Curriculum Vitae: Professor Nicolas Bellouin

A. PERSONAL INFORMATION

Address University of Reading, Department of Meteorology,
Whiteknights, Reading, RG6 6EG, United Kingdom
Nationality: British, French
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Employment

2020- *Professor of Climate Processes*
Department of Meteorology, University of Reading, UK
2021- *Chair in Aviation and Climate*
Institut Pierre Simon Laplace, Sorbonne Université, Paris, France (secondment)
2015-2020 *Associate Professor of Climate Processes*
Department of Meteorology, University of Reading, UK
2012-2015 *Lecturer in Climate Processes*
Department of Meteorology, University of Reading, UK
2004-2012 *Climate research scientist (senior scientist from 2008)*
Climate Chemistry and Ecosystems, and Earth System and Mitigation Studies teams, Met Office Hadley Centre, UK

Qualifications

2003 PhD in Atmospheric Radiation, Université des Sciences et Technologies de Lille (USTL), France (under the supervision of Prof Didier Tanré and Dr Olivier Boucher)
2000 MSc in Lasers, Molecules, and Atmospheric Radiation, USTL, France
1999 BSc in Physics, USTL, France and Université Laval, Québec, Canada

B. RESEARCH AND SCHOLARSHIP

"Aerosols in the Earth System": Earth system modelling for climate prediction and numerical weather forecasting, including interactions between aerosols and radiation, clouds, chemistry and vegetation, with a recent focus on aviation. Estimation of aerosol radiative forcing from satellite observations, re-analyses, and global numerical modelling.

Research grants and contracts awarded: Total 2012-present of ~£2.4m

Ongoing projects providing over £100k to fund my activities:

- Secondment to Sorbonne Université to lead the €12m Climaviation Research Partnership between IPSL and ONERA (2021-2026): 80% of my time, €578k
- *CleanCloud (H2020, 2024-2028): Co-I, £113k; AEROPLANE (SESAR, 2023-2026): Co-I, £120k*

Before that, I was PI of the Copernicus Atmospheric Monitoring Service on Climate Forcing (2016-2020, *£557k*), Met Office Extramural Researcher (2016-2021), and Reading PI in 3 projects (EU FP7, Horizon 2020, NERC) and Co-I in 5 projects (EU FP7, NERC, NERC/NCAS, 2012-2024).

Postgraduate and Postdoctoral supervision

- PhD lead supervisor: James Mollard (2013-2017); co-supervised 4 PhD students in Reading since 2014 and 3 PhD students in Paris since 2021.
- Postdocs: Reading: Anna Esteve (2014), David McNamara (2015), Ross Herbert (2016-2019), Velle Toll (2016-2019), Will Davies (2016-2020), Ella Gilbert (2020-2022), Lydia Hill (2024-); Paris: Jhaswantsing Purseed (2021-2023), Xinyue Wang (2022-), Farshid Nazari (2023-); Engineer and contractors: Grégoire Dannet (2021-), Julien Karadayi (2023-)
- Line management: Steve Rumbold, joint NERC-Met Office UKESM core group (2013-2021)

Research Outputs

- Since 2003, 124 peer-reviewed articles, including 5 papers in *Nature*.
- Web of Science finds more than 20,600 citations and an h-index of 56 as of April 2024. 38 of my publications have been cited more than 100 times.
- Google Scholar, which measures a wider range of impact, finds more than 31,800 citations and an h-index of 73 as of April 2024.
- Clarivate Analytics (Web of Science) Highly Cited Researcher between 2017 and 2020.

Highlighted recent publications

- Wolf, K., **Bellouin, N.**, and Boucher, O.: Long-term upper-troposphere climatology of potential contrail occurrence over the Paris area derived from radiosonde observations, Atmos. Chem. Phys., 23, 287–309, https://doi.org/10.5194/acp-23-287-2023, 2023.
- **Bellouin, N.**, and 32 co-authors, Bounding global aerosol radiative forcing of climate change. Reviews of Geophysics. https://doi.org/10.1029/2019RG000660, 2020.
- **Bellouin, N.**, and 13 co-authors, Radiative forcing of climate change from the Copernicus reanalysis of atmospheric composition. Earth System Science Data. https://doi.org/10.5194/essd-12-1649-2020, 2020.
- Toll, V., Christensen, M., Quaas, J. and **Bellouin, N.** Weak average liquid cloud water response to anthropogenic aerosols. Nature, https://doi.org/10.1038/s41586-019-1423-9, 2019.

C. TEACHING

- Fellow of the UK Higher Education Academy (number PR093432) since October 2015
- At the University of Reading, I taught the Remote Sensing modules to Part 3 and 4 students (2013-2021) and Masters students (2018-2021). I also shared teaching of the Science of Climate Change to Part 1, 2, and MSc students (2014-2016). In France, I share teaching of a module on the Climate Impacts of Transport at CentraleSupélec engineering school (2021-).
- Lectures at summer schools (MACC June 2013, E2SCM June 2014) and at the UK Chemistry and Aerosol training workshop (Cambridge, 2015-2018).

D. SERVICES TO THE COMMUNITY

Institutional responsibilities

- Member of the UoR Committee for Researcher Development and PGR Studies (2019-2022)
- Director of the Scenario Doctoral Training Partnership (Reading/Surrey) (2019-2021)
- PhD Admissions tutor, Department of Meteorology of the University of Reading (2013-2019)

Major collaborations

- International initiative AeroCom *Aerosol Comparisons between Observations and Models*
- UK Earth System Model Aerosol Working Group, with researchers from the UK Met Office and the Universities of Leeds, Oxford, Reading, Cambridge, and Exeter.

Professional activities

- Intergovernmental Panel on Climate Change: Contributing author of Chapter 7 *Clouds and Aerosols* of AR5 WGI (2013), then lead author of Chapter 3 *Human influence on the Climate System* of AR6 WGI (2018-2021), contributing to several other chapters.
- Member of the scientific advisory board of the *Laboratoire d'Excellence* Chemical and Physical Properties of the Atmosphere (CaPPA), University of Lille, France. (2013-2022)
- Member of the Scientific Advisory Group of the EU Horizon 2020 project Constrained aerosol forcing for improved climate projections (FORCeS) (2019-2023)
- Reviewer of more than 10 papers per year for scientific journals including *Nature*, *Geophys. Res. Lett.*, *J. Geophy. Res.*, *J. Clim.*, and *Atmos. Chem. Phys*.
- External examiner of 8 PhD defenses (UK: 2; France: 5; Finland: 1).
- Convenor/co-convenor of European Geosciences Union Annual Assembly *General Session on Clouds, aerosols, and radiation.* (2013-2017)