

VINCENZO LEVIZZANI

WORK ADDRESS:

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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 services 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 aerosols, CO₂ and O₃ monitoring for the local baseline station of the World Meteorological Organization (WMO).

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- 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 – Dec. 2005: Senior scientist at the Istituto di Scienze dell'Atmosfera e del Clima (ISAC) of CNR in Bologna.
- Dec. 2005 – present: Director of Research at the Istituto di Scienze dell'Atmosfera e del Clima (ISAC) of CNR in Bologna.

AREAS OF RESEARCH INTEREST:

- ✓ Satellite multispectral studies of cloud top structure.
- ✓ Cloud physics studies of severe storms using radar and satellite techniques.
- ✓ Satellite rainfall estimations using combined VIS/IR and MW techniques.
- ✓ Earth radiation budget definition using satellite and ground-based instruments.
- ✓ Development of mesoscale analysis techniques including remote sensing data.
- ✓ Studies of long-distance aerosol transport using satellite instruments.

MEMBERSHIPS IN SCHOLARLY SOCIETIES:

- American Meteorological Society (member).
American Geophysical Union (member).
Associazione Italiana Telerilevamento (member).
European Geosciences Union (member).
Royal Meteorological Society (fellow).

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: Co-chairman with Prof. K. Browning of the Applications Expert Group (AEG) on Nowcasting and Very Short Range Forecasting for EUMETSAT next geostationary satellite programme.
- 2001 – 2004: Co-chairman with Dr. Arnold Gruber 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 – present: 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 – present: Member of the Working Group on Satellite Matters of WMO-WCRP.
- 2004 – present: 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 – present: 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.

2011 – present Member of the GEWEX Hydroclimatology Panel.

National:

May 1994 –
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 –
Oct. 1999: Head of FISBAT's (ISAO after Jan. 1999) Computing Department. Responsible for coordinating computing technology and networking.

May 1992 –
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.

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*
- IEEE Geoscience and Remote Sensing Letters*
- IEEE Transactions on Geoscience and Remote Sensing*
- International Journal of Environment and Pollution*
- Journal of Atmospheric and Oceanic Technology*
- Journal of Applied Meteorology (and Climatology)*
- Journal of Geophysical Research*
- Journal of Hydrometeorology*
- Meteorology and Atmospheric Physics*
- Monthly Weather Review*
- Remote Sensing of Environment*
- Tellus*

Editorial activities in international journals:

- Editorial board of *Aerobiologia* – International Journal of Aerobiology (1989-1992; 2001).
- Associate Editor of *Aerobiologia* – International Journal of Aerobiology (2005- 2009).
- Founder and Co-Chief Editor of *Physical Aerobiology* an international scientific World Wide Web journal (1997-2000).
- Member of the Scientific Committee of the scientific – technical series *Polar Atmospheres* of the Italian Antarctic Research Programme (2000 – present).
- Editorial Board of *Rivista Italiana di Telerilevamento* (2008 – present).
- Associate Editor of *Atmospheric Research* (2010 – 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 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).
- 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).

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- ❑ 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, 2010).

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.
- ❑ Member of the international committee for a promotion to Senior Research Scientist, Center for Space Research, Univ. of Texas at Austin, USA.
- ❑ Member of the international committee for a promotion to Senior Lecturer, School of Geography and Environmental Sciences, Univ. of Birmingham, UK.
- ❑ Member of the international committee for a promotion to Senior Lecturer, Dept. of Geography, Univ. of Sussex, UK.
- ❑ Member of the international committee for Senior Lecturer position, Dept. of Geography, Univ. of Otago, NZ.
- ❑ 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.
- ❑ Reviewer for the position of Chief, Space-based Observing Systems, WMO.
- ❑ Member of the international committee for Lecturer position, Dept. of Geography, Bar-Ilan University, Ramat Gan, Israel.
- ❑ 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).

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 6th 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 1st Post-MSG User Consultation Workshop", Darmstadt, 13-15 Nov.: Member of Organizing Committee and Chairman Session 4.
- 2002: "SPIE's 3rd 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: "1st 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: 14th International Conference on Clouds and Precipitation, Bologna, 18 – 23 Jul.: Deputy Chair and Chairman of Session S1.1 "Aerosol-cloud interactions"
- 2005: 7th Plinius Conference on Mediterranean Storms, Rethymnon, Crete, 5-7 Oct.: Member of 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: 9th 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: 10th 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".

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".

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- 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 (GNDCl).
- 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 5th Framework Programme Project “European satellite rainfall analysis and monitoring at the geostationary scale – EURAINSAT”.
- 2001 – 2003: Partner of the European Commission 5th Framework Programme Project “Multi-sensor precipitation measurements integration calibration and flood forecasting – MUSIC”, coordinator Prof. Ezio Todini, Univ. of Bologna.
- 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 5th 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 6th 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.

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.
- 2000” Teacher at the “Int. Summer School on Atmos. and Oceanic Sci., Remote Sensing of Atmosphere and Ocean from Space - Models, Instruments and Techniques”, ISSAOS 2000, L’Aquila, 4-8 Sept.
- 2005: Teacher at the “Int. Summer School on Atmos. and Oceanic Sci., Remote Sensing of Atmosphere and Ocean from Space - Hydrologic Modelling: Coupling of the Atmosphere and Hydrologic Models”, ISSAOS 2005, L’Aquila, 29 Aug - 2 Sept.
- 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 (40500, sector FIS/06, 40 hours), Univ. of Bologna, Dept. of Physics.

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 monzone 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.

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.

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 – present: 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 midlatitudes climate system*. Advisors: **V. Levizzani** and R. Rizzi.

PAPERS IN REFEREED JOURNALS:

1. Rasmussen, R. M., **V. Levizzani**, and H. R. Pruppacher, 1982: A numerical study of the heat transfer through a fluid layer with recirculating flow between concentric and eccentric spheres. *Pageoph*, **120**, 702-720.
2. Rasmussen, R. M., **V. Levizzani**, and H. R. Pruppacher, 1984: A wind tunnel and theoretical study on the melting behavior of atmospheric ice particles. II: a theoretical study for frozen drops of radius < 500 μm . *J. Atmos. Sci.*, **41**, no.3, 374-380.
3. Rasmussen, R. M., **V. Levizzani**, and H. R. Pruppacher, 1984: A wind tunnel and theoretical study on the melting behavior of atmospheric ice particles. III: experiment and theory for spherical ice particles of radius > 500 μm . *J. Atmos. Sci.*, **41**, no.3, 381-388.
4. Prodi, F., **V. Levizzani**, M. Sentimenti, T. Colombo, V. Cundari, T. Zanzu, and V. Juliano, 1984: Measurements of atmospheric turbidity from a network of sun-photometers in Italy during ALPEX. *J. Aerosol. Sci.*, **15**, no.5, 595-613.
5. Rasmussen, R. M., C. Walcek, H. R. Pruppacher, S. K. Mitra, J. K. Lew, **V. Levizzani**, P. K. Wang, and U. Barth, 1985: A wind tunnel investigation of the effect of an external, vertical electric field on the shape of electrically uncharged rain drops. *J. Atmos. Sci.*, **42**, no.15, 1647-1652.
6. Prodi, F., L. Levi, and **V. Levizzani**, 1986: Ice accretion on fixed cylinders. *Quart. J. R. Meteor. Soc.*, **112**, 1091-1109.
7. **Levizzani, V.**, and F. Prodi, 1988: Atmospheric effects of the El Chichón volcanic eruption observed by a multiwavelength sun-photometer: 1982-1985. *J. Geophys. Res.*, **93**, no.D5, 5277-5286.
8. **Levizzani, V.**, A. Boscolo Boscoletto, and F. Prodi, 1989: Three-dimensional single Doppler radar analysis of an occluded front. *Il Nuovo Cimento*, **12 C**, no. 2, 231-249.
9. Gambarelli, A., **V. Levizzani**, and P. Mandrioli, 1989: POLKEY: an expert system for the identification of pollen grains. *Aerobiologia*, **5**, no.1, 17-29.
10. **Levizzani, V.**, F. Porcú, and F. Prodi, 1990: Operational rainfall estimation using METEOSAT Infrared imagery: an application in Italy's Arno river basin-Its potential and drawbacks. *ESA J.*, **14**, no.3, 313-323.
11. Porcú, F., and **V. Levizzani**, 1992: Cloud classification using METEOSAT VIS-IR imagery. *Int. J. Remote Sensing*, **13**, 893-909.
12. Prodi, F., **V. Levizzani**, G. Santachiara, G. Carboni, A. Ventura, and G. Ravasini, 1992: Aerosol particle characterization during PACEX. *J. Aerosol Sci.*, **23**, Suppl.1, S957-S960.
13. **Levizzani, V.**, and M. Setvák, 1996: Multispectral, high-resolution satellite observations of plumes on top of convective storms. *J. Atmos. Sci.*, **53**, 361-369.
14. **Levizzani, V.**, F. Porcú, F. S. Marzano, A. Mugnai, E. A. Smith, and F. Prodi, 1996: Investigating a SSM/I microwave algorithm to calibrate METEOSAT infrared instantaneous rainrate estimates. *Meteorol. Appl.*, **3**, 5-17.
15. **Levizzani, V.**, A. Ariatti and P. Mandrioli, 1997: WWW and the aerobiologist: Operating instructions. *Aerobiologia-Int. J. of Aerobiology*, **14**, 303-308.
16. Cervino, M., **V. Levizzani**, C. Serafini, A. Bartoloni, M. Mochi, P. Colandrea, and B. Greco, 1998: Cloud detection with GOME: Cloud fraction within GOME footprint using a refined cloud clearing algorithm. *Adv. Space Res.*, **25(5)**, 993-996.
17. Amorati, R., P. P. Alberoni, **V. Levizzani**, and S. Nanni, 2000: IR-based satellite and radar rainfall estimates of convective storms over Northern Italy. *Meteorol. Appl.*, **7**, 1-18.

18. Orsini, A., F. Calzolari, T. Georgiadis, **V. Levizzani**, M. Nardino, R. Pirazzini, R. Rizzi, R. Sozzi, and C. Tomasi, 2000: Parameterisation of surface radiation flux at an Antarctic site. *Atmos. Res.*, **54**, 245-261.
19. Costa, S., P. Mezzasalma, P. P. Alberoni, and **V. Levizzani**, 2000: Mesoscale and radar analysis of the 30 June 1998 supercell. *Phys. Chem. Earth B*, **25**, 1289-1292.
20. Alberoni, P. P., **V. Levizzani**, R. Watson, A. Holt, S. Costa, and S. Nanni, 2000: The 18 June 1997 companion supercells: Multiparametric Doppler radar analysis. *Meteor. Atmos. Phys.*, **75**, 101-120.
21. Costa, S., P. Mezzasalma, **V. Levizzani**, P. P. Alberoni, and S. Nanni, 2001: Deep convection over Northern Italy: synoptic and mesoscale processes. *Atmos. Res.*, **56**, 73-78.
22. Torricella, F., E. Cattani, M. Cervino, **V. Levizzani**, and M. J. Costa, 2001: Simulations of time-coincident, co-located measurements from ENVISAT-1 instruments for the characterization of tropospheric aerosol: a sensitivity study including cloud contamination effects. *Atmos. Sci. Lett.*, **1**, 115-124.
23. **Levizzani, V.**, J. Schmetz, H. J. Lutz, J. Kerkmann, P. P. Alberoni, and M. Cervino, 2001: Precipitation estimations from geostationary orbit and prospects for METEOSAT Second Generation. *Meteorol. Appl.*, **8**, 23-41.
24. Georgiadis, T., M. Nardino, F. Calzolari, **V. Levizzani**, J. B. Ørbæk, S. Claes, and R. Pirazzini, 2001: Radiation and turbulence parameterizations at Ny-Ålesund, Svalbard Islands. *Mem. Natl. Inst. Polar Res. Japan*, **54**, 125-131.
25. Nardino, M., U. Bonafè, F. Calzolari, T. Georgiadis, **V. Levizzani**, A. Orsini, F. Ravegnani, and G. Trivellone, 2002: Recent results from the Arctic Radiation and Turbulence Interaction Study (ARTIST) project. *Il Nuovo Cimento*, **25 C**, 219-232.
26. Costa, M. J., M. Cervino, E. Cattani, F. Torricella, **V. Levizzani**, A. M. Silva, and S. Melani, 2002: Aerosol characterization and optical thickness retrievals using GOME and METEOSAT satellite data. *Meteor. Atmos. Phys.*, **81**, 289-298.
27. Melani, S., E. Cattani, **V. Levizzani**, M. Cervino, F. Torricella, and M. J. Costa, 2003: Radiative effects of simulated cirrus clouds on top of a deep convective storm in METEOSAT Second Generation SEVIRI channels. *Meteor. Atmos. Phys.*, **83**, 109-122.
28. **Levizzani, V.**, 2003: Satellite rainfall estimates: new perspectives for meteorology and climate from the EURAINSAT project. *Annals of Geophysics*, **46**, 363-372.
29. Melani, S., E. Cattani, F. Torricella, and **V. Levizzani**, 2003: Characterization of plumes on top of a deep convective storm using AVHRR imagery and radiative transfer simulations. *Atmos. Res.*, **67-68**, 485-499.
30. Setvák, M., R. M. Rabin, C. A. Doswell III, and **V. Levizzani**, 2003: Satellite observations of convective storm top features in the 1.6 and 3.7/3.9 μm spectral bands. *Atmos. Res.*, **67-68**, 607-627.
31. Costa, M. J., A. M. Silva, and **V. Levizzani**, 2003: Aerosol characterization and direct radiative forcing estimation over the ocean from satellite observations. *J. Aerosol Sci.*, **33**, S1115-S1116.
32. Orlandi, A., A. Ortolani, F. Meneguzzo, F. Torricella, **V. Levizzani**, and F. J. Turk, 2004: Rainfall assimilation in RAMS by means of the Kuo parameterisation inversion: method and preliminary results. *J. Hydrology*, **288**, 20-35.
33. Tapiador, F. J., C. Kidd, **V. Levizzani**, and F. S. Marzano, 2004: A neural networks-based PMW-IR fusion technique to derive half hourly rainfall estimates at 0.1° resolution. *J. Appl. Meteor.*, **43**, 576-594.
34. Rosenfeld, D., E. Cattani, S. Melani, and **V. Levizzani**, 2004: Considerations on daylight operation of 1.6 μm vs. 3.7 μm channels on NOAA and METOP satellites. *Bull. Amer. Meteor. Soc.*, **85**, 873-881.

35. Galli, C., M. Nardino, **V. Levizzani**, R. Rizzi, and T. Georgiadis, 2004: Radiative energy partition and cloud radiative forcing at a Po valley site. *Atmos. Res.*, **72**, 329-351.
36. Tapiador, F. J., C. Kidd, **V. Levizzani**, and F. S. Marzano, 2004: A maximum entropy approach to satellite Quantitative Precipitation Estimation (QPE). *Int. J. Remote Sensing*, **25**, 4629-4639.
37. Costa, M. J., A. M. Silva, and **V. Levizzani**, 2004: Aerosol characterization and direct radiative forcing assessment over the ocean. Part I: Methodology and sensitivity analysis. *J. Appl. Meteor.*, **43**, 1799-1817.
38. Costa, M. J., **V. Levizzani**, and A. M. Silva, 2004: Aerosol characterization and direct radiative forcing assessment over the ocean. Part II: Application to test cases and validation. *J. Appl. Meteor.*, **43**, 1818-1833.
39. Galletti, M., P. P. Alberoni, **V. Levizzani**, and M. Celano, 2005: Assessment and tuning of the behaviour of a microphysical characterization scheme. *Adv. Geosci.*, **2**, 145-150.
40. Marzano, F. S., D. Cimini, E. Coppola, M. Verdecchia, **V. Levizzani**, F. Tapiador, and F. J. Turk, 2005: Satellite radiometric remote sensing of rainfall fields: multi-sensor retrieval techniques at geostationary scale. *Adv. Geosci.*, **2**, 267-272.
41. **Levizzani, V.**, R. Ginnetti, A. G. Laing, and R. E. Carbone, 2006: Warm season precipitation climatology: first European results. *Adv. Geosci.*, **7**, 15-18.
42. Torricella, F., E. Cattani, and **V. Levizzani**, 2006: Exploitation of cloud top characterization from three-channel IR measurements in a physical PMW rain retrieval algorithm. *Adv. Geosci.*, **7**, 19-23.
43. Costa, M. J., B.-J. Sohn, **V. Levizzani**, and A. M. Silva, 2006: Radiative forcing of Asian dust determined from the synergized GOME and GMS satellite data – A case study. *J. Meteor. Soc. Japan*, **84**, 85-95.
44. Celano, M., P. P. Alberoni, **V. Levizzani**, and A. R. Holt, 2006: Analysis of severe convective events from two operational dual polarisation Doppler radars. *Nat. Hazards Earth Syst. Sci.*, **6**, 397-405.
45. Cattani, E., M. J. Costa, F. Torricella, **V. Levizzani**, and A. M. Silva, 2006: Influence of the aerosol particles from biomass burning on cloud microphysical properties and radiative forcing. *Atmos. Res.*, **82**, 310-327.
46. Laing, A. G., R. E. Carbone, **V. Levizzani**, and J. Tuttle, 2008: The propagation and diurnal cycles of deep convection in northern tropical Africa. *Quart. J. Roy. Meteor. Soc.*, **134**, 93-109.
47. Torricella, F., E. Cattani, and **V. Levizzani**, 2008: Rain area delineation by means of multispectral cloud characterization from satellite. *Adv. Geosci.*, **17**, 43-47.
48. Kidd, C., **V. Levizzani**, F. J. Turk, and R. R. Ferraro, 2009: Satellite precipitation measurements for water resource monitoring. *J. Amer. Water Resources Ass.*, **45**, 567-579.
49. Turk, F. J., B.-J. Sohn, H.-J. Oh, E. E. Ebert, **V. Levizzani**, and E. A. Smith, 2009: Validating a rapid-update satellite precipitation analysis across telescoping space and time scales. *Meteor. Atmos. Phys.*, **105(1-2)**, 99-108.
50. Kidd, C., **V. Levizzani**, and P. Bauer, 2009: A review of satellite meteorology and climatology at the start of twenty-first century. *Progr. Phys. Geog.*, **33(4)**, 474-489.
51. Michaelides, S., **V. Levizzani**, E. N. Anagnostou, P. Bauer, T. Kasparis, and J. E. Lane, 2009. Precipitation: measurement, remote sensing, climatology and modeling. *Atmos. Res.*, **94**, 512-533.
52. Laviola, S., and **V. Levizzani**, 2009: Observing precipitation by means of water vapor absorption lines: A first check of the retrieval capabilities of the 183-WSL rain retrieval method. *Italian J. Remote Sensing*, **41(3)**, 39-49.
53. Cattani, E., F. Torricella, S. Laviola, and **V. Levizzani**, 2009: On the statistical relationship between cloud optical and microphysical characteristics and rainfall intensity for convective storms over the Mediterranean. *Nat. Hazards Earth Syst. Sci.*, **9**, 2135-2142.

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54. Costa, M. J., R. Salgado, D. Santos, **V. Levizzani**, D. Bortoli, A. M. Silva, and P. Pinto, 2010: Modelling of orographic precipitation over Iberia: a springtime case study. *Adv. Geosci.*, **25**, 103-110.
 55. Conte, D., M. M. Miglietta, A. Moscatello, **V. Levizzani**, and S. Albers, 2010: A GIS approach to ingest Meteosat Second Generation data into the Local Analysis and Prediction System. *Environ. Model. Softw.*, **25**, 1064-1074.
 56. Flossmann, A., **V. Levizzani**, and P. K. Wang, 2010; On the fundamental role of Hans Pruppacher for cloud physics and cloud chemistry. *Atmos. Res.*, **97(4)**, 393-395.
 57. **Levizzani, V.**, F. Pinelli, M. Pasqui, S. Melani, A. G. Laing, and R. E. Carbone, 2010: A 10-year climatology of warm season cloud patterns over Europe and the Mediterranean from Meteosat IR observations. *Atmos. Res.*, **97(4)**, 555-576.
 58. Melani, S., M. Pasqui, F. Guarnieri, A. Antonini, A. Ortolani, and **V. Levizzani**, 2010: Rainfall variability associated with the summer African monsoon: A satellite study. *Atmos. Res.*, **97(4)**, 601-618.
 59. Kidd, C., R. R. Ferraro, and **V. Levizzani**, 2010: The Fourth International Precipitation Working Group Workshop. *Bull. Amer. Meteor. Soc.*, **91**, 1095-1099.
 60. **Levizzani, V.**, S. Laviola, and E. Cattani, 2010: Detection and measurement of snowfall from space. *Remote Sensing*, **3(1)**, 145-166.
 61. Laviola, S., and **V. Levizzani**, 2011: The 183-WSL fast rain rate retrieval algorithm. Part I: Retrieval design. *Atmos. Res.*, **99**, 443-461.
 62. Conte, D., M. M. Miglietta, and **V. Levizzani**, 2011: Analysis of instability indexes during the development of a Mediterranean tropical-like cyclone using MSG-SEVIRI products and the LAPS model. *Atmos. Res.*, **101**, 264-279.
 63. Kidd, C., and **V. Levizzani**, 2011: Status of satellite precipitation retrievals. *Hydrol. Earth Syst. Sci.*, **15**, 1109-1116.
 64. Laviola, S., A. Moscatello, M. Miglietta, E. Cattani, and **V. Levizzani**, 2011: Satellite and numerical model investigation of two Mesoscale Convective Systems over Central Mediterranean. *J. Hydrometeor.*, **12**, 634-649.
 65. Laing, A. G., R. E. Carbone, and **V. Levizzani**, 2011: Cycles and propagation of deep convection over equatorial Africa. *Mon. Wea. Rev.*, **139**, 2832-2853.
 66. Drori, R., S. Laviola, I. M. Lensky, and **V. Levizzani**, 2011: Exploring the use of VIS/IR cloud properties retrieval in order to refine PMW precipitation estimation - A case study. Submitted to *Atmos. Res.*
 67. Laviola, S., **V. Levizzani**, E. Cattani, and C. Kidd, 2011: The 183-WSL fast rain rate retrieval algorithm. Part II: Validation. In preparation for *Atmos. Res.*
 68. Thiemiig, V., R. Rojas, **V. Levizzani**, and A. de Roo, 2012: Validation of high resolution satellite-based precipitation products over different African river basins. In preparation for *Remote Sens. Environ.*
 69. Kucera, P., E. Ebert, **V. Levizzani**, and J. Turk, 2012: Spece-based precipitation datasets: Opening new frontiers in atmospheric and hydrologic applications. In preparation for *Bull. Amer. Meteor. Soc.*
 70. Hatzianastassiou, N., C. D. Papadimas, C.J. Lolis, A. Bartzokas, **V. Levizzani**, and J. Pnevmatikos, 2012: Spatial and temporal variation of precipitation in the greater Mediterranean basin based on 28-year Global Precipitation Climatology Project Data. In preparation for *J. Hydrometeor.*

INVITED LECTURES AND ARTICLES:

1. **Levizzani, V.**, 1993: Satelliti e radar meteorologici nel Nowcasting. *LXXIX Congr. Naz. Soc. Italiana di Fisica*, Udine, Sett. 27 - Ott. 2.
2. **Levizzani, V.**, 1998: Intense rainfall monitoring from geostationary satellites. *Prepr. 9th Conf. Satellite Meteorol. and Oceanography*, AMS, Paris, France, 25-29 May, 327-330.
3. Levizzani, V., 1999: Rainfall estimates from satellite data. Course on "*Methodologies for Remote Sensing and Conventional Data Merging*", Florence, 8-18 Mar.
4. **Levizzani, V.**, 1999: Convective rain from a satellite perspective: Achievements and challenges. *SAF Training Workshop-Nowcasting and Very Short Range Forecasting*, EUMETSAT, EUM P 25, Madrid, 9-11 Dic. 1998, 75-84.
5. **Levizzani, V.**, 2000: Satellite rainfall estimates: a look back and a perspective. *2000 EUMETSAT Meteorological Satellite Data Users' Conf.*, Bologna, Italy, 29 May – 2 June, 344-353.
6. **Levizzani, V.**, 2000: Satelliti meteorologici e precipitazioni: le frontiere scientifiche del progetto EURAINSAT. *Convegno ARNO 2000: La svolta. Il Piano di bacino dell'Arno e il sistema di allerta*. Firenze, 3-4 Nov.
7. **Levizzani, V.**, 2000: I nuovi sensori dei satelliti meteorologici e le precipitazioni. *Workshop "Il telerilevamento per il controllo dell'ambiente – Prospettive e problemi"*, Ag. Naz. Per la Protezione dell'Ambiente, Roma, 13 Dec.
8. **Levizzani, V.**, 2001: EURAINSAT: European satellite rainfall activities and their potential role in future rainfall missions. *EGS XXVI General Assembly - TRMM Conference*, Nice, France, 25 - 30 March.
9. **Levizzani, V.**, P. Bauer, A. Buzzi, S. Davolio, D. E. Hinsman, C. Kidd, F. S. Marzano, F. Meneguzzo, A. Mugnai, J. P. V. Poyares Baptista, F. Porcù, F. Prodi, J. F. W. Purdom, D. Rosenfeld, J. Schmetz, E. A. Smith, F. Tampieri, F. J. Turk, and G. A. Vicente, 2001: EURAINSAT – Looking into the future of satellite rainfall estimations. *Proc. The 2001 EUMETSAT Meteorological Satellite Data Users' Conf.*, Antalya, Turkey, 1-5 Oct., 375-384.
10. **Levizzani, V.**, 2002: Satellite-based methods for the detection of clouds and precipitation properties. *CHMI-EUMETSAT Workshop on Severe Convective Storms*, Praha, 21-23 August.
11. **Levizzani, V.**, and A. Mugnai, 2003: EURAINSAT to RAINCLOUDS: the European dimension of clouds and precipitation research. *4th EGS Plinius Conf on Mediterranean Storms*, Mallorca, 2-4 Oct., CD-ROM (ISBN 84-7632-792-7, DL PM 00178-2003).
12. **Levizzani, V.**, 2003: EURAINSAT to RAINCLOUDS: Linking clouds and precipitation studies for meteorology, hydrology and climate. *EGS-AGU-EUG Joint Assembly*, Nice, France, 6-11 April.
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