

## RESEARCH ACTIVITY (Total peer-reviewed publications: 29)

### First authored per reviewed publications

**P. Gabrielli**, C. Barbante, J.M.C. Plane, A. Varga, S. Hong, G. Cozzi, V. Gaspari, F. Planchon, W. Cairns, C. Ferrari, P. Crutzen, P. Cescon, C.F. Boutron, Meteoric smoke fallout over the Holocene epoch revealed by iridium and platinum in Greenland ice, *Nature* 432(2004) 1011-1014.

**P. Gabrielli**, A. Varga, C. Barbante, C.F. Boutron, G. Cozzi, V. Gaspari, F. Planchon, W. Cairns, S. Hong, C. Ferrari, G. Capodaglio, Determination of Ir and Pt down to the sub-femtogram per gram level in polar ice by ICP-SFMS using preconcentration and a desolvation system, *J. Anal. At. Spectrom.* 19(2004) 831-837.

**P. Gabrielli**, C. Barbante, C.F. Boutron, G. Cozzi, V. Gaspari, F. Planchon, C. Ferrari, P. Cescon, Variations in atmospheric trace elements in Dome C (East Antarctica) ice over the last two climatic cycles, *Atmos. Environ.* 39(2005) 6420-6429.

**P. Gabrielli**, F. Planchon, S. Hong, K. Lee, S.D. Hur, C. Barbante, C. Ferrari, J.R. Petit, V.Y. Lipenkov, P. Cescon, C.F. Boutron, Trace elements in Vostok Antarctic ice during the last four climatic cycles, *Earth Planet. Sci. Lett.* 234/1-2(2005) 249-259.

**P. Gabrielli**, C. Barbante, C. Turetta, A. Marteel, C.F. Boutron, G. Cozzi, W. Cairns, C. Ferrari, P. Cescon, Direct Determination of Rare Earth Elements at the Sub Picogram per Gram Level in Antarctic Ice by ICP-SFMS Using a Desolvation System, *Anal. Chem.* 78(2006) 1883-1889.

**P. Gabrielli**, J.M.C. Plane, C.F. Boutron, S. Hong, G. Cozzi, P. Cescon, C. Ferrari, P. Crutzen, J.R. Petit, V.Y. Lipenkov, C. Barbante, A climatic control on the accretion of meteoric and super-chondritic iridium-platinum to the Antarctic ice cap, *Earth Planet. Sci. Lett.*, 250 (2006), 459-469.

**P. Gabrielli**, G. Cozzi, S. Torcini, P. Cescon, C. Barbante, Trace elements in winter snow of the Dolomites (Italy): a statistical study of natural and anthropogenic contributions, *Chemosphere* (2008), 72, 1504 - 1509.

**P. Gabrielli**, C. Barbante, J.M.C. Plane, C.F. Boutron, J.L. Jaffrezo, T.A. Mather, B. Stenni, V. Gaspari, G. Cozzi, C. Ferrari, P. Cescon, Siderophile metal fallout to Greenland from the 1991 winter eruption of Hekla (Iceland) and during the global atmospheric perturbation of Pinatubo, *Chemical Geology* (2008), 255, 78 - 86.

**P. Gabrielli**, F. Planchon, C. Barbante, C.F. Boutron, J.R. Petit, S. Bulat, S. Hong, G. Cozzi, P. Cescon, Ultra-low Rare Earth Element content in accreted ice from sub-glacial Lake Vostok, Antarctica, *Geochim. Cosmochim. Acta* (2009), 73, 20, 5959-5974.

**P. Gabrielli**, A. Wegner, J.R. Petit, B. Delmonte, P. De Dekker, V. Gaspari, H. Fisher, U. Ruth, M. Kriews, C.F. Boutron, P. Cescon, C. Barbante, A major glacial-

interglacial change in aeolian dust composition as inferred from Rare Earth Elements in Antarctic ice, *Quat. Sci. Rev.* (2009), in press

Co-authored per review publications

F. Planchon, **P. Gabrielli**, A. Dommergue, P.A. Gauchard, C. Barbante, C.F. Boutron, W. Cairns, G. Capodaglio, P. Cescon, G. Cozzi, C. Ferrari, S.A. Nagorsky, A. Varga, E.W. Wolff, Direct determination of mercury at the sub-picogram per gram levels in polar snow and ice by ICP-SFMS, *J. Anal. At. Spectrom.* 19(2004) 823-830.

S. Hong, C. Barbante, C.F. Boutron, **P. Gabrielli**, V. Gaspari, P. Cescon, L.G. Thompson, C. Ferrari, B. Francou, M. Bourgoïn, Atmospheric heavy metals in tropical South America during the past 22,000 years recorded in a high altitude ice core from Sajama, Bolivia, *Jour. Env. Monitor.* 6(2004) 222-226.

S. Hong, C.F. Boutron, **P. Gabrielli**, C. Barbante, C. Ferrari, J.R. Petit, K. Lee, V.Y. Lipenkov, Past natural changes in Cu, Zn and Cd in Vostok Antarctic ice dated back to the beginning of the next to last ice age, *Geophys. Res. Lett.* 31(2004) doi:10.1029/2004GL021075.

S. Hong, C.F. Boutron, C. Barbante, S. Do Hur, K. Lee, **P. Gabrielli**, G. Capodaglio, C. Ferrari, J.R. Petit, V.Y. Lipenkov, Glacial-interglacial changes in the occurrence of Pb, Cd, Cu and Zn in Vostok Antarctic ice from 240 to 410 kyr BP, *Jour. Env. Monitor.* 7(2005) 1326-1331.

P. Vallenga, **P. Gabrielli**, K. Rosman, C. Barbante, C.F. Boutron, A 220 ky record of Pb isotopes at Dome C Antarctica from analyses of the EPICA ice core, *Geophys. Res. Lett.* 32(2005) doi:10.1029/2004GL021449.

V. Gaspari, C. Barbante, G. Cozzi, P. Cescon, C.F. Boutron, **P. Gabrielli**, G. Capodaglio, C. Ferrari, J.R. Petit, B. Delmonte, Atmospheric iron over the last deglaciation: Climatic implications, *Geophys. Res. Lett.* 33(2006) doi:10.1029/2005GL024352.

E.W. Wolff, H. Fischer, F. Fundel, U. Ruth, B. Twarloh, G.C. Littot, R. Mulvaney, R. Rothlisberger, M. de Angelis, C.F. Boutron, M.E. Hansson, U. Jonsell, M.A. Hutterli, F. Lambert, P. Kaufmann, B. Stauffer, T. Stocker, J.P. Steffensen, M. Bigler, M.L., Siggaard-Andersen, R. Udisti, S. Becagli, E. Castellano, M. Severi, D. Wagenbach, C. Barbante, **P. Gabrielli**, V. Gaspari, Southern Ocean sea-ice extent, productivity and iron flux over the past eight glacial cycles, *Nature* 440(2006) 491-496.

Epica community members, One-to-one interhemispheric coupling of polar climate variability during the last glacial, *Nature* 444 (2006) 195-198.

M.L. Siggaard-Andersen, **P. Gabrielli**, J.P. Steffensen, T. Stromfeldt, C. Barbante, C.F. Boutron, H. Fisher, H. Miller, Soluble and insoluble chemistry of lithium in the EPICA Dome C ice core, *Earth Planet. Sci. Lett.*, 258 (2007), 32-43.

H. Fischer, F. Fundel, U. Ruth, B. Twarloh, A. Wegner, R. Udisti, S. Becagli, E. Castellano, A. Morganti, M. Severi, E.W. Wolff, G.C. Littot, R. Rothlisberger, R. Mulvaney, P. Kaufmann, U. Federer, F. Lambert, M. Bigler, M.E. Hansson, U.

Jonsell, M. de Angelis, **P. Gabrielli**, C.F. Boutron, M.L. Siggaard-Andersen, J.P. Steffensen, C. Barbante, V. Gaspari, D. Wagenbach, Reconstruction of millennial changes in dust emission, transport and regional sea ice coverage using the deep EPICA ice cores from the Atlantic and Indian Ocean sector of Antarctica, *Earth Planet. Sci. Lett.* (2007), 260 340-354.

S.D. Hur, X. Cunde, S. Hong, C. Barbante, **P. Gabrielli**, K. Lee, C.F. Boutron, Yan Ming Seasonal patterns of heavy metal deposition to the snow on Lambert Glacier basin, East Antarctica, *Atmos. Environ.* (2007) 41, 8567-8578.

A. Gambaro, R. Zangrando, **P. Gabrielli**, C. Barbante, P. Cescon, Direct Determination of Levoglucosan at the Picogram per Milliliter Level in Antarctic ice by High-Performance Liquid Chromatography/Electrospray Ionization Triple Quadrupole Mass Spectrometry, *Anal. Chem.*(2008), 80, 1649-1655.

U. Ruth, C. Barbante, M. Bigler, B. Delmonte, H. Fischer, **P. Gabrielli**, V. Gaspari, P. Kaufmann, F. Lambert, V. Maggi, F. Marino, J.R. Petit, J.P. Steffensen, R. Udisti, D. Wagenbach, A. Wegner, E. Wolff, Proxies and measurement techniques for mineral dust in Antarctic ice cores, *Environ. Sci. Tech.* (2008), 42, 15, 5675-5681.

D. Dick, A. Wegner, **P. Gabrielli**, U. Ruth, C. Barbante, M. Kriews, Rare Earth Elements determined in Antarctic ice by Inductively Coupled Plasma - Time of Flight, Quadrupole and Sector Field-Mass Spectrometry: an inter-comparison study, *Anal. Chim. Acta* (2008), 621, 140-147.

A. Marteel, C.F. Boutron, C. Barbante, **P. Gabrielli**, G. Cozzi, C. Ferrari, V. Gaspari, P. Cescon, A. Dommergue, K. Rosman, S. Hong, S. Do Hur, Changes in atmospheric heavy metals and metalloids in Dome C (East Antarctica) ice back to 671 ky BP (Marine Isotopic Stages 16.2), *Earth Planet. Sci. Lett.*(2008), 272, 579-590.

L. Wei, E.M. Thompson, **P. Gabrielli**, L.G. Thompson, C. Barbante, Synchronous deposition of volcanic ash and sulfate aerosols over Greenland in 1783 from the Laki eruption (Iceland) *Geophys. Res. Lett.* (2008) 35, L16501, doi:10.1029/2008GL035117.

A. Marteel, V. Gaspari, C.F. Boutron, C. Barbante, **P. Gabrielli**, P. Cescon, G. Cozzi, C. Ferrari, A. Dommergue, K. Rosman, S. Hong, S. Do Hur, Climate-related variations in crustal trace elements in Dome C (Antarctica) ice during the past 672 kyr, *Clim. Change* (2009) 92, 191-211.

P. Jitaru, **P. Gabrielli**, A. Marteel, J.M.C. Plane, F. Planchon, P.A. Gauchard, C. Ferrari, C.F. Boutron, F.C. Adams, S. Hong, P. Cescon, C. Barbante, Atmospheric depletion of mercury over Antarctica during glacial periods, *Nature Geoscience* (2009), 2, 505 - 508.

P. Vallelonga, **P. Gabrielli**, I. Balliana, A. Wegner, B. Delmonte, C. Turetta, F. Vanhaecke, K.J.R. Rosman, S. Hong, C.F. Boutron, P. Cescon, C. Barbante, Lead isotopic compositions in the EPICA Dome C ice core and Southern Hemisphere Potential Source Areas, *Quat. Sci. Rev.*(2009), in press