

Marc E. J. Stettler

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Profile

Dr Marc Stettler is Reader in Transport and the Environment in the Department of Civil and Environmental Engineering at Imperial College London. He leads the Transport & Environment Laboratory, the Network of Excellence in Aerosols and Health at Imperial and is the institutional lead for the EPSRC Centre for Doctoral Training in Aerosol Science. He is the Director of Undergraduate Studies in the Department of Civil and Environmental Engineering for the MEng in Civil Engineering.

Dr Stettler's research focuses on evaluating and reducing the effect of transport emissions on climate change and air pollution, with particular attention to understanding sources and effects of aerosols. His work on mitigating the effects of aviation contrails was cited by [European Commission](#), [OECD](#), and [International Transport Forum](#) and he continues to work with academia and industry to advance scientific understanding in support of contrail mitigation. He is the Imperial PI on the Innovate UK funded Net Zero Flight project led by Virgin Atlantic, the SESAR funded CICONIA project led by Airbus. He is a member of the Advisory Committee to the [Travel Impact Model](#) administered by Google, serving flight CO₂ emissions estimates to users of Google Flights, Booking.com, Expedia and Skyscanner. Dr Stettler is the General Secretary of the UK and Ireland Aerosol Society and a member of the Greener by Design Committee at the Royal Aeronautical Society. He has completed projects for the UK Government Office for Science Future of Mobility project, Department for Transport (TRIG), the German Aerospace Centre, Rolls Royce, and GE. In 2023, he was awarded a Framed Address from The Air League for contributions to research on contrail avoidance in aviation.

Examples of press coverage and public web pages: [Wired](#) | [CNN](#) | [Scientific American](#) | [The Naked Scientists](#) | [BBC](#) | [New Scientist](#) | [The Guardian](#) | [Air Pollution Calculator](#) | [Contrail Map](#)

Appointments

2022	- Present	Reader in Transport and Environment, Imperial College London
2018	- 2022	Senior Lecturer in Transport and Environment, Imperial College London
2015	- 2018	Lecturer in Transport and Environment, Imperial College London
2013	- 2015	Postdoctoral Research Associate, University of Cambridge

Education

2009	- 2013	PhD Engineering, University of Cambridge
2010		Visiting Research Student, Massachusetts Institute of Technology
2008	- 2009	MPhil Engineering for Sustainable Development, University of Cambridge
2005	- 2008	BSc Natural Sciences (First Class), University of Durham

Memberships of committees

2020	- Present	Greener By Design, Royal Aeronautical Society
2017	- Present	Scientific Advisory Committee for the AIR Index (Co-Chair)
2016	- Present	The UK and Ireland Aerosol Society (General Secretary from 2021)

Grant funding (selected)

2024	-	2032	Co-I, EPSRC Centre for Doctoral Training in Aerosol Science: Harnessing Aerosol Science for Improved Security, Resilience and Global Health; £8,571,447
2024	-	2028	PI, EPSRC ICASE PhD: Contrail mitigation in the context of operational oceanic airspace with NATS; £140,000.
2024	-	2026	PI, Zero Emission Northern Freight, Innovate UK and DfT; £836,060
2023	-	2023	PI, 100% SAF Flight, Innovate UK and DfT; £95,306
2019	-	2021	Co-I, EPSRC Core Equipment Grant: In-situ characterisation of nano-aerosols (EP/T024712/1); £245,620
2019	-	2028	Co-I, EPSRC Centre for Doctoral Training in Aerosol Science, EPSRC (EP/S023593/1); £6,347,443
2016	-	2020	Co-I, EU Calculator: trade-offs and pathways towards a sustainable low-carbon European Society, EU H2020 (730459); £768,323

Prizes and awards

2023	The Air League Framed Address for “world leading research on contrail avoidance”
2019	Royal Aeronautical Society Written Paper Prize
2018	Imperial College London President’s Award for Outstanding Early Career Researcher
2014	Outstanding PhD Dissertation, Department of Engineering, University of Cambridge
2003	EPSRC Doctoral Prize

Selected publications (Total: >80, h-index: 28)

1. Frias, A. M., Shapiro, M. L., Engberg, Z., Zopp, R., Soler, M., & Stettler, M. E. J. (2024). Feasibility of contrail avoidance in a commercial flight planning system: an operational analysis. *Environmental Research: Infrastructure and Sustainability*, 4(1), 015013. Doi: [10.1088/2634-4505/ad310c](https://doi.org/10.1088/2634-4505/ad310c)
2. Teoh, R., Engberg, Z., Schumann, U., Voigt, C., Shapiro, M., Rohs, S., & Stettler, M. (2023). Global aviation contrail climate effects from 2019 to 2021. doi:[10.5194/equsphere-2023-1859](https://doi.org/10.5194/equsphere-2023-1859) [in review for *Atmospheric Chemistry and Physics*]
3. Ponsonby, J., King, L., Murray, B. J., & Stettler, M. E. (2024). Jet aircraft lubrication oil droplets as contrail ice-forming particles. *Atmospheric Chemistry and Physics*, 24(3), 2045-2058. <https://doi.org/10.5194/acp-24-2045-2024>
4. Teoh, R., Engberg, Z., Shapiro, M., Dray, L., & Stettler, M. E. (2024). The high-resolution Global Aviation emissions Inventory based on ADS-B (GAIA) for 2019–2021. *Atmospheric Chemistry and Physics*, 24(1), 725-744. <https://doi.org/10.5194/acp-24-725-2024>
5. Jagtap, S., Childs, P. & Stettler, M.E.J. (2023) Performance sensitivity of subsonic liquid hydrogen long-range tube-wing aircraft to technology developments. *International Journal of Hydrogen Energy*. <https://doi.org/10.1016/j.ijhydene.2023.07.297>
6. Dray, L., Schafer, A. W., Grobler, C., Falter, C., Allroggen, F., Stettler, M. E. J., & Barrett, S. R. H. (2022). Cost and emissions pathways towards net-zero climate impacts in aviation. *NATURE CLIMATE CHANGE*, 12(10), 956-+. doi:[10.1038/s41558-022-01485-4](https://doi.org/10.1038/s41558-022-01485-4)
7. Teoh, R., Schumann, U., Voigt, C., Schripp, T., Shapiro, M., Engberg, Z., . . . Stettler, M. E. J. (2022). Targeted Use of Sustainable Aviation Fuel to Maximize Climate Benefits. *ENVIRONMENTAL SCIENCE & TECHNOLOGY*, 56(23), 17246-17255. doi:[10.1021/acs.est.2c05781](https://doi.org/10.1021/acs.est.2c05781)
8. Teoh, R., Schumann, U., Gryspeerdt, E., Shapiro, M., Molloy, J., Koudis, G., . . . Stettler, M. E. J. (2022). Aviation contrail climate effects in the North Atlantic from 2016 to 2021. *Atmospheric Chemistry and Physics*, 22(16), 10919-10935. doi:[10.5194/acp-22-10919-2022](https://doi.org/10.5194/acp-22-10919-2022)
9. Teoh, R., Schumann, U., Majumdar, A., & Stettler, M. E. J. (2020). Mitigating the climate forcing of aircraft contrails by small-scale diversions and technology adoption. *Environmental Science and Technology*, 54(5), 2941-2950. doi:[10.1021/acs.est.9b05608](https://doi.org/10.1021/acs.est.9b05608)