

The University of Turku is a world-class multidisciplinary research university which offers interesting challenges and a unique vantage point to national and international research and education. The University of Turku is located in South-West Finland, in the active student city of Turku. The University main campus is next to the city centre and Aura River. Turku is an active hub of business, science and education (pop. 313,000 in Turku region). In Turku you are close to the unique archipelago of Southwest Finland. The University is the third biggest employer in the City of Turku and has a strong influence in the region.

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Postdoctoral researcher / Doctoral student for mixed term position in space physics

Space Research Laboratory (SRL) of the Department of Physics and Astronomy, UTU, is seeking to employ a postdoctoral researcher or a PhD student to work on energetic particle instrumentation for two nanosatellite missions to be launched in 2019 and 2021. The researcher will work as a member of SRL together with the Embedded Electronics Group at the Department of Future Technologies of UTU.

The nanosatellite missions are part of the research programme of the *Finnish Centre of Excellence in Research of Sustainable Space (FORESAIL)* funded by the Academy of Finland. *FORESAIL* is coordinated by the University of Helsinki (UH) and participated by UTU, Aalto University (AALTO) and the Finnish Meteorological Institute (FMI). The mission of *FORESAIL* is to develop novel technological solutions improving the reliability of nanosatellites in orbit, to demonstrate the Coulomb drag effect and its application to de-orbiting of satellites from Earth orbit and spacecraft propulsion in the solar wind, and to deploy nanosatellites to perform scientific missions investigating, e.g., the radiation environment of the Earth. UTU coordinates the *Instruments* team of *FORESAIL*. The team will work close together with the *Platforms* team coordinated by AALTO and with the *Modelling* and *Observations* teams coordinated by the UH. The fifth team of *FORESAIL* is the *Propulsion* team coordinated by FMI.

The first two missions of *FORESAIL* will both carry an energetic particle telescope, capable of measuring the fluxes of energetic electrons and ions in orbit. UTU has a 30-year long tradition in developing particle instrumentation for spacecraft ranging from large science missions to nanosatellites. The *FORESAIL* team in AALTO presently operates one nanosatellite, Aalto-1, carrying the energetic particle experiment RADMON built in UTU. The *Platforms* and *Instruments* teams will build on this recent successful collaboration. The most important international collaboration partner of the *Instruments* team is the University of Kiel in Germany.

The researcher will participate the design of the particle sensors and their readout electronics, perform and analyse simulations to optimize the instrument performance, analyse calibration data, and participate in the scientific analysis of the space observations of *FORESAIL* and other satellites carrying energetic particle detectors.

An MSc/PhD degree in physics, astronomy or engineering is a requirement and prior knowledge of space physics, radiation measurements, solar and heliospheric physics

or astrophysics is an asset. Experience in space or ground-based radiation instrumentation and/or programming is highly valued.

The duties of the researcher may include a limited amount teaching (up to 5 % of working time) at MSc courses of the Department and/or supervision of MSc/PhD students of SRL.

The position will be filled first for fixed term of two years. The employment may continue after this period. The selected candidate is expected to start his/her contract as soon as possible but in April 2018, the latest. There will be a fourth-month trial period in the contract. PhD students applying for the position should also apply for a doctoral candidate position at the University of Turku Graduate School, Doctoral Programme in Physical and Chemical Sciences by the next possible deadline to obtain the right to pursue a doctoral degree at the University of Turku. The doctoral program's application period starts on 1 January 2018 and ends on 23 March 2018.

The salary of a doctoral student is in accordance with the University salary system (for teaching and research personnel) levels 2-4, where the work specific salary component is 1985,85–2475,31 €/month. The salary of a postdoctoral researcher is at level 5 on the job demands chart, where the task specific salary component is 2865,30 €/month. In addition, there is a share increase based on the personal performance, which is at most 46.3% of the base salary.

Applications, including (1) a Cover Letter stating the interests and relevant prior experience of the candidate and the names and contact information of two references, (2) a CV and (3) a List of Publications, should be submitted **by 19 November 2017 (23:59)** via the electronic application form of the University of Turku <http://www.utu.fi/en/university/come-work-with-us/open-vacancies/Pages/home.aspx>

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To apply for this position, choose the vacancy with ID 4455 entitled “Postdoctoral researcher / Doctoral student for mixed term position in space physics”.

For further information on the available position, contact Prof. Rami Vainio (rami.vainio@utu.fi). For further information on the admission to the Doctoral Programme, contact the program coordinator Nina Lehtimäki (nina.lehtimaki@utu.fi).