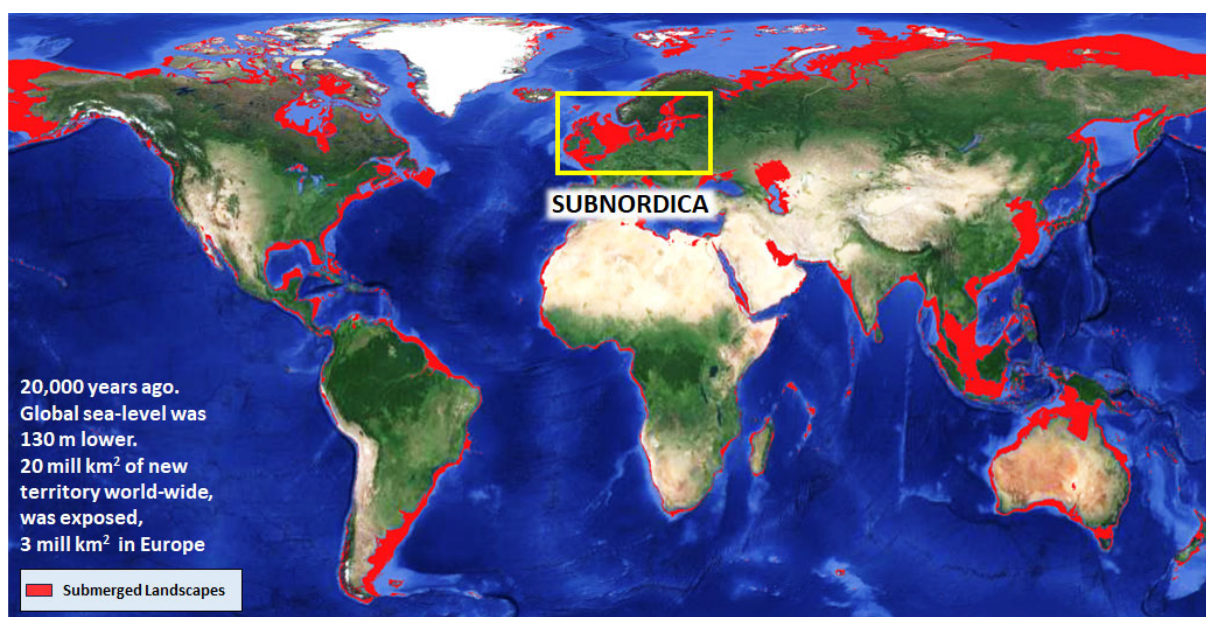


## Press release

# ERC Synergy Grant SUBNORDICA

26.10.2023, 14.00h



## Niedersächsisches Institut für historische Küstenforschung

Viktoriastraße 26/28

26382 Wilhelmshaven



## **SUBNORDICA – A European project for the investigation of drowned landscapes in North Sea and Baltic Sea**

In a network with three international partner institutions, the Lower Saxony Institute for Historical Coastal Research (NIhK) has succeeded in obtaining research funding from the [European Research Council \(ERC\)](#).

The SUBNORDICA project, funded as an “ERC Synergy Grant”, will focus on researching the sunken landscapes in the North and Baltic Seas.

During the past two decades, archaeologists have become increasingly aware that there is a major gap in our understanding of world prehistory. That gap is the 20 million km<sup>2</sup> of new territory that was exposed for thousands of years around the world when sea levels were around 100 metres lower. In Europe the extent of the North and Baltic Seas has also changed radically over the past 15,000 years. More than 3 million km<sup>2</sup> of new land was exposed along with coastal plains, lakes, river valleys, shorelines and offshore islands which provided some of the most attractive land for prehistoric settlement anywhere in the continent. Now lost to the sea following the end of glaciation and global climate change, these landscapes remain almost entirely unexplored. Today, these landscapes and the traces and remains of settlement preserved in them are under threat as the world develops the coastal shelves to meet net zero goals.

To support ethical development of the seabed and research of the Stone Age landscape relics and traces of settlements preserved in the seabed of the North and Baltic Seas, the EU has provided funding of €13.2 million for SUBNORDICA - a research collaboration between Moesgaard Museum, Aarhus University, the University of Bradford and the German research institute NIHK, to explore submerged landscapes in the North Sea and the Baltic. The project will apply the latest technologies to map the seabed, use AI and computer simulation to identify areas where long lost settlements may still survive and can be explored.

The NIhK team will be primarily responsible for the southern Baltic Sea area. The aim here is to sample drowned forests for dating and to define characteristics and traces of human settlement. But the NIhK is also involved in the study of the drowned landscapes in the North Sea with geological, landscape genetics and vegetation history expertise. This particularly involves the reconstruction of former river courses in the southern and eastern North Sea.

The application was supported by funding from the Lower Saxony Ministry of Science and Culture. Science Minister Falko Mohrs and the NIhK team are pleased about the successful application to the European Research Council. Minister Mohrs said “I am very pleased about the successful ERC application of the NIhK together with the British and Danish partner institutions. The Ministry of Science and Culture Lower Saxony launched the EUROPA-programme precisely to open up these funding options and thus supports applications of Lower Saxon institutions in international competition. In the SUBNORDICA project, the unique features of the NIhK can be impressively applied to answer complex questions of human-environment research through the participation of both the natural and cultural sciences.

Congratulations to the participants and good luck with the work ahead!”

## Separate notes for Editors

### The Project Team

The international project team consists of the applicants Prof. Vincent Gaffney, University of Bradford, Great Britain, Dr. Katrine Juul Andresen, Aarhus University, Denmark, Dr. Peter Moe Astrup, Moesgaard Museum, Denmark and Dr. Svea Mahlstedt, Lower Saxony Institute for Historical Coastal Research.

*Professor Vincent Gaffney, from the Submerged Landscapes Research Centre, University of Bradford said: "20,000 years ago, global sea-level was 130 metres lower than the present. With progressive global warming and sea-level rise these unique landscapes, home to human societies for millennia, disappeared. We know almost nothing about the people who lived on these great plains. As Europe and the world approach net zero, development of the coastal shelves is now a strategic priority. SUBNORDICA will use the latest technologies to explore these lands and support sustainable development".*

*Dr Peter Moe Astrup, underwater archaeologist at Moesgaard museum said : "Due to the lower sea-levels during the Middle Stone Age, archaeological interpretation of our coastal shelves has primarily been based on finds from terrestrial settlements of the time, which were typically far away from the coasts. As a result, there are few direct sources to determine the role of the coast in the earliest periods of the Middle Stone Age. SUBNORDICA will be investigate the significance ancient coastlines and their resources for humans. Through diving surveys in Aarhus Bay, we will determine how widespread coastal settlements were compared to those in the interior and determine how marine resources were exploited 9000 to 8500 years ago. This knowledge will then be used to target archaeological investigations in less accessible areas.*

*Katrine Juul Andresen, Associate Professor in Marine Geophysics at Aarhus University said "Vast areas of the North Sea remains unmapped for Stone Age palaeolandscapes. In SUBNORDICA, we will use the abundant legacy data in the form of geophysical 2D and 3D seismic and acoustic surveys and geological and geotechnical boreholes to understand how the Stone Age palaeolandscapes looked like and how they evolved through time and during the flooding. This is a key ingredient for advancing our knowledge about the human occupation in the area. By employing AI, we will make data integration feasible across the North Sea and Baltic Sea and further allow for automated interpretations of key landscape elements. Understanding the geological processes, the landscape evolution, and the human behaviour - from the known sites in the Baltic, will enable us to identify areas of human activities in the North Sea.*

*Dr Svea Mahlstedt, Stone Age specialist and underwater archaeologist at the NihK said "The sunken landscapes in the North and Baltic Seas look back on a very similar past. Today, however, they differ significantly because the former land surface is much easier to reach in many areas of the Baltic Sea and therefore better investigated. We will use these accessible areas in the Baltic Sea to gain insights into the landscape use of the Stone Age inhabitants, their settlements and survival strategies. We will employ AI to apply the results to our data from the North Sea in order to uncover the secret of the North Sea."*

## Contacts

In the United Kingdom

**University of Bradford**  
**Press Office**

**Neil Hudson (media office)** [n.hudson2@bradford.ac.uk](mailto:n.hudson2@bradford.ac.uk)

Steve Tillotson [s.tillotson@bradford.ac.uk](mailto:s.tillotson@bradford.ac.uk)

**Academic Contacts**

Prof. Vincent Gaffney ([v.gaffney@bradford.ac.uk](mailto:v.gaffney@bradford.ac.uk))

School of Archaeological and Forensic Sciences, University of Bradford

In Denmark

**Moesgaard Museum**

**Press Office**

Naja Kjærgård Laursen [nkl@moesgaardmuseum.dk](mailto:nkl@moesgaardmuseum.dk)

**Academic contact**

Dr Peter Moe Astrup, [pma@moesgaardmuseum.dk](mailto:pma@moesgaardmuseum.dk)

Archaeology Department

Tel: 50543642

**Aarhus University**

**Press Office**

Peter F. Gammelby, [gammelby@au.dk](mailto:gammelby@au.dk), +45 21 14 29 56

**Academic contact**

Dr. Katrine Juul Andresen, [katrine.andresen@geo.au.dk](mailto:katrine.andresen@geo.au.dk), +45 20 83 79 11

Department of Geoscience, SeisLab Aarhus

In Germany

**Niedersächsisches Institut für historische Küstenforschung**

**Press Office**

Prof. Dr. Hauke Jöns, NIhK

[joens@nihk.de](mailto:joens@nihk.de) 49 4421 915112

and

Julia Streuer, Press Office Ministry for Science and Culture

Tel: +49 511 120 2624

E-Mail: [julia.streuer@mwk.niedersachsen.de](mailto:julia.streuer@mwk.niedersachsen.de)

**Academic contact**

Dr Svea Mahlstedt

Department for Cultural Sciences

[mahlstedt@nihk.de](mailto:mahlstedt@nihk.de)

+49 4421 915149

## Institutions

### **Submerged Landscapes Research Centre, School of Archaeological and Forensic Sciences, University of Bradford.**

The School of Archaeological and Forensic Sciences integrates Archaeological Sciences, Biological Anthropology, Cultural Archaeology and Forensic Sciences to study of societies and their environments in the present and the past. Our approach is profoundly multidisciplinary and bridges the sciences and the humanities. This vision is promoted through the school's specialist groups including the Submerged Landscapes Centre, Biological Anthropology Research Centre, the Stable Isotope Centre and Visualisation Heritage. Together these provide the opportunity for archaeologists and forensic scientists use the latest technologies to capture, image, analyse and disseminate evidence for human activity and societies both from the past and the present.

### **The University of Bradford**

At the University of Bradford, our focus is on creating the conditions for social, cultural, and economic impact. We will harness our strengths in research, innovation, teaching and partnerships to extend our reputation, influence, and impact. All of this will create a values-led culture that is inclusive and effective in enriching lives and benefitting society. <https://www.bradford.ac.uk>

### **Moesgaard Museum**

Moesgaard Museum (MOMU) in Aarhus, Denmark, is to archaeology and ethnography, and collaborates with Aarhus University's department for archaeology on a range of research projects. The museum and university also has shared employees, co-located in the same laboratories. The museum has responsibilities for land-based archaeology and underwater archaeology. It is a part of a formal collaboration (MAV) with three other museums located in western Denmark and which have underwater archaeological responsibilities. Moesgaard Museum also houses a natural science- and conservation department that works with material from both internal and external projects. <https://www.moesgaardmuseum.dk/en/>

### **The Department of Geoscience, Aarhus University**

The Department of Geoscience is a department within the Faculty of Natural Sciences at Aarhus University. We perform basic and applied research, and research-based education at the highest international levels based on in-depth understanding of the Earth system and with a clear view to the challenges of society and the UN Sustainable Development Goals. Geo-sensing, Geo-modelling and Geo-sustainability are key words in our research and education. <https://geo.au.dk/>  
The SeisLab Aarhus research group at the department is dedicated to research and education using marine and land-based geophysical methods. Our main focus is on the reflection seismics and acoustic methods which we use for investigating shallow subsurface and deeper geological processes related to Quaternary landscape changes, geohazards, sedimentary basin evolution and structural geology. <https://geo.au.dk/en/research/research-areas/department-groups/seislabaarhus>

### **Aarhus University**

Aarhus University (AU) is a public university recognized for the high quality of its research, research-based degree programs, and public sector government consultancy, in addition to value-creating collaboration with private businesses, public sector institutions and civil society. AU was founded in 1928 and subscribes to the fundamental values described in the Magna Carta of European

Universities. Today its academic portfolio is broad ranging, from the classic university disciplines of the humanities, natural sciences, social sciences, health sciences and theology to business and engineering, educational theory and practice, and the environmental and agricultural sciences. This breadth gives the university a strong vantage point from which to combine disciplines in the creation of research breakthroughs, and to establish close collaboration with many sectors to the benefit of society. AU has around 38,000 students, 10,700 employees, 1,800 PhD-students and close to 1,000 postdoctoral scholars. Internationalisation is at the heart of AU's mission and activities.  
<https://www.au.dk/>

### **Niedersächsisches Institut für historische Küstenforschung**

The Lower Saxony Institute for Historical Coastal Research (NIhK) in Wilhelmshaven is a non-university research institute in the German state of Lower Saxony. At the NIhK, natural and cultural sciences work closely together in an interdisciplinary manner, particularly in the disciplines of landscape and settlement archaeology, coastal and Quaternary geology, soil science, geophysics, historical geography, archaeobotany and vegetation history. They investigate the closely interwoven development of settlements, landscape and vegetation in the coastal zones of northern Germany and the neighboring landscapes from the end of the last ice age more than 12,000 years ago until modern times. <https://nihk.de/>

### **European Research Council**

#### **ERC Synergy Grants**

The Synergy Grant scheme is aimed at a group of two to maximum four Principal Investigators (PIs) working together and bringing different skills and resources to tackle ambitious research problems. One Principal Investigator per research group can be hosted or engaged by an institution outside of the EU or Associated Countries. More information.

#### **About the ERC**

The ERC, set up by the European Union in 2007, is the premier European funding organisation for excellent frontier research. It funds creative researchers of any nationality and age, to run projects based across Europe. The ERC offers four core grant schemes: Starting Grants, Consolidator Grants, Advanced Grants and Synergy Grants. With its additional Proof of Concept Grant scheme, the ERC helps grantees to bridge the gap between their pioneering research and early phases of its commercialisation. The ERC is led by an independent governing body, the Scientific Council. Since November 2021, Maria Leptin is the President of the ERC. The overall ERC budget from 2021 to 2027 is more than €16 billion, as part of the Horizon Europe programme, under the responsibility of European Commissioner for Innovation, Research, Culture, Education and Youth, Iliana Ivanova.

#### **ERC Press Contacts**

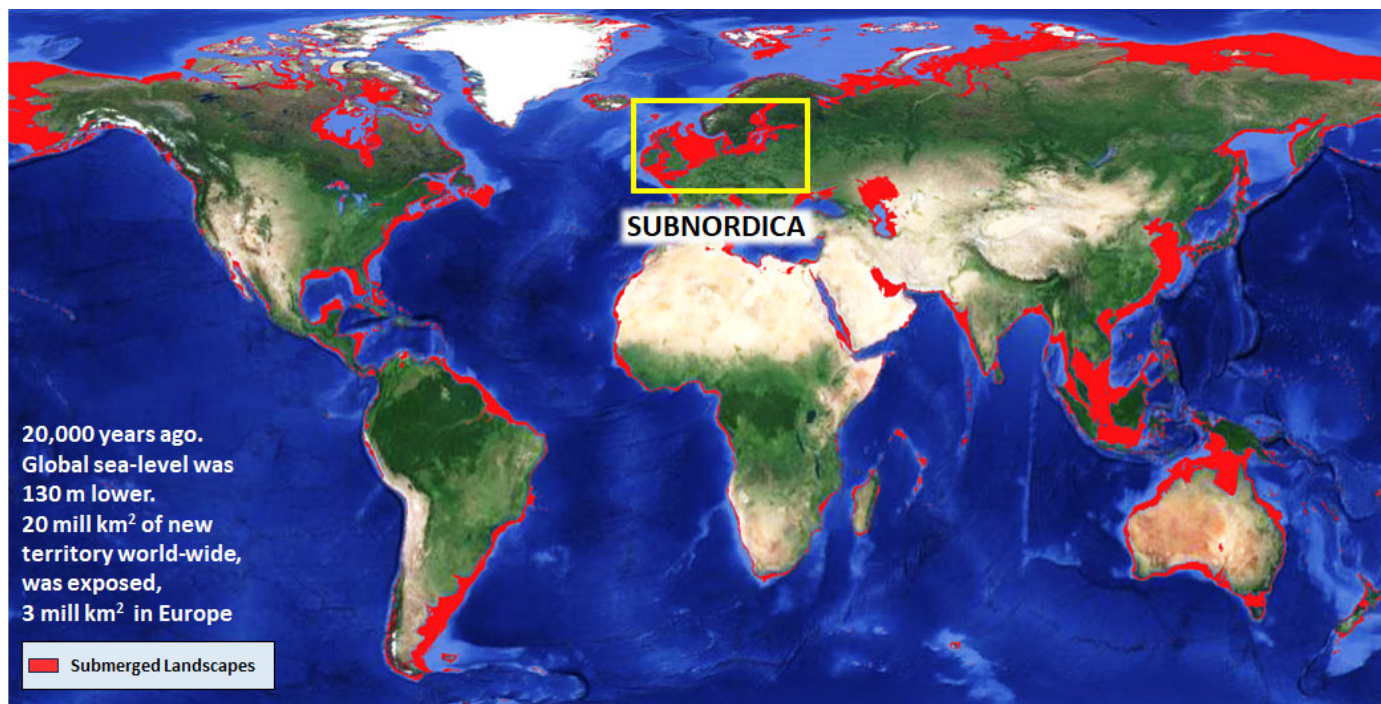
Kerstin Dörflinger

Press and Communication officer Phone: +32 (0)2 29 650 59

Marcin Mońko

Press and Communication adviser Phone: +32 (0)2 29 666 44

## Accompanying images



Submerged landscapes (in red) at the end of the last Glacial (University of Bradford)



Picture on the left: PI group the day before the interview in Brussels. From the left – Katrine Juul Andresen, Svea Mahlstedt, Vincent Gaffney, Peter Moe Astrup. Photo: Jesper Bracht, Central Denmark EU Office

Picture on the right: PI group just after the interview at the ERC building in Brussels. From the left – Katrine Juul Andresen, Vincent Gaffney, Svea Mahlstedt, Peter Moe Astrup. Photo: Katrine Juul Andresen



Underwater excavation, example from the NIHK excavation at from Strande, Germany. Photo: Christian Howe



PI Svea Mahstedt sorting archaeological finds at the limnic underwater excavation in Lake Zwischenahner Meer, Foto: F. Wilkes, NIHK