

Arctic WASH contributions from the Kingdom of Denmark - Greenland

Pernille Erland Jensen and Kristian Hammeken

Centre of Arctic Technology

Department of Civil Engineering

Technical University of Denmark

Outline

- Greenland
- A retrospect
- Present situation
- International conference in April
- Programs



Greenland

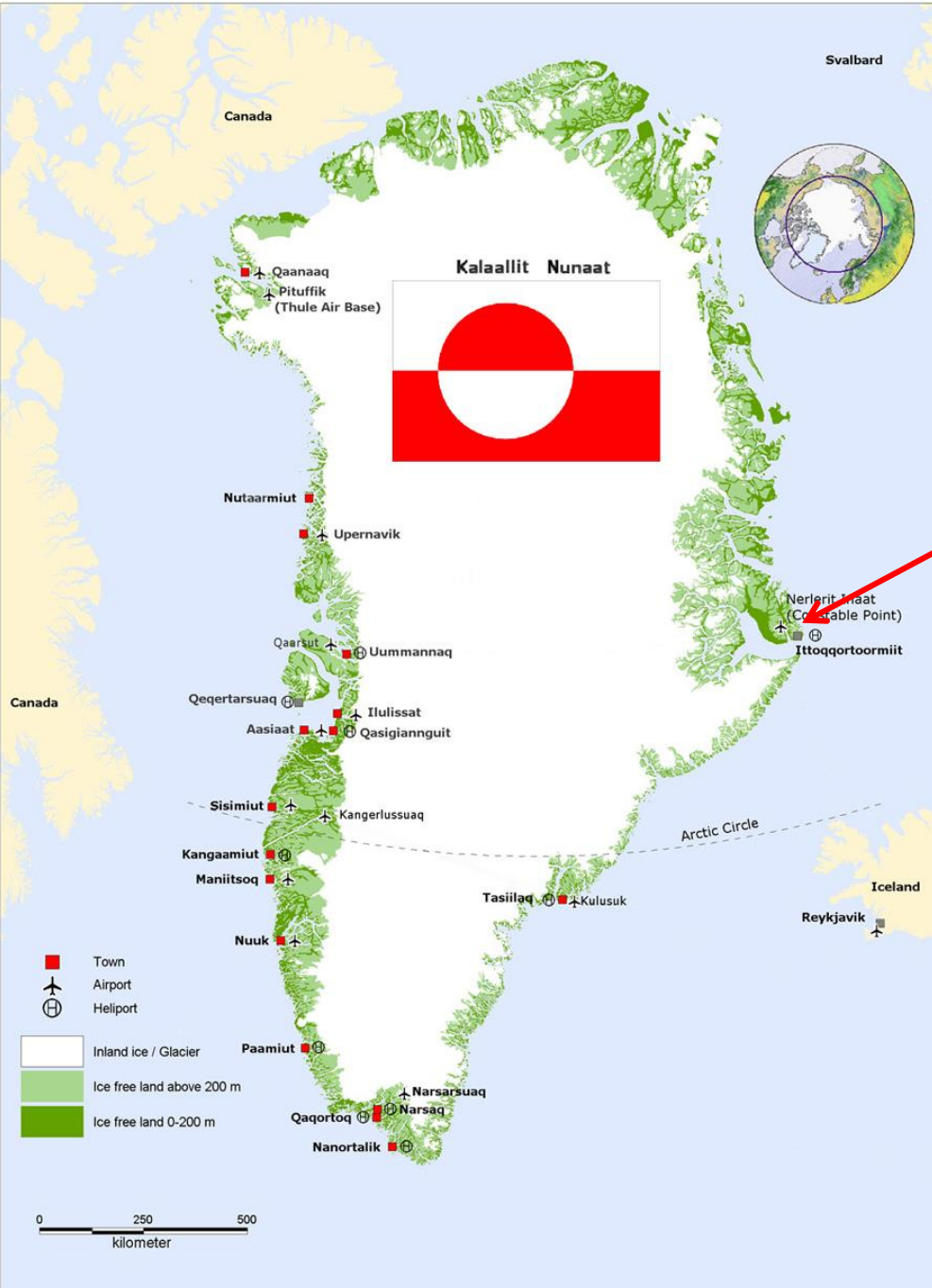


- Largest non-continental island in the world
 - 1.3 times Alaska
- Lowest population density worldwide
 - 56,000 inhabitants
 - 0.03 or 0.14 persons/km² (Alaska: 0.49/km²)
- Climate Sub-Arctic to Arctic
- Long distances and no roads to connect towns and settlements
- Fish industry – no mines or oil now
- 17 towns (380-17000 inhabitants)
- 56 settlements (25-500 inhabitants)

Present situation

- Sewers and access to improved water in major part of towns
- Honey buckets in major part of settlements and minor part of towns – very variable water resource situation from place to place.



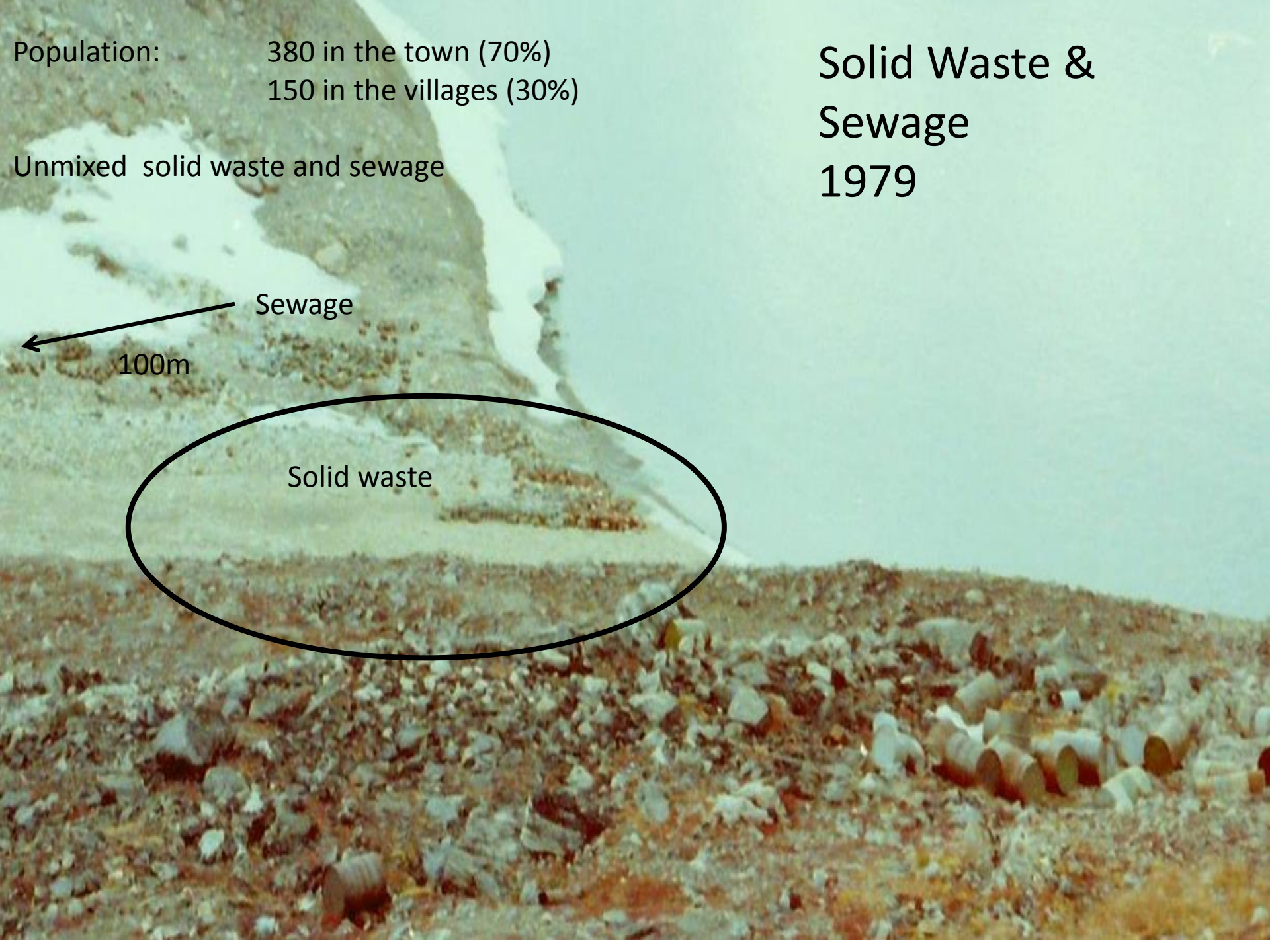


My home as kid





Ittoqqortoormiit
playing kids



Population: 380 in the town (70%)
 150 in the villages (30%)

Solid Waste & Sewage 1979

Unmixed solid waste and sewage

← Sewage
100m

Solid waste

Solid Waste & Sewage 2015

Population:

460 in town (100%)
0 in the villages (0%)

Mixed solid waste and
Sewage

Honey bags

Solid waste



**Ittoqqortoormiit
Watersupply -
2015**



**Ittoqqortoormiit
Watersupply –
1980-81**



International conference in April

ARTEK Event 2016 - International Conference Sanitation in Cold Climate Regions

Sisimiut, Greenland

12.-14. april 2016



ARTEK Events <http://www.artek.byg.dtu.dk/>

What is the ARTEK Event?

ARTEK Event is an international technology conference arranged by the Arctic Technology Centre. It is held every 2nd year in Sisimiut and was held the first time in 2005. Next time will be in April 2016.

ARTEK EVENT 2016

The ARTEK Event 2016 has the topic Sanitation in Cold Climate Regions and has its focus on management of municipal and industrial waste and protection of water resources in the Arctic. The conference takes place 12 - 14 April in Sisimiut.

Background

The Arctic is undergoing substantial changes towards denser populations, introduction of modern industries, opening of shipping lanes and increases in the standard of living, leading to modern consumption rates. At the same time, climate changes are predicted to significantly impact the ecosystems in the Arctic.

The development in the Arctic creates new challenges in relation to waste and wastewater handling, pollution control, human health, management of contaminated land and protection of the water supply. There is a need for research and development of affordable, robust and sustainable engineering solutions that fulfill supply and environmental demands within the constraints of the Arctic climatic and infrastructural conditions.

The Artek Event 2016 offers the opportunity for participants from the industry, the public sector, the science community and other stakeholders to present, discuss and exchange ideas and experience on the management of municipal and industrial waste and protection of water resources in the Arctic.

Topics include, but are not restricted to:

- Arctic context
Stand-alone/decentralized systems, island operated systems, small systems for cluster homes, remote and very small communities, cold climate issues, health issues and transportation challenges.
- Municipal wastewater
Environmental impacts, treatment (passive and active), separation and composting toilets, un-sewered communities, sewerage in cold climate and sludge management.
- Drinking water
Supply, safety, resources, quality, storage, distribution and treatment.
- Extractive industries
Wastewater and solid waste, impacts, treatment methods, toxic and radioactive element removal, cyanide treatment, acid mine drainage treatment and prevention, processing chemicals impacts and treatment.
- Municipal solid waste and waste from food, fish and other industries
Characteristics and volumes, sorting, reuse, incineration, composting, anaerobic digestion, deposition, from waste to energy potential and energy technologies.

-> [Book of Abstracts](#)

-> [Official conference webpage](#)

ARTEK EVENT 2014

ARTEK Event 2014 took place in Sisimiut from 7-9 April and had the topic Urbanisation and infrastructure in the Arctic.

[Conference proceeding 2014](#)



ARCTIC TECHNOLOGY CENTRE

<http://www.artek.byg.dtu.dk/>

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ARTEK Event 2016

- › Presentations
- › Pictures
- › WASH - an Arctic Council endorsed project
- › Special ESPR issue on Sanitation in Cold Climate Regions

Calendar



ARTEK Event 2016

Thank you for a great ARTEK Event 2016 in Sisimiut, Greenland.

With over 100 participants and 55 presentations, the attendance for the ARTEK Event 2016 was by far the largest ever.

The conference attracted participants from all Arctic countries: USA, Canada, Russia, Finland, Iceland, Norway, Sweden and Denmark – including participants from Greenland and the Faroe Islands. The broad interest provided an opportunity to get acquainted with new technological solutions as well as new potential partners.

On this site you will find:

- [Presentations](#) and [pictures](#) from the conference.
- Information about the Arctic Council-endorsed project, "Improving Health through Safe and Affordable Access to Household Running Water and Sewer (WASH)", which ARTEK Event 2016 is a part of.
- Information about the special issue in the journal [Environmental Science and Pollution Research \(ESPR\)](#) on Sanitation in Cold Climate Regions.

ARTEK Event 2016

- › Presentations
- › Pictures
- › WASH - an Arctic Council endorsed project
- › **Special ESPR issue on Sanitation in Cold Climate Regions**

Calendar

Special ESPR issue on Sanitation in Cold Climate Regions

The journal *Environmental Science and Pollution Research* (ESPR) will be publishing a special issue focusing on Sanitation in Cold Climate Regions.

The special issue will feature both critical reviews and research papers and will include but not be restricted to these topics:

- Waste water
- Solid waste
- Water supply
- Health
- Safety
- Environmental impacts
- Treatment
- Infrastructural issues

The submission deadline for papers has been set as 31st of October 2016. Earlier submissions are encouraged, and papers will be published online as soon as they have been accepted for publication.

Download [this document](#) for information on how to submit your contribution to the ESPR special issue on Sanitation in Cold Climate Regions.

For further information about this special issue, please [read this invitation letter](#) or contact [Associate Professor Pernille Erland Jensen](#).

Contact



Pernille Erland Jensen
Associate Professor
DTU Civil Engineering
+45 45 25 22 55
pej@byg.dtu.dk





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ADDITIONAL INFORMATION

ARTEK – Education

BEng Arctic Technology

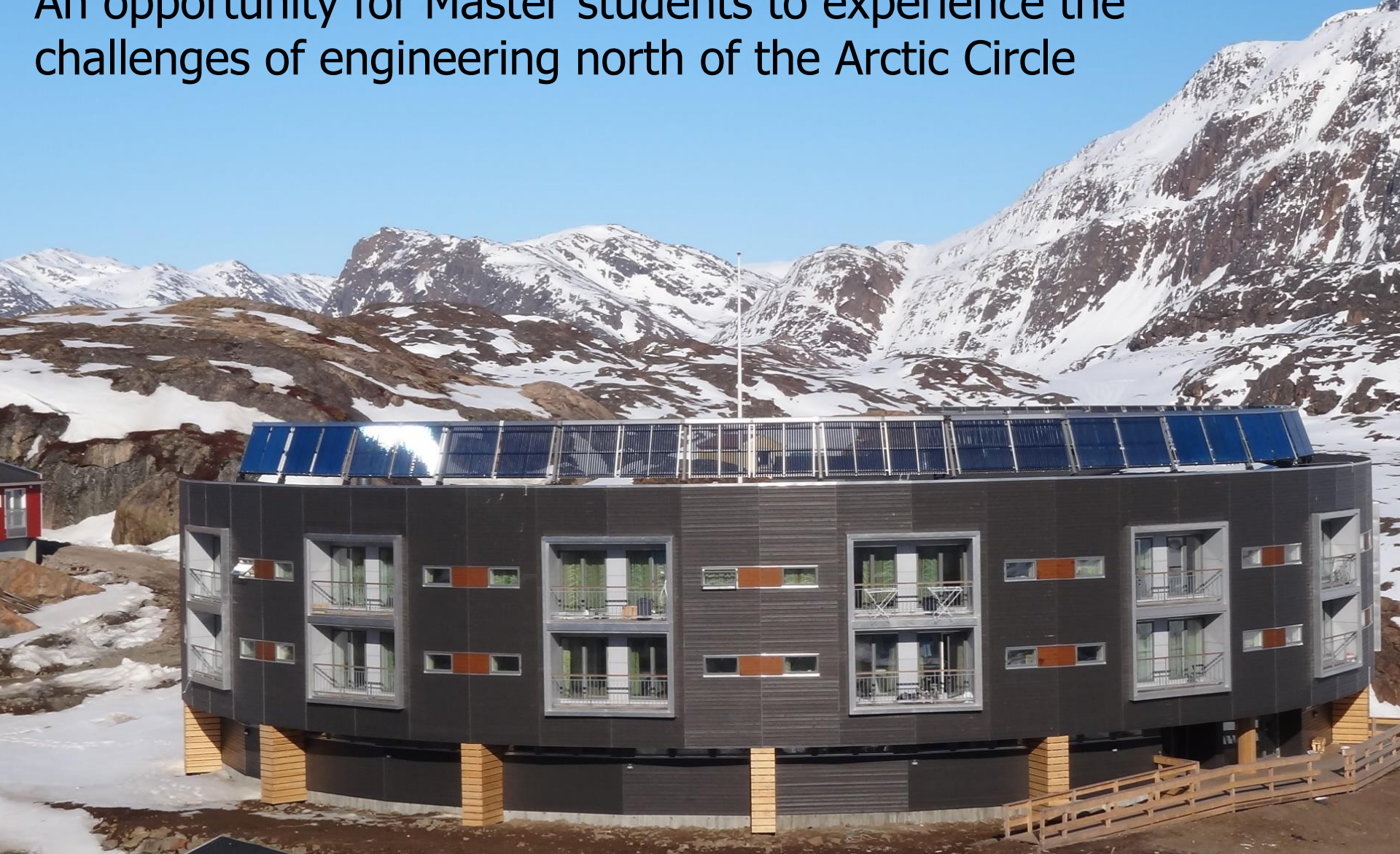
- Three semesters in Sisimiut (GL)
- Three semesters DTU (DK)
- One semester internship in Greenland
- Thesis on Arctic topic
- Civil engineers, five specializations:
Building design, Installations,
Environment, Construction and Planning

- 20-25 students each year enroll
- Studying now total 90
- Graduated 70+



The Arctic Semester in Greenland

An opportunity for Master students to experience the challenges of engineering north of the Arctic Circle



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and Society
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- Nordic master in Cold Climate Engineering
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The Cold Climate Engineering partners



Unis, Svalbard



DTU Campus, Sisimiut, Greenland



Nordic Master in Cold Climate Engineering

www.coldclimate-master.org



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studies
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studies
on
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