

Jobbnorge-ID: 102298

Søknadsfrist: Avsluttet

Nettside:

Omfang:

Varighet:

PhD and postdoctoral researchers

Information about the faculty

The Faculty of Architecture and Fine Art is proud to announce up to nine 4-year PhD and/or 2-year Postdoctoral positions. The PhD/Postdoctoral positions will be organized at our four departments [Architectural Design and Management](#), [Architectural Design, Form and Colour Studies](#), [Architectural Design, History and Technology](#), and [Urban Design and Planning](#). Currently, there are 29 Professors, 21 Associate Professors, 12 Adjunct Professors, 46 PhD Research Fellows and 4 postdoctoral positions appointed at the Faculty in total. Further information about the Faculty is available at: <http://www.ntnu.edu/ab/about-the-faculty>.

These PhD and postdoctoral positions are emphasising the Faculty's role as academic institution and strengthening its role in research within architecture, urban planning and fine art in society through three main topics: Form, Climate and Impact.

Form (aesthetics, space, shape) Aesthetic awareness and knowledge formation represent intangible values in how we align ourselves in the world. Unfortunately these perspectives are getting less meaning and acceptance in society despite their large impact on our quality of life. Authority of aesthetics in society must be rebuilt, and research within this field has an important role to play in fulfilling this goal.

Climate (sustainability, energy, environment) is a prerequisite for existence. Climate requires interdisciplinary understanding and cooperation. It should permeate all activities of the Faculty, both in content and behaviour.

Impact (power, influence, leadership): The Faculty contributes to professionalization, empowerment and creating leeway both for professionals and users. The Faculty will by virtue of their professional competence seek influence and show willingness to take leadership in societal processes.

We are looking for PhD and postdoctoral researchers related to:

- Architectural theory and transformative learning in architectural projects from concept to realisation
- Architecture / Construction
- The climate / comfort comparison and the basis of sustainable design. A revised approach.
- Sustainable facilities management
- The effects of lighting in buildings on the comfort and health of seniors 55+
- Architectural integration of systems and solutions in ZE-buildings.
- Health promoting housing
- ARCHITECTURAL PROJECT and IMPACT
- Bicycling - why do people cycle?
- Rebuilding societies after major disasters

1. Architectural theory and transformative learning in architectural projects from concept to realisation

Type:

PhD fellowship

Main Supervisor:

Eivind Kasa (eivind.kasa@ntnu.no)

Scope:

This PhD position will be concerned with the observation and analysis of architectural creativity with particular reference to aesthetic theory and practice, anchored in empirical research on creativity from psychology and and related fields and architectural project methodologies analyzed from a creative/aesthetic standpoint. Close connection to teaching and workshops/ action based research in the TransArk Program (transformative learning in architectural education) [Transark PDF](#) offers the potential for an empirical laboratory. The intention of the TransArk is to develop reflections on the aspects of the theory, methods and processes of learning architecture. Architecture as creative profession (and professional education) has a great potential of being able to use the span between architecture, theory and learning as contribution to developing the field of architectural discourse and practice. This reflection and knowledge will have a strong connection to the production of architectural work.

2. Architecture / Construction

Type:

PhD fellowship

Main Supervisor:

Bendik Manum (bendik.manum@ntnu.no)

Scope:

By funding this position, NTNU/AB aims at providing knowledge across the border between architectural design and structural engineers' design of load bearing structures. The PhD-project should result in explicit design proposals in terms of drawings and physical as well as digital models, proposals that should be innovative both as load bearing structures and as architecture. The work should include interdisciplinary digital modelling, for instance structurally based parametric design (this to be distinguished from parametric design that handles forms and shapes

only as aesthetics, without taking structural properties into consideration). For the position, we look for an architect that by design practice has shown particular interest and competence in the relation between architectural design and load bearing structures. This PhD-fellowship will be part of research co-operation together with structural engineers at NTNU and with research partners external to NTNU. The evaluation of the applicants as well as setting the time-schedule of the work will be done in accordance with this research co-operation. Among the potential research issues are 3-D print of structural details in aluminum and grid shells of timber.

3. The climate / comfort comparison and the basis of sustainable design. A revised approach.

Type:

PhD fellowship

Main Supervisor:

Luca Finocchiario (luca.finocchiario@ntnu.no)

Scope:

This PhD proposal is built up from the results of a series of simulation analyses conducted in previous research projects at NTNU. According to their results the traditional bioclimatic approach based on the use of the psychrometric chart and numerical equations for climate analysis is insufficient to identify the correct measure for implementing climate adaptation into energy efficient built forms. The development of new technologies and materials for energy efficiency questioning traditional boundaries of applicability of passive strategies once intimately related to specific climatic contexts. The use of extremely stringent envelopes in combination with the elevated internal gains characterizing office buildings is for instance implying the use of strategies for cooling, ventilation and solar control even in cold climates such as the Norwegian. Since most of those strategies in order to work properly require different external conditions more and more often hybrid systems are developed as solution. All these contradictions are leading architectural design of energy efficient buildings in cold climates into a new complexity. In this PhD geographical boundaries of passive systems will be revised, defining a series of new climatic charts that can be used for a scientifically correct architectural design of climate adapted forms.

4. Sustainable Facilities Management

Type:

PhD / Postdoctoral fellowship

Main Supervisor:

Antje Junghans (antje.junghans@ntnu.no)

Scope:

Overall intention of the position is the advancement of knowledge in the discipline of architecture. Specifically when participating in the field of real estate development, before architectural competitions are published, and strengthening the sustainability of AB-faculty or architectural research and education in general by giving young talented researchers possibility to start academic career at NTNU. The SFM research focus is sustainability of architectural design and building management in a life-cycle perspective. The link between operation and use of non-residential buildings like hospitals, schools, office buildings and the early design stage is of special interest.

5. The effects of lighting in buildings on the comfort and health of seniors 55+

Type:

PhD position and a Post. Doc.

Main Supervisor:

Barbara Szybinska Matusiak (barbara.matusiak@ntnu.no)

Scope:

The PhD project will focus on the possibilities to create a good and healthy daylight environment, interior design and electric lighting for seniors 55+.

The goal of the project is to develop new knowledge about the impact of visual environment at the health and well-being of seniors living at high latitudes, so that health problems of the elderly, related to the visual perception, can be prevented and diminished. This project is a cross disciplinary collaboration between architecture psychology and medicine.

The candidate will be a part of our light and color group and have access to our room laboratory and daylight laboratory.

<http://www.ntnu.edu/bff/lightandcolour>

6. Architectural integration of systems and solutions in ZE-buildings.

Scope:

The Post. Doc. position is connected to the HOME project developed at IDELAB, a project funded by the Norwegian Research Council.

In this project, a group of researchers would like to develop and test advanced technology for energy saving through smart and adaptive control of the indoor environment. The objective is to enable a local indoor climate control by utilizing rapidly responsive materials (e.g. wooden surfaces which can store energy if moisture is added) and technologies (e.g. smart windows based at the hydrogen technology) in combination with wireless network of sensors. In addition, the intelligent control system will be used to optimize the energy use and indoor comfort.

The position will be directly connected to Work Package 5 in the HOME-project. This WP focuses on architectural integration of systems and, in a later stage, demonstration. The demonstration will be a pilot building where all systems and solutions will be built in full-scale and accessible for the public.

Architectural integration

The usage of building technologies should harmonize with the function of the room, user's age and abilities, and with the good standard of architectural practice including aesthetical issues, as the interaction between room, materials, light and colour. Many questions appear when

newly developed materials and/or systems are to be integrated in architecture. In the HOME-project one question may be connected to the maintenance of the view out through the smart windows when transparency is reduced, another to the impact of mirrored surfaces at the visual environment with electrical lighting (specular reflections). The next question may be connected to the impact of wooden surfaces at the general light level and at the re-distribution of the light from the window-zone to the core-zone of the building. The new systems have to be well adapted to the present building technique as well. To find out how to optimize the interaction between the respective new and existing systems, hygrothermal energy calculations and lighting calculations are necessary. It may also be collisions between different systems (existing and new), both in the space and in the control-usage-pattern. In this case it is important to identify any collision as early as possible to develop a good architectural solution.

The subtasks in the WP5 as specified in the project application are:

- Total comfort studies
- Full-scale experiment in the Test Cell (energy and comfort)
- Energy calculations
- Preparation of the demonstration building.

Professor Barbara Szybinska Matusiak, who leads the HOME-project and WP5, will mentor the post.doc.

7. Health promoting housing

Type:

PhD fellowship

Main Supervisor:

Eli Støa (eli.stoa@ntnu.no)

Scope:

This PhD project will look into how housing architecture may support quality of life and mental health of people in vulnerable life situations. Relevant issues will be how design and design processes may affect perceptions of self-respect and independence, identity, control, safety and social interaction among groups such as asylum seekers, refugees, homeless, drug abusers or others. Related to this, a question could further be how it is possible to evaluate or discuss the «effect» of architectural design. The project opens up for using practice-led research methods where various kinds of architectural interventions in new or existing structures or neighborhoods are included as part of the research, but also other research approaches may be used.

8. ARCHITECTURAL PROJECT and IMPACT

TYPE:

PhD / post doc

Main Supervisor:

Ole Møystad (ole.moystad@ntnu.no)

Scope:

Urban development is currently project driven. This means that our architectural environments are shaped and produced by project development rather than by public planning bodies. It also means that most of the framework, the premises by which an architectural object is produced, are set by project developers before the architect is contracted. This situation is a challenge to the impact of the architect on our urban environments, and consequently to the very mandate of architecture.

The topic of this PhD is to investigate how architecture can regain its impact, its influence and its mandate in a time when a sustainable urban future must be formed. The research should be theoretically and historically informed, but it should also have a firm empirical base. It will in other words be both academic and professional. The PhD candidate should preferably be able to combine theoretical research with experimental practice in his/her investigation, and be able to communicate with a broad, cross disciplinary and international audience. The research will be based inside the Metamorfose Centre for Real Estate Development and Facilities Management.

9. Bicycling - why do people cycle?

Type:

PhD

Main Supervisor:

Tor Medalen (tor.medalen@ntnu.no) and Yngve Frøyen (yngve.froyen@ntnu.no)

Scope:

Bicycling is an environmental friendly mode of transportation. This makes it topical as an important tool solving the problems of traffic congestion and pollution in our cities as well as curbing greenhouse gas emissions. Bicycling today constitutes only 4-5 % of our travels on a national basis, but somewhat more in the larger cities, e.g. Trondheim. Given the environmental attributes of cycling we do need more of it. The research question then is why do people choose to cycle?

The PhD/Post Doc position will work with this question. We know that age, education level, distance to the work place as well as the number of cars in the family influences whether people choose bicycling. We know less about how different land uses and bicycle infrastructure influence bicycle use, and the candidate is expected to develop the research in this direction taking the existing knowledge and models as a starting point.

10. Rebuilding societies after major disasters

Type:

PhD

Supervisors:

David Sanderson, Hans Skotte (hans.skotte@ntnu.no)

Scope:

The theme is topical in a national and an international context and responds to the Faculty's priority for working on issues that are current and relevant (e.g. fires in the Trøndelag region this spring and the Philippines initiative of the Tacloban group in association with Hans Skotte). The proposal is general with very little concrete research questions. However, both possible supervisors David Sanderson and Hans Skotte are linked to extensive national and international networks in the theme.

Qualifications

The applicants for the PhD positions must have a relevant Masters degree (or equivalent). The applicants for post doc positions must have a PhD at the time of application. A background in one of the three main topics (Form, Climate and Impact) is preferable, but not required.

Candidates from universities outside Norway are kindly requested to send a Diploma Supplement or a similar document, which describes in detail the study and grade system and the rights for further studies associated with the obtained degree: http://ec.europa.eu/education/lifelong-learning-policy/ds_en.htm

The position requires spoken and written fluency in the English language. Applicants from non-English-speaking countries outside Europe must document English skills by an approved test. The positions are situated in Trondheim and applicants are expected to live there for the duration of the projects.

A project description with a more detailed research plan for the PhD-project must be attached the application (maximum 5 pages). This should include an elaboration of the research questions and the methodological approach within the frames of the description of the larger research project. Mark the application clearly with what position and what type of position you are applying for (PhD/Post. Doc). For questions about the positions contact the respective supervisors by email.

Accession second half of 2014.

Salary level for PhD.-position is 48-61 in the Governmental Salary scheme, normally Salary level 50, gross NOK 420 800,- per annum. The post-doctoral position is remunerated according to salary code 1352, entry salary level 57-76 on the Norwegian State salary scale, normally remunerated at Salary 57, gross NOK 473 100,- per annum. There will be a 2 % deduction to the Norwegian Public Service Pension Fund from gross salary.

The appointments will be made in accordance with current regulations with supplementary rules in force giving guidelines for scholarship appointments in universities and university colleges.

The appointment requires enrolment in the Ph.D. programme. See also information on the pages: <http://www.ntnu.edu/studies/phd> and <http://www.ntnu.no/studier/arkitektur/phd>

According to the new Freedom of Information Act, information concerning the applicant may be made public even if the applicant has requested not to be included in the list of applicants

The governmental labour force should to the greatest possible extent reflect the diversity of the population. It is therefore a major personnel policy objective to achieve a balance of age and gender and to recruit persons with immigrant background. The appointed candidate must agree to the prevailing conditions applicable for public employees.

Applications with Curriculum Vitae, certified copies of transcript and reference letters should be submitted electronically through this page. **Mark the application with correct reference number AB-04-14. And mark the application clearly with what position and what type of position you are applying for (PhD/Post. Doc).**

The application deadline is 25 may 2014

Tilleggsinformasjon

Arbeidssted: