Międzynarodowa Środowiskowa Szkoła Doktorska
przy Centrum Studiów Polarnych
w Uniwersytecie Śląskim w Katowicach

ul. Będzińska 60
41-200 Sosnowiec
tel. +48 32 368 93 80
polarknow@us.edu.pl
www.mssd.us.edu.pl

Reference No: IEDS/2020/IO PAN/05

Title of PhD project: ***Reconstruction of postglacial changes in oceanographic conditions in the Nordic Seas based on benthic and planktonic foraminiferal assemblages***

Leading unit: International Environmental Doctoral School associated with the Centre for Polar Studies at the University of Silesia in Katowice (IEDS)

Mode of study: full-time

Degree to be obtained: PhD in the field of natural sciences, in the discipline of Earth and related environmental sciences

Duration: 4 years (8 semesters), from October 2020

Language: English

Scholarship: approx. 3500 PLN per month throughout the 36 months (3 years), with the possibility of extension for 12 months

Requirements and regulations: www.mssd.us.edu.pl/kandydat-mssd/

Registration online: www.irk.us.edu.pl

Requirements:

1. MSc in oceanography/geology/marine geology or relevant field
2. Experience in sedimentological and micropaleontological analyses
3. Additional advantage: authorship of a scientific paper and/or conference presentation
4. Very good English written and verbal communication skills
5. The ability to work both independently in challenging environments and in a multidisciplinary team. Excellent communication and cooperation skills are required.

Międzynarodowa Środowiskowa Szkoła Doktorska
przy Centrum Studiów Polarnych
w Uniwersytecie Śląskim w Katowicach

ul. Będzińska 60
41-200 Sosnowiec
tel. +48 32 368 93 80
polarknow@us.edu.pl
www.mssd.us.edu.pl

Tasks description:

1. Collecting sediment samples (sediment cores) for micropaleontological, palynological, sedimentological, geochemical and biomarker analyses. The successful candidate is expected to participate in scientific cruises.
2. Grain-size analysis of sedimentary material, isolation of benthic and planktonic foraminifera. Preparation and analysis of dinoflagellate cysts samples.
3. Data processing and integration, preparation of manuscripts.
4. Presentation of the results at national and international conferences.
5. Outreach activities, including preparation of popular science workshops and articles.

Abstract

The effects of ongoing climate warming are especially perceptible in the Arctic, mainly due to the rapid decline in sea ice extent over the past few decades, resulting from heat advected with Atlantic Water (a process sometimes known as “Atlantification”). The accelerated loss of sea ice in the Arctic shelf seas has a profound impact on the water column structure and therefore, on the global energy budget, the atmospheric and oceanic circulation, and the carbon cycle. In case of complete disappearance of the sea ice from the western Arctic shelf and high sea surface temperatures, the enhanced vertical stratification will reduce nutrient flux into the upper oceans, leading to reduced phytoplankton biomass and production. To predict the further development, directions and consequences of the ongoing climatic/oceanographic changes it is essential to investigate the natural Arctic environment variability and its response to external forcing in the geological timescales.

The aim of the project is to study the impact of sea surface temperatures on marine productivity in the Nordic Sea since the last deglaciation in order to recognize the spatial and temporal marine productivity variations. The doctoral research will be focusing on generating micropaleontological, palynological and biomarker records to assess Arctic sea surface temperature, sea ice cover and water mass change in the Late Quaternary. A special focus will be put on investigating the impact of climate-induced environmental changes on marine productivity and the carbon burial rates during the mid-Holocene Thermal Maximum, about 5000-9000 years ago and compare it to the current global warming.

The PhD position is available at within the cross-disciplinary research project “Sedimentary ancient DNA - a new proxy to investigate the impact of environmental change on past and present biodiversity in Nordic Seas (NEEDED)”, funded through the Norway and EEA Grants 2014–2021 under the Basic Research Programme operated by the National Science Centre.

Międzynarodowa Środowiskowa Szkoła Doktorska
przy Centrum Studiów Polarnych
w Uniwersytecie Śląskim w Katowicach

ul. Będzińska 60
41-200 Sosnowiec
tel. +48 32 368 93 80
polarknow@us.edu.pl
www.mssd.us.edu.pl

Other information:

1. The supervisor will be prof. Marek Zajączkowski, trapper@iopan.pl, Institute of Oceanology PAN and dr Magdalena Łącka-Wojciechowska mlacka@iopan.gda.pl, Institute of Oceanology Polish Academy of Sciences, Sopot, Poland.
2. The scholarship will be paid as a part of the Polish National Science Centre funded project in the frame of GRIEG programme – NEEDED.
   Information about the competition procedure for the NEEDED project: https://www.ncn.gov.pl/baza-ofert/?akcja=wyswietl&id=183499
3. Contact to the Secretary of the IEDS Admission Committee: +48 32 3689 380, polarknow@us.edu.pl, www.mssd.us.edu.pl