# SIOS's Announcement of special issue on " Earth Observation (EO), Remote Sensing (RS) and Geoinformation (GI) applications in Svalbard" in the Remote Sensing Journal

***Inviting manuscripts from Svalbard science community working on applications based on Earth Observation (EO), Remote Sensing (RS), and Geoinformation (GI)***

We are pleased to announce the SIOS's special issue on " Earth Observation (EO), Remote Sensing (RS) and Geoinformation (GI) applications in Svalbard" in the journal Remote Sensing. This special issue is being coordinated by the SIOS's Remote Sensing Working Group (RSWG). More details about manuscript submission, scope of the special issue, and editorial board can be found on special issue webpage.

## Significance of special issue for the Svalbard scientific community:

This special issue will attract EO/RS/GI based contributions from projects supported by SIOS ACCESS program, relevant studies from SIOS-SESS reports (2019, 2020, 2021), SIOS-InfraNor, relevant projects supported by Norwegian Space Agency (NoSA) and Research Council of Norway (RCN), applications based on airborne data derived from SIOS-NORCE research aircraft, relevant studies presented in Svalbard Science Conference 2017, 2019, and 2021, Ny Ålesund Flagship programmes, scientific projects under SIOS-InfraNor initiative, EO/RS/GI based projects from Research in Svalbard (RiS) database of Svalbard Science Forum (SSF), outcomes from cryosphere virtual lab (CVL) project, regional and Svalbard-wide RS activities being conducted at SIOS infrastructures by its member institutes and of course wider international scientific researcher community working in Svalbard.

## Timeline of the special issue:

**Opening of call:** 01st March 2020
**Deadline to submit manuscripts:** 31st December 2021
*Contributions will be published continuously during the entire period and later compiled into a special issue.

## Scope of the special issue:

The Svalbard Integrated Arctic Earth Observing System (SIOS) is an international observing system for long-term in situ and remotely sensed measurements in and around Svalbard addressing Earth System Science (ESS) questions. SIOS research infrastructures (RI) are distributed all over Svalbard for collection of long-term in situ measurements. These in situ measurements are useful for various current and future satellite missions for calibration and validation (cal/val) activities. Eventually, integration of in situ and satellite-based measurements would benefit the entire ESS community to address broader scientific questions. Over the past three decades, tremendous developments in Earth Observation (EO) satellites have made significant contributions to the spatial–spectral–temporal sampling and subsequent extraction of geoinformation (GI) from the Arctic. Svalbard is probably the region in the Arctic with the most in situ measurements; still, there are massive gaps. Such data gaps can be filled using frequent satellite-based acquisitions, new product generation using remote sensing (RS), and integration of in situ data with satellite-based information. This Special Issue will provide a broad platform to various regional and Svalbard-wide studies that are being conducted using EO/RS/GI. For this Special Issue, we seek submissions focusing on**:**

- EO/RS/GI techniques relevant for field campaigns, modelling, and long-term monitoring programs;
- Optical (e.g., Sentinel-2-3), Microwave (e.g., scatterometers, SAR) and Lidar (e.g., ICESat) applications in Svalbard;
- Terrestrial, marine, atmospheric, and cryospheric applications of RS/EO/GI in Svalbard and associated waters;
- Remote sensing of the marine cryosphere and its interactions with ocean, land, and atmosphere;
- Ground-, space-, and airborne platform-based studies in Svalbard;
- Integration of remote sensing, in situ and previously published geoinformation to gain new knowledge about Svalbard;
- Cal/val activities for satellite missions that are being conducted in Svalbard, e.g., Pandora installation in Ny Ålesund, cal/val of snow parameters from satellite, cal/val activities using moorings;
- Machine learning, deep learning, neural networks and cloud computing (e.g., Google Earth Engine) based applications in Svalbard;
- Broader review papers on EO/RS/GI driven research activities in Svalbard (e.g., review on monitoring calving events in Svalbard);
- Svalbard wide GI extraction/product generation and operationalization using EO/RS;
- Derivation of geophysical and biophysical parameters using satellites (e.g., sea ice drift and type, chlorophyll concentration, phytoplankton blooms);
- Remote sensing applications in glaciological studies in Svalbard (geodetic mass balance, snow cover and snow properties, surface elevation changes, etc.;
- Remote sensing of sea ice, icebergs, snow/firn/ice, ground ice, snow on sea ice, avalanche activities, permafrost subsidence studies using InSAR
- Methods for characterizing the terrestrial vegetation, mapping abundance and extent, growing season, primary productivity, and time series analysis;
- Applications of new technologies such as AUVs, robots, drones, mapping using Surface from Motion, terrestrial LiDAR;
- Very high resolution (VHR) satellite remote sensing in Svalbard including applications using airborne imagery and hyperspectral data acquired by SIOS-NORCE research aircraft and drones;
- Relevant research studies supported by the SIOS-ACCESS, SIOS-SESS, and SIOS-InfraNor initiative.

We especially encourage contributors to provide access of data and products generated as a part of study via the SIOS data management system (SDMS).

## Discount on Article processing Charge:

The Remote Sensing Journal charges 2000 CHF as an article processing charge (APC) for publishing a paper. SIOS RSWG has negotiated with the journal to avail lucrative benefits for the publications derived from SIOS activities, manuscripts from guest editors, and early career researchers. Manuscripts from guest editors, and papers resulting from SIOS activities e.g. SIOS-InfraNor, SIOS-SESS, SIOS-ACCESS are eligible to avail **50% discount** on Article Processing Charge (APC) for each manuscript. Manuscripts invited by guest editors, manuscripts submitted by authors from SIOS Member institutes (at least one author from SIOS member institute), manuscripts resulting from MDPI online conference, manuscripts submitted by any PhD student as a first or corresponding author (from SIOS member and non-member institutes) are eligible to avail **30% discount on APC** for each manuscript submission.

## Special Note:

In any case, two discounts will not be combined to avail more than 50% discount. Authors can avail only one discount at a time. To avail these useful discounts, it is recommended to mention it clearly in the cover letter while submitting the manuscript.

## Guest Editors

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