



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

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



Title of PhD project: Characteristics of terrestrial organic matter released to the Arctic coastal zone

The leading unit: Institute of Oceanology Polish Academy of Sciences

Requirements:

1. MSc degree (or equivalent) in oceanography or related disciplines.
2. Knowledge on carbon cycling in the environment.
3. Experience in laboratory work and chemical analyses.
4. Very good written and spoken English.
5. Experience in fieldwork, public presentations and preparation of scientific manuscripts will be an additional advantage.

Tasks description:

1. Preparation and conducting fieldwork, participation in research cruises to Spitsbergen and Greenland.
2. Performing chemical analyses to assess the acid-base properties of organic matter released from permafrost.
3. Conducting incubation experiments to characterize bioavailability (lability) of organic matter released from permafrost.
4. Performing statistical analyses and interpretation of the obtained results.
5. Preparing scientific articles
6. Presenting the obtained results at national and international scientific conferences.

Project abstract:

Permafrost is a very important element of the global carbon cycle. It is estimated that its surface layer contains 1035 ± 150 Pg (Pg = 10¹⁵g) of organic carbon (OC), which is about 50% of the total OC stored in surface soil layers. Climate change, which is particularly intense in the Arctic, leads to the permafrost thawing. Remineralization of the organic matter released in that way and the resulting CO₂ emissions, although still not fully quantified, have been identified as an important mechanism affecting the climate and global carbon cycle. Much less attention is paid to research on the composition and chemical structure of organic compounds released from permafrost deposits, and in particular to assessing their acid-base properties. The main goal of the doctoral dissertation will be to characterize bioavailability (lability) of the organic matter released from permafrost and to assess its acid-base properties. Field studies will be conducted in Spitsbergen and Greenland, while the analytical part in the laboratories of the Institute of Oceanology of the Polish Academy of Sciences in Sopot. The PhD student's tasks will include: (1) preparation and conducting fieldwork and participation in research cruises (2) performing experiments to assess the acid-base properties of organic matter released from permafrost, (3) conducting incubation experiments to characterize bioavailability (lability) of organic matter, (4) performing statistical analyzes and interpretation of the obtained results, (5) preparing scientific articles, (6) presenting the obtained results at national and international scientific conferences. The proposed PhD work will be part of the PROSPECTOR project (PROSPECTOR:



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do Permafrost-Released OrganicS amPlify ocEan aCidificaTiOn in the aRctic?) funded by the Polish National Science Centre and conducted at the Institute of Oceanology of the Polish Academy of Sciences in Sopot.

Other information:

The supervisor will be dr hab. Karol Kuliński, prof. IO PAN (kroll@iopan.pl), and the auxiliary supervisor dr Katarzyna Koziarowska-Makuch (kkozio@iopan.pl), both from the Institute of Oceanology Polish Academy of Sciences, Sopot.

Amount of the scholarship: 4000 PLN gross

Deadline for applications, conditions and procedure of admission as well as the date of the competition result:

- 01.09-09.09.2021 - online recruitment in the IRK system (<https://irk.us.edu.pl/>), including setting up an account in the IRK online recruitment system; payment of the enrollment fee (the date of the transfer is decisive); entering relevant information and documents.
- 09/09/2021 - deadline for delivery of documents (title and outline of the project, list of achievements with their confirmation and others).
- 10/09/2021 - individual information on admission to the next stages of recruitment to IEDS and the date of the interview
- 13/09/2021 - deadline for sending presentations for job interviews.
- 14–16/09/2021 - interviews with candidates (date and place of interviews depends on the number of applications for specific topics).
- 09/17/2021 - announcement of the lists of candidates and reserve lists.
- 20–23/09/2021 - registration of candidates qualified for admission.
- 30/09/2021 - the date of announcing the list of people admitted to the IEDS.

Requirements to admission

The recruitment committee shall evaluate the candidates' research achievements, their research-related achievements and competencies as regards specific tasks in the research project, expressed as a point score:

the candidate's research achievements, including publications in prestigious academic press /journals (50% of the final score):

- 4 points – outstanding;
- 3 points – very good;
- 2 points – good;
- 1 points – poor;
- 0 points – no scientific achievements.



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research-related achievements, scholarships, awards and research experience gained in Poland or abroad, research workshops and training courses, participation in research projects (20% of the final score):

- 4 points – outstanding (e.g. scholarships, fellowships at leading foreign research centres, prestigious international prizes or awards, workshops or training courses at the leading research centres, participation in international or foreign projects);
- 3 points – significant (scholarships, fellowships at good Polish and foreign research centres, national prizes or awards, domestic or foreign workshops or training courses, participation in Polish or foreign projects);
- 2 points – moderate (local prizes or awards, workshops or training courses, participation in university projects);
- 1 point – poor achievements;
- 0 points – no achievements.

the candidate's competence to carry out specific tasks in the research project (30% of the final score):

- 3 points – very good;
- 2 points – good;
- 1 point – poor;
- 0 points – no competence.

Conditions for admission to the qualification procedure

1. registering an account in the www.irk.us.edu.pl system and filling in a form containing appropriate declarations and consents;
2. submission in the system www.irk.us.edu.pl:
 - a copy of the graduation diploma with a supplement;
 - curriculum vitae;
 - title and outline of a doctoral project, the form of scientific achievements and the documents certifying them, as well as other documents specified in the eligibility criteria for specific topics (admissible submission at the office of the IEDS, via polarknow@us.edu.pl or the IEDS website.
3. paying the enrolment fee in the amount of PLN 190.

Information on the conditions for awarding a doctoral scholarship:

The scholarship will be paid as a part of the PROSPECTOR project (NCN, SONATA BIS). Conditions in accordance with point 2.1.3 of Annex 2 to the Regulations on awarding funds for the implementation of tasks financed by the National Science Center in the field of research projects, as defined by the NCN Council Resolution No. 95/2020 of September 14, 2020. July 2018 Law on Higher Education and Science. The competition may be entered by a person who does not have a doctoral degree and is not a doctoral school participant.