

# VINCENZO LEVIZZANI

## FRMetS



### WORK ADDRESS

Consiglio Nazionale delle Ricerche (CNR)  
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### PERSONAL DATA

Date of birth: June 7, 1957.  
Place of birth: Formigine (Modena), Italy.  
Family status: Married, three children.

### EDUCATION

1981: Doctor in Physics *summa cum laude*.  
Dept. of Physics, Univ. of Modena, Italy, 1981.  
Thesis "Flow fields around plane hexagonal ice crystals in free fall derived from numerical solutions of the Navier-Stokes equation". Supervisor: Prof. Franco Prodi.

Aug. –Sept. 1986: NATO Postgraduate Summer School on "Remote Sensing Applications in Meteorology and Climatology" at the University of Dundee, Carnegie Laboratory of Physics, Dundee, Scotland.

### EMPLOYMENT

1981 – 1982: Research Assistant of Prof. Hans R. Pruppacher, Department's Chairman of the Department of Atmospheric Sciences of the University of California, Los Angeles (UCLA), and Director of the UCLA Cloud Physics Group.

1982 – 1983, 1984: Contractor under the supervision of Prof. Franco Prodi at the Istituto per lo Studio dei Fenomeni Fisici e Chimici dell'Alta e Bassa Atmosfera (FISBAT) of CNR within the Cloud Physics Group. Research work on aerosol physics, sun photometry, physics of the atmospheric ice, atmospheric aerosol scavenging by hydrometeors and fluid dynamics around hydrometeors.

1983 - 1984: Military service in the Italian Air Force Meteorological Service with operational duties at the Meteorological Observatory of Mt. Cimone (2165 m.a.s.l.). Observations of tropospheric and stratospheric

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	aerosols, CO <sub>2</sub> and O <sub>3</sub> monitoring for the local baseline station of the World Meteorological Organization (WMO).
Feb. 1985 – Dec. 1998:	Full time researcher at the Institute FISBAT of CNR in Bologna.
Jan. 1999 – 2001:	Full time researcher at the Istituto di Scienze dell'Atmosfera e dell'Oceano (ISAO) of CNR in Bologna.
Jan. 1999 – Dec. 2001:	Coordinator of the research activity n. A.2 "Study of the physical characteristics of clouds and aerosol using satellite multispectral methods" within the research line "Dynamics of the Atmosphere and Ocean" of ISAO-CNR (now ISAC CNR).
Dec. 2001:	Senior scientist at the Istituto di Scienze dell'Atmosfera e dell'Oceano (ISAO) of CNR in Bologna.
Jan. 2002 – present:	Director of Research at the Istituto di Scienze dell'Atmosfera e del Clima (ISAC) of CNR in Bologna.

## **AREAS OF RESEARCH INTEREST**

- ✓ Cloud physics studies of severe storms using radar and satellite techniques.
- ✓ Rainfall estimations using radars and radiometers on satellite platforms.
- ✓ Regional climatology of precipitation and related climate variables.

## **MEMBERSHIPS IN SCHOLARLY SOCIETIES**

American Meteorological Society (member since 1989).  
American Geophysical Union (member since 1999).  
Associazione Italiana di Scienze dell'Atmosfera e Meteorologia (member since 2016).  
Cloud Appreciation Society (member since 2019).  
European Geosciences Union (member since 2001).  
Royal Meteorological Society (member since 2000 and Fellow since 2002).

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## PROFESSIONAL ACTIVITIES

### International

- Nov. 1997: Invited expert at the Scientific Working Group, European Organization for the Exploitation of Meteorological Satellites (EUMETSAT), Darmstadt, 5-6 March.
- 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2005: Visiting Scientist at the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT), Meteorological Division, Darmstadt, Germany.
- 1998 – 2000: Member of the Coordination and Implementation Group, Mesoscale Alpine Programme.
- 1998 – 2000: Coordinator of the Lago Maggiore Target Area (LAMATA) of the Special Observing Period, Mesoscale Alpine Programme.
- 1999: Coordinator of the Italian ground instrumentation during the Special Observing Period (SOP) of the Mesoscale Alpine Programme (7 Sept. – 15 Nov.).
- 1999 – present: Scientific Coordinator of the research group “Satellite Meteorology” of the Institute of Atmospheric and Oceanic Sciences, ISAO-CNR, Bologna, now Institute of Atmospheric Sciences and Climate, ISAC-CNR.
- 2000 - 2004: Member of the Working Group on Data Management (WGDM) of the Global Energy and Water Cycle Experiment (GEWEX) of the World Climate Research Programme (WCRP), a programme of the World Meteorological Organization (WMO).
- 2001 – 2002: Chairman of the Applications Expert Group (AEG) on Nowcasting and Very Short Range Forecasting for EUMETSAT’ Meteosat Third Generation.
- 2001 – 2004: Co-founder and first chairman of the International Precipitation Working Group (IPWG) of the Coordination Group for Meteorological Satellites (CGMS) sponsored by WMO.
- 2001: Member of the EC-NASA Earth Science Working Group.
- 2002 – 2016: Member of the Core Group and Advisory Council (from 2008) of the European Severe Storms Laboratory (ESSL).
- 2003 – 2004: Member of the Working Group on Data Management (WGDM) of WMO-GEWEX.
- 2003 – 2004: Member of the Working Group on Satellite Matters of WMO-WCRP.
- 2004 – 2012: Member of the International Commission on Clouds and Precipitation (ICCP) of the International Association for Meteorology and Atmospheric Sciences (IAMAS).
- 2005 – 2006: Member of the Working Group on Data Management and Analysis (WGDMA) of WCRP-GEWEX of WMO.
- 2006 – 2012: Chairman of the Working Group on Precipitation Radar Networks (WGPRN) of WCRP-GEWEX of WMO.
- 2009 – present: Chairman of the Science Application Group of EUMETSAT’s Post-EPS sensor MetImage.

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| 2011 – 2013 | Member of the GEWEX Hydroclimatology Panel.  |
| 2013 – 2014 | Chairman of EUMETSAT's Joint Precipitation Working Group (JPWG).                                   |
| 2013 – 2015 | Member of the WMO Commission on Atmospheric Sciences.  |
| 2013 – 2017 | Member of the Mission Advisory Group of the Geosounder mission of the European Space Agency (ESA). |
| 2015 – 2018 | Member of the American Meteorological Society Hydrologic Research Awards Committee.                |
| 2015        | NASA RHG Exceptional Achievement for Science Team to GPM Ground Validation Team member.            |
| 2015 – 2018 | Co-chair GK-2A Satellite Algorithm Review Team of the Korean Meteorological Administration.        |
| 2017 – 2018 | Italian National Delegate within the WMO Commission on Atmospheric Sciences (CAS).                 |

#### National

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|---------------------------|--|
| May 1994 –<br>Dec. 1998:  | Member and Secretary of the Institute FISBAT's Scientific Committee.   |
| 1995 - 1998:              | In charge of the NOAA/AVHRR HRPT station within the Large Facilities Project of CNR. Coordination of research activities and national and international cooperation. |
| Mar. 1989 –<br>Oct. 1999: | Head of FISBAT's (ISAO after Jan. 1999) Computing Department. Responsible for coordinating computing technology and networking.                                      |
| May 1992 –<br>Oct. 1999:  | Member of Computing and Networking Commission of the CNR Research Area in Bologna.   |
| 2000 – present:           | Member of several evaluation committees for permanent and temporary research positions at ISAO, IFA and ISAC CNR.  |

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## REVIEWING AND EDITORIAL ACTIVITIES

### Reviewer for the following international journals

- Advances in Geosciences*
- Advances in Water Resources*
- Aerobiologia* – International Journal of Aerobiology
- Annales Geophysicae*
- Atmosféra*
- Atmospheric Chemistry and Physics*
- Atmospheric Environment*
- Atmospheric Research*
- Geophysical Research Letters*
- Hydrology and Earth System Sciences*
- Journal of Hydrology*
- IEEE Geoscience and Remote Sensing Letters*
- IEEE Transactions on Geoscience and Remote Sensing*
- International Journal of Climatology*
- International Journal of Environment and Pollution*
- Journal of Atmospheric and Oceanic Technology*
- Journal of Applied Meteorology (and Climatology)*
- Journal of Geophysical Research*
- Journal of Hydrology*
- Journal of Hydrometeorology*
- Meteorology and Atmospheric Physics*
- Monthly Weather Review*
- Quarterly Journal of the Royal Meteorological Society*
- Remote Sensing*
- Remote Sensing of Environment*
- Reviews of Geophysics*
- Tellus*

### Editorial activities in international journals

#### Past

- Editorial board of *Aerobiologia* – International Journal of Aerobiology (1989-1992; 2001).
- Associate Editor of *Aerobiologia* – International Journal of Aerobiology (2005- 2009).
- Editorial Board of *Atmosphere* (2012 – 2013).
- Editorial Board of *Climate* (2012 – 2013).
- Founder and Co-Chief Editor of *Physical Aerobiology* (1997-2000).
- Scientific Committee of *Polar Atmospheres* (2000 – 2010).
- Editorial Board of *The Scientific World Journal* (2012 – 2013).
- Editorial Board of *European Journal of Remote Sensing* (2008 – 2014).

#### Current

- Associate Editor of *Atmospheric Research* (2010 – present).
- Section Editor in Chief “Remote Sensing of the Water Cycle” for *Remote Sensing* (2019-present).

### Review board for scientific proposals

- Evaluator of the Research Announcement of Opportunity of Meteosat Second Generation (MSG-RAO).
- Member of the Mid-Term Review Board of EUMETSAT's Satellite Application Facility on Nowcasting and Very Short Term Forecasting of METEOSAT Second Generation (Mar-Apr 2000).
- Reviewer of scientific proposals for the Italian Space Agency Announcement of Opportunity for scientific proposals on space research (2000).
- Member of the Final Review Board of EUMETSAT's Satellite Application Facility Nowcasting and Very Short Term Forecasting of METEOSAT Second Generation (2001).
- Member of the Review Panel of Atmospheric Physics for the Opportunity Missions dell'European Space Agency (2002).

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- ❑ Reviewer of scientific proposals for the South African National Research Foundation (2002 e 2003).
  - ❑ Reviewer of scientific proposals for the Space Research Organization Netherlands (SRON) (2002).
  - ❑ Reviewer of scientific proposals for the UK Natural Environment Research Council (NERC) (2002 e 2003).
  - ❑ Reviewer of scientific proposals for NASA's Global Precipitation Mission (GPM) (2003).
  - ❑ Reviewer of scientific proposals for NASA within the Earth System Science Research Using Data and Products from Terra, Aqua, and ACRIM Satellites (2003).
  - ❑ Reviewer for NOAA NESDIS of proposals AIRS (2003).
  - ❑ Reviewer of scientific proposals for the European Contribution to the Global Precipitation Mission (EGPM) (2003).
  - ❑ Reviewer for the Canadian Space Agency of the radar proposal for the European Contribution to Global Precipitation Measurement (EGPM) (2003).
  - ❑ Reviewer for the European Commission within FP6, Global Observation and Forecasting Systems (Call 2003 Global-2 Area 1.6.3.VI.1) (2003).
  - ❑ Reviewer for the European Commission within FP6, Priority 3 "Global Change and Ecosystems", Specific Support Actions (SSA) (2004).
  - ❑ Reviewer for the European Commission for FP6, Information and Communication Technology ICT-2007-2 (2007).
  - ❑ Reviewer of scientific proposals for the Israel Science Foundation (2008).
  - ❑ Reviewer of scientific proposals for the Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR) (2007 – present).
  - ❑ Reviewer of the Satellite Application Facility on Climate Monitoring of EUMETSAT (2009-present).

#### Review board for promotions

- ❑ Member of the international committee at NOAA-ERL, National Severe Storms Laboratory, Norman, Oklahoma, for a Federal Demonstration Project Payband V promotion, USA (1998).
- ❑ Member of the international committee for a promotion to Senior Research Scientist, Center for Space Research, Univ. of Texas at Austin, USA (2000).
- ❑ Member of the international committee for a promotion to Senior Lecturer, School of Geography and Environmental Sciences, Univ. of Birmingham, UK (2003).
- ❑ Member of the international committee for a promotion to Senior Lecturer, Dept. of Geography, Univ. of Sussex, UK (2004, 2009).
- ❑ Member of the international committee for Senior Lecturer position, Dept. of Geography, Univ. of Otago, NZ (2005).
- ❑ Member of the international committee for promotion, Earth System Science Interdisciplinary Center, University of Maryland, USA.
- ❑ Reviewer for Senior Lecturer position, University of Reading, UK (2006).
- ❑ Reviewer for the position of Chief, Space-based Observing Systems, WMO (2006).
- ❑ Member of the international committee for Lecturer position, Dept. of Geography, Bar-Ilan University, Ramat Gan, Israel (2006).
- ❑ Reviewer for promotion for the National Center for Atmospheric Research (NCAR) (2008).
- ❑ Reviewer for promotion for the University of Connecticut (Storrs), School of Engineering (2008).
- ❑ Member of the international committee for Senior Lecturer with tenure position, Hebrew University of Jerusalem, Israel (2009).
- ❑ Member of the international committee for Assistant Professor, University of California, Irvine (2009).
- ❑ Reviewer for promotion, International Research Institute for Climate and Society, Columbia University, Palisades, NY (2012).
- ❑ Member of the international committee for promotion evaluation of the Consejo Nacional de Investigaciones Científica y Técnica (CONICET), Argentina (2012, 2013).
- ❑ Reviewer for promotion for NASA – Goddard Space Flight Center, Greenbelt (2010, 2013).

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## ORGANIZATION OF INTERNATIONAL CONFERENCES AND CHAIRMAN DUTIES

- 1996: Convener of the International Workshop on "WWW & Aerobiology: State of the Art and Lines of Action", Bologna, 16-17 Feb.
- 1998: MAP Meeting '98, Chamonix, 15–19 Jun.: Chairman Session 1 "Hydrology and upper tropospheric PV anomalies".
- 1998: Co-organizer of the "Advanced Aerobiology Course '98" of the International Association for Aerobiology, Riva del Garda, 6- 12 Sept.
- 1998: Co-chairman (sharing with Prof. R. Jaenicke) of Session 1.4 "Fundamental mechanisms in aerobiology: meteorological factors" of the 6<sup>th</sup> Int. Con. On Aerobiology, Perugia, 31 Aug.–5 Sept.
- 1999: "The 1999 EUMETSAT Meteorological Satellite Data Users' Conference", Copenhagen, 6–10 Sept.: Member of the Scientific Programme Committee and Chairman Session 1 "Current and future satellite systems".
- 2000: "The 2000 EUMETSAT Meteorological Satellite Data Users' Conference", Bologna, 29 May–2 Jun.: Local Organizer, Member of the Scientific Programme Committee and Co-Chairman of "Rapid Scan Workshop" (sharing with Dr. H. P. Roesli).
- 2001: "EUMETSAT's 1<sup>st</sup> Post-MSG User Consultation Workshop", Darmstadt, 13-15 Nov.: Member of Organizing Committee and Chairman Session 4.
- 2002: "SPIE's 3<sup>rd</sup> Int. Asia-Pacific Symposium on Remote Sensing of the Atmosphere, Environment, and Space", Hangzhou, China, 23-27 Oct.: Member of Program Committee of Symposium AE105 "Applications with Weather Satellites".
- 2002: "The World Weather Research Programme's (WWRP) International Conference on Quantitative Precipitation Forecasting (QPF)", Reading, UK, 2-6 Sept.: Chairman Session 2 "Precipitation Estimation".
- 2002: "1<sup>st</sup> Workshop of the International Precipitation Working Group", Madrid, Spain, 23-27 Sept.: Chairman.
- 2004: "The 2004 EUMETSAT Meteorological Satellite Data Users' Conference", Prague, 31 May–4 Jun.: Member of the Scientific Programme Committee and Chairman of Session 5 "Ocean and Climate Observations".
- 2004: 14<sup>th</sup> International Conference on Clouds and Precipitation, Bologna, 18–23 Jul.: Deputy Chair and Chairman of Session S1.1 "Aerosol-cloud interactions"
- 2005: 7<sup>th</sup> Plinius Conference on Mediterranean Storms, Rethymnon, Crete, 5-7 Oct.: Member of the Scientific Committee.
- 2006: EGU General Assembly, 02-07 April: Co-convener Session: "Precipitation Remote Sensing with Applications in Hydrometeorology and Flood Forecasting"
- 2007: EGU General Assembly, 15-20 April: Co-convener Session: "Satellite Remote Sensing Applications in Hydrometeorology, Water Cycle, and Flood Forecasting"

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- 2007: Convegno Nazionale di Fisica della Terra Fluida e Problematiche Affini, Ischia, 11-15 June, Coordinator Section 1 "Microfisica Atmosferica, Fisica delle Nubi e dell'Aerosol Atmosferico".
- 2007: 9<sup>th</sup> EGU Plinius Conference on Mediterranean Storms, Varenna, Italy, 10-13 Sept.: Co-convener Session 1 "Climate Change & Extreme Events".
- 2008: EGU General Assembly, Vienna, 13-18 April: Co-convener Session "Precipitation: from measurement to modelling and application in catchment hydrology".
- 2008: 2008 EUMETSAT Meteorological Satellite Conference, Darmstadt, Germany, 8-12 Sept.: Member of the Scientific Programme Committee and Co-chair of the Session "Hydrometeorology".
- 2008: 10<sup>th</sup> EGU Plinius Conference on Mediterranean Storms, Nicosia, Cyprus, 22-24 Sept.: Co-convener Session 1 "Climate Change & Extreme Events".
- 2009: EGU General Assembly, Vienna, 19-24 April: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".
- 2009: ESA-EGU-ISPRS-GEWEX Conf on "EO and Water Cycle Science: Towards a Water Cycle Multi-Mission Observation Strategy", Frascati, 18-20 Nov. Member of the Int. Scientific Committee and Chairman of Session 1.1: Precipitation.
- 2010: EGU General Assembly, Vienna, 2-7 May: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".
- 2011: EGU General Assembly, Vienna, 3-8 April: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".
- 2012: EGU General Assembly, Vienna, 22-27 April: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".
- 2013: EGU General Assembly, Vienna, 7-12 April: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".
- 2014: EGU General Assembly, Vienna, 27 April – 2 May: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".
- 2014: 7<sup>th</sup> Int. Scientific Conf. on the Global Water and Energy Cycle, 14-17 July, The Hague. Member of Scientific Program Committee and Co-chair of Session "Land Precipitation and Drought: Observations, Modeling, Errors, and Uncertainty".
- 2014: EUMETSAT Meteorological Satellite Conference, 22-26 September: Member of the Scientific Program Committee.
- 2014: 7<sup>th</sup> Workshop of the International Precipitation Working Group, Tsukuba, 17-21 November. Chairman Session "Satellite program status".
- 2015: EGU General Assembly, Vienna, 12-17 April: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".
- 2016: EGU General Assembly, Vienna, 22-27 April: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".



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- 2016: 8<sup>th</sup> IPWG and 5<sup>th</sup> IWSSM Joint Workshop, Bologna, 3-7 October, Chair of Organizing Committee.
- 2017: EGU General Assembly, Vienna, 23-28 April: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".
- 2018: EGU General Assembly, Vienna, 8-13 April: Co-convener Session "Precipitation: Measurement, Climatology, Remote Sensing, and Modeling".
- 2019: 12<sup>th</sup> International Precipitation Conference, Irvine, CA, USA, 12-14 June: Member of the Organizing Committee.

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## LEADERSHIP AND/OR PARTICIPATION TO SCIENTIFIC PROJECTS

- 1996 - 1997: Coordinator of the Research Project “Deep convection in the alpine area: A combined approach by radar, satellite and heat and moisture fluxes” within CNR Strategic Project MAP-Mesoscale Alpine Programme.
- 1996 - present: Coordinator of Sub-Project “Deep convection, radiation balance and humidification of upper troposphere and stratosphere. A combined study using data from TRMM, METEOSAT, NOAA/AVHRR, SCArAB, weather radar and cloud modeling” financed by the Italian Space Agency within the Project “Hydrological Cycle”.
- 1996 - 1998: Vice-Coordinator (Coord. Dr. Claudio Tomasi) of the “Radiative transfer processes in the Antarctic troposphere” of the Italian Antarctic Research Programme.
- 1996 - 1999: Principal Investigator, EUROTRAC 2, Sub-Project PROCLLOUD.
- 1997 – 1998: Coordinator of the research project “Study of mid-latitude convective systems in the southern and northern hemisphere using radar and satellite data and cloud modeling” within the international bi-lateral agreement CNR - CONICET Argentina.
- 1998 - 2001: Coordinator of the Sub\_Project “Role of clouds, aerosol, water vapor and vegetation for the determination of the radiative balance” financed by the Italian Space Agency within the Project “GERB-SEVIRI synergy for the investigation of radiative balance at regional and global scale”.
- 1999: Coordinator of the project “Coordinamento delle misure al suolo nella Target Area del Lago Maggiore durante la campagna SOP” within CNR’s Strategic Project “MAP per il Periodo Speciale di Osservazioni MAP-SOP”.
- 1999 - 2001: Coordinator of the Project “Monitoraggio e modellazione di aerosol e nubi utilizzando i sensori ottici MMRS e HRTC del satellite SAC-C” funded by the Italian Space Agency.
- 1999 - 2002: Coordinator of the Project “Studio dei processi dinamico-microfisici della precipitazione con tecniche multispettrali e sviluppo di analisi per modelli ad area limitata” of CNR’s National Group for the Prevention of Hydrogeological Disasters (GNDCI).
- 1999 - present: Coordinator of the International Project “Use of the MSG SEVIRI channels in a combined SSM/I, TRMM and geostationary IR method for rapid updates of rainfall” of the European Space Agency (ESA) and EUMETSAT within the METEOSAT Second Generation Research Announcement of Opportunity (MSG-RAO). Project ID 152.
- 1999 - 2000: Coordinator of the Project “Improvement and validation of the GASP aerosol product” of the European Space Agency (ESA).
- 2001 – 2003: Coordinator of the European Commission 5<sup>th</sup> Framework Programme Project “European satellite rainfall analysis and monitoring at the geostationary scale – EURAINSAT”.
- 2001 – 2003: Partner of the European Commission 5<sup>th</sup> Framework Programme Project “Multi-sensor precipitation measurements integration calibration and flood forecasting – MUSIC”, coordinator Prof. Ezio Todini, Univ. of Bologna.

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- 2001 – 2002: Coordinator of the project “Multispectral satellite analysis of clouds and precipitation structure” within the International bi-lateral agreement CNR-MOS, Israel. Project with Hebrew University of Jerusalem (Prof. D. Rosenfeld).
- 2001 – 2002: Coordinator of the project “Atmospheric aerosol characterization from satellite: synergy between polar and geostationary platforms in the Korean area” within the International bi-lateral agreement CNR-KOSEF. Project with Seoul National University (Prof. Byung-Ju Sohn).
- 2002 – 2004: Partner of the European Commission 5<sup>th</sup> Framework Programme Project “Critical Assessment of Available Radar Precipitation estimation Techniques and development of innovative approaches for environmental management – CARPEDIEM”, coordinator Dr. Pier Paolo Alberoni, ARPA-SMR, Bologna.
- 2004 – 2007: Partner of the European Commission INTERREG Project “Risk Advance Forecasting System to advise on risk events and management – RISK-AWARE”, coordinator Dr. Pier Paolo Alberoni, ARPA-SMR, Bologna.
- 2005: Coordinator of the EUMETSAT contract “A microphysical retrieval package for cloud-aerosol interactions using MSG SEVIRI”.
- 2005 – 2007: Partner of the European Commission 6<sup>th</sup> Framework Programme Project “Anthropogenic Aerosol Triggering and Invigorating Severe Storms – ANTISTORM”, coordinator Prof. Daniel Rosenfeld, Hebrew University of Jerusalem, Israel.
- 2006 – 2007: Partner of the European Commission INTERREG III - ARCHIMED project on “Weather Risk Reduction in the Central and Eastern Mediterranean – RISKMED”, coordinator Prof. Aristides Bartzokas, Univ. of Ioannina.
- 2011 – 2012: Partner of the European Commission GMES Project “A collaborative project aimed at pre-validation of a GMES Global Water Scarcity Information Service – GLOWASIS”, coordinator Dr. Rogier Westerhoff, Deltares.
- 2013 – 2017: Partner and Leader of WP3 of the European Commission Collaborative Project “Global Earth Observation for integrated water resource assessment - earth2Observe”, coordinator Dr. Jaap Schellekens, Deltares.

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## TEACHING EXPERIENCE

- Oct. – Nov. 1988: Visiting Professor at the Consejo Nacional de Investigaciones Científica y Técnica (CONICET) and Facultad de Matematica, Astronomia y Fisica of the Universidad Nacional de Cordoba, Argentina. Series of lectures and seminars on cloud physics and meteorology within the bilateral research project CNR-CONICET.
- 1993: Lectures on satellite meteorology, radarmeteorology and nowcasting within the cycle of lectures on Atmospheric physical and Chemical Processes of the Institute FISBAT.
- 1998: Teacher at “Corso di Formazione” of the Regional Meteorological Service, Bologna, Apr. – May.
- 1998: Teacher at the Summer School “Tecniche Strumentali nella Fisica Ambientale Atmosferica”, I.S.I.At.A. – CNR, Castro Marina, Lecce, 14 –18 Sept. Lecture on “I satelliti e l’ambiente: aspetti scientifici e tecnologici”.
- 1999: Lecture at the Course on “Methodologies for Remote Sensing and Conventional Data Merging”, Florence, 8-18 Mar. Title: “Rainfall estimates from satellite data”.
- Academic year  
1999-2000: Contract Professor of Satellite Meteorology, Univ. of Urbino, Dept. of Environmental Sciences.
- 2003 – 2004: Professor of Satellite Meteorology and Member of the Scientific Committee of the Master in Applied Meteorology of the Univ. of Bologna.
- 2003 – 2006: Member of the Teaching Staff of the Master in Applied Meteorology of the Univ. of Florence.
- 1999 – 2004: Contract Professor for the Cloud Physics module (10 hours) within the Atmospheric Physics chair, Univ. of Bologna, Dept. of Physics.
- 2004 – present: Contract Professor of Cloud Physics (sector FIS/06), Univ. of Bologna, Dept. of Physics.
- 2012: Teacher and School Organizer at the CNR-ISAC Summer School “Severe Convective Weather: Theory and Applications”, Castro Marina, Lecce, 17-21 Sept. Lectures on “Satellites, Sensors and Meteorological Observations”.
- 2013: Teacher at the Alpine Summer School “Climate Change and the Mountain Environment”, CNR-ISAC, Course XXI, Valsavarenche, 18-21 Jun. Lecture on “Clouds and precipitation from space”.
- 2016: Teacher and School Organizer at the CNR-ISAC Summer School “Severe Convective Weather: Theory and Phenomenology”, Castro Marina, Lecce, 20-24 Giu. Lectures on “Radar and Satellite Sensing of Severe Weather”.

2018: Teacher and School Organizer at the CNR-ISAC Summer School "Precipitation: Remote Sensing and Modelling", Castro Marina, Lecce, 18-22 Giu. Lectures on "Precipitation Formation Mechanisms: Microphysics and Cloud Structure".

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## STUDENT ADVISING

### Doctor in Physics and Mathematics

1. Academic year 1986-1987 Elisabetta Etori, Doctor in Mathematics, Dept. of Mathematics, Univ. of Modena. Thesis: *Campi di flusso intorno a cristalli atmosferici e cattura aerodinamica di particelle*. Tutors: F. Zironi, F. Prodi and **V. Levizzani**.
2. Academic year 1988-1989 Leonardo Gasperoni. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Metodi di elaborazione di immagini da satellite per la caratterizzazione dei sistemi nuvolosi con particolare riferimento alla determinazione dei campi di vento*. Tutors: F. Mainardi, S. Rambaldi, **V. Levizzani** and F. Prodi.
3. Academic year 1990-1991 Paolo Mezzasalma. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Confronto fra stime di intensità di precipitazioni da satellite meteorologico e dati da rete di pluviometri*. Tutors: E. Verondini, F. Prodi, **V. Levizzani** and F. Porcù.
4. Academic year 1994-1995 Paolo Cavazzini. Doctor in Physics, Dept. of Physics, Univ. of Ferrara. Thesis: *Studio numerico di campi di flusso intorno a cristalli oscillanti*. Tutors: F. Prodi, **V. Levizzani** and F. Porcù.
5. Academic year 1996-1997 Roberta Amorati. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Analisi di sistemi precipitanti di tipo convettivo da radar e satelliti meteorologici*. Tutors: R. Rizzi, **V. Levizzani**, P. P. Alberoni and S. Nanni.
6. Academic year 1997-1998 Marianna Nardino. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Parameterizzazione della turbolenza alla superficie ai fini dello studio dei venti catabatici in Antartide*. Tutors: R. Rizzi, T. Georgiadis, **V. Levizzani** and R. Sozzi.
7. Academic year 1997-1998 Antonio Orsini. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Parametrizzazione dei flussi di radiazione solare ed infrarossa alla superficie in un sito antartico*. Tutors: R. Rizzi, T. Georgiadis, C. Tomasi and **V. Levizzani**.
8. Academic year 1997-1998 Roberta Pirazzini. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Studio della partizione dell'energia solare in Antartide*. Tutors: R. Rizzi, T. Georgiadis, **V. Levizzani** and M. Cervino.
9. Academic year 1998-1999 Samantha Melani. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Trasferimento radiativo in atmosfera nuvolosa: modellistica per l'interpretazione delle osservazioni satellitari nel visibile e nell'infrarosso*. Tutors: R. Rizzi, M. Cervino and **V. Levizzani**.
10. Academic year 1999-2000 Maria Stefania Tesini. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Analisi dell'impatto dei dati da remote sensing nell'analisi alla mesoscala*. Tutors: R. Rizzi, P. P. Alberoni and **V. Levizzani**.
11. Academic year 2000-2001 Gian Luca Mercoli. Doctor in Physics, Dept. of Physics, Univ. of Milan. Thesis: *Simulazione delle radianze nelle bande spettrali del visibile, vicino infrarosso e infrarosso del sensore SEVIRI a bordo di METEOSAT Second Generation in presenza di nubi per la meteorologia ed il clima*. Tutors: R. Pozzoli, E. Cattani, S. Melani and **V. Levizzani**.
12. Academic year 2001-2002 Claudia Galli. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Bilanci superficiali di radiazione in dipendenza dalla copertura nuvolosa*. Tutors: R. Rizzi, T. Georgiadis, **V. Levizzani**, and M. Nardino.
13. Academic Year 2002-2003 Miria Celano. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Stime di precipitazione da satellite mediante tecniche miste microonde/infrarosso ad aggiornamento rapido*. Tutors: R. Rizzi, F. Torricella, and **V. Levizzani**.
14. Academic year 2002-2003 Michele Galletti. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Caratterizzazione microfisica di nubi mediante radar polarimetrico e sensori satellitari multispettrali*. Tutors: R. Rizzi, P. P. Alberoni, **V. Levizzani**.

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15. Academic year 2003-2004 Virginia Poli. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *La misura della precipitazione da satellite sull'area del Mediterraneo: aspetti fisici e problematiche applicative connesse all'uso di un algoritmo globale*. Tutors: R. Rizzi, F. Torricella, **V. Levizzani**.
  16. Academic year 2003-2004 Andrea Cucchi. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Caratteristiche microfisiche delle nubi nelle bande spettrali dei sensori satellitari di nuova generazione*. Tutors: R. Rizzi, E. Cattani, and **V. Levizzani**.
  17. Academic year 2004-2005 Laura Zamboni. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Studio di sistemi convettivi sull'Europa basato su osservazioni Meteosat nell'infrarosso termico*. Tutors: R. Rizzi, **V. Levizzani**.
  18. Academic year 2005-2006 Matteo Masotti. Doctor in Atmospheric Physics and Meteorology, Dept. of Physics, Univ. of Bologna. Thesis: *Climatologia delle precipitazioni estive sull'Europa*. Tutors: **V. Levizzani**, R. Ginnetti, S. Melani, M. Pasqui.
  19. Academic year 2007-2008 Caterina Fiore. Doctor in Atmospheric Physics and Meteorology, Dept. of Physics, Univ. of Bologna. Thesis: *Caratterizzazione del ciclo diurno della precipitazione convettiva del monsone africano (phase locked precipitation)*. Tutors: **V. Levizzani**, M. Pasqui, S. Melani.
  20. Academic year 2007-2008 Anna Zanchetta. Dottore in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Variazione della concentrazione di ozono a Monte Cimone (2165 m slm) durante eventi di ondate di calore*. Tutors: **V. Levizzani**, P. Bonasoni, P. Cristofanelli.
  21. Academic year 2008-2009 Francesco Marra. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Misura della precipitazione da satellite mediante un nuovo algoritmo a 183 GHz*. Tutors: **V. Levizzani**, S. Laviola.
  22. Academic year 2008-2009 Franco Laudanna Del Guerra. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Assimilazione di dati da radar meteorologico nel modello alla mesoscala COSMO*. Tutors: **V. Levizzani**, A. Rossa.
  23. Academic year 2008-2009 Andrea De Bellis. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Climatologia e variabilità interannuale della neve sull'Appennino Emiliano-Romagnolo*. Tutors: **V. Levizzani**, V. Pavan.
  24. Academic year 2009-2010 Stefania D'Aurizio. Doctor in Physics, Dept. of Physics, Univ. of Bologna. Thesis: *Sviluppo di un algoritmo per la stima della precipitazione nevosa nelle microonde ad alta frequenza da satellite*. Tutors: **V. Levizzani**, S. Laviola.
  25. Academic year 2009-2010 Elisa Dell'Oro. Doctor in Physics, Univ. of Bologna. Thesis: *Variabilità della precipitazione mensile globale del dataset GPCP versione 2.1*. Tutors: **V. Levizzani**, S. Corti.
  26. Academic year 2011-2012 Claudia Acquistapace. Doctor in Physics, Univ. of Bologna. Thesis: *Satellite-based VIS/IR Multispectral screening of precipitating clouds: A case study during summer at mid-latitudes*. Tutors: **V. Levizzani**, E. Cattani.
  27. Academic year 2011-2012 Alice Malvaldi. Doctor in Physics, Univ. of Bologna. Thesis: *Cicloni di tipo tropicale nel Mediterraneo: Analisi combinata da satellite e modello*. Tutors: **V. Levizzani**, S. Laviola, M. M. Miglietta.
  28. Academic year 2012-2013 Leonardo Porcacchia. Doctor in Physics, Univ. of Bologna. Thesis: *Studio di sistemi precipitanti con radar polarimetrico in banda C e disdrometro a microonde*. Tutors: **V. Levizzani**, F. Prodi, P. P. Alberoni.
  29. Academic year 2012-2013 Massimo Valeri. Doctor in Physics, Univ. of Bologna. Thesis: *Analisi satellitare della struttura fisica di un ciclone di tipo tropicale sul Mediterraneo*. Tutors: **V. Levizzani**, S. Laviola, M. M. Miglietta.
  30. Academic year 2014-2015 Diego Cerrai. Doctor in Physics of the Earth System, Univ. of Bologna. Thesis: *Moisture and vorticity in Medicanes: Theoretical approach and case studies*. Tutors: **V. Levizzani**, S. Laviola, M. M. Miglietta, E. Cattani.

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31. Academic year 2014-2015 Agostino Rappazzo. Doctor in Physics of the Earth System, Univ. of Bologna. Thesis: *Characterisation and calibration of optical counters for airborne particulate matter*. Tutors: **V. Levizzani**, F. Belosi, F. Ravegnani.
  32. Academic year 2014-2015 Francesca Vittorioso. Doctor in Physics, Univ. of Bologna. Thesis: *An inter-comparison between a VIS/IR and a MW satellite-based method for cloud detection and classification*. Tutors: **V. Levizzani**, E. Cattani, S. Laviola.
  33. Academic year 2015-2016 Giulio Monte. Doctor in Physics, Univ. of Bologna. Thesis: *Analisi modellistica di un intenso ciclone tropicale nel Mediterraneo (7-8 novembre 2014): predicibilità, caratteristiche termodinamiche e confronto con osservazioni da satellite*. Tutors: **V. Levizzani**, S. Davolio, M. M. Miglietta.
  34. Academic year 2015-2016 Matteo Piazza. Doctor in Physics, Univ. of Bologna. Thesis: *Particelle di cellulosa come nuclei di ghiacciamento in nube*. Tutors: **V. Levizzani**, F. Belosi.
  35. Academic year 2015-2016 Matteo Ponzano. Doctor in Physics, Univ. of Bologna. Thesis: *Simulazione della risposta dei radiometri satellitari nelle microonde AMSU-B e MHS per il retrieval della precipitazione nevosa e studio di sensibilità dell'algoritmo 183-WSL*. Tutors: **V. Levizzani**, S. Laviola.
  36. Academic year 2017-2018 Paolo Pettinari. Doctor in Physics, Univ. of Bologna. Thesis: *Studio di sensibilità dei sensori MHS, ATMS, GMI, SSMIS e sviluppo di un algoritmo prototipale per il retrieval del vapore acqueo*. Tutors: **V. Levizzani**, S. Laviola, A. Tiesi.
  37. Academic year 2019-2020 Laura Renzi. Doctor in Physics, Univ. of Bologna. Thesis: *Characterization of atmospheric aerosol absorption properties at different sites in the Po Valley during ACTRIS-2 experiment*. Tutors: **V. Levizzani**, A. Marinoni, A. Lupi.
  38. Academic year 2019-2020 Stefano Della Fera. Doctor in Physics, 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, S. Laviola, M. M. Miglietta.



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Batchelor Degree in Atmospheric Physics and Meteorology

1. Academic year 2003-2004 Cristian Rendina. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *La struttura dei temporali convettivi estremi e la generazione del tornado*. Tutor: **V. Levizzani**.
2. Academic year 2003-2004 Stefania Torlai. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Fenomeni convettivi intensi in Emilia-Romagna*. Tutor: **V. Levizzani**.
3. Academic year 2005-2006 Michele Ramazza. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Utilizzo del radar meteorologico nel nowcasting*. Tutors: **V. Levizzani**, P. P. Alberoni e V. Poli.
4. Academic year 2005-2006 Francesco Venturi. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Retrieval di proprietà microfisiche delle nubi mediante tecniche satellitari multispettrali*. Tutors: **V. Levizzani**, e E. Cattani.
5. Academic year 2005-2006 Matteo Giovanardi. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Stima delle precipitazioni da satelliti meteorologici*. Tutors: **V. Levizzani**, e F. Torricella.
6. Academic year 2005-2006 Marco Lolli. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Stima delle precipitazioni da radar meteorologico*. Tutors: **V. Levizzani**, P. P. Alberoni e A. Fornasiero.
7. Academic year 2005-2006 Luca Grazi. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *La struttura del temporale*. Tutor: **V. Levizzani**.
8. Academic year 2005-2006 Elisa Dell'Oro. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Studio di fattibilità per la realizzazione di una griglia ad alta risoluzione di precipitazioni totali mensili sull'Italia per gli ultimi due secoli*. Tutors: **V. Levizzani**, e M. Brunetti.
9. Academic year 2006-2007 Giacomo Barbaro Forleo. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Il tornado: meccanismi di formazione e tecniche osservative*. Tutor: **V. Levizzani**.
10. Academic year 2006-2007 Stefania D'Aurizio. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *I temporali grandinigeni*. Tutor: **V. Levizzani**.
11. Academic year 2006-2007 Sara Gardini. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Osservazioni satellitari delle interazioni aerosol-nubi e loro influenza sulla precipitazione*. Tutor **V. Levizzani**.
12. Academic year 2007-2008 Matteo Carati. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Dinamica e struttura dei sistemi frontali: "Il fronte freddo"*. Tutors: **V. Levizzani** e E. Tosi.
13. Academic year 2007-2008 Elisabetta Pagano. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Fenomenologia dei tornado nella penisola Salentina*. Tutors: **V. Levizzani** e M. M. Miglietta.
14. Academic year 2008-2009 Paolo Bellantone. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Aerosol e nubi precipitanti: lo stato attuale di verifica della teoria Rosenfeld*. Tutor: **V. Levizzani**.
15. Academic year 2008-2009 Alberto Gasparini. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Inseminazione delle nubi: Stato della ricerca e prospettive operative*. Tutor: **V. Levizzani**.
16. Academic year 2009-2010 Jessica Dall'Anese. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Analisi multisensore di temporali sull'Emilia-Romagna*. Tutors: **V. Levizzani**, P. P. Alberoni.

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17. Academic year 2009-2010 Michele Cicoria. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Prima validazione di una maschera di copertura nevosa nelle microonde ad alta frequenza*. Tutors: **V. Levizzani**, S. Laviola.
  18. Academic year 2009-2010 David Fibbi. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Utilizzo di dati satellitari nell'analisi di eventi di precipitazione intensa*. Tutors: **V. Levizzani**, S. Laviola, D. Conte, M. M. Miglietta.
  19. Academic year 2009-2010 Massimo Valeri. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Stima della precipitazione nevosa da satellite*. Tutors: **V. Levizzani**, S. Laviola.
  20. Academic year 2009-2010 Mauro Bianconi. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Utilizzo delle microonde ad alta frequenza per la stima della precipitazione*. Tutors: **V. Levizzani**, S. Laviola.
  21. Academic year 2009-2010 Andrea Costantini. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *La previsione di eventi meteorologici significativi e la sua percezione da parte dell'utilizzatore finale*. Tutors: E. Tosi, **V. Levizzani**.
  22. Academic year 2009-2010 Alessandro Maffioli. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Caratterizzazione delle nubi e formazione delle idrometeore mediante sensori satellitari di ultima generazione*. Tutors: **V. Levizzani**, E. Cattani, S. Laviola.
  23. Academic year 2009-2010 Andrea Chini. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Analisi della supercella del 12 agosto 2010*. Tutors: **V. Levizzani**, M. Celano.
  24. Academic year 2010-2011 Maura Mondaini. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Osservazione delle perturbazioni chimiche indotte da sprite in alta atmosfera*. Tutors: **V. Levizzani**, E. Arnone, B. M. Dinelli.
  25. Academic year 2010-2011 Davide Magurno. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Identificazione e localizzazione dei fulmini tramite sistemi automatici*. Tutor: **V. Levizzani**.
  26. Academic year 2010-2011 Manuele Morgagni. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Analisi di eventi di precipitazione intensa collegati a temporali auto-rigeneranti*. Tutors: **V. Levizzani**, E. Tosi.
  27. Academic year 2010-2011 Carlotta Brunetti. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *La concentrazione di PM2.5 a Bologna e provincia: Analisi annuale da sett. 2009 ad ago. 2010*. Tutors: **V. Levizzani**, M. Caporaloni.
  28. Academic year 2011-2012 Carlo Arosio. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Gli indici di instabilità atmosferica da satellite: Uno strumento per il nowcasting*. Tutors: **V. Levizzani**, R. Rizzi.
  29. Academic year 2011-2012 François V. Rocco. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Propagazione del suono in atmosfera e relativi effetti sull'uomo e l'ambiente*. Tutors: **V. Levizzani**, M. Caporaloni.
  30. Academic year 2011-2012 Jacopo Alessandri. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *I cicloni di tipo tropicale sul Mediterraneo*. Tutors: **V. Levizzani**, S. Laviola.
  31. Academic year 2011-2012 Luca Lai. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Eventi di precipitazione intensa sulla Sardegna, 1950-1999*. Tutors: **V. Levizzani**, P. Boi.
  32. Academic year 2012-2013 Mario Corbani. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Identificazione delle nubi mediante sensori satellitari nel VIS-NIR-IR*. Tutors: **V. Levizzani**, E. Cattani, E. Castelli.

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33. Academic year 2012-2013 Elena Billia. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Temporali convettivi estremi e pattern sinottici*. Tutors: E. Tosi, **V. Levizzani**, F. Stel.
  34. Academic year 2012-2013 Daniele D'Alessandro. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *La classificazione delle nubi tra passato, presente e futuro*. Tutor: **V. Levizzani**.
  35. Academic year 2012-2013 Davide Santini. Degree in Physics, Dept. of Physics, Univ of Bologna. Thesis: *Struttura nuvolosa del temporale*. Tutor: **V. Levizzani**.
  36. Academic year 2012-2013 Francesco Barbano. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *La struttura elettrica delle nubi temporalesche*. Tutors: **V. Levizzani**, S. Dietrich.
  37. Academic year 2012-2013 Matteo Ponzano. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Misura della copertura nevosa in ambiente montano nel nord Italia*. Tutor: **V. Levizzani**.
  38. Academic year 2012-2013 Giacomo Pincini. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *La struttura dei medicane*. Tutor: **V. Levizzani**.
  39. Academic year 2012-2013 Francesco Paolo Saponaro. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Sviluppo di celle temporalesche e assistenza al volo*. Tutor: **V. Levizzani**.
  40. Academic year 2013-2014 Ascanio Luigi Scambiati. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Analisi di tre eventi di precipitazione intensa su Liguria e Calabria*. Tutor: **V. Levizzani**.
  41. Academic year 2013-2014 Giulio Mucci. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *L'attività elettrica nei cicloni tropicali e di tipo tropicale*. Tutors: **V. Levizzani**, S. Laviola.
  42. Academic year 2013-2014 Lorenzo Smorlesi. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *I Medicane – Cicloni di tipo tropicale*. Tutors: **V. Levizzani**, S. Laviola.
  43. Academic year 2013-2014 Matteo Chiodi. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *Precipitazioni nevose in Emilia-Romagna: L'evento intenso del febbraio 2012*. Tutors: **V. Levizzani**, V. Pavan.
  44. Academic year 2013-2014 Giuseppe Mucci. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *I temporali autorigeneranti: Gli eventi di Genova del 2011 e del 2014 a confronto*. Tutor: **V. Levizzani**.
  45. Academic year 2013-2014 Alessio Martini. Degree in Atmospheric Physics and Meteorology, Dept. of Physics, Univ of Bologna. Thesis: *L'evento tornadico del maggio 2013 sull'Emilia*. Tutors: **V. Levizzani**, P. P. Alberoni.
  46. Academic year 2014-2015 Veronica Masi. Degree in Physics, Dept. of Physics, Univ of Bologna. Thesis: *Aspetti fondamentali dell'interazione tra la radiazione nelle microonde e le nubi nell'osservazione satellitare*. Tutors: **V. Levizzani**, S. Laviola.

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Ph.D.

1. 1999 – 2004: Maria João Costa. Dept. of Physics, Univ. of Evora, Evora, Portugal. Thesis: *Clouds, aerosol and minor gases satellite remote sensing: monitoring and modeling using passive radiometers*. Advisors: A. M. Da Silva and **V. Levizzani**.
2. 2002 – 2006: Sara Poluzzi. Dept. of Earth and Geo-Environmental Sciences, Univ. of Bologna, Italy. Thesis: *Validation of a satellite-based rainfall estimation algorithm using ground-based measurements*. Advisors: E. Todini and **V. Levizzani**.
3. 2007 – 2010: Francesca Pinelli. Dept. of Earth and Geo-Environmental Sciences, Univ. of Bologna, Italy. Thesis: *Cold cloud climatology over Europe and the Mediterranean during the warm season from Meteosat IR imagery*. Advisors: **V. Levizzani** and R. Rizzi.
4. 2008 – 2012: Massimiliano Pasqui. Dept. of Earth and Geo-Environmental Sciences, Univ. of Bologna, Italy. Thesis: *The role of the West African Monsoon in the tropical to mid-latitudes climate system*. Advisors: R. Rizzi and **V. Levizzani**.