

## FORM FOR EMPLOYERS

INSTITUTION: Nicolaus Copernicus Astronomical Center of the Polish Academy of Sciences

CITY: Warsaw

POSITION: Postdoctoral Position in Cepheid Astrophysics

DISCIPLINE: Astronomy

POSTED: 26.03.2026

EXPIRES: 30.04.2026

WEBSITE : [www.camk.edu.pl/en/](http://www.camk.edu.pl/en/)

KEY WORDS : Cepheids; eclipsing binary systems; distance determination; stellar evolution; binary evolution

### DESCRIPTION :

The Nicolaus Copernicus Astronomical Center of the Polish Academy of Sciences invites applications for a postdoctoral position in Warsaw, Poland. The successful candidate will work with Dr. Bogumił Pilecki on the project "**Understanding Cepheids: physical and empirical basis for our main tool for distance determination in the Universe.**" This position is funded by the Polish National Science Center (NCN) SONATA BIS research grant and is offered for a period of up to 11 months.

Classical Cepheids have been fundamental to cosmic distance measurements for over a century, yet their physical properties and evolutionary pathways remain insufficiently constrained. Achieving sub-percent precision in distance determinations is now critical for addressing key challenges such as the Hubble tension. Recent breakthroughs—particularly our precise mass and radius determinations from Cepheids in eclipsing binary systems—have opened a new window into their astrophysics. However, such systems remain rare.

The research focus of this position involves the detailed investigation of more than 60 newly discovered Cepheids in double-lined spectroscopic binary (SB2) systems in the Milky Way and the Magellanic Clouds. This work aims to significantly increase the sample size of binary

Cepheids with measured properties, thereby improving our knowledge of their origin, evolution, and the impact of binarity on period-luminosity relations.

Depending on their skills and preferences, the selected candidate may engage with the full scope of the project or focus on specific topics such as spectral analysis (including SED fitting and metallicity determination), the modeling of pulsation and evolutionary properties, or the study of multiplicity and binary interactions. The work may involve both participation in observations and analysis of archival data, as well as the development of dedicated software tools, with flexibility to tailor specific research directions to the candidate's expertise and interests. The candidate is expected to present and publish their results, and related personal research projects are also welcome.

Applicants should have experience in data analysis and scientific programming, along with a strong publication record. Experience in spectroscopy, binary star systems, or stellar pulsation will be considered an advantage.

Further details regarding this and related research projects on Cepheids in binary systems are available on the project director's webpage:

<https://users.camk.edu.pl/pilecki/?page=project>.

The starting date is negotiable and can be as early as **June 2026**. The successful candidate will receive a monthly gross salary of approximately **PLN 9,400**, with generous travel funding and an excellent working environment provided.

At the commencement of employment, candidates must hold a valid Ph.D. degree in astronomy or astrophysics. This degree should have been obtained no earlier than seven years prior to the start date, though career breaks (such as maternity or paternity leave) will be taken into professional consideration.

Inquiries regarding the position should be directed to [pilecki@camk.edu.pl](mailto:pilecki@camk.edu.pl).

The selection criteria include:

1. the candidate's research achievements including publications in prestigious academic press /journals (50% of the final score);
2. 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);
3. the candidate's competence to carry out specific tasks in the research project (30% of the final score).

Applications should be sent by e-mail with the subject "Postdoc competition in astrophysics of Cepheids" to [recruitment@camk.edu.pl](mailto:recruitment@camk.edu.pl) and they must include (in PDF format):

1. Copy of the PhD diploma or a binding statement of its date of completion
2. a CV including the list of publications:
3. Short statement of research achievements and plans (maximum 2 pages)

4. a scan of the signed GDPR form (NCN GDPR document available at <https://www.camk.edu.pl/en/about/ochrona-danych-osobowych/>).

Additionally, at least one letter of recommendation should be arranged to be sent directly by the recommending person to the same email address.

For guaranteed consideration, applications should be received by **30 April 2026**. The review of the applications will begin soon after this date, and short-listed candidates will be invited for interviews.