

Dr. Rolf Weller Chemist

Born: 05. June 1958 in Neckarsulm, Germany

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Curriculum Vitae

EDUCATION:

- 1977 Abitur (High School degree) at Albert Schweitzer Gymnasium, Neckarsulm (Germany)
- 1978-1985 Graduate Studies in Chemistry at the University of Heidelberg (Germany)
- 1985 Degree of Chemistry (Diploma) at the University of Heidelberg (Institute of Physical Chemistry)
- 1985-1989 PhD at the University of Heidelberg (Institute of Physical Chemistry). Title of PhD thesis: *Kinetische Untersuchungen von CN und NH₂ Gasphasenreaktionen im Temperaturbereich 294-1027 K mittels der Laserphotolyse / laserinduzierten Fluoreszenz Technik* (in German).

APPOINTMENTS:

- since 1989 Senior Scientist at AWI. **Research interests:**
- Physical and chemical properties of Antarctic aerosol
 - photo-oxidation processes in marine and polar regions
 - development of aerosol- and trace gas sampling techniques.
- since 1998 Responsible for the Air Chemistry Observatory at Neumayer Station (Antarctica):
[http://www.awi.de/en/science/long-term-
observations/atmosphere/antarctic-neumayer/air-chemistry.html](http://www.awi.de/en/science/long-term-observations/atmosphere/antarctic-neumayer/air-chemistry.html))

EXPEDITIONS:

- FS Polarstern: Atmospheric chemistry and atmospheric trace compound measurements during 5 Polarstern expeditions (region: Atlantic, between 1990 and 1996).
- Antarctica: Atmospheric chemistry and atmospheric trace compound measurements during 15 summer campaigns at Neumayer Station and 5 summer campaigns at Kohnen Station (between 1997 and now).

TEACHING EXPERIENCE:

- 1995-1998 University of Bremen (faculty "FB 2" biology & chemistry), lecture "Atmospheric chemistry of extra-terrestrial planets" (in German).

Ten selected relevant publications (from 63 ISI peer reviewed articles):

1. Weller, R., Legrand, M., and Preunkert, S. (2018): Size distribution and ionic composition of marine summer aerosol at the continental Antarctic site Kohnen, *Atmos. Chem. Phys.*, 18, 2413-2430, <https://doi.org/10.5194/acp-18-2413-2018>, 2018.
2. Weller, R., Schmidt, K., Teinilä, K. and Hillamo, R. (2015): Natural new particle formation at the coastal Antarctic site Neumayer, *Atmospheric Chemistry and Physics*, 15 (19), pp. 11399-11410. doi: 10.5194/acp-15-11399-2015
3. Weller, R., Levin, I., Schmithüsen, D., Nachbar, M., Asseng, J. and Wagenbach, D. (2014): On the variability of atmospheric ²²²Rn activity concentrations measured at Neumayer, coastal Antarctica, *Atmospheric Chemistry and Physics*, 14 (8), pp. 3843-3853. doi: 10.5194/acp-14-3843-2014
4. Weller, R., Minikin, A., Petzold, A., Wagenbach, D. and König-Langlo, G. (2013): Characterization of long-term and seasonal variations of black carbon (BC) concentrations at Neumayer, Antarctica, *Atmospheric Chemistry and Physics*, 13, pp. 1579-1590. doi: 10.5194/acp-13-1579-2013
5. Weller, R., Minikin, A., Wagenbach, D. and Dreiling, V. (2011): Characterization of the inter-annual, seasonal, and diurnal variations of condensation particle concentrations at Neumayer, Antarctica, *Atmospheric Chemistry and Physics*, 11, pp. 13243-13257. doi: 10.5194/acp-11-13243-2011
6. Weller, R., Wagenbach, D., Legrand, M., Elsässer, C., Tian-Kunze, X. and König-Langlo, G. (2011): Continuous 25-years aerosol records at coastal Antarctica: 1. Inter-annual variability of ionic compounds and links to climate indices, *Tellus*, 63B (5), pp. 901-919. doi: 10.1111/j.1600-0889.2011.00542.x
7. Weller, R. and Lampert, A. (2008): Optical properties and sulfate scattering efficiency of boundary layer aerosol at coastal Neumayer Station, Antarctica, *Journal of Geophysical Research*, 113, D16208. doi: 10.1029/2008JD009962
8. Weller, R., Wöltjen, J., Piel, C., Resenberg, R., Wagenbach, D., König-Langlo, G. and Kriews, M. (2008): Seasonal variability of crustal and marine trace elements in the aerosol at Neumayer Station, Antarctica, *Tellus B*, 60 (5), pp. 742-752. doi: 10.1111/j.1600-0889.2008.00372.x
9. Weller, R. and Wagenbach, D. (2007): Year-round chemical aerosol records in continental Antarctica obtained by automatic samplings, *TellusB* (4), 59, pp. 755-765. doi: 10.1111/j.1600-0889.2007.00293.x
10. Weller, R., Jones, A. E., Wille, A., Jacobi, H. W., McIntyre, H. P., Sturges, W. T., Huke, M. and Wagenbach, D. (2002): Seasonality of reactive nitrogen oxides (NO_y) at Neumayer Station, Antarctica, *Journal of Geophysical Research*, 107(D23), 4673. doi: 10.1029/2002JD002495