



**Centre
for Polar
Studies**

Centre for Polar Studies
ul. Będzińska 60
41-200 Sosnowiec
POLAND
polarknow@us.edu.pl



PhD student position at environmental Interdisciplinary Polar Studies

in Centre for Polar Studies, Leading National Scientific Centre (KNOW)

Reference No: CSP/2015/IGF/4

Title of PhD project:

Thermal and mechanical ablation of tidewater glaciers based on Terrestrial Laser Scanning surveys

Location: Centre for Polar Studies/ Institute of Geophysics PAS

Deadline: 15th August 2015 r.

Interviews: 10th – 13th September 2015, venue will be indicated later

(http://www.polarknow.us.edu.pl/wp-content/uploads/Location_CPS_partners.pdf)

In the case of students from abroad the interview will be performed in the form of video conferencing.

Mode of study: full-time

Degree to be obtained: Doctor of Philosophy in Earth Sciences, discipline – Geophysics

Duration: 4 years (8 semesters), from October 2015

Language: Polish and English, Polish is not obligatory for students from abroad

Scholarship: citizens of Poland, EU citizens and owners of Card of the Pole can apply for scholarships funded by the KNOW (Leading National Scientific Centre) 2 000 – 4000 PLN/month (paid no longer than during four academic years)

Fees applicable: EU citizens applying on a regular basis – no fees; Non-EU citizens: 3 000 EUR per year; More information are available on website <http://admission.us.edu.pl/english/admission-rules>

Required documents and registration online:

http://www.polarknow.us.edu.pl/en/isp_eng/required-documents-and-registration-online/



Krajowy Naukowy
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Institute of Geophysics
Polish Academy of Sciences
ul. Księcia Janusza 64
01-452 Warszawa
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Institute of Oceanology
Polish Academy of Sciences
ul. Powstańców Warszawy 55
81-712 Sopot
www.iopan.gda.pl



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Conditions of recruitment:

1. The final result of the completion of the candidate's higher university degree (maximum 6 points, the conversion of diploma ratings: 6.0 (excellent) - 6 pts.; 5.0 - 5 pts.; 4.5 - 4 pts.; 4.0 - 3 pts.; 3.5 - 2 pts.; 3.0 - 1 point).
2. Interview with a candidate will assess the knowledge, skills (an ability to design experiments to investigate new phenomena, test hypotheses and solve experimental problems), knowledge of English and scientific level of the submitted project of the doctoral dissertation (maximum 15 points).
3. The minimum number of points, which has to be obtained to be selected for the studies, is at least 14 points.
4. Eligible for studies shall be a person who obtain the highest number of ranking points up to fill the limit of places, subject to point 3.
5. Project implementation of doctoral dissertation (max. 2 pages) must be submitted by 15th August 2015.

Requirements:

1. Graduation from second level (Master) studies in the field of physics, geophysics, physical geography, geology or similar. A candidate may submit application if the MSc Degree will be received not later than on 9th September 2015.
2. Experience in the field of remote sensing or mass balance modelling.
3. Knowledge of GIS software.
4. Skills in programming and numerical simulations.
5. Good physical condition to conduct field work in harsh climatic condition.
6. Fluid knowledge of the English language.

Tasks description:

1. PhD dissertation, focusing on determination of partitioning of ablation for tidewater glaciers.
2. Processing of terrestrial laser scanning surveys of tidewater glaciers.
3. Presenting of the research results on domestic and international conferences.



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Abstract

This work will cover in a broad, comprehensive manner analysis of both calving mechanisms and surface melting processes. Archival Terrestrial Laser Scanning (TLS) surveys of glaciers in Hornsund area (Hansbreen and Paierlbreen among others) and Antarctic (South Shetlands and Antarctic Peninsula). Additional field work in Hornsund will also be carried out. Calving processes will be examined by analyzing the morphology of the ice cliff on the basis of a series of high resolution digital elevation models and calving event size monitoring. In addition, mass balance modeling of the studied glaciers will be conducted. It will be validated against the geodetic mass balance calculated with repeated TLS surveys. The results will be presented in a broader regional context by comparison with the results of the analysis of archive satellite imagery.

Other information:

1. The work will be carried out under supervision of Assoc. Prof. Piotr Głowacki (Institute of Geophysics PAS), and dr. Michał Petlicki (Institute of Geophysics PAS).
2. In addition to the documents required by KNOW recruitment procedures a CV and Cover Letter should be mailed to dr. Michał Petlicki (petlicki@igf.edu.pl)
3. Contact: polarknow@us.edu.pl – Leading National Research Centre (Ph.D. D. Ignatiuk)