

**National Centre for Earth Observation**  
**Exposing how the Earth system works**  
**NCEO Annual Science Meeting**

**2-4 September 2009**  
**St Catherine's College, Oxford**

Our science meeting this year provides a showcase for the very broad range of activities we undertake. The talks are aimed at non-specialist scientists and include context and background as well as information on where the work is heading in the future. We hope the talks will spark new multi-disciplinary interactions - the programme has been deliberately structured to encourage new connections.

Many of the science stories have been reproduced in our brochure of "*A selection of science stories 2008/09*", see [http://www.nceo.ac.uk/news\\_detail.php?id=24](http://www.nceo.ac.uk/news_detail.php?id=24) .

The meeting programme can be seen below.

Our inaugural speaker on the first evening is José Achache, Director of the GEO Secretariat. The Group on Earth Observations is an ambitious international endeavour to build a Global Earth Observation System of Systems, or GEOSS. 79 Governments; the European Commission; and 56 intergovernmental, international, and regional organisations with a mandate in Earth observation or related issues have been recognised as Participating Organizations. We look forward to hearing how the UK can get more involved.

We start and end our science talks with a bang (literally) with talks on volcanic eruptions and earthquakes, including very recent analysis of the L'Aquila earthquake. Following on from volcanic eruptions we present work on another hazard – wildfires, which leads us into the carbon cycle on land and in the ocean and so to ocean modelling. From there, water in its various forms is a key linking factor: in frozen form on land and in the sea and in various states in the atmosphere. That brings us to another thread of radiation balance, clouds, aerosols and so to atmospheric composition.

Training is an important element of NCEO we are therefore pleased to include 8 student talks during the conference.

As well as the talks, we would like to draw particular attention to the poster sessions. The main poster session will be on Wednesday 3<sup>rd</sup> September both before and after dinner. We have over 70 posters so this will be a lively session. We hope that you will also want to return to the posters in the coffee and lunch break on the 4<sup>th</sup> September.

# National Centre for Earth Observation Exposing how the Earth system works NCEO Annual Science Meeting

**Wednesday 02 September**

Start	Title	Speaker	Affiliation/title
1300	Workshop: Communicating NCEO science	For those registered for workshop	
1600	Registration		
1830	Welcome drinks		
1900	Dinner		
<b>2000</b>	<b>Inaugural Lecture</b>	<b>Jose Achache</b>	<b>Director of GEO Secretariat</b>

**Thursday 03 September**

0800 Breakfast – buffet

## 0900 Session 1 a

0900	Introductions and welcome	Alan O'Neill	Science Director NCEO
0915	High resolution radar for volcano risk management	Geoff Wadge	U of Reading
0935	Rapid response to the Chaitén eruption provides once in a decade opportunity to refine models of ash dispersal	David Pyle	U of Oxford
0955	Estimating burnt biomass and carbon emissions from large wildfires	Martin Wooster	King's College
1015	How well can we measure greenhouse gases from space?	Paul Monks	U of Leicester
1035	Coffee		

## 1100 Session 1b

1100	Reducing the huge uncertainties in carbon emissions from tropical deforestation	Shaun Quegan	U of Sheffield
1120	Phytoplankton types from satellite measurements: towards estimation of the ocean carbon cycle from EO	Takafumi Hirata	Plymouth Marine Laboratory
1140	Oceans in the climate system	Keith Haines	U of Reading
1200	Including vertical light attenuation in EO assessments of phytoplankton types	Bob Brewin	U of Plymouth
1215	Direct observations of air/sea exchange of CO2 in coastal seas	Emmer Litt	PML/Bangor
1230	National scale estimates of GHGs from tall towers	James Howie	U of Edinburgh
1245	Pre-lunch discussion		
1300	Lunch (waited at table)		

## 1430 Session 2

1430	Measuring Essential Climate Variables	Chris Merchant	U of Edinburgh
1450	Trends in Arctic sea ice thickness	Seymour Laxon	UCL
1510	Ice sheet modelling	Tony Payne	U of Bristol
1530	Surface radar measurements on Antarctic sea ice in support of satellite thickness estimates	Rosemary Willatt	UCL
1545	Snow: an essential climate variable	Debbie Clifford	U of Reading
1600	Tea		
1600	<b>Poster Session (drinks from 6 pm )</b>		
1900	Dinner		

**Poster Session (continued , with coffee and more drinks)**

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Friday 04 September

0800 Breakfast – buffet

## 0900 Session 3a

0900	High-resolution probabilistic weather forecasting for the UK	Stefano	Migliorini	U of Reading
0920	A breakthrough in high-dimensional highly nonlinear data assimilation	Peter Jan	van Leeuwen	U of Reading
0940	Potential for improved rainfall forecasts for the African monsoon	Chris	Taylor	CEH
1000	Improved understanding of how rainfall responds to a warming world	Richard	Allan	U of Reading
1020	Satellite data provides new insight into model ice cloud distributions	Julien	Delanoe	U of Reading
1040	Coffee and Poster Session continued			

## 1115 Session 3b

1115	New insight into clouds, aerosols and climate	Andy	Sayer	U of Oxford
1135	Spectral signatures, climate change detection, and CLARREO	John	Harries	Imperial
1155	New mission to understanding processes controlling atmospheric composition	Brian	Kerridge	RAL
1215	MIPAS observations of organic tracers for biomass burning and intercontinental transport	Rob	Parker	U of Leicester
1230	Large-scale controls of methanogenesis inferred from methane and gravity spaceborne data	Anthony	Bloom	U of Edinburgh
1245	Pre-lunch discussion			
1300	Lunch (waited at table) and Poster Session continued			

## 1430 Session 4

1430	Curating and providing access to EO data	Victoria	Bennett	RAL
1450	Continuous recording GPS measurements suggest large earthquakes probable along the Hellenic Arc	Barry	Parsons	U of Oxford
1510	Geodetic observations of the Dabbahu rifting episode, Afar, Ethiopia: new dyking between 2006 and 2009	Ian	Hamling	U of Leeds
1530	L'Aquila Earthquake	John	Elliott	U of Oxford
1545	Closing remarks	Alan	O'Neill	Science Director NCEO
1600	Tea and depart			