UK ARCTIC SCIENCE CONFERENCE 2011

September 14-16, University of Leeds

Programme

General Information

Main conference sessions: Conference Auditorium Theatre 2
Poster sessions: Conference Auditorium Foyer and Gallery

Coffee breaks & icebreaker reception: Conference Auditorium Foyer
Conference dinner: The Spice Quarter, Millennium Square

Lunch is provided on Thursday only. There are many places to eat on or close to the campus – maps are available at the registration desk.

Wednesday 14th September

UK Sea Ice Group Meeting			
0900		Arrive and Welcome	
Sea Ice Session 1			
0915	SI-1	Alex West Met Office	Future speed of Arctic sea ice decline: rising or falling?
0930	SI-2	Nikhil Radia CPOM, University College London	Formation of frazil ice in leads and polynyas
0945	SI-3	Michel Tsamados CPOM, University College London	Impact of a new anisotropic rheology in the sea ice component of a global circulation model
1000	SI-4	David Rees Jones University of Cambridge	Gravity drainage of brine from growing sea ice
1015	SI-5	Alison McLaren Met Office	Implementation of sea ice multilayer thermodynamics in a coupled climate model (HadGEM3)
1030	SI-6	Maria Luneva NOCS	The effect of tides on the hydro-physical fields in the Arctic Ocean model
1045	**COFFEE**		
Sea Ice Session 2			
1100	SI-7	Seymour Laxon CPOM, University College London	Cryosat-2 measurements of sea ice thickness
1115	SI-8	Rosemary Willatt CPOM, University College London	Cryosat Validation Experiments (CryVEx) 2011 Radar Penetration Study
1130	SI-9	Chawn Harlow Met Office	Lambertian snow emissivities: Summary of recent work and plans for a future measurement campaign
1145	SI-11	Thomas Brown University of Plymouth	Direct evidence for a sea ice diatom based diet in Arctic heterotrophs
1200	SI-12	Helen Atkinson British Antarctic Survey/University of East Anglia	Halocarbons associated with Arctic sea ice
1215	**LUNCH (SEA ICE Group – Refectory)**		

UK ARCTIC SCIENCE CONFERENCE

Wednesday 14th September			
1330		Arrival & Registration	
1400		Welcome and Announcements	
Session 1 – JOINT WITH UK SEA ICE GROUP Chair – Clare Postlethwaite			
1415	1	Katharine Giles (Keynote) CPOM, University College London	Observing the Arctic sea ice cover and ocean from space: Recent changes from Envisat and the current status of CryoSat-2
1445	2	Helene Hewitt Met Office Hadley Centre	Latest projections of Arctic sea ice decline from an Earth System Model
1500	3	Daniela Flocco CPOM, University College London	Implementation of melt pond formation and refreezing physics: Arctic sea ice extent and thickness simulations from 1988 to 2007
1515	4	Amelia Marks Royal Holloway, University of London	The effects of black carbon distribution & snow cover on light penetration depth and albedo of sea ice
1530	5	Helen Findlay Plymouth Marine Laboratory	Biogeochemical dynamics under sea ice in the Canadian High Arctic during late winter – early spring
1545	**COFFEE**		
SESSION 2 – OCEANOGRAPHY Chair – Sheldon Bacon			
1615	6	Jeff Ridley Met Office Hadley Centre	Irreversible characteristics of the Arctic Ocean under climate change in HadGEM2
1630	7	Takamasa Tsubouchi NOCS	The Arctic Ocean in summer: Boundary fluxes and water mass transformation
1645	8	Yueng-Djern Lenn Bangor University	Intermittent intense turbulent mixing under ice in the Laptev Sea Continental Shelf Sea
1700	9	Vladimir Ivanov SAMS	Water transformations north of Svalbard
1715	10	Fred Wobus University of Plymouth	Modelling density-stratified cascades on a steep slope
1730	**ICEBREAKER RECEPTION / POSTER SESSION 1 - SEA ICE**		
THURSDAY 15TH SEPTEMBER			
0900	**COFFEE**		
SESSION 3 - REMOTE SENSING / TERRESTRIAL ICE Chair – Ian Brooks			
0915	11	Andy Shepherd (Keynote) University of Leeds	Melt-induced acceleration of Greenland ice sheet flow

0945	12	Chris Williams University of Leeds	Evaluating mountain glacier change over the 20th and early 21st century utilising a multi-scale approach
1000	13	David Rippin University of York	The thermal response of small Arctic glaciers to climate
1015	14	Yong Xue London Metropolitan University	Aerosol optical depth dataset retrieved from satellite data for Arctic
1030	**COFFEE**		
SESSION 4 – BIOLOGY / ECOLOGY **Chair – Clare Robinson**			
1100	15	Lorna Street University of Aberdeen	Long term recovery of High Arctic tundra from nutrient addition
1115	16	Jonathan Codd University of Manchester	Seasonal adaptations in high Arctic Svalbard rock
1130	17	Gareth Phoenix University of Sheffield	Large scale ecosystem damage from extreme winter warming events: a challenge to the greening of the Arctic?
1145	18	Dylan Gwynn-Jones IBERS, Aberystwyth University	Do Arctic plant-soil communities acclimate to long term elevated CO2 exposure?
1200	19	Cynan Ellis-Evans / Mike Dinn NERC Arctic Office / British Antarctic Survey	UK in the Arctic – The Arctic Office and UK Arctic Logistics
1230	**BUFFET LUNCH**		
SESSION 5 – ECOLOGY / HYDROCARBON SEEPS **Chair – Jane Francis**			
1400	20	Euan Nesbit (Keynote) Royal Holloway, University of London	The Arctic Methane Problem
1430	21	Crispin Little University of Leeds	Hydrocarbon seeps from close to the Jurassic-Cretaceous boundary, Svalbard
1445	22	Michael Max Hydrate Energy International	Vein-type natural gas hydrate in permafrost cryosphere regions: Potential for sudden step increase in positive greenhouse feedback
1500	23	Vivienne Jones University College London	Impacts of recent climate change and nitrogen deposition on algae in Arctic lakes
1515	24	Sonal Choudhray University of Sheffield	Fate and impacts of acute nitrogen (N) deposition on high arctic tundra
1530	25	Alexander Milner University of Birmingham	Shrinking Cryosphere, changing water sources and biodiversity in Arctic streams
1545	26	Erika Hogan Loughborough University	The effect of long range N deposition on nutrient limitation of phytoplankton growth in lakes in South West Greenland
1600	**COFFEE**		
1630	**POSTER SESSION 2 - ALL SUBJECTS**		
1930	**CONFERENCE DINNER - SPICE QUARTER, MILLENIUM**		

FRIDAY 16TH SEPTEMBER			
0915	**COFFEE**		
SESSION 6 - PALEO SCIENCE **Chair – Jane Francis**			
0930	27	Grant Bigg University of Sheffield	The role of the Arctic in Heinrich events
0945	28	Michael Hambrey Aberystwyth University	Testing the Snowball Earth hypothesis in Caledonian Svalbard
1000	29	Marcus Badger University of Bristol	Biomarker characterisation of redox conditions and source variations of Spitsbergen organic matter during the Paleocene Eocene Thermal Maximum.
1015	30	Abigail Clifton University of Leeds	Eocene flora on Svalbard and its climatic significance
1030	**COFFEE**		
SESSION 7 – MISCELLANEOUS **Chair – Steve Arnold**			
1100	31	Peter Nienow University of Edinburgh	Seasonal evolution of subglacial drainage and ice motion at the margin of the Greenland Ice Sheet
1115	32	Steven Palmer SPRI, University of Cambridge	Preliminary results from an airborne geophysical survey of selected Greenland Ice Sheet outlet glaciers
1130	33	Harry Langford University of Sheffield, Kroto Research Institute	The aggregation and microstructure of Arctic cryoconite
1145	34	Jamie Rae Met Office Hadley Centre	Intercomparison and validation of Greenland Ice Sheet surface mass balance calculated with three regional climate models
1200	35	Angela Self Natural History Museum	The influence of Holocene tree-line advance and retreat on Lake Kharinei, a tundra lake, in North Eastern European Russia
1215	36	Ian Brooks University of Leeds	Bubble and aerosol fluxes in & over leads in Arctic sea ice: results from ASCOS
1230			**Final Discussion & Announcements**

LIST OF POSTERS

SEA ICE POSTERS		
SI-P1	Harry Heorton CPOM, University College London	Jet formation at the sea ice edge
SI-P2	Alek Petty CPOM, University College London	The mixed layer over the Antarctic continental shelf
SI-P3	Alexander Wilchinsky CPOM, University College London	Modelling Coulombic Failure of Sea ice with Leads
SI-P4	Sarah Doman University College London	Satellite estimates of ice thickness distribution and surface roughness from satellite laser and radar altimetry
SI-P5	Nuala Carson University of Liverpool	Modelling grounded ice ridges as a method for landfast ice creation and retention
SI-P6	Jennifer Hall University of Sheffield	Ice Object tracking in the Fram Strait in late summer 2010
SI-P7	Yevgeny Aksenov NOCS	Pathways of the Pacific Water in the Arctic Ocean from Ocean Model Intercomparison Experiments
SI-P8	Clare Postlethwaite NOCL	The role of brine rejection in maintaining the Arctic Halocline
SI-P10	Holly Reay Royal Holloway, University of London	Decreased albedo, light penetration depth and photolytic production of OH radicals and NO_2 in Barrow snowpack: A scenario of increasing black carbon in snow
SI-P11	James France Royal Holloway, University of London	Hydroxyl radical and NOx production rates and light-absorbing impurities from field measurements of light penetration and nadir reflectivity of on-shore and off-shore coastal Alaskan snow
UK ARCTIC SCIENCE CONFERENCE POSTERS **ATMOSPHERIC SCIENCE**		
P1	Cathryn Birch University of Leeds	Modelling the vertical structure of the central Arctic boundary layer: ASCOS case studies
P2	Peter Edwards University of Leeds	Hydrogen oxide photochemistry in Northern Canadian spring time boundary layer
P3	Guylaine Canut University of Leeds	Boundary layer structure during ASCOS - Multi-sensor retrievals and diagnostics
P4	Thomas Pleavin University of Leeds	Large eddy simulations of Arctic stratus: ASCOS case studies
P5	Stephane Baugitte	Airborne facility for greenhouse gas measurements
P6	John Pyle NCAS, University of Cambridge	Methane and other greenhouse gases in the Arctic - Measurements, process studies and modelling (MAMM)
P7	Joanna Bullard Loughborough University	Dust transport from Iceland to the Atlantic: the role of glacial sources and processes
P8	Sarah Monks University of Leeds	Inter-annual variability of carbon monoxide in the Arctic troposphere: the importance of meteorology and biomass burning
P9	Jo Browse University of Leeds	Factors controlling the Arctic sulphate and black carbon aerosol seasonal cycle: The importance of boundary layer scavenging

P10	Wuhu Feng University of Leeds	The record Arctic ozone depletion 2010/2011
P11	Xin Yang University of Cambridge	Model simulations of polar boundary layer ozone depletion events and Bromine explosion
OCEANOGRAPHY		
P31	Eleanor Frajka-Williams, NOCS	Seaglider observations of deep convection in the Labrador Sea: Hydrography and vertical water velocity
TERRESTRIAL ECOLOGY AND BIOLOGY		
P12	Philip Blaen University of Birmingham	Water temperature dynamics in high Arctic river basins
P13	John Lees University of Manchester	Does sexual selection explain differences in the cost of locomotion in Svalbard ptarmigan?
P14	Georgios Xenakis University of Edinburgh	A detailed model for organic soils in the Arctic region
P15	Cecile Menard University of Edinburgh	Implementation of an exposed vegetation fraction parameterization to calculate albedo over shrub-tundra
MARINE BIOLOGY		
P16	Patricia Cabedo Sanz University of Plymouth	Applications of the biomarker IP25 for Arctic sea-ice reconstruction
P17	Rosemary Dillon Bangor University	The effects of long term temperature acclimation on the metabolic rates of an arctic and temperate gammarid amphipod species
P18	Eric Fouilland ECOLAG Laboratory, France	Microbial carbon and nitrogen cycling in Arctic seas: evidence for low carbon-coupling and high competition for nitrogen between phytoplankton and bacteria
P19	Adam Hamilton University of Portsmouth	Regulation of phytoplankton and bacteriaoplankton biomass by microzooplankton grazing in the sub-Arctic Atlantic Ocean
P20	Thomas Jackson University of Oxford	Examining vertical structure in Arctic phytoplankton under and near sea ice
P21	Joelle Richard British Antarctic Survey	Acclimation capacity for four Arctic marine benthic
METHANE		
P22	Garry Hayman CEH Wallingford	Novel earth observation products to characterise wetland extent and methane dynamics: the ESA ALANIS-methane project
P23	David Lowry Royal Holloway, University of London	Carbon Isotopic characterisation of Arctic methane sources
TERRESTRIAL ICE		
P24	Amir Levy	The impact of glacial fluctuations on the groundwater and surface water systems of the proglacial zones of three SE Icelandic glaciers
P25	Tom Bradwell British Geological Survey	High-resolution monitoring of rapid glacier evolution: a multi-sensor real time observatory at Virkisjöjull, southeast Iceland
P26	Aisling Dolan University of Leeds	How model dependent are predictions of the Greenland ice sheet for past warm periods? Results from the Pliocene ice sheet modelling intercomparison project (PLISMIP)

EARTH SCIENCE		
P27	Matt Strzelecki Durham University	Response of paraglacial coastal sediment dynamics to post-LIA climate shifts - recent advances from Svalbard
P29	Carl Robinson British Antarctic Survey	Airborne platforms - a tool for exploring the Polar Regions
P30	Ian Bailey University of Southampton	Last glacial-magnitude ice-rafted debris deposition and its provenance in the earliest Pleistocene sub-polar North Atlantic Ocean
MISCELLANEOUS		
P32	James Van Alstine University of Leeds	Natural resource governance in the Arctic: the interplay
P33	Nick Cox British Antarctic Survey	Ny-Ålesund Research Station, NERCs Polar research station
P34	Chris Hindley British Antarctic Survey	RV James Clark Ross, the UKs polar research vessel
P35	Mike Dinn British Antarctic Survey	British Antarctic Survey, research support capabilities for Arctic science