

## **Professor in Data-Driven Cell-Factory Development**

The Novo Nordisk Foundation Center for Biosustainability (DTU Biosustain) at the Technical University of Denmark invites applications for a position as professor in Data-Driven Cell-Factory Development. The scientific focus is on development and implementation of data-driven systems and synthetic biology methodologies for cell factory optimization in the context of translational research projects.

DTU Biosustain is a research center with the overall mission of contributing to research, development and innovation within the following scientific areas:

- Discovery of novel biosynthesis routes and exploration of compounds suitable for a sustainable bioproduction
- Shortening the time of production strain development through intelligent design of cell factories.

The latter focus area is the major mission of the iterative design loop for cell factory development core organization (iLoop) within DTU Biosustain. The iLoop core is responsible for effective execution of translational research projects in microbial cell factory development. The goal of the iLoop core is to apply cutting edge methods in synthetic biology (genome engineering, automated cloning) and systems biology (omics including next generation sequencing, screening automation, informatics, modeling) methods in order to reduce the time that is needed to develop industrially relevant production cell factories. The iLoop is based on the principle of data driven cell factory development where scientific intuition is complemented with rigorous data driven-modeling approaches in order to design and implement improved cell factories.

### **Responsibilities and tasks**

The professor will operate as the manager for the iLoop translational core facility for DTU Biosustain. The iLoop manager is responsible for:

- Development and organization iLoop core operations
- Development of an operating plan and model for the iLoop, including resource allocation, monitoring of progress, and longer-term project planning
- Deployment of iLoop staff and resources across translational projects
- Implementation of data-driven cell factory development strategies including development of data management, automation and modeling platforms
- Evaluation of new foundational technologies in systems and synthetic biology
- Translation of new methods developed within DTU Biosustain sections into operationally mature tools for the iLoop core
- Participation in selection of new translational research projects as well as monitoring of current projects
- Participation in the management of DTU Biosustain as a part of the leadership team

The position covers research, innovation activities, publication and scientific dissemination:

- Research - including the obligation regarding publication/scientific dissemination
- Operations - Developing and managing the iLoop core section personnel (currently > 30 FTE's associated) and equipment resources
- Vision - Secure execution of technical and scientific vision/goals of DTU Biosustain as the iLoop Manager and evaluate new synthetic and systems biology technologies
- Coordination – Integration of iLoop activities with the activities of DTU Biosustain's scientific sections
- Technology transfer - Facilitation of technology transfer and spin-off activities by providing necessary resources for key translational projects
- Leadership – Guidance and mentoring of iLoop group leaders
- Training – Participate in training of entrepreneurial postdocs and Ph.D. students working on translational research projects

Collaborations - Facilitate collaborations with colleagues internally at DTU Biosustain and at other DTU department's e.g. in terms of joined research proposals, sharing of research infrastructures/technologies, and supervision of students.

The successful candidate will be responsible for supervising PhD students and is expected to be involved in some other teaching activities.

### **Qualifications**

The qualification requirements correspond with those for ordinary professorships within the positions main tasks.

The qualification requirements are:

- A PhD degree in synthetic or systems biology and relevant postdoctoral experience
- Research at a high international level including significant publication track record
- Industrial experience relevant to synthetic and systems biology
- Experience in managing research and development operations spanning from molecular biology to informatics
- Experience in cutting edge methods in synthetic and systems biology including genome engineering, next generation sequencing and similar approaches, and formulation of computational models
- Experience in implementation of computational infrastructure large-scale data analysis and data-driven research methodologies
- Demonstrated public speaking skills at international conferences

### **Assessment**

In the assessment of the candidate's consideration will be given to

- scientific production at international level, research potential and ability to lead and develop a research team
- the ability to promote and utilize research results
- experience with innovation activities
- an all-round experience basis, including international experience
- the ability to contribute to the development of the Department's internal and external cooperation
- track record in attracting funding to the research area
- visions within the research and innovation area
- track record for commercialisation of research results, including protection of intellectual property
- track record for fostering collaboration with industry

For the specific position consideration will also be given to:

- Experience in a broad range of cutting edge methods in systems and synthetic biology including genome engineering, computational models and informatics
- Ability to collaborate with major international partners within and outside of DTU Biosustain in order to enhance iLoop capabilities
- Vision for developing innovative core operations to meet new challenges
- Experience in managing diverse research operations
- Documented research experience from the biotech industry
- Experience in working with both dry-lab and wet-lab personnel

### **Salary and terms of employment**

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 Chief Operating Officer, Bo Skjold Larsen, +45 2365 3022.

You can read more about DTU Biosustain at [www.biosustain.dtu.dk](http://www.biosustain.dtu.dk)

**Application procedure**

We must have your online application by XXX 2015.

Applications must be submitted as **one pdf file** containing all materials to be given consideration. To apply, please open the link "apply for this job 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) addressed to the President
- CV
- Diploma (MSc/PhD – an official translation into English)
- List of publications indicating scientific highlights
- A plan for future research

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