

Remote Sensing and the Carbon Cycle

Weds 5 May, at the Geological Society, Burlington House, Piccadilly, London

A conference covering the remote sensing, measuring, mapping and monitoring of Carbon in terrestrial, marine and atmospheric settings. This conference will bring together research covering a broad range of topics relating to the Carbon Cycle.

This event is being held in conjunction with the RSPSoc Annual Lecture and Conversazione (evening of 5 May).

DRAFT OUTLINE PROGRAMME (updated 3rd March):

09.00 – Registration

09.30 – Welcome

09.35 – Air-Sea Gas Transfer Velocities from Space; Physical Models and Satellite Retrievals, David Kevin Woolf and Lonneke Goddijn Murphy, National Centre for Earth Observation and Environmental Research Institute (NCEO), North Highland College, UHI Millennium Institute

10.00 - The MODIS NPP (Net Primary Productivity) Product – Concept, Definition and Validation, Arthur P. Cracknell, Emeritus Professor, University of Dundee

10.25 - Biomass Burning Carbon Emissions Estimation via Satellite-Derived Fire Radiative Power Observations Professor Martin Wooster et al., Environmental Monitoring and Modelling Research Group, Department of Geography, King's College London

10.50 - Exploring possibilities to map the carbon cycle across northern coniferous forest landscapes using data from MODIS, Lars Eklundh, Pontus Olofsson, Per Schubert and Anna Maria Jönsson, Department of Earth and Ecosystem Sciences, Lund University, Lund Sweden and Department of Geography & Environment, Boston University, Boston, USA

11.15 – Refreshments

11.35 - Assessment of biomass and carbon sequestration in Kazakhstan: comparison of moderate to coarse resolution sensors, Martin W. Kappas, Pavel Propastin, Stefanie M. Herrmann, and Compton J. Tucker, Department of Cartography, GIS and Remote Sensing, Georg-August-University Göttingen

12.00 - Introduction of the PHenology And Vegetation Earth Observation Service (PHAVEOS), Thomas Lankester, Jadunandan Dash, Frédéric Baret and Steven Hubbard, Infoterra Ltd

12.25 – **Assessing the Extent and Severity of Erosion on the Upland Organic Soils of Scotland using Earth Observation and Object Orientated Classification Methods**, Mark Jarman (Environmental Systems Ltd)

12.50 – **Modelling the distribution of organic carbon stocks in floodplain soils with VHR remote sensing data and additional geoinformation**, Suchenwirth, Leonhard, Förster, Michael and Kleinschmit, Birgit, (TU Berlin), Institute of Landscape Architecture and Environmental Planning Department of Geoinformation Processing

13.15 – *Lunch*

14.00 – **Testing hyperspectral remote sensing monitoring techniques for geological CO₂ storage at natural seeps**, Luke Bateson, Jonathan Pearce and Claire Fleming, British Geological Survey

14.25 - **Investigation of Radar Backscatter Responses to Carbon for Glen Affric Radar Project**, Chue Poh Tan, Dr. Iain Woodhouse, Dr. Shane Cloude, Juan Suarez, Dr. Colin Edwards and Dr. Mike Perks, Edinburgh University

14:50 – **Biomass Estimation using Texture Measurements of Dual Polarization SAR Data**, Md. Latifur Rahman Sarker and Prof. Janet Nichol, Dept. of Land Surveying and Geoinformatics, The Hong Kong Polytechnic University, Hong Kong

15.15 – **Combining EO data and models to quantify global carbon fluxes**. Professor Shaun Quegan (NERC Centre for Terrestrial Carbon Dynamics) and Dr Nick Hardman-Mountford (Plymouth Marine Laboratory)

15:45 – **Questions & discussion**

16.00– *Tea/coffee/refreshments*

16:15 – **NERC EO Technology Cluster kick-off event**

17:15 – *Wine Reception / tour of the Geological Society*

18:00 – **RSPSoc Annual Lecture: Professor Philippe Ciais, LSCE, France.**

19.00 – *Conversazione / hot buffet dinner*

21.00 – Close

Posters:

Measuring the degradation of Peat Swamp Forests in Central Kalimantan using PALSAR radar data, Matt Waldram, Kevin Tansey and Sue Page, Department of Geography, University of Leicester.

Inter-comparability of Leaf Area Index (LAI) Estimated from Medium Resolution Remote Sensing Data in a Broadleaf Deciduous Forest in Southern England, UK, Booker Ogutu, Jadu Dash and Terry Dawson, School of Geography, University of Southampton.

NERC Earth Observation Data Acquisition & Analysis Service (NEODAAS) support of Carbon Cycle Research, Ana Prieto-Blanco and Steve B. Groom, Remote Sensing Group, Plymouth Marine Laboratory.

Study of Carbonaceous Emissions from Australian Biomass Burning using Ground-based DOAS and FTIR Spectroscopy, *Tattaris, M., Wooster, M., Smith, T. and Paugum R.* *Geography Department, King's College London.*

The Salford Advanced Laser Canopy Analyser (SALCA): A multispectral full waveform LiDAR for improved vegetation characterisation, Gaulton, R., Danson, F.M., Pearson, G., Lewis, P.E. and Disney, M. Centre for Environmental Systems Research, School of Environment and Life Sciences, University of Salford.

Measuring carbonaceous trace gasses using Open-Path FTIR spectroscopy: Experimental accuracy evaluation for concentrations appropriate to ambient and highly polluted plumes. Thomas Smith, Martin Wooster and Maria Tattaris, *R.Geography Department, King's College London.*

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