Prof. Dr. Susanne Crewell | Publications

My publication record spans a wide range of topics

- with more than 100 peer-reviewed publications as of 08 February 2022
  Publons O-1640-2013: 140 publications, 3659 citations, h-index=33
  Scopus: 146 Publications, 2698 citations, h-index = 33
  Google: 5905 citations, h-index = 45 (December 2021)
- and book contributions/review reports related to observational techniques and the future development of measurement strategies.

Below also invited talks and specific reports of interest are given. The full list of my publications including conference contributions, talks and posters can be found at
https://atmos.meteo.uni-koeln.de/ag_crewell/doku.php?id=publications:publications

Accepted peer-reviewed publications

1. Acquistapace, C., N. Risse, J. H. Schween, R. Gierens, S. Crewell, A. Garcia-Benadi, R. Coulter, G. Labbri, and A. Myagkov, 2022: EUREC4A's Maria S. Merian ship-based cloud and micro rain radar observations of clouds and precipitation, *Earth System Science Data*, Special Issue: Elucidating the role of clouds–circulation coupling in climate: datasets from the 2020 (EUREC4A) field campaign, Earth System Science Data, 14, 33–55,https://essd.copernicus.org/articles/14/33/2022
2. Bresson, H., A. Rinke, M. Mech, D. Reinert, V. Schemann, K. Ebell, M. Maturilli, C. Viceto, I. Gorodetskaya, and S. Crewell, 2022: Case study of a moisture intrusion over the Arctic with the ICON model: resolution dependence of its representation, *Atmospheric Chemistry and Physics*, 22, 173–196, https://doi.org/10.5194/acp-22-173-2022
3. Shupe et al. (incl. S. Crewell, K. Ebell, M. Mech), 2022: Overview of the MOSAiC Expedition—Atmosphere. Elementa: Science of the Anthropocene 10(1). DOI: https://doi.org/10.1525/elementa.2021.00060
4. Viceto, C., Gorodetskaya, I. V., Rinke, A., Maturilli, M., Rocha, A., and S. Crewell, 2022: Atmospheric rivers and associated precipitation patterns during the ACLOUD and PASCAL campaigns near Svalbard (May–June 2017): case studies using observations, reanalyses, and a regional climate model, Atmospheric Chemistry and Physics, 22, 441–463, https://doi.org/10.5194/acp-22-441-2022
5. Konow, H., F. Ewald, G. George, M. Jacob, M. Klingebiel, T. Kölling, A. E. Luebke, T. Mieslinger, V. Pörtge, J. Radtke, M. Schäfer, H. Schulz, R. Vogel, M. Wirth, S. Bony, S. Crewell, A. Ehrlich, L. Forster, A. Giez, F. Gödde, S. Groß, M. Gutleben, M. Hagen, L. Hirsch, F. Jansen, T. Lang, B. Mayer, M. Mech, M. Prange, S. Schnitt, J. Vial, A. Walbröl, M. Wendisch, K. Wolf, T. Zinner, M. Zöger, F. Ament, and B. Stevens, 2021: EUREC4A's HALO, Earth System Science Data,13 , 5545–5563, https://doi.org/10.5194/essd-13-5545-2021
6. Frank, C., S. Fiedler, S. Crewell, 2021: Balancing potential of natural variability and extremes in photovoltaic and wind energy production for European countries, Renewable Energy, 163, 674-684, https://doi.org/10.1016/j.renene.2020.07.103
7. Crewell, C., K. Ebell, P. Konjari, M. Mech, T. Nomokonova, A. Radovan, D. Strack, A. M. Triana Gomez, S. Noel, R. Scarlat, G. Spreen, M. Maturilli, A. Rinke, I. Gorodetskaya, C. Viceto, T. August, and M. Schröder, 2021: A systematic assessment of water vapor products in the Arctic: from instantaneous measurements to monthly means, Atmospheric Measurement Techniques Discussions, https://doi.org/10.5194/amt-2020-491
8. Stevens, B, C.Acquistapace, S.Crewell, M.Jacob, M.Mech, S.Schnitt, et al., 2021: Elucidating the role of clouds–circulation coupling in climate: datasets from the 2020 (EUREC4A) field campaign , Earth Syst. Sci. Data Discuss. [preprint], https://doi.org/10.5194/essd-2021-18

9. Böhm, C., J. H. Schween, M. Reyers, B. Maier, U. Löhnert, S. Crewell, 2021: Towards a climatology of fog frequency in the Atacama Desert via multi-spectral satellite data and machine learning techniques, Journal of Applied Meteorology and Climatology, https://doi.org/10.1175/JAMC-D-20-0208.1

10. Jentzsch, K., A. Schulz, N. Pirk, T.Foken, S. Crewell, J. Boike, 2021: High levels of CO2 exchange during synoptic-scale events introduce large uncertainty into the Arctic carbon budget, Geophysical Research Letters Geophysical Research Letters, 18(9), https://doi.org/10.1029/2020GL092256

11. Schoger, S. Y., D. Moisseev, A. von Lerber, S. Crewell, and K. Ebell, 2021: Snowfall rate retrieval for K- and W-band radar measurements designed in Hyytiälä, Finland, and tested at Ny-Ålesund, Svalbard, Journal of Applied Meteorology and Climatology, 60(3), 273-289, https://doi.org/10.1175/JAMC-D-20-0095.1

12. Böhm, C., M. Reyers, J.-H. Schween, and S.Crewell, 2020: Water vapor variability in the Atacama Desert during the 20th century, Global and Planetary Change, 190, 103192, https://doi.org/10.1016/j.gloplacha.2020.103192

13. Cantalloube, F. j. Milli, C. Böhm, S. Crewell, J. Navarrete, K. Rehfeld, M. Sarazin, and A. Sommani, 2020: The impact of climate change on astronomical observations, Nature Astronomy, 4, 826-829, https://doi.org/10.1038/s41550-020-1203-3

14. Carbajal Henken, C., L. Dirks, S. Steinke, H. Diedrich, T. August, and S. Crewell, 2020: Assessment of Sampling Effects of Various Satellite-derived Integrated Water Vapor Datasets Using GPS Measurements in Germany as Reference, Remote Sensing, 12(7), 1170, https://doi.org/10.3390/rs12071170

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16. Jacob, M., P. Kollias, F. Ament, V. Schemann, and S. Crewell, 2020: Multi-layer Cloud Conditions in Trade Wind Shallow Cumulus – Confronting Models with Airborne Observations, Geoscientific Model Development, 13, 5757–5777, https://doi.org/10.5194/gmd-13-5757-2020

17. Mech, M., M. Maahn, S. Kneifel, D. Ori, E. Orlandi, P. Kollias, V. Schemann, and S. Crewell, 2020: PAMTRA 1.0: A Passive and Active Microwave radiative TRAnsfer tool for simulating radiometer and radar measurements of the cloudy atmosphere, Geoscientific Model Development, 13, 4229-4251, https://doi.org/10.5194/gmd-13-4229-2020

18. Neher, I., S. Crewell, S. Meilinger, U. Pfeifroth, and J. Trentmann, 2020: Long-term variability of solar irradiance and its complications for photovoltaic power in West Africa, Atmospheric Chemistry and Physics, 20, 12871-12888, https://doi.org/10.5194/acp-20-12871-2020

19. Reyers, M., C. Böhm, L. Knarr Y. Shao, and S. Crewell,2020: Synoptic-to-regional scale analysis of rainfall in the Atacama Desert (18°S-26°S) using a long-term simulation with WRF, Monthly Weather Review, 148 (8), 1-51, https://doi.org/10.1175/MWR-D-20-0038.1

20. Ruiz-Donoso, E., A. Ehrlich, M. Schäfer, E. Jäkel, V. Schemann, S. Crewell, M. Mech, B.S. Kulla, L.-L. Kliesch, R. Neuber, and M. Wendisch, 2020: Small-scale structure of thermodynamic phase in Arctic mixed-phase clouds observed by airborne remote sensing during a cold air outbreak and a warm air advection event, Atmospheric Measurement Technology, 20, 5487–5511, https://doi.org/10.5194/acp-20-5487-2020

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23. Henken, C., L. Dirks, S. Steinke, H. Diedrich, T. August, and S. Crewell, 2020: Assessment of Sampling Effects of Various Satellite-derived Integrated Water Vapor Datasets Using GPS Measurements in Germany as Reference, Remote Sensing, 12, 1170, https://doi.org/10.3390/rd12071170.

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Book contributions

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2015 Saunders, R., S. Crewell, R. Gelaro, P.J. Minnett, V-H. Peuch, J. Schmetz, D. Turner, and C. Velden, 2015: Observations for global to convective scale models, In: World Meteorological Organization, Seamless Prediction of the Earth System: from Minutes to Months, (G Brunet, S Jones, PM Ruti Eds.), (WMO-No. 1156), (ISBN 978-92-63-11156-2), Geneva.

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Miscellaneous

2020 Guerova,G.,G.Möller, E Pottiaux, H Brenot, R Van Malderen, H Haralambous, F Tymvios, J Douša, M Kačmařík, K Eben, H Vedel, K Rannat, R Kivi, A-M Harri, O Bock, JF Mahfouf, J Wickert, G Dick, R Potthast, S Crewell, C Pikridas, N Zinas, A Ganas, R Szabolcs, M Mile, S Thorsteinsson, BG Ófeigsson, Y Reuveni, S Krichak, R Pacione, G Bianco, R Biondi, G Stankunavicius, FN Teferle, J Bosy, J Kaplon, K Szafranek, R Fernandes, P Viterbo, A Sá, J Hefty, MH Igondova, E Priego, G Elgered, M Lindskog, M Ridal, U Willén, T Ning, E Brockmann, K Wilgan, A Geiger, C Mekik, J Jones, Z Liu, B Chen, C Wang, S Masoumi, M Moore, S MacPherson, Advanced GNSS Tropospheric Products for Monitoring Severe Weather Events and Climate, 403-481, Springer

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2017 Schröder, M., Lockhoff, M., Shi, L., August, T., Bennartz, R., Borbas, E., Brogniez, H., Calbet, X., Crewell, S., Eikenberg, S., Fell, F., Forsythe, J., Gambacorta, A., Graw, K., Ho, S.-P., Höschen, H., Kinzel, J., Kursinski, E.R., Reale, A., Roman, J., Scott, N., Steinke, S., Sun, B., Trent, T., Walther, A., Willen, U., Yang, Q., 2017: GEWEX water vapor assessment (G-VAP). WCRP Report 16/2017; World Climate Research Programme (WCRP): Geneva, Switzerland; 216 pp.

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2016 Banks, R. F., S. Crewell, S. Henkel, and J. M. Baldasano, 2016: Training network for young atmospheric researchers, Eos, 97, https://doi.org:10.1029/2016EO045899. Published on 16 February 2016.

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Invited Talks (last 5 years)

2020 Crewell, S., K. Ebell, A. von Lerber, A. Radovan, B. Kulla, L.-L. Kliesch, M. Mech, A. Rinke, V. Schemann, M. Wendisch: Arctic Amplification – what can we learn from microwave measurements? Institute seminar, Institut für Physik der Atmosphäre, ETH Zürich, 27 April 2020

Crewell, S., K. Ebell, A. von Lerber, A. Radovan, B. Kulla, L.-L. Kliesch, M. Mech, A. Rinke, V. Schemann, M. Wendisch: Arctic Amplification – what can we learn from microwave measurements? Institute seminar, Institut für Physik der Atmosphäre, DLR Oberpfaffenhofen, 8 Januar 2020

2019 Cloud observations in 2030, Understanding Clouds and Precipitation (UCP2019), Berlin, Germany, 25 February - 1 March 2019

Arctic clouds - Insights from the ACLOUD campaign around Svalbard, Seminar Talk, University Centre in Svalbard/, Longyearbyen, Svalbard, 28 March 2019

2018 Arctic clouds - first insights from the ACLOUD campaign around Svalbard, Colloquium, University of Bremen, 12 January 2018

The Role of Mixed-Phase Clouds in the Arctic, Seminar Talk, Colorado State University, Fort Collins, 20 April 2018

Crewell, S., Warum erwärmt sich die Arktis am stärksten – und was haben die Wolken damit zu tun? STUMETA, University of Bonn, 10 May 2018

Microwave radiometry for atmospheric application: a journey across the world from ground, via aircraft to satellites, Seminar talk, LERMA, Paris, 5 June 2018

Microwave radiometry - an important component of the global observing system, ARM Summer workshop, Norman, Oklahoma, 20 July 2018

2017 Future Campaigns. HD(CP)2 Annual Meeting, Schneefernerhaus, 15 February 2017

	Narval Next-generation aircraft remote-sensing for validation studies, HALO Symposium, Oberpfaffenhofen, 14 March 2017
	Microwave Radiometry and Sensor Synergy, Winter school on the observation and modeling of high - latitude and Arctic clouds, Hyytiälä, Finland, March 19-25, 2017
	Planned HALO/HAMP campaigns + Polar 5/MiRAC, ISMAR Workshop, Eumetsat, Darmstadt, 10 May 2017
	Wasser und Wolkenbildung – Atmosphäre und mögliche Vorhersagen. Wissenschaft im Rathaus, Köln, 9 October 2017
	The AC3 project: why is the Arctic warming faster than the mid latitudes? Svalbard Science Conference, Oslo, 6-9 November 2017
2016	What can we learn from atmospheric profiling stations to better understand climate processes? Challenges of Atmospheric Research, DLR Conference on Climate Change, Cologne, 5 - 7 April 2016
	Atmospheric Remote Sensing: Challenges and Applications, 1st ECARS Summer School, Romania, 2 June 2016
	Assessment of sampling effects on precipitable water climatology, GEWEX Water Vapor Assessment (GVAP) Workshop, Eumetsat, Darmstadt, 22 September 2016
	Crewell, S.: Was ist gute Betreuung? Promovierendentag, Universität zu Köln, 2 November 2016
	ArctiC Amplification: Climate Relevant Atmospheric and SurfaCe Processes, and Feedback Mechanisms (AC)3 with a focus on clouds. MISU, University of Stockholm, Seminar talk, 29 November 2016

DIE MATHEMATISCH-NATURWISSENSCHAFTLICHE FAKULTÄT
DER
RHEINISCHEN FRIEDRICH-WILHELMS-UNIVERSITÄT BONN

stellt unter dem Rektorat des
Professors für Städtebau und Siedlungswesen
Dr.-Ing. *Klaus B o r c h a r d*

und unter dem Dekanat des
Professors für Mathematik
Dr. rer. nat. *Ingo L i e b*

die Lehrbefähigung von

Frau Dr. rer. nat. Susanne C r e w e l l
geboren am 1. Januar 1964
in Hagen

für das Lehrgebiet

Meteorologie

fest, nachdem sie im ordnungsgemäßen Habilitationsverfahren durch die bisher von ihr veröffentlichten Schriften, durch die Habilitationsschrift

„Bodengebundene Fernerkundung der bewölkten Atmosphäre und deren Nutzung zur Evaluierung dynamischer Atmosphärenmodelle“

durch das Habilitationskolloquium und die wissenschaftliche Aussprache die Fähigkeit nachgewiesen hat, das Fach in Forschung und Lehre selbständig zu vertreten.

Bonn, den 26. Juni 2002

Prof. Dr. Ingo Lieb
Dekan

Universität Bremen

PROMOTIONSURKUNDE

Der Fachbereich 1 (Physik/Elektrotechnik) verleiht

Susanne Crewell

geboren am 1. Januar 1964 in Hagen

den Grad einer

Doktorin der Naturwissenschaften (Dr. rer. nat.)

aufgrund des Kolloquiums am 10. Mai 1993 und der Dissertation mit dem Titel:

Submillimeter-Radiometrie mit einem flugzeuggetragenen Empfänger zur Messung atmosphärischer Spurenstoffe

Die Promotion wurde mit dem Prädikat **magna cum laude** bewertet.

Bremen, den 13. Mai 1993

Der Rektor

(Prof. Dr. Jürgen Timm)

Universität Bremen (Siegel)

Der Fachbereichssprecher

(Prof. Dr. Stefan von Aufschnaiter)

CHRISTIAN-ALBRECHTS-UNIVERSITÄT KIEL

MATHEMATISCH-NATURWISSENSCHAFTLICHE FAKULTÄT

DIPLOM

Frau Susanne Crewell

geboren am 01.01.1964 in Hagen (Kr. Cuxhaven)

hat am 29.01.1990 die Diplom-Hauptprüfung für Meteorologie gemäß der Prüfungsordnung

vom 1. Oktober 1970 mit dem Gesamturteil

- sehr gut -

an der Universität Kiel bestanden.

Auf Grund dieser Prüfung wird ihr hiermit der akademische Grad

DIPLOM-METEOROLOGIN

verliehen.

Kiel, den 29. Januar 1990

DER VORSITZER DES RPÜFUNGSAUSSCHUSSES
FÜR DIE DIPLOM-HAUPTPRÜFUNG
FÜR STUDIERENDE DER METEOROLOGIE

(Prof. Dr. L. Hasse)

DER DEKAN
DER MATHEMATISCH-NATURWISSENSCHAFTLICHEN FAKULTÄT
DER CHRISTIAN-ALBRECHTS-UNIVERSITÄT KIEL

(Prof. Dr. D. Adelung)

CHRISTIAN-ALBRECHTS-UNIVERSITÄT KIEL

Diplom-Hauptprüfung für Studierende der Meteorologie

PRÜFUNGSZEUGNIS

Die Studierende der Meteorologie Susanne Crewell

geboren am 01.01.1964 in Hagen (Kr. Cuxhaven)

hat sich vom 01.11.1988 bis 29.01.1990 gemäß der Prüfungsordnung vom 1. Oktober 1970 der Diplom-Hauptprüfung für Studierende der Meteorologie an der Christian-Albrechts-Universität unterzogen und die Prüfung mit

- sehr gut -

bestanden.

Das Thema der Diplom-Arbeit lautet:

„Fluß latenter Wärme über dem Nordatlantik"

Die Bewertungen der Diplom-Arbeit und der Leistungen in der mündlichen Prüfung sind untenstehend aufgeführt.

Kiel, den 29.01.1990

Der Vorsitzer des Prüfungsausschusses für Studierende der Meteorologie

(Prof. Dr. L. Hasse)

Der Dekan der Mathematisch-Naturwissenschaftlichen Fakultät der Christian-Albrechts-Universität zu Kiel

(Prof. Dr. D. Adelung)

Prüfungsgebiete:	Bewertungen:	Prüfer:
1. Allgemeine Meteorologie	sehr gut	Prof. Dr. L. Hasse
2. Theoretische Meteorologie	gut	Prof. Dr. E. Ruprecht
3. Angewandte ~~Experimentelle~~ ~~Theoretische~~[1] Physik	sehr gut	Prof. Dr. U.-P. Hansen
4. Wahlfach Geophysik	gut	Prof. Dr. J. Zschau
5. Diplom-Arbeit	sehr gut	Prof. Dr. L. Hasse/ Prof. Dr. E. Ruprecht
6. Zusatzfach		
Gesamturteil[2]	- sehr gut -	

1) Nichtzutreffendes streichen.
2) Zusatzfach nicht berücksichtigt.