AR-992
Møde nr.: 68
Dagsordenspunkt: 3
Dato: 10/05/19

Professor in Cell Factory Engineering

A professor position is available at the Department of Biotechnology and Biomedicine, the Technical University of Denmark within the area of Eukaryotic Cell Factory Engineering, preferably with a focus on yeast or filamentous fungi.

The Department for Bioengineering addresses important societal and scientific challenges in the areas of biotechnology, biomedicine, food technology and human health. The department covers both basic and applied research and uses a range of fundamental techniques from scientific disciplines such as biochemistry, chemistry, cell biology, immunology, microbiology, bioinformatics, and bioengineering. The Department houses instrumental research platforms ensuring state-of-the-art analytical capabilities in fermentation and high-throughput screening, metabolome-based mass spectrometry, proteomics and genomics. The department consists of 210 employees, of which approx. 35 faculty and more than 80 PhD students and postdocs.

The offered professorship is housed by the section for Synthetic Biology that includes about 40 staff members. The section conducts high impact research and innovation aiming at harnessing the biotechnological and therapeutically potential of microorganisms. The sections activities coves research topics like metabolic pathway engineering in fungi and plants, quantitative physiology and fermentation technology, cell factory design and optimization, functional genomics, high-throughput automation methodology, and mycology. The Section contributes to the teaching of BSc and MSc students in eukaryotic molecular biology, biochemistry, biotechnology, synthetic biology, industrial mycology, and cell factory design and engineering. The Section has extensive international and national collaborations with top academic institutions as well as industrial partners, funded by both national and international funding agencies.

Responsibilities and tasks
The offered professorship include duties within research, innovation and teaching covering the area of biotechnology and cell factory engineering.

The successful candidate is expected to direct an internationally competitive research group focusing on the engineering of eukaryotic-based cell factories, preferably fungal, with either an emphasis on small-molecules or enzyme production. The new professor's research subject must fit into to the synthetic biological concepts of design-build-test-refine, or elements of this cycle, such as the development and use of computational modelling to predict and improve the behaviour of fungal cell factories, or engineering and optimization methodology, or candidate discovery via sequence-based genomics analysis and functional screening. It is expected that the hired professor takes a leading role in developing research, innovation, and education within the field of cell factory engineering.

The research activities of the professor are expected to link to other relevant engineering areas in the department/section and the new professor is expected to engage in collaborative projects with groups at the department, other relevant DTU departments (e.g. DTU Food, DTU Health technology, DTU Biosustain), and relevant leading national and international research groups. The Professor is, in addition, expected to actively seek collaboration with relevant national and international biotech and pharma companies.

The successful candidate is expected to take a lead role in teaching at the BSc, MSc, and PhD levels within the areas of biotechnology and biomedicine. Also in collaboration with other department faculty members to further mature of our engineering educations, by developing and supporting new pedagogical teaching elements and by integration of new research activities into the curriculum of the existing and planned courses.

For international candidates, DTU can provide Danish language courses enabling the candidates to teach in Danish within 2-3 years.

Qualifications
The successful candidate should document scientific excellence within eukaryotic microbial biotechnology and eukaryotic cell factory design and engineering, specializing in one or more of the following areas:

1. Expertise within metabolic engineering and small-molecule cell factory design, preferably fungal systems, using the synthetic biology approach:

    - Knowledge of genetic engineering of microorganisms using state-of-the-art genetic tools for design and engineering of cell factories.
    - Knowledge of parallelization, e.g. automated strain construction and/or automated strain characterization, i.e. the position will have access to high-throughput equipment and have the possibility to shape the future investments of the section in the area.

2. Expertise within enzyme discovery and/or protein cell factory design, preferably fungal systems

    - Established expertise in enzymatic assay design, functional screening, isolation and characterization of novel enzymes
    - Expertise in high throughput screening methods using automation or in-cell sensor systems

3. Expertise within modelling of cellular process and analysis of large data sets (transcriptomic, proteomics, metabolomics, physiology data), with the purpose of understanding and optimizing eukaryotic microbial production systems.

Additional requirements include:

- A solid record of accomplishment concerning attracting external funding.
- Significant and well-documented experience in teaching and research supervision.
- Experience coordinating and developing new courses is highly desirable.
- Documented experience in at least one, and preferably several of the following fields:
    - Research management, including handling management tasks in national or international projects, research programmes/consortia, congresses, or similar.
    - Teaching experience at various levels of the University's study programmes.
    - Innovation, including building up patent areas, applying research results in a commercial context, or similar.

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

- Documented experience and quality of teaching and curriculum development
- Research impact and experience, funding track record and research vision
- Societal impact
- Documented innovation activities, including commercialization and collaboration with industry
- International impact and experience
- Leadership and collaboration
- Communication skills

For the specific position consideration will also be given to:

- Experience with establishing a research group and a lab
- A strong international research network
- Ability to teach within cell factories in general and cell factory engineering in particular
- A track record for scientific productivity and success at securing external funding
- A documented history of developing high-quality teaching

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 academic freedom tempered by responsibility.

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

Further information
Further information may be obtained from Head of Department Bjarke Bak Christensen, +45 3066 4233.

You can read more about DTU Bioengineering, www.bioengineering.dtu.dk.

Application procedure
Please submit your online application no later than **XXX 2019 (local time)**.

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

- Application (cover letter) addressed to the President
- CV
- A vision for future research
- Teaching and research statement, with a focus on the 'Assessment' bullet points listed above
- Documentation of previous teaching and research, as related to the 'Assessment' bullet points listed above
- List of publications indicating scientific highlights
- 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.