

DR TAMSIN A. MATHER

Date of Birth: 15th December 1976

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Post-doctoral employment

July 2006-present: Lecturer and Academic Fellow in Physics and Chemistry of the Earth and Environment, Department of Earth Sciences, University of Oxford and Fellow of University College.

(Maternity leave: June-December 2007 and January-July 2010)

April 2005-October 2009: Royal Society Dorothy Hodgkin research fellow, awarded at Cambridge and moved to Oxford (Project title: Volcanic volatile emissions: from lithosphere to atmosphere)

Jan-March 2005: NERC fellow Parliamentary Office of Science and Technology (Report title: Carbon capture and storage)

Oct-Dec 2004: Cambridge Philosophical Society bursary (Project: S and O isotopes in volcanic emissions)

Education and Qualifications

Oct 2001– Sept 2004: Ph.D., Department of Earth Sciences, University of Cambridge, title: ‘Near-source chemistry of tropospheric volcanic plumes’. NERC funded. **Awarded December 2004.**

1999–2000: M.Phil. (History and Philosophy of Science), University of Cambridge. **Distinction.**

1995–1999: M.Sci. Chemistry (Natural Sciences), University of Cambridge. **First class.**

Honours and Awards

2010 Philip Leverhulme prize (£70k) – national award for outstanding early-career researchers

2008 UNESCO/L’Oréal UK & Ireland Women in Science Award (£15k) – outstanding early-career female researchers

2002–2004 CN Davies Award, Aerosol Society £650 pa.

2002–2004 Shell Postgraduate Bursary, £2000 pa.

1999 Gerstenberg University Scholarship £5000, for Philosophical study by a science student.

1995, 1999 Scholarship and College prize, St John’s College Cambridge.

1995 Peter Sykes Award for the best national performance in A level Chemistry; Award for placing in top 4 nationally in A level Maths (both awarded by UCLES).

Prior employment experience

2001 European Commission, Brussels. 3-month internship, DG Environment.

2000 BBC Science (Tomorrow’s World). 8-week internship as a researcher.

1999 BBC Natural History Unit. 6-week internship as a researcher.

Publications

Over 65 publications in peer-reviewed international journals or monographs since 2002, for full list see:

<http://www.earth.ox.ac.uk/people/publications/tamsinm> (>1030 citations, h-index 22 in Web of Science)

I am currently one of three **editors** on a Geological Society of London Special Publication entitled ‘Remote sensing of volcanoes & volcanic processes: integrating observation & modelling’

Funding

2012: - Co-I NERC Standard Grant ‘Spectrally High resolution Infrared measurements for the characterisation of Volcanic Ash (SHIVA): a new way to study volcanic processes’ - £410k

- Co-I NERC Theme Action consortium ‘Strengthening resilience in volcanic areas (STREVA)’ - £290k (Oxford)

2011: - PI NERC Scoping study (Mantle control on a habitable planet) for workshop organisation - £36k [completed].

- Co-I, NERC urgency grant, (Capturing a new episode of unrest at Santorini volcano, Greece) - £52k [completed].

2009: - PI NERC Standard Grant (Volcanic mercury: local deposition or global dispersion?) - £642k.

2008: - Co-I NERC Knowledge Transfer Grant (Integrating Knowledge to Inform Mercury Policy) - £253k [completed].

- Co-I, NERC urgency grant, (Extent and impact of distal ash fallout from the May 2008 eruption of Chaitén, Chile) - £30k [completed].

- Co-I, NERC Radiocarbon Facility grant, (Rates of post-glacial explosive volcanism in southern Chile: is there evidence for climate control?) - £7.3k [completed].

- Co-I NERC National Centre for Earth Observation directed grant (Theme 6: Dynamic Earth and Geohazards) – £3M over 5 years to use satellite data to study earthquakes and volcanic processes.

Mentoring, student supervision and teaching

- I currently manage or co-manage 2 postdoctoral scientists.
- Supervision of research projects at PhD (2 successfully completed, 10 current students) and 4th year research masters project (12 successfully completed, 3 current students) levels.
- Undergraduate lecturing 1st year Chemistry and Nucleosynthesis and 3rd and 4th year Volcanology.

Recent international invited talks and convening

- 2013:** - **Invited speaker** for session on Atmospheric Dust, Goldschmidt 2013 Conference Florence, Italy.
- 2012:** - **Invited speaker**, Union session ‘Magmatism and Global Environmental Change.’ AGU Fall meeting December 2012, San Francisco USA
- **Program Committee and invited speaker**, AGU Chapman Conference, Volcanism and the Atmosphere, Iceland.
- 2011:** - **Convener** Geological Society, London William Smith Meeting 2011 ‘Remote sensing of volcanoes & volcanic processes: integrating observation & modelling’
- 2009:** - **Invited** and funded participant Agouron Institute Nitrogen workshop, Arizona, USA.
- **Invited speaker** at Japan Geoscience Union Meeting, Session E205 Lightning phenomena in Earth and planets, talk title ‘Volcanic Lightning on Earth and Beyond’ Japan.
- 2007:** - **Invited speaker** Fall AGU 2007, San Francisco, USA (V32: Halogens in Volcanic Systems and their Environmental Impacts).
- **Invited speaker** Goldschmidt conference, Cologne, Germany in session on ‘Volcanic processes and volatiles in island arcs’ (declined as on maternity leave).
- **Invited speaker** International Space Science Institute Europlanet Workshop on Planetary Atmospheric Electricity, 23–27 July 2007 Bern, Switzerland (declined as on maternity leave).

Examples of professional activities and panel membership

- Led a scoping study to develop a proposal for major funding for the UK NERC Earth System Science Deep Earth initiative (Sept 2010 - Jan 2011), this has now been proposed to NERC.
- Member of Royal Society’s International Travel Grants panel member (2009-2011) and Royal Society International Exchanges panel member (2011-2012)
- Member of NERC peer review college (2006-2009)
- Reviewer of: 51 journal articles; proposals for NERC, the Leverhulme Trust and NSF; 4 PhD theses (University of Palermo and University of Girona).
- Member: AGU, IAVCEI and Mineralogical Society, UK.

Strategy and Policy work

- Invited participant UK Government Cabinet Office workshop and expert elicitation on ‘Effusive Eruption Source Characterisation’ on 15-17 May 2012, London.
- Organised a 2-day international workshop on *Natural Emissions, Global Change and the Global Mercury Cycle* at the Dept of Earth Sciences, Oxford, to produce a policy briefing (for the UK government and UNEP) on unknowns and uncertainties in the natural mercury inventory (May 2011)
- Organising committee for ‘Tomorrow’s Giants’ – a major one-day conference on the future of science, co-hosted by the Royal Society and Nature bringing together scientists and policy makers to gather scientists' vision of the next 50 years (July 2010)
- Selected to be part of the Royal Society delegation at the 29th General Assembly of the International Council for Science, Maputo, Mozambique (Oct 2008)
- Invited member of a group to advise on the Royal Society’s response to a RCUK consultation on peer review (December 2006).
- Invited panel member of NERC’s People Strategy Development Panel (2006)
- Advising House of Commons Select Committee on Carbon Capture and Storage (Sept-Nov 2005)

Outreach - recent highlights include:

- Email mentoring girls inner city secondary school (Highbury Fields School, London) – June 2012.
- Soapbox Science event, <http://www.youtube.com/watch?v=oLj9ATQu5uE&feature=youtu.be>, South Bank London (22 July)
- BBC audio slideshow (www.bbc.co.uk/news/science-environment-13703888) and talk at Cheltenham Science Festival (June 2011)
- NERC careers DVD (2010) – (www.nerc.ac.uk/careers/scientific_careers/volcanologist.asp)
- Earth Sciences taster session for gifted & talented students from disadvantaged backgrounds (March 2009)
- Public lecture at Royal Institution of Great Britain, ‘Volcanoes as agents for global change?’ (Sept 2008)