

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.

Postdoc position in biopolymer research/hydrogel materials for tissue engineering at NOBIPOL

A Postdoc position is available at the Department of Biotechnology and Food Science. The position is financed by Norwegian Research Council via the Biotech 2021 initiative "Digital Life" and the project 3DLife: Emulating life in 3D with digital and experimental tissue models. The Centre for Digital Life Norway is an unprecedented collaborative effort by the three major universities in Norway and the Norwegian Research Council to create a cutting-edge virtual centre for computationally based biotechnology training, research and innovation, converging experimental life science with theoretical and engineering disciplines. For more information, visit www.digitallifenorway.org. The position has a duration of 3 years with the possibility for a one year extension with teaching duties.

Information about the department

The position is hosted at Norwegian biopolymer laboratory - NOBIPOL, Department of Biotechnology and Food Science, Faculty of Natural Sciences. NOBIPOL is a multidisciplinary research group within NTNU devoted to the field Biopolymer Engineering, with main focus on the science and technologies of marine polysaccharides, in particular alginate and chitosan. On the basis of more than 60 years of continuous research in the field, NOBIPOL possesses unmatched competence and experience in science and technology of marine polysaccharides. The current activities of NOBIPOL take place within the Department of Biotechnology and Food Science, in close collaboration with the Department of Physics, the Department of Cancer Research and Molecular Medicine, as well as SINTEF Materials and Chemistry. Currently the Department Biotechnology and Food Science has 50 permanent employees, 35 in scientific positions and 15 in technical/administrative positions. Around 35 PhD research fellows and 10 postdoctoral researchers are currently appointed at the Department where 6 seniors and 10 juniors are associated with NOBIPOL. Further information is available at: <http://www.ntnu.edu/biotech>. The post doc position will also be associated with the NTNU Biotechnology research streams Biopolymer Engineering and Tissue Engineering (<https://www.ntnu.edu/biotechnology>).

Job description

The post doc project is a part of the project 3DLife: Emulating life in 3D with digital and experimental tissue models. This is a multidisciplinary project with the aim to develop novel strategies for microtissue engineering in 3D, to provide model systems of organ function and bridge the gap to in vivo conditions. To understand how the microenvironment affects cells we will synthesize novel and tuneable extracellular scaffold materials, and develop tools for high-throughput screening (HTS) of 3D cell cultures to assess genetic expression patterns in response to defined scaffold properties. We will use a digital approach to process the vast data output from HTS analyses and provide a systems-level understanding of material-cell interactions. By applying a computational model, we aim to predict the requirements of organotypic cells to their microenvironment and tailor materials for improved in vivo-like tissue and organ models for research and clinical applications beyond the state of the art. The post doc project is focused on the development, production and characterization of alginate based hydrogels where biological, mechanical and rheological properties can be tailored separately. The project is expected to gain basic knowledge in physical and biological factors contributing to fibroblast phenotype.

Qualifications

The applicant must have a PhD in Chemistry, Biotechnology or Biophysics/Nanotechnology. Experience in relevant fields associated to the project is considered an advantage, such as biopolymer chemistry, chemical modification of carbohydrates, carbohydrate and hydrogel characterisation, rheology, high-resolution microscopy and cell and tissue culture. The successful candidate should be creative and ambitious, with a strong ability to work problem oriented. The candidate should also enjoy interdisciplinary research and take keen interest in learning and working in teams.

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/tools/diploma-supplement_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. Approved tests are TOEFL, IELTS and Cambridge Certificate in Advanced English(CAE) or Cambridge Certificate of Proficiency in English (CPE).

Terms of employment

The appointment of the Postdoc will be made according to Norwegian guidelines for universities and university colleges and to the general regulations regarding university employees.

NTNU's personnel policy objective is that the staff must reflect the composition of the population to the greatest possible extent.

The position as Postdoc is remunerated according to the Norwegian State salary scale. There is a 2% deduction for superannuation contribution.

The application

Applications with CV, a letter of motivation, certificates from Master and PhD, possible publications and other scientific works, certified copies of transcripts, (certified copies of documentation on English language proficiency (e.g. TOEFL, IELTS, etc.)) and reference letters must be submitted electronically through www.jobbnorge.no. A statement on when the applicant can start in the position if selected is also required.

Applications submitted elsewhere will not be considered.

The reference number of the position is: **NV-97/17**

Application deadline: **01.09.2017**

Further information can be obtained from professor Berit Løkensgard Strand, NOBIPOL, Department of Biotechnology and Food Science, NTNU, Tel. +47 735 94069, E-mail: berit.l.strand@ntnu.no

Further information about the Department can be found at <https://www.ntnu.edu/ibt>

Jobbnorge-ID: 140582, Søknadsfrist: 1. september 2017