



# ARENA FOR THE GAP ANALYSIS OF THE EXISTING ARCTIC SCIENCE CO-OPERATIONS (AASCO)



PRINCE ALBERT II  
OF MONACO  
FOUNDATION



UNIVERSITY OF HELSINKI

**INAR**

INSTITUTE FOR ATMOSPHERIC AND  
EARTH SYSTEM RESEARCH



**UArctic**



# AASCO MISSION

## **Arena for the gap analysis of the existing Arctic science co-operations (AASCO) aims to bring together key players for joint Arctic research**

The Arctic region is undergoing accelerated rates of warming, and with it, consequential and potential irreversible changes to its environment. It is evident that a sustainable future of the region will be based on scientific knowledge. This knowledge however entails an integrated understanding of the Earth System, in particular, its feedback system relating the

atmosphere, ocean and land components. Yet this endeavor remains fragmented among the respective scientific disciplines. The Arena for the gap analysis of the existing Arctic Science Co-Operations (AASCO) is working to bridge the scientific research communities to charter a path towards a comprehensive practice of science.

## ADDED VALUE OF THE PROJECT:

- Strengthens the collaboration and concept planning of the Arctic Ocean and Terrestrial research at large scales and the implementation of the Agreement on Enhancing International Arctic Scientific Cooperation
- Contributes to the development of modeling tools towards all- scales- modeling approach and cover the feedback, processes and the interaction between land-ocean interface and provides background information for the funding agencies
- Supports the development of the observation network delivering novel ground-based ocean-land-atmosphere data for the Earth system modeling and for the future early warning systems.
- Will enhance a public attention to the scientific message in a frame of Arctic-boreal research and Arctic futures

## AASCO ORGANISERS

AASCO is an initiative headed by the Institute for Atmospheric and Earth System Research (INAR) at the University of Helsinki and sponsored by the Prince Albert II of Monaco Foundation for the years 2020-2021. It is in collaboration with the Universities of Arctic (U-Arctic), the World Meteorological Organization (WMO), the Sustainable Arctic Observations Networks (SAON), the Svalbard Integrated Arctic Earth Observing System (SIOS), the Institute of Remote Sensing and Digital Earth - Chinese Academy of Sciences (RADI - CAS), Moscow State University (MSU) and The Harvard Law School.





# 1st AASCO Meeting

2-3 November 2020

14

session keynote speakers

~90

online participants

>20

White Paper abstract contributions

## Opening of AASCO Meeting Keynotes



**President Tarja Halonen**  
Chair of the University of  
Helsinki Board, Finland



**HSH Prince Albert II  
of Monaco**



**President of UArctic  
Lars Kullerud**  
UArctic (University of  
Arctic), GRID-Arendal,  
Norway



**Secretary General of WMO  
Prof. Petteri Taalas**  
World Meteorological  
Organization (WMO),  
Switzerland



**Academician  
Markku Kulmala**  
Director of INAR,  
University of Helsinki,  
Finland



## Main scientific and service issues for discussion at the Arctic Science Arena are:

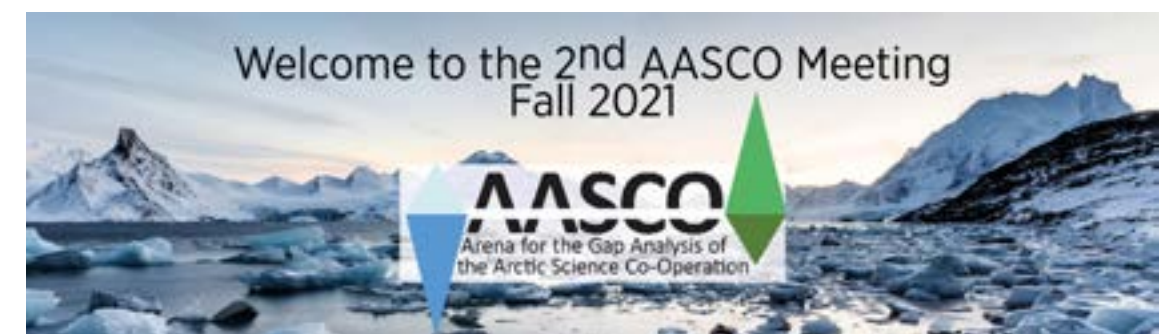
1. Key scientific gaps in biogeochemical cycles and feedbacks across Arctic Ocean – Arctic terrestrial continuum
2. Arctic boundary layer processes
3. Land-atmosphere-ocean processes, feedbacks and interactions via comprehensive observations and seamless modeling frameworks
4. Organization of Arctic ocean / terrestrial model assessment from nano / process to global scale models
5. Data synthesis providing new integrated data products for the Arctic and sub-Arctic
6. Up-to-date climate scenarios for the socio-economic research and knowledge bridging the between natural science and socio-economic research
7. Future forecasting and observation system requirements in the Arctic-boreal domain.

## WHITE PAPER

The White Paper aims to synthesize the scientific understanding and state-of-the-art for cryosphere, hydrosphere, atmosphere, biosphere feedbacks and interactions, discuss the research infrastructure (RI) and data needs to answer the key scientific questions related to these feedbacks & interactions. We invite the Arctic research communities to contribute to the AASCO White Paper, including contributions from previous work and opinion pieces.

## Welcome to the 2nd AASCO Science Meeting 2021!

The format of the 2nd Meeting will be a hybrid (online and in person) forum open to research, policy and society stakeholders.



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# AASCO e-Exhibition



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Images of Arctic Science



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TUFTS UNIVERSITY



EU-PolarNet

ECMWF



BAR  
Digital Belt and Road Program

SCIENCE PLAN





# Contact Information

**Academician Markku Kulmala**  
Director, INAR Univ.Helsinki  
Markku.Kulmala@Helsinki.fi

ASCO website  
<https://www.atm.helsinki.fi/peex/index.php/aasco/>  
Twitter: @AASCO

**Coordination and Program**  
**Dr. Hanna K. Lappalainen**  
Secretary General, PEEEX  
Hanna.k.lappalainen@helsinki.fi

**Dr. Stephany Mazon**  
Science Officer, PEEEX  
Stephany.Mazon@helsinki.fi

**Ms. Alla Borisova,**  
Administrative Officer, PEEEX  
alla.borisova@helsinki.fi



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