

SRON's mission is to bring breakthroughs in space research. The institute develops the state of the art technology and advanced space instruments, and uses them to pursue fundamental astrophysical research, Earth science and exoplanetary research. As national expertise institute, SRON gives counsel to the Dutch government and coordinates national contributions to international space missions. SRON stimulates the implementation of space science in our society.

SRON has a prominent track record in the developments of sub-mm and Far-Infrared detector technology and space instruments. SRON, as the PI institute, has built the Heterodyne Instrument for the Far Infrared (HIFI) on the Herschel Space Observatory and has also contributed detector and local oscillator technologies for a balloon borne Stratospheric Terahertz Telescope (STO2), which was successfully launched from Antarctica by NASA. Starting now, we are going to build an instrument for GUSTO, which is approved as the first NASA's Explorer balloon mission of opportunity. GUSTO consists in essence of three terahertz heterodyne receivers and is scheduled to be launched in December 2021 from Antarctica. In parallel, SRON continues to develop terahertz superconducting hot electron bolometer (HEB) mixer arrays and quantum cascade laser local oscillators for future space applications. Supported financially by NASA, we have an open position (equivalent to a post-doctor) within the Instrument Science Group.

Instrument Scientist (f/m) vac.nr. 1314

Project Outline and Tasks

SRON, together with Kavli Institute of Nanoscience at Delft University of Technology (TUD), will design, build and test three HEB arrays at 1.4, 1.9 and 4.7 THz, respectively, and also a local oscillator unit at 4.7 THz for GUSTO, and will deliver those units to University of Arizona, where the integration of GUSTO payload and qualification tests will take place.

You will work with a team on the microwave and optical aspects of the HEB arrays and the local oscillator unit, including design, construction, test and analysis of detector array and the local oscillator unit. In addition, you will contribute to the R&D of heterodyne technology at Far-Infrared frequencies, carried out by Ph.D students. The activities will take place at SRON-Groningen, in close collaboration with a team at TUD.

You will devote a fraction of your time to communicate with collaborators from foreign institutes working in this field. You may also spend a short period of your time at University of Arizona in USA for GUSTO's test campaigns.

Requirements

- PhD in experimental (astro)physics or electrical engineering;
- Good track record on previous research;
- Experience with instrumentation, especially on the optical aspects;
- Experience with submm, terahertz or Far-Infrared detection technology;
- Ability to guide master and PhD students;
- A self-organizing work-style;
- A good team player;
- Good communicative skills in English.

Functional competencies:

- Takes initiative
- Result driven
- Analytical
- Judicious

SRON core competencies:

- Innovative
- Focused on collaboration
- Responsibility
- A global player
- Flexibility

Employment conditions

Employment of this full-time position as an Instrument Scientist at **SRON-Groningen** is by NWO-I (The Netherlands Organization for Scientific Research Institutes) and will be for a period of three years. The salary will be in accordance with the salary scales of NWO-I scale 10 with a maximum of €4.154,-- gross per month on a full-time basis (depending on level of education and experience).

NWO has good secondary employment conditions such as:

- An end of year bonus of 8,33% of the gross yearly salary;
- 42 days of vacation leave a year on full-time basis;
- An excellent pension scheme;
- Options for (additional) personal development;
- Excellent facilities for parental leave;
- A holiday allowance of 8% of the gross yearly salary.

For further information:

Please contact Dr. Jian-Rong Gao (j.r.gao@sron.nl, telephone +31 88-777 5710), and Dr. G de Lange (the section head) . About the project, you are referred to [SRON-GUSTO](#), Gaolab@TUdelft. More information about SRON can be found at <http://www.sron.nl>

Letter of application

If you wish to apply you can send a motivation letter with CV and the name(s) and address(es) of reference(s) (incl. phone and e-mail) to jobs@sron.nl

Please state the vacancy number "SRON 1314" in the subject of your mail and your application letter. Applications will be accepted until April 8, 2018

All qualified individuals are encouraged to apply. In the event of equal suitability, preference will be given to female applicants.

No commercial propositions please.