



THE JOINT INSTITUTE FOR VLBI ERIC (JIVE) is seeking candidates for fixed-term appointment as

Postdoctoral Near-field VLBI Support Scientist

to be located at JIVE, Dwingeloo, The Netherlands

JIVE, the Joint Institute for VLBI ERIC, is the central organisation of the European VLBI Network (EVN). The EVN is an interferometric array of radio telescopes spread throughout Europe, extending into Asia, Africa, and Puerto Rico, and often observes in conjunction with the e-MERLIN interferometer in the UK, the East Asia VLBI Network (EAVN), the Long Baseline Network (LBA) in the Southern hemisphere, and the VLBA and other telescopes in the USA. JIVE implements the core data processing and user services that turn the network of distributed telescopes into a single scientific facility to study the radio sky at the highest possible resolution. The Institute is located in Dwingeloo, the Netherlands, and is hosted by ASTRON - the Netherlands Institute for Radio Astronomy.

JIVE is a European Research Infrastructure Consortium (ERIC) whose primary mission is to operate the EVN VLBI correlator, to provide support to the EVN users and member telescopes, and conduct advanced research in radio astronomy and synergistic science areas.

In particular, JIVE is actively developing new correlator capabilities, including real-time e-VLBI, space science applications and mm-VLBI developments (e.g. EHT consortium). The Institute is involved in collaboration with several Dutch universities, and interactions with other radio-astronomy institutes throughout Europe. For further information regarding JIVE and the EVN, refer to www.jive.eu and www.evlbi.org. This position opening also appears in the AAS Job Register (jobregister.aas.org/ad/2a9b3a91) and on the JIVE web site (www.jive.eu/vacancies-jive).

We invite applications for the position of JIVE Near-Field VLBI Support Scientist to become available from as early as March 2021. Since 2003 JIVE, together with its ERIC members and associated organisations, members of the EVN and other institutes develops and applies the technique of near-field VLBI (NF VLBI). This technique enables achieving high-precision estimates of state-vector of point-like sources of radio emission (spacecraft) within the Solar System by means of measuring the radial velocity and lateral celestial position of the target. The technique has been successfully demonstrated for a number of planetary and space science missions, such as the ESA's Huygens Titan Probe, SMART-1, Venus Express, Mars Express, the Russia-led RadioAstron mission and others. JIVE, as the Principal Investigator's organisation, together with the Delft University of Technology (the Netherlands) and other partners is leading the Planetary Radio Interferometry and Doppler Experiment (PRIDE) of the ESA JUICE (Jupiter and Icy Moons Explorer) mission scheduled to launch in the middle of 2022 (<https://sci.esa.int/web/juice/home>).

The advertised position has a split between support duties and the appointee's own research as follows:

- 40% - participation in the development, live tests and science exploitation of the PRIDE-JUICE;
- 25% - support to the EVN users in conducting near-field VLBI and other space science VLBI experiments with the EVN;
- 35% - own scientific and other activities.

Job description:

The job will involve:

- maintaining and developing the NF VLBI capabilities of the EVN network and its data processing facilities at JIVE;
- participating in JUICE mission preparatory activities at all stages of the mission covered by the current appointment of the employee;
- close interaction with the Department of Astrodynamics and Space Missions of the Delft University of Technology in the development of PRIDE-JUICE;
- assisting EVN users to schedule and analyse NF VLBI experiments, monitoring EVN performance in these experiments;
- overseeing the data processing of the NF VLBI experiments at JIVE: data-quality review, preparation of PI/station feedback, liaison with users and network telescopes, etc.

In concurrence with the JIVE management and the partners at the TU Delft, the position might include some limited involvement in teaching and supervising activities.

The position may also involve a modest amount of other local-service collateral duties, such as visitor coordination or organizing colloquia.

Job requirements:

The candidate should have earned a Ph.D. in astronomy, space science, physics or other relevant field by the time of taking up the position, and demonstrate a solid foundation in radio interferometry techniques. A good command of written and spoken English is essential, and an interest in VLBI processing software and/or interest/experience in spacecraft state estimation would be a plus.

The terms of employment are in accordance with the Dutch Collective Labour Agreement Research Institutions.

We offer:

- A fulltime 38 hours per week temporary appointment in the service of the Netherlands Foundation of Scientific Research Institutes (NWO-I) for the duration of two years which can be extended for a total duration of three years pending good performance.
- A gross monthly salary, on a full time basis, in the range of € 3,383 to € 4,452 depending on relevant experience.
- A holiday allowance of 8% and a year-end bonus of 8.33% of the gross annual salary.
- A solid pension scheme (ABP).
- 42 vacation days per year on a full time basis.
- An excellent package of secondary benefits, including relocation expenses, an opportunity to participate in the collective healthcare insurance and a possibility for parental leave.

JIVE is an equal-opportunity employer. Applicants of any nationality/citizenship are eligible to apply.

Information:

For more information about this vacancy, please contact Erika Timmerman, HR Officer (+31 (0)521-595-100; personnel@jive.eu). For additional enquiries please contact Prof. L.I. Gurvits (lgurvits@jive.eu), head of Space Science and Innovative Applications at JIVE.

Reactions:

Applications should contain a CV including a list of publications, and a description of research interests. Please forward application materials to personnel@jive.eu, mentioning reference number JIVE2021/02. Please arrange for three letters of reference to be sent separately to the same address.

Applications reaching JIVE by **1 March 2021** will receive a full consideration.