

UiT

THE ARCTIC
UNIVERSITY
OF NORWAY

Arctic Field Summer Schools: training and awareness in the Arctic

Anthony P. Doulgeris, Vladimir A. Alexeev & Maribeth Murray

UiT - The Arctic University of Norway, Tromsø

University of Alaska Fairbanks (UAF), USA

University of Calgary (UC), Canada

anthony.p.doulgeris@uit.no



The INTPART Field School Project

The Arctic Field Summer Schools project is funded by the **Research Council of Norway (NFR)** and the **Norwegian Agency for International Cooperation and Quality Enhancement in Higher Education (Diku)**, under the grant agreement number 261786/H30.

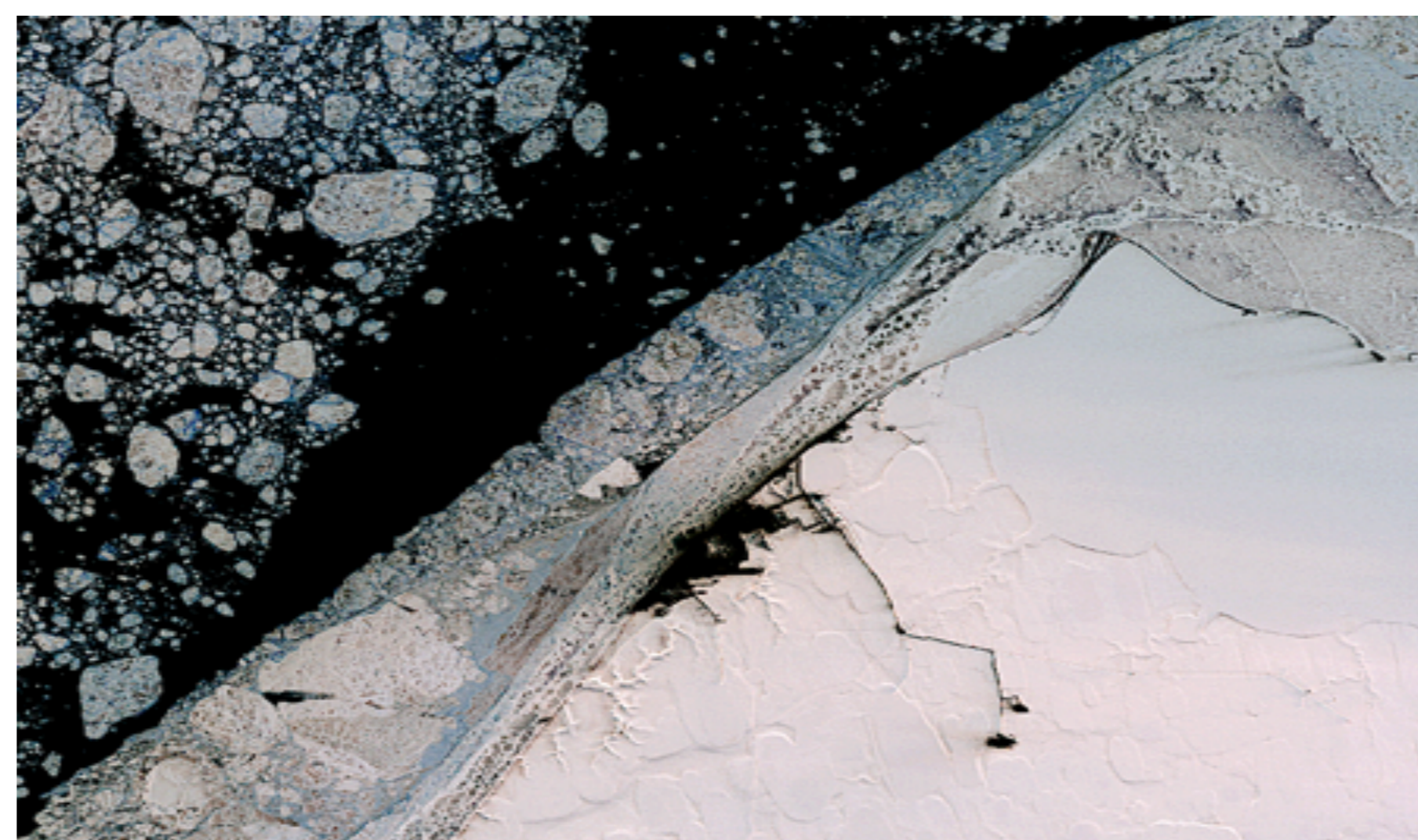
The project supports research and education collaboration among

- UiT - The Arctic University of Norway
- University of Alaska Fairbanks (UAF), USA
- University of Calgary (UC), Canada.

A series of three summer schools

engaged nearly fifty graduate students in exploring science questions related to current Arctic challenges, and brought together leading Arctic researchers from the partner institutions. Each partner organised a Field School and each had their own unique styles and emphasis.

This collaboration aimed to deepen the Arctic knowledge of the young generation, and to create knowledge and resources to stimulate interest in Arctic research. The program promoted awareness about challenges caused by changing sea ice conditions, ice bergs, ocean and meteorological conditions, how we can use remote sensing to monitor these, and the needs of the Arctic communities.



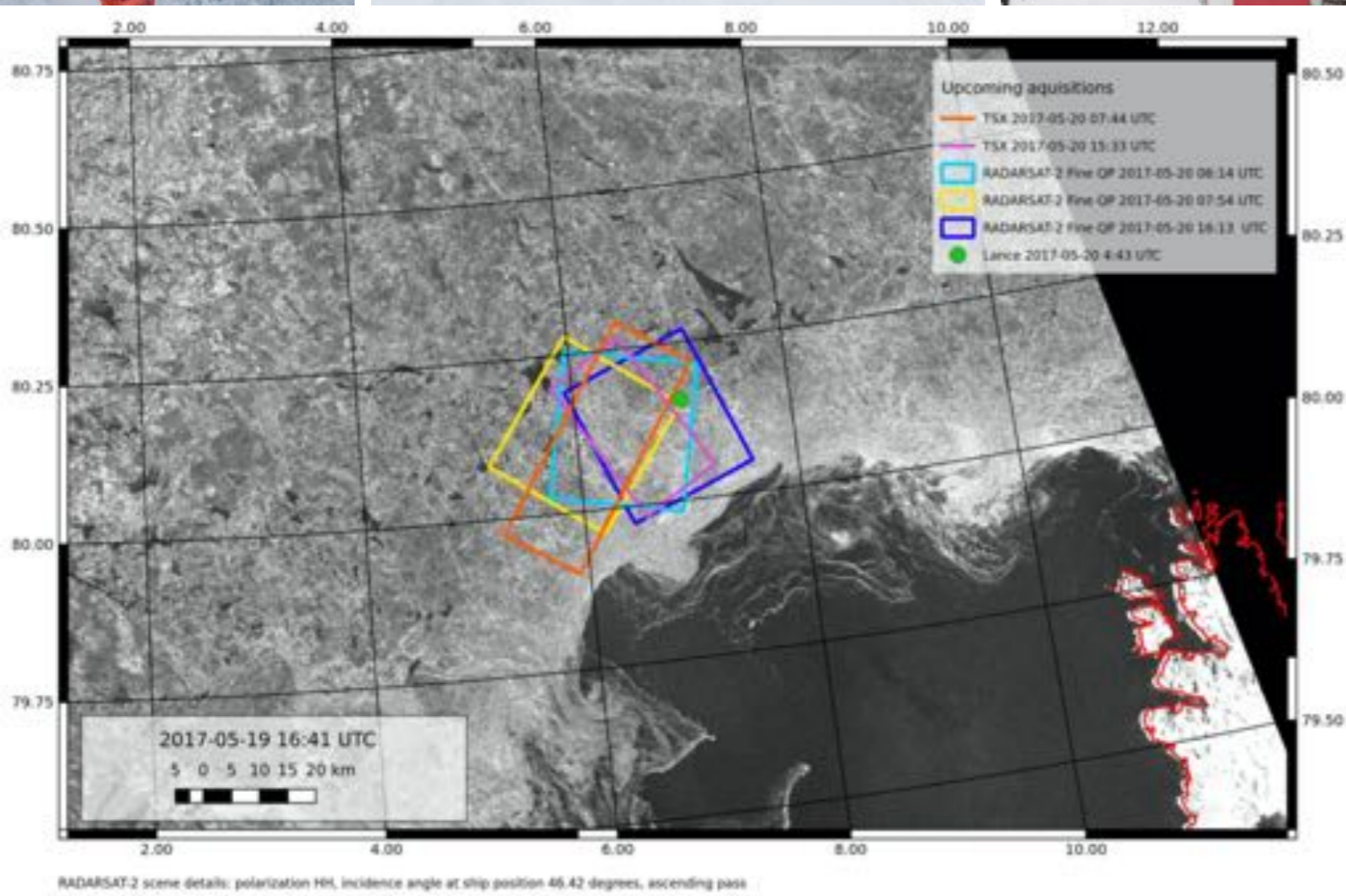
2017 Norwegian Field School

1 week field cruise to the marginal ice zone, NW Svalbard, on board R/V Lance

- May 2017, 15 Students and 12 Arctic researchers
- Ocean, snow and ice measurement field training
- UAV/drone optical and radar imagery and processing
- Satellite PolSAR imagery acquired (co-located with field data)

1 week remote sensing workshop at CIRFA/UiT - The Arctic University of Norway, in Tromsø

- Lectures on Arctic science and remote sensing topics
- Analysis of collected data and satellite images
- Plan and present student projects



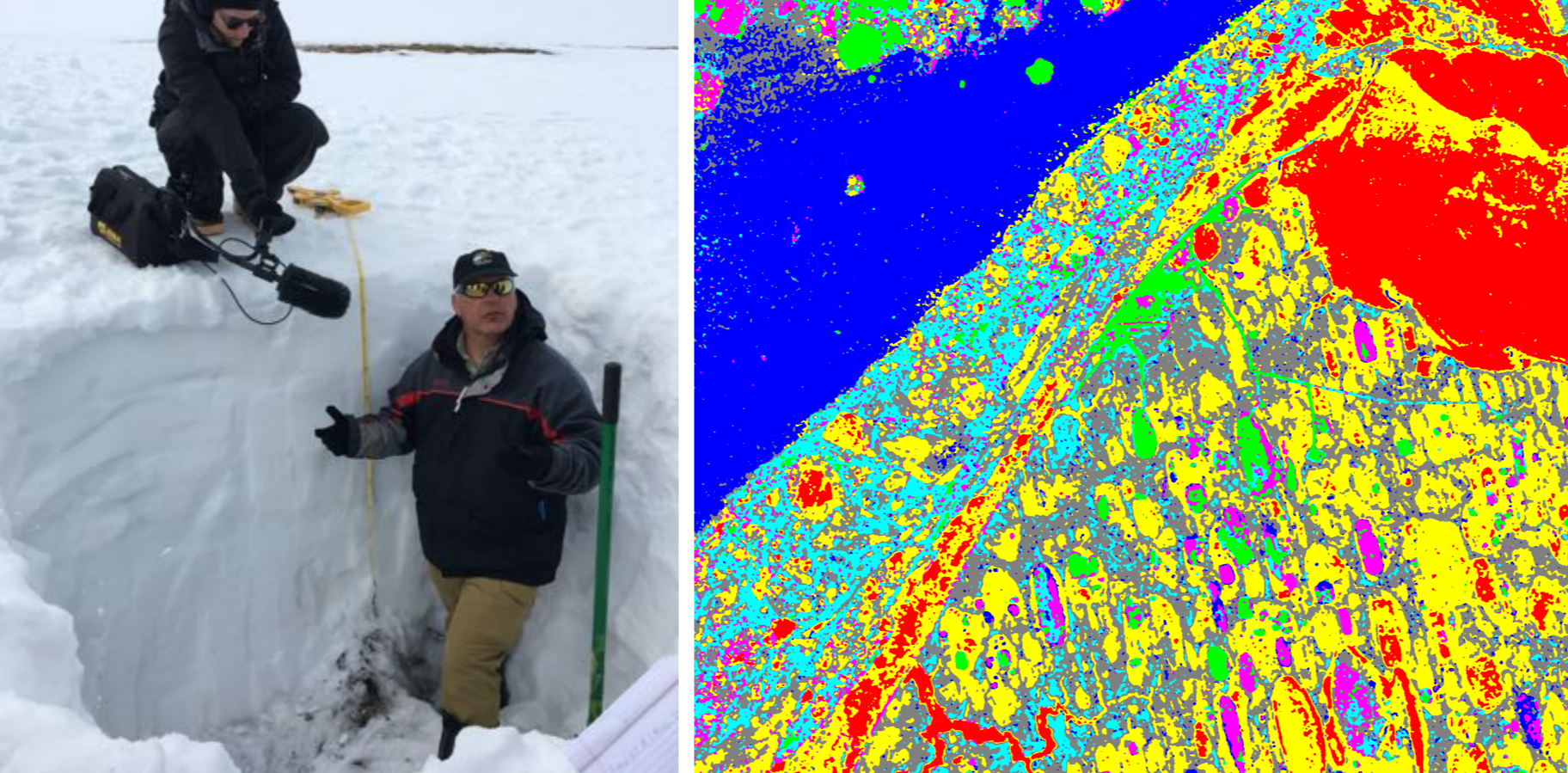
2018 Alaskan Field School

10 day Field School at Utqiagvik (Barrow), Alaska Arctic Coastal Environments in Rapid Transition

- May/June 2018, 16 Students and 11 Arctic researchers
- Permafrost, Land-fast sea ice, Lagoon ice, Tundra
- Coastal erosion, Sediment transfer, Hydrology, and weather events
- Remote sensing, GIS/DEM analyses, and time-series analysis
- Arctic people - living in and utilising sea ice

1 day student workshop at IARC/UAF, Fairbanks, Alaska

- Open presentations of student projects



2019 Canadian Workshop

15 day Capstone Synthesis Workshop, at the Kluane Lake Research Station, Yukon, Canada

- May/June 2018, 19 Students and 8 Arctic researchers
- Added Glaciers to the cryosphere repertoire
- Summarise the state of the art in remote sensing of ice and polar ocean conditions, re-visited previous schools work
- Remote sensing time-series to observe changing conditions
- The impacts of climate change on the Arctic environment, ecosystems and people
- Focus on human activities in the Arctic environment, stakeholder needs, and First Nation peoples



Educational Benefits

- Field schools and Workshops give:
 - Valuable experience in the physical Arctic environment
 - Knowledge on how scientific measurements are performed
 - Lectures and training from leading experts in the field
 - Real experimental data for research and study courses
- Long-term aims:
 - Learn and document best-practices in assessment reports
 - Foster long-term collaboration between partners

- Obtain re-usable material for future teaching resources
- Learn different ways to run summer schools
- Publish Field School results in scientific journals

Exchange Program

Exchange program (2019 and 2020) to build and encourage co-operation between the international partners, staff and students. Cooperation on joint scientific work or papers, skills exchange, teaching methods.

Acknowledgements

Photographs: Lawrence Hislop / Norwegian Polar Institute; Tore Riise / NORUT; Anthony Doulgeris, Rowen Romeyn, Sofia Kjellman / UiT - The Arctic University of Norway, Alexa Marcovecchio / University of Arizona.

Thanks to the Norwegian Polar Institute and crew of the R/V Lance, the Barrow Arctic Research Center and the Kluane Lake Research Station. Partly funded by CIRFA partners and the Research Council of Norway (grant 237906).

RADARSAT-2 Data and Products ©MacDONALD, DETTWILER AND ASSOCIATES LTD. (2011) All Rights Reserved. RADARSAT is an official mark of the Canadian Space Agency.