



**Norwegian University  
of Life Sciences**

**Jobbnorge-ID:** 111862

**Søknadsfrist:** Avsluttet

**Nettside:**

**Omfang:**

**Varighet:**

## **Post-doc in pretreatment, enzyme technology and biogas production from lignocellulosic biomass - ref.no 15/01133**

NMBU's Department of Chemistry, Biotechnology and Food Science (IKBM) is looking for a postdoctoral fellow for a research project within biorefining of lignocellulosic substrates, to be hired for two-three years. The main focus will be to increase biogas production from lignin-enriched biomass by novel combinations of pretreatment and oxidative enzymes.

IKBM is located at Ås Campus 30 km south of Oslo and has approximately 130 employees spread over 12 research groups. The positions belong to the Protein Engineering and Proteomics Group, which is a large international group with a focus on basic and applied enzymology, bioprocessing, microbiology and anaerobic digestion.

### **Project**

The post doc will participate in a new fundamental research project called "Biocatalytic utilization of lignin for increased biogas production in a biorefinery setting", funded by the Norwegian research council. The post doc will be part of a larger research team covering topics such as lignin characterization, pretreatment and fractionation of lignocellulose, enzymatic processing and biogas production. Generally, very little effort has been put on studying anaerobic digestion of lignin-rich substrates. However, the commercialization of bioethanol production and biorefining, where the focus is on the carbohydrate fraction of biomass, will create large volumes of lignin-rich residues, which will need a bulk application. Purified biogas used as a fuel is a possible solution if novel combinations of pretreatment and enzymatic processing can result in efficient digestion of lignin. In this project, degradation of lignin-rich fractions in anaerobic systems will be studied in detail.

### **Tasks**

The post doc will be involved in the following tasks:

- Biomass pretreatment
- Compositional analysis of biomass fractions
- Saccharification of biomass
- Anaerobic digestion in batch systems
- Anaerobic digestion in CSTR systems
- Applying the in sacco technique in biogas reactors
- Publications

### **Qualifications**

Applicants need to have a relevant PhD and be able to demonstrate excellent scientific production, documented through scientific publishing. The applicant must document expertise and interest in the research subject.

Important qualifications for this position are:

- Hands on experience with anaerobic digestion or fermentation processes
- Experience with compositional analysis of lignocellulosic biomass
- Knowledge about lignin composition and valorization
- Experience with lignin characterization
- Experience with oxidative enzymes such as LPMOs, laccases and peroxidases
- Relevance, quality and number of publications
- Applicants must be proficient in English, both written and spoken

### **NMBU offers:**

We offer a pleasant international working environment in a large, well-equipped, productive, and highly international research group. You will have good conditions to pursue a research career.

### **Salary**

The position is remunerated starting at level 57 on the Norwegian Government salary scale (gross annual salary approximately NOK 482 500,-). The position follows the Norwegian government pay scale and includes membership in the national pension plan (2% contribution).

### **More information**

For further information, you may contact Professor Svein J. Horn, +47 67232488, [svein.horn@nmbu.no](mailto:svein.horn@nmbu.no).

**Sending the application**

To apply, please use the "Apply for this job" link at the top of the page. The deadline for applications is: 12.04.2015.

**Posting of the application and relevant documents**

The applicant is urged to send all documents electronically. If this is not possible, or if paper copies are required, this can be send by regular mail labeled "still.nr. 15/01133" to the following address: NMBU, Institutt for Kjemi, Bioteknologi og Matvitenskap, P.O. Box 5003, N-1432 Ås, Norway.

**Certificates / Diplomas**

Applicants who are invited for an interview are obliged to provide officially certified copies of academic diplomas and certificates.

A compulsory contribution of 2 % is made to the Norwegian State Pension Fund. A good working environment is characterized by diversity. We encourage qualified candidates to apply, irrespective of gender, physical ability or cultural background. The workplace will if necessary be facilitated for persons with disabilities.

According to the Freedom of Information Act § 25 the list of applicants for this position may be made public irrespective of whether the applicant has requested that his/her name be withheld.

**Tilleggsinformasjon****Arbeidssted:**