

1 Curriculum vitae - Paul Zieger

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1.1 Education and degrees

2021 Docent in Environmental Science (docent i miljövetenskap), Stockholm University, Sweden

2011 Doctor of Sciences (Dr. sc. ETH Zürich)

Thesis: *Effects of relative humidity on aerosol light scattering* at ETH Zürich, Switzerland

Supervisors: Prof. Thomas Peter, Dr. Ernest Weingartner, and Prof. Urs Baltensperger

2007–2011 PhD student at ETH Zürich and at the Paul Scherrer Institute, Switzerland

2007 Diploma in Physics (Grade: 1.0, passed with distinction), Freie Universität Berlin, Germany

Thesis: *Development of an airborne spectrometer system for the remote sensing of aerosol optical properties*, Supervisors: Prof. Ludger Wöste and Prof. Jürgen Fischer

2002–2003 Universidad de Granada, Spain, Study of Physics

2000–2007 Freie Universität Berlin, Germany, Study of Physics

1.2 Employment history

Since Feb. 21 Associate Professor (universitetslektor) in Experimental Atmospheric Science at Stockholm University (SU), Department of Environmental Science (ACES), Stockholm, Sweden

Feb. 17- Feb. 21 Assistant Professor (biträdande lektor) in Experimental Atmospheric Science at Stockholm University (SU), Department of Environmental Science (ACES), Stockholm, Sweden

Jan. 15–Jan. 17 Researcher at Stockholm University, Department of Environmental Science and Analytical Chemistry, Stockholm, Sweden

May 13–Jan. 15 Postdoctoral researcher at Stockholm University, Department of Applied Environmental Science, Stockholm, Sweden, financed by two fellowships of the Swiss National Science Foundation

May 11–Apr. 13 Postdoctoral researcher at the Paul Scherrer Institute (PSI), Switzerland, working on the aerosol_cci project of the European Space Agencies Climate Change Initiative (CCI)

May 07–Apr. 11 Ph.D. student at the Laboratory of Atmospheric Chemistry, PSI, Villigen, Switzerland

Aug. 04–Mar. 07 Student research assistant, Freie Universität Berlin, Institute for Space Sciences, Berlin, Germany

1.3 Grants

2021 “Climate Relevant interactions and feedbacks: the key role of Sea ice and Snow in the polar and global climate system (CRiceS)”, EC Horizon 2020 project, 8 Mio EUR, R. Makkonen (PI's) & J. Thomas (PIs), ..., P. Zieger (role: WP1 co-lead and co-lead of aerosol-cloud theme (CT2))

2020 “Closing the gap between properties of fresh sea spray aerosol and aerosol observed in the marine boundary layer”, VR project grant, 5.0 Mio SEK, C. Mohr (PI), P. Zieger, M. Salter

- 2020 “Constraining the climate-scale impact of aerosols on cloud droplet number concentrations”, VR project grant, 6.0 Mio SEK, A. Ekman (PI), P. Zieger
- 2019 “Constrained aerosol forcing for improved climate projections”, EC Horizon 2020 project, 8 Mio EUR, I. Riipinen & A. Ekman (PIs), ..., P. Zieger, ...
- 2018 “Biogenic particles and their role in the formation of Arctic clouds”, Vetenskapsrådet (VR) starting grant, 3.2 Mio SEK, P. Zieger (PI)
- 2018 “Characterising properties of Climate Relevant Organic and Inorganic Sea-Spray-aerosols, Sources and Air-sea-exchange causing their Net-emission (CROISSANT)”, VR research grant, 3.4 Mio SEK, D. Nilsson (PI), M. Salter, B. Svenningsson, P. Zieger
- 2017 “NonTarget Atmospheric Observatories (NTAO) for Organic Contaminant Discovery”, FORMAS research grant, 3.0 Mio SEK, J. Martin (PI), P. Zieger, Ö. Gustafsson, I. Riipinen
- 2016 “Evaluation and improvement of the parameterization of aerosol hygroscopicity in global climate models using in-situ surface measurements”, research grant from U.S. Department of Energy, ARM/ASR program, 608k USD of which 360k USD for ACES, E. Andrews (PI), P. Zieger, G. Titos
- 2013 Fellowships for Prospective Researchers & Advanced PostDoc. Mobility fellowship from the Swiss National Science foundation, 85k CHF, P. Zieger (PI)

1.4 Appointments

- 2021-today Swedish national representative to SOLAS (Surface Ocean - Lower Atmosphere Study)
- 2019-today Research Infrastructure Coordination Committee (RICC) member of the Svalbard Integrated Observing System (SIOS)
- 2018-today Scientific Advisory Committee member of IGAC project *the Cryosphere and Atmospheric Chemistry* (CATCH)
- 2018-today Elected board member of the Association for Aerosol Research (GAeF)
- 2018-today Scientific steering committee member of the Ny-Ålesund Atmosphere Research Flagship Programme (WG1: Clouds, humidity, precipitation)
- 2018-today Co-editor for Atmospheric Chemistry and Physics (ACP)
- 2019-today Organisation and participation of several international field campaigns (e.g. AgriSAR 2006, CLACE 2008 & 2010, CINDI 2009, PEGASOS 2013, CAESAR 2014, NYA cloud campaign 2016-, EMB184 2018, Arctic Ocean 2018 (US-Swedish expedition to North Pole on I/B *Oden* as PI of project “Aerosol-cloud interactions in the High Arctic”), NASCENT 2019–2020)
- 2017-today Conference session organiser (e.g. AGU 2019, EAC 2019)
- 2017-today Work package 2 co-leader of KAW project *Arctic Climate Across Scales* (ACAS) (2017-today)
- 2016-2019 Member of the ACTRIS-2 TNA (Trans-National Access) selection panel
- 2017-2018 Mentor in the mentorship program of the Bolin Centre for Climate Research

1.5 Awards

- 2016 Fellow of the International Arctic Science Committee (IASC, 2016-2018)
- 2011 Atmospheric Chemistry and Physics ACP Award (Swiss Academy of Sciences)
- 2006 Poster prize at ERCA winter school, Grenoble, France

2 Publications

Articles where I acted as corresponding author (e.g. as supervisor) are marked by an asterisk (*). Articles which were part of my PhD thesis are marked by a hash sign (#), while articles with equal contribution as the first author are marked by a plus sign (+).

2.1 Peer-reviewed original articles

45. Karlsson, L., Krejci, R., Koike, M., Ebell, K., and **Zieger, P.*** (2021): [A long-term study of cloud residuals from low-level Arctic clouds](#), *Atmos. Chem. Phys.*, 21, 8933–895
44. Tunved, P., Cremer, R. S., **Zieger, P.**, and Ström, J. (2021): [Using correlations between observed equivalent black carbon and aerosol size distribution to derive size resolved BC mass concentration: a method applied on long-term observations performed at Zeppelin station, Ny-Ålesund, Svalbard](#), *Tellus B: Chemical and Physical Meteorology*, 73, 1-17
43. Triesch, N., van Pinxteren, M., Salter, M., Stolle, C., Pereira, R., **Zieger, P.**, and Herrmann, H. (2021): [Sea Spray Aerosol Chamber Study on Selective Transfer and Enrichment of Free and Combined Amino Acids](#), *ACS Earth and Space Chemistry*, 5, 1564-1574
42. Zinke, J., Salter, M. E., Leck, C., Lawler, M. J., Porter, G., Adams, M., Brooks, I., Murray, B., and **Zieger, P.*** (2021): [The development of a miniaturised balloon-borne cloud water sampler and its first deployment in the high Arctic](#), *Tellus B*, 73, 1, 1-12
41. Siegel, K., Karlsson, L., **Zieger, P.**, Baccharini, A., Schmale, J., Lawler, M., Salter, M., Leck, C., Ekman, A. M. L., Riipinen, I., and Mohr, C. (2021): [Insights into the molecular composition of semi-volatile aerosols in the summertime central Arctic Ocean using FIGAERO-CIMS](#), *Environ. Sci.: Atmos., RSC*, 1, 161-175
40. Schmale, J., **Zieger, P.**, Ekman, A. (2021): [Aerosols in current and future Arctic climate](#), *Nat. Clim. Change*, 11, 95–105.
39. Beck, L., Sarnela, N., Junninen, H., Hoppe, C.,... **Zieger, P.**, ... and Sipilä (2021): [Differing mechanisms of new particle formation at two Arctic sites](#), *Geophys. Res. Lett.*, 48, e2020GL091334
38. Heslin-Rees, D., Burgos M., Hansson, H.C., Krejci, R., Ström, J., Tunved, P., and **Zieger, P.*** (2020): [From a polar to a marine environment: has the changing Arctic led to a shift in aerosol optical properties?](#), *Atmos. Chem. Phys.*, 20, 13671–13686.
37. Baccharini, A., Karlsson, L., Dommen, J., Duplessis, P., Vüllers, J., Brooks, I., Saiz-Lopez, A., Salter, M.E., Tjernström, M., Baltensperger, U., **Zieger, P.***, and Schmale, J. (2020): [Frequent new particle formation over the high Arctic pack ice by enhanced iodine emissions](#), *Nature Comm.*, 11, 4924.
36. Burgos, M.A., Andrews, E.J., Titos, G., Benedetti, A., Bian, H., Buchard, V., Curci, G., Kirkevåg, A., Kokkola, H., Laakso, A., Lund, M.T., Matsui, H., Myhre, G., Randles, C., Schulz, M., van Noije, T., Zhang, K., Alados-Arboledas, L., Baltensperger, U., Jefferson, A., Sherman, J., Sun, J., Weingartner, E., and **Zieger, P.*** (2020): [A global model-measurement evaluation of particle light scattering coefficients at elevated relative humidity](#), *Atmos. Chem. Phys.*, 20, 10231–10258.
35. Collaud Coen, M., Andrews, E., Alastuey, A., Arsov, ... , **Zieger, P.**, and Laj, P. (2020): [Multidecadal trend analysis of in situ aerosol radiative properties around the world](#), *Atmos. Chem. Phys.*, 20, 8867–8908.
34. Laj, P., Bigi, A., Rose, C., Andrews, E., ..., **Zieger, P., et al.** (2020): [A global analysis of climate-relevant aerosol properties retrieved from the network of Global Atmosphere Watch \(GAW\) near-surface observatories](#), *Atmos. Meas. Tech.*, 13, 4353–4392.
33. Graham, E.L., **Zieger, P.**, Mohr, C., Wideqvist, U., Hennig, T., Ekman, A.M., Krejci, R., Ström, J., and Riipinen, I. (2020): [Physical and chemical properties of aerosol particles and cloud residuals on Mt. Åreskutan in central Sweden during summer 2014](#), *Tellus B*, 72, 1-16.

32. Stolle, C., M. Ribas-Ribas, T.H. Badewien, J. Barnes, L.J. Carpenter, R. Chance, L.R. Damgaard, A.M. Duran Quesada, A. Engel, S. Frka, L. Galgani, B. Gasparovic, M. Gerriets, N.I. Mustafa, H. Herrmann, L. Kallajoki, R. Pereira, F. Radach, N.P. Revsbech, P. Rickard, A. Saint, M. Salter, M. Striebel, N. Triesch, G. Uher, R.C. Upstill-Goddard, M. van Pinxteren, B. Zäncker, **P. Zieger**, and O. Wurl, (2019): [The MILAN campaign: Studying diel light effects on the air-sea interface](#), Bull. Amer. Meteor. Soc., 0.
31. Thomas, J.L., Stutz, J.P., Frey, M., Bartels-Rausch, T., Altieri, K., Baladima, F., Browse, J., Dall'Osto, M., Marelle, L., Mouginot, J., Murphy, J., Nomura, D., Pratt, K., Willis, M., **Zieger, P.**, Abbatt, J., Douglas, T., Facchini, C., France, J., Jones, A., Kim, K., Matrai, P., McNeill, V., Saiz-Lopez, A., Shepson, P., Steiner, N., Law, K., Arnold, S., Delille, B., Schmale, J., Sonke, J., Dommergue, A., Voisin, D., Melamed, M., and Gier, J. (2019): [Fostering multidisciplinary research on interactions between chemistry, biology, and physics within the coupled cryosphere-atmosphere system](#), Elementa, 7 (1), 58. 16.
30. Unger, I., Saak, C. M., Salter, M., **Zieger, P.**, Patanen, M., and Björneholm, O. (2020): [The Influence of Organic Acids on the Surface Composition of Sea Spray Aerosol](#), The Journal of Physical Chemistry A, 124, 2, 422-429.
29. Burgos, M.A., Andrews, E., Titos, G., Alados-Arboledas, L., Baltensperger, U., Day, D., Jefferson, A., Kalivitis, N., Mihalopoulos, N., Sherman, J., Sun, J., Weingartner, E., and **Zieger, P.*** (2019): [A global view on the effect of water uptake on aerosol particle light scattering](#), Scientific data, 6(1), pp.1-19.
28. Haslett, S., Taylor, J., Deetz, K., Vogel, B., Babic, K., Kalthoff, N., Wieser, A., Dione, C., Lohou, F., Brito, J., Dupuy, R., Schwarzenboeck, A., **Zieger, P.**, and Coe H. (2019): [The radiative impact of out-of-cloud aerosol hygroscopic growth during the summer monsoon in southern West Africa](#), Atmos. Chem. Phys., 19, 1505–1520.
27. Boy, M., Thomson, E., Acosta Navarro, J., Arnalds, O., Batchvarova, E., Bäck, J., Berninger, F., Bilde, M., Brasseur, Z., Dagsson-Waldhauserova, P., Castarede, D., Dalirian, M., de Leeuw, G., Dragosics, M., Duplissy, E., Duplissy, J., Ekman, A., Fang, K., Gallet, J., Glasius, M., Gryning, S., Grythe, H., Hansson, H., Hansson, M., Isaksson, E., Iversen, T., Jonsdottir, I., Kasurinen, V., Kirkevåg, A., Korhola, A., Krejci, R., Kristjansson, J., Lappalainen, H., Lauri, A., Leppäranta, M., Lihavainen, H., Makkonen, R., Massling, A., Meinander, O., Nilsson, D., Olafsson, H., Pettersson, J., Prisle, N., Riipinen, I., Roldin, P., Ruppel, M., Salter, M., Sand, M., Seland, O., Seppä, H., Skov, H., Soares, J., Stohl, A., Ström, J., Svensson, J., Swietlicki, E., Tabakova, K., Thorsteinsson, T., Virkkula, A., Weyhenmeyer, G., Wu, Y., **Zieger, P.**, and Kulmala M. (2019): [Interactions between the atmosphere, cryosphere, and ecosystems at northern high latitudes](#), Atmos. Chem. Phys., 19, 2015-2061.
26. Vega, C. P., Mårtensson, E. M., Wideqvist, U., Kaiser, J., **Zieger, P.**, and Ström, J. (2019): [Composition, isotopic fingerprint and source attribution of nitrate deposition from rain and fog at a Sub-Arctic Mountain site in Central Sweden \(Mt Åreskutan\)](#), Tellus B, 71(1), 1559398.
25. Franke, V., **Zieger, P.***, Wideqvist, U., Acosta Navarro, J. C., Leck, C., Tunved, P., Rosati, B., Gysel, M. and Ström, J. (2017): [Chemical composition and source analysis of carbonaceous aerosol particles at a mountaintop site in central Sweden](#), Tellus B, 69(1), 1353387.
24. **Zieger, P.***, Väisänen, O., Corbin, J., Partridge, D.G., Bastelberger, S., Mousavi-Fard, M., Rosati, B., Gysel, M., Krieger, U., Leck, C., Nenes, A., Riipinen, I., Virtanen, A. and Salter, M. (2017): [Revising the hygroscopicity of inorganic sea salt aerosol](#), Nat. Commun., 8(1).
23. Salter, M., Hamacher-Barth, E., Leck, C., Werner, J., Johnson, C., Riipinen, I., Nilsson, D., and **Zieger, P.+** (2016): [Calcium enrichment in sea spray aerosol particles](#), Geophys. Res. Lett., 43.
22. Friess, U., Klein Baltink, H., Beirle, S., Clemer, K., Hendrick, F., Henzing, B., Irie, H., de Leeuw, G., Li, A., Moerman, M., van Roozendaal, M., Shaiganfar, R., Wagner, T., Wang, Y., Xie, P., Yilmaz, S., and **Zieger, P.** (2016): [Intercomparison of aerosol extinction profiles retrieved from MAX-DOAS measurements](#), Atmos. Meas. Tech., 9, 3205-3222.
21. Renard, J.-B., Dulac, F., Berthet, G., Lurton, T., Vignelles, D., Jegou, F., Tonnelier, T., Thauray, C., Jeannot, M., Coute, B., Akiki, R., Verdier, N., Mallet, M., Gensdarmes, F., Charpentier, P., Mesmin, S., Duverger, V., Dupont, J. C., Elias, T., Crenn, V., Sciare, J., **Zieger, P.**, Salter, M., Giacomoni, J., Gobbi, M., Hamonou, E.,

- Olafsson, H., Dagsson-Waldhauserova, P., Camy-Peyret, C., Mazel, C., Decamps, T., Piringer, M., Surcin, J., and Daugeron, D. (2015): [LOAC: a small aerosol optical counter/sizer for ground-based and balloon measurements of the size distribution and nature of atmospheric particles - Part 2: First results from balloon and unmanned aerial vehicle flights](#), *Atmos. Meas. Tech.*, 9, 3673-3686.
20. Renard, J.-B., Dulac, F., Berthet, G., Lurton, T., Vignelles, D., Jegou, F., Tonnelier, T., Thaury, C., Jeannot, M., Coute, B., Akiki, R., Verdier, N., Mallet, M., Gensdarmes, F., Charpentier, P., Duverger, V., Dupont, J.-C., Mesmin, S., Elias, T., Crenn, V., Sciare, J., **Zieger, P.**, Salter, M., Giacomoni, J., Gobbi, M., Hamonou, E., Olafsson, H., Dagsson-Waldhauserova, P., Camy-Peyret, C., Mazel, C., Decamps, T., Piringer, M., Surcin, J., and Daugeron, D. (2016): [LOAC: a small aerosol optical counter/sizer for ground-based and balloon measurements of the size distribution and nature of atmospheric particles - Part 1: Principle of measurements and instrument evaluation](#), *Atmos. Meas. Tech.*, 9, 1721-1742, doi:10.5194/amt-9-1721-2016.
19. Salter, M. E., **Zieger, P.**, Acosta Navarro, J. C., Grythe, H., Kirkevåg, A., Rosati, B., Riipinen, I., and Nilsson, E. D. (2015): [An empirically derived inorganic sea spray source function incorporating sea surface temperature](#), *Atmos. Chem. Phys.*, 15, 11047-11066.
18. **Zieger, P.***, Aalto, P. P., Aaltonen, V., Äijälä, M., Backman, J., Hong, J., Komppula, M., Krejci, R., Laborde, M., Lampilahti, J., de Leeuw, G., Pfüller, A., Rosati, B., Tesche, M., Tunved, P., Väänänen, R., and Petäjä, T. (2015): [Low hygroscopic scattering enhancement of boreal aerosol and the implications for a columnar optical closure study](#), *Atmos. Chem. Phys.*, 15, 7247-7267.
17. Rosati, B., Wehrle, G., Gysel, M., **Zieger, P.**, Baltensperger, U., and Weingartner, E. (2015): [The white-light humidified optical particle spectrometer \(WHOPS\) – a novel airborne system to characterize aerosol hygroscopicity](#), *Atmos. Meas. Tech.*, 8, 921-939.
16. Tesche, M., **Zieger, P.**, Rastak, N., Charlson, R. J., Glantz, P., Tunved, P., and Hansson, H.-C. (2014): [Reconciling aerosol light extinction measurements from spaceborne lidar observations and in situ measurements in the Arctic](#), *Atmos. Chem. Phys.*, 14, 7869-7882.
15. Rastak, N., Silvergren, S., **Zieger, P.**, Wideqvist, U., Ström, J., Svenningsson, B., Maturilli, M., Tesche, M., Ekman, A. M. L., Tunved, P., and Riipinen, I. (2014): [Seasonal variation of aerosol water uptake and its impact on the direct radiative effect at Ny-Ålesund, Svalbard](#), *Atmos. Chem. Phys.*, 14, 7445-7460.
14. **Zieger, P.***, Fierz-Schmidhauser, R., Poulain, L., Müller, T., Birmili, W., Spindler, G., Wiedensohler, A., Baltensperger, U., and Weingartner, E. (2014): [Influence of water uptake on the aerosol particle light scattering coefficients of the Central European aerosol](#), *Tellus B*, 66, 22716, 1-14.
13. Ketterer, C., **Zieger, P.***, Bukowiecki, N., Coen, M. C., Maier, O., Ruffieux, D., and Weingartner, E. (2014): [Investigation of the Planetary Boundary Layer in the Swiss Alps Using Remote Sensing and In Situ Measurements](#), *Boundary-Layer Meteorology*, 151(2), 317-334.
12. **Zieger, P.*#**, Fierz-Schmidhauser, R., Weingartner, E., and Baltensperger, U. (2013): [Effects of relative humidity on aerosol light scattering: results from different European sites](#), *Atmos. Chem. Phys.*, 13, 10609-10631.
11. Spiegel, J., **Zieger, P.**, Bukowiecki, N., Hammer, E., Weingartner, E., and Eugster, W. (2012): [Evaluating the capabilities and uncertainties of droplet measurements for the fog droplet spectrometer \(FM-100\)](#), *Atmos. Meas. Tech.*, 5, 2237-2260.
10. **Zieger, P.***, Kienast-Sjögren, E., Starace, M., v. Bismarck, J., Bukowiecki, N., Baltensperger, U., Wienhold, E., Peter, T., Ruhtz, T., Collaud Coen, M., Vuilleumier, L., Maier, O., Emili, E., Popp, C. and Weingartner, E. (2012): [Spatial variation of aerosol optical properties around the high-alpine site Jungfrauoch \(3580 m a.s.l.\)](#), *Atmos. Chem. Phys.*, 12, 7231-7249.
9. Laborde, M., Mertes, P., **Zieger, P.**, Dommen, J., Baltensperger, U. and Gysel, M. (2012): [Sensitivity of the Single Particle Soot Photometer to different black carbon types](#), *Atmos. Meas. Tech.*, 5, 1031-1043.

8. PETERS, A.J.M., BOERSMA, K. F., KROON, M., HAINS, J. C., VAN ROOZENDAEL, M., WITTRICK, F., ABUHASSAN, N., ADAMS, C., AKRAMI, M., ALLAART, M. A. F., APITULEY, A., BEIRLE, S., BERGWERFF, J. B., BERKHOUT, A. J. C., BRUNNER, D., CEDE, A., CHONG, J., CLÉMER, K., FAYT, C., FRIESS, U., GAST, L. F. L., GIL-OJEDA, M., GOUTAIL, F., GRAVES, R., GRIESFELLER, A., GROSSMANN, K., HEMERIJCKX, G., HENDRICK, F., HENZING, B., HERMAN, J., HERMANS, C., HOEXUM, M., VAN DER HOFF, G. R., IRIE, H., JOHNSTON, P. V., KANAYA, Y., KIM, Y. J., KLEIN BALTINK, H., KREHER, K., DE LEEUW, G., LEIGH, R., MERLAUD, A., MOERMAN, M. M., MONKS, P. S., MOUNT, G. H., NAVARRO-COMAS, M., OETJEN, H., PAZMINO, A., PEREZ-CAMACHO, M., PETERS, E., DU PIESANIE, A., PINARDI, G., PUENTEDURA, O., RICHTER, A., ROSCOE, H. K., SCHÖNHARDT, A., SCHWARZENBACH, B., SHAIGANFAR, R., SLUIS, W., SPINEI, E., STOLK, A. P., STRONG, K., SWART, D. P. J., TAKASHIMA, H., VLEMMIX, T., VREKOUSSIS, M., WAGNER, T., WHYTE, C., WILSON, K. M., YELA, M., YILMAZ, S., **ZIEGER, P.**, and ZHOU, Y. (2012): [The Cabauw Intercomparison campaign for Nitrogen Dioxide measuring Instruments \(CINDI\): design, execution, and early results](#), *Atmos. Meas. Tech.*, 5, 457-485.
7. Bukowiecki, N., **Zieger, P.**, Weingartner, E., Juranyi, Z., Gysel, M., Neininger, B., Schneider, B., Hueglin, C., Ulrich, A., Wichser, A., Henne, S., Brunner, D., Kaegi, R., Schwikowski, M., Tobler, L., Wienhold, F. G., Engel, I., Buchmann, B., Peter, T., and Baltensperger, U. (2011): [Ground-based and airborne in-situ measurements of the Eyjafjallajökull volcanic aerosol plume in Switzerland in spring 2010](#), *Atmos. Chem. Phys.*, 11, 10011-10030.
6. **Zieger, P.**[#], Weingartner, E., Henzing, J., Moerman, M., de Leeuw, G., Mikkilä, J., Ehn, M., Petäjä, T., Clémer, K., van Roozendael, M., Yilmaz, S., Frieß, U., Irie, H., Wagner, T., Shaiganfar, R., Beirle, S., Apituley, A., Wilson, K., and Baltensperger, U. (2011): [Comparison of ambient aerosol extinction coefficients obtained from in-situ, MAX-DOAS and LIDAR measurements at Cabauw](#), *Atmos. Chem. Phys.*, 11, 2603-2624.
5. Fierz-Schmidhauser, R., **Zieger, P.**, Vaishya, A., Monahan, C., Bialek, J., O'Dowd, C.D., Jennings, S.G., Baltensperger, U., and Weingartner, E. (2010): [Light scattering enhancement factors in the marine boundary layer \(Mace Head, Ireland\)](#), *J. Geophys. Res.*, 115, D20204.
4. **Zieger, P.**[#], Fierz-Schmidhauser, R., Gysel, M., Ström, J., Henne, S., Yttri, K. E., Baltensperger, U., and Weingartner, E. (2010): [Effects of relative humidity on aerosol light scattering in the Arctic](#), *Atmos. Chem. Phys.*, 10, 3875-3890.
3. Fierz-Schmidhauser, R., **Zieger, P.**[#], Gysel, M., Kammermann, L., DeCarlo, P. F., Baltensperger, U., and Weingartner, E. (2010): [Measured and predicted aerosol light scattering enhancement factors at the high alpine site Jungfraujoch](#), *Atmos. Chem. Phys.*, 10, 2319-2333.
2. Fierz-Schmidhauser, R., **Zieger, P.**, Wehrle, G., Jefferson, A., Ogren, J.A., Baltensperger, U., and Weingartner, E. (2010): [Measurement of relative humidity dependent light scattering of aerosols](#), *Atmos. Meas. Tech.*, 3, 39-50.
1. **Zieger, P.**^{*}, Ruhtz, T., Preusker, R., and Fischer, J. (2007): [Dual-aureole and sun spectrometer system for airborne measurements of aerosol optical properties](#), *Appl. Opt.*, 46, 8542-8552.

2.2 Peer-reviewed conference contributions

1. Rastak, N., Ekman, A., Silvergren, S., **Zieger, P.**, Wideqvist, U., Ström, J., Svenningsson, B., Tunved, P., Riipinen, I. (2013): Modeling aerosol water uptake in the Arctic based on the κ -Kohler theory, AIP Conference Proceedings, 1527, pp. 702-705, doi: 10.1063/1.4803367

2.3 Monographs

1. **Zieger, P.** (2010): [Effects of relative humidity on aerosol light scattering](#), PhD thesis, ETH Zürich, doi:10.3929/ethz-a-006668068, 138 pp.
2. **Zieger, P.** (2006): Entwicklung eines flugzeuggestützten Spektrometersystems zur Fernerkundung von aerosoloptischen Eigenschaften, (Development of an airborne spectrometer system for the remote sensing of aerosol optical properties), Diploma thesis (in German), doi:10.13140/RG.2.1.1297.2646, 102 pp.

2.4 Research review articles (peer-reviewed)

1. Titos, G., Cazorla, A., **Zieger, P.**, Andrews, E., Lyamani, H., Granados-Munoz, M.J., Olmo FJ., and Alados-Arboledas, L. (2016): [Effect of hygroscopic growth on the aerosol light-scattering coefficient: A review of measurements, techniques and error sources](#), Atmos. Env., 141, 494-507.
2. Bukowiecki, N., Weingartner, E., Gysel, M., Collaud-Coen, M., **Zieger, P.**, Herrmann, E., Steinbacher, M., Gaeggeler, H., and Baltensperger, U. (2106): [A Review of More Than 20 Years of Aerosol Observation at the High Altitude Research Station Jungfraujoch, Switzerland \(3580 m asl\)](#), Aerosol Air Qual. Res., 16, 764-788.

2.5 Books and book chapters

None.

2.6 Popular science publications including books/presentations

1. **Zieger P.** (2013): Hier oben ist man den Sternen näher - Fotografien vom Jungfraujoch, Orion - Zeitschrift der Schweizerischen Astronomischen Gesellschaft SAG, 4, ISSN0030-557 X.
2. **Zieger P.** (2019): Postcards from the field, photo and short report from Arctic Ocean 2018 expedition in EOS Earth & Space Science News (AGU), Vol. 100, No. 8, August 2019

2.7 Media coverage

1. *As Arctic warms, scientists wrestle with its climate 'tipping point'*, article by C. Fox in Mongabay, 15 July 2021
2. *Der Wolkenstaubsauger von Spitzbergen*, article by T. Worzewski in Spektrum der Wissenschaften (German version of Scientific American) about our research on Svalbard, February 2020
3. *Schatten über dem Pol*, article (in German) about our research on Svalbard by T. Worzewski in Frankfurter Allgemeine Zeitung (FAZ), 24 December 2019
4. *Han ser himlens hemligheter*, article (in Swedish) by U. Råberg about our research at Åre field station during the CAEsAR campaign, 14 August 2014
5. *To find warming's speed, scientists must see through clouds*, article by P. Voosen in Greenwire about our research performed at Jungfraujoch, Switzerland, 13 November 2012