Curriculum Vitae

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Professional experience and education

2018 - **Scientific Project Manager** at the Johannes Gutenberg University Mainz, Institute of Atmospheric Physics, Environmental Modelling
Urban Climate and air quality modelling.

2016 -2018 **Scientist** at the Met Office, Exeter, UK, Weather Science Department, OceanForecasting Research & Development, Environmental Prediction Development
Ocean-Atmosphere-Wave Model coupling at convective scale

2014 - 2015 **PostDoc** at the Institute of Meteorology and Climate Research, Atmospheric Environmental Research (IMK-IFU) -Karlsruhe Institute of Technology (KIT), Garmisch-Partenkirchen
Wind energy use in complex terrain and marine environments

2011 - 2014 **Doctoral Candidate** at the Institute of Meteorology and Climate Research Atmospheric Environmental Research (IMK-IFU) - Karlsruhe Institute of Technology (KIT), Garmisch-Partenkirchen, PhD University Cologne

Thesis: *Numerical simulations to assess the effect of urban heat island mitigation strategies on regional air quality (Magna Cum Laude) (Supervisor: Prof Stefan Emeis)*

2013 **Guest Researcher** at the National Atmospheric and Oceanic Administration (NOAA) Boulder Colorado
Regional air quality modeling in urbanized areas

2011 **Research Associate** at the Department of Geosciences at Ludwig Maximilians- Universität München LMU
Remote sensing of soil moisture

07/2011 Geography **Diplom** (equivament to MSc) at the Ludwig-Maximilians-Universität München (LMU) (Remote Sensing, Physics)

Thesis: *„Analysis of passive microwave data of the radiometer 'ELBARA II' located in Puch near Fürstenfeldbruck and retrieval of soil moisture from measured brightness- temperatures and comparison 'L-MEB-Model simulations'." (Passed with honours)*

2009 **Research Assistant** Max-Planck Institute for Meteorology MPI-M Hamburg
Evaluation of satellite data

Teaching

2019	Numerics (practical)
18/19, 19/20	Meteorological data analysis and statistics (Bachelor - Lectures and practical)
2018/2019	Numerical programming python (Bachelor - practical)
2013	Chemical transport modelling with WRF-Chem, National Center of Atmospheric Research (NCAR), Boulder, US (practical)
2008, 2010	Geographical information system ArcGIS (practical)

Selected publications

Fallmann, J., Lewis, H., Sanchez, J. C., & Lock, A. (2019). Impact of high-resolution ocean–atmosphere coupling on fog formation over the North Sea. Quarterly Journal of the Royal Meteorological Society, 145(720), 1180-1201.

Teixeira, J. C., **Fallmann, J.**, Carvalho, A. C., & Rocha, A. (2019). Surface to boundary layer coupling in the urban area of Lisbon comparing different urban canopy models in WRF. *Urban Climate*, *28*, 100454.

Simon, H., **Fallmann, J**., Kropp, T., Tost, H., & Bruse, M. (2019). Urban Trees and Their Impact on Local Ozone Concentration—A Microclimate Modeling Study. *Atmosphere*, *10*(3), 154.

Grimmond, S., Bouchet, V., Molina, L., Baklanov, A., Joe, P., **Fallmann J.** et al., 2018. WMO Guide for Urban integrated Hydro-Meteorological, Climate and Environmental Services. https://www.wmo.int/pages/prog/arep/gaw/documents/UrbanIntegratedServicesPart1aConceptandMethodologyEC-70.pdf

Fallmann, J., H. Lewis, J. Castillo, A. Arnold, and S. Ramsdale, 2017, Impact of sea surface temperature on stratiform cloud formation over the North Sea, Geophys. Res. Lett., 44, doi:10.1002/2017GL073105.

Barlow, Best , Bohnenstengel , Brown , Clark , Grimmond ,, Christen , Emeis , **Fallmann**, Haeffelin , Harman ,Lemonsu , Martilli , Pardyjak , Rotach , Ballard , Boutle , Brown , et al., 2017, Developing a research strategy to better understand, observe and simulate urban atmospheric processes at kilometre to sub-kilometre scales. Accepted in BAMS.

Lewis, H. W., Castillo Sanchez, J. M., Graham, J., Saulter, A., Bornemann, J., Arnold, A., **Fallmann,J.**, Harris, C., Pearson, D., Ramsdale, S., Martínez de la Torre, A., Bricheno, L., Blyth, E., Bell, V., Davies, H., Marthews, T. R., O'Neill, C., Rumbold, H., O'Dea, E., Brereton, A., Guihou, K., Hines, A., Butenschon, M., Dadson, S. J., Palmer, T., Holt, J., Reynard, N., Best, M., Edwards, J., and Siddorn, J.: The UKC2 regional coupled environmental prediction system, Geosci. Model Dev. Discuss., doi:10.5194/gmd-2017-110, in review, 2017.

Fallmann, J., Forkel, R. and Emeis, S., 2016. Secondary effects of urban heat island mitigation measures on air quality. Atmospheric Environment, 125, pp.199-211. http://www.sciencedirect.com/science/article/pii/S1352231015305094

Fallmann, J., Wagner S. 2015: High resolution climate projections to assess the future vulnerability of European urban areas to climatological extreme events. Journal of Theoretical and Applied Climatology pp 1-17.
http://link.springer.com/article/10.1007/s00704
015-1658-9

Fallmann, J.; Emeis, S.; Suppan, P. Mitigation of urban heat stress - a modelling case study for the area of Stuttgart. DIE ERDE - Journal of the Geographical Society of Berlin, 144 (2013), 202 216.DOI: 10.12854/erde-144-15
URL: http://www.die-erde.org/index.php/die-erde/article/view/75/50

Schlenz, **J. Fallmann**, P. Marzahn, A. Loew, W. Mauser (2012): Characterization of Rape Field Microwave Emission and Implications to Surface Soil Moisture Retrievals, *Remote Sensing, Vol. 4(1)* , *247-270* , Reviewed, published. URL: http://www.mdpi.com/2072-4292/4/1/247/htm

Selected presentations

Invited

Urban Climate 2.0 - Stadtklima und Luftqualität. Lectures for Future. Institut für Physik der Atmosphäre Mainz. 06/2019

Anpassungsmaßnahmen für Städtische Wärmeinsel und Luftqualität – Eine Modellstudie für Stuttgart – Institut für Physik und Meteorologie Hohenheim 01/2019

Urbanes Wetter -Stadtplanung, Luftqualität und deren Einfluss auf Meteorologie und Mikroklima. Lecture Series WS 2018/2019. Geographisches Institut Universität Mainz. Mainz, November 2018.

From Ocean to Atmosphere - Weather Forecasting in a Coupled World. Oral presentation and session chair of topic E2 at the RMetS Annual Conference 2017, Exeter 13-17 July 2017

From Surface to Atmosphere – UK Environmental prediction at the Met Office. KIT Garmisch Partenkirchen, 02/ 2017

Fog prediction in the British Channel using coupled modeling systems. FSD Seminar at the Met Office Division Aberdeen, Scotland. 04/2017

Urban Heat Islands and coupled prediction. Climate Seminar FU Berlin 02/ 2016.

Interactions of Urban Heat Island and Air Quality with focus on human health. Invited talk at the working group seminar of the Institute of Epidemiology - Helmholtz Centre Munich 04/ 2015

Cool City – Clean City? Secondary impacts of urban heat island mitigation strategies on urban air quality. Analytical & Environmental Sciences Division King's College London. 03/ 2015.

The Urban Heat Island – A challenge for urban planning of tomorrow. Citizen forum ‚Muenchner Stadtfragen'12/2012.

Honors and fellowships

Met Office Personal Bonus Award for delivering scientific output in 2016/2017

Met Office 'Instant recognition Award' for outstanding contribution within the UK Environmental Prediction project

Travel Grant of the Graduate School of Geosciences (GSGS) of the University of Cologne for the AGU General Assembly in San Francisco 12/2014

Travel Grant of the Helmholtz Graduate School for Climate and Environment (GRACE) for an internship at the National Atmospheric and Oceanic Administration NOAA in Boulder, US 2013

Fellow of the Helmholtz Graduate School for Climate and Environment (GRACE).

Synergistic activities

Science communication and outreach

Studium Generale: Grundlagen Stadtklima, Klimawandel und Luftqualität WS19/20

Urban Climate City Tour within the Mainzer Science Week, April 2020 (posponed)

TV show Odysso – SWR: ‚Luftreinhaltung und städtisches Grün'. 04/2019 und 06/2019

Radiointerview urban planning and air quality, SWR1. May 2015

Met Office Science Camp 2016, 2017

Invited expert for urban climate in the TV series 'Faszination Wissen', Bayrischer Rundfunks. January 2015

Science Slam of the Bavarian Academy of Science. Wissenschaftsjahr 2015 – Zukunftsstadt, 16. 11/2015, Munich

Job information day for students with the Rotary Club Mainz, 01/2020

Organization of conferences and workshops

Conceptual planning of public lecture series ‚Mainzer Klimagespräche' März-Juni 2020

‚Tag der Offenen Tür' IPA, JGU Mainz 01/2019, 01/2020

Co-Organization RMetS Annual Conference 'Weather and Climate Impacts: From research and services to application and policy', University of Exeter,UK, July 2017

Organisations-Komitee 9th International Conference on Air Quality –Science and Application, Garmisch-Partenkirchen 03/2014

Review: Quarterly Journal of the Royal Meteorological Society, Meteorologische Zeitschrift, Remote Sensing, Sustainable Cities and Societies, Atmospheric Chemistry and Physics (ACP), Geoscientific Model Development (GMD), Atmospheric Environment, Sustainability, Science of the Total Environment (STOTEN), Theoretical and Applied Climatology, Atmospheric Measurement Techniques, ELEMENTA

Leadership

Member of the WMO expert task team (ETT) for writing the Guide for Integrated Urban Weather, Environment and Climate Services (IUWECS), Reading, UK, 26-29 January 2018

PHD-Representative at the Institute of Meteorology and Climate Research (KIT), 2012-2014

Organization of Met Office internal weekly seminar series about ocean modelling, model development, data assimilation and marine observations

Organizing committee of the 9th International Conference on Air Quality –Science and Application, Garmisch-Partenkirchen 03/2014

Group and squad leader Voluntary Fire Department Hebertshausen

Youth firefighting Instructor (2006-2012) and special instructor for nuclear, chemical, biological incidences (2008-)

Football coach for 8 to 12-year-old kids

Other skills and interests

Computer Knowledge	Unified model, Wavewatch III and NEMO, COSMO, MESSy, WRF and WRF-Chem modelling framework Unix, Linux, Python 2.6, Iris Library, MATLAB, FORTRAN, ArcGIS 10.0 Erdas Imagine, NCAR Programming Language NCL
Languages	German (native) English: TOEFL – Test of English as a Foreign Language 03/2008 (108) DAAD language certificate (level C1) French basic skills
Private	Football, Kayak, Hiking, Skiing, Travelling, Guitar