

# PhD position in Microbial Molecular Biology

## About the position

We have a vacancy for a PhD candidate at the Department of Biotechnology and Food Science. The position is financed by NTNU and the appointment has duration of 3 years. The PhD position is part of the project "From foe to friend: Unlocking metabolism of *Bacillus methanolicus* for utilization of methane in biotechnological processes". This project is part of enabling technologies program at NTNU aiming at fostering excellence in the research with an overall goal of building a successful application for an ERC starting grant.

The position reports to Professor Trygve Brautaset.

## Main duties and responsibilities

The focus of research for the offered position will lie within molecular biology, including recombinant expression, metabolic engineering, synthetic biology and systems biology with the overall aim to understand and construct microbial cell factories. This includes:

- design and expression of genes and gene clusters in the heterologous host (i.e. transcription and translation regulation, protein stability, enzyme kinetics; synthetic biology);
- analysis of functionality of constructed synthetic pathway in the heterologous host metabolic network (i.e. energy and reducing power balance, metabolite and precursor pools, export capacity, toxic intermediates; systems biology);
- characterization of constructed cell factories (i.e. fed batch fermentations, product quantification with standard analytics methods e.g. HPLC).

The host organism - *Bacillus methanolicus* - is a methylotrophic bacterium and our group has long tradition in construction of cell factories with basis in this organism for production of amino acids and their derivatives from methanol. In your project, main focus will be on establishment of methane utilization pathway in *B. methanolicus* strains. Concurrently, the basic cultivation and molecular biology techniques should be established in our lab for *Methylococcus capsulatus* which is a natural methanotroph capable to grow on methane as a sole carbon and energy source.

## Qualification requirements

The PhD-position's main objective is to qualify for work in research positions. The qualification requirement is completion of a master's degree or second degree (equivalent to 120 credits) with a strong academic background in [subject area] or equivalent education with a grade of B or better in terms of [NTNU's grading scale](#). Applicants with no letter grades from previous studies must have an equally good academic foundation. Applicants who are unable to meet these criteria may be considered only if they can document that they are particularly suitable candidates for education leading to a PhD degree.

The appointment is to be made in accordance with the regulations in force concerning State Employees and Civil Servants and [national guidelines for appointment as PhD, postdoctor and research assistant](#)

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

Other qualifications:

- Good laboratory skills in the fields of microbiology and molecular biology
- Ability to plan and execute laboratory work
- Interest in developing the knowledge and skills in the fields of synthetic biology, systems biology, recombinant expression
- Experience in fields related to the project such as bioinformatics and computer programming will be considered an advantage
- Good written and oral English language skills

## Personal characteristics

- Ambition, willingness to perform and commitment to the project
- Independence
- Positive attitude towards hard work
- Problem-solving mindset and creativity
- Team player attitude

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal suitability, as well as motivation, in terms of the qualification requirements specified in the advertisement

## 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

PhD candidates are remunerated in code 1017, and are normally remunerated at gross from NOK 449 400 before tax per year. From the salary, 2 % is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is 3 years. Appointment to a PhD position requires admission to the PhD programme in Biotechnology (<https://www.ntnu.edu/studies/phbiot>)

As a PhD candidate, you undertake to participate in an organized PhD programme during the employment period. A condition of appointment is that you are in fact qualified for admission to the PhD programme within three months.

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 criterias 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.

## General information

A good work environment is characterized by diversity. We encourage qualified candidates to apply, regardless of their gender, functional capacity or cultural background. Under the Freedom of Information Act (offentleglova), information about the applicant may be made public even if the applicant has requested not to have their name entered on the list of applicants.

Questions about the position can be directed to Professor Trygve Brautaset, e-mail: [trygve.brautaset@ntnu.no](mailto:trygve.brautaset@ntnu.no)

About the application:

Publications and other academic works that the applicant would like to be considered in the evaluation must accompany the application. Joint works will be considered. If it is difficult to identify the individual applicant's contribution to joint works, the applicant must include a brief description of his or her contribution.

Please submit your application electronically via [jobb norge.no](http://jobb norge.no) with your CV, diplomas, certificates and reference letters. Together with the application we request an up to 1 page "Personal Motivation Letter" describing research interests and experience in molecular biology as relevant of the applicant.

Applicants invited for interview must include certified copies of transcripts and reference letters. Please refer to the application number **NV-53/19** when applying.

**Application deadline: 14.06.2019**

## NTNU - knowledge for a better world

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The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

### Department of Biotechnology and Food Science

Our activities contribute to increased exploitation of existing and new ingredients for sustainable food production as well as next-generation energy solutions and medical technology. We educate graduates for a wide range of careers in industry, public administration and academia. [The Department of Biotechnology and Food Science](#) is one of eight departments in the [Faculty of Natural Sciences](#).

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