

## PhD Candidate in Experimental Physics: 2D Material Detectors

[Apply Now](#)

Company: Universiteit van Amsterdam

Location: Amsterdam

Category: other-general

### What are you going to do

?

**Recently, a new material class with excellent optoelectronic properties has been emerging. 2D materials, so-called van der Waals (vdW) layered materials, have prompted a revolution in optoelectronic devices such as photodetectors, solar cells and photon emitters** Among the many 2D vdW materials, transition metal

dichalcogenides are of special interest due to the large range of electronic band structures and gaps. These 2D materials show great potential for high-performance avalanche photodetectors (APDs), promising a new paradigm in ultrahigh gain and low-noise detectors, operable close to room temperature. 2D APDs can operate within the visible (VIS), near-infrared (NIR) and mid-wavelength infrared (MWIR) range with high responsivity and gain, providing unique opportunities for (astro)particle physics applications.

In this project, we will develop high-gain, low-noise 2D material detectors and explore their suitability for applications in high energy physics.

You will:

Work in a collaboration between the optoelectronics group of Schall and van de Groep at WZI, and the detector R&D group at Nikhef, contact M.Vreeswijk;

Use the nanofabrication facilities at the Amsterdam Nanocenter, together with the optics labs at WZI to fabricate and investigate the 2D material devices, and the state-of-the-art detector facilities at Nikhef to characterize their detection performance in terms of gain, noise and time resolution;

Be fully integrated in both groups to bridge from material innovation to new applications in high-energy physics.

### **What do you have to offer?**

You have:

Master degree in Physics, Physical Chemistry or Electrical Engineering;

Experience in the following fields: 2D materials, Nanofabrication, (2D material) devices/detectors, detector measurements.

You should be able to:

Work at the interface between Materials Science and High Energy Physics instrumentation;

Collaborate and adapt in an international team and possess very good communication skills in oral and written English.

### **Our offer**

A temporary contract for 38 hours per week for the duration of 4 years (the initial contract will be for a period of 18 months and after satisfactory evaluation it will be extended for a total duration of 4 years). This should lead to a dissertation (PhD thesis). We will draft an educational plan that includes attendance of courses and (international) meetings. We also expect you to assist in teaching undergraduates and master students.

The gross monthly salary, based on 38 hours per week and dependent on relevant experience, ranges between € 2, to € 3, (scale P). This does not include 8% holiday allowance and 8,3% year-end allowance. A favourable tax agreement, the '30% ruling', may apply to non-Dutch applicants. The is applicable.

Besides the salary and a vibrant and challenging environment at Science Park we offer you multiple fringe benefits:

holiday hours per year (based on fulltime) and extra holidays between Christmas and 1 January;

multiple courses to follow from our Teaching and Learning Centre;

a complete educational program for PhD students;

multiple courses on topics such as leadership for academic staff;

multiple courses on topics such as time management, handling stress and an online learning platform with + different courses;

7 weeks birth leave (partner leave) with % salary;

partly paid parental leave;

the possibility to set up a workplace at home;

a pension at ABP for which UvA pays two third part of the contribution;

the possibility to follow courses to learn Dutch;

help with housing for a studio or small apartment when you're moving from abroad.

Are you curious to read more about our extensive package of secondary employment benefits, take a look here.

[Apply Now](#)

#### Cross References and Citations:

1. PhD Candidate in Experimental Physics: 2D Material Detectors [Searchukjobs Jobs Amsterdam Searchukjobs ↗](#)
2. PhD Candidate in Experimental Physics: 2D Material Detectors [Finddriverjobs Jobs Amsterdam Finddriverjobs ↗](#)
3. PhD Candidate in Experimental Physics: 2D Material Detectors [Radiologistjobs Jobs Amsterdam Radiologistjobs ↗](#)
4. PhD Candidate in Experimental Physics: 2D Material Detectors [Ukjobscareer Jobs Amsterdam Ukjobscareer ↗](#)
5. PhD Candidate in Experimental Physics: 2D Material Detectors [BeauticianjobsJobs Amsterdam Beauticianjobs ↗](#)
6. PhD Candidate in Experimental Physics: 2D Material Detectors [Nursejobsnearme Jobs Amsterdam Nursejobsnearme ↗](#)
7. PhD Candidate in Experimental Physics: 2D Material Detectors

Ecommercejobopportunities Jobs AmsterdamEcommercejobopportunities ↗

8. PhD Candidate in Experimental Physics: 2D Material Detectors Sustainabilityjobs Jobs Amsterdam Sustainabilityjobs ↗

9. PhD Candidate in Experimental Physics: 2D Material Detectors Oilandgasjobs Jobs Amsterdam Oilandgasjobs ↗

10. PhD Candidate in Experimental Physics: 2D Material Detectors Jobspro Jobs Amsterdam Jobspro ↗

11. PhD Candidate in Experimental Physics: 2D Material Detectors Losangelesjobs Jobs Amsterdam Losangelesjobs ↗

12. PhD Candidate in Experimental Physics: 2D Material Detectors Panamajobs Jobs Amsterdam Panamajobs ↗

13. PhD Candidate in Experimental Physics: 2D Material Detectors MalaysiajobsJobs Amsterdam Malaysiajobs ↗

14. PhD Candidate in Experimental Physics: 2D Material Detectors PetsjobsJobs Amsterdam Petsjobs ↗

15. PhD Candidate in Experimental Physics: 2D Material Detectors Politicaljobs Jobs Amsterdam Politicaljobs ↗

16. PhD Candidate in Experimental Physics: 2D Material Detectors Chefjobsnearme Jobs Amsterdam Chefjobsnearme ↗

17. PhD Candidate in Experimental Physics: 2D Material Detectors LebanonjobsJobs Amsterdam Lebanonjobs ↗

18. PhD Candidate in Experimental Physics: 2D Material Detectors Nodejobs Jobs Amsterdam Nodejobs ↗

19. Phd candidate in experimental physics: 2d material detectors Jobs Amsterdam ↗

20. AMP Version of Phd candidate in experimental physics: 2d material detectors ↗

21. Phd candidate in experimental physics: 2d material detectors Amsterdam Jobs ↗

22. Phd candidate in experimental physics: 2d material detectors JobsAmsterdam ↗

23. Phd candidate in experimental physics: 2d material detectors Job Search ↗

24. Phd candidate in experimental physics: 2d material detectors Search ↗

25. Phd candidate in experimental physics: 2d material detectors Find Jobs ↗

