

## Dr Rick Thomas BsC(hons), PhD

Research Fellow

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### About

Dr Rick Thomas is a measurement scientist specializing in the use of novel instrumentation for climate and air quality research. At Scripps Institution of Oceanography, he recently developed a turbulent flux measurement package to resolve ambient 3D wind vectors from an unmanned aerial vehicle (UAV) and successfully used it alongside aerosol, cloud and water probes to investigate aerosol-cloud interactions. He is currently developing a gas sampling device for a UAV helicopter platform to be used in the study of methane emissions in the southern tropics as part of a NERC funded project.

### Qualifications

BsC (hons) Environmental Geoscience  
PhD Atmospheric Science

### Biography

After gaining his Bachelor's degree from Edinburgh University Dr Rick Thomas worked for two years in the contaminated land/air quality section of an environmental consultancy. His PhD was in the use of novel instrumentation (Aerosol mass spectrometer/ Wet Chemistry techniques) to measure land-atmosphere exchange of chemically speciated particles. Rick then spent several years at Scripps Institution of Oceanography working for professor Ramanathan before joining **[Rob MacKenzie \(/staff/profiles/gees/mackenzie-rob.aspx\)](/staff/profiles/gees/mackenzie-rob.aspx)**'s group at the University Birmingham.

### Publications

**Thomas RM**, Lehmann K, Nguyen H, Jackson DL, Wolfe D, and Ramanathan V. (2012). Measurement of turbulent water vapor fluxes using a lightweight unmanned aerial vehicle system. *Atmos. Meas. Tech.*, 5, 243-257, 2012 [www.atmos-meas-tech.net/5/243/2012/](http://www.atmos-meas-tech.net/5/243/2012/) doi:10.5194/amt-5-243-2012

Twigg MM, House E, **Thomas RM**, Whitehead J, Phillips GJ, Famulari D, Fowler D, Gallagher MW, Cape JN, Sutton MA, Nemitz E. (2011). Surface/atmosphere exchange and chemical interactions of reactive nitrogen compounds above a manured grassland. *Agricultural and Forest Meteorology*, 151 (12). 1488-1503. 10.1016/j.agrformet.2011.06.005

Famulari D, Nemitz E, Di Marco C, Phillips GJ, **Thomas RM**, House E, Fowler D. (2010). Eddy-covariance measurements of nitrous oxide fluxes above a city, *Agricultural and Forest Meteorology*, 150, 6, 786-793, 2010 DOI:10.1016/j.agrformet.2009.08.003. (<http://www.sciencedirect.com/science/article/B6V8W-4X66C9J-2/2/23ceb4fce69cf76a0a523ea7383e7bcd>) (<http://www.sciencedirect.com/science/article/B6V8W-4X66C9J-2/2/23ceb4fce69cf76a0a523ea7383e7bcd>)

**Thomas RM**, Trebs I, Otjes R, Jongejan PAC, ten Brink H, Phillips G, Kortner M, Meixner FX and Nemitz E. (2009) An Automated Analyzer to Measure Surface-Atmosphere Exchange Fluxes of Water Soluble Inorganic Aerosol Compounds and Reactive Trace Gases, *Envi. Sci. Technol.*, 43, 5, 1412-1418

Demmers, T.; Saponja, A.; Nemitz, Eiko; **Thomas, Rick**; Phillips, Gavin; Di Marco, Chiara; McDonald, Alan; Harris, Jennifer; Bennett, S.; Stagg, S.; Bowry, A.; Emery, J.. 2009 **[Characterising poultry dust properties, assessing the human health implications, quantifying emission levels and assessing the potential for abatement. \(http://nora.nerc.ac.uk/8447/\)](http://nora.nerc.ac.uk/8447/)** Defra, 99pp. (CEH Project Number: C03209)

Martin CL, Longley ID, Dorsey JR, **Thomas RM**, Gallagher MW, and Nemitz E. (2009). Ultrafine particle fluxes above four major European cities, *Atmospheric Environment*, 43(5), 4714-4721, doi:10.1016/j.atmosenv.2008.10.009