

FORM FOR EMPLOYERS

INSTITUTION: Nicolaus Copernicus Astronomical Center (CAMK) of the Polish Academy of Sciences (PAN)

CITY: Warsaw, Poland

POSITION: Postdoctoral Position in Multimessenger Astrophysics and Stellar Evolution Near Massive Black Holes

DISCIPLINE: Astronomy

POSTED: 09.09.2026

EXPIRES: 15.11.2026

WEBSITE: <https://www.camk.edu.pl/en/>

KEY WORDS: Gravitational waves, black holes, galactic centers, globular clusters, stars, stellar evolution, high-energy astrophysics, multimessenger astronomy, intermediate-mass black holes, supermassive black holes.

DESCRIPTION (field, expectations, comments):

Job Summary

Applications are invited for a postdoctoral position at the **Nicolaus Copernicus Astronomical Center of the Polish Academy of Sciences (CAMK PAN)** in Warsaw with a **deadline of November 15, 2026**.

The postdoctoral researcher will join the project “**Stars Near Massive Black Holes as Electromagnetic Sources and Future Gravitational-Wave Targets for LISA**”, led by Dr. Aleksandra Olejak. The successful candidate will also work in close collaboration with other researchers at CAMK PAN, including Dr. Abbas Askar and Dr. Verónica Vázquez Aceves, as well as with international collaborators.

The main scientific focus will be on **stellar EMRIs/IMRIs** as a class of multimessenger sources for **LISA**. The position is particularly suitable for candidates with a background in one or more of the following areas: **stellar and binary evolution; hydrodynamical simulations of stellar interactions; stellar oscillations and tidal interactions; modelling or observations of electromagnetic counterparts and tidal disruption events; gravitational-wave astrophysics.**

Depending on the candidate's expertise and interests, possible research activities include:

- developing detailed stellar and binary evolution models (e.g. with **MESA**), or semianalytical frameworks, for stars interacting with intermediate-mass and supermassive black holes;
- modelling **tidally excited stellar oscillations and tidal heating**, and investigating their impact on the orbital and stellar evolution of extreme mass-ratio systems;
- developing **hydrodynamical simulations of stellar interactions with massive black holes** and connecting them with stellar-evolution calculations;
- modelling the **gravitational-wave/electromagnetic signals** of star–massive-black-hole systems and assessing their detectability with **LISA** and electromagnetic observatories;
- connecting theoretical models to observed classes of high-energy sources and transients, such as **ULXs/HLXs, QPEs, QPOs, and exotic tidal disruption events**;
- contributing to population and event-rate predictions by combining detailed stellar models with dynamical formation scenarios for star–IMBH systems in dense stellar environments;
- publishing scientific results in peer-reviewed journals and presenting findings at international conferences and workshops.

While the main expectation of the position will be to **contribute to and co-lead the exploration of stellar EMRIs/IMRIs as electromagnetic and gravitational-wave sources**, the successful candidate will also be encouraged to pursue partly independent projects, develop their own research ideas, and bring complementary expertise to the group and the institute. Candidates with expertise in other relevant areas are also encouraged to apply if they can clearly motivate how their background could contribute to the project.

Compensation and Benefits

Duration: Up to 30 months, depending on the starting date.

Expected start date: Flexible, but no later than October 2027.

Location: Nicolaus Copernicus Astronomical Center, Polish Academy of Sciences, Warsaw, Poland.

Salary: approx. **13,000 PLN gross per month** (approx. **9,800 PLN net per month**, depending on the individual tax situation).

The project involves international collaborations, with dedicated funding available for conference participation, research visits, collaborative activities, and computing equipment.

Application Details

Applicants should hold a PhD in astrophysics, astronomy, physics, or a closely related field by the expected starting date.

Applicants should provide:

- a CV;
- a list of publications;
- a brief research statement (maximum 3 pages) describing previous research, current research interests, and motivation for joining the project;
- a copy of the PhD diploma or information on the expected PhD completion date;
- **at least two letters of recommendation**, to be sent directly to aolejak@camk.edu.pl

Applications should be submitted to aolejak@camk.edu.pl by **November 15, 2026**, with the subject line: **“Postdoctoral Position – Multimessenger Astrophysics.”**

Shortlisted candidates will be invited to an interview and asked to give a short presentation. Interviews are expected to take place in December 2026.

For other inquiries, please contact:

Dr. Aleksandra Olejak

Nicolaus Copernicus Astronomical Center

Polish Academy of Sciences

Email: aolejak@camk.edu.pl

CAMK PAN guarantees that the researchers are able to work independently to the greatest extent possible. The principles underlying the scientific independence of the researchers are formulated in the Code of Ethics for Researchers developed by the Science Ethics Commission (Commission for Research Integrity) of Polish Academy of Sciences, and adopted by the General Assembly of the Polish Academy of Sciences on 5 December 2024 (in Polish [<https://pan.pl/app/uploads/2025/02/KodeksEtykiPracownika.pdf>])).

CAMK PAN subscribes to gender principles in the Strategic Plan 2021+, where it has committed to non-discrimination and equal treatment. These principles will be further developed. Gender Equality Plan (GEP) was developed in 2023 in Polish [https://www.camk.edu.pl/pl/media/uploads_current/rada_naukowa/2023/uchwaly/u09_plan_rowno_sci_plci_camk_2023_2026.pdf])).

Fulfilling the obligation arising from Article 24(6) of the Act of June 14, 2024, on the Protection of Whistleblowers (Journal of Laws, item 928), CAMK PAN wishes to inform about the possibility of reporting a violation and provides the communication channels described in the internal reporting procedure, available at the following address [<https://www.camk.edu.pl/en/about/whistleblowers/>].