

Postdoc in microbial natural product chemistry at the Center for Microbial Secondary Metabolites, CeMiSt

The Center for Microbial Secondary Metabolites, CeMiSt, is one of 10 new Centers of Excellence funded by the Danish National Research Foundation. The Center started 1st of January 2018 and will run for six years with an option for a four year extension.

The Center is based at the Technical University of Denmark and hosted by Department of Biotechnology and Biomedicine (DTU Bioengineering). Three DTU departments and 10 senior faculty participate in the Center and >15 PhD students and postdocs will be hired. The purpose of CeMiSt is to unravel the biological role of microbial secondary metabolites in natural microbiological communities. The Center is led by Professor Lone Gram.

DTU Bioengineering covers microbial ecology and physiology, industrial biotechnology and biomedicine and health. The department consists of approx. 30 faculty and more than 80 PhD students and postdocs.

The postdoc position is available for 2½ years.

The research area of the position is within microbial natural product chemistry with focus on analysis of the interaction between secondary metabolite producing microorganisms.

Responsibilities and tasks

We are looking for an ambitious natural product chemist with broad experience in natural product chemistry.

You will get a unique possibility to work on advanced analytical natural product chemistry focusing on how secondary metabolites of marine and soil bacteria and terrestrial fungi affect microbial diversity and functionality in both natural and engineered systems.

You will be collaborating with scientists working on microbial ecology, on bioinformatics and on molecular microbiology on several topics:

- Targeted analysis aiming at detection of trace amounts of known secondary metabolites in natural niches (e.g. algal or soil samples)
- Comparative metabolomics of multi-species microbial model systems
- Isolation and structural elucidation of unknown secondary metabolites
- Characterization of secondary metabolite biosynthetic pathways
- Genomics driven discovery and characterization of significant bioactive compounds

The position will allow you to collaborate with several research groups with expertise in microbial ecology, molecular microbiology, and gene sequence analyses.

Qualifications

Candidates must hold a PhD degree (or equivalent).

You should have a PhD degree in natural product chemistry covering several of the following qualifications:

- Experience with analysis and dereplication of natural products based on LC-DAD-HRMS coupled to database searching
- Experience with trace analysis and quantification of small organic molecules
- Experience with MS/MS based imaging and network analysis
- Hands-on experience with semi-preparative isolation of pure natural products
- Experience with structural elucidation of natural products based on advanced NMR
- Fluent in English

You must be ambitious, well organized, structured and enjoy interacting with many different people including PhD students and postdocs. Also, a good sense of humor will be appreciated.

Assessment

In the assessment of the candidates consideration will be given to:

- Research experience and documentation
- International experience
- Internal and external collaboration
- Communication skills

We offer

DTU is a leading technical university globally recognized for the excellence of its research, education, innovation and scientific advice. We offer a rewarding and challenging job in an international environment. We strive for academic excellence in an environment characterized by collegial respect and an academic freedom tempered by responsibility.

Salary and terms of employment

The appointment will be based on the collective agreement with the Danish Confederation of Professional Associations. The allowance will be agreed with the relevant union.

More information can be found here: [Career paths at DTU](#).

Further information

Further information may be obtained from Professor Thomas Ostenfeld Larsen tol@bio.dtu.dk or Professor Lone Gram, gram@bio.dtu.dk or +45 23688295. You can read more about DTU Bioengineering at www.bioengineering.dtu.dk and a [DTU podcast](#) introduces the Center.

Application procedure

Please submit your online application no later than **23 May 2018 (local time)**. Apply online at www.career.dtu.dk

Applications must be submitted as **one PDF file** containing all materials to be given consideration. To apply, please open the link "Apply online", fill in the online application form, and attach **all your materials in English in one PDF file**. The file must include:

- Application (cover letter)
- CV
- Documentation of precious research within natural product chemistry
- Names and contact information for three references
- List of publications
- H-index, and ORCID (see e.g. <http://orcid.org/>)
- Diploma (MSc/PhD)

Applications and enclosures received after the deadline will not be considered.

All interested candidates irrespective of age, gender, disability, race, religion or ethnic background are encouraged to apply.

The Center for Microbial Secondary Metabolites aims to establish what effect microbial secondary metabolites have on other microorganisms in their natural environment. We have traditionally perceived them as ‘competition substances’, but in natural environments they are rarely produced in quantities of antibiotic effect. The Center’s hypothesis is that secondary metabolites constitute a network of signal molecules that directly affect gene expression, behaviour, and metabolism of the microorganisms and thus play a decisive role in the composition and function of microbiological societies. We will explore this in an interdisciplinary collaboration with the use of sequence-based, analytical-chemical, molecular, bioinformatic, and classic microbiological methods.

The Department of Biotechnology and Biomedicine (DTU Bioengineering) conducts research, educates future bio-engineers, provides scientific advice and innovate within the areas of microbiology, biochemistry, biotechnology and biomedicine. The research at DTU Bioengineering is at the highest international level and focuses on the societal and scientific challenges within the field. Research is conducted within three main areas: Microbial ecology and physiology, Industrial biotechnology and cell factories, and Biomedicine and health. The department has extensive collaboration with national and international research units and industries. DTU Bioengineering has approx. 160 employees, of which 2/3 is scientific staff. The department is located at DTU Lyngby Campus

DTU is a technical university providing internationally leading research, education, innovation and scientific advice. Our staff of 5,800 advance science and technology to create innovative solutions that meet the demands of society; and our 11,000 students are being educated to address the technological challenges of the future. DTU is an independent academic university collaborating globally with business, industry, government, and public agencies.