

CARLO BARBANTE

Institute for the Dynamics of Environmental Processes – CNR, University Ca'Foscari Venice

Biography

Carlo Barbante

Born in Feltre, Italy on 03/04/1963

Professor of Analytical Chemistry, Director of the Institute for the Dynamics of Environmental Processes – CNR, University Ca'Foscari Venice,
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Research Interests

Development of mass spectrometry-based advanced analytical methodology for trace and ultra-trace determinations in environmental and biological matrices; long-term paleoclimate and atmospheric chemistry from ice cores; Quaternary climate; heavy metals and organic pollutants in polar and temperate ice and snow; paleofire reconstruction through ice and lake sediment record.

Education

1988 Degree (BS+MS) in Industrial Chemistry (110/110 *Summa cum Laude*, Università di Padova).

Academic record (excerpta)

National Delegate, H2020 for the SC5, Climate Action, Environment, Resource Efficiency, Raw Material (2013-)

Director of the Institute for the Dynamics of Environmental Processes – CNR, University of Venice (2012-)

Deputy Director of the Department of Environmental Sciences, Informatics and Statistics, University of Venice (2011)

Coordinator of the PhD Course on *Science and Management of Climate Change* (2011-)

On 3 yrs leave at *Accademia Nazionale dei Lincei*, Rome (2012-)

Italian National Representative at International Arctic Scientific Council (IASC) (2011-)

Member of the *Commissione Scientifica Nazionale per l'Antartide* (CSNA) (2011-)

Professor at the Harvard University Summer School ENVR S-133 Earth's Climate, Past, Present and Future (2008-)

Vice-president of the *Collegio Didattico* of the Chemistry Courses at the University of Venice (2007-2012)

Member of the Steering Committee of the Subglacial Antarctic Lake Environments of the SCAR (2006-)

Full Professor at the Department of Environmental Sciences of University of Venice (2006-)

Visiting Professor at Curtin University of Technology, Perth, Australia. (2005)

Visiting Professor at Université Joseph Fourier, Grenoble, France. (2000-)

National delegate to the Scientific Standing Group, Physical Science SCAR. (2004-)

Lecturer at European Research Course on Atmospheres (ERCA, Grenoble, France). (1998-)

Membership

Italian Chemical Society, Royal Society of Chemistry; American Geophysical Union; European Geophysical Union, Italian National Glaciological Society. Istituto Veneto di Scienze. Lettere ed Arti

Honors and awards (excerpta)

Member Elected of the Istituto Veneto di Scienze Lettere ed Arti, 2013

Distacco Linceo (2012-2014) at *Centro Linceo B. Segre, Accademia Nazionale dei Lincei*

ERC Advanced Research Grant 2010.

Premio Ca'Foscari alla Ricerca 2010

Ambasciatore della Biodiversità, 2010

Awarded the StartCup Veneto 2009, as one of the best 10 spin-off ideas combining university research, public interest groups, and private companies

Publications

Over 160 peer reviewed, listed in full publications list (http://scholar.google.it/citations?sortby=pubdate&hl=it&user=b6x15_sAAAAJ&pagesize=100&view_op=list_works), of which 160 appear in Web of Science (WoS) search (using distinct author set facility), cited about 4400 times. I published 15 edited book chapters. I have an **h-factor of 36**. The publications straddle topics including analytical chemistry, trace element geochemistry, heavy metals and organic compound contamination, glaciology, ice chemistry, Quaternary paleoclimate.

Research expeditions

Oct 1993–Feb 1994. Field season to Antarctica. **Chief Scientist**

Jun 1995 Drilling campaign at Monte Rosa, 4450 m, **Scientist**

Oct 1995–Dec 1995. Field season to Antarctica. **Chief Scientist**

Various sampling campaign in the European Alps (1995-)

2010 Field campaign at Svalbard Island (2010)

2012-2013 Field Campaign in Antarctica.

A list of the top publications, as senior author

- Barbante C., van de Velde K., Cozzi G., Capodaglio G., Cescon P., Planchon F., Hong S., Ferrari C., Boutron C. Post-World War II uranium changes in dated mont Blanc ice and snow. *Environ. Sci. Technol.* **35** (2001) 4026-4030.
- Barbante C., Veyssyere A., Ferrari C., van de Velde K., Morel C., Capodaglio G., Cescon P., Scarponi G., Boutron C. Greenland snow evidence of large scale atmospheric contamination for platinum, palladium and rhodium. *Environ. Sci. Technol.*, **35** (2001) 835-839.
- Barbante C., Schwikowski, M., Döring T., Gäggeler H. W., C., Schotterer U., Tobler L., Van de Velde K., Ferrari C., Cozzi G., Turetta A., Rosman K., Bolshov, M., Capodaglio G., Boutron, C., Cescon P. Historical Record of European Emissions of Heavy Metals to the Atmosphere Since the 1650s From Alpine Snow/Ice Cores drilled near Monte Rosa. *Environ. Sci. Tech.*, **38** (2004) 4085 – 4090.
- EPICA community members Eight glacial cycles from an Antarctic ice core *Nature*. **429** (2004) 623 – 628.
- Gabrielli P., Barbante C*, Plane J.M.C., Varga A., Hong S., Cozzi G., Gaspari V., Planchon F., Cairns W., Ferrari C., Crutzen P., Cescon P., Botron C.. Meteoric smoke fallout over the Holocene revealed by iridium and platinum in Greenland ice. *Nature*, **432** (2004) 1011–1014.
- Gabrielli P., Planchon F.A.M., Hong S., Lee K.H., Hur S.D., Barbante C., Ferrari C.P., Petit J.R., Lipenkov V.Y., Cescon P. and others, 2005. Trace elements in Vostok Antarctic ice during the last four climatic cycles. *Earth Planet. Sci. Lett.*, **234** (2005) 249-259.
- Wolff, E. W., Fischer, H., Fundel, F., Ruth, U., Twarloh, B., Littot, G. C., Mulvaney, R., Rothlisberger, R., de Angelis, M., Boutron, C. F., Hansson, M., Jonsell, U., Hutterli, M. A., Bigler, M., Lambert, F., Kaufmann, P., Stauffer, B., Stocker, T. F., Steffensen, J. P., Siggaard- Andersen, M. L., Udisti, R., Becagli, S., Castellano, E., Severi, M., Wagenbach, D., Barbante, C., Gabrielli, P. and Gaspari, V.: Southern Ocean sea-ice extent, productivity and iron flux over the past eight glacial cycles, *Nature*, **440** (2006) 491-496.
- Barbante C., Barnola J.-M., Becagli S., Beer J., Bigler M., et al. (EPICA Comm. Members). One-to-one coupling of glacial climate variability in Greenland and Antarctica. *Nature*, **444** (2006) 195-197.
- Jitaru P., Gabrielli P., Marteel A., Plane J.M.C., Planchon F., Gauchard P.-A., Ferrari C., Boutron C., Adams F., Hong S., Cescon P., Barbante C. Atmospheric depletion of mercury over Antarctica during glacial periods. *Nature Geoscience*, **3** (2009) 505-508.
- Parrenin F., Masson Delmotte V., Koeler P., Raynaud D., Paillard D., Schwander J., Barbante C., Landais A., Wegner A. and Jouzel J. Synchronous change of atmospheric CO₂ and Antarctic temperature during the last deglacial warming. *Science* **339** (2013) 1060-1063.
- Christner, B.C., Prisco J.C., Achberger A.M., Barbante C., Carter S.P., ... A microbial ecosystem beneath the West Antarctic ice sheet. *Nature* **512** (2014), 310-313.