



Warsaw, 11 May 2026

In connection with the project “*The Subparsec Structure of the Local Interstellar Medium*” funded by the National Science Centre, Poland (NCN) under the SONATA BIS-15 call, the principal investigator, Dr. Paweł Swaczyna, announces an open call for

## NCN scholarship for PhD student

### Requirements:

- Master’s degree in Physics, Astronomy, or a related field\*
- Good knowledge of at least one programming language/environment from the following C/C++, Python, Mathematica
- High analytical skills
- Knowledge of English necessary to understand scientific literature, write scientific papers, present results at scientific conferences, and communicate with other team members
- Motivation to fully engage in the implementation of the project tasks
- Readiness to undertake education at the GeoPlanet Doctoral School

\*As a related field, we consider studies that include a significant share of physics, astronomy, or mathematics classes, including the basics of data analysis or statistics.

Note: Candidates who do not yet possess the Master’s diploma can apply, but must provide a statement from their academic advisor with the expected graduation date. If selected, they will be admitted only if the Master’s diploma is provided before the start of the doctoral programme.

For candidates with diplomas issued outside Poland, it is highly recommended to include a (general) recognition statement downloaded from the NAWA Qualification Tool (<https://kwalifikator.nawa.gov.pl/>) to demonstrate their eligibility to start doctoral proceedings in Poland.

### Description of tasks:

Astrophysical observations show that the interstellar medium surrounding the solar system consists of two warm interstellar clouds moving at slightly different velocities relative to us. With detectors of interstellar neutral atoms on board NASA’s IBEX and IMAP missions, we study the physical conditions in the nearest interstellar medium. These observations suggest that the solar system lies within an interaction region between these clouds, casting doubt on the prevailing paradigm that interstellar plasma and neutrals are equilibrated. In the project, we will use the observations to seek signatures of structures created by the interaction of the interstellar clouds.

The PhD student will participate in the development and implementation of tools needed to analyze the observations of interstellar neutral atoms from the IBEX and IMAP missions. They will work with the research team to compare these observations with model predictions of the possible interaction scenarios of the interstellar clouds surrounding the heliosphere. The tasks will include, in particular:

- Reading scientific papers on the subject of the project.
- Development of research methods in cooperation with the principal investigator.



- Writing software implementing the developed research methods.
- Scientific analysis of the results obtained.
- Preparation of scientific articles and reports.
- Presenting results at international scientific conferences and science team meetings.

Under the scholarship, the PhD student will carry out research tasks on the project, under the supervision of the principal investigator, in person at the CBK PAN headquarters in Warsaw. We expect full commitment to the execution of the research tasks. The scientific results will be the basis of the doctoral thesis.

#### **We offer:**

The NCN research scholarship of 5000 PLN per month for up to 48 months. The NCN research scholarship is separate from the doctoral scholarship provided to doctoral students at the GeoPlanet Doctoral School (see the doctoral school recruitment page for details).

The scholarship will be awarded and paid in accordance with the rules laid down in the Regulations on awarding NCN scholarships in research projects funded by the National Science Centre, as set out in the Annex to NCN Council Resolution No 25/2024 of 4 March 2024 (hereafter NCN Regulations, [https://ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2024/uchwala25\\_2024-zal1\\_ang.pdf](https://ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2024/uchwala25_2024-zal1_ang.pdf)).

#### **Application procedure:**

The call for the NCN scholarship is held as part of the recruitment to the GeoPlanet Doctoral School at CBK PAN (<https://cbkpan.pl/en/ksztalcenie/szkola-doktorska/rekrutacja-2026-2027/>). Interested candidates should select the topic “*Searching for the subparsec structure of the local interstellar medium surrounding the Sun in observations from the IBEX and IMAP missions*” to apply for the NCN scholarship.

The applications for the NCN scholarship will be reviewed by the scholarship committee in accordance with the rules set out in the NCN Regulations. The candidates must demonstrate that they meet the requirements specified above and provide all information needed to evaluate their applications, in accordance with these regulations, in their applications submitted to the GeoPlanet Doctoral School during the recruitment.

The scholarship committee may invite select candidates to a remote interview.

#### **Deadline for submitting documents for recruitment to the Doctoral School: 15 June 2026.**

The competition results will be announced together with the results of recruitment to the Doctoral School by 27 July 2026.

The planned date for starting education at the Doctoral School and participation in the project is 1 October 2026.

Questions about the NCN scholarship and the project can be directed to the principal investigator at [pswaczyna@cbk.waw.pl](mailto:pswaczyna@cbk.waw.pl).