

Piero Di Carlo

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PRESENT POSITION

- 2021 - present, Professor, University "G. D'Annunzio" of Chieti-Pescara, Italy

PREVIOUS POSITIONS HELD

- 2018 – 2021 Associate professor, University "G. D'Annunzio" of Chieti-Pescara, Italy
- 2016 – 2018 Assistant professor with Tenure University "G. D'Annunzio" of Chieti-Pescara, Italy
- 2008 – 2016 Assistant professor with Tenure, University of L'Aquila, Italy
- 2005 – 2008 Research Associate, University of L'Aquila, Italy
- 2004 – 2009 Research Associate, National Laboratories of Gran Sasso, Assergi, Italy
- 2002 – 2005 Post-Doc, University of L'Aquila, Italy
- 1998 – 2002 PhD student, University of L'Aquila, Italy
- 1997 – 1998 Research Assistant University of L'Aquila, Italy

EDUCATION

- Ph.D. (Physics) University of L'Aquila, Italy, 4 Feb. 2002. Thesis title: Production and loss of hydroxyl radical in a forest and in a city. With one year of study abroad at the Pennsylvania State University (USA).
- Laurea (equivalent to B.S.+M.S.) in Physics University of L'Aquila, Italy, (mark 110/110 summa cum laude), 13th June 1997. Thesis title: Observation of sodium in the upper atmosphere using LIDAR techniques

ACCADEMIC GOVERNANCE

2022-present Pro-Rector for Ranking Strategies and the Development and Enhancement of University Research (University of Chieti-Pescara)

2022-present Member of the board of the Vitality Foundation that manages the Ecosystem for Innovation, Digitalization and Sustainability in Central Italy (University of Chieti-Pescara)

2019 - 2022 Rector's Delegate for the Ranking (University of Chieti-Pescara)

2019 – present Member of research steering committee of the University 'G. d'Annunzio'

2019- present Coordinator of the WG Climate change and Energy for the University 'G. d'Annunzio' in the framework of the RUS (Network of Italian University for sustainable development)

PROFESSIONAL EXPERIENCE

- 02/08/2022 - 11/08/2022 Erasmus+ Staff Mobility for Teaching, University of Gothenburg, Sweden
- 21/Jul/2016 - 25/Aug/2016 Visiting Professor - Harvard University, USA
- 5/Aug/2014 - 7/Sep/2014 Visiting scientist - University of York, UK
- 1/12/2010 - 12/12/2010 Visiting scientist - Tokyo Metropolitan University, Japan
- 4/Feb/2006 - 22/Feb/2006 Visiting scientist - Argonne National Laboratory, USA

- October 2003 Visiting scientist - Pennsylvania State University, USA
- August 2001 - October 2001 Visiting scholar - Pennsylvania State University, USA
- May 2000 - December 2000 Visiting scholar - Pennsylvania State University, USA
- 1-20/March/1998 Visiting scholar - Sodankyla Finnish Meteorological Institute, Finland

▪ **CURRENT/RECENT COMMITTEES AND RESPONSIBILITIES**

- 2020 – present Coordinator of the PhD in Science and Technology for Sustainable Development
- 2020 – present Member of the Commission of experts of the Italian Ministry of University and Research for the definition of the National Research Programme 2021-2027 for the area of Climate Change and Adaptation, Appointment Decree: n°544 of 24-04-2020
- 2007–present Member of the User Group Selection Panel of EU Facility for Airborne Res., France.
- 2009 – present Member of the Chem. Working Group FAAM (Facility for Air Atmo. Meas.), UK.
- 2012 – 2017 Director of the Climate Observatory “Portella del Gran Sasso” (2401 m. a.s.l.), Italy.
- 2007-2016 Head of the LIF laboratory of CETEMPS-University of L’Aquila, Italy.
- 2008 – 2017 Member of the Scientific Committee of the Centre of Excellence CETEMPS, Italy.
- 2011-2016 Member of the Committee of Graduate courses in Physics, Univ. of L’Aquila, Italy.
- 2011-2013 Member of the Committee of the Master courses in Environ. Bio., Univ. of L’Aquila.
- 2008 – 2017 Responsible of the research activities ‘Atmo. chem. and air quality’, CETEMPS, Italy.

DIRECTION OF INTERNATIONAL SUMMER SCHOOLS

- 26th June-6 July 2017 Director of the International Summer School (7th EUFAR FP7 Training Course): “School and Training on Aircraft New techniques for Atmospheric Composition Observation”, University of Cambridge (UK)
- 17-28 August 2011 Director of the International Summer School (4th EUFAR FP7 Training Course): “School On Aircraft Techniques for the studies of Atmospheric chemistry”, Pescara (Italy)

LEAD SCIENTIST OF MULTI-INVESTIGATOR INTENSIVE FIELD CAMPAIGN

- 04-06/07/2022 Mission Scientist on board the French ATR-42 instrumented aircraft, responsible for flight planning and all on-board instrumentation for the ACROSS campaign, Aerodrome de Cergy Pontoise-Paris (France).
- 03-04/07/2017 Mission Scientist on board the atmospheric research aircraft BAe-146, responsible for the flight missions and the scientific instruments of the STANCO campaign, Cranfield (UK)
- 24-28 Aug. 2011 Mission Scientist on board the atmospheric research aircraft BAe-146, responsible for the flight missions and the scientific instruments of the SONATA campaign, Pescara (Italy)

SCIENTIFIC CONFERENCES AND SUMMER SCHOOLS COMMITTEE

- 17-21/05/2021 Member of the organizing committee of the Climate Exp0 Conference within the framework of the pre-COP6 conferences. Chair of the adaptation and resilience session 3. (Online conference)
- 22/11/ 2019 Organizer of the 1° Meeting nazionale del Gruppo di Lavoro Cambiamenti Climatici della Rete delle Università per lo sviluppo sostenibile, Chieti, Italy
- 07 – 12/04/ 2019 Co-Chair of the session: ‘Airborne observations, campaigns, applications and future plans’ of the European Geosciences Union (EGU) General Assembly, Vienna, Austria
- April 2013 Convener of the session: Impact of boreal wildfires on trop. chem. EGU, Vienna, Austria
- 3-7 Sep. 2012 Local organizer of 9th International Symp. on Trop. Profiling, L’Aquila, Italy
- 11-14 Feb. 2009 Local organizer committee, 6th Air Fluorescence Workshop, Lab. G. Sasso, Italy

- 22-26 Sep. 2008 Local org. committee, Intl. Summer School 'Aerosols and Climate Change', Italy
- 22-24 Sep. 2004 Local org. committee, Intl. Summer School 'Observing sys. for atmo. comp.', Italy

FIELD CAMPAIGNS

• Principal Investigator of the TD-LIF system for NO₂ and NO_y obs. in the following field campaigns:

- 01/07/2022-12/07/2022 ACROSS campaign, Aerodrome de Cergy Pontoise-Paris (France).
- 01/07/2017-06/07/2017 STANCO campaign on the BAe146 aircraft, Cranfield airport (UK).
- 8 Jan. -15 Feb. 2015 Cape Verde Atmospheric Observatory, CVAO – NCAS
- 22 April – 15 June 2013 Auchencorth Moss (Edinburgh, Scotia). ACTRIS campaign
- 24 – 28 Aug. 2011 SONATA campaign on the BAE146 aircraft, Pescara airport, Italy
- 5 July – 3 Aug. 2011 BORTAS campaign on the BAE146 aircraft, Halifax airport, Canada
- 4 - 28 Jan. 2011 RONOCO WINTER campaign on the BAE146 aircraft East Midlands, UK
- 31 Aug. – 9 Sep. 2010 SetptEX campaign on the BAE146 aircraft East Midlands, UK, airport
- 12 - 30 July 2010 RONOCO campaign on the BAE146 aircraft East Midlands, UK, airport
- 28 June – 26 July 2008 OP3 campaign, Bukit Atur tower, Borneo forest, Malaysia

• Other field campaigns:

- 2 - 30 July 2007 NO₂ intercomparison campaign in L'Aquila, Italy.
- 4- 22 Feb. 2006 AIRFLY campaign, Argonne National Laboratory, University of Chicago, USA.
- 18-24 March 2003 AIRFLY campaign, Frascati National laboratories, Italy.
- 6 Aug.– 12 Sep. 2000 TexAQS campaign, Houston, USA. Team member.
- 26 June - 3 August 2000 PROPHET campaign, Michigan forest, USA. Team member.

PARTICIPATION IN EDITORIAL BOARD OF INTERNATIONAL JOURNALS

- 2022 – present Associate Editor of the magazine Plos One.
- 2013 – present Associate Editor of Atmospheric Measurements Techniques.
- 2017 – present Associate Editor of The Open Atmospheric Science Journal
- 2020 – present Editorial Board Member of Atmosphere
- 2020 – 2021 Guest editor of the Special issue 'Statistical Approaches to Investigate Air Quality' of Atmosphere
- 2019 - 2020 Editor of the inter-journal (ACP/AMT) Special Issue: StratoClim stratospheric and upper tropospheric processes for better climate predictions.
- 2018 – 2019 Guest editor of the Special Issue 'High Altitude Site Observations of the Atmospheric Chemical Composition' of Atmosphere

RESEARCH GRANTS

• Principal investigator of the following projects:

- 2022-2026 Spoke One-health: Telemedicine and environment, HUB Vitality, PNRR-MUR Call 'Ecosystems for innovation'. CUP: D73C22000840006. Financing of 13,364,077€.
- 2021-2022 Co-PI of the project: Atmospheric ChemistRy Of the Suburban foreSt – Aircraft Observations (ACROSS-AO). French National Research Agency (ANR). Grant ref. (for the University of Chieti-Pescara funds): ANR-20-CE01-0010-05. Funding: 15,565€
- 2018 -2021 MIUR – PNRA RadiCA project (PNRA18_00026 - CDD n. 2498 del 28 - 09 – 2018). Funds 114,950 €
- 2016-2017 EUFAR (European Facility For Airborne Research / Transnational Access), H2020. STANCO project. Funds 210,000€
- 2015 ACTRIS TNA. Nitrogen Oxides and nitrate radical in the Auchencorth Moss, Funds 6000€
- 2010-2011 EUFAR (European Facility For Airborne Research / Transnational Access), FP7. SONATA project. Funds 130,000€
- 2010-2015 SHARE Ev-K2. High altitude observatories. Funds: 35,000€
- 2010 – 2011 Bilateral project Japan-Italy, Italian Minister of the Foreign Affair. Funds 3,500€

• Supervisor of the following project (Beneficiary Dr. Eleonora Aruffo):

- 2019 -2021 H2020-MSCA-IF-2018, Type of action: MSCA-IF-GF, Proposal number: 840217,. Funds: 168,369€

• Principal investigator of the following projects funded as subcontractor:

-2011-2012 NERC (UK). BORTAS campaign. Funds 50,000£

-2009-2011 NERC (UK). Certification of the TD-LIF to be installed on BAe aircraft and RONOCO campaign. Funds 100,000£

-2000 Young research grant of the Italian Ministry of the University and Research. Funds 2,500€

MEMBERSHIPS IN SCIENTIFIC SOCIETIES

- 2002 – present Member of the American Geophysical Union and European Geophysical Union
- 2011 – present Member of the European Geosciences Union
- 2020 -present Member of the Associazione Italiana di Scienze dell'Atmosfera e Meteorologia

PRIZES AND AWARDS

- 2011-2016 The paper: Di Carlo P, et al., Science, 30, 304, 722-725, 2004 is the first one (as number of citation) in the: "top 20 of articles published on the same topic", years 2011-2016. From BioMedLib.
- 5 - 8/03/ 2013 Best Presentation at the International Congress of Trufficulture, Teurel (Spagna).
- 2009 Winner of the 'Nicola Chiari' prize for the best application for measurements and automation, National Instrument Meeting, Rome (Italy), 2009.

PATENT

26/10/2015 Italian patent n 0001418888. Device for gas concentration measurements. Aruffo Eleonora, Del Grande Francesco, Di Carlo Piero, Giammaria Franco, Gianluigi Rosatelli, Visconti Guido.

SCOPUS DETAILS

(last access 31/08/2022)

Number of publication: 77

Total citations: 2164

H-Index: 26

SELECTED RELEVANT PUBLICATIONS

- Aruffo E., Wang J., Ye J., Ohno P., Qin Y., Stewart M., McKinney K., **Di Carlo P.**, Martin S.T., Partitioning of Organonitrates in the Production of Secondary Organic Aerosols from α -Pinene Photo-Oxidation. *Environ. Sci. Technol.*, doi: 10.1021/acs.est.1c08380, 2022.
- Caputi S., F. Diomede, P. Lanuti, G. Diletta Marconi, **P. Di Carlo**, B. Sinjari, O. Trubiani, Microplastics Affect the Inflammation Pathway in Human Gingival Fibroblasts: A Study in the Adriatic Sea, *Int. J. Environ. Res. Public Health*;19(13):7782. doi: 10.3390/ijerph19137782, 2022
- **Di Carlo P.** , Chiacchiaretta P., Sinjari B., Aruffo E, Stuppia L, De Laurenzi V, et al., Air and surface measurements of SARS-CoV-2 inside a bus during normal operation. *PLoS ONE*, 15(11): e0235943, DOI: 10.1371/journal.pone.0235943, 2020.
- Ashworth K., S. Bucci, P. J. Gallimore, J. Lee, B. S. Nelson, A. Sanchez-Marroquín, M. B. Schimp, P. D. Smith, W. S. Drysdale, J. R. Hopkins, J. D. Lee, J. R. Pitt, **P. Di Carlo**, R. Krejci, J. B. McQuaid, Megacity and local contributions to regional air pollution: an aircraft case study over London, *Atmos. Chem. Phys.*, 20, 7193–7216, 2020.
- **Di Carlo P.**, Aruffo E., Brune W.H., Precipitation intensity under a warming climate is threatening some Italian premium wines. *Sci Total Environ.*, 30, 508-513. doi: 10.1016/j.scitotenv.2019.05.449, 2019.

- Aruffo E., **P. Di Carlo**, Homogenization of instrumental time series of air temperature in Central Italy (1930–2015), *Climate Research*, 77, 193–204, 2019.
- Poma, A., Vecchiotti, G., Colafarina, S., Zarivi, O., Aloisi, M., Arrizza, L., Chichiriccò, G., **Di Carlo P.**, In vitro genotoxicity of polystyrene nanoparticles on the human fibroblast hs27 cell line, *Nanomaterials*, 9, 1299, 2019.
- Poma A, Colafarina S, Aruffo E, Zarivi O, Bonfigli A, Di Bucchianico S, **Di Carlo P.**, Effects of ozone exposure on human epithelial adenocarcinoma and normal fibroblasts cells. *PLoS ONE* 12(9): e0184519. <https://doi.org/10.1371/journal.pone.0184519>, 2017.
- Biancofiore F., M. Busilacchio, M. Verdecchia, B. Tomassetti, E. Aruffo, S. Bianco, S. Di Tommaso, C. Colangeli, G. Rosatelli, P. Di Carlo, Recursive neural network model for analysis and forecast of PM10 and PM2.5, *Atmospheric Pollution Research*, 8, 652-659, 2017.
- Aruffo E., F. Biancofiore, **P. Di Carlo**, et al., C. Percival, Impact of biomass burning emission on total peroxy nitrates: fire plume identification during the BORTAS campaign, *Atmos. Meas. Tech.*, 9,1–16, 2016
- Reed C., M. J. Evans, **P. Di Carlo**, J. D. Lee, L. J. Carpenter, Interferences in photolytic NO₂ measurements: explanation for an apparent missing oxidant?, *Atmos. Chem. Phys.*, 16, 47, 2016.
- Biancofiore F., M. Verdecchia, **P. Di Carlo**, et al., Analysis of surface ozone using a recurrent neural network, *Science of the Total Environment*, 514, 379–387, 2015.
- **Di Carlo P.**, E. Aruffo, et al., Aircraft based four-channel thermal dissociation laser induced fluorescence instrument for simultaneous measurements of NO₂, total peroxy nitrate, total alkyl nitrate, and HNO₃, *Atmos. Meas. Tech.*, 6, 971–980, 2013.
- Hewitt C.N., A.R. MacKenzie, **P. Di Carlo** et al., Nitrogen management is essential to prevent tropical oil palm plantations from causing ground level ozone pollution, *PNAS*, 106, 18447, 2009
- **Di Carlo P.**, W. H. Brune, M. Martinez, H. Harder, R. Leshner, X. Ren, T. Thornberry, M. A. Carroll, V. Young, P. B. Shepson, D. Riemer, E. Apel, C. Campbell, Missing OH reactivity in a forest: Evidence for unknown reactive biogenic VOCs, *Science*, 304, 722-725, 2004.

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

September, 10 2022

Signature

