

CURRICULUM VITAE  
EUROPEAN FORMAT



PERSONAL INFORMATION

Name, Surname            Monica Campanelli  
Address                    ISAC-CNR, Via Fosso del Cavaliere 100, 00133, Rome, Italy  
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postcode, city, country    Via Trionfale 8229/D, 00135 Roma, Italia  
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Website  
Nationality                Italian  
Place and Date of birth    Rome, 13 January 1969

WORK EXPERIENCE

Dates (from – to)            1997-Now  
Name and address of employer    ISAC (Institute of Atmospheric Sciences and Climate)-CNR ( National Research Council) , Via Fosso del Cavaliere 100, 00133 , Rome, Italy  
Type of business or sector        Atmospheric Scientist  
Occupation or position held        Researcher  
Main activities and responsibilities    Study of atmospheric aerosol properties and solar radiation by means of radiometers and radiative transfer models  
Responsibility: PI of the European Skynet Radiometer network (ESR: [www.euroskyrad.net](http://www.euroskyrad.net));  
Member of the International Skynet Committee  
  
Dates (from – to)            1/09/2004- 30/11/ 2004  
Name and address of employer    CARTEL, University of Sherbrooke, Canada  
Type of business or sector        Atmospheric Scientist  
Occupation or position held        Postdoctoral Fellowship  
Main activities and responsibilities    Comparison of CIMEL data acquired during the Quebec forest fires of 2002 with the optical output of the MAQNet air quality model  
  
Dates (from – to)            1/09/2004- 30/11/ 2004  
Name and address of employer    CCRS, University of Tokyo  
Type of business or sector        Atmospheric Scientist  
Occupation or position held        Guest  
Main activities and responsibilities    Study of the radiative transport code Skyrad

## EDUCATION AND TRAINING

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| Dates (from – to)  | 01/2001-06/2004  |
| Name and type of organization providing education and training | Università de L'Aquila, L'Aquila, Italy  |
| Principal subjects occupational skills covered                 | Atmospheric physics; Title of the Thesis: "Characterization of urban and extra-urban aerosol by means of ground and space remote sensing techniques". Tutor: profs. G.Visconti; T. Nakajima  |
| Title of qualification awarded                                 | Physics PhD  |
| Level in National classification                               | Dottorato di Ricerca   |
| Dates (from – to)  | 09/1987-04/1997  |
| Name and type of organisation providing education and training | Università di Roma La Sapienza,Rome, Italy   |
| Principal subjects occupational skills covered                 | Physics of the earth, geomagnetism, meteorology, geophysics prospecting, seismology. Thesis: "Determination of atmospheric aerosol characteristics by measurements of sky radiation" conducted at National Research Institute in Rome (CNR).Tutor: Prof. G. Fiocco |
| Title of qualification awarded                                 | Physics Degree   |
| Level in National classification                               | Laurea vecchio ordinamento   |
| Dates (from – to)  | 09/1982-07/1987  |
| Name and type of organisation providing education and training | Pontificia Scuola Pio IX, Rome, Italy  |
| Principal subjects occupational skills covered                 | Mathematics, Physic, Italian Literature, Latin.  |
| Title of qualification awarded                                 | High school  |
| Level in National classification                               | Diploma di maturità Scientifica  |

## RESEARCH ACTIVITIES

### Research sectors

- Remote sensing of Atmospheric Aerosol and columnar water vapor content by ground based sun- skyradiometers and satellite observations.
- Development of in situ calibration techniques for skyradiometers .
- Solar radiation estimation for studies on the solar energy production
- Radiative transfer models.

### Recent Scientific Activities

#### Awards:

- 07/07/2013: Member of the International Skynet Committee. The Skynet project is an Asian activity led by Japanese Universities, based on improving the atmospheric radiation studies through a worldwide network of instruments, mainly based on the skyradiometer technology.
- 07/07/2013 : recognized by the International Skynet Project as lead scientist to manage the European Skynet Radiometers network(ESR), as sub-network of Skynet. [www.euroskyrad.net](http://www.euroskyrad.net).
- 2008: In-charged of the Research Group "Climatology of columnar aerosol optical properties by PREDE sun-sky radiometer in Rome and San Pietro Capofiume, Bologna" with some founding for instrument management

#### Research:

- 2012- up to now. Establishment and management of the ESR data Center at the Research Area of TorVergata, Rome, Italy, in collaboration with the University of Valencia for the automatic hourly storage and daily processing of data coming from all the ESR stations. Implementation of the ESR web page ([www.euroskyrad.net](http://www.euroskyrad.net)) for the download of processed skyradiometers data from all the stations.
- 2011: Evaluation of the effect of urban aerosol on surface solar radiation as function of its chemical

composition. Intensive measurement campaign in Rome in Collaboration with IIA-CNR, ENEA, University of Rome La Sapienza.

- 2010: Remote sensing of Eyjafjallajökull volcanic aerosol by the ESR skyradiometer network.
- 26/11/2010: Organizer of the "2nd European Skynet Radiometers users", at ISAC-Bologna, among the European Institutions ( UK Met Office, Plymouth Marine Laboratory, University College London , UK British Antarctic Survey, Polish Academy of Science, University of Valencia, University of Barcelona) with the aim of outline common procedures for the improvement of ESR network. Invited talk: Prof T. Nakajima, of the University of Tokyo, representative of the Skynet Project.
- 2009-2013: Development of a new procedures for estimation of water vapor content from skyradiometers remote sensing
- 2005-2012, : improvement of radiative transfer codes and climatological study of two Italian ESR sites, Rome and San Pietro Capofiume within the National project MIUR/FISR AEROCLOUDS
- 2004-2007: Participation at the National Project ASI: QUITSAT
- 2001-2003: ASI, GASTRAN 1-2: study of trace gases, aerosols and clouds, using ERS 2 and ENVISAT
- 1997-2001: PNRA: POLARAOD, Characterization of aerosol-induced climatic effects in polar regions

#### Active Cooperation with other National and International Institutions:

- from 2014: K.A. CARE, Saudi Arabia for the automatic transfer of skyradiometers raw data from the stations to the ESR data center. Set up of the daily automatic processing.
- from 2013: Reparto di Sperimentazioni di Meteorologia Aeronautica di Vigna di Valle (ReSMA, Military Air Army) for the automatic transfer of skyradiometers raw data from the Military Air Army stations to the ESR data center. Set up of the daily automatic processing.
- from 2012: MetOffice UK, within the SAVEX-D project ( Snphotometer Airborne Validation Experiment in dust
- from 2004: University of Valencia within the ESR network, being Dr V.EStelles co PI of the network.
- from 2004: University of Tokyo and University of Chiba. Signature of an Agreement of Cooperation with ISAC-CNR for the participation to the Skynet project and for studies on Radiation, Clouds, Aerosols and Climate.

#### Measurement Campaigns:

- 2011: Rome. Intensive measurement campaign in the city center for the optical and chemical characterization of urban aerosol , in collaboration with University of Rome La Sapienza, Institute of Atmospheric Pollution -CNR,and ENEA.
- 2012: SAVEX Project: Sunphotomer Airborn Validation Experiment. Tenerife Island in collaboration with UK MetOffice and University de La Laguna, Spain. Role: Measurement analysis.
- 2001: Baia Terra Nova, Antarctica. Summer Campaign PRNA. Participation from Italy as organizer of the equipment and elaboration of dataset. Role: Measurement analysis.
- 2001: Vancouver, Canada. PACIFIC 2001. Air quality study. Program of the Environment Canada
- 2000: Monte Cimone, Modena. International Campaign MINATROC
  - 1999: Lampedusa, Italy. PAUR II. Photochemical Activity and Ultraviolet Radiation Modulation Factors. International Program CEE
- 1996: Carloforte, Sardegna, Italy. International Program CEE "Aerosol climate parameters over the Mediterranean area from joint ground and satellite data"

## TEACHING ACTIVITIES

- 15-16/09/2014: first Interantional Trainig Course for the new ESR's users. ISAC-Rome.
- 17/12/2013 and 2014:Lecture at the University La Sapienza, Degree Course in "Arts in Nursing", within the Course of Life Molecular and Cellular Bases. Title of the Lecture " Medical physics".
- 05/2012: Training Course held at Arpa (Regional Agency for Environment) Valle d'Aosta on installation, use and admission of a new PREDE skyradiometer to ESR network
- 06-10/2012: Training courses held at Reparto di Sperimentazioni di Meteorologia Aeronautica di Vigna di Valle (ReSMA) (Military Air Army) on solar photometry, for atmospheric aerosol studies by using PREDE skyradiometers
- 2004: Seminar at the Department de geographie et teledetection of the Università di Sherbrooke, Canada. "From Rome to Antarctica: Studies of aerosols in turbid and very clean atmospheres".
- 2002-2003: Tutor of a student for the physics degree at the University of Rome La Sapienza on the Antarctic summer campaign 2001-2002
- 1999: University of Viterbo, Italy. Course for the professional formation in agrometeorology: electronic sheets and management of agrometeorological data

1. Campanelli, M., Nakajima, T., Khatri, P., Takamura, T., Uchiyama, A., Estelles, V., Liberti, G. L., and Malvestuto, V.: Retrieval of characteristic parameters for water vapour transmittance in the development of ground based sun-sky radiometric measurements of columnar water vapour, *Atmos. Meas. Tech.*, 7, 1075-1087, 2014. [www.atmos-meas-tech.net/7/1075/2014/](http://www.atmos-meas-tech.net/7/1075/2014/).doi:10.5194/amt-7-1075.
2. Ningombam, Shantikumar S., Bagare, S.P., Singh, Rajendra B., Campanelli, M., Khatri, P., Dorjey, Namgyal, Calibration of a Sky radiometer (Prede) using observations obtained from Hanle and Merak high-altitude stations in Ladakh, *Atmospheric Research* (2014), doi: 10.1016/j.atmosres.2014.02.009.
3. Henri Diemoz, M. Campanelli, V. Estelles Leal, One year of measurements with a POM02 radiometer at an Alpine EuroSkyRad station, *Journ. Of the Meteorological Society of Japan*, Special issue on Skynet, Volume 92A, 2014.
4. Hashimoto, M., Nakajima, T., Dubovik, O., Campanelli, M., Che, H., Khatri, P., Takamura, T., Pandithurai, G.; Development of a new data-processing method for SKYNET sky radiometer observations *Atmospheric Measurement Techniques*, 5 (11), pp. 2723-2737, 2012.
5. V.Estellés, T. J. Smyth, M. Campanelli ; Columnar aerosol properties in a Northeastern Atlantic site (Plymouth, United Kingdom) by means of ground based skyradiometer data during years 2000–2008". *Atmospheric Environment* Volume 61, Pages 180–188, December 2012
6. V. Estelles, M. Campanelli, T. J. Smyth, M. P. Utrillas, and J. A. Martínez-Lozano, "AERONET and ESR sun direct products comparison performed on Cimel CE318 and Prede POM01 solar radiometers", *ACP* 2012 12, 11619–11630, 2012
7. V. Estelles, M. Campanelli, M. P. Utrillas, F. Exposito, and J. A. Martínez-Lozano, "Comparison of AERONET and SKYRAD4.2 inversion products retrieved from a Cimel CE318 sunphotometer", *Atmos. Meas. Tech.*, 5, 1–11, 2012
8. M. Campanelli, V.Estellés, T. Smyth, C. Tomasi, M.P. Martínez-Lozano, B.,Claxton, P. Muller, G. Pappalardo, A. Pietruczuk, J. Shanklin, S. Colwell, C. Wrench, A.Lupi, M. Mazzola , C. Lanconelli, V.Vitale, F.Congeduti, D.Dionisi, M. Cacciani "Monitoring of Eyjafjallajökull volcanic aerosol by the new European SkyRad users(ESR) sun-sky radiometer network", *Atmospheric Environment* 48 (2012) 33-45
9. M. Campanelli, A. Lupi, T. Nakajima, V. Malvestuto, C. Tomasi, V. Estelles "Columnar content of atmospheric water vapour from ground-based sun/sky radiometer measurements through a new in-situ procedure". *JGR* vol.115, D19304, doi:10.1029/2009JD013211, 2010
10. C. Bassani, V.Estellés, M.Campanelli, R. M.Cavalli, and J. A. Martínez-Lozano. "Performance of a FieldSpec spectroradiometer for aerosol optical depth retrieval: method and preliminary results"., Vol. 48 Issue 11, pp.1969-1978 , Febbraio 2009, *Applied Optics*.
11. M. Campanelli, V. Estellés, C. Tomasi, T. Nakajima, V. Malvestuto and J. A. Martínez-Lozano. "Application of the SKYRAD improved Langley plot method for the in situ calibration of CIMEL sun-photometers" Vol. 46, No. 14 May, 2007, *Applied Optics*.
12. "Clima e cambiamenti climatici: le attività di ricerca del CNR". By Bruno Carli, Giuseppe Cavarretta, Michele Colacino, Sandro Fuzzi. Editor: Consiglio Nazionale delle Ricerche – Roma 2007, Consiglio Nazionale delle Ricerche ISBN 978-88-8080-075-0. Titolo del Capitolo: "Osservazioni da satellite, reti di misura e basi-dati sui cambiamenti climatici". Titolo della pubblicazione: "Caratterizzazione dell'aerosol urbano ed extraurbano mediante misure di telerilevamento passivo da terra e da satellite". Autore: M.Campanelli. Pag 447-450.
13. C. Tomasi, V. Vitale, A. Lupi , C. Di Carmine, M. Campanelli , A. Herber , R.Treffeisen , R. S. Stone, E. Andrews, S. Sharma , V. Radionov, W. von Hoyningen-Huene , K. Stebel , G. H. Hansen , C. L. Myhre, C. Wehrli, V.Aaltonen , H.Lihavainen, A. Virkkula, R. Hillamo, J. Ström, C. Toledano, V. E. Cachorro ,P. Ortiz, A. M. de Frutos, S. Blindheim, M. Frioud, M. Gausa, T. Zielinski,T. Petelski and M. Shiobara "Aerosols in polar regions. A historical overview on the basis of optical depth and in situ observations" *JGR.*, doi:10.1029/2007JD008432, 2007.
14. V. Estellés, J. Martínez-Lozano, M. P. Utrillas and M. Campanelli "Columnar aerosol properties in Valencia (Spain) by ground-based Sun photometry", *JGR*, VOL. 112, D11201, doi:10.1029/2006JD008167, 2006.
15. N. T. O'Neill , M. Campanelli , A. Lupu , S. Thulasiraman , J. S. Reid , M. Aub'è , L. Neary , J. W. Kaminski, J. C. McConnell; "Evaluation of the GEM–AQ air quality model during the Québec smoke event of 2002: analysis of extensive and intensive optical disparities". *Atmos. Env.* Volume 40, Issue 20, Pages 3737-3749, June 2006.
16. C. Di Carmine, M. Campanelli, T. Nakajima, C. Tomasi, V.Vitale, "Retrievals of Antarctic aerosol characteristics using a Sun-sky radiometer during the 2001-2002 austral summer campaign" *JGR*, Vol. 110, No. D13, D13202, 12 July 2005.
17. M.Campanelli , G. Gobbi , C. Tomasi, T. Nakajima , "Intercomparison between aerosol characteristics retrieved simultaneously with a Cimel and Prede sun-sky radiometers in Rome, Torvergata Aeronet site." Vol. 37, núm. 3 , 2004, *ÓPTICA PURA Y APLICADA*.
18. M. Campanelli, T. Nakajima, B.Olivieri, "Determination of the solar calibration constant for a sun sky radiometer. Proposal of an in situ procedure". *Applied Optics*, Vol 43 n. 3, 20 January 2004.
19. M. Campanelli, L. Delle monache, V. Malvestuto, B. Olivieri, "On the correlation between the depth of

- the boundary layer and the columnar aerosol size distribution". *Atmospheric Environment*. October 2003, Volume 37/32, pp 4483- 4492.
20. M. Campanelli, C. Di Carmine, B. Olivieri. "Experimental errors in sun-sky radiometer measurements". SPIE, Optical Science and Technology, Seattle Annual Meeting 2002, July 2002, Proc. SPIE, Vol. 4815, 82 (2002); DOI:10.1117/12.482306
  21. M. Campanelli, W. Junkermann, B. Olivieri, G. Tonna. "Physical features of the atmospheric aerosol determined with an aureolemeter and a FSSP probe in the Mediterranean Lampedusa island. *Atmospheric Environment*". *Atmospheric Environment*, July 2001 Volume 35/21, pp 3607-3618.
  22. P. Boi, G. Tonna, G. Dalu, T. Nakajima, B. Olivieri, A. Pompei, M. Campanelli. "Procedures of calibration and data elaboration in sky radiance measurements". *Applied Optics*, 20 Feb 1999. Vol 38 n. 6 pp. 896 – 907

#### Conference Proceedings

1. Christian Lanconelli, Tony Christian Landi, Boyan Petkov, Angelo Lupi, Mauro Mazzola, Vito Vitale, Paolo Bonasoni, Maurizio Busetto, Paolo Cristofanelli, Piero Malguzzi, Andrea Buzzi, Monica Campanelli, Stefano Dietrich, Stefano Federico, Claudia Roberta Calidonna, and Anna Maria Sempreviva. A preliminary study on short-term predictability of solar surface irradiance over Italian Peninsula for photovoltaic energy production. EMS Annual Meeting Abstracts Vol. 11, EMS2014-610, 2014, 14th EMS / 10th ECAC.
2. M. Campanelli, C. Bassani, M. Cacciani, A.M. Siani, C. Perrino, S. Canepari, A. Di Sarra, R. Salzano, G.P. Casasanta, C. Tirelli, V. Estelles, Direct effect of aerosol on incident solar radiation at the surface as a function of aerosol mixtures measured in the center of Rome. EGU General Assembly 2012, (ESR) Geophysical Research Abstracts, Vol. 14, EGU2012
3. Estellés, V., Campanelli, M., Smyth, T.J., Utrillas, M. P., Martínez-Lozano, J.A., 2010. AERONET and EuroSkyrad (ESR) aerosol optical depth intercomparison on Cimel CE318 and Prede POM01 radiometers. SPIE Remote Sensing conference 2010; Remote Sensing of Clouds and the atmosphere vol. 78270Y-1 (8pp)
4. Estelles, V., Smyth, T., M. Campanelli, , and Utrillas, M.P., 2009. Development of an open source package for the processing of sun-sky photometric data in the European Skyrad Users network. EGU General Assembly 2009, (ESR) Geophysical Research Abstracts, Vol. 11, EGU2009-10952
5. M. Campanelli, A. Lupi, T. Nakajima, V. Malvestuto, C. Tomasi, B. Petkov, C. Lanconelli, M. Mazzola, V. Estelles, V. Vitale "Columnar water vapour content from ground-based sun/sky radiometer measurements through a new in-situ procedure". Earth Observation and Water Cycle Science ESA-ESrin, Frascati, Novembre 2009. ESA Special Pub. SP-674, Proceeding, H. Lacoste. ISBN : 978-92-9221-238-4
6. M. Campanelli, A. Lupi, V. Estelles, C. Lanconelli, M. Mazzola, M. Busetto, C. Tomasi, V. Vitale "Misure di irradianza solare diretta e diffusa a San Pietro Capofiume e Torvergata per lo studio dell'effetto radiativo diretto degli aerosol". Oral presentation. Environment including Climate Change, Palermo 2009. [http://www.congressofai.org/download\\_sessioni.html](http://www.congressofai.org/download_sessioni.html).
7. V. Vitale, C. Tomasi, A. Lupi, C. Lanconelli, M. Mazzola, M. Busetto, M. Campanelli, B. Petkov, "Effetti climatici di aerosol e nubi nella regione del mediterraneo e nelle aree polari" Environment Including Global Change, Congresso FAI, Palermo 5-9 October 2009. [http://www.congressofai.org/download\\_poster.html](http://www.congressofai.org/download_poster.html)
8. Estellés, V., M. Campanelli, T.J. Smyth, M.P. Utrillas (2009), "Development of an open source package for the processing of sky-sunphotometric data in the European Skyrad users network (ESR)", EGU 2009, Geophysical Research Abstracts, Vol. 11, 2009
9. M. Campanelli "In situ calibration of CIMEL sun-sky photometers through applications of the SKYRAD improved Langley plot method (SKYIL)". IUGG XXIV General Assembly Perugia, July 2007. Conference Proceedings. ISBN : 978-88-95852-25-4. Pag 4945.
10. T. Nakajima, M. Yamano, T. Takamura, K. Aoki and M. Campanelli, " Current status of the SKYNET Network". WMO-AOD workshop, Davos Switzerland, 8-10 March 2004.
11. M. Campanelli, T. Nakajima, B. Olivieri, "Determination of the solar calibration constant for a sun sky radiometer. Proposal of an in situ procedure". European Aerosol Conference, Madrid September 2003. *Journal of Aerosol Science*, Volume 34, Supplement 2, 2003, Pages 1179-1180.
12. C. Tomasi, V. Vitale, W. von Hoyningen-Huene, M. Campanelli, A. Lupi, F. Barnaba, A. Cacciari, T. Nakajima, G. Gobbi and B. Olivieri. "Determining direct aerosol-induced radiative forcing through experiments and closure studies", World Climate Changing Conference (WCCC), 29 September- 3 October 2003. *Energy and Environment* Vol14, N.6, Nov 2003.
13. P. Bonasoni, F. Calzolari, U. Bonafè, P. Cristofanelli, F. Evangelisti, M.C. Facchini, S. Fuzzi, R. Van Dingenen, J. P. Putaud, M. Hanke, J. Uecker, H. Fischer, R. Kormann, F. Barnaba, M. Campanelli, G. P. Gobbi, T. Colombo, M. Shulz, Y. Balkansky, "The Mt. Cimone MINATROC field campaign ", EUROPEAN GEOPHYSICAL SOCIETY - XXVI General Assembly, Nice, France 26-30 Marzo, 2001.

14. 14.A. di Sarra, F. Barnaba, M. Cacciani, M. Campanelli, P. Chamard, L. Ciattaglia, C. Cornwall, J. DeLuisi, L. De Silvestri, T. Di Iorio, P. Disterhoft, G. Fiocco, D. Fuà, P. Grigioni, W. Junkermann, F. Mazzacano, F. Monteleone, and B. Olivieri. "Radiation, ozone, and aerosol measurements at Lampedusa during the PAUR II campaign". IRS 2000: International Radiation Symposium, S.Peterburg, Russia. Luglio 2000.
15. 15.M. Campanelli, B. Olivieri, G. Tonna. "Aerosol features retrieved from measurements of sky irradiance at ground". IGARSS'99: IEEE 1999 International Geoscience and Remote Sensing Symposium, Hamburg, Germany. 28 June-2 July 1999. Geoscience and Remote Sensing Symposium, 1999. IGARSS '99 Proceedings. IEEE 1999 International. Volume 4, 28 June-2 July 1999 Page(s):2282 - 2283 vol.4. Digital Object Identifier 10.1109/IGARSS.1999.775102
16. M. Campanelli, B. Olivieri, G. Tonna: 'Aerosol Size Distribution, Optical Depth and Complex Refractive Index retrieved by Inversion of Sky Brightness Measurements.' International school of quantum electronics. 25th Course: Observational database and mechanisms of climate. Erice, Sicilia 21-27 November 1998.
17. M. Campanelli, B. Olivieri, G. Tonna: 'Solar Aureole technique, a tool for assessing the aerosol optical characteristics' . Poster session at IAC 98: 5th International Aerosol Conference 1998, Edimburgh, Scotland. 12-18 September 1998.
18. M. Campanelli, B. Olivieri, G. Tonna : 'Aerosol Features Retrieved from Ground-based sky Radiation. Measurements, data Elaboration and Results'. Poster session at .IAS 4: International Aerosol Symposium; S.Peterburg, Russia. 6-9 July 1998.

## ADDITIONAL INFORMATION

### Personal skills.

Languages: Italian: mother tongue; English : excellent reading/ writing; good spoken.

Computer knowledge: Operating Systems: Windows, IBM Unix Aix, SUN Solaris 2.6, Linux

Programming Languages: Fortran 77/90, Matlab

### Other interests

2006-to now: Co-author in writing a book on the right posture of the body of a ballet dancer.

1999 – 2006: Ballet dancer in the ballet company Mimma Testa. Performances in some Italian theatres.

1987-2000: Ballet Student at the National dance Academy; National Dance Academy 8th course graduate ;  
National Dance Academy specialization course

1992-1994:Organiser and choreographer for Valtur tourist villages.