



## UiT Norges arktiske universitet Fakultet for ingeniørvitenskap og teknologi - Institutt for ingeniørvitenskap og sikkerhet

# PhD Candidate in Conjugate Heat Transfer

## About the position

The Department of Engineering Science and Safety - IVT announces a vacant PhD Candidate position in the area of Conjugate Heat Transfer at UiT-The Arctic University of Norway, Faculty of Engineering Science and Technology.

The position is available for commencement from August 2019 and the appointment is for a period of four years. The nominal length of the PhD program is three years. The fourth year is used for teaching or other duties for the department. The duties are normally distributed evenly over the four years.

Department of Engineering Science and Safety - IVT is located in a new Technology Building in Tromsø. The Department provides education in Automation, Drone Technology, HVAC and Process Technology. The Department comprises a staff of about 15 permanent scientific positions and 4 PhD-students. This position is associated with the IR, [Spectroscopy and Numerical Modelling](#) Research Group.

## The position's field of research

CHT is a complex Multiphysics simulation methodology involves coupling of fluid mechanics with heat transfer. The proposed research project proposes to study the sensation of cold using Multiphysics methodology: Conjugate Heat Transfer (CHT). The fluid mechanics is governed by three main conservative equations: continuity (mass conservation), Navier-Stokes (momentum conservation), and energy. The mentioned conservation fluid mechanics equations can be coupled with the heat transfer equation to define a CHT problem.

This project proposes to model the phenomenon of CHT using advanced CFD computational modelling technique using ANSYS® and/or MATLAB®, conduct experiments using thermographic infrared imaging and other sensory methods for collecting the data, and to develop machine learning algorithm from the experiments/simulations data to quantify the effect of physical parameters associated with the sensation of 'cold'.

## Contacts

Further information about the position, the project and UiT is available by contacting:

Associate Professor, Hassan Khawaja by email [hassan.a.khawaja@uit.no](mailto:hassan.a.khawaja@uit.no) or telephone +47 77660371, or

Head of Department, Tor Schive by email [tor.schive@uit.no](mailto:tor.schive@uit.no) or telephone +47 77660357.

## Qualifications requirements and assessment

It is a prerequisite for this position that the candidate is admitted to the PhD-program of the Faculty. To gain admission to the PhD programme, you must have a grade average of B or better on your Master's degree. Further information about requirements for admission to PhD studies is given in [Regulations on PhD at UiT](#).

The position requires a Master's degree in engineering, physics or mathematics. Other disciplines may be considered, if relevant. The suitable candidate is required to have completed courses in research ethics, scientific computing, numerical analysis, Multiphysics simulation, and deep learning. It is desired that the candidate has a strong background in fluid mechanics, heat transfer, physics, and mathematics. Some knowledge and experience in conjugate heat transfer or Multiphysics simulation will be advantageous.

We are looking for a highly motivated candidate, who likes to explore new technologies and enjoys working in a collaboration with others. Good communication skills in English are necessary and documented fluency in English is required.

The assessment will emphasize motivation and personal suitability for the position. You must be willing to engage in the ongoing development of your discipline and the university as a whole. During this assessment process, emphasis will be put on your potential for research as shown by the Master's thesis and any other academic works. In addition, we may consider work experience or other activities of significance for the PhD studies.

## Application

Your application must include:

- CV and application letter
- Diplomas and transcripts ( diploma supplement /applicants from non-EU universities are advised to attach an explanation of the grading system)
- Documentation of English language proficiency
- References including contact details (up to 3)
- Master's thesis and any other academic works
- Research proposal (2-3 pages).

Qualification with a Master's degree is required before commencement in the position. If you are near completion of your Master's degree, you may still apply and submit a draft version of the thesis and a statement from your supervisor or institution indicating when the degree will be obtained. You must document completion of your degree before August 2019.

All documentation has to be in English or a Scandinavian language. Submit the application electronically through Jobbnorge.

## We offer

- An interesting research project.
- A good academic environment with dedicated colleagues.
- Good career opportunities.
- A large degree of independence in work.
- Flexible working hours and a state collective pay agreement.
- Pension scheme through the state pension fund.

The UiT campus is located near the centre of Tromsø, a vibrant city located in Northern Norway with approximately 75 000 inhabitants. The location also offers ample opportunities for e.g., sighting aurora, hiking and skiing.

## Terms of employment

Remuneration of PhD Candidate positions are in salary code 1017. There is a 2 % deduction for contribution to the Norwegian Public Service Pension Fund.

You have to be qualified for and participate in the PhD study program of Faculty of Engineering Science and Technology. As many as possible should have the opportunity to undertake organized research training; thus, if you already hold a PhD or have equivalent competence, we will not appoint you to this position.

More information about moving to Norway: <http://uit.no/mobility>.

## General

We make the appointment in accordance with the regulations in force concerning State Employees and Civil Servants, and guidelines at UiT. At our website, you will find more [information for applicants](#).

UiT The Arctic University of Norway has HR policy objectives that emphasize diversity, and encourages all qualified applicants to apply regardless of their age, gender, functional ability and national or ethnic background. The university will emphasize making the necessary adaptations to the working conditions for employees with reduced functional ability.

We process personal data given in an application or CV in accordance with the Personal Data Act. You may request to not be registered on the public list of applicants, but the University may decide that your name will be made public. You will receive advance notification in the event of such publication.

## UiT The Arctic University of Norway

[UiT](#) is a multi-campus research university in Norway and the northernmost university of the world. Our central location in the High North, our broad and diverse research and study portfolio, and our interdisciplinary qualities make us uniquely suited to meet the challenges of the future. At UiT you can explore global issues from a close-up perspective.

Credibility, academic freedom, closeness, creativity and commitment shall be hallmarks of the relationship between our employees, between our employees and our students and between UiT and our partners.

Jobbnorge-ID: 170669, Søknadsfrist: Søknadsfristen er gått ut