



# NTNU

Norwegian University of  
Science and Technology

**Jobbnorge ID:** 237922  
**Deadline:** 1/31/2023  
**Website:** <http://www.ntnu.no>  
**Scope:** Fulltime  
**Duration:** Project

The Department of Mathematical Sciences has a vacancy for

## 2 PhD positions in the project IMod: An interdisciplinary approach to data-based modelling

### 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 44,000 students work to create knowledge for a better world.

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

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

### About the job

The Department of Mathematical Sciences has a vacancy for two PhD positions in the project **IMod. Partial differential equations, statistics and data: An interdisciplinary approach to data-based modelling**

For a position as a PhD Candidate, the goal is a completed doctoral education up to an obtained doctoral degree.

The positions are part of the Large Inter-Disciplinary Research Project IMod. Partial differential equations, statistics and data: An interdisciplinary approach to data-based modelling, funded by the Research Council of Norway and spanning 2022-2028. The project combines mathematical and statistical methods to develop theory to be applied in fluid mechanics and neuroscience. We refer to the project homepage <https://www.ntnu.edu/imf/imod>.

**Position 1: Development of existing framework for forward and top-down modelling.** Main supervisor Professor Espen Jakobsen; co-supervisors Professor Helge Holden, Associate Professor Benjamin Dunn.

**Position 2: Turbulence statistics and the study of scales.** Main supervisor: Professor Ingelin Steinsland; co-supervisors Professor Simen Ådnøy Ellingsen, Associate Professor Geir-Arne Fuglstad.

The project is led by Professor Mats Ehrnstrom.

### Duties of the position

It is expected that each of the PhD candidates contributes to the main project goals, and actively takes part in seminars and work-related activities. The project positions are pure research positions. PhD candidates may be offered a one-year extension for teaching from the Department of Mathematical Sciences.

### Required selection criteria

- You must have a training corresponding to a five-year Norwegian master's program in mathematical sciences, finished by the time of start-up.
- Position 1: Experience in analysis of partial differential equations.
- Position 2: A strong background in multivariate statistics. Experience with programming.
- The average grade from the master's degree program must be equivalent to B or better in the NTNU's grading scale.
- You must meet the requirements for admission to the faculty's doctoral program (<http://www.ntnu.edu/ie/research/phd>)

The appointment is to be made in accordance with [Regulations concerning the degrees of Philosophiae Doctor \(PhD\) and Philosodophiae Doctor \(PhD\) in artistic research national guidelines for appointment as PhD, post doctor and research assistant](#)

## Preferred selection criteria

- Position 1: A strong academic background in one or more of the following areas: Partial differential equations, numerical methods for partial differential equations, mean field games, stochastic PDEs, and SPDE-based spatial statistics. Knowledge of neuroscience and stochastic control theory.
- Position 2: A strong academic background and experience in one or more of the following areas: computational and spatial statistics, SPDE-based spatial statistics, Bayesian statistics, analysis and numerical methods for partial differential equations. Knowledge of fluid mechanics.
- Interest and experience in cross-disciplinary research.
- Very good written and oral language skills (in English, and possibly Norwegian).

## Personal characteristics

- Analytical and synthetical skills
- Collaborative, with ability to contribute to a diverse and inclusive work environment
- Ability to high degree of independence

Emphasis will be placed on personal and interpersonal qualities.

## We offer

- exciting and stimulating tasks in a strong international academic environment
- an open and [inclusive work environment](#) with dedicated colleagues
- favourable terms in the [Norwegian Public Service Pension Fund](#)
- [employee benefits](#)

## Salary and conditions

As a PhD candidate (code 1017) you are normally paid from gross NOK 501 200 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 3 years, with preferred starting date August 2023. The department may offer one extra year of teaching.

Appointment to a PhD position requires that you are admitted to the PhD programme in Mathematical Sciences within three months of employment, and that you participate in an organized PhD programme during the employment period.

The engagement is to be made in accordance with the regulations in force concerning [State Employees and Civil Servants](#), and the acts relating to Control of the Export of Strategic Goods, Services and Technology. Candidates who by assessment of the application and attachment are seen to conflict with the criteria in the latter law will be prohibited from recruitment to NTNU. After the appointment you must assume that there may be changes in the area of work.

The position is subject to external funding.

It is a prerequisite you can be present at and accessible to the institution daily.

## About the application

The application and supporting documentation should be written in English. Links will not be considered: publications and other scientific work must follow the application. Please note that your application will be evaluated solely on information submitted by the application deadline. You must therefore ensure that your application clearly demonstrates how your skills and experience fulfil the criteria specified above.

The application must include:

- CV and certificates
- transcripts and diplomas for academic degrees. If you have not completed the master's degree, you should submit documentation for the master's thesis.
- A copy of any academic theses. You may attach a draft or summary of a thesis. Documentation of a completed master's degree must be presented before taking up the position.
- A personal letter describing your motivation, interests and background, where you may also indicate if you are more interested in one of the positions.
- 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, both bachelor's and master's education, in addition to other higher education. Description of the documentation required can be found [here](#). If you already have a statement from NOKUT, please attach this as well.

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

NTNU is committed to following evaluation criteria for research quality according to [The San Francisco Declaration on Research Assessment - DORA](#).

## General information

[Working at NTNU](#)

NTNU believes that inclusion and diversity is our strength. We want to recruit people with different competencies, educational backgrounds, life experiences and perspectives to contribute to solving our social responsibilities within education and research. We will facilitate for our employees' needs.

NTNU is working actively to increase the number of women employed in scientific positions and has a number of resources to [promote equality](#).

**The city of Trondheim** is a modern European city with a rich cultural scene. Trondheim is the innovation 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.

As an employee at NTNU, you must at all times adhere to the changes that the development in the subject entails and the organizational changes that are adopted.

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

If you have any questions about the position, please contact Professor Mats Ehrnstrom (<https://www.ntnu.no/ansatte/mats.ehrnstrom>), or the respective supervisors.

If you think this looks interesting and in line with your qualifications, please submit your application electronically via [jobbno.no](http://jobbno.no) with your CV, diplomas and certificates attached. Applications submitted elsewhere will not be considered. Upon request, you must be able to obtain certified copies of your documentation.

**Application deadline: 31.01.2023**

## NTNU - knowledge for a better world

### 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 Mathematical Sciences

We are Norway's largest university environment in mathematical sciences.

The Department has a particular responsibility for all basis education in mathematical sciences for engineering and natural science students at NTNU. We focus on long-term basic research and applied research at a high international level.

Our aim is to meet the society's needs for mathematical and statistical expertise in business and public administration as well as in the research and education sector. [The Department of Mathematical Sciences](#) is one of seven departments in the [Faculty of Information Technology and Electrical Engineering](#).

### Additional information

#### Place of service:

Trondheim 7491 Trondheim (Trondheim Municipality)