

ISTAS

Integrating Spatial and Temporal scales in the changing Arctic System: towards future research priorities

The ART workshop about “Integrating spatial and temporal scales in the changing Arctic System: towards future research priorities” (ISTAS) aims at discussing the integration of spatial and temporal scales to better understand the changing Arctic system as a whole, by including various Arctic research fields (such as physical oceanography, sea-ice, biogeochemical cycles and ecosystems functioning, marine biodiversity, land-ocean interactions, ocean-atmosphere exchanges and ocean acidification, paleo-reconstruction and biological archives, and social sciences). During the workshop, in parallel sessions and discussion groups, future Arctic research priorities will be elaborated. Results of this workshop feed into the larger ICARP III meeting (3rd International Conference on Arctic Research Planning) in Toyama, Japan in April 2015 (<http://icarp.arcticportal.org/>).

This international workshop is jointly organized by the Arctic in Rapid Transition initiative (ART, <http://www.iarc.uaf.edu/ART>), an official IASC network (<http://www.iasc.info>), the Association of Polar Early Career Scientists (APECS, www.apecs.is), and the European Institute for Marine Studies (IUEM, France, <http://www-iuem.univ-brest.fr>).

Website: <http://istas.sciencesconf.org>



Graphic layout : Sébastien HERVE / IUEM - Photography : Erwan AMICE / CNRS

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Integrating Spatial and Temporal scales in the changing Arctic System: towards future research priorities

October 21 - 24, 2014

Plouzané, IUEM

Program



Monday 20 october

19:00	Icebreaker at «La ronde des vins» (downtown Brest)
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Tuesday 21 october

9:00-9:45	Plenary session	Welcome by IUEM co-director (F. Jean), ART co-chair (N. Morata), APECS and ICAR III representant (S. Majaneva)	
9:45-10:30	Amphi A	A. Renner	Sea Ice in the Arctic Ocean - the challenge of observing basic properties and assessing changes
10:30-11:00		Coffee break	
11:00-11:45		F. Cottier	Oceanographic Challenges from an Arctic Scavenger
11:45-12:30		M. Grigoriev	Coastal and Subsea Permafrost of the Siberian Arctic: Dynamics, Evolution and Risk
12:30-14:00	Lunch Break		
14:00-15:30	Parallel sessions	S1 Sea ice, Amphi A S4 Biodiversity, A 215	
15:30-15:50	Amphi A	Coffee break	
15:50-17:00		S1 Sea ice, Amphi A S4 Biodiversity, A 215	
17:00-17:45	Plenary session Amphi A	K. Kiel	Multidisciplinary Arctic Research
17:45-19:45	Private	Side meeting for ART EC members and Transsizz participants, A215	
19:00	Cocktail party at BLP (IUEM)		

Wednesday 22 october

9:00-9:45	Plenary session	K. Hendry	Paleo-reconstruction and biological archives: decade to millennium
9:45-10:30	Amphi A	B. Bluhm	Arctic marine seafloor fauna in a time of environmental change: biodiversity, community distribution and food webs on regional to pan-Arctic scales
10:30-11:00		Coffee break	
11:00-11:45		J. Berge	In the dark: paradigms of Arctic ecosystems during polar night challenged by new understanding
11:45-12:30		K. Kiel	Sustainability and Resources in the Arctic
12:30-14:00	Lunch Break		
14:00-15:30	Parallel sessions	S5 Paleo, Amphi A S8 Law and economics, A 215	
15:30-15:50	Coffee break		
15:50-17:00	S5 Paleo, Amphi A S8 Law and economics, A 215		

17:00-17:45	Plenary session Amphi A	J.P. Beurier	What legal regime for the Arctic Ocean?
17:45-19:00	Parallel sessions	6 parallel sessions for spreadsheets writing (Amphi A, A215, A219, A012, B-248, B-250)	
19:00	Crêpe dinner (IUEM) - Concert by «Black Bows»		

Thursday 23 october

9:00-10:30	Parallel sessions	S6 Land-ocean, Amphi A S2,3,7 Oceanography, A 215	
10:30-11:00	Amphi A	Coffee break	
11:00-12:00		S6 Land-ocean, Amphi A S2,3,7 Oceanography, A 215	
12:30-14:00	Lunch Break		
14:00-14:45	Plenary sessions	M. Babin	Trends in Arctic Ocean carbon fluxes as documented using remote sensing
14:45-15:30	Amphi A	H. Ojaveer	Status of the ecosystem and fish stocks in the Barents Sea
15:30-15:50	Coffee break		
15:50-18:30	Parallel sessions	6 parallel sessions for spreadsheets writing (Amphi A, A215, A219, A012, Amphi B, B-250)	
20:00:00	Workshop dinner at Hotel Vauban (downtown Brest)		

Friday 24 october

9:00-10:30	Plenary session	Restitution of spreadsheets	
10:30-11:00		Coffee break	
11:00-12:30	Amphi A	Restitution of spreadsheets	
12:30-14:00	Lunch Break		
14:00-18:00	Excursion		
14:00-19:00	More opportunity to work on the spreadsheets		

Thursday 23 October 9:00-12:20

Session 2,3,7: Oceanography – physics, atmospheric interactions, and biogeochemistry
(Chairs: F. Cottier, Co-chairs: H. Findlay, P. Bourgain, N. Morata, Q. Shao, R. Hindshaw, S. Rastrick)

09:00-9:15	Ruth Hindshaw	Sulphur Cycling
09:15-9:30	Ashok Aswal	Monitoring of snow and glacier (satopanth)
09:30-9:45	Solveig Bourgeois	Marked biotic gradient in the sediments of a dominated-glacier fjord (Kongsfjorden, Svalbard)
09:45-10:00	Christian März	Pore water analyses in Arctic Ocean sediments – Bridging the gap between biogeochemistry and paleoceanography
10:00-10:15	Mathieu Ardyna	Recent Arctic Ocean sea ice loss triggers novel fall phytoplankton blooms
10:15-10:30		future research discussion
10:30-11:00	Coffee break	
11:00-11:15	Martin Paar	Analysis of the food web of an algal belt in Kongsfjorden
11:15-11:30	Bernard Quéguiner	Biogeochemistry of coastal water in the Canadian shelf of the Beaufort Sea (Arctic Ocean) during summer 2009
11:30-11:45	Montserrat Roca Marti	Carbon export fluxes in the Central Arctic at different time scales using $^{234}\text{Th}/^{238}\text{U}$ and $^{210}\text{Po}/^{210}\text{Pb}$ during summer 2012
11:45-12:00	Joanna Przytarska	Ocean acidification in the Arctic – the ecosystem respond to multiple stressors arising from ocean warming and chemistry changes
12:00-12:20		future research discussion

Thursday 23 October 9:00-12:20

Session 6: Land-Ocean interactions: from coastal to submarine permafrost including gas hydrates (Chair: M. Grigoriev, Co-chairs: M. Fritz and D. Mercier)

09:00-09:10	Michael Fritz	opening remarks, session organization, ICARP III - How to come to the Priority Sheets
09:10-09:30	Michael Fritz	Arctic coastal erosion mobilizes dissolved organic carbon (DOC) from permafrost
09:30-09:50	Jennifer Frederick	Effect of Submarine Groundwater Discharge on Relict Arctic Submarine Permafrost and Gas Hydrate Stability
09:50-10:10	Pedro Preto	Quantification of sediment physical and geothermal properties – Storage capacity for methane hydrates in Arctic continental slope sediments
10:10-10:30	Heather Stewart (by Dayton Dove)	British Geological Survey remotely operated sea bed rockdrills and vibrocorders: new advances to meet the needs of the scientific community.
10:30-11:00	Coffee break	
11:00-11:20	Hugues Lantuit	A roadmap for the future of permafrost research
11:20-12:20	ALL	Spreadsheet Discussion

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Parallel sessions program

Tuesday 21 October 14:00-17:00

Session 1: Sea Ice in the Arctic Ocean: from microphysics to large scale dynamics
(Chair: A. Renner, Co-chairs: A. Pavlov and M. Chevallier)

14:00-14:15	Matthieu Chevallier	Predicting sea ice conditions in the Arctic ocean and subbasins a few months ahead: state-of-the-art and future challenges
14:15-14:30	Anastasia Tarasenko	Sea ice navigation: statistics and forecast
14:30-14:45	Andreas Preusser	Linking MODIS satellite and airborne thermal infrared imagery to assess polynya characteristics in Storfjorden, Svalbard
14:45-15:00	Elena Zakharova	Sea Ice leads seasonal dynamic from SARAL/AltiKa altimeter
15:00-15:15	Kevin Guerreiro	Radar altimetry to study water regime of large boreal rivers
15:15-15:30	Ivan Sudakov	Arctic melt ponds evolution and sea ice-albedo feedback
15:30-15:50	Coffee break	
15:50-16:05	Marcel Nicolaus	Changes, variability, and seasonality of sea ice energy budgets
16:05-16:20	Stefanie Arndt	Seasonal cycle and long-term trend of solar energy fluxes under Arctic sea ice
16:20-16:35	Dmitry Divine	Regional albedo of Arctic first-year drift ice in advanced stages of melt from the combination of in situ measurements and aerial imagery
16:35-16:50	Alexey Pavlov	Interaction of solar radiation and first year sea-ice in the Arctic Ocean: insights from autonomous radiation buoys
16:50-17:00	Summing up	

Tuesday 21 October 1400–17:00

Session 4: Marine biodiversity
(Chair: B Bluhm, Co-chairs: M. Kedra and S. Majaneva)

14:00-14:10	Sanna Majaneva	Introduction
14:10-14:22	Sanna Majaneva	Cydidipid ctenophores in the coastal waters of Svalbard: is it only Mertensia ovum?
14:22-14:34	Fanny Narcy	Spatial investigation of plankton in the European Arctic
14:34-14:46	Ilka Peeken	Impact of various sea ice extend in the Central Arctic on the sea ice and pelagic biota
14:46-14:58	Carmen David	The under-ice distribution, population structure and feeding ecology of polar cod Boreogadus saida in the Eurasian part of Central Arctic Ocean
14:58-15:10	Joëlle Richard	Chlamys islandica biology studied in field experiments
15:10-15:22	Lis Jørgensen	Distribution of benthic megafauna in the Barents Sea: baseline for an ecosystem approach to management.
15:22-15:30		Continued discussion
15:30-15:50	Coffee break	
15:50-16:02	Renate Degen	Diversity and ecological functioning of Arctic benthos along a gradient of depth and latitude
16:02-16:14	Emily Choy	Identifying the Diet and Physical Condition of the Beaufort Sea Belugas using Fatty Acid Signatures
16:14-16:26	Mikolaj Mazurkiewicz	DWARF - Declining size - a general response to climate warming in Arctic fauna? – a Polish-Norwegian Research Project
16:26-16:38	Barbara Górka	Will the Benthic Biomass Size Spectra in the Arctic change with climate warming?
16:38-16:50	Dubrava Kirievskaya	Evaluation of the Chukchi Sea ECOSYSTEM vulnerability to extended human activities
16:50-17:02	Samuel Rastrick	What can physiology tell us about the future ecology and biodiversity of a changing arctic ocean?
Poster	Margaux Chauvin	Arctic ocean Tenace Expedition: ARTEX 2014

Wednesday 22 October 1400–17:00

Session 5: Paleo-reconstruction and biological archives: decade to millenium
(Chair: K. Hendry, Co-chairs: K. Werner and M. O'Regan)

14:00-14:30	Matt O'Regan	Arctic Sediments and the resolution of paleo-environmental change
14:30-14:45	Anna Pienkowski	The Northwest Passage: Ice Age to present
14:45-15:00	Natalia Barrientos	Development of Mg/Ca-temperature calibrations for benthic foraminifera in the central Arctic Ocean
15:00-15:15	Kirstin Werner	Evaluating the role of Atlantic Water advection to the Arctic Ocean on geological, historical, and observational timescales
15:15-15:30	Dayton Dove	Efforts to constrain extent and dynamics of past glaciation on broad western Arctic shelves
15:30-15:50	Coffee break	
15:50-16:05	Nikolai Pedentchouk	14C Ages of Bulk Organic Matter in Offshore Sediments in the Laptev and East Siberian Seas
16:05-16:20	Martin Bartels	Tracing the interplay of oceanographic variability and glacial activity fjords of northern Spitsbergen through the Holocene
16:20-16:35	Armelle Decaulne	Tree-ring tales: snow-avalanche history in three Icelandic paths revealed over the 20th century
16:35-16:50	Dmitry Kaverin	The specificity of the structure and properties of permafrost-affected soils developed under peat circles (the Russian European Northeast)
16:50-17:00	Alexandr Pastukhov	Ecological sustainability of permafrost peatlands in the European North-East

Wednesday 22 October 1400–17:00

Session 8: The responses of law and economics in a changing Arctic
(Chair: A. Cudennec, Co-chair: M. Jacquot)

14:00-14:05	Annie Cudennec	Welcoming the participants
14:05-14:20	Anne Choquet	Developing a regulatory framework for navigation safety in the Arctic, the end of an ever-recurring issue?
14:20-14:35		Questions and discussion with the audience
14:35-14:50	Hélène De Pooter	The United States and Article 76 of the UNCLOS
14:50-15:05		Questions and discussion with the audience
15:05-15:20	Mathilde Jacquot	The European Union's interests on the Arctic ocean
15:20-15:30		Questions and discussion with the audience
15:30-15:50	Coffee break	
16:00-16:15	Yohann Ortiz De Zarate	Science in the public and legal decision-making process: an example of interdisciplinarity.
16:15-16:30		Questions and discussion with the audience
16:30-17:00		Synthesis of the session and further discussions with the audience