

<http://www.polar.org.cn/acforum2019/program/>

## Session under “Arctic scientific cooperation”

### Title: Arctic Sea Ice Changes

Convener: Stein Sandven, Nansen Environmental and Remote Sensing Center, Norway (NERSC)

Co-convener: Ruibo Lei, Polar Research Institute of China (PRIC)

#### Description of session

The session has focus Arctic sea ice research collaboration between European and Chinese institutions. There are several ongoing projects addressing this topic, in particular the H2020 projects INTAROS and Blue Action and the MOST project MARIS. This collaboration deals with field observation from Arctic expeditions, development of ice-ocean modelling and forecasting and use of satellite remote sensing in research and operational monitoring with focus on Arctic sea ice.

The decrease in Arctic sea extent, reducing of multiyear ice, and thinning of ice thickness made the Arctic waters are more accessible. The amount of merchant ships using the Arctic sea routes is increasing. Especially, the gas production in the Yamal region, where sea ice is present in the winter months, has generated significant traffic with LNG tankers to Europe as well as to Asia. However, the Arctic sea ice is still the major challenge for the using of Arctic sea route. Sea ice services based on the numerical prediction systems and observations from satellite remote sensing and in situ platforms need to be improved in order to support safe and cost-effective transportation.

The session will focus on sea ice observation using in situ data from field campaigns and satellite remote sensing data. Furthermore, the session will address to need for process studies on the interactions among atmosphere, snow, sea ice, and ocean, and various methods for prediction of sea ice. A panel of scholars with different research backgrounds will participate in a panel discussion and make recommendations for further work to improve the sea ice monitoring and forecasting services for the Arctic sea routes.

#### Confirmed speakers

Stein Sandven (NERSC): Integrated Arctic Observation System – a Pan-Arctic project to develop Pan-Arctic collaboration on data collection and data sharing

Ruibo Lei, (PRIC-Polar Research Institute of China) : Chinese contributions to the MOSAiC

Sebastian Mernild (NERSC): The Nansen-Zhu Center - 15 years of climate research collaboration between Norway and China

Yubao Qiu, (RADI - Institute of Remote Sensing and Digital Earth, CAS, China): Satellite remote sensing collaboration, the MARIS project

Yongqi Gao (NERSC/NZC): Nordic Center of Excellence for Arctic Climate Predictions: Pathways to Resilient, Sustainable Societies (ARCPATH)

Xiaoming Li (RADI - Institute of Remote Sensing and Digital Earth, CAS, China): Spaceborne SAR derived sea ice extent in Arctic



**INTAROS**

