Aalto University is a community of bold thinkers where science and art meet technology and business. We are committed to identifying and solving grand societal challenges and building an innovative future. Aalto University has six schools with nearly 11,000 students and nearly 400 professors. Our campuses are located in Espoo and Helsinki, Finland.

Aalto University School of Chemical Engineering invites applications for

Doctoral Candidate or Postdoctoral Researcher, with strong knowledge in mechanistic chemistry / enzymology

The Biochemistry research group (http://bio2.aalto.fi/en/research_groups/biochemistry/) transfers biochemical processes from their natural environment to the laboratory for industrial applications. We focus on the biocatalytic interconversion of alkanes to electricity, as a new tool to generate electricity, and to convert excess electricity into alkanes. To achieve our goals, we unravel metabolic principles and enzyme function in anaerobic archaea, and we apply synthetic biology to create useful pathways and enzymes.

Research is carried out at our excellent facilities at Aalto University, School of Chemical Engineering (http://www.bioeconomyinfra.fi/), within the Department of Bioproducts and Biosystems (http://bio2.aalto.fi/en/).

Job description

The goal of the project is to study archaeal enzymes and elucidate their reaction mechanisms. Most experiments will be performed in anaerobic chambers or custom-made vessels. Our focus lays on methyl-coenzyme M reductase, a nickel(I) enzyme with several post-translational modifications. Experiments will be carried out with purified enzymes in order to study function, kinetics and mechanisms. Possible projects also involve synthesis of substrate analogues, electrochemistry, or advanced spectroscopic methods (NMR, EPR).

Requirements

To be eligible, you need to:

- have a PhD/M.Sc. in suitable field, such as biochemistry, organic chemistry, organometallic chemistry, or theoretical chemistry with the desire for laboratory work
- be highly committed to science and strive for excellence
- be skilled in doing laboratory work
- develop own smart ideas and think independently
- be able to focus on solving tough scientific problems
- have good written and oral communication skills in English

Skills, knowledge and interest in the following areas are highly desirable:

- Elucidation of reaction mechanisms
• Spectroscopic methods (HPLC, NMR, EPR, Electrochemistry)
• Enzymology, protein purification
• Posttranslational modifications
• Organometallic chemistry, Organic synthesis

The applicants for the doctoral candidate position must fulfill the requirements for doctoral students at Aalto University, School of Chemical Engineering. For more details, see: https://into.aalto.fi/display/endoctoralchem/Admission+requirements

We offer

• High-end laboratory infrastructure and friendly colleagues
• Opportunity to work in a newly established research group and to bring in own ideas
• Funding for PhD (4 years) / postdoc (2 years)
• Salary according to the salary system of Aalto University

For more information

For additional scientific information, please contact Prof. Silvan Scheller (silvan.scheller@aalto.fi) and in matters related to the recruitment process, HR Coordinator Sanni Mero (sanni.mero@aalto.fi).

How to apply

The applications should be send through the online recruitment system (link: http://www.aalto.fi/en/about/careers/jobs/view/1714/) and include the following:

• Cover letter (start as follows: “I am interested in this position because…”)
• CV
• a research interest description
• a list of publications (for postdoc candidates)
• PDF copy of candidate's M.Sc. thesis or equivalent (for PhD candidates)
• Diploma, transcript of course records with grades (for PhD candidates)
• names and contact details of references

All materials should be provided in English. The application materials will not be returned.

The position may be filled before the deadline. Aalto University reserves the right for justified reasons to leave the position open, to extend the application period and to consider candidates who have not submitted applications during the application period.

As a community of high ethics we want to assure the highest international standard in research, education and teaching. We expect all our community members to respect Aalto values and follow the ethical principles of fair play and integrity in all our activities and the behaviour that we expect from each other. The Aalto University Code of Conduct is applicable to all Aalto community members and it clarifies the values that guide us.