

Jobbnorge ID: 252144
Deadline: 3/1/2024
Website: <http://www.ntnu.no>
Scope: Fulltime
Duration: Temporary

The Department of Structural Engineering has a vacancy for a

Postdoctoral fellow in Cardiovascular Biomechanics

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-yHCN5QSO>

About the job

The postdoctoral fellowship position is a temporary position where the main goal is to qualify for work in senior academic positions.

Do you have a passion for biomechanics and biomedical engineering? Do you want to use your skills and knowledge to make a difference in cardiovascular health? Do you enjoy working in a stimulating and collaborative research environment? If you answered yes to these questions, then you might be the perfect fit for our team!

We are the [Biomechanics group](#) at the Department of Structural Engineering at NTNU in Trondheim. The position will be organized under the group's activities related to cardiovascular modelling headed by Professor Leif Rune Hellevik. We develop computational models of the cardiovascular system to help diagnose, manage, and treat cardiovascular diseases. Our projects (MyMDT, ENTHRAL, atherosclerosis) cover various aspects of cardiovascular modeling. We use methods from 0D/1D to FSI, with techniques for parameter estimation, optimization, uncertainty quantification, and sensitivity analysis. We also work closely with researchers from St. Olavs University Hospital and the Faculty of Medical and Health Sciences in Trondheim.

We are looking for a postdoc to join our team for two years with a possible extension.

Your immediate leader is Leif Rune Hellevik.

Duties of the position

- Work on our existing projects according to your expertise and interests
- [My Medical Digital Twin](#) (MyMDT) which integrates data from large population surveys, previous CERG studies, physiological models, and ML with data streams from sensors and activity meters. MyMDT aims to predict individual patient responses to various treatments, to tailor advice on exercise and medication. The primary focus for the candidate will be preferably on lumped models, ML, sensors and UQSA.
- [Model based diagnosis of coronary artery disease](#). In this project we will build on our recently developed CT-FFR technology at NTNU and St. Olavs Hospital, which enables hemodynamic evaluation of CAD based on Coronary Computed Tomography angiography (CCTA) images. The framework will be developed further to include modules for plaque composition and shear stress analyses enabling a combined risk assessment from a single non-invasive CT-scan.
- Develop new projects on modeling and engineering approaches to clinical cardiovascular problems
- Publish your results in high-quality journals and conferences
- Collaborate with researchers from different disciplines and institutions
- Participate in national and international research networks and events
- Develop your academic and professional skills through mentoring and training

Required selection criteria

- You must have completed a Norwegian doctoral degree or corresponding foreign doctoral degree recognized as equivalent to a Norwegian PhD in biomedical engineering, biomechanics, or a related field. If you can document that the PhD thesis has been submitted, your application can be assessed even if you have not yet defended your dissertation. Documentation of the obtained doctoral degree must be presented before you can take up the position

- Experience with computational modeling of the cardiovascular system
- Proficiency in programming
- Fluent in English (written and spoken)

The appointment is to be made in accordance with [Regulations on terms of employment for positions such as postdoctoral fellow, Ph.D Candidate, research assistant and specialist candidate.](#)

Preferred selection criteria

- Knowledge of uncertainty quantification and sensitivity analysis methods

Personal characteristics

- Excellent communication skills
- Strongly motivated to advance the current state of knowledge on the topic of this position
- Team-player, but also able to work independently
- Open to interact in a multidisciplinary and multi-cultural environment

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 Postdoctoral Fellow (code 1352) you are normally paid from gross NOK 575 400 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 two years.

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 on a daily basis.

About the application

The application and supporting documentation to be used as the basis for the assessment must be in English.

Publications and other scientific work must be attached to the application. Please note that applications are only evaluated based on the information available on the application deadline. You should ensure that your application shows clearly how your skills and experience meet the criteria which are set out above.

If, for any reason, you have taken a career break or have had an atypical career and wish to disclose this in your application, the selection committee will take this into account, recognizing that the quantity of your research may be reduced as a result.

The application must include:

- CV and certificates
- transcripts and diplomas for bachelor's-, master's- and PhD degrees. If you have not yet completed your Ph.D, you must provide confirmation on your estimated date for the doctoral dissertation, or that your PhD thesis has been submitted
- A copy of the doctoral thesis. If you are close to submitting, or have recently submitted your thesis, you can attach a draft of the thesis. Documentation of a completed doctoral degree must be presented before taking up the position.
- 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 NOKUT, 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.

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 a strength. We want our faculty and staff to reflect Norway's culturally diverse population and we continuously seek to hire the best minds. This enables NTNU to increase productivity and innovation, improve decision making processes, raise employee satisfaction, compete academically with global top-ranking institutions and carry out our social responsibilities within education and research. NTNU emphasizes accessibility and encourages qualified candidates to apply regardless of gender identity, ability status, periods of unemployment or ethnic and cultural background.

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 Leif Rune Hellevik, email leif.r.hellevik@ntnu.no. If you have any questions about the recruitment process, please contact HR consultant June Hove, e-mail: june.b.l.hovde@ntnu.no.

If you think this looks interesting and in line with your qualifications, please submit your application electronically via jobbnorge.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: 01.03.2024

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 Structural Engineering

We teach mechanical engineering, engineering and ICT, and civil and environmental engineering. The Department conducts internationally leading research and participates in several large national research projects. [The Department of Structural Engineering](#) is one of eight departments in [the Faculty of Engineering](#).

Additional information

Place of service:

Adresse mangler 7491 Trondheim (Trondheim Municipality)