



# NTNU

Kunnskap for en bedre verden

**Jobbnorge ID:** 291458  
**Deadline:** 1/11/2026  
**Website:** <http://www.ntnu.no>  
**Scope:** Fulltime  
**Duration:** Temporary

We are looking for a

## Postdoctoral Fellow in Nonlinear Integrated Photonics With New Material Systems

### This is NTNU

NTNU is a broad-based university with a technical-scientific profile and a focus in professional education. The university is located in three cities with headquarters in Trondheim.

At NTNU, 9,000 employees and 43,000 students work to create knowledge for a better world.

You can find more information about working at NTNU and the application process [here](#).

Video: <https://youtu.be/Xt-yHCN5QS0>

### About the position

The advancement of laser, optical amplifier, and advanced photonic integrated light source technology is a cornerstone for the application of optics and photonics in a manifold of research and technology fields ranging from optical fiber communications, metrology, environmental and medical sensing and imaging, and for applications in fundamental sciences such as laser spectroscopy. Establishing a new paradigm for continuous- and travelling-wave nonlinear integrated photonics with hybrid integrated pump laser sources facilitates the exploration of new applications of optical sources, in particular for quantum-enhanced metrology and spectroscopy, which so far have struggled to transition from the lab to the field. The performance envelope of the nonlinear optical system is intrinsically linked to the properties of the active nonlinear material. Therefore, much of the research in nonlinear integrated photonics focusses on the exploration of numerous different material systems ranging from III-V, diamond, silicon carbide, doped glass, etc., that overcome the limitations of traditional nonlinear platforms like lithium niobate, silicon or silicon nitride, always with the goal of unlocking a stronger nonlinearity while reducing optical propagation loss. New optical waveguide technologies that have emerged in the last decade are thin-film lithium niobate, -tantalate and III-V large bandgap semiconductors such as gallium phosphide, which unlock new capabilities for nonlinear photonics on chip with modest power optics and without the need for high-Q resonators.

The advertised project will focus on the development of nonlinear photonic integrated circuits for new lasers and optical parametric oscillators based on III-V and II-VI semiconductors. The successful candidate will develop new platforms and applications for nonlinear light generation in the mid-infrared wavelength region based on developing new classes of on-chip frequency comb sources and parametric frequency converters.

The candidate will report to the Head of Department. The supervisor for this position is Associate Professor Johann Riemensberger.

### Duties of the position

- Development of novel photonic device concepts and architectures, and optical test and measurement methodologies
- Development of nanofabrication processes in the NTNU Nanolab cleanroom
- Photonic chip design, manufacturing, and optical testing
- Collaborate with an international network of scientific partners
- Report research findings in international conferences and scientific articles
- Prepare funding applications for Fellowship grants such as NRC Mobility and MSC-EF

### Required selection criteria

- Strong experimental and/or theoretical photonics, quantum optics, or nanotechnology background with a completed PhD in a relevant field.
- Knowledge of standard nanofabrication processes.
- Strong communication and presentation skills.
- Strong documented scientific publication record

- If you are in the final phase of your doctorate and can document that the thesis has been submitted or that the defense date has been confirmed, your application can be considered even if you have not defended. NOTE: Documentation of the obtained doctorate must be presented before you can take up the position.
- Good oral and written presentation skills in English .

PLEASE NOTE: For detailed information about what the application must contain, see paragraph "About the application".

If you do not already have educational competence that meets the requirements for a position as associate professor in Norway, NTNU will arrange for you to acquire such competence during the employment period. In such cases, you will also be assigned relevant teaching as part of the career-promoting work.

The appointment is to be made in accordance with [NTNUs guidelines for recruitment positions](#) and [Regulations concerning the degrees of philosophiae doctor \(ph.d.\) in artistic development work at the Norwegian University of Science and Technology \(NTNU\)](#) for general criteria for the position.

As a result of the new Act relating to universities and university colleges with associated regulations of 01/08/2024, NTNU has, during a transitional period (for decisions on employment in recruitment positions before 1 August 2025), chosen to use the terms of employment in the old [regulations of 31 January 2006 no. 102 on terms of employment for positions such as postdoctoral fellow, research fellow, scientific assistant and specialist candidate](#)

## Preferred selection criteria

- Eligibility for MSC-EF postdoctoral fellowship or comparable
- Experience with electromagnetic simulation software suites and photonic circuit design
- Experience in growing and / or processing II-V and / or III-V materials for optical waveguide nanofabrication
- Ability to work outside of Norway for short exchange periods

## Personal characteristics

In the evaluation of which candidate is best qualified, emphasis will be placed on academic excellence and topical experience, as well as personal suitability for this position which include:

- Strong motivation to achieve academic excellence
- Curiosity and strong motivation to learn new research methods and technologies and adapt to a multidisciplinary research environment
- Independent problem solver, with ability to use existing knowledge in new ways
- Capability to advise junior researchers, graduate and undergraduate students
- Excellent communication skills and strong motivation to pursue a research degree

Emphasis will be placed on personal and interpersonal qualities.

## We offer

- An exciting job with an important [social mission](#)
- Developing tasks in a strong and international professional environment
- Career guidance throughout the postdoctoral program and together with you we will prepare a career plan, which contains the skills and knowledge you will acquire
- Open and inclusive working environment with committed colleagues
- [Mentor programme](#) as a [new employee at NTNU](#)
- Favorable terms in the [Norwegian Public Service Pension Fund](#)
- Free Norwegian language training at a basic level ([A2](#)).

As a Postdoctoral Fellow at NTNU, you will have access to [employee benefits](#).

## Diversity

Diversity is a strength, and at NTNU we aim to be an employer that reflects the diversity in society and that makes use of the potential of the population's collective skills. Our vision is [Knowledge for a better world](#) and [our values are creative, critical, constructive and respectful](#). We believe that an organization that is equal, diverse and gender-balanced is essential for us to achieve our goals.

We strive to attract employees with different skills, life experiences and perspectives to contribute to even better problem solving of our societal mission in research and education.

If you think this position is relevant and interesting, we encourage you to apply, regardless of gender, functional ability and cultural background, or whether you have been out of work for a period of time.

At NTNU we want to increase the proportion of women in scientific positions. We have a number of [measures](#) to promote equality.

## Salary and conditions

As a Postdoctoral Fellow (code 1352) you are normally paid from gross NOK 633 400,- per annum before tax, depending on qualifications and seniority. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is fully funded for 3 years through internal funding at NTNU. An application to MSCA-EF or similar postdoctoral fellowship by the applicant during the first year of employment at NTNU will be required.

For the necessary professional and social interaction, it is a prerequisite that you are physically present and available to the institution on a daily basis. As an employee at NTNU, it is important to keep yourself up to date with academic and organizational changes and to adapt to them.

The appointment is carried out in accordance with the principles of the [State Employees Act](#), and [Export control](#) (legislation that regulates the export of knowledge, technology and services). Candidates who, after assessment of the application and attachments, are considered to be in conflict with the criteria in the latter act, will not be able to be employed.

## About the application

The attachments (including a description of your scientific work) must accompany the application as these documents form the basis of the application assessment. The documents must be in English.

**Please note:** the application will only be assessed on the basis of the information we have received by the application deadline. Therefore, make sure that your application clearly shows how your skills and experience meet the criteria described above.

The application and all attachments must be sent electronically via Jobbnorge.no. If you are invited to an interview, you must bring certified copies of certificates and diplomas upon request.

The application must include:

- Transcripts and diplomas for Bachelor's-, Master's- and PhD degrees. If you have not yet completed your PhD, you must provide confirmation on your estimated date for the doctoral dissertation, or confirmation that your PhD thesis has been submitted. Documentation of a completed doctoral degree must be presented before taking up the position.
- CV.
- A copy of the doctoral thesis. If you are close to submitting, you can attach a draft of the thesis.
- Research plan.
- Academic works - published or unpublished (up to 3 items).
- Possible recommendation letters.
- Name and contact information of three referees.

If all or parts of your education has been taken abroad, we also ask you to attach documentation of the scope and quality of your entire education. Description of the documentation required can be found [here](#). If you already have a statement from [Norwegian Directorate for Higher Education and Skills \(HK-dir\)](#), please attach this as well.

Joint works will be considered. If it is difficult to identify your contribution to joint works, you must attach a brief description of your participation.

If you have had leave or another break in your career, it is important that this is stated in your application so that the selection committee can take this into account and that the amount of your research may be reduced as a result.

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal qualities. Motivation, ambitions and potential for research will also be emphasized in the assessment of the candidates.

NTNU recognizes a wide range of academic contributions and is committed to follow evaluation criteria for research quality according to [The San Francisco Declaration on Research Assessment DORA](#) and the obligations in [CoARA](#) (responsible assessment of research and recognition of a greater breadth of academic contributions in accordance with NTNU's social mission).

## General information

A public list of applicants with name, age, job title and municipality of residence is prepared after the application deadline. If you wish to be exempt from entry on the public list of applicants, this must be justified. Assessment will be made in accordance with [current legislation](#). You will be notified if the exemption is not granted.

If you have any questions about the position, please contact Johann Riemensberger, [johann.riemensberger@gmail.com](mailto:johann.riemensberger@gmail.com).

If you have any questions about the recruitment process, please contact [hr@ies.ntnu.no](mailto:hr@ies.ntnu.no).

### Application deadline: 11.01.2026

For practical information about [working at NTNU](#), please visit [this webpage](#).

[The city of Trondheim](#) is a modern European city with a rich cultural scene. [Trondheim is the tech capital of Norway](#) with a population of 200,000. The Norwegian welfare state, including healthcare, schools, kindergartens and overall equality, is probably the best of its kind in the world. Professional subsidized day-care for children is easily available. Furthermore, Trondheim offers great opportunities for education (including international schools) and possibilities to enjoy nature, culture and family life and has low crime rates and clean air quality.

## NTNU

### NTNU - knowledge for a better world

The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

### Department of Electronic Systems

The digitalization of Norway is impossible without electronic systems. We are Norway's leading academic environment in this field, and contribute with our expertise in areas ranging from nanoelectronics, phototonics, signal processing, radio technology and acoustics to satellite technology and autonomous systems. Knowledge of electronic systems is also vital for addressing important challenges in transport, energy, the environment, and health. [The Department of Electronic Systems](#) is one of seven departments in the [Faculty of Information Technology and Electrical Engineering](#).

## **Additional information**

### **Contact person:**

Johann Riemensberger,

Phone: | E-mail: [johann.riemensberger@gmail.com](mailto:johann.riemensberger@gmail.com)

### **Place of service:**

Høgskoleringen 1 7491 Trondheim (Trondheim Municipality)