# Postdoctoral Researcher in radio astronomy
## Aalto University



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| **Job Title** | Postdoctoral Researcher in radio astronomy |
| **Department** | T411 Dept. Electronics and Nanoeng |
| **Institution** | Aalto University<br>, , Finland |
| **Date Posted** | Sep. 17, 2025 |
| **Application Deadline** | Open until filled |
| **Position Start Date** | Available immediately |
| **Job Categories** | Post-Doc |
| **Academic Field(s)** | Astronomy and Astrophysics |
| **Job Website** | https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Postdoctoral-Researcher-in-radio-astronomy_R44271 |
| **Apply By Email** | |

**Job Description**

Aalto University is where science and art meet technology and business. We shape a sustainable future by making research breakthroughs in and across our disciplines, sparking the game changers of tomorrow and creating novel solutions to major global challenges. Our community is made up of 13 000 students, 400 professors and close to 4 500 other faculty and staff working on our dynamic campus in Espoo, Greater Helsinki, Finland. Diversity is part of who we are, and we actively work to ensure our community’s diversity and inclusiveness. This is why we warmly encourage qualified candidates from all backgrounds to join our community.

[url=https://www.aalto.fi/en/department-of-electronics-and-nanoengineering/radio-astronomy]Radio astronomy group at the Aalto University [url=https://www.aalto.fi/en/metsahovi-radio-observatory]Metsähovi Radio Observatory and the [url=https://www.aalto.fi/en/department-of-electronics-and-nanoengineering]Department of Electronics and Nanoengineering is looking for a

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Postdoctoral researcher in radio astronomy.

The successful candidate will join the European Research Council -funded project PARTICLES, which is led by Dr. Talvikki Hovatta. The work is conducted at Aalto University Metsähovi Radio Observatory in Kirkkonummi, which in 2026 will be getting a new triple-band radio receiver to conduct full polarization observations in single dish and very long baseline interferometry (VLBI) modes.

Your role and goals
The research concentrates on the physics of relativistic jets launched from accreting supermassive black holes in active galactic nuclei (AGN). These black hole powered jets are among the most energetic long-lived phenomena in the Universe and despite their ubiquity, many of the fundamental questions regarding their physics are still open. For example, one of the most fundamental properties, the composition of these jets is still unknown. The jets can consist of either electron-positron pairs, electron-proton plasma where also protons are present and accelerated, or an admixture of the two. The composition affects the power of the jet and the presence or lack of hadrons is a crucial ingredient in modelling the multi-wavelength and multi-messenger emission of these jets. If the jets are hadronic, they are likely the origin of the highest energy cosmic rays.

In PARTICLES, we aim at solving the particle composition of relativistic jets through full-polarization observations of AGN. Your task is to participate in commissioning and calibration of the new triple-band radio receiver. This includes participating in the development of a single-dish data analysis pipeline for full Stokes observations and conducting calibration observations with the new receiver. Additionally, you will get to participate in a new VLBI program where full Stokes observations at millimeter wavelengths are conducted.

Your network and team
Aalto University Metsähovi Radio Observatory is a vibrant research community of about 20 people that has a strong focus on radio and multi-wavelength studies of active galactic nuclei and on very long baseline interferometry. The group is active in several major international research programs, including the Cherenkov Telescope Array Observatory, the Event Horizon Telescope, and MOJAVE survey.

The group has an access to excellent local facilities, as Metsähovi operates a 14-meter mm-wave radio telescope in Kirkkonummi, about 35 km from the main campus. The telescope is used for both single-dish observations at mm-wavelengths and as a part of international VLBI-networks, such as the [url=https://www.evlbi.org/home]European VLBI Network and [url=https://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/]Global mm-VLBI Array.

You will join a research group that has several PhD students and postdocs.There are also many

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international collaborators, and an excellent possibility to network and participate in international conferences and workshops, and make research visits. You will also work closely with the technical team at Metsähovi during the commissioning observations.

Your experience and ambitions

Required qualifications * PhD in astronomy or a closely related field * Strong background in radio astronomy * Experience in radio polarization observations or data reduction pipeline development * A good track record of scientific publications in high-quality peer reviewed journals * Professional-level communication and presentation skills in English * Self-motivated and ability to work independently and collaboratively in a research team

Preferred qualifications * Experience in very long baseline interferometry * Experience in circular polarization observations * Prior research on relativistic jets of AGN

We are looking for someone who is enthusiastic to contribute to the commissioning of a new cutting-edge instrument and excited about the research opportunities it will offer.

What we offer
We offer a full-time, fixed-term employment contract for 3 years. The probation period is 6 months. The starting salary for a Postdoctoral Researcher is approximately 4100€/month. The annual workload of research and teaching staff at Aalto University is currently 1612 hours. The employment contract includes occupational health care, paid annual leave, and retirement benefits. Furthermore, Finland has a comprehensive social security system. The starting date of the position can be negotiated.

Join us!
To apply, please share the following application materials (as PDFs) with us through our recruitment site ("Apply now!”). Please note that our recruitment system allows max 5 attachments, so please combine the copies of certificates and transcripts in one PDF, if necessary. * a CV including the names of two people who can act as references * a list of relevant publications * a motivation letter (max. 2 pages) * Doctoral degree certificate or thesis advisor’s letter if defending soon

Please apply as soon as possible - applications received by Nov 15, 2025 will be fully considered for the position. Aalto University reserves the right for justified reasons to leave the position open, to extend the application period and/or to consider candidates who have not submitted applications during the application period.

Please note: Aalto University’s employees should apply for the position via our internal HR system

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Workday (Internal Jobs) by using their existing Workday user account (not via the external webpage for open positions). Aalto University's students and visitors should apply as external candidates with personal (not aalto) email.

For more information regarding the open position, please contact Dr. Talvikki Hovatta, talvikki.hovatta(at)aalto.fi. In any question regarding the recruitment process, please contact HR Advisor Monika Mäkinen, hr-elec(at)aalto.fi.

About Aalto University and Finland
The Department of Electronics and Nanoengineering is located at the Aalto University Otaniemi campus in the Helsinki metropolitan area, Finland. Metsähovi Radio Observatory is located in a protected radio quiet zone in Kirkkonummi, about 35 km from the Otaniemi campus. As a living and work environment, Finland consistently ranks high in quality-of-life. For more information about living in Finland please visit our information pages for international staff: [url=https://www.aalto.fi/en/careers-at-aalto/for-international-staff]https://www.aalto.fi/en/careers-at-aalto/for-international-staff .

**Contact Information**

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

**Contact**

Finland