

Anna Wonaschütz: Publications and Presentations

Peer reviewed journal articles

1. Wonaschütz, A., Kallinger, P., Szymanski, W., Hitzenberger, R.: Chemical composition of radiolytically formed particles using mass spectrometry, in review, *J. Aerosol Sci.*, 2017.
2. C. Dameto de España, A. Wonaschütz, G. Steiner, B. Rosati, A. Demattio, H. Schuh, R. Hitzenberger: Long-term quantitative field study of New Particle Formation (NPF) events as a source of Cloud Condensation Nuclei (CCN) in the urban background of Vienna, in review, *Atmos. Environ.*, 2017.
3. Shingler, T., Sorooshian, A., Ortega, A., Crosbie, E., Wonaschuetz, A., Perring, A., Beyersdorf, A., Ziemba, L., Jimenez, J., Campuzano-Jost, P., Mikoviny, T., Wisthaler, A., Russell, L.: Ambient observations of hygroscopic growth factor and $f(\text{RH})$ below 1: Case studies from surface and airborne measurements, *J. Geophys. Res.*, 121, 13661 – 13667, doi: 10.1002/2016JD025471R, 2016.
4. Sanchez, K.J., L.M. Russll, R.L. Modini, A.A. Frossard, L. Ahlm, C.E. Corrigan, G.C. Roberts, L.N. Hawkins, J.C. Schroder, A.K. Bertram, R. Zhao, A.K.Y. Lee, J.J. Lin, A. Nenes, Z. Wang, A. Wonaschütz, A. Sorooshian, K.J. Noone, H. Jonsson, D. Toom-Sauntry, A.M. MacDonald, W.R. Leitch, J.H. Seinfeld: Meteorological and aerosol effects on marine cloud microphysical properties, *J. Geophys. Res.*, 121, 4142-4161, doi: 10.1002/2015JD024595, 2016.
5. Wonaschütz, A., A. Dematio, R. Wagner, J. Burkart, N. Zíková, P. Vodička, G. Steiner, W. Ludwig, J. Schwarz, R. Hitzenberger: Seasonality of new particle formation in Vienna, Austria – influence of air mass origin and aerosol chemical composition, *Atmos. Environ.*, 118, 118-126, doi:10.1016/j.atmosenv.2015.07.035, 2015.
6. Modini, R., A. Frossard, L. Ahlm, C. Corrigan, G. Roberts, L. Hawkins, J. Schroder, A. Bertram, R. Zhao, A. Lee, J. Abbat, J. Lin, A. Nenes, Z. Wang, A. Wonaschütz, A. Sorooshian, K. Noone, H. Jonsson, J. Seinfed, D. Toom-Sauntry, A. M. Macdonald, R. Leitch: Primary marine aerosol-cloud interactions off the coast of California, *J. Geophys. Res.*, 120, 4282-4303, doi: 10.1002/2014JD022963, 2015.
7. Crosbie, E., J.-S. Youn, B. Balch, A. Wonaschütz, T. Shingler, Z. Wang, W. C. Conant, E. A. Betterton, and A. Sorooshian: On the competition among aerosol number, size and composition in predicting CCN variability: a multi-annual field study in an urbanized desert, *Atmos. Chem. Phys.*, 15, 6943-6958, 2015, doi:10.5194/acpd-15-6943-2015.

8. Youn, J. S., Z. Wang, A. Wonaschütz, A. Arellano, E. A. Betterton, and A. Sorooshian: Evidence of Aqueous Secondary Organic Aerosol (SOA) Formation from Biogenic Emissions in the North American Sonoran Desert, *Geophys. Res. Lett.*, *40*, 3468 – 3472, doi:10.1002/grl.50644, 2013.
9. Wonaschütz, A., M. Coggon, A. Sorooshian, R. Modini, A. Frossard, L. Ahlm, J. Mülmenstädt, and L. M. Russell: Hygroscopic properties of an organic plume in the marine atmosphere, *Atmos. Chem. Phys.*, *13*, 9819 – 9835, doi: 10.5194/acp-13-9819-2013, 2013.
10. Russell, L.M., A. Sorooshian, J.H. Seinfeld, B.A. Albrecht, A. Nenes, L. Ahlm, Y.C. Chen, M. Coggon, J.S. Craven, R. C. Flagan, A.A. Frossard, H. Jonsson, E. Jung, J.J. Lin, A.R. Metcalf, R. Modini, J. Mülmenstädt, G.C. Roberts, T. Shingler, S. Song, Z. Wang, and A. Wonaschütz: Eastern Pacific Emitted Aerosol Cloud Experiment (E-PEACE), *B. Am. Meteorol. Soc.*, *94*, 709 - 729 doi: 10.1175/BAMS-D-12-00015, 2013.
11. Wonaschütz, A., A. Sorooshian, B. Ervens, P.Y. Chuang, S.M. Murphy, J. de Gouw, C. Warneke and G. Feingold: Aerosol and Gas Re-distribution by Shallow Cumulus Clouds: An investigation using airborne measurements, *J. Geophys. Res.*, *117*, D17, doi:10.1029/2012JD018089, 2012.
12. Wonaschütz A., S.P. Hersey , A. Sorooshian, J.S. Craven, A.R. Metcalf, R.C. Flagan, and J.H. Seinfeld: Impact of a large wildfire on water-soluble organic aerosol in a major urban area: the 2009 Station Fire in Los Angeles County, *Atmos. Chem. Phys.*, *11*, 8257–8270, doi:10.5194/acp-11-8257-2011, 2011.
13. Sorooshian, A., A. Wonaschütz, E.G. Jarjour, B.I. Hashimoto, B.A. Schichtel, and E.A. Betterton: An aerosol climatology for a rapidly growing arid region (Southern Arizona): Major aerosol species and remotely-sensed aerosol properties, *J. Geophys. Res.*, *116*, D19205, doi:10.1029/2011JD016197, 2011.
14. Csavina, J., A. Landázuri, A. Wonaschütz, K. Rine, P. Rheinheimer, B. Barbaris, W. Conant, A.E. Sáez, and E.A. Betterton: Metal and Metalloid Contaminants in Atmospheric Aerosols from Mining Operations, *Water Air Soil Pollut.* *221*, 145–157, doi: 10.1007/s11270-011-0777-x, 2011.
15. Wonaschütz, A., R. Hitzengerger, H. Bauer, P. Pouresmaeil, B. Klatzer, A. Caseiro, and H. Puxbaum: Application of the Integrating Sphere Method to Separate the Contributions of Brown and Black Carbon in Atmospheric Aerosols, *Environ. Sci. Technol.*, *43* (4), 1141 – 1146, doi: 10.1021/es8008503, 2009.
16. Reisinger, P., A. Wonaschütz, R. Hitzengerger, A. Petzold, H. Bauer, N. Jankowski, H. Puxbaum, X. Chi, and W. Maenhaut: Intercomparison of measurement techniques for black or elemental carbon under urban background conditions in wintertime: Influence of biomass combustion, *Environ. Sci. Technol.*, *42* (3), 884 – 889, 10.1021/es0715041, 2008.

Conference Presentations (presenting author)

1. Wonaschütz, A., P. Kallinger, W. Szymanski, and R. Hitzenberger (2015): Chemical composition of radiolytically formed particles using aerosol mass spectrometry, *poster presentation*, European Aerosol Conference 2015, 6 – 11 Sep, Milan, Italy.
2. Wonaschütz, A., and R. Hitzenberger, R. (2015): Measurement of internal and external mixtures of test aerosols with a Single Particle Aerosol Mass Spectrometer, *poster presentation*, Geophysical Research Abstracts Vol. 17, EGU2015-9449-1, EGU General Assembly 2015, 13 – 17 Apr, Vienna, Austria.
3. Crosbie, E., J.-S. Youn, B. Balch, A. Wonaschuetz, T. Shingler, Z. Wang, W. Conant, E. Betterton, and A. Sorooshian On the competition among aerosol number, size and composition in predicting CCN variability: a multi-annual field study in an urbanized desert, *poster presentation*, Geophysical Research Abstracts Vol. 17, EGU2015-7777, EGU General Assembly 2015, 13 – 17 Apr, Vienna, Austria.
4. Wonaschütz, A., J. Burkart, A. Demattio, C. Dameto de Espana, R. Wagner, G. Reischl, G. Steiner, and R. Hitzenberger (2014): On the Importance of New Particle Formation Events as a Source for Cloud Condensation Nuclei in an Urban Environment, *oral presentation*, AAAR 33rd Ann. Conf., 20 – 24 Oct, 2014, Orlando, FL, USA.
5. Hitzenberger, R., J. Schwarz, I. Aschauer, R. Haindl, W. Ludwig, R. Wagner, A. Wonaschütz, G. Zecha, P. Vodička, Z. Wagner, N. Ziková, V. Ždimal (2014): Black and elemental carbon in two European urban areas – temporal trends, site and seasonal similarities and differences *oral presentation*, AAAR conference, 20 - 24 Oct, 2014, Orlando, FL, USA.
6. Wonaschütz, A., J. Burkart, R. Wagner, G. Reischl, G. Steiner, and R. Hitzenberger (2013): New Particle Formation as a Source for Cloud Condensation Nuclei – an exploratory study, *poster presentation*, Geophysical Research Abstracts Vol. 16, EGU2014 15184, EGU General Assembly 2014, 27 Apr - 02 May, Vienna, Austria.
7. Wonaschütz, A., J. Burkart, R. Haindl, J. Palmethofer, G. Reischl, G. Steiner, R. Wagner, and R. Hitzenberger (2013): New Particle Formation in an Urban Atmosphere: Seasonal Dependence and Influence of Air Mass Origin, *oral presentation*, AAAR 32nd Annual Conference, 30 Sep. – 4 Oct, Portland, Oregon, USA.
8. Wonaschütz, A., R. Wagner, I. Aschauer, R. Haindl, W. Ludwig, G. Zecha, J. Ondraček, P. Vodička, N. Zikova, V. Ždimal, J. Schwarz, and R. Hitzenberger (2013): Ultrafine Particle Concentrations: Importance of Local Sources and New Particle Formation in two Central European Cities, *poster presentation*, European Aerosol Conference 2013, 1 – 6 Sep, Prague. Czech Republic.
9. Wonaschütz, A., M. Coggon, A. Sorooshian, R. Modini, A. Frossard, L. Ahlm, J. Mülmenstädt, G.C. Roberts, L.M. Russell, S. Dey, F.J. Brechtel, and J.H. Seinfeld (2013): On the Evolution of Organic Aerosol Water-Uptake Properties in an Aging Plume in the Marine Atmosphere, *oral presentation*,

Geophysical Research Abstracts Vol. 15, EGU2013 10126, EGU General Assembly 2013, 7 -12 Apr, Vienna, Austria.

10. Wonaschütz, A., A. Sorooshian, B. Ervens, P.Y. Chuang, G. Feingold, S.M. Murphy, and H.H. Jonsson (2011): Aerosol Redistribution by Shallow Cumulus Clouds: An Investigation using Airborne Measurements over Southeastern Texas, *oral presentation*, Abstract A54D-02, AGU Fall Meeting 2011, 5-9 Dec, San Francisco, California, USA.
11. Wonaschütz, A., A. Sorooshian, S. M. Murphy, B. Ervens, P.Y. Chuang, G. Feingold, H.H. Jonsson, R.C. Flagan, and J. Seinfeld (2010): Towards an Understanding of Aerosol Redistribution by Shallow Cumulus Clouds with a Focus on Organics, *poster presentation*, Abstract A11G-0173, AGU Fall Meeting 2010, 13-17 Dec, San Francisco, California, USA.
12. Wonaschütz, A., W.C. Conant, B. Barbaris, E.A. Betterton, J. Csavina, and A.E. Sáez (2010): Aerosol Characterization in the Sonoran Desert of Arizona, *poster presentation*, Geophysical Research Abstracts Vol. 12, EGU2010 1027, EGU General Assembly 2010, 2 -7 May, Vienna, Austria.

Conference Contributions (Co-author)

13. Nemeth, Z., B. Rosati, N. Ziková, I. Salma, L. Bozo, R. Hitzenberger, J. Schwarz, V. Zdimal, A. Wonaschütz: A léghőri nukleáció jelentősége közep-európai városi környezetekben, XIII Hungarian Aerosol Conference, 19 -21 Apr. 2017, Pecs, Hungary.
14. Beck, L., U. Nickus, A. Kasper-Giebl, A. Wonaschütz, R. Hitzenberger, G. Schauer, L. Ries: New particle formation events at Sonnblick and Zugspitze, *poster presentation*, Virtual Alpine Observatory Symposium 2017, 28 – 30 Mar. 2017, Bozen, Italy.
15. Rosati, B., Z. Németh, N. Ziková, C. Dameto de Espana, G. Steiner, V. Zdimal, J. Schwarz, T. Weidinger, I. Salma, R. Hitzenberger, A. Wonaschütz: New Particle Formation in Urban Atmospheres: Comparison between Vienna, Prague and Budapest and Influence of Air Mass Origin, *poster presentation*, 66th Yearly Meeting of the Austrian Physical Society, Sep. 27 – 29, 2016, Vienna, Austria.
16. Witek, L., T. Haller, A. Wonaschütz, G. Steiner, H. Schuh, T. Häusler, H. Grothe, R. Hitzenberger, Collection of CAST particles with a Particle Into Liquid Sampler (PILS), *poster presentation*, 22nd European Aerosol Conference, 4 – 9 Sep. 2016, Tours, France.
17. Möhler, O., N. Hiranuma, D.J. Cziczo, P.J. DeMott, U. Romy, T. Schiebel, K. Höhler, C. Mohr, A. Ahern, R. Sullivan, H. Al-Mashat, D. Bell, J. Wilson, A. Zelenyuk, N. Marsden, F. Marth, S. Schmidt, J. Schneider, A. Wonaschütz, M.A. Zawadowicz: Suppression of the feldspar ice nucleation activity by thin coating layers of secondary organics and sulphuric acid, *oral presentation*, XVII International Conference on Clouds & Precipitation, 25 – 29 July 2016, Manchester, UK.

18. Sanchez, K., L. Russell, A. Frossard, L. Ahlm, G. Roberts, L. Hawkins, J. Schroder, Z. Wang, A. Lee, J. Abbatt, J. Lin, A. Nenes, A. Wonaschuetz, A. Sorooshian, K. Noone, H. Jonsson, B. Albrecht, D. Toom-Sauntry, A. M. Macdonald, J. Seinfeld, R. Zhao: Meteorological and Aerosol Effects on Marine Cloud Microphysical Properties, *poster presentation*, American Geophysical Union Fall Meeting 2015, 14 - 18 Dec., San Francisco, California, USA.
19. Ortega, A., T. Shingler, E. Crosbie, A. Wonaschuetz, K. Froyd, G. Adler, R.-S. Gao, J. Schwarz, A. Perring, C. Brock, A. Beyersdorf, L. Ziemba, J. Jimenez, P. Campuzano Jost, A. Wisthaler, A. Sorooshian: Ambient Observations of Sub-1.0 Hygroscopic Growth Factor and f(RH) values: Case Studies from Surface and Airborne Measurements, *poster presentation*, American Geophysical Union Fall Meeting 2015, 14 - 18 Dec., San Francisco, California, USA.
20. Moehler, O., D. Cziczo, P. deMott, N. Hiranuma, M. Petters, Scientific Team: FIN team: The Fifth Ice Nucleation Workshop Activities FIN-01 and FIN-02: Overview and Selected Results, *oral presentation*, American Geophysical Union Fall Meeting 2015, 14 - 18 Dec., San Francisco, California, USA.
21. Cziczo, D., O. Moehler, P. deMott, Scientific Team: FIN team: Advances in Understanding the Role of Aerosols on Ice clouds from the Fifth International Ice Nucleation (FIN) Workshops, *oral presentation*, American Geophysical Union Fall Meeting 2015, 14 - 18 Dec., San Francisco, California, USA.
22. Beck, L., U. Nickus, A. Kasper-Giebl, A. Wonaschütz, R. Hitzemberger, G. Schauer, L. Ries: Nucleation events at Sonnblick and Zugspitze, March to July 2013, Virtual Alpine Observatory Symposium 2015, 27 – 30 Oct., Salzburg, Austria.
23. Dameto de España, C., A. Wonaschuetz, G. Steiner, A. Demattio, and R. Hitzemberger: Long-term study of Cloud Condensation Nuclei (CCN) concentrations associated with New Particle Formation (NPF) events in the urban background of Vienna, *poster presentation*, European Aerosol Conference 2015, 6 – 11 Sep, Milan, Italy.
24. Dameto de España, C., A. Wonaschütz, A. Demattio, G. Steiner, and R. Hitzemberger, Long-term study on the impact of new particle formation on CCN in an urban background location, *poster presentation*, Geophysical Research Abstracts Vol. 17, EGU2015-6516, EGU General Assembly 2015, 13 – 17 Apr, Vienna, Austria.
25. Crosbie, E.C., J. Youn, A. Wonaschuetz, A. Sorooshian: An Investigation into Cloud Condensation Nuclei (CCN) Activation in the Southwestern United States, abstract #A41H-0191, American Geophysical Union Fall Meeting 2013, 9-13 Dec., San Francisco, California, USA.
26. Sorooshian, A., J. Youn, Z. Wang, A. Wonaschuetz, A.F. Arellano, E.A. Betterton: Evidence of Aqueous Secondary Organic Aerosol Formation from Biogenic Emissions in the North American Sonoran Desert, Fall Meeting

2013, abstract #A54G-07, American Geophysical Union Fall Meeting 2013, 9-13 Dec., San Francisco, California, USA.

27. Chuang, P. Y., M. Norgren, A. Wonaschuetz, J.D. Small, A. Sorooshian, H.H. Jonsson, G. Feingold, B. Ervens, S.M. Murphy: Detrainment and aerosol redistribution in shallow convective clouds, abstract #A23C-0244, American Geophysical Union Fall Meeting 2013, 9-13 Dec., San Francisco, California, USA.
28. Laborde, M., Kassell, G., Kasper-Giebl, A., Meran, I., Nickus, U., Hitzenberger, R., Wonaschütz, A., Mocnik, G., Drinovec, L., Wotawa, G. & Schauer, G., 7 Nov 2013, Book of Abstracts: International Conference on Optical Characterization of Atmospheric Aerosols. Bratislava, p. 32-34.
29. Hitzenberger, R., J. Schwarz, I. Aschauer, R. Haindl, W. Ludwig, R Wagner, A. Wonaschuetz, G. Zecha, I. Ševčíkova, P. Vodička , N. Zikova, and V. Ždimal (2013): Comparability of methods to measure black and elemental carbon in two European urban areas - site and seasonal similarities and differences, European Aerosol Conference 2013, 1 – 6 Sep, Prague, Czech Republic.
30. Schwarz, J., N. Zikova , P. Vodička, I. Ševčíkova, J. Kugler, A. Wonaschuetz, R. Wagner, I. Aschauer, W. Ludwig, R. Haindl, G. Zecha, R. Hitzenberger, V. Ždimal: Comparison of mass size distribution of PM and ions in Prague and Vienna in winter and summer, European Aerosol Conference 2013, 1 – 6 Sep 2013, Prague, Czech Republic.
31. Russell, L. M., A. Sorooshian, J. H. Seinfeld, B. A. Albrecht, A. Nenes, W. R. Leitch, A. M. Macdonald, L. Ahlm, Y.-C. Chen, M. Coggon, A. Corrigan, J. S. Craven, R. C. Flagan, A. A. Frossard, L. N. Hawkins, H. Jonsson, E. Jung, J. J. Lin, A. R. Metcalf, R. Modini, J. Mülmenstädt, G. C. Roberts, T. Shingler, S. Song, Z. Wang, and A. Wonaschütz: Observed Aerosol Effects on Marine Cloud Nucleation and Supersaturation, Nucleation and Atmospheric Aerosols, AIP Conf. Proc. 1527, 696 – 701, doi:10.1063/1.4803366, 19th International Conference on Nucleation and Atmospheric Aerosols, 24 - 28 June 2013, Fort Collins, Colorado, USA.
32. Kasper-Giebl, A., I. Meran, U. Nickus, R. Hitzenberger, A. Wonaschütz, G. Mocnik, L. Drinovec, G. Wotawa, and G. Schauer: Aerosol Measurements at the Sonnblick Observatory: On-line identification of long-range transport of particulate matter, 5th Symposium for Research in Protected Areas, June 10-12, 2013, Mittersill, Austria.
33. Frossard, A.A., R. Modini, L.M. Russell, A. Wonaschütz, A. Sorooshian, D.J. Kieber, J.R. Maben, W.C. Keene, T.S. Bates, and P. Quinn (2011): Composition of California coastal marine aerosol particles measured during CalNex 2010 and E-PEACE 2011, Abstract A21A-0010, AGU Fall Meeting 2011, 5-9 Dec, San Francisco, California, USA.
34. Russell, L.M., A. Sorooshian, J. Seinfeld, B. Albrecht, A. Nenes, L. Ahlm, Y. Chen, M. Coggon, J.S. Craven, R. Flagan, A. Frossard, H. Jonsson, E. Jung, J. Lin, A. Metcalf, R. Modini, J. Mülmenstädt, T. Shingler, S. Song, E. Sumargo, Z. Wang, and A. Wonaschütz: Eastern Pacific Emitted Aerosol Cloud

Experiment (E-PEACE), Abstract 3CC.6, AAAR 31st Annual Conference, 8-12 Oct 2012m, Minneapolis, Minnesota, USA.

35. Russell, L.M., A. Sorooshian, J. Seinfeld, B.A. Albrecht, A. Nenes, L. Ahlm, Y. Chen, J.S. Craven, M. Coggon, A.A. Frossard, E. Jung, J.J. Lin, A.R. Metcalf, R. Modini, J. Mülmenstädt, T. Shingler, S. Song, Z. Wang, and A. Wonaschütz (2011): Eastern Pacific Emitted Aerosol Cloud Experiment (E-PEACE) 2011: Design and Highlights (Invited), Abstract A14A-02 presented at AGU Fall Meeting 2011, 5-9 Dec, San Francisco, California, USA.