ed impatto di eventi estremi forzati dal cambiamento climatico sulla produzione agricola. |

Post-doc assistants

| Candidate | Duration | Project Title |
|-------------------------------|-------------|---|
| 1. Massimiliano de Franceschi | 2004 – 2008 | Investigation of Atmospheric Boundary Layer Dynamics in Alpine Valleys |
| 2. Stefano Serafin | 2006 – 2010 | Boundary Layer Processes and Thermally Driven Flows over Complex Terrain |
| 3. Lorenzo Giovannini | 2012 – 2018 | Urban scale phenomena and boundary layer processes in mountain valleys |
| 4. Lavinia Laiti | 2013 – 2018 | Investigation of local atmospheric circulations in the Alpine region: a combined approach of field measurements and numerical modelling |
| 5. Luca Panziera | 2015 – 2016 | Circulation types and regional Alpine weather in Trentino |
| 6. Marco Falocchi | 2015 – 2020 | Characterisation of atmospheric processes in support of monitoring actions of the fate of emissions from the incinerator of Bolzano. |
| 7. Michele Torresani | 2020 – 2021 | Measurement and analysis of variables associated with land-atmosphere exchange processes and comparison with data from remote sensing. |
| 8. Divyaja Lawand | 2022 – oggi | Particulate matter transport in slope winds |
| 9. Anna Napoli | 2023 - oggi | Convection effects on plain-mountain atmospheric flows |

Doctoral Evaluation Committees

Member of Doctoral Evaluation Committees at the Universities of Trento, Milano, Ferrara, Trieste, Roma “La Sapienza”, at the Swiss Federal Institute of Technology in Zurich, Institute for Atmospheric and Climate Science, and at the University of Innsbruck, Institute of Meteorology and Geophysics, the University of Bern, the University of Grenoble.

Invited seminars and talks

22 June 2000

“Klima seminar” - Swiss Federal Institute of Technology, Zurich (CH)

“Analysis of airborne atmospheric measurements in Alpine valleys”

Invited by dr. Mathias Rotach

7 June 2001

Department of Civil and Environmental Engineering, Stanford University (USA)

“Measurements and analysis of atmospheric boundary layer processes and valley wind systems in the Alps”

Invited by: Prof. Robert Street

7 November 2001

“Measurement and analysis of atmospheric boundary layer processes and local scale flows in Alpine valleys”

University of L’Aquila (Italy), Department of Physics

Invited by: Prof. Guido Visconti

23 October 2003

“Investigating physical mechanisms of up-slope/up-valley winds”

Department of Meteorology, University of Munich

Invited by prof. Joseph Egger

2 February 2007

“Physical mechanisms of atmospheric flows and turbulence in thermally driven up-slope/up-valley winds”

International Centre for Theoretical Physics, Trieste, Italy

Invited by Dr. Fulvio Stel

6 June 2009

“Urban waste treatment and the atmosphere”

27th Day of the Environment, National Academy of Lincei, Rome
Invited by Prof. Giovanni Seminara

13 October 2010
"History of meteorological observations in Verona: 1755-2010"
Academy of Agriculture, Sciences and Letters in Verona
Invited by the President, DR. Galeazzo Sciarretta.

23 February 2011
"Atmospheric boundary layer processes in Alpine valleys and implications for air quality "
Institute for Applied Remote Sensing, European Academy, Bolzano
Invited by dr. Marcello Petitta

9 June 2011
"Diurnal mountain and valley winds: dynamics, phenomena and interactions with coastal processes"
Invited talk at the conference 3rd International Meeting on Meteorology and Climatology of the Mediterranean (IMCM2011)
Invited by prof. Joan Cuxart Rodamillans

4 May 2015
"Measurements and modelling of urban-scale phenomena and boundary layer processes in an Alpine valley"
Institute of Atmospheric and Cryospheric Sciences, University of Innsbruck.
Invited by prof. Mathias Rotach

22 September 2015
"Atmospheric processes over complex terrain: open problems for atmospheric physics and operational challenges for meteorology"
Invited talk at the Annual meeting of the Italian Physical Society (SIF).
Invited by Dr. Vincenzo Levizzani, CNR-ISAC.

16 December 2015
"Thermally driven up-slope flows: state of the art and open questions"
Invited talk at the American Geophysical Union Fall Meeting
Session A33Q: Observations and Predictability of the Atmosphere over Complex Terrain.
Primary Convener: Eric Paradyjak, University of Utah.
Conveners: Daniel Nadeau, Laval University; Harindra Fernando, University of Notre Dame; Joshua Hacker, National Center for Atmospheric Research
Note: the abstract had to be withdrawn due to unforeseen troubles which prevented my participation to the meeting.

6 December 2018
"Atmospheric sciences at the University of Trento: research, education and cooperation opportunities"
University of Bern, Department of Geography.
Invited by Prof. Stefan Broennimann

18 June 2020
"Mountain-breeze circulation systems: classification, mechanisms and phenomena"
Center of Excellence Telesensing of Environment and Model Prediction of Severe events (CETEMPS), University of L'Aquila
Invited by Prof. Frank S. Marzano, University of Rome "La Sapienza"

20 November 2020
"Climate in the cities",
Italian Academy of Sciences ("Accademia dei Quaranta")
Invited by Prof. Carlo Barbante, University of Venice "Ca' Foscari"

11 January 2021
"Identification of atmospheric circulation patterns for climate and weather predictions"
Invited talk at the 25th International Conference on pattern recognition
Invited by prof. Marco Cristani, University of Verona

9 September 2021
"The role of thermally driven slope winds in the transport of aerosols over mountains"
Invited talk at the [1st Italian Workshop on Aerosol in Mountain Areas](#), organised by the [Italian Aerosol Society](#).

14 September 2021

"La Quaestio de aqua et terra: una lezione ancora attuale"

Conference "Dante maestro Universale", Accademia Nazionale Virgiliana, Mantova.

4 November 2022

"Extending Monin-Obukhov similarity theory to complex terrain"

Invited talk at the [Workshop on Atmospheric Turbulence](#), Innsbruck 3-5 November 2022.

28 November 2022

"Orographic effects in the atmospheric processes of the Mediterranean area"

Invited keynote lecture at the [Annual Meeting of the Mediterranean Geosciences Union \(MedGU2022\)](#)

Publications

A. Book chapters/Monographs

1. **Zardi, D.** and C. D. Whiteman, 2013: Diurnal Mountain Wind Systems, Chapter 2 in “Mountain weather research and forecasting – Recent progress and current challenges” (Chow, F. K., S. F. J. De Wekker, and B. Snyder Editors), Springer Atmospheric Sciences, Springer, Berlin.
https://doi.org/10.1007/978-94-007-4098-3_2
2. **Zardi, D.**, 2014: *Valley winds*, item in the Encyclopaedia of Atmospheric Sciences 2nd edition (Gerald North Ed.), Elsevier Ltd, Oxford, UK.
<http://www.sciencedirect.com/science/article/pii/B9780123822253002401> .
3. Serafin, S., M.W. Rotach, M. Arpagaus, I. Colfescu, J. Cuxart, S.F.J. De Wekker, M. Evans, V. Grubišić, N. Kalthoff, T. Karl, D.J. Kirshbaum, M. Lehner, S. Mobbs, A. Paci, E. Palazzi, A. Raudzens Bailey, J. Schmidli, G. Wohlfahrt, **D. Zardi** (2020): Multi-scale transport and exchange processes in the atmosphere over mountains - Programme and experiment. Innsbruck University Press, 42 pp. ISBN 978-3-99106-003-1, DOI 10.15203/99106-003-1.
https://www.uibk.ac.at/iup/buch_pdfs/10.1520399106-003-1.pdf

B. Papers published on peer-reviewed scientific journals.

2023

1. Chimani, B., Bochniček, O., Brunetti, M., Ganekind, M., Holec, J., Izsák, B., Lakatos, M., Tadić, M. P., Manara, V., Maugeri, M., Šťastný, P., Szentes, O., & **Zardi, D.** (2023). Revisiting HISTALP precipitation dataset. *International Journal of Climatology*, 1–31. <https://doi.org/10.1002/joc.8270>
2. Farina, S., **Zardi, D.** 2023: Understanding Thermally Driven Slope Winds: Recent Advances and Open Questions. *Boundary-Layer Meteorol.* <https://doi-org.ezp.biblio.unin.it/10.1007/s10546-023-00821-1>
3. Graldi, G., **Zardi, D.**, Vitti, A., 2023: Retrieving Soil Moisture at the Field Scale from Sentinel-1 Data over a Semi-Arid Mediterranean Agricultural Area. *Remote Sens.* 15, 2997. <https://doi.org/10.3390/rs15122997>.
4. Zonato, A., Martilli, A., Santiago, J.L., **Zardi, D.** & Giovannini, L.(2023) On a new one-dimensional turbulence closure for building-induced drag. *Quarterly Journal of the Royal Meteorological Society*, 1– 16. <https://doi.org/10.1002/qj.4476>
5. Farina, S., Marchio, M., Barbano, F., Di Sabatino, S., and **D. Zardi**, 2023: Characterization of the morning transition over the gentle slope of a semi-isolated massif, *J. Appl. Meteor. Climatol.* **62**, 449–466. <https://doi.org/10.1175/JAMC-D-22-0011.1>
6. Bertoldi, G., Bozzoli, M., Crespi, A., Matiu, M., Giovannini, L., **Zardi, D.**, and B. Majone 2023: Diverging snowfall trends across months and elevation in the northeastern Italian Alps. *International Journal of Climatology*, (in press) . <https://doi.org/10.1002/joc.8002>
7. Gucci, F., Giovannini, L., Stiperski, I., **Zardi, D.** & Vercauteren, N., 2023: Sources of anisotropy in the Reynolds stress tensor in the stable boundary layer. *Q. J. R. Meteorol. Soc.*, **149**, 277– 299 <https://doi.org/10.1002/qj.4407>

2022

8. Torresani, M., Masiello, G., Vendrame, N., Gerosa, G., Falocchi, M., Tomelleri, E., Serio, C., Rocchini, D., and **D. Zardi**, 2022: Correlation Analysis of Evapotranspiration, Emissivity Contrast and Water Deficit Indices: A Case Study in Four Eddy Covariance Sites in Italy with Different Environmental Habitats. *Land*, **11**, 1-16, doi: 10.3390/land11111903. <https://doi.org/10.3390/land11111903>
9. Doglioni, G., Aquila, V., Das, S., Colarco, P. R., and **Zardi, D.**, 2022: Dynamical perturbation of the stratosphere by a pyrocumulonimbus injection of carbonaceous aerosols, *Atmos. Chem. Phys.*, 22, 11049–11064, <https://doi.org/10.5194/acp-22-11049-2022>.
10. Rotach, M. W., Serafin, S., Ward, H. C., Arpagaus, M., Colfescu, I., Cuxart, J., De Wekker, S. F. J., Grubišić, V., Kalthoff, N., Karl, T., Kirshbaum, D. J., Lehner, M., Mobbs, S., Paci, A., Palazzi, E., Bailey, A., Schmidli, J., Wittmann, C., Wohlfahrt, G., & **Zardi, D.** 2022: A collaborative effort to better understand, measure and model atmospheric exchange processes over mountains, *Bulletin of the American Meteorological Society*, **103**, E1282-E1295.
<https://doi.org/10.1175/BAMS-D-21-0232.1>

11. Urganani, R., Finco, A., Chiesa, M., Marzuoli, R., Bignotti, L., Riccio, A., Chianese, E., Tirimberio, G., Giovannini, L., **Zardi, D.**, Gerosa, G., 2022: Size-segregated aerosol fluxes, deposition velocities, and chemical composition in an Alpine valley, *Atmospheric Research*, 2022, 105995.
<https://doi.org/10.1016/j.atmosres.2021.105995>.
12. Zonato, A., Martilli, A., Jimenez, P. A., Dudhia, J., **Zardi, D.**, & Giovannini, L., 2022: A new $K - \epsilon$ turbulence parameterization for mesoscale meteorological models, *Monthly Weather Review*
<https://doi.org/10.1175/MWR-D-21-0299.1>

2021

13. Zonato, A., Martilli, A., Gutierrez, E., Chen, F., He, C., Barlage, M., **Zardi, D.**, and Giovannini, L., 2021: Exploring the effects of rooftop mitigation strategies on urban temperatures and energy consumption. *Journal of Geophysical Research: Atmospheres*, 126, e2021JD035002.
<https://doi.org/10.1029/2021JD035002>
14. Amadori, M., Giovannini, L., Toffolon, M., Piccolroaz, S., **Zardi, D.**, Bresciani, M., Giardino, C., Luciani, G., Kliphuis, M., van Haren, H., and H. A. Dijkstra, 2021: Multi-scale evaluation of a 3D lake model forced by an atmospheric model against standard monitoring data, *Environmental Modelling & Software*, **139**, 105017.
<https://doi.org/10.1016/j.envsoft.2021.105017>
15. Pappaccogli, G., Giovannini, L., **Zardi, D.**, and A. Martilli, 2021: Assessing the ability of WRF-BEP + BEM in reproducing the wintertime building energy consumption of an Italian Alpine city. *J. Geophys. Res. Atmospheres*, **126**, e2020JD033652. <https://doi.org/10.1029/2020JD033652>
16. **Zardi, D.**, and M. W. Rotach, 2021: Transport and Exchange Processes in the Atmosphere over Mountainous Terrain: Perspectives and Challenges for Observational and Modelling Systems, from Local to Climate Scales. *Atmosphere* **12**, 199. <https://doi.org/10.3390/atmos12020199>
17. Ferrero, E., and **D. Zardi**, 2021: Progress in extreme events forecasting, the case of the flood of November 1994 in Piedmont (Italy). *Bull. Atmos. Sci. Technol.*, **1**, 261–262. <https://doi.org/10.1007/s42865-020-00029-y>
18. Giovannini, L., S. Davolio, M. Zaramella, **D. Zardi**, and M. Borga, 2021: Multi-model convection-resolving simulations of the October 2018 Vaia storm over northeastern Italy. *Atmos. Res.* 253, 105455.
<https://doi.org/10.1016/j.atmosres.2021.105455>
19. **Zardi, D.**, Falocchi, M., Giovannini, L., Tirlor, W., Tomasi, E., Antonacci, G., Ferrero, E., Alessandrini, S., Jimenez, P. A., Kosovic, B., and L. Delle Monache, 2021: The Bolzano Tracer Experiment (BTEX), *Bull. Amer. Meteor. Soc.* 102(5), E966-E989.
<https://doi.org/10.1175/BAMS-D-19-0024.1>

2020

20. Falocchi, M., **D. Zardi**, and L. Giovannini, 2020: Meteorological normalization of NO₂ concentrations in the Province of Bolzano (Italian Alps). *Atmos. Env.* 246, 118048.
<https://doi.org/10.1016/j.atmosenv.2020.118048>
21. Pappaccogli, G., L. Giovannini, **D. Zardi**, and A. Martilli, 2020: Sensitivity analysis of urban microclimatic conditions and building energy consumption on urban parameters by means of idealized numerical simulations. *Urban climate*, **34**, 100677.
<https://doi.org/10.1016/j.uclim.2020.100677>
22. 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 Modeling. *Atmosphere*, **11**, 646.
<https://doi.org/10.3390/atmos11060646>
23. Zonato, A., A. Martilli, S. Di Sabatino, **D. Zardi**, L. Giovannini, 2020: Evaluating the performance of a novel WUDAPT averaging technique to define urban morphology with mesoscale models, *Urban Climate*, **31**, 100584.
<https://doi.org/10.1016/j.uclim.2020.100584>.
24. Gentilucci, M., M. Barbieri, F. D'Aprile, and **D. Zardi**, 2020: Analysis of extreme precipitation indices in the Marche region (Central Italy), combined with the assessment of energy implications and hydrogeological risk. *Energy Reports*, **6**, 804-810.
<https://doi-org.ezp.biblio.unitn.it/10.1016/j.egyr.2019.11.006>

25. Falocchi, M., Tirlir, W., Giovannini, L., Tomasi, E., Antonacci, G. and **D. Zardi**, 2020: A dataset of tracer concentrations and meteorological observations from the Bolzano Tracer EXperiment (BTEX) to characterize pollutant dispersion processes in an Alpine valley. *Earth System Science Data*, **12**, 277-291.
<https://doi.org/10.5194/essd-12-277-2020>

2019

26. Tomasi, E., Giovannini, L., Falocchi, M., Antonacci, G., Jimenez, P. A., Kosovic, B., Alessandrini, S., **Zardi, D.**, Delle Monache, L., Ferrero, E., 2019: Turbulence parameterizations for dispersion in sub-kilometer horizontally non-homogeneous flows, *Atmos. Res.*, **228**, 122-136.
<https://doi.org/10.1016/j.atmosres.2019.05.018>
27. Falocchi, M., Giovannini, L., de Franceschi, M. and **Zardi, D.**, 2019: A method to determine the characteristic time scales of quasi-isotropic surface-layer turbulence over complex terrain: A case study in the Adige Valley (Italian Alps). *Quart. J. Roy. Meteor. Soc.* **145**: 495– 512.
<https://doi.org/10.1002/qj.3444>

2018

28. Laiti, L., Mallucci, S., Piccolroaz, S., Bellin, A., **Zardi, D.**, Fiori, A., Nikulin, G., Majone, B., 2018: Testing the hydrological coherence of high-resolution gridded precipitation and temperature data sets. *Water Resources Research*, **54**, 1999– 2016.
<https://doi.org/10.1002/2017WR021633>
29. De Wekker, S. F. J., M. Kossmann, J. C. Kniewel, L. Giovannini, E. D. Gutmann and **D. Zardi**, 2018: Meteorological Applications Benefiting from an Improved Understanding of Atmospheric Exchange Processes over Mountains. *Atmosphere* 2018, **9**(10), 371.
<https://doi.org/10.3390/atmos9100371>
30. Amadori, M., Piccolroaz, S., Giovannini, L., **Zardi, D.**, Toffolon, M., 2018: Wind variability and Earth's rotation as drivers of transport in a deep, elongated subalpine lake: The case of Lake Garda. *Journal of Limnology* **77** (3).
<https://doi.org/10.4081/jlimnol.2018.1814>
31. Falocchi, M., Giovannini, L., Franceschi, M., **Zardi, D.**, 2018: A Refinement of the McMillen (1988) Recursive Digital Filter for the Analysis of Atmospheric Turbulence. *Boundary-Layer Meteorol.* **168**: 517.
<https://doi.org/10.1007/s10546-018-0355-5>
32. Laiti, L., L. Giovannini, **D. Zardi**, G. Belluardo and D. Moser. 2018: Estimating Hourly Beam and Diffuse Solar Radiation in an Alpine Valley: A Critical Assessment of Decomposition Models. *Atmosphere*, **9**, 117.
<https://doi.org/10.3390/atmos9040117>
33. Serafin S., B. Adler, J. Cuxart, S. F. J. De Wekker, A. Gohm, B. Grisogono, N. Kalthoff, D. J. Kirshbaum, M. W. Rotach, J. Schmidli, I. Stiperski, Ž. Večenaj and **D. Zardi**, 2018: Exchange Processes in the Atmospheric Boundary Layer Over Mountainous Terrain. *Atmosphere*, **9**, 102. <https://doi.org/10.3390/atmos9030102>
34. Conangla, L., Cuxart, J., Jiménez, M. A., Martínez-Villagrana, D., Miró, J. R., Tabarelli, D., and **Zardi D.**, 2018: Cold-air pool evolution in a wide Pyrenean valley. *Int. J. Climatol.* **38**, 2852-2865.
<http://onlinelibrary.wiley.com/enhanced/exportCitation/doi/10.1002/joc.5467>
35. Pappacogli, G., Giovannini, L., Cappelletti, F. and **Zardi, D.**, 2018: Challenges in the application of a WRF/Urban-TRNSYS model chain for estimating the cooling demand of buildings: A case study in Bolzano (Italy), *Science and Technology for the Built Environment*, **24**:5, 529-544. doi: 10.1080/23744731.2018.1447214.
<https://doi-org.ezp.biblio.unitn.it/10.1080/23744731.2018.1447214>

2017

36. Tomasi, E., L. Giovannini, **D. Zardi**, and M. de Franceschi, 2017: Optimization of Noah and Noah_MP WRF Land Surface Schemes in Snow-Melting Conditions over Complex Terrain. *Mon. Wea. Rev.* **145**:12, 4727-4745.
doi: 10.1175/MWR-D-16-0408.1
<https://doi.org/10.1175/MWR-D-16-0408.1>
37. Bodini, N. and **Zardi, D.** and Lundquist, J. K., 2017: Three-Dimensional Structure of Wind Turbine Wakes as Measured by Scanning Lidar, *Atmos. Meas. Tech.*, **10**, 2881-2896.
<https://doi.org/10.5194/amt-10-2881-2017>
38. Giovannini, L., Laiti, L., Serafin, S. and **Zardi, D.**, 2017: The thermally driven diurnal wind system of the Adige Valley in the Italian Alps. *Q. J. R. Meteorol. Soc.*, **143**, 2389–2402. doi: 10.1002/qj.3092 doi:10.1002/qj.3092.
<http://onlinelibrary.wiley.com/doi/10.1002/qj.3092/full>

2016

39. Bodini, N., J. K. Lundquist, **D. Zardi**, and M. Handschy, 2016, Year-to-year correlation, record length, and overconfidence in wind resource assessment, *Wind Energ. Sci.*, **1**, 115-128, 2016. doi:10.5194/wes-1-115-2016. <http://www.wind-energ-sci.net/1/115/2016/>
40. Panziera, L., L. Giovannini, L. Laiti, and **D. Zardi**, 2016: The relation between circulation types and regional Alpine climate Part II: The dependence of the predictive skill on the level of the classification method for Trentino *Int. J. Climatol.* **36**, 2189–2199. doi: 10.1002/joc.4487 <https://doi.org/10.1002/joc.4487>

2015

41. Panziera, L., L. Giovannini, L. Laiti, and **D. Zardi**, 2015: The relation between circulation types and regional Alpine climate. Part I: synoptic climatology of Trentino. *Int. J. Climatol.* **35**, 4655–4672 doi: 10.1002/joc.4314 <https://doi.org/10.1002/joc.4314>
42. Brida, C., Casarotto, C., **Zardi, D.**, 2015, Evaluation of meteorological-climatological forces on Trentino glaciers during the Great War, *Rendiconti Online Societa Geologica Italiana*, **36**, 35-38. doi: 10.3301/ROL.2015.138. <http://rendiconti.socgeol.it/244/fulltext.html?id=2466>
43. M. Schiavon, M. Redivo, G. Antonacci, E. C. Rada, M. Ragazzi, **D. Zardi**, L. Giovannini, 2015 Assessing the impact of nitrogen oxides and benzene emissions from road traffic and domestic heating on air quality and cancer risk in an urban area. *Atmos. Env.* **120**, 234-243. <https://doi.org/10.1016/j.atmosenv.2015.08.054>
44. Giovannini, L., Laiti, L., **Zardi, D.**, de Franceschi M., 2015: Climatological characteristics of the Ora del Garda wind in the Alps. *Int. J. Climatol.*, **35**, 4103-4115. doi: 10.1002/joc.4270. <http://onlinelibrary.wiley.com/doi/10.1002/joc.4270/epdf>
45. **Zardi, D.** and S. Serafin, 2015: An analytic solution for daily-periodic thermally-driven slope flow. *Quart. J. Roy. Meteor. Soc.*, **141**, 1968–1974. doi: 10.1002/qj.2485. <http://onlinelibrary.wiley.com/doi/10.1002/qj.2485/epdf>
46. Estévez, J., Gavilán, P., García-Marín, A.P., **Zardi, D.**, 2015: A method for detecting spurious precipitation signals from automatic weather stations in irrigated areas. *Int. J. Climatol.*, **35**, 1556–1568. doi: 10.1002/joc.4076 <http://onlinelibrary.wiley.com/doi/10.1002/joc.4076/pdf>

2014

47. Laiti, L., **Zardi, D.**, Giovannini, L., de Franceschi M., and G. Rampanelli, 2014: Analysis of the diurnal development of a lake-valley circulation in the Alps based on airborne and surface measurements, *Atmos. Chem. Phys.*, **14**, 9771-9786, doi:10.5194/acp-14-9771-2014. <http://www.atmos-chem-phys.net/14/9771/2014/acp-14-9771-2014.pdf>
48. Laiti, L., Andreis, D., Zottele, F., Giovannini, L., Panziera, L., Toller, G., **Zardi, D.**, 2014: A solar atlas for the Trentino region in the Alps: quality control of surface radiation data. *Energy Procedia*, **59**, 336 – 343 (doi: 10.1016/j.egypro.2014.10.386). <https://doi.org/10.1016/j.egypro.2014.10.386>
49. Giovannini, L., Antonacci, G., **Zardi, D.**, Laiti, L., Panziera, L., 2014: Sensitivity of simulated wind speed to spatial resolution over complex terrain. *Energy Procedia*, **59**, 323 – 329. doi: 10.1016/j.egypro.2014.10.384. <https://dx.doi.org/10.1016/j.egypro.2014.10.384>
50. Castelli, M., Stöckli, R., **Zardi, D.**, Tetzlaff, A., Wagner, J. E., Belluardo, G., Zebisch, M., Petitta, N., 2014: The HelioMont method for assessing solar irradiance over complex terrain: validation and improvements. *Remote Sensing of Environment*. **152**, 603-613. <https://doi.org/10.1016/j.rse.2014.07.018>
51. Giovannini, L., **Zardi, D.**, de Franceschi, M., 2014: Effects of changes in observational sites and position and surrounding urbanization on the temperature time series of the city of Trento, *Urban Climate*, **10**, 509-529. doi:10.1016/j.uclim.2014.04.003. <https://doi.org/10.1016/j.uclim.2014.04.003>
52. Schiavon, M., Antonacci, G., Rada, E. C., Ragazzi, M., **Zardi, D.**, 2014: Modelling Human Exposure to Air Pollutants in an Urban Area, *Revista de Chimie*, **65**, 61-64. <http://revistadechimie.ro/pdf/SCHIAVON%20M.pdf%201%2014.pdf>
53. Giovannini, L., **Zardi, D.**, de Franceschi, M., Chen, F., 2014: Numerical simulations of boundary-layer processes and urban-induced alterations in an Alpine valley. *Int. J. Climatol.* **34**, 1111–1131. doi: 10.1002/joc.3750. <http://onlinelibrary.wiley.com/doi/10.1002/joc.3750/pdf>.

2013

54. Laiti, L., **D. Zardi**, M. de Franceschi and G. Rampanelli, 2013: Atmospheric boundary layer structures associated with the Ora del Garda wind in the Alps as revealed from airborne and surface measurements. *Atmos. Res.*, **132–133**, 473–489. doi: 10.1016/j.atmosres.2013.07.006.
<http://dx.doi.org/10.1016/j.atmosres.2013.07.006>.
55. Laiti, L., **Zardi, D.**, de Franceschi, M. and Rampanelli, G., 2013: Residual Kriging analysis of airborne measurements: application to the mapping of Atmospheric Boundary-Layer thermal structures in a mountain valley. *Atmos. Sci. Letters*. **14**, 79–85. doi: 10.1002/asl2.420.
<https://doi.org/10.1002/asl2.420>
56. Ragazzi, M., Tirler, W., Angelucci, G., **Zardi D.** and Rada, E. C., 2013: Management of atmospheric pollutants from waste incineration processes: the case of Bozen. *Waste Manag. Res.* **31**, 235–240.
<https://doi.org/10.1177%2F0734242X12472707>
57. Giovannini, L., **Zardi, D.**, de Franceschi, M., 2013: Characterization of the Thermal Structure inside an Urban Canyon: Field Measurements and Validation of a Simple Model. *J. Appl. Meteor. Climatol.*, **52**, 64–81. Doi:10.1175/2010JAMC2613.1.
<http://dx.doi.org/10.1175/2010JAMC2613.1>

2011

58. Grigante, M., Mottes, F., **Zardi, D.** and M. de Franceschi, 2011: Experimental solar radiation measurements and their effectiveness in setting up a real sky irradiance model. *Renewable Energy*, **36**, 1–8. doi:10.1016/j.renene.2010.04.039.
<http://www.sciencedirect.com/science/article/pii/S0960148110002326>
59. Giovannini, L., **Zardi, D.** and de Franceschi, M., 2011: Analysis of the urban thermal fingerprint of the city of Trento in the Alps, *J. Appl. Meteor. Climatol.* **50**, 1145–1162. doi: 10.1175/2010JAMC2613.1.
<http://journals.ametsoc.org/doi/abs/10.1175/2010JAMC2613.1>
60. Rada E. C., Ragazzi M., **Zardi D.**, Laiti L., and A. Ferrari, 2011: PCDD/F environmental impact from municipal solid waste bio-drying plant. *Chemosphere*. **84**, 289–295. doi:10.1016/j.chemosphere.2011.04.019.
<http://www.sciencedirect.com/science/article/pii/S0045653511004103>
61. Serafin, S., and **D. Zardi**, 2011: Daytime development of the boundary layer over a plain and in a valley under fair weather conditions: a comparison by means of idealized numerical simulations. *J. Atmos. Sci.*, **68**, 2128–2141. doi: 10.1175/2011JAS3610.1.
<http://dx.doi.org/10.1175/2011JAS3610.1>

2010

62. Serafin, S., and **D. Zardi**, 2010: Daytime Heat Transfer Processes Related to Slope Flows and Turbulent Convection in an Idealized Mountain Valley. *J. Atmos. Sci.*, **67**, 3739–3756. doi: 10.1175/2010JAS3428.1
<http://dx.doi.org/10.1175/2010JAS3428.1>
63. Serafin, S. and **D. Zardi**, 2010: Structure of the atmospheric boundary layer in the vicinity of a developing upslope flow system: A numerical model study. *J. Atmos. Sci.* **67**, 1171–1185. doi: 10.1175/2009JAS3231.1
<http://dx.doi.org/10.1175/2009JAS3231.1>

2009

64. de Franceschi, M., **D. Zardi**, M. Tagliazucca, and F. Tampieri, 2009: Analysis of second order moments in the surface layer turbulence in an Alpine valley. *Quart. J. Roy. Meteor. Soc.*, **135**, 1750–1765. doi: 10.1002/qj.506
<https://doi.org/10.1002/qj.506>
65. Andrighetti, M., **D. Zardi**, M. de Franceschi, 2009, History and analysis of the temperature series of Verona (1769–2006), *Meteor. Atmos. Phys.*, **103**, 267–277. 10.1007/s00703-008-0331-6.
<https://doi.org/10.1007/s00703-008-0331-6>
66. de Franceschi, M. and **Zardi, D.**, 2009: Study of wintertime high pollution episodes during the Brenner-South ALPNAP measurement campaign, *Meteor. Atmos. Phys.*, **103**, 237–250. Doi: 10.1007/s00703-008-0327-2.
<https://doi.org/10.1007/s00703-008-0327-2>

2008

67. Dalla Nora, S., E. Eccel, M. de Franceschi, L. Ghielmi, and **D. Zardi**, 2008, Real-time temperature minimum prediction: From traditional models to new approaches, *Italian Journal of Agrometeorology*, **13**, 24–37.
http://www.agrometeorologia.it/documenti/Rivista2008_3/24.pdf

68. de Franceschi, M., and **D. Zardi**, 2008: The physics of frost phenomena in a mountain environment. Results from the experimental campaigns of the GEPRI project, *Italian Journal of Agrometeorology*, **13**, 45-51.
http://www.agrometeorologia.it/documenti/Rivista2008_3/45.pdf

2007

69. Rotach, M., and **D. Zardi**, 2007: On the boundary layer structure over highly complex terrain: key findings from MAP. *Quart. J. Roy. Meteor. Soc.* **133**, 937-948. doi: 10.1002/qj.71.
<https://doi.org/10.1002/qj.71>

2005

70. Dalla Nora; S., de Franceschi M., **Zardi D.**, 2005, Setup and test of a simple model for prediction of late frost events over complex terrain, *Croatian Meteorological Journal*, **40**, 410-413.
<http://hrcak.srce.hr/file/96878>
71. de Franceschi M., Sitta M., **Zardi D.**, 2005, Late frost events in an alpine valley: measurements and characterisation of the process, *Croatian Meteorological Journal*, **40**, 406-409.
<http://hrcak.srce.hr/file/96877>
72. Bertò A., Borsato A., Frisia S., Miorandi R., **Zardi D.**, 2005, Monthly isotopic signal of the precipitated water in the province of Trento: Lagrangian analysis and discussion of measurements, *Croatian Meteorological Journal*, **40**, 432-435.
<http://hrcak.srce.hr/file/96883>
73. Bertò A., Buzzi A., **Zardi D.**, 2005, A warm conveyor belt mechanism accompanying extreme precipitation events over north-eastern Italy, *Croatian Meteorological Journal*, **40**, 338-341.
<http://hrcak.srce.hr/file/96841>
74. Serafin, S., **Zardi, D.**, 2005, Critical evaluation and proposed refinement of the Troen and Mahrt (1986) boundary layer model, *Croatian Meteorological Journal*, **40**, 464-467.
<http://hrcak.srce.hr/file/96934>
75. Serafin, S., Bertò, A., **Zardi, D.**, 2005, Application of cluster analysis techniques to the verification of quantitative precipitation forecasts, *Croatian Meteorological Journal*, **40**, 395-398.
<http://hrcak.srce.hr/file/96874>
76. Rotach, M. W., **Zardi, D.**, 2005, On the boundary layer structure over highly complex terrain: key findings from MAP and related projects, *Croatian Meteorological Journal*, **40**, 124-127.
<http://hrcak.srce.hr/file/96709>

2004

77. de Franceschi M., **Zardi D.**, 2004: Fenomeni meteorologici a scala locale e bilanci energetici sul Lago di Tovel". *Studi trentini di Scienze Naturali, Acta Biologica*, **81** (2 suppl.), 265-280.
78. Rampanelli, G., **Zardi, D.**, 2004. A method to determine the capping inversion of the convective boundary layer, *J. Appl. Meteor.*, **43**, 925-933. doi: 10.1175/1520-0450(2004)043<0925:AMTDTC>2.0.CO;2
[http://dx.doi.org/10.1175/1520-0450\(2004\)043<0925:AMTDTC>2.0.CO;2](http://dx.doi.org/10.1175/1520-0450(2004)043<0925:AMTDTC>2.0.CO;2)
79. Rampanelli, G., **Zardi, D.**, Rotunno, R., 2004: Mechanisms of Up-Valley Winds , *J. Atmos. Sci.*, **61**, 3097-3111. doi: 10.1175/JAS-3354.1
<http://dx.doi.org/10.1175/JAS-3354.1>
80. Bertò, A., A. Buzzi, and **D. Zardi**, 2004, Back-tracking water vapour contributing to precipitation events over Trentino: a case study, *Meteorol. Z.*, **13** (3), 189-200. doi: 10.1127/0941-2948/2004/0013-0189
<http://dx.doi.org/10.1127/0941-2948/2004/0013-0189>

2003

81. Ciolli, M., M. de Franceschi, R. Rea, A. Vitti, **D. Zardi**, and P. Zatelli, 2003: Development and Application of 2D and 3D GRASS Modules for Simulation of Thermally Driven Slope Winds, *Transactions in GIS*, **8**, 191-209. doi: 10.1111/j.1467-9671.2004.00175.x
<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9671.2004.00175.x/abstract>
82. de Franceschi, M., Rampanelli, G., Sguerso, D., **Zardi, D.**, Zatelli, P., 2003, Development of a measurement platform on a light airplane and analysis of airborne measurements in the atmospheric boundary layer, *Ann. of Geophys.*, **46** (2), 269-283. doi: 10.4401/ag-3401.
<https://doi.org/10.4401/ag-3401>

83. de Franceschi, M., **Zardi, D.**, 2003, Evaluation of cut-off frequency and correction of filter-induced phase lag and attenuation in eddy covariance analysis of turbulence data, *Boundary-Layer Meteorol.*, **108**, 289-303. Doi: 10.1023/A:1024157310388.
<https://doi.org/10.1023/A:1024157310388>

2001

84. Seminara, S., Zolezzi, G., Tubino, M., **Zardi, D.**, Downstream and upstream influence in river meandering. Part two: planimetric development, *J. Fluid. Mech.*, **438**, 213-230. Doi:10.1017/S0022112001004281.
<http://dx.doi.org/10.1017/S0022112001004281>

1995

85. **D. Zardi**, G. Seminara, 1995: Chaotic mode competition in the shape oscillations of pulsating bubbles, *J. Fluid Mech.*, **286**, 257-276. doi:10.1017/S0022112095000723.
<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=353902&fulltextType=RA&fileId=S0022112095000723>

C. Conference Presentations

2015

1. Giovannini, L., Laiti, L., Serafin, Zardi D. 2015: A climatological analysis of diurnal winds in the Adige Valley in the Alps. 5th International Conference on Meteorology and Climatology of the Mediterranean Istanbul (Turkey), 2 -4 March 2015.
2. Laiti, L., Giovannini, L., Zardi, D. 2015: Solar resource assessment in complex orography: a comparison of available datasets for the Trentino region. 5th International Conference on Meteorology and Climatology of the Mediterranean Istanbul (Turkey), 2 -4 March 2015.
3. Lorenzo Giovannini, Lavinia Laiti, and Dino Zardi A nested large-eddy simulation study of the Ora del Garda wind in the Alps. European Geosciences Union General Assembly 2015. Vienna (Austria) 12-17 April 2015.
4. Lavinia Laiti, Lorenzo Giovannini, and Dino Zardi Solar resource assessment in complex orography: a comparison of available datasets for the Trentino region. European Geosciences Union General Assembly 2015. Vienna (Austria) 12-17 April 2015.
5. Gianluca Antonacci, Lorenzo Giovannini, Elena Tomasi, and Dino Zardi Atmospheric dispersion modeling with AERMOD for comparative impact assessment of different pollutant emission sources in an Alpine context. European Geosciences Union General Assembly 2015. Vienna (Austria) 12-17 April 2015.
6. Marco Falocchi, Stefano Barontini, Dino Zardi, and Roberto Ranzi Turbulence measurements in an Alpine valley: The CividatEX Experiment case. European Geosciences Union General Assembly 2015. Vienna (Austria) 12-17 April 2015.
7. Luca Panziera, Lavinia Laiti, Lorenzo Giovannini, and Dino Zardi Are synoptic circulation types able to characterize the climate of an Alpine region? European Geosciences Union General Assembly 2015. Vienna (Austria) 12-17 April 2015.
8. D. Zardi, M. de Franceschi, L. Laiti, L. Giovannini, 2015: Revisiting Albert Defant's (1909) seminal paper "Mountain and valley winds in South Tyrol" - A tribute to a pioneering contribution in mountain meteorology. 33rd International Conference on Alpine Meteorology (ICAM). Innsbruck (Austria), 31 August - 4 September 2015.
9. L. Giovannini, L. Laiti, S. Serafin, D. Zardi, 2015: A climatological analysis of diurnal winds in the Adige valley in the Alps. 33rd International Conference on Alpine Meteorology (ICAM). Innsbruck (Austria), 31 August - 4 September 2015.
10. L. Giovannini, G. Antonacci, D. Zardi, L. Laiti, L. Panziera, 2015: Evaluation of the climatological wind speed simulated by the WRF model over complex terrain. 33rd International Conference on Alpine Meteorology (ICAM). Innsbruck (Austria), 31 August - 4 September 2015.
11. D. Martínez-Villagrasa, L. Conangla, D. Tabarelli, M. A. Jiménez, J. R. Miró, D. Zardi, J. Cuxart, 2015: Slope and valley flows at the Cerdanya valley in the Pyrenees. 33rd International Conference on Alpine Meteorology (ICAM). Innsbruck (Austria), 31 August - 4 September 2015.
12. E. Tomasi, G. Antonacci, L. Giovannini, D. Zardi, M. Ragazzi, 2015: Atmospheric dispersion modelling with AERMOD for comparative impact assessment of different pollutant emission sources in an Alpine valley. 33rd International Conference on Alpine Meteorology (ICAM). Innsbruck (Austria), 31 August - 4 September 2015.
13. M. Falocchi, S. Barontini, L. Giovannini, D. Zardi, R. Ranzi, 2015: Wind regime and filtering turbulent data in the CividatEX Experiment. 33rd International Conference on Alpine Meteorology (ICAM). Innsbruck (Austria), 31 August - 4 September 2015.

14. L. Giovannini, D. Zardi, 2015: High-resolution forecasts of the thermal comfort in the urban area of Trento. 33rd International Conference on Alpine Meteorology (ICAM). Innsbruck (Austria), 31 August - 4 September 2015.
15. L. Panziera, L. Giovannini, L. Laiti, D. Zardi, 2015: Is it possible to characterize the climate of an Alpine region by means of synoptic circulation types? 33rd International Conference on Alpine Meteorology (ICAM). Innsbruck (Austria), 31 August - 4 September 2015.
16. L. Laiti, L. Giovannini, L. Panziera, D. Zardi, 2015: A high-resolution solar radiation atlas for the Trentino region in the Alps. 33rd International Conference on Alpine Meteorology (ICAM). Innsbruck (Austria), 31 August - 4 September 2015.
17. Laiti, L., Giovannini, L., Zardi, D. 2015: The Solar Atlas of Trentino (Italy): A Comparison of Available Solar Datasets for a Small Alpine Region. 3rd International Conference Energy & Meteorology (ICEM), Boulder (Colorado, USA), 22-26 June 2015.
18. L. Giovannini, G. Antonacci, D. Zardi, L. Laiti, L. Panziera, 2015: Evaluation of the climatological wind speed simulated by the WRF model over complex terrain: a case study in Trentino (Italy) 3rd International Conference Energy & Meteorology (ICEM), Boulder (Colorado, USA), 22-26 June 2015.
19. Giovannini, L., Zardi D., 2015: High-resolution forecasts of the thermal comfort in the urban area of Trento. 9th International Conference on Urban Climate and 12th Symposium on the Urban Environment, Toulouse (France) 20-14 July 2015.
20. M. Schiavon, M. Redivo, G. Antonacci, E. C. Rada, M. Ragazzi, D. Zardi, L. Giovannini, 2015: Modeling NO_x and benzene emissions and exposure from road traffic and domestic heaters in street canyons: a case-study in Verona, Italy. 9th International Conference on Urban Climate and 12th Symposium on the Urban Environment, Toulouse (France) 20-14 July 2015.

2014

21. Giovannini, L., Zardi, D. and de Franceschi, M., 2014: Evaluating the Effects of Changes in Observational Sites Position and Surrounding Urbanization on the Historical Temperature Time Series of the City of Trento in the Alps. Second Annual Conference of the Italian Society for Climate Sciences, Venice 29-30 September 2014.
22. Tomasi, E., L. Giovannini, D. Zardi, and M. de Franceschi, 2014: High-resolution numerical simulations of wintertime atmospheric boundary layer processes in the Adige Valley during an ALPNAP project field campaign. 21st Symposium on Boundary Layers and Turbulence, Leeds (UK), 9-13 June 2014.
23. Laiti, L., Zardi, D., de Franceschi, M. and G. Rampanelli, 2014: Comparative assessment of methods to retrieve fine-scale atmospheric boundary layer structures from airborne measurements. 21st Symposium on Boundary Layers and Turbulence, Leeds (UK), 9-13 June 2014.
24. Zardi, D., and S. Serafin, 2014: An analytic solution for periodic thermally driven flows over an infinite slope: Defant (1949) revisited. 21st Symposium on Boundary Layers and Turbulence, Leeds (UK), 9-13 June 2014.
25. Giovannini, L., Zardi, D., de Franceschi, M. and F. Chen, 2014: Numerical simulations of boundary-layer processes and urban-induced alterations in an Alpine valley. 21st Symposium on Boundary Layers and Turbulence, Leeds (UK), 9-13 June 2014.
26. Giovannini, L., Zardi, D. and de Franceschi, M., 2014: Effects of changes in observational sites position and surrounding urbanisation on the temperature time series of the city of Trento. European Geosciences Union General Assembly 2014. Vienna (Austria) 27 April – 2 May 2014.
27. Laiti, L., Andreis, D., Zottele, F., Giovannini, L., Panziera, L., Toller, G., and D. Zardi: 2014: A solar radiation atlas for the Trentino region in the Alps: preliminary results. European Geosciences Union General Assembly 2014. Vienna (Austria) 27 April – 2 May 2014.
28. Giovannini, L., Antonacci, G., Zardi, D., Laiti, L., and L. Panziera: 2014. Development of a wind atlas for the Trentino region in the Alps. European Geosciences Union General Assembly 2014. Vienna (Austria) 27 April – 2 May 2014.
29. Panziera, L., Laiti, L., Giovannini, L. and D. Zardi, 2014: How well do weather types describe the weather of an Alpine region? European Geosciences Union General Assembly 2014. Vienna (Austria) 27 April – 2 May 2014.
30. Tomasi, E., L. Giovannini, D. Zardi, and M. de Franceschi, 2014: High-resolution numerical simulations of wintertime atmospheric boundary layer processes in the Adige Valley during an ALPNAP project field campaign. European Geosciences Union General Assembly 2014. Vienna (Austria) 27 April – 2 May 2014.
31. Giovannini, L., Laiti, L., and D. Zardi, 2014: Numerical simulations of the Ora del Garda wind in the Alps. European Geosciences Union General Assembly 2014. Vienna (Austria) 27 April – 2 May 2014.

2013

32. Laiti, L., D. Zardi, M. de Franceschi, G. Rampanelli: An investigation of the Ora del Garda wind in the Alps by means of Kriging of airborne and surface measurements. 4th International Meeting on Meteorology and Climatology of the Mediterranean, Banyuls (France), 27 February-1 March 2013.
33. L. Giovannini, D. Zardi, F. Chen and M. de Franceschi, Local circulation systems in the valleys around the city of Trento: a numerical study 4th International Meeting on Meteorology and Climatology of the Mediterranean, Banyuls (France), 27 February-1 March 2013.
34. L. Giovannini, L. Laiti, D. Zardi and M de Franceschi. Climatological characterization of the Ora del Garda wind in the Alps. 4th International Meeting on Meteorology and Climatology of the Mediterranean, Banyuls (France), 27 February-1 March 2013.
35. Lorenzo Giovannini, Dino Zardi, and Massimiliano de Franceschi, Characterization of the thermal structure inside an urban canyon: field measurements and validation of a simple model, European Geosciences Union General Assembly 2013, Vienna (Austria), 7-12 April 2013.
36. Giovannini, L., Zardi, D. and de Franceschi, M., 2013, Analysis of the Urban Thermal Fingerprint of the City of Trento in the Alps. European Geosciences Union General Assembly 2013, Vienna (Austria), 7-12 April 2013.
37. Zardi, D., Serafin, S., An analytic solution for periodic thermally-driven flows over an infinite slope. European Geosciences Union General Assembly 2013, Vienna (Austria), 7-12 April 2013.
38. Laiti, L., Zardi, D., de Franceschi, M., Rampanelli, G., Residual Kriging method for the reconstruction of 3D high-resolution meteorological fields from airborne and surface observations. European Geosciences Union General Assembly 2013, Vienna (Austria), 7-12 April 2013.
39. Castelli, M., Stoeckli, R., Tetzlaff, A., Wagner, J. E., Zardi, D., Petitta, M., 2013, Satellite-based solar radiation mapping over complex terrain: Validation in the Alps and possible improvements. European Geosciences Union General Assembly 2013, Vienna (Austria), 7-12 April 2013.
40. Laiti, L., Zardi, D., de Franceschi, M., Rampanelli, G., An investigation of the Ora del Garda wind in the Alps by means of kriging of airborne and surface measurements. European Geosciences Union General Assembly 2013, Vienna (Austria), 7-12 April 2013.

2012

41. L. Laiti, D. Zardi and M. de Franceschi, Investigation of the “Ora del Garda” wind in the Alps: a combined approach of surface and airborne field measurements and numerical modeling. 15th AMS Conference on Mountain Meteorology, Steamboat Springs, Colorado, USA, 20-24 August 2012.
42. S. Serafin, and D. Zardi, An evaluation of the volume-effect theory by means of large-eddy simulations. 15th AMS Conference on Mountain Meteorology, Steamboat Springs, Colorado, USA, 20-24 August 2012.
43. L. Giovannini, D. Zardi and M. de Franceschi, Numerical simulations of boundary-layer processes in the city of Trento. 8th International Conference in Urban Climatology. Dublin, Ireland, 6-10 August 2012.

2011

44. Giovannini, L., Chen F., Zardi D. and M. de Franceschi, 2011: High-resolution numerical simulations of daily-periodic local circulations in Alpine valleys including urban environments. 31st International Conference on Alpine Meteorology, Aviemore (Scotland), 23-27 May 2011.
45. Giovannini L., Zardi D., Bee E., de Franceschi M., Santin M. and S. Serafin:, 2011:Characterization of daily-periodic valley winds in the valleys around Trento. 31st International Conference on Alpine Meteorology, Aviemore (Scotland), 23-27 May 2011.
46. Laiti, L., Zardi D. and M. de Franceschi, 2011: Analysis of the thermal structure of the “Ora del Garda” wind from airborne and surface measurements. 31st International Conference on Alpine Meteorology, Aviemore (Scotland), 23-27 May 2011.
47. Zardi, D. and R. Rotunno: A simple model for the Convective Boundary Layer development in a mountain valley 31st International Conference on Alpine Meteorology, Aviemore (Scotland), 23-27 May 2011.

2010

48. Zardi, D., M. de Franceschi, M. Tagliazucca, and F. Tampieri, 2010:Analysis of second order moments in the Surface Layer turbulence in an Alpine valley. European Geophysical Union General Assembly 2010, Vienna (Austria), 2-7 May 2010.
49. Serafin S. and D. Zardi, 2010: Structure of the atmospheric boundary layer in the vicinity of a developing upslope flow system: A numerical model study. European Geophysical Union General Assembly 2010, Vienna (Austria), 2-7 May 2010.

50. Serafin S. and D. Zardi, 2010: Daytime heat transfer processes related to slope flows and turbulent convection in an idealized mountain valley, 14th AMS Conference on Mountain Meteorology, Lake Tahoe Vicinity, CA, 30 August-3 September 2010
51. Zardi D. and S. Serafin, 2010: An analytic solution for periodic thermally driven flows over an infinite slope Defant (1949) revisited. 14th AMS Conference on Mountain Meteorology, Lake Tahoe Vicinity, CA, 30 August-3 September 2010.
52. Zardi, D. and R. Rotunno, 2010: A simple model for the Convective Boundary Layer development in a mountain valley 14th AMS Conference on Mountain Meteorology, Lake Tahoe Vicinity, CA, 30 August-3 September 2010.

2009

53. S. Serafin, D. Caresia, F. Panelatti and D. Zardi, 2009, A numerical investigation of the potential temperature and turbulent kinetic energy budgets in thermally driven winds in alpine valleys, 30th International Conference on Alpine Meteorology, Rastatt (Germany), 11-15 May 2009.
54. D. Zardi, G. Poletti, M. de Franceschi and A. Bellin, 2009, Analysis of precipitation patterns on Mount Baldo (Italy), 30th International Conference on Alpine Meteorology, Rastatt (Germany), 11-15 May 2009.
55. D. Zardi, A conceptual model for the daytime evolution of the thermal structure in a mountain valley under fair weather conditions, 2009, 30th International Conference on Alpine Meteorology, Rastatt (Germany), 11-15 May 2009.
56. M. de Franceschi, D. Zardi, M. Tagliazucca and F. Tampieri, 2009, Analysis of second order moments in the Surface Layer turbulence in an Alpine valley, 2009, 30th International Conference on Alpine Meteorology, Rastatt (Germany), 11-15 May 2009.

2008

57. D. Zardi and M. De Franceschi, 2008, An analytical model for the diurnal temperature cycle at the earth surface, American Meteorological Society 13th Conference on Mountain Meteorology and 17th Conference on Applied Climatology, Whistler Mountain (Canada) 11-15 August 2008.
58. G. Rampanelli and D. Zardi, 2008, Reconstruction and analysis of the temperature record of Trento (1816-2006) American Meteorological Society 13th Conference on Mountain Meteorology and 17th Conference on Applied Climatology, Whistler Mountain (Canada) 11-15 August 2008.
59. M. Andrighetti, D. Zardi and M. de Franceschi, 2008, The temperature series of Verona (1741-2006), American Meteorological Society 13th Conference on Mountain Meteorology and 17th Conference on Applied Climatology, Whistler Mountain (Canada) 11-15 August 2008.

2007

60. Andrighetti M., Rampanelli G., Zardi D., "Reconstruction and climatological analysis of the temperature series of Verona (1741-2006)". Proceedings of the 29th International Conference on Alpine Meteorology, Chambéry (F), 4-8 Giugno 2007, vol. 1, p. 245-248.
61. Bozzo A., Serafin S., Zardi D., "Coupling meteorological and hydrological models for river discharge forecasting. Part I: A methodological approach". Proceedings of the 29th International Conference on Alpine Meteorology, Chambéry (F), 4-8 Giugno 2007, Vol. 1, p. 703-706.
62. De Sero G., De Franceschi M., Zardi D., "Investigation of the wintertime local-scale meteorology in an Alpine urban area" Proceedings of the 29th International Conference on Alpine Meteorology, Chambéry (F), 4-8 Giugno 2007, vol. 2, p. 589-592.
63. Bozzo A., Serafin S., Pasetto A., Zardi D., "Coupling meteorological and hydrological models for river discharge forecasting. Part II: A case study about hydropower generation management". Proceedings of the 29th International Conference on Alpine Meteorology, Chambéry (F), 4-8 Giugno 2007, vol. 2, p. 207-210.
64. De Franceschi M., Zardi D., "Influence of meteorological processes on wintertime pollution episodes during the Brenner-South ALPNAP measuring campaign". Proceedings of the 29th International Conference on Alpine Meteorology, Chambéry (F), 4-8 Giugno 2007, vol. 1, p. 25-28.
65. Zardi D., Serafin S., "The project FORALPS: contributions for a wise management of water resources from meteorology and climatology". Proceedings of the 29th International Conference on Alpine Meteorology, Chambéry (F), 4-8 Giugno 2007, vol. 2 p. 505-508.
66. Antonacci G., De Franceschi M., Zardi D., "Numerical air quality modelling along the Brenner South route within the ALPNAP project". Proceedings of the 29th International Conference on Alpine Meteorology, Chambéry (F), 4-8 Giugno 2007, vol. 2, p. 331-334.

2006

67. Dalla Nora S., De Franceschi M., Zardi D., "Setup and Test of a Procedure for Prediction of late Frost events over complex Terrain". In: EMS Annual Meeting Abstracts, , 2006. Atti del convegno "EMS 6th Annual Meeting", Ljubljana, 4-8 Settembre 2006. Organizzato da: European Meteorological Society. CD Multimediale
68. Lora C., De Franceschi M., Sitta M., Zardi D., "Determinazione dell'effetto "isola di calore urbana" in una città alpina mediante utilizzo di reti di sensori a basso costo". Roma: Università La Sapienza, 2006. Atti del convegno "idra2006 : Atti del XXX Convegno di Idraulica e Costruzioni Idrauliche", Roma, 10-15 Settembre 2006. URL : <http://www.idra2006.it>. Note: abstract pubbl.in versione cartacea. Organizzato da: Università degli Studi di Roma "La Sapienza" e "Roma Tre". CD Multimediale
69. Soraperra I., De Franceschi M., Zardi D., Baggio P., "Studio del processo di produzione di neve artificiale: parte I - inquadramento fenomenologico". Roma: Università La Sapienza, 2006. Atti del convegno "idra2006 : Atti del XXX Convegno di Idraulica e Costruzioni Idrauliche", Roma, 10-15 Settembre 2006. URL : <http://www.idra2006.it>. Note: abstract pubbl.in versione cartacea. Organizzato da: Università degli Studi di Roma "La Sapienza" e "Roma Tre". CD Multimediale
70. De Franceschi M., Zardi D., Antonacci G., "Investigation of the Meteorological Conditions leading to wintertime Pollution Episodes along a major Alpine Valley". In: EMS Annual Meeting Abstracts, , 2006. Atti del convegno "EMS 6th Annual Meeting", Ljubljana, 4-8 Settembre 2006. Organizzato da: European Meteorological Society. CD Multimediale
71. Pasetto A., Serafin S., Zardi D., "Un contributo alla gestione sostenibile delle risorse idriche dalla climatologia e dalla meteorologia: il progetto INTERREG FORALPS". Roma: Università La Sapienza, 2006. Atti del convegno "idra2006: XXX Convegno di Idraulica e Costruzioni Idrauliche", Roma, 10-15 settembre 2006. URL : <http://www.idra2006.it>. Organizzato da: Università degli Studi di Roma "La Sapienza" e "Roma Tre". CD Multimediale
72. Serafin S., Zardi D., "Flussi non locali nello strato limite atmosferico convettivo: rivisitazione dei fondamenti teorici e degli approcci modellistici". Roma: Università La Sapienza, 2006. Atti del convegno "idra2006: XXX Convegno di Idraulica e Costruzioni Idrauliche", Roma, 10-15 settembre 2006. URL : <http://www.idra2006.it>. Note: Abstract pubblicato in versione cartacea.. Organizzato da: Università degli Studi di Roma "La Sapienza" e "Roma Tre". CD Multimediale

2005

73. Dalla Nora; S., de Franceschi M., Zardi D., 2005, Setup and test of a simple model for prediction of late frost events over complex terrain, Proceedings of the 28th International Conference on Alpine Meteorology and MAP Meeting ICAM/MAP 2005 (Zadar, HR, 23-27 Maggio 2005), Hrv. Meteorol. Časopis (Croatian Meteorological Journal), 40, 410-413 (ISSN 1330-0083).
74. de Franceschi M., Sitta M., Zardi D. , 2005, Late frost events in an alpine valley: measurements and characterisation of the process, Proceedings of the 28th International Conference on Alpine Meteorology and MAP Meeting ICAM/MAP 2005 (Zadar, HR, 23-27 Maggio 2005), Hrv. Meteorol. Časopis (Croatian Meteorological Journal), 40, 406-409.
75. Bertò A., Borsato A., Frisia S., Miorandi R., Zardi D. , 2005, Monthly isotopic signal of the precipitated water in the province of Trento: Lagrangian analysis and discussion of measurements, Proceedings of the 28th International Conference on Alpine Meteorology and MAP Meeting ICAM/MAP 2005 (Zadar, HR, 23-27 Maggio 2005), Hrv. Meteorol. Časopis (Croatian Meteorological Journal), 40, 432-435.
76. Bertò A., Buzzi A., Zardi D., 2005, A warm conveyor belt mechanism accompanying extreme precipitation events over north-eastern Italy, Proceedings of the 28th International Conference on Alpine Meteorology and MAP Meeting ICAM/MAP 2005 (Zadar, HR, 23-27 Maggio 2005), Hrv. Meteorol. Časopis (Croatian Meteorological Journal), 40, 338-341.
77. Serafin, S., Zardi, D., 2005, Critical evaluation and proposed refinement of the Troen and Mahrt (1986) boundary layer model, Proceedings of the 28th International Conference on Alpine Meteorology and MAP Meeting ICAM/MAP 2005 (Zadar, HR, 23-27 Maggio 2005), Hrv. Meteorol. Časopis (Croatian Meteorological Journal), 40, 464-467.
78. Serafin, S., Bertò, A., Zardi, D., 2005, Application of cluster analysis techniques to the verification of quantitative precipitation forecasts, Proceedings of the 28th International Conference on Alpine Meteorology and MAP Meeting ICAM/MAP 2005 (Zadar, HR, 23-27 Maggio 2005), Hrv. Meteorol. Časopis (Croatian Meteorological Journal), 40, 395-398.
79. Rotach, M. W., Zardi, D., 2005, On the boundary layer structure over highly complex terrain: key findings from MAP and related projects, Proceedings of the 28th International Conference on Alpine Meteorology and MAP Meeting ICAM/MAP 2005 (Zadar, HR, 23-27 Maggio 2005), Hrv. Meteorol. Časopis (Croatian Meteorological Journal), 40, 124-127.

2004

80. S. Serafin, A. Bertò, A. Buzzi, R. Ferretti and D. Zardi, Application of cluster analysis techniques to the verification of quantitative precipitation forecasts, Proceedings 14^o International Conference on Clouds and Precipitation, Bologna, 19-23 Luglio 2004, pp. 1947-1950.
81. Antonacci, G., M. Tubino, and D. Zardi: 2004, 'Un modello a tubi di flusso per la simulazione numerica di processi di dispersione di inquinanti in atmosfera in una valle'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. I, pp. 21-28.
82. de Franceschi, M., and D. Zardi: 2004, 'Moti atmosferici turbolenti su terreno complesso: analisi dei momenti del second'ordine'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. I, pp. 109-116.
83. Rampanelli, G., D. Zardi, and R. Rotunno: 2004, 'Meccanismi di sviluppo dei venti di valle diurni'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. I, pp. 259-266.
84. Dalla Nora, S., M. de Franceschi, and D. Zardi: 2004, 'Una procedura per la conversione automatizzata in formato numerico digitale di tracciati grafici registrati da strumentazione'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. II, pp. 87-92.
85. Bertò, A., A. Buzzi, and D. Zardi: 2004, 'Studio di eventi di precipitazione intensa in area alpina mediante analisi di pattern di traiettorie lagrangiane'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. II, pp. 219-226.
86. Bertò, A., A. Buzzi, and D. Zardi: 2004, 'Studio della perturbazione meteorologica responsabile della piena dell'Adige nel 1966 mediante analisi di traiettorie lagrangiane'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. II, pp. 227-234.
87. de Franceschi, M., and D. Zardi: 2004, 'Caratterizzazione delle dinamiche atmosferiche in prossimità di un piccolo lago alpino'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. II. Trento, pp. 235-242 (in Italian).
88. de Franceschi, M., S. Serafin, D. Zardi, M. Aniello, and M. Sitta: 2004, 'Un evento di gelata tardiva in Valle dell'Adige: confronto tra misure sperimentali e modellazione numerica'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. II. Trento, pp. 243-250.
89. Serafin, S., A. Bertò, A. Buzzi, R. Ferretti, and D. Zardi: 2004, 'Applicazione di tecniche di cluster analysis alla verifica di previsioni di precipitazione'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. II, pp. 321-326.
90. Rampanelli, G., and D. Zardi: 2004, 'Valutazione dei coefficienti di resistenza e scambio termico nello strato limite atmosferico convettivo'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. II, pp. 495-500.
91. Rea, R., G. Rampanelli, and D. Zardi: 2004, 'Analisi di serie storiche di temperatura a Trento dal 1816 al 2003'. *Atti del XXIX Convegno Nazionale di Idraulica e Costruzioni Idrauliche (Trento, 7-10 Settembre 2004)*, Vol. II, pp. 501-508.

2003

92. Bertò, A., A. Buzzi, and D. Zardi: 2003, 'Origin and Spatial Patterns of Precipitation in the Eastern Italian Alps'. In: *Proceedings of the 5th PLINIUS Conference on Mediterranean Storms*. pp. 189-194.
93. Bertò, A., A. Buzzi, and D. Zardi: 2003, 'Origin and Spatial Patterns of Precipitation in the Eastern Italian Alps'. In: *Proceedings of the Joint 3rd EMS Conference and 6th ECAM Conference*.
94. Bertò, A., A. Buzzi, and D. Zardi: 2003, 'Tracking of Water Vapour Contributing to Precipitation Events over the Eastern Italian Alps'. In: *Proceedings of the 27th International Conference on Alpine Meteorology and MAP-Meeting 2003*, Vol. A. Brig, (CH), pp. 119-122. ISSN 1422-1381.
95. de Franceschi, M., A. Marzadro, and D. Zardi: 2003, 'Local Meteorology over a Small Alpine Lake'. In: *Proceedings of the 27th International Conference on Alpine Meteorology and MAP-Meeting 2003*, Vol. B. Brig, (CH), pp. 320-323. ISSN 1422-1381.
96. Doff, A., A. Bellin, A. Bertò, and D. Zardi: 2003, 'Analysis of precipitation spatial patterns over Trentino from rain gauges and radar measurements: The case study of 24 - 27 November 2002'. In: *Proceedings of the 1th ACTIV Workshop*.
97. Rea, R., M. de Franceschi, Toller, G. e Zardi, D.: 2003, 'Modelling evapotranspiration over sloping terrain for irrigation and water management'. *Conferenza Internazionale Acqua, Bonifica e Salvaguardia del territorio*. Mantova.
98. Serafin, S., A. Bertò, M. de Franceschi, R. Ferretti, and D. Zardi: 2003, 'Application of a mesoscale model to the analysis of late frost events and comparison with observations'. In: *Proceedings of the 5th International SRNWP-Workshop on Non-Hydrostatic Modelling*. Bad Orb (D).

2002

99. Baggio, P., M. Borsatto, M. de Franceschi, and D. Zardi: 2002, 'Indagine teorica e sperimentale sul funzionamento di dispositivi per la produzione di neve artificiale', *Atti del XXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche*, Potenza, Vol. III, pp. 435-442.
100. Cinque, G., L. Bernardini, M. de Franceschi, R. D., and D. Zardi: 2002, 'Study of local-scale atmospheric dynamics over complex terrain by combined use of numerical models and measurements'. In: *Proceedings of the International Symposium on Acoustic Remote Sensing - ISARS 2002*. Roma.
101. Ciolli, M., M. de Franceschi, R. Rea, D. Zardi, and P. Zatelli: 2002, 'Modelling of evaporation processes over tilted slopes by means of 3D GRASS raster'. In: *Proceedings of the Open source GIS - GRASS users conference 2002*. Trento.
102. de Franceschi, M., G. Rampanelli, and D. Zardi: 2002, 'Further investigations of the Ora del Garda valley wind'. In: *Proceedings of the 10th Conference on Mountain Meteorology and Mesoscale Alpine Programme MAP-Meeting 2002*. Park City, (UT), pp. 30-33.
103. Rampanelli, G., Zardi, D., 2002, Identification of thermal structure from airborne measurements in an Alpine valley with Kriging technique, Proceedings of the 10th AMS Conference on Mountain Meteorology, 17-21 June 2002, Park City, Utah, pp. 93-96.
104. de Franceschi, M. and D. Zardi: 2002, 'Valutazione delle caratteristiche di filtri passa-alto per l'analisi di serie temporali relative a moti turbolenti', *Atti del XXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche*, Potenza, Vol. I, pp. 567-574.
105. Zardi, D., P. Baggio, and C. Uez: 2002, 'Simulazione numerica della convezione naturale in una cavità trapezoidale'. *Atti del XXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche*, Potenza, Vol. 1, 757-764.
106. Zatelli, P., M. Ciolli, D. Zardi, M. de Franceschi, and R. Rea: 2002, 'Modeling of evaporation processes over tilted slopes by means of 3D GRASS raster'. In: M. Ciolli and P. Zatelli (eds.): *Proceedings of the Open Source Free Software GIS - GRASS users conference 2002*. Trento.
107. Zatelli, P., M. Ciolli, D. Zardi, and A. Vittori: 2002, '2D/3D Grass Modules Use And Development For Atmospheric Modeling'. In: M. Ciolli, A. J. Frew, and P. Zatelli (eds.): *Proceedings of the Open Source Free Software GIS - GRASS users conference 2002*. Trento.

2001

108. Rampanelli, G., Zardi, D., 2001, *A practical method for objective evaluation of inversion structure from vertical sounding in the upper part of a convective boundary layer*, Proc. 2001 Int. Symp. on Environmental Hydraulics, Tempe, (AZ) 5 - 8 December 2001.
109. Rampanelli, G., Zardi, D., 2001, *Evaluation of time lag effects in airborne atmospheric measurements*, MAP Newsletters n. 15.
110. de Franceschi, M., D. Zardi, M. Tagliazucca, and F. Tampieri: 2001, 'Atmospheric Surface Layer dynamics in an Alpine basin'. In: *Proceedings of the 2001 International Symposium on Environmental Hydraulics*. Tempe, (AZ).
111. Zardi, D. and G. Rampanelli: 2001, 'A practical method for objective evaluation of inversion structure from vertical sounding in the upper part of a convective boundary layer'. In: D. Boyer (ed.): *Proceedings of the 3rd International Symposium on Environmental Hydraulics*. Tempe, (AZ).
112. Zardi, D., P. Baggio, and C. Uez: 2001, 'Natural convection in a trapezoidal cavity at high Rayleigh numbers'. In: D. Boyer (ed.): *Proceedings of the 3rd International Symposium on Environmental Hydraulics*. Tempe, (AZ).
113. Zardi, D. and G. Rampanelli: 2001, 'Evaluation of time lag effects in airborne atmospheric measurements'. In: *Proceedings of the MAP Meeting 2001*. Schliersee, Germany.

2000

114. de Franceschi, M., G. Rampanelli, and D. Zardi: 2000, 'Measurements and characterization of local atmospheric structures in an Alpine valley'. In: *Proceedings of the 26th International Conference on Alpine Meteorology*. Innsbruck (A). ISSN 1016-6254.
115. de Franceschi, M., G. Rampanelli, D. Zardi, M. Tagliazucca, and F. Tampieri: 2000, 'Evaluation of ABL dynamics in an alpine valley'. In: *Proceedings of the Ninth Conference on Mountain Meteorology*. Aspen (CO), pp. 145-148.
116. Rampanelli, G. and D. Zardi: 2000, 'Analysis of airborne data and identification of thermal structures with geostatistical techniques'. In: *Proceedings of the 14th Symposium on Boundary Layer and Turbulence*, Vol. 1. Aspen, (CO), pp. 239-241.
117. Spoladore, A., M. Tubino, and D. Zardi: 2000, 'A model for convective boundary layer development in an alpine valley'. In: *Proceedings of the 14th Symposium on Boundary Layer and Turbulence*. Aspen, (CO).
118. Tubino, M. and D. Zardi: 2000, 'Un modello idrodinamico per i venti di valle'. *Atti del XXVII Convegno Nazionale di Idraulica e Costruzioni Idrauliche*, Genova.

119. Zardi, D.: 2000, 'A model for the convective boundary layer development in an Alpine valley', *Proceedings of the 26th International Conference on Alpine Meteorology ICAM2000*. Innsbruck.
120. Zardi, D., G. Antonacci, M. de Franceschi, and G. Rampanelli: 2000, 'Diffusione degli inquinanti in atmosfera: processi fisici e modelli previsionali'. In: *Atti del Convegno Nazionale 'Traffico e Ambiente'*. Trento, pp. 651-671.
121. Zardi, D. and D. Rossi: 2000, 'Evaluation of drag and heat transfer coefficients for the Convective Boundary Layer'. In: *Proceedings of the 14th Symposium on Boundary Layer and Turbulence*, Vol. 1. Aspen, (CO), pp. 243-244.
122. Zardi, D., D. Rossi, A. Spoladore, and M. Tubino: 2000, 'A model for CBL development in an Alpine valley'. In: *Proceedings of the 14th Symposium on Boundary Layer and Turbulence*, Vol. 1. Aspen, (CO), pp. 243-244.

1999

123. Zardi, D., R. Gerola, F. Tampieri, and M. Tubino: 1999, 'Measurement and modelling of a valley wind system in the Alps'. In: *Proceedings of the 13th Symposium on Boundary Layers and Turbulence*, Vol. unico. Dallas, (TX).
124. Zardi, D., R. Gerola, F. Tampieri, and M. Tubino: 1999, 'Measurement and modelling of a valley wind system in the Alps'. In: *Proceedings of the Meeting of the American Meteorological Society*. Dallas, (TX).
125. Zardi, D., R. Gerola, and M. Tubino: 1999, 'An hydrodynamic model for up valley winds'. In: *Proceedings of the MAP 1999 Meeting of Mesoscale Alpine Programme*. Appenzell.
126. Zardi, D., R. Gerola, and M. Tubino: 1999, 'A hydrodynamic model for valley winds'. In: *Atti del Congresso della Società Italiana di Meccanica Teorica e Applicata (AIMETA)*. Como.

1998

127. Zardi, D., G. Seminara, *Nonlinear mechanism for the interaction of two oscillating bubbles in an acoustic field*, Proc. XXV Conference of the Italian National Society of Acoustics (AIA), Torino, 27-29 May 1998 (in Italian).
128. Zardi, D., *Evaluation of Bjerknes forces between two gas bubbles oscillating in an acoustic field*, Proc. XXVI Italian National Conference of Hydraulics and Hydraulic Constructions, Catania (Italy), 9-12 September 1998, vol. IV, pp. 359-370 (in Italian).
129. Daves, B., F. Tampieri, M. Tubino, and D. Zardi: 1998, 'Exchange processes in a valley system: the effects of local circulation'. In: *Proceedings of the European Geophysical Society XXIII General Assembly*. Nice.
130. Daves, B., F. Tampieri, M. Tubino, and D. Zardi: 1998, 'Exchange processes in a valley system: the effects of local circulation'. In: *Proceedings of the International Conference on Alpine Meteorology*. Torino.
131. Ferrari, A., F. Tampieri, and D. Zardi: 1998, 'Convection and thermal structure in an Alpine valley'. In: *Proceedings of the International Conference on Alpine Meteorology*. Torino.

1996

132. D. Zardi, G. Seminara, *Nonlinear excitation of shape oscillations of a resonant gas cavity in an acoustic field*, Proc. XXIV Conference of the Italian National Society of Acoustics (AIA), Trento 12-14 June 1996, pp. 211-216 (in Italian).
133. D. Zardi, *Linear stability analysis of shape oscillations of a resonant gas cavity in an acoustic field*, Proc. XXV Italian National Conference of Hydraulics and Hydraulic Constructions, Torino 16-18 September 1996, pp. 39-43 (in Italian).

1995

134. D. Zardi, *Modal competition in the oscillations of some hydrodynamic systems*, Ph. D. Dissertation, University of Genova (in Italian).
135. D. Zardi G. Seminara, *Bjerknes' force between near resonant pulsating bubbles*, Proc. XII Conf. Italian National Society of Theoretical and Applied Mechanics (AIMETA), Naples 3-6 October 1995, Vol. IV - "Fluid Mechanics", pp. 239-244.

1994

136. D. Zardi, G. Seminara, *Acoustically driven chaotic oscillations of gas bubbles in liquids*, EUROMECH Fifth European Turbulence Conference, Siena (Italy), 5-8 July 1994.
137. D. Zardi, G. Seminara, *On the phenomenon of "erratic drift" of gas cavities in acoustic fields*, Proc. XXIV Italian National Conference of Hydraulics and Hydraulic Constructions, Napoli 20-22 September 1994, vol. III, pp. S1-57-S1-68 (in Italian).
138. Seminara, G., M. Tubino, and D. Zardi: 1994, 'Evoluzione planimetrica dei corsi d'acqua meandriformi dall'incipiente formazione al cut-off'. In: *Atti del XXIV Convegno di Idraulica e Costruzioni Idrauliche*, Vol. 2. Napoli.
139. D. Zardi, G. Seminara, *Acoustically driven chaotic oscillations of gas bubbles in liquids*, EUROMECH Fifth European Turbulence Conference, Siena (Italy), 5-8 July 1994.
140. D. Zardi, G. Seminara, *On the phenomenon of "erratic drift" of gas cavities in acoustic fields*, Proc. XXIV Italian National Conference of Hydraulics and Hydraulic Constructions, Napoli 20-22 September 1994, vol. III, pp. S1-57-S1-68 (in Italian).
141. G. Seminara, M. Tubino, D. Zardi, 1994, *Planimetric evolution of meandering rivers from initial development to cut-off*, Proc. XXIV Italian National Conference of Hydraulics and Hydraulic Constructions, Napoli 20-22 September 1994, vol. pp. 573-584 (in Italian).
142. S. Lanzoni, D. Zardi, 1994, *Estimate of the coefficient of longitudinal dispersion in a meandering river*, Proc. XXIV Italian National Conference of Hydraulics and Hydraulic Constructions, Napoli 20-22 September 1994, vol. I, pp. 175-186 (in Italian).

1992

143. D. Zardi, F. Tampieri, E. Grella, *Solutions of Burgers' equation and their statistical properties*, Proc. XI Conf. Italian National Society of Theoretical and Applied Mechanics (AIMETA), Trento 28/9-2/10/1992, Vol. I - General Mechanics, pp. 131-136.

D. Monographs and Chapters

1. Baldi, M., Cesari, R., Tampieri, F., Tranquillini, M., Zardi, D., 1999, *A study of the valley wind known as 'Ora del Garda'*, *Quaderni del Dipartimento di Ingegneria Civile ed Ambientale dell'Università di Trento*, IDR1/1999.
2. Bellin A. e Zardi D. (a cura di), 2004, *Analisi climatologica di serie storiche delle precipitazioni e temperature in Trentino*, Cosenza, Editoriale Bios, 256 pp.
3. M. Tarolli, R. Rea e D. Zardi, 2007, *Il Clima della Val di Fiemme. Temperature e precipitazioni dal 1882 al 2006*, Trento, RotoOffset s.n.c., 91 pp.
4. de Franceschi, M., Zardi, D., 2008, *L'Osservatorio Meteorologico dell'Università degli studi di Trento al Molino Vittoria*, Trento, Rotoffset, 40 pp.

E. Book reviews

Buhler, O.: Waves and mean Flows, *Met. Z.* 19 (2010), 519 – 520

APPENDIX 1

Summer School on Mountain Meteorology (2002-2004)

Dino Zardi, in co-operation with Richard Rotunno (NCAR), promoted and organized, the *Summer School on Mountain Meteorology* in Trento.

The following three editions were organized in the years 2002, 2003 and 2004:

| 2002 - Airflow modifications by mountains | |
|---|---|
| Lecturers | Topic |
| Andrea Buzzi Istituto di Scienze dell'Atmosfera e del Clima, CNR-ISAC, Bologna | <i>Effects of mountains on synoptic scale flows</i> |
| Joe Klemp Mesoscale and Microscale Meteorology Division, National Center for Atmospheric Research, Boulder, Colorado, USA | <i>Stratified flow over infinitely long ridges</i> |
| Richard Rotunno Mesoscale and Microscale Meteorology Division, National Center for Atmospheric Research, Boulder, Colorado, USA | <i>Stratified flow past three dimensional obstacles</i> |
| Reinhold Steinacker Institute for Meteorology and Geophysics, University of Vienna, Austria | <i>Observation of orographic flow modification</i> |

| 2003 - "Thermally driven winds in mountainous terrain" | |
|---|--|
| Lecturers | Topics |
| C. David Whiteman Atmospheric Science Technical Group Pacific Northwest National Laboratory, Richland, WA, USA | <i>General principles/ observations of diurnal wind systems in mountainous terrain</i> |
| Richard McNider Department of Atmospheric Science, University of Alabama in Huntsville, AL, USA | <i>Modelling of mountain-valley winds</i> |
| Donald Lenschow Mesoscale and Microscale Meteorology Division, National Center for Atmospheric Research, Boulder, CO, USA | <i>Observations and models of boundary layer processes over complex terrain.</i> |
| Franz Fiedler Institute for Meteorology and Climate Research, Karlsruhe University, Karlsruhe, Germany | <i>Meteorological applications in mountain valleys</i> |

| 2004 - "Orographic effects on precipitation" | |
|--|---|
| Lecturers | Topics |
| Jürg Joss MeteoSwiss, Locarno Monti, Switzerland | <i>Radar detection and estimation of orographic precipitation</i> |
| Franco Prodi Istituto di Scienze dell'Atmosfera e del Clima, CNR-ISAC, | <i>Microphysics of orographic clouds and precipitation</i> |
| Evelyne Richard Aerology Laboratory, Toulouse, France | <i>Numerical models and forecasting of orographic precipitation</i> |
| Richard Rotunno National Center for Atmospheric Research, Boulder, USA | <i>Observations and theory of orographic precipitation</i> |

The School was attended by students from various countries:

| Country | Participants | | |
|----------------|--------------|-----------|-----------|
| | 2002 | 2003 | 2004 |
| ARGENTINA | - | - | 2 |
| AUSTRIA | 2 | 2 | 5 |
| BELGIUM | - | 1 | - |
| BULGARIA | 1 | 1 | - |
| CANADA | 1 | 1 | 2 |
| CHINA | - | 1 | 2 |
| CROATIA | 1 | 2 | 2 |
| FRANCE | 1 | 3 | 1 |
| GERMANY | 4 | - | - |
| INDIA | - | 1 | 3 |
| ISRAEL | - | - | 1 |
| ITALY | 22 | 19 | 30 |
| MOROCCO | - | - | 1 |
| MEXICO | - | - | 1 |
| NORWAY | 1 | 1 | 1 |
| POLAND | - | 1 | 1 |
| UNITED KINGDOM | 1 | 1 | 1 |
| RUSSIA | - | 1 | - |
| SLOVENIA | - | 2 | - |
| SPAIN | - | 1 | - |
| SWEDEN | - | - | 1 |
| SWITZERLAND | 6 | 2 | 1 |
| UKRAINE | - | - | 1 |
| USA | 5 | 4 | 4 |
| TOTAL | 45 | 43 | 60 |

More on the School website: <http://www3.unitn.it/events/ssmm2004/index.htm>.

APPENDIX 2

The international project FORALPS -Meteo-Hydrological Forecast and Observations for improved water resources management in the ALPS

Dino Zardi was the main promoter and the project manager of the project FORALPS, approved under the European Union Programme INTERREG III B Alpine Space, for a total duration of 39 months (01.01.2005-31.08.2008).

Project lead partner: University of Trento, Department of Civil and Environmental Engineering

Project partners:

- Autonomous Province of Bolzano - Hydrographic Office (Italy)
- Autonomous Province of Trento – Office for Forecasts and Organization (Italy)
- Central Office for Meteorology and Geodynamics, Regional Office for Carinthia (Austria)
- Central Office for Meteorology and Geodynamics, Regional Office for Salzburg and Oberösterreich (Austria)
- Central Office for Meteorology and Geodynamics, Regional Office for Tirol and Vorarlberg (Austria)
- Central Office for Meteorology and Geodynamics, Regional Office for Vienna, Niederösterreich and Burgenland (Austria)
- Environmental Agency of the Republic of Slovenia (Slovenia)
- Italian Agency for Environmental Protection and Technical Services (Italy)
- Regional Agency for Environmental Protection and Prevention of Veneto (Italy)
- Regional Agency for Environmental Protection of Friuli-Venezia Giulia, Regional Meteorological Observatory (Italy)
- Regional Agency for Environmental Protection of Lombardia (Italy)
- Valle d'Aosta Autonomous Region - Meteorological Office (Italy)

Total project cost: EUR: 2,748,562.82

Outline: The project aimed at improving and integrating instruments to support the management of environmental resources in alpine areas, in particular water. This goal was achieved by adopting innovative techniques for monitoring and reconstructing the time evolution of meteo-hydrological processes. The competence areas of the partners covered uniformly the central-eastern Alps, where the territories of various countries and regions intertwine, thus requiring a transnational and interregional approach to issues faced by the project. Climatic databases of variables relevant for water resources availability were collected and analyzed. Pilot activities at selected target areas were performed, such as use of micro-radars and numerical modeling of meteorological and rainfall-runoff processes. The above actions were preliminary to operational activities. Evaluation of social and financial impact of improved meteo-hydrological information were also performed to stimulate the adoption of best practices of sustainable planning

Objectives: 1. Investigate frequency, seasonality, areal extent and spatial pattern of precipitation events in the Alpine Space region 2. Monitoring and optimal observation coverage 3. Meteorological forecast to improve the integrated modeling of the water cycle 4. Optimization of forecasts for verification procedures 5. Identification of an optimal combination of input parameters for hydrological models 6. Estimation of water supplies in alpine catchments 7. Assessment of the financial and economic impacts of water resource management

Project activities and results: series of daily precipitation, snow and temperature measurements available from national and regional services were digitalized, integrated with historical metadata, validated and homogenized, in order to create a rich and homogeneous climatological database. Climatological information were also uploaded in a web-GIS system, thus creating a tool able to extract temporal series, make statistical comparisons, show historical and present trends, allow data acquisition as support for planning and decision making. Some partners commissioned the development of innovative microradar prototypes for high resolution monitoring of rainfall in narrow valleys. These were tested at selected target areas in connection with existing long-range radars. In order to accomplish a wise management of environmental resources based on sustainable development principles, suitable criteria, models, and quantitative input were used. In particular, for water resource management hydrological models were implemented and used in the project. They provided a quantitative estimation of resources availability in alpine water bodies, including glaciers and underground water. The impact of hydraulic works on surface runoff and water resource availability were evaluated on test cases as well. FORALPS will provide an assessment of the managerial, economic and financial aspects deriving from the transfer of recent advances into technological applications (improvement in the environmental monitoring and modelling, development, setup and application of up-to-date instruments), procedures (e.g. environmental impact studies and assessment), and “best practices” (e.g. sustainable planning management of environmental and land resources).

More on the project website: www.foralps.net.

APPENDIX 3

The Italian Festival of Meteorology (Festivalmeteorologia)

Dino Zardi is the creator and main organiser of the Italian Festival of Meteorology (Festivalmeteorologia). The event is jointly organised by the University of Trento and the City of Rovereto. It will take place on 16 and 17 October 2015 in the city of Rovereto (Italy) and consists in a series of activities, including conferences, stands of exhibitors, projections of movies, demonstrations of simple experiments and so on.

In particular, during the conferences, experts from various bodies will give talks about different aspects of the state and perspectives of meteorology in Italy.

“Institutional” speakers are invited from the National Weather Service, the Regional Weather Services, Institutes of the National Research Council (CNR), the Italian Space Agency (ASI), the European Center for Medium Range Weather Forecasting (ECMWF), the World Meteorological Organisation, the American Meteorological Society, the Italian Geophysical Society.

Also talks will be given by selected representatives of private companies, national and foreign universities, high schools, associations.

The festival will offer a unique and unprecedented opportunity, at a national level, for public and private weather services, research institutes, universities, companies, associations, students and people interested in meteorology to meet and provide a vision of the “system” of meteorology in Italy.

More on the website: www.festivalmeteorologia.it .

APPENDIX 4

DETAILS OF TEACHING ACTIVITIES

Courses taught at the University of Trento

| Academic year | Course | Duration or ECTS | Programme |
|---------------|--------------------------------------|------------------|---|
| 1999/2000 | Fisica dell'Atmosfera | ½ annualità | Laurea in Ingegneria per l'Ambiente e il Territorio V.O. |
| | Elettronica | ½ annualità | Diploma Universitario in Ingegneria per l'Ambiente e le Risorse |
| | Meccanica dei fluidi | 12 ore | Corso di dottorato di ricerca in Ingegneria Ambientale |
| 2000/2001 | Fisica dell'Atmosfera | ½ annualità | Laurea in Ingegneria per l'Ambiente e il Territorio V.O. |
| | Strumentazione e misure elettroniche | ½ annualità | Diploma Universitario in Ingegneria per l'Ambiente e le Risorse |
| 2001/2002 | Fisica dell'Atmosfera | ½ annualità | Laurea in Ingegneria per l'Ambiente e il Territorio |
| 2002/2003 | Fisica dell'Atmosfera | ½ annualità | Laurea in Ingegneria per l'Ambiente e il Territorio |
| | Meteorologia | 5 CFU | Laurea in Ingegneria del Controllo Ambientale |
| 2003/2004 | Fisica dell'Atmosfera | ½ annualità | Laurea in Ingegneria per l'Ambiente e il Territorio V.O. |
| | Meteorologia | 5 CFU | Laurea in Ingegneria del Controllo Ambientale |
| | Laboratorio di Fisica Ambientale | 5 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N.O. |
| | Meccanica dei fluidi | 12 ore | Corso di dottorato di ricerca in Ingegneria Ambientale |
| 2004/2005 | Fisica dell'Atmosfera | ½ annualità | Laurea in Ingegneria per l'Ambiente e il Territorio V.O. |
| | Meteorologia | 5 CFU | Laurea in Ingegneria del Controllo Ambientale |
| | Agrometeorologia | 3 CFU | Laurea specialistica in Enologia e Viticoltura |
| | Meccanica dei fluidi | 12 ore | Corso di dottorato di ricerca in Ingegneria Ambientale |
| 2005/2006 | Fisica dell'Atmosfera | 5 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N.O. |
| | Meteorologia | 5 CFU | Laurea in Ingegneria del Controllo Ambientale N.O. |
| | Laboratorio di Fisica Ambientale | 5 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N.O. |
| | Termodinamica dell'atmosfera | 4 ore | Corso di Laurea in Fisica, Percorso di approfondimento |
| 2006/2007 | Fisica dell'Atmosfera | 5 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Meteorologia | 5 CFU | Laurea in Ingegneria del Controllo Ambientale N.O. |
| | Laboratorio di Fisica Ambientale | 5 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Termodinamica dell'atmosfera | 4 ore | Corso di Laurea in Fisica, Percorso di approfondimento |
| 2007/2008 | Fisica dell'Atmosfera | 5 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Meteorologia | 5 CFU | Laurea in Ingegneria del Controllo Ambientale N.O. |
| | Laboratorio di Fisica Ambientale | 5 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Termodinamica dell'atmosfera | 4 ore | Corso di Laurea in Fisica, Percorso di approfondimento |
| | Fluid Mechanics | 12 ore | Corso di dottorato di ricerca in Ingegneria Ambientale |
| 2008/2009 | Fisica dell'Atmosfera | 5 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Meteorologia | 5 CFU | Laurea in Ingegneria del Controllo Ambientale N.O. |
| | Laboratorio di Fisica Ambientale | 5 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |

| | | | |
|------------------|---|--------|---|
| | Termodinamica dell'atmosfera | 4 ore | Corso di Laurea in Fisica, Percorso di approfondimento |
| | Agrometeorologia e Viticoltura | 30 ore | Corso di laurea in Ingegneria delle industrie alimentari |
| 2009/2010 | Sabbatic leave | | |
| 2010/2011 | Fondamenti di meteorologia e climatologia | 6 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Fisica dell'atmosfera e del clima | 6 CFU | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| 2011/2012 | Fondamenti di meteorologia e climatologia | 6 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Fisica dell'atmosfera e del clima | 6 CFU | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Modellistica ambientale | 4 ore | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| 2012/2013 | Fondamenti di meteorologia e climatologia | 6 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Fisica dell'atmosfera e del clima | 6 CFU | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Modellistica ambientale | 5 ore | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| 2013/2014 | Fondamenti di meteorologia e climatologia | 6 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Fisica dell'atmosfera e del clima | 6 CFU | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Modellistica ambientale | 2 ore | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Fisica dell'atmosfera | 6 CFU | Laurea in fisica N.O. |
| | Geophysical Fluid Dynamics | 6 ore | Scuola di dottorato |
| | Agrometeorologia e gestione delle risorse idriche – Modulo agrometeorologia | 30 ore | Corso di laurea interateneo in viticoltura ed enologia |
| | Wind Power Systems | 10 ore | Corso di laurea magistrale interateneo in Ingegneria Energetica |
| 2014/2015 | Fondamenti di meteorologia e climatologia | 6 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Fisica dell'atmosfera e del clima | 6 CFU | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Modellistica ambientale | 4 ore | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Geophysical Fluid Dynamics | 6 ore | Scuola di dottorato |
| | Agrometeorologia e gestione delle risorse idriche – Modulo agrometeorologia | 30 ore | Corso di laurea interateneo in viticoltura ed enologia |
| | Fisica | 6 CFU | Corso di laurea interateneo in viticoltura ed enologia |
| | Wind Power Systems | 6 ore | Corso di laurea magistrale interateneo in Ingegneria Energetica |
| 2015/2016 | Fondamenti di meteorologia e climatologia | 6 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Fisica dell'atmosfera e del clima | 6 CFU | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Modellistica ambientale | 4 ore | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Fisica | 6 CFU | Corso di laurea interateneo in viticoltura ed enologia |
| | Wind Power Systems | 6 ore | Corso di laurea magistrale interateneo in Ingegneria Energetica |
| | Renewable energy and Meteorology | 6 CFU | Corso di laurea magistrale interateneo in Ingegneria Energetica |

| | | | |
|------------------|---|-------|---|
| 2016/2017 | Fondamenti di meteorologia e climatologia | 6 CFU | Laurea in Ingegneria per l'Ambiente e il Territorio N. O. |
| | Fisica dell'atmosfera e del clima | 6 CFU | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Modellistica ambientale | 4 ore | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Fisica | 6 CFU | Corso di laurea interateneo in viticoltura ed enologia |
| | Wind Power Systems | 6 ore | Corso di laurea magistrale interateneo in Ingegneria Energetica |
| | Renewable energy and Meteorology | 6 CFU | Corso di laurea magistrale interateneo in Ingegneria Energetica |
| 2017/2018 | Fisica dell'atmosfera e del clima | 6 CFU | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Modellistica ambientale | 4 ore | Laurea magistrale in Ingegneria del Controllo Ambientale N.O. |
| | Fisica | 6 CFU | Corso di laurea interateneo in viticoltura ed enologia |
| | Renewable energy and Meteorology | 6 CFU | Corso di laurea magistrale interateneo in Ingegneria Energetica |

Courses taught at the Free University of Bolzano

| | | | |
|-----------|------------------|-------|--|
| 2011/2012 | Agrometeorologia | 3 CFU | Laurea in Scienze agrarie e agroambientali N. O. |
| 2013/2014 | Fisica | 6 CFU | Laurea in Scienze agrarie e agroambientali N. O. |
| 2014/2015 | Fisica | 6 CFU | Laurea in Scienze agrarie e agroambientali N. O. |
| 2015/2016 | Fisica | 6 CFU | Laurea in Scienze agrarie e agroambientali N. O. |

APPENDIX 5

MASTER AND BACHELOR THESES SUPERVISED

Corso di laurea in Ingegneria per l'Ambiente il Territorio V. O.

| | |
|-------------------------------|---|
| 1. Ferrari Andrea | <i>Misure in bassa atmosfera mediante motoalante attrezzato</i> |
| 2. Daves Bruno | <i>Studio della circolazione atmosferica nota come Ora del Garda</i> |
| 3. Chiogna Roberto | <i>Studio della convezione naturale in una cavità con pareti inclinate</i> |
| 4. Tranquillini Mattia | <i>Misure meteorologiche per la caratterizzazione della circolazione atmosferica nota come Ora del Garda</i> |
| 5. Gerola Roberto | <i>Un modello idrodinamico per le circolazioni atmosferiche in una valle alpina</i> |
| 6. Rampanelli Gabriele | <i>Misure in quota e modellazione numerica di strutture termo-convettive in prossimità di versanti</i> |
| 7. de Franceschi Massimiliano | <i>Misure di flussi turbolenti nello strato limite atmosferico mediante anemometro sonico</i> |
| 8. Rossi Daniela | <i>Un modello per l'evoluzione dello strato limite convettivo in valli alpine</i> |
| 9. Uez Chiara | <i>Modellazione numerica della convezione naturale in una cavità</i> |
| 10. Beozzo Walter | <i>Studio delle emissioni e della diffusione atmosferica di inquinanti dall'incenerimento di rifiuti urbani in ambiente vallivo</i> |
| 11. Spoladore Andrea | <i>Un modello per l'evoluzione dello strato limite convettivo in valli alpine</i> |
| 12. Antonacci Gianluca | <i>Modellazione numerica di processi di dispersione in atmosfera: applicazione alla Conca di Bolzano</i> |
| 13. Bonmassar Nicola | <i>Caratterizzazione climatologica della Conca di Bolzano e applicazione alla diffusione di inquinanti in atmosfera</i> |
| 14. Bertoldi Giacomo | <i>Uno studio delle interazioni suolo-atmosfera a scala di bacino attraverso un modello distribuito</i> |
| 15. Borsatto Monica | <i>Studio degli aspetti idraulici e termodinamici nei dispositivi di innevamento artificiale</i> |
| 16. Carollo Mirko | <i>Valutazione del regime dei venti a scala locale nell'area a Nord di Trento</i> |
| 17. Lanzingher Giulio | <i>Analisi dell'evoluzione del Foehn da sud tramite radiosondaggi MAP-SOP.</i> |
| 18. Seu Efisio | <i>Miglioramento delle previsioni del vento per impianti eolici mediante filtri di Kalman: applicazione al caso della Sardegna.</i> |
| 19. Tettamanti Roberto | <i>Simulazione numerica di venti catabatici mediante applicazione di un modello meteorologico non idrostatico</i> |
| 20. Vitti Alfonso | <i>Modellazione tridimensionale mediante GIS-GRASS di venti di pendio forzati termicamente.</i> |
| 21. Rea Roberto | <i>Simulazione di processi di evaporazione su un versante mediante modellazione tridimensionale in GIS-GRASS</i> |
| 22. Dalla Nora Stefano | <i>Simulazione numerica di una corrente forzata da flusso termico al suolo su un pendio.</i> |
| 23. Pasquale Luciano | <i>Analisi sperimentale di un dispositivo per la produzione di neve.</i> |
| 24. Doff Alessia | <i>Analisi di un evento meteorico intenso mediante elaborazione integrata di misure pluviometriche e dati da radar meteorologico.</i> |
| 25. Endrici Giorgia | <i>Il trasporto di sostanze odorogene in atmosfera: valutazione olfattometrica e simulazione di un caso mediante modello.</i> |
| 26. Formaggio Fabrizio | <i>Studio della struttura verticale dello strato limite atmosferico mediante SODAR</i> |

| | |
|--------------------------|--|
| 27. Parolari Elena | <i>Analisi climatologica delle serie storiche di temperatura e precipitazione di Riva del Garda (1870-1999).</i> |
| 28. Sitta Marco | <i>Misure di flussi turbolenti in atmosfera per lo studio di gelate tardive.</i> |
| 29. Tarolli Michele | <i>Analisi climatologica delle serie storiche di temperatura e precipitazione della Val di Fiemme (1882-2002)</i> |
| 30. Franceschini Michela | <i>Analisi climatologica di serie storiche di temperatura e precipitazione in Val d'Adige.</i> |
| 31. Andreatta Stefano | <i>Parametrizzazione dello strato limite convettivo per modelli meteorologici</i> |
| 32. Bissoli Chiara | <i>Valutazione della risorsa eolica in area prealpina.</i> |
| 33. Azzolini Emilie | <i>Simulazione di trasporto di inquinanti da traffico veicolare in area urbana: il caso di Verona.</i> |
| 34. Ferrari Alessandro | <i>Caratterizzazione climatologica della costa occidentale del Lago di Garda per la gestione ottimale di coltivazioni di limoni.</i> |
| 35. Bozzo Alvise | <i>Parametrizzazione della turbolenza nei modelli dello strato limite atmosferico</i> |
| 36. Finco Luana | <i>Caratterizzazione meteo-climatologica dell'Altopiano dei Sette Comuni vicentini.</i> |
| 37. Costa Michele | <i>Caratterizzazione meteo-climatica del Monte Baldo</i> |
| 38. Soraperra Ingemar | <i>Un modello per lo studio del funzionamento di dispositivi per la produzione di neve programmata.</i> |
| 39. Ambrosi Eleonora | <i>Ricostruzione e analisi climatologica delle serie storiche di temperatura e precipitazione di Castel d'Ario (Mantova)</i> |
| 40. Andrighetti Michele | <i>Ricostruzione e analisi climatologia della serie storica di temperatura di Verona (1741-2005)</i> |
| 41. Soraperra Ingemar | <i>Studio del funzionamento di dispositivi per la produzione di neve</i> |
| 42. Belotti Flavia | <i>Confronto tra campagne di monitoraggio dell'inquinamento atmosferico in una valle alpina</i> |
| 43. Di Falco Giulia | <i>Analisi di alcuni aspetti meteo-climatici del territorio circostante la città di Verona</i> |
| 44. Caresia Diego | <i>Simulazione numerica della circolazione atmosferica nota come "Ora del Garda"</i> |
| 45. Carlin Monica | <i>Analisi integrata di misure meteorologiche e di qualità dell'aria in Val Belluna</i> |
| 46. Coda Samuel | <i>Analisi e verifiche sperimentali delle prestazioni di impianti per il "solar cooling" in Trentino</i> |

Corso di laurea specialistica in Ingegneria per l'Ambiente il Territorio

| | |
|-------------------------|---|
| 1. Lorenzo Giovannini | <i>Misure di campo e simulazione mediante modello numerico di cicli diurni di temperatura in canyon urbano</i> |
| 2. Debora Lucia Manzana | <i>Simulazione numerica dello sviluppo dei venti di valle</i> |
| 3. Laiti Lavinia | <i>Simulazione numerica di circolazioni a regime di brezza nell'area compresa tra il Lago di Garda e le Prealpi</i> |
| 4. Panelatti Franco | <i>Simulazione numerica di correnti atmosferiche a regime di brezza in Valle dell'Adige</i> |
| 5. Poletti Giacomo | <i>Caratterizzazione pluviometrica del Monte Baldo</i> |
| 6. De Carlo Salvatore | <i>Il campo eolico sperimentale di Trento: studio della risorsa eolica e dell'interazione vento-macchina</i> |
| 7. Chisté Alessandro | <i>Determinazione della distribuzione spaziale di particolato atmosferico in ambiente alpino mediante analisi di misure al suolo e da satellite</i> |
| 8. Redolfi Marco | <i>Testing digital filters for the analysis of turbulence in the atmospheric surface layer</i> |
| 9. Salvadori Neila | <i>On-road remote sensing measurements of vehicle emissions: analysis of gaseous and particulate matter emissions in Michigan (USA)</i> |
| 10. Lasorsa Marco | <i>Simulazione numerica di scenari meteorologici e di qualità dell'aria per l'area urbana di Verona mediante modello CALMET-CALPUF</i> |
| 11. Nodari Benedetta | <i>Applicazione di metodi numerici per la valutazione del potenziale eolico in terreni complessi</i> |

Corso di laurea magistrale in Ingegneria per l'Ambiente il Territorio

| | |
|-----------------------|---|
| 1. Segata Alessio | <i>Verifica delle previsioni di precipitazione fornite dal modello meteorologico numerico WRF in Trentino</i> |
| 2. Fronza Federico | <i>Numerical simulation of thermally driven slope flows: a comparison with Prandtl (1942) theory.</i> |
| 3. Mengarda Cecilia | <i>Caratterizzazione meteo-climatologica e valutazione della dispersione di inquinanti atmosferici nell'area di Vipiteno (BZ)</i> |
| 4. Nardi Mirco | <i>Revisione di un metodo per l'analisi di misure di turbolenza atmosferica e applicazione su campagne di misure in Val d'Adige</i> |
| 5. Tomasi Elena | <i>Simulazioni numeriche ad alta risoluzione di processi dello strato limite atmosferico nella Valle dell'Adige durante una campagna di misura invernale del progetto ALPNAP.</i> |
| 6. Tovazzi Martina | <i>Analisi di dati da misure di turbolenza atmosferica nel campo eolico sperimentale di Trento</i> |
| 7. Giroto Giulia | <i>Single particle characterization of atmospheric carbonaceous particles influenced by biomass burning</i> |
| 8. Yang Yang Gao | <i>Analisi climatologica e sviluppo di una formula semi-empirica per il ciclo diurno di temperatura dell'aria nella provincia di Bolzano</i> |
| 9. Bodini Nicola | <i>Three-dimensional structure of wind turbine wakes as measured by scanning lidar</i> |
| 10. Amadori Marina | <i>Caratterizzazione di fenomeni di trasporto nel Lago di Garda mediante modellazione integrata idrodinamica e meteorologica</i> |
| 11. Tabarelli Michele | <i>Studio dei processi di formazione di inversioni termiche al suolo e cold pool nella Val Cerdanya (Catalunya)</i> |
| 12. Calderini Giulia | <i>Simulazione numerica di scenari per la qualità dell'aria in un'area della città di Mantova</i> |

| | |
|------------------------|---|
| 13. Gasperotti Michele | <i>Misure meteorologiche per la caratterizzazione delle condizioni microclimatiche a supporto della verifica di un modello previsionale del campo termico nella città di Rovereto</i> |
| 14. Zecchini Fabio | <i>Misure meteorologiche per la caratterizzazione delle condizioni microclimatiche a supporto della verifica di un modello previsionale del campo termico nella città di Trento</i> |

Corso di laurea in Ingegneria Edile Architettura (N.O.)

| | |
|-----------------------|--|
| 1. Tanara Andrea | <i>Sopraelevazioni in legno con soluzioni di raffrescamento evaporativo: un caso di studio a Gardolo (TN)</i> |
| 2. Zandomeneghi Marco | <i>Sopraelevazioni in legno con soluzioni di raffrescamento tramite ventilazione naturale: il caso di studio del Villaggio Rosa a Trento</i> |
| 3. Anna Codemo | <i>Trento city microclimate changes</i> |

Corso di diploma universitario in Ingegneria per l'Ambiente e le Risorse

| | |
|----------------------|--|
| 1. Fortarel Daniele | <i>Rilevamento di strutture termiche in bassa atmosfera mediante misure in quota.</i> |
| 2. Passeri Mario | <i>Raccolta di misure meteorologiche al suolo a supporto dell'innevamento artificiale.</i> |
| 3. Noriller Federico | <i>L'Osservatorio Climatologico di Roncafort: ricognizione del patrimonio osservativo ed elaborazione di soluzioni innovative.</i> |
| 4. Galvani Marco | <i>Impatto delle emissioni odorose in atmosfera da un impianto industriale: studio di un caso.</i> |

Corso di laurea in Ingegneria per l'Ambiente e il Territorio (N.O.)

| | |
|--------------------------|---|
| 1. Giovannini Lorenzo | <i>Le misure meteorologiche a supporto delle reti di monitoraggio della qualità dell'aria</i> |
| 2. Costisella Chiara | <i>Valutazione delle possibili fonti di errore nella misura "in-situ" delle precipitazioni</i> |
| 3. Morari Massimiliano | <i>Utilizzo di sistemi UAV per il monitoraggio ambientale</i> |
| 4. Nardelli Daniel | <i>Strumentazione meteorologica in ambienti estremi</i> |
| 5. Tomio Giulia | <i>Sensori di temperatura utilizzati nelle osservazioni storiche a Trento (1816-1921)</i> |
| 6. Vecchietti Elisabetta | <i>Strumenti e metodi per misure di evapotraspirazione</i> |
| 7. Carlon Elisa | <i>Misure di laboratorio per la caratterizzazione di strumenti per l'innevamento artificiale</i> |
| 8. Chistè, Alessandro | <i>Misure in situ di proprietà delle nubi</i> |
| 9. Marco Tamiozzo | <i>Analisi di serie di misure pluviometriche relative al Monte Baldo</i> |
| 10. Grott Francesca | <i>Palloncini frenati per lo studio dei processi atmosferici</i> |
| 11. Lora Chiara | <i>Utilizzo di sensori di temperatura per l'indagine della struttura termica in bassa atmosfera</i> |
| 12. Moser Massimo | <i>Utilizzo del radar meteorologico per il monitoraggio di eventi di precipitazione</i> |
| 13. Poletti Giacomo | <i>Caratterizzazione della piovosità nel bacino del fiume Chiese</i> |
| 14. Tonini Hermann | <i>Metodi e tecniche per lo studio di fenomeni meteorologici estremi</i> |
| 15. Schiavon Marco | <i>Analisi climatologica del ciclo diurno di temperatura dell'aria nell'area periurbana di Verona</i> |

| | |
|-------------------------------|---|
| 16. Trainotti Andrea | <i>Analisi di impatto di fattori meteorologici sulla gestione di un impianto idroelettrico: la Centrale AGSM di Maso Corona ad Ala (TN)</i> |
| 17. Turrini Sebastiano | <i>Strumentazione avanzata per misure di precipitazione</i> |
| 18. Vicenzi Matteo | <i>Analisi di serie di misure di precipitazione relative al Monte Baldo per il periodo 1950-1974</i> |
| 19. Zanol Alessio | <i>Le misure atmosferiche tramite radiosondaggi</i> |
| 20. 20. Tamiozzo Marco | <i>Analisi di serie di misure pluviometriche relative al Monte Baldo</i> |
| 21. Pisaturo Giuseppe Roberto | <i>Confronto delle temperature massime e minime registrate presso la stazione meteorologica di Trento Laste con strumenti diversi</i> |
| 22. Bee Elena | <i>Analisi delle circolazioni a regime di brezza nella Valle dell'Adige</i> |
| 23. Nicolis Pietro | <i>Analisi delle misure di temperatura dell'aria presso le stazioni storiche di Trento</i> |
| 24. Tasin Stefano | <i>Analisi di dati di pressione atmosferica per la determinazione delle circolazioni a regime di brezza nella Valle dell'Adige</i> |
| 25. Yang Yang Gao | <i>Il ciclo diurno di temperatura dell'aria per la città di Bolzano: analisi climatologica e calibrazione di una formula semi-empirica</i> |
| 26. Tosi Tommaso | <i>Caratterizzazione dell'impianto eolico di Rivoli Veronese (VR)</i> |

Corso di laurea in Ingegneria del Controllo Ambientale (N.O.)

| | |
|------------------------|--|
| 1. Piccoli Claudia | <i>Analisi comparativa di alcune stazioni meteorologiche nell'area della Città di Trento.</i> |
| 2. Cipriano Francesca | <i>Valutazione di effetti meteorologici sulla qualità dell'aria nella città di Verona.</i> |
| 3. Marzadro Alessandra | <i>Analisi di fenomeni meteorologici a scala locale sul Lago di Tovel nella stagione estiva.</i> |
| 4. Moscardi Alberto | <i>Criteri tecnici e normativi per una valorizzazione del potenziale eolico compatibile con l'ambiente.</i> |
| 5. Molinari Massimo | <i>Studio di processi dello strato limite atmosferico nell'area della città di Trento: la stagione estiva.</i> |
| 6. Ferrari Simone | <i>Studio per l'installazione di una stazione meteorologica sulla torre del Molino Vittoria a Trento</i> |
| 7. Aniello Marco | <i>Misure atmosferiche e analisi meteorologica per lo studio di gelate tardive</i> |
| 8. Gaio Matteo | <i>Studio di un radiometro netto a quattro canali per la valutazione di bilanci di radiazione al suolo</i> |
| 9. Santin Marco | <i>Analisi del ciclo diurno delle variabili meteorologiche connesse allo sviluppo di circolazioni</i> |
| 10. Bertagnolli Nicola | <i>Analisi meteorologica di episodi di inquinamento invernale nella zona di Trento.</i> |
| 11. De Sero Giacomo | <i>Valutazione di profili verticali di temperatura in area urbana a Trento a supporto della qualità dell'aria</i> |
| 12. Zini Michele | <i>Analisi secolare di dati storici di precipitazione misurata a Cles (Trento) nel periodo 1896-2005.</i> |
| 13. Santin Marco | <i>Analisi del ciclo diurno delle variabili meteorologiche connesse allo sviluppo di circolazioni locali nella Val d'Adige</i> |
| 14. Felicetti Maurizio | <i>Valutazione di profili verticali di temperatura da misure al suolo a supporto della qualità dell'aria</i> |
| 15. Ravanelli Daniele | <i>Caratterizzazione micrometeorologica di un canyon urbano nel periodo invernale</i> |

| | |
|-------------------------|--|
| 16. Spampinato Giuseppe | <i>Confronto di misure di temperatura dell'aria effettuate in simultanea presso i siti delle stazioni storiche di Trento</i> |
| 17. Zambanini Manuel | <i>Analisi di dati meteorologici per la caratterizzazione climatologica della zona di Levico Terme (TN)</i> |

Corso di laurea in Fisica, Università degli studi di Trento (V.O.)

| | |
|-------------------|--|
| 1. Renato Moretta | <i>Elaborazione dei dati di una campagna di misura della qualità dell'aria in Valle dell'Adige ed analisi dei fattori meteorologici sul trasporto di inquinanti in atmosfera</i> |
|-------------------|--|

Corso di laurea in Fisica, Università degli studi di Trento (N.O.)

| | |
|-----------------------|---|
| 1. Barraco Nicola | <i>Evaluation of the urban heat island for the city of Bolzano</i> |
| 2. Breviglieri Pietro | <i>Analysis of turbulence measurements from an ultrasonic anemometer for the evaluation of planetary boundary layer parameters</i> |
| 3. Brida Christian | <i>Evaluation of meteo-climatological forcing on some alpine glaciers</i> |
| Giordani Antonio | <i>The dispersion of pollutants in the atmosphere: the Gaussian plume model Its formulation and application</i> |
| 5 Andrea Baccarini | <i>Instrumented-backpack soundings of the vertical atmospheric structure around the Pico volcano in the Azores: a resource for investigating the vertical distribution of aerosols across the marine boundary layer</i> |
| 6. Mattia Marchio | <i>History and analysis of the precipitation series of Trento (1919-1993)</i> |
| 7. Mirco Vinante | <i>Climatological Analysis of temperature data series in Trento</i> |

Corso di laurea in Fisica, Università degli studi di Bologna (V. O.)

| | |
|-------------------|--|
| 1. Petrolli Renzo | <i>Misure nello strato limite atmosferico mediante velivolo attrezzato</i> |
|-------------------|--|

Corso di laurea in Architettura, Politecnico di Milano (V. O.)

| | |
|-----------------------------------|---|
| 1. Federica Lanfossi e Fabio Luce | <i>Conoscenza, conservazione e comunicazione: un processo analitico per studiare la Specola di Mantova e delinearne il recupero</i> |
|-----------------------------------|---|

APPENDIX 6

Joint programme of a Master of Science in Environmental Meteorology

Dino Zardi has been appointed by the University of Trento the responsibility of drafting and drive through the required procedures for final approval the project of a joint program of *MSc in Environmental Meteorology*.

The programme is jointly managed by the University of Trento and the University of Innsbruck.

Candidates successfully completing the curriculum will be granted a double MSc degree in Environmental Meteorology by the two Universities. In the Italian university system, the degree belongs to the class LM-75 Sciences and technologies for the environment

At the University of Trento the bodies contributing to the programme are:

- the Department of Civil, Environmental and Mechanical Engineering (DICAM)
- the Centre for Agriculture, food and Environment (C3A)
- the Department of Physics (DF)

At the University of Innsbruck it is the Institute of Atmospheric and Cryospheric Sciences (ACINN).

The curriculum offers interdisciplinary competences on atmospheric processes for various applications to the environment, such as:

- air quality monitoring and management
- support to environmental impact assessment analyses;
- support to civil protection operations;
- agricultural and forest meteorology
- support to the assessment of power from renewable energy resources;
- support to the adoption of measures for energy efficiency of buildings
- support to water resources monitoring and management
- meteorological assistance to transport infrastructures (airports, highways, railways,..)
- support to the assessment of measures for mitigation or adaptation to climate change impacts.

As a requirement for the admission, students need to have a BSc in Meteorology, Physics, Chemistry, Engineering, Environmental Sciences, or any other subject providing a sound basis in mathematics, physics and chemistry. The maximum number of students admitted per year is 25 students from the European Union and up to 5 from third countries.

Teaching activities are organized so as for the first year in the 1st e 2nd semester all the lectures are offered at the University of Trento, while in the second year in the 1st semester the lectures are offered at the University of Innsbruck. The 2nd semester is free of mandatory courses, so that students may attend optional courses at either University, or work on their MSc thesis (see Table below).

| Year | Sem. | Course | ECTS | Total ECTS Semester |
|------|------|---|------|---------------------|
| 1 | 1W | Introduction to meteorology and climatology | 9 | 30 |
| | | Environmental fluid mechanics | 9 | |
| | | Environmental measurements | 6 | |
| | | Environmental physical chemistry | 6 | |
| | 1S | Atmospheric boundary layer and turbulence | 9 | 30 |
| | | Numerical methods for environmental processes | 6 | |
| | | Hydrology | 9 | |
| | | Agricultural and forest meteorology | 6 | |
| 2 | 2W | Atmospheric radiation and remote sensing | 5 | 30 |
| | | Reading, writing and presenting scientific contents | 3 | |
| | | Atmospheric chemistry and biogeochemistry | 6 | |
| | | Dynamical and synoptic meteorology | 6 | |
| | | Optional courses | 10 | |
| | 2S | Master Thesis | 30 | 30 |

The programme started in the academic year 2018/19: <https://offertaformativa.unitn.it/en/lm/environmental-meteorology>.

Trento, 21/10/2022

