NCEO and CEOI SCIENCE VIRTUAL CONFERENCE 24 and 25 June 2020

Wednesday 24 June 2020: am session - NCEO

0900	**SESSION 1 - Welcome and conference overview - John Remedios (NCEO)**		
0915	**Plenary 1: CHAIR - Paul Palmer** **Mary Langsdale (KCL):** Retrieval and evaluation of land surface temperature and emissivity using airborne, field and laboratory hyperspectral instrumentation **Stefano Ciavatta (PML):** Ocean biogeochemistry reanalysis: a successful NCEO story **Maggie Marvin (Edinburgh):** Seasonal impacts of biomass burning on ozone air quality across Southeast Asia **Briony Turner (Space4Climate, Reading):** The making of a network revealed –matchmaking with purpose pre, during and post Covid19		
1115	**Parallel session 1 - Chair: Alison Fowler.**	**Parallel session 2 - Chair: Jose Gomez-Dans.**	**Parallel session 3 - Chair: Rob Parker.**
	Data assimilation and uses	**New EO science missions, data methods and systems**	**Global & regional processes, & model evaluation.**
	Keith Haines (Reading) - An ocean smoother for improve ocean heat and salt content analysis	**Phil Wilkes (UCL)** - Estimating urban forest structure with multi-source remote sensing	**Josh Talib (CEH/NCEO)** - Land surface feedbacks associated with intraseasonal rainfall variability
	Martyn Chipperfield (Leeds) - Identifying the global sources and impacts of new CFC-11 emissions	**Joao Carreiras (Sheffield)** - Improved characterisation of vegetation height from lidar observations: implications for above-ground biomass retrieval from space	**Ranjini Swaminathan (Reading)** - Climate and Earth System Change at different levels of global mean warming
	Amos Lawless (Reading) - The role of cross-domain error correlations in strongly coupled 4D-Var atmosphere-ocean data assimilation	**Jerome Woodwark (Edinburgh)** - Gravity observations by vertical laser ranging: a new mission concept	**Sandip Dhomse (Leeds)** - Evaluation of UKESM stratospheric trace gases and aerosol using satellite data
	Ewan Pinnington (Reading) - Improving soil moisture prediction of a land surface model through data assimilation	**Alex Webb (Leicester)** - Regeneration of CO2 Satellite Column Data with A-Priori Covariances Tailored to an Atmospheric Inversion Scheme	**Matilda Pimlott (Leeds)** - Investigating the global OH radical distribution using simplified steady state approximations
	Javier Amezcua (Reading) - Data assimilation for tracking and predicting Covid19 epidemic	**Gareth Thomas (RAL)** - Assimilating visible radiances to constrain aerosol properties in the ECMWF Integrated Forecast System: The ARAS project	**Rocio Barrio Guillo (Leicester)** - Challenges in quantifying methane emissions at point sources using hyperspectral remote sensing
	Jozef Skakala (PML) - Multi-platform assimilation of physical and biogeochemical variables on the North-West Shelf	**Mike Perry (Leicester)** - Developing the next generation of Thermal Remote sensing for ESA's LSTM mission	**Giorgio Dall'Olmo (PML)** - Ocean carbon pools and fluxes: from observations to process understanding
1245	Brief summary from the Chair	Brief summary from the Chair	Brief summary from the Chair

Wednesday 24 June 2020: pm session - CEOI

1330	**Session 2 - Introduction and Keynote Speaker - Mick Johnson (CEOI)** **CHAIR: Chris Brownsword** **Keynote speaker: Prof Kai Bongs** **(UK National Quantum Technology Hub for Sensors & Metrology)** Quantum Technology for a Future Gravity Mission **Chris Brownsword (CEOI)** - Introduction to Technology Projects **Keith Barnes (Leonardo MW Ltd)** - Leonardo Infrared arrays **Dave Smith (STFC RAL Space)** - Next Generation Infrared Calibration Sources **Neil Bowles (Oxford)** - Calibration and pointing capabilities of a CubeSat based radiometer **Mitchell Kenney (Glasgow)** - Nanostructured Ultra-Lightweight Lenses for Earth Observation
1440	Break
1500	**Daniel Oi (Strathclyde)** - Compact Multispectral Imager for Nanosatellites **Benjamin Taylor (Surrey Space Centre)** - Fast Slew Gimbaled Optics for Real-time EO **Owen Hawkins (Earth-i Limited)** - OVERPaSS: On-board VidEo Rapid ProceSSing **Steve Greenland (Craft Prospect)** - Autonomy Assurance for Small Earth Observation Missions **Peter Huggard (STFC RAL Space)** - GRaCE: G-band Radar for Cloud Evaluation **Manju Henry (STFC RAL Space)** - Spectroscopic-system for EnviRonmental MONitoring (SERMON) **Peter Hargrave (Cardiff)** - Ultra-Lightweight Metamaterial Optics For Earth Observation Applications (META-TEL) **Chris Thomas (Cambridge)** - Advanced Filterbank Spectrometer Technology for Hyperspectral mm-Wave Atmospheric Sounding **Nick Ridler (National Physical Laboratory)** - Polymer-based 3D Printing for Atmospheric science - multi-channel mm sounder (3DPAMS)
1610	**Tony Holt (In-Space Missions Ltd)** - Babel PD4 – Software defined radio for sensing microwave emissions

Thursday 25 June 2020: am session - CEOI

	Session 3
	CHAIR: Josh Vande Hey and Richard Bantges
0920	**Part 1: Introduction to session**
	Speaker tbc - Outline of the ESA earth Explorer 11 Call
	Part 2: Update on Missions led from UK
	Stephen Hobbs (Cranfield) - EE10 Candidate: Hydro-Terra
	Helen Brindley (Imperial) - EE9: FORUM
	Part 3: EE11 Mission Proposals
	Anthony Illingworth (Reading) - WIVERN
	Christine Gommenginger (NOC) - SEASTAR
1030	Break
1100	**Daniel Gerber (RAL)** - LOCUS
	Kees van den Doel (Adrok Ltd) - ADROK
	Part 4: Other missions
	Speaker tbc - TRUTHS
	Martin Unwin (SSTL) - ESA Scout Mission Proposal: HydroGNSS
	Andrew Haslehurst (SSTL) - Payloads for SmallSat Missions: Science on small platforms - ESA commissioned study
	Marton Kiss-Toth (Teledyne e2v) and Mike Salter (STFC – RAL Space) - Future EO: Concept for a Cold Atom Gravity Explorer (CAGE) Mission
1230	Lunch break

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Session 3

1315	**Plenary 2: CHAIR - Martin Wooster.** **Hartmut Boesch (Leicester)**: Monitoring Air Quality changes since the Coronavirus outbreak using satellites **Philip Lewis (UCL)**: EO finally delivers on crop monitoring **Tristan Quaife (Reading)**: Data Assimilation with JULES **Ed Gryspeerdt (Imperial)**: Using satellites and ships to understand clouds and climate		
1500	Break		
1515	**Parallel session 1 - Chair - Tim Trent**	**Parallel session 2 - Chair - Dan Clewley**	**Parallel session 3 - Chair - Svetlana Zolotikova**
	Climate urgency: Climate data records, predictions and their exploitation	**Progress in EO science, infrastructure and applications**	**Working internationally (ODA, GEO/CEOS, collaborations and networks, "international" studies and publications).**
	Steve Groom (PML) - Latest developments in the ESA Ocean Colour CCI: version 5	**Robbie Ramsay (FSF Edinburgh)** - NERC Field Spectroscopy Facility's new GHG monitoring network	**Daniel Fisher (KCL)** - Enhanced night-time peat fire detection and phase assignment over SE Asia from Himawari-8
	Adam Povey (Oxford) - Making the old new again: Adapting the ORAC retrieval to SLSTR	**Kelvin Choi (Imperial)** - Implications of air quality change over China during lockdown for solar energy generation	**Pedro Rodriguez Veiga (Leicester)** - Mapping aboveground biomass of Brazilian savanna
	Jose Gómez-Dans (UCL) - A 20-year record of global fire impacts derived from optical satellite data	**Victoria Bennett (or her nominee)** - JASMIN Notebooks for NCEO science	**Richard Siddans (RAL)** - Observations of the 2019-20 Australian Fires using RAL/NCEO near-real time data.
	Darren Ghent (Leicester) - Towards first global climate data records for land surface temperature	**Anu Dudhia (Oxford)** - The RFM radiative transfer model - current status	**Mat Disney (UCL)** - Improved forest carbon estimation: cal/val of new missions, and improving uncertainty
	Karn Vohra (Birmingham) - Air quality trends from long-term Earth observations over tropical megacities of the future	**Steve Groom (PML)** - NEODAAS services and product developments inc MAGEO	**Neil Humpage (Leicester)** - Greenhouse gas column observations from a portable spectrometer in tropical Africa
1630	Brief summary from the Chair	Brief summary from the Chair	Brief summary from the Chair

Please note: All timings and programme details are subject to change