

# SILVIO DAVOLIO

## Researcher

### WORK ADDRESS

Consiglio Nazionale delle Ricerche – National Research Council of Italy (CNR)  
Istituto di Scienze dell'Atmosfera e del Clima – Institute of Atmospheric Sciences and Climate (ISAC)

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### PERSONAL DATA

Date of birth: September 12, 1972.

Place of birth: Reggio Emilia, Italy.

Family status: Married, two children.

### EDUCATION

- 30/Jul/1997 Doctor in Physics *summa cum laude*.  
Dept. of Physics - Univ. of Modena, Italy.  
Thesis "Study of the atmospheric circulation over Antarctica using a limited area model". Supervisor Prof. Sandra Morelli.
- Dec 1999 TOEFL, score 247/300
- Apr-May 2000 Meteorological Training Course at European Centre for Medium-Range Weather Forecast (ECMWF).  
*MET PR*: General Circulation, Systematic Model Errors and Predictability.  
*MET DA*: Data Assimilation and Use of Satellite Data.  
*MET PA*: Parameterization of diabatic processes.
- Nov 01 - Feb 02 Visitor (research scholar) at Dep. of Meteorology, University of Maryland under the supervision of Prof. Eugenia Kalnay.  
Course "Data assimilation and predictability", held by Prof E. Kalnay.
- 19 May - 1 Jun 2002 Course "Data Assimilation for the Earth System" organized by Nato Advanced Study Institute.
- Sep 2002 ECMWF 2002 Seminar on Predictability of Weather and Climate.
- Sep 2003 ECMWF 2003 Seminar on Recent developments in data assimilation for atmosphere and ocean.
- 7-11 Jun 2004 Mediterranean School on Mesoscale Meteorology "Mesoscale structure of cyclones", Alghero (Italy).
- 5-9 Jun 2006 Mediterranean School on Mesoscale Meteorology "Mediterranean cyclones: phenomenological and theoretical aspects", Alghero (Italy).

### EMPLOYMENT

- 1998-1999 Fellowship (12 months) at the Institute of Atmospheric and Oceanic Sciences (ISAO) of CNR in Bologna, under the supervision of Dr. Andrea Buzzi and Dr. Maurizio Fantini. Research activity, within the HERA Project (**HE**avy

	pRecipitation in the Alpine region), concerning the development of numerical models of frontal passage over isolated orography, in semi-geostrophic and quasi-geostrophic approximation.
1999-2000	Fellowship (11 months) at the Institute of Atmospheric and Oceanic Sciences (ISAO) of CNR in Bologna, under the supervision of Dr. Andrea Buzzi. Research activity: study of katabatic winds over Antarctica, using a limited area model (BOLAM).
2000-2001	Research Assistant (12 months) at the Institute of Atmospheric and Oceanic Sciences (ISAO) of CNR in Bologna, within the Atmospheric Dynamics Group. Research project: "Numerical modelling and meteorological forecast".
Jun 01 - Dec 03	Researcher (ex art.23) at the Institute of Atmospheric Sciences and Climate (ISAC) of CNR in Bologna, within the Atmospheric Dynamics Group, involved in the European FP5 project EURAINSAT. Research activity concerned the development of a rainfall data assimilation scheme (nudging) in a mesoscale model, applied to satellite precipitation estimates.
Jan 04 - Oct 04	Researcher (art. 15) at the Institute of Atmospheric Sciences and Climate (ISAC) of CNR in Bologna, within the Atmospheric Dynamics Group, involved in the European project HYDROPTIMET - INTERREG III B. Research activity: development and validation of numerical meteorological models at different horizontal resolutions; application of hydrostatic and non-hydrostatic NWP models to the investigation of intense precipitation events in the Mediterranean basin; data assimilation in mesoscale models.
Nov 04 - Dec 05	Research Assistant at the Institute of Atmospheric Sciences and Climate (ISAC) of CNR in Bologna, within the Atmospheric Dynamics Group, involved in the European project RISK AWARE - INTERREG III B. Research activity: "High resolution modelling and data assimilation aimed at improving the quantitative precipitation forecasts".
Dec 05 – Apr 08	Researcher (ex. art.23, 5-year contract) at CNR-ISAC
Since 14 Apr 08	Researcher (permanent staff) at the Institute of Atmospheric Sciences and Climate (ISAC) of CNR in Bologna.

## AREA OF RESEARCH INTEREST

- Atmospheric dynamics
- Numerical modelling
- Meteorology and weather forecasting
- Data assimilation

## LEADERSHIP/RESPONSIBILITY IN SCIENTIFIC PROJECTS

- 2007 WWRP (WMO) Forecast Demonstration Project (FDP) “MAP DPHASE – Mesoscale Alpine Programme Demonstration of Probabilistic Hydrological and Atmospheric Simulation of flood Events in the Alpine region” coordinated by MeteoSwiss. Responsible of ISAC NWP modelling activities.
- 2007-2010 Italian Space Agency (ASI) Project “PROSA – Progetto pilota Protezione civile dalle alluvioni: il Nowcasting”: Coordinator of WP1C3-C: Assimilation of rainfall data.
- 2008-2020 Member of the International Scientific Steering Committee of the HyMeX Programme-Hydrological Cycle in the Mediterranean Experiment. Coordinator of Science Teams ST-Mediterranean Cyclones, ST- Heavy Precipitation, ST- Heavy rain and IOP studies.
- 2012 Member of the Executive Committee for the HyMeX SOP1 field campaign

(5 Sep. – 6 Nov. 2012). Participant to the activity of the Operational Centre (HOC) of the campaign also with duty of Scientific Director and Operations Director.

- 2010-2013 Principle Scientist for CNR-ISAC for the agreement with DICATA-University of Brescia in the framework of the programme “Hydrometeorological monitoring and forecasting for flood control in the Ca River basin (Laos-Vietnam)”
- 2010-2013 Principle Scientist for CNR-ISAC for the agreement with DIAR-Politecnico di Milano, concerning the coupling between high-resolution meteorological models and hydrological models for flood simulations.
- 2012-2014 Coordinator of ISAC Operative Unit within SP3-WP4 “Integrated wave-current-sediment modelling” of the CNR flagship project RITMARE, coordinated by CNR
- 2015-2016 Coordinator of ISAC Operative Unit within SP3-LI3-WP1 “Coastal erosion, vulnerability and adaptation to climate change” of the CNR flagship project RITMARE, coordinated by CNR
- 2014 Responsible for the Agreement “Upgrading the short-range forecasting system for hydro-meteorological events” funded by Liguria Region.
- 2015 Short Term Mobility (CNR): responsible for mobility program of Dr. Tiesi at the Meteorological Service of Catalonia (Barcelona)
- 2015-to present Principle Scientist for CNR-ISAC for the agreement with CNR-ISMAR in the framework of meteorological and marine modelling activities.
- 2015-2019 Principle Scientist for CNR-ISAC for the contract with EDISON S.p.A. for the provision of NWP data for energy production.
- 2016-2017 Principle Scientist for CNR-ISAC for the License Agreement with DufEnergy Trading SA for the use of the BOLAM-MOLOCH model chain software.
- 2016-to present Principle Scientist for the agreement between CNR-ISAC and DICA-Politecnico di Milano, concerning the development and coupling of high-resolution meteorological models and hydrological models, applied to precipitation and flood forecasting.
- 2018-to present Principle scientist for the agreement between CNR-ISAC and ARPAL concerning technical and scientific collaboration in numerical meteorological modelling.
- 2018-to-present Principle scientist for the agreement between CNR-ISAC and Consorzio LaMMA concerning technical and scientific collaboration in numerical meteorological modelling.
- 2020-to-present Principle scientist for the agreement between CNR-ISAC and Autorità di Bacino delle Alpi Orientali concerning hydro-meteorological and hydraulic prediction at high resolution, model coupling for Brenta and Bacchiglione basins.
- 2020-to-present Principle scientist for the agreement among CNR-ISAC, ARPAL, ISPRA and Consorzio LaMMA concerning technical and scientific collaboration in high-resolution numerical meteorological modelling.
- 2020-to-present Principle scientist for the Project FOE CLIMA Climate change: risk mitigation for sustainable development – Geo-hydrological risks associated with extreme hydrometeorological events.
- 2020-to-present Vice Chair of the COST Action CA19109 MEDCYCLONE European network for Mediterranean cyclones in weather and climate.

## **PARTICIPATION TO SCIENTIFIC PROJECTS**

- 1998-1999 European Commission FP4 Project “HERA - Heavy Precipitation in the Alpine Region”, coordinated by DLR, Germany.
- 1999 WWRP (WMO) Research and Development Project (RDP) “MAP - Mesoscale Alpine Programme” and MAP SOP field campaign 7 Sep – 15 Nov 1999.
- 1999-2000 National Antarctic Research Program (PNRA).
- 2001 Short Term Mobility (CNR)
- 2001-2003 European Commission FP5 Project “EURAINSAT - European satellite rainfall analysis and monitoring at the geostationary scale”, coordinated by CNR ISAC.
- 2002-2004 Invited additional expert for COST-717: Use of radar observations in hydrological and NWP models.
- 2004 European Commission INTERREG IIIB MEDOCC Project “HYDROPTIMET – Optimisation des Outils de prevision Hydrométéorologique” coordinated by ARPA Piemonte, Torino.
- 2004-2005 European Commission INTERREG IIIB CADSES Project “RISK-AWARE - Risk Advance Forecasting System to advise on risk events and management” coordinated by ARPA-SMR, Bologna.
- 2006-2008 European Commission INTERREG IIIB ARCHIMED Project “RISKMED – Weather Risk Reduction in the Central and Eastern Mediterranean” coordinated by University of Ioannina (Greece).
- 2007-2017 Intesa Operativa tra Dipartimento Nazionale di Protezione Civile e CNR-ISAC
- 2013-2014 ENVIMED Hymex-coop (MISTRAL program) project, funded by MAE France
- 2016-2017 H2020 MSCA-NIGHT-2016 “SOCIETY - in Search Of Certainty – Interactive Event To inspire Young People”, coordinated by University of Bologna.
- 2017-2019 InforMARE (POR-FESR 2014-2020) to provide the tourist industry a new high quality informatic multi-platform tool with marine climate/weather information.
- 2020-2022 Intesa Operativa tra Dipartimento Nazionale di Protezione Civile e CNR-ISAC.

## **REVIEWING AND EDITORIAL ACTIVITY**

### **Editorial Activity:**

- Associate Editor for the Quarterly Journal of the Royal Meteorological Society since 2010
- Co-Editor for Weather and Climate Dynamics (Copernicus) since 2019
- Member of the Editorial Board of the Bulletin of Atmospheric Science and Technology (Springer) since 2019
- Guest Editor for Natural Hazards and Earth System Sciences Special Issue “13th Plinius Conference on Mediterranean Storms: disasters and climate change - know to adapt”  
Editor(s): M.-C. Llasat, A. Mugnai, S. Davolio, L. Garrote, S. Lorito, L. Bertotti, and G. Boni, 2012.
- Proceedings of the Joint MAP D-PHASE Scientific Meeting – COST 731 mid-term seminar: Challenges in hydrometeorological forecasting in complex terrain. Edited by: A. Montani, P. P. Alberoni, A. Rossa, M. W. Rotach, A. Buzzi, S. Davolio, 196 pp., 2009.

### **Reviewer for the following international journals:**

- Advances in Meteorology
- Advances in Geosciences
- Annales Geophysicae
- Atmospheric Research
- Bulletin of Atmospheric Science and Technology
- Climate Dynamics
- Croatian Meteorological Magazine
- Dynamics of Atmospheres and Oceans
- Geophysical Research Letter
- Geoscientific Model Development
- Hydrological Processes
- International Journal of Climatology
- International Journal of Ecology & Development
- Journal of Applied Meteorology and Climatology
- Journal of Geophysical Research
- Journal of Hydrology
- Meteorology and Atmospheric Physics
- Monthly Weather Review
- Natural Hazard and Earth System Sciences
- Quarterly Journal of the Royal Meteorological Society
- Transaction on Geoscience and Remote Sensing

**Reviewer for scientific proposal:**

- Evaluator for ANR (French National Research Agency) proposals
- Evaluator for ETH (Zurich) Research Commission proposals
- Evaluator for ETH (Zurich) PhD Thesis Medal Prize
- Evaluator for Israel Science Foundation proposals
- Evaluator for VQR 2011-2014
- Evaluator for ISCRA projects (CINECA)

**Review boards:**

- Member of several Examining boards for research fellowships at CNR-ISAC
  - 2006 Assegno di ricerca bando 126.230.AR.BO/46
  - 2009 Assegno di ricerca bando 129.230.AR.LE.35
  - 2010 Assegno di ricerca bando ISAC-073-2009-BO
  - 2010 Assegno di ricerca bando ISAC-076-2010-BO
  - 2010 Assegno di ricerca bando ISAC-079-2010-BO
  - 2011 Ricercatore bando ISAC 03/2011
  - 2012 Assegno di ricerca bando ISAC-099-2012-BO
  - 2012 Assegno di ricerca bando ISAC-100-2012-BO
  - 2013 Assegno di ricerca bando ISAC-113-2012-BO
  - 2013 Assegno di ricerca bando ISAC-114-2012-BO
  - 2013 Assegno di ricerca bando ISAC-118-2013-BO
  - 2013 Assegno di ricerca bando ISAC-119-2013-BO
  - 2013 Assegno di ricerca bando ISAC-126-2013-BO
  - 2013 Assegno di ricerca bando ISAC-127-2013-BO
  - 2013 Assegno di ricerca bando ISAC-132-2013-BO
  - 2015 Assegno di ricerca bando ISAC-144-2014-BO
  - 2015 Ricercatore bando ISAC-002-2015-BO
  - 2016 Assegno di ricerca bando ISAC-151-2016-BO
  - 2017 Assegno di ricerca bando ISAC-166-2017-BO

2017 Ricercatore bando ISAC-002-2017-BO  
 2018 Borsa di studio bando BS-ISAC-001-2017-BO  
 2018 Assegno di ricerca bando ISAC-182-2018-BO  
 2019 Assegno di ricerca bando ISAC-188-2019-BO  
 2020 Assegno di ricerca bando ISAC-201-2020-BO  
 2020 Assegno di ricerca bando ISAC-204-2020-BO

- Substitut Member of Examining Boards for PhD thesis at the Dep. of Physics, Universitat de les Illes Balears (Spain) in July 2010;
- Member of Examining Boards for PhD thesis at the Dep. of Physics, Universitat de les Illes Balears (Spain) in May 2012;
- Member of Examining Boards for PhD thesis at ETHZ Zurich (CH) in December 2012;
- Member of Examining Boards for PhD thesis at Laboratoire d'Aérodologie, Univ. Of Toulouse (FR) in November 2013, November 2016 and December 2019.

## **TEACHING EXPERIENCE, STUDENT ADVISING AND SEMINARS**

- 2007-2008 Contract professor for the Atmospheric Physics course (30 hours), Università Cattolica di Brescia, Dept. of Physics.
- 2008-2009 Contract professor for the Atmospheric Physics course (30 hours), Università Cattolica di Brescia, Dept. of Physics.
- 2009-2010 Contract professor for the Atmospheric Physics course (30 hours), Università Cattolica di Brescia, Dept. of Physics.
- 2010-2011 Contract professor for the Atmospheric Physics course (30 hours), Università Cattolica di Brescia, Dept. of Physics.
- 2011 Invited Seminar at CNR-ISAC (Lecce): “Modellistica meteorologica per lo studio di precipitazioni intense e alluvioni”, 18 Oct 2011.
- 2011-2012 Contract professor for the Atmospheric Physics course (48 hours), Università Cattolica di Brescia, Dept. of Physics.
- 2012 Invited Seminar at ETH Zurich, Institute for Atmospheric and Climate Science: “Experiences in numerical forecasting of heavy convective precipitation episodes over Liguria”, 12 Dec 2012.
- 2014 Lecture at the course “Previsioni di limited area model in casi di severe weather” at OSMER-ARPA FVG, Visco (UD), 18 Mar. 2014. Title: “Simulazioni di eventi di precipitazione intensa su Nord Est e Liguria: aspetti dinamici e modellistici”.
- 2014 Lecture at the course “Corso avanzato di modellistica meteorologica” presso ARPA Puglia, Bari, 21 May 2014. Title: “Parametrizzazioni dei processi fisici nei modelli numerici meteorologici”.
- 2016 Invited Seminar at University of Wien, Institut für Meteorologie und Geophysik: “Mechanisms producing different precipitation patterns over north-eastern Italy”, 31 May 2016.
- 2017 Invited Seminar at Università Cattolica di Brescia, Dep. Physics, “Precipitazioni (intense): osservazione, simulazione e studio di eventi”, 01 June 2017.
- 2017 Seminar at Convegno Severe Weather 2017, Verona, 14 Oct. 2017, “I modelli meteorologici: potenzialità, limiti e applicazione alla previsione di eventi intensi”
- 2018 Seminar at Convegno “Meteorologia e comunicazione: dai modelli matematici alla previsione”, Campobasso, 18 Maggio 2018 “Conoscere i modelli meteorologici”

- 2018 Lecture for the Advance Meteorology Workshop 2018 at Osservatorio Cavanis (VE) “Numerical meteorological models”
- 2019 Lecture (14 hours) in Dynamic Meteorology for Two year Master in Physics of the Earth System, University of Bologna
- 2020 Lecture (3 hours) in Dynamic Meteorology for Two year Master in Physics of the Earth System, University of Bologna
- 2020 Presentation “La tempesta Vaia: modelli e osservazioni ISAC per lo studio e il monitoraggio di un evento estremo eccezionale” at the National Civil Protection Department, Major Risks National Committee.

### **Supervisor for Master degree thesis:**

- Academic year 2012-2013 Ambrogio Volontè, Doctor in Physics, Dept. of Fisica, Univ. of Milan.

Thesis: “Studio di eventi di precipitazione intensa associata a differenti caratteristiche del flusso incidente all’orografia alpina, mediante un modello numerico ad alta risoluzione”. Tutors: M. Maugeri, S. Davolio.

- Academic year 2012-2013 Caterina Bassi, Doctor in Physics, Dept. of Physics, Univ. of Milan.

Thesis: “Modelli meteorologici ad alta risoluzione: simulazione di episodi di precipitazione intensa in Liguria e Toscana durante la campagna HyMeX”. Tutors: M. Maugeri, S. Davolio.

- Academic year 2014-2015 Riccardo Henin, Doctor in Physics of the Earth System, Univ. of Bologna. Thesis: “Dynamics of Bora wind over the Adriatic Sea: Atmospheric water balance and role of air-sea fluxes and orography. Tutors: A. Buzzi, S. Davolio

- Academic year 2015-2016 Thomas Gastaldo, Doctor in Physics of the Earth System, Univ. of Bologna. Thesis: “Assimilazione dati di precipitazione in un modello meteorologico ad alta risoluzione (MOLOCH): sviluppo ed applicazione alla previsione di eventi intensi in Liguria”. Tutors: S. Di Sabatino, S. Davolio.

- Academic year 2015-2016 Giulio Monte, Doctor in Physics of the Earth System, Univ. of Bologna. Thesis: “Analisi modellistica di un intenso ciclone di tipo tropicale nel Mediterraneo (7-8 Novembre 2014): predicibilità, caratteristiche termodinamiche e confronto con osservazioni da satellite”. Tutors: V. Levizzani, S. Davolio.

- Academic year 2017-2018 Antonio Frigioni, Doctor in Physics of the Earth System, Univ. of Bologna. Thesis: “Precipitazioni nevose associate ad eventi di Bora anticiclonica nel bacino dell’Adriatico: ruolo del mare e dell’orografia”. Tutors: S. Di Sabatino, S. Davolio.

- Academic year 2018-2019 Stefano Della Fera, Doctor Physics of the Earth System, Univ. of Bologna. Thesis: “Il ruolo di un atmospheric river nell’evento di precipitazione estrema dell’ottobre 2018 in Italia”. Tutors: V. Levizzani, S. Davolio, M. M. Miglietta, S. Laviola.

- Academic year 2019-202 Lucia Drago Pittura, Doctor Physics of the Earth System, Univ. of Bologna. Thesis: “The Q-vector theory: a tool for the identification of intense cyclones”. Tutors: S. Di Sabatino, B. Turato, S. Davolio, M. M. Miglietta.

### **ORGANIZATION OF INTERNATIONAL CONFERENCES, SCHOOLS AND CHAIRMAN DUTIES**

- 2008 Member of the Programme Committee and of the Local Organizing Committee of the Joint MAP D-PHASE Scientific Meeting - COST 731 mid-term seminar, Bologna, 19-22 May 2008.
- 2008 Chairman of Session 5 “Uncertainty in observations and data assimilation” of the Joint MAP D-PHASE Scientific Meeting - COST 731 mid-term seminar, Bologna, 19-22 May 2008.

- 2008 Chairman of a Session of the 2<sup>nd</sup> HyMex Workshop, Paris, 2-4 June 2008.
- 2008 10th EGU Plinius Conference on Mediterranean Storms, Nicosia, Cyprus, 22-24 Sept.2008: Member of the Scientific Committee and Convener of Session 3 “Mesoscale Modelling”.
- 2009 11th EGU Plinius Conference on Mediterranean Storms, Barcelona, Spain, 7-11 Sept.2009: Member of the Scientific Committee and Convener of Session “Mesoscale Modelling and Data Assimilation”.
- 2010 4<sup>th</sup> HyMeX Workshop, Bologna, Italy, 8-10 June 2010: Chair of the Workshop, Member of the Programme Committee and of the Local Organizing Committee.
- 2010 12th EGU Plinius Conference on Mediterranean Storms, Corfu Island, Greece, 1-4 Sept.2010: Member of the Scientific Committee and Convener of Session “Mesoscale Modelling, Data Assimilation and Operational Meteorological Forecasting”.
- 2011 5th HyMeX Workshop, Punta Prima, Minorca, Spain, 17-19 May 2011: member of the Scientific Committee
- 2011 13<sup>th</sup> EGU Plinius Conference on Mediterranean Storms, Savona, Italy, 7-9 Sep 2011. Member of the Scientific Committee and Convener of Session “Diagnosis and Forecasting of Mediterranean Storms”.
- 2012 Member of the Scientific Committee of the 4th CNR-ISAC Summer School “Severe convective weather: Theory and Applications”, 17-21 Sep 2012, Castro Marina, Lecce (Italy)
- 2014 8<sup>th</sup> HyMeX Workshop, La Valletta, Malta, 15-18 Sep. 2014: member of the Scientific Committee
- 2015 9<sup>th</sup> HyMeX Workshop, Mykonos, Greece, 21-25 Sep. 2015: member of the Scientific Committee
- 2016 Member of the Scientific Committee of the 6th CNR-ISAC Summer School “Advances in severe weather analysis: Models and Observations”, 20-24 Jun 2016, Castro Marina, Lecce (Italy)
- 2018 11<sup>th</sup> HyMeX Workshop, Lecce, Italy, 29 May-02 June 2018: Chair of the Workshop, Member of the Scientific Committee and of the Organizing Committee.
- 2018 16th EGU Plinius Conference on Mediterranean Risks, Montpellier (FR), 09-11 Oct 2018: Convener of session “Mediterranean storms: diagnostic, meteorological modelling and forecasting”.
- 2019 Member of the Scientific Committee of the 1st National Conference on Meteorological and Climate Forecasts, Bologna, 17-18 June 2019.
- 2020 Chair of the Scientific Committee of the Third AISAM National Congress, L’Aquila 9-12 February 2021.

Other professional activities and duties:

- 2016-2019 Elected Member of the ISAC Managing Committee
- 2018 – present Elected Member of the Managing Committee of AISAM (Italian Association of Atmospheric Sciences and Meteorology)
- 2019 – present Coordinator of the macroarea CAMEO (Climate and Meteorology, modelling and Earth Observation) of CNR-ISAC

- Abilitazione Scientifica Nazionale** (2018) per Professore Universitario di Prima Fascia per il settore concorsuale 02/C1 “Astronomia, Astrofisica, Fisica della Terra e dei Pianeti”.
- Abilitazione Scientifica Nazionale** (2017) per Professore Universitario di Prima Fascia per il



settore concorsuale 04/A4 “Geofisica”. Valida dal 04/08/2017 al 04/08/2023.

h-index (ISI-WoS): 20

h-index (Scopus): 21

h-index (Google Scholar): 24

ResearcherID: C-8425-2017

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Scopus Author ID: 6602644004

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## LIST OF PUBLICATIONS

### Peer Reviewed Journal

1. Fantini M. and **S. Davolio**, 2000: Formulation of a semi-geostrophic model of frontal interaction with isolated orography. *Meteor. Atmos. Phys.*, **72**, 261-270.
2. Fantini M. and **S. Davolio**, 2001: Instability of Neutral Eady Waves and orography. *J. Atmos. Sci.*, **58**, 1146-1154.
3. **Davolio S.** and A. Buzzi, 2002: Mechanisms of Antarctic katabatic currents near Terra Nova Bay. *Tellus*, **54 A**, 187-204.
4. Buzzi A., M. D'Isidoro and **S. Davolio**, 2003: A case study of an orographic cyclone formation south of the Alps during the MAP-SOP. *Q. J. R. Meteorol. Soc.*, **129**, 1795-1818.
5. Cervino M., S. Corradini and **S. Davolio**, 2003: Is the 'peaceful use' of outer space being ruled out? *Space Policy*, **19**, 231-237.
6. Buzzi A., **S. Davolio**, M. D'Isidoro and P. Malguzzi, 2004: The impact of resolution and of MAP reanalysis on the simulations of heavy precipitation during MAP cases. *Meteorol. Z.*, **13**, 91-97.
7. **Davolio S.** and A. Buzzi, 2004: A nudging scheme for the assimilation of precipitation data into a mesoscale model. *Wea. Forecasting*, **19**, 855-871.
8. Mariani S., M. Casaioli, C. Accadia, M. C. Llasat, F. Pasi, **S. Davolio**, M. Elementi, G. Ficca and R. Romero, 2005: A limited area model intercomparison on the "Montserrat-2000" flash-flood event using statistical and deterministic methods. *Nat. Hazard Earth Syst. Sc.*, **5**, 565-581.
9. Anquetin S., E. Yates, V. Ducrocq, S. Samouillan, K. Chancibault, **S. Davolio**, C. Accadia, M. Casaioli, S. Mariani, G. Ficca, B. Gozzini, F. Pasi, M. Pasqui, M. Garcia, M. Martorell, R. Romero and P. Chessa, 2005: The 8 and 9 September 2002 flash flood event in France: a model intercomparison. *Nat. Hazard Earth Syst. Sc.*, **5**, 741-754.
10. **Davolio S.**, A. Buzzi and P. Malguzzi, 2006: Orographic influence on deep convection: case study and sensitivity experiments. *Meteorol. Z.*, **15**, 215-223.
11. Kastner M., F. Torricella and **S. Davolio**, 2006: Intercomparison of satellite-based and model-based rainfall analyses. *Meteorol. Appl.*, **13**, 213-223.
12. **Davolio S.**, A. Buzzi and P. Malguzzi, 2007: High resolution simulations of an intense convective precipitation event. *Meteorol. Atmos. Phys.*, **95**, 139-154.
13. Diomede T., **S. Davolio**, C. Marsigli, M. M. Miglietta, A. Moscatello, P. Papetti, T. Paccagnella, A. Buzzi and P. Malguzzi, 2008: Discharge prediction based on multi-model precipitation forecasts. *Meteorol. Atmos. Phys.*, **101**, 245-265.
14. **Davolio S.**, M. M. Miglietta, T. Diomede, C. Marsigli, A. Morgillo and A. Moscatello, 2008: A meteo-hydrological prediction system based on a multi-model approach for precipitation forecasting. *Nat. Hazard Earth Syst. Sc.*, **8**, 143-159.
15. Miglietta M. M., **S. Davolio**, A. Moscatello, F. Pacifico and R. Rotunno, 2008: The role of surface fluxes in the development of a tropical-like cyclone in southern Italy. *Advances in Science and Research*, **2**, 35-39, doi: 10.5194/asr-2-35-2008.
16. **Davolio S.**, A. Buzzi and P. Malguzzi, 2009: Orographic triggering of long-lived convection in three dimensions. *Meteorol. Atmos. Phys.*, **103**, 35-44.
17. **Davolio S.**, M. M. Miglietta, A. Moscatello, F. Pacifico, A. Buzzi and R. Rotunno, 2009: Numerical forecast and analysis of a tropical-like cyclone in the Ionian Sea. *Nat. Hazards Earth Syst. Sc.*, **9**, 551-562.
18. Bertotti L., M. M. Miglietta and **S. Davolio**, 2009: Coupling of high-resolution meteorological and wave models over southern Italy. *Nat. Hazards Earth Syst. Sc.*, **9**, 1267-1275.
19. Rotach M. W., P. Ambrosetti, F. Ament, C. Appenzeller, M. Arpagaus, H. S. Bauer, A.

- Behrendt, F. Bouttier, A. Buzzi, M. Corazza, **S. Davolio**, M. Denhard, M. Dorninger, L. Fontannaz, J. Frick, F. Fundel, U. Germann, T. Gorgas, C. Hegg, A. Hering, C. Keil, M. A. Liniger, C. Marsigli, R. McTaggart-Cowan, A. Montani, K. Mylne, R. Ranzi, E. Richard, A. Rossa, D. Santos-Muñoz, C. Schär, Y. Seity, M. Staudinger, M. Stoll, H. Volkert, A. Walser, Y. Wang, J. Werhahn, V. Wulfmeyer, M. Zappa, 2009: MAP D-PHASE: Real-time Demonstration of Weather Forecast Quality in the Alpine Region. *Bull. Am. Meteorol. Soc.*, **90**, 1321-1336.
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