

## Lecturer, Biorefining Aalto University

Direct Link: <https://www.AcademicKeys.com/r?job=247519>

Downloaded On: Nov. 24, 2024 5:24am

Posted Oct. 23, 2024, set to expire Feb. 22, 2025

**Job Title** Lecturer, Biorefining  
**Department** T107 Bioproducts and Biosystems  
**Institution** Aalto University  
, , Finland

**Date Posted** Oct. 23, 2024

**Application Deadline** Open until filled  
**Position Start Date** Available immediately

**Job Categories** Lecturer/Instructor

**Academic Field(s)** Bioengineering (all Bio-related fields)

**Job Website** [https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Lecturer--Biorefining\\_R41199-1](https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Lecturer--Biorefining_R41199-1)

**Apply By Email**

### Job Description

Aalto University is where science and art meet technology and business. We shape a sustainable future by making research breakthroughs in and across our disciplines, sparking the game changers of tomorrow and creating novel solutions to major global challenges. Our community is made up of 13 000 students, 400 professors, and more than 4 500 other faculty and staff working on our dynamic campus in Espoo, Greater Helsinki, Finland. Diversity is part of who we are, and we actively work to ensure our community's diversity and inclusiveness. This is why we warmly encourage qualified candidates from all backgrounds to join our community.

The School of Chemical Engineering is one of the six schools of Aalto University. The Department of Bioproducts and Biosciences (Bio2) focuses on innovations and cutting-edge research to support the emerging bioeconomy.

We are now looking for a

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University Teacher, University Lecturer or Senior University Lecturer in Biorefining

### Background

As part of a sustainable future, many consumer products utilize components derived from wood and other biomass sources. Traditional chemical pulp mills increasingly focus on functional chemical production, in addition to high quality fiber. Biorefineries are now an integral part of the forest product value chain and are of strategic importance to Finland and Europe. Often, biorefinery products are targeted at replacing environmentally unfriendly petrochemical solutions. It is therefore critical that top quality engineers with expertise in biorefinery products, chemistry and processes are educated. Aalto graduates with strong biorefinery knowledge have excellent employment prospects and are greatly appreciated by the forest product and allied industries.

Much of the biorefinery related teaching happens within the Bioproducts Engineering major. Graduates from the major are expected to have deep knowledge of raw material chemistry, unit operations, sustainability tools and product development skills.

Bio2 department is equipped and interested in working in the forefront of biomass processing. Our infrastructure involves batch reactors from laboratory to bench-scale enabling versatile operations for biomass processing. We are well equipped not only for pulping and bleaching but also for mechanical and chemical processing of pulps and pulp mill filtrates. The pulping infrastructure is also highly relevant to our cellulose textile and textile recycling research where chemistries similar to pulp bleaching are applied. We have a full spectrum of standard analytical methods to characterize pulp production processes from effluents to the final products as well as advanced analytical methods. To complement our expertise, we are looking for a lecturer with in-depth knowledge of pulping and cellulose technology and analytics ready to take on responsibilities in this area.

### Your role and goals

We are looking for a motivated University Teacher, University Lecturer or Senior University Lecturer in Biorefining. The candidate's role is to teach biorefining both independently and in collaboration with Aalto professors and researchers in the field. "Biorefining" refers largely to the chemical pulp mill and ancillary processes such as bleaching, lignin processing, kraft pulping, caustic regeneration, sulphur balances, tall-oil processing, side-stream valorisation and other chemical processes. Knowledge of novel separation processes, non-wood biorefineries and next-generation downstream applications is a plus. However, knowledge of the existing wood-based kraft biorefineries is important.

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The ideal candidate should hold a doctoral degree in a relevant discipline such as chemical engineering, bioproducts engineering or chemistry.

Your role will be to contribute strongly to the education at Aalto University faculty of chemical engineering. This includes mostly bachelors and master's level education. You will be expected to lecture in biorefinery-related courses. In some cases, you will be the responsible teacher for the course. In that case you will be responsible to set learning objectives, develop creative teaching methodologies, interact with students, evaluate student performance, and process feedback. You will be an active member of the master and bachelor program administration. In a team-oriented environment, you will work to build excellent education and student experience.

Much of the education is through independent projects and laboratory work. So, the ability to perform and teach laboratory analysis is important. This may include pulping, bleaching, fiber modification, chemical analysis and other methodology common in biorefinery laboratories. Ability to use and teach various simulation and computation tools is a plus. This includes process simulation, mass and heat balances, statistical analysis, and artificial intelligence.

Involvement in university research is encouraged. This may include participation in research projects, publication, involvement in funding applications.

The candidate's positioning in the lecturer career system will be determined by their qualifications.

More information about the lecturer career system at Aalto University can be found here:

[url=https://www.aalto.fi/en/teaching-and-learning/lecturer-career-system]https://www.aalto.fi/en/teaching-and-learning/lecturer-career-system

### Scientific environment

The department of [url=https://www.aalto.fi/en/department-of-bioproducts-and-biosystems]Bioproducts and Biosystems (Bio2), one of the three departments in the School of Chemical Engineering at Aalto University, has an internationally leading reputation for the development of advanced materials from natural resources. It is one of the leading European research and higher education institutions in the field of sustainable chemistry and engineering based on the utilization of renewable resources. Bio2 aims to contribute to the development of novel solutions to move towards sustainable primary production and processing systems that can produce materials with fewer inputs, less environmental impact and reduced greenhouse gas emissions. Research teams within Bio2 have a wide range of interests such as lignocellulosic nanomaterials, unit operations, packaging, textile, medical and other

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emerging applications. Very often, wood-derived biomaterials play a central role in research, so biorefinery knowledge is in the forefront of many activities at the department and broader university.

The department hosts state-of-the-art laboratories and small-scale pilot facilities to support bioproducts teaching and research.

We are part of [[url=https://www.emissionfreepulping.com/](https://www.emissionfreepulping.com/)]Emission Free Pulping program, and we are leading three large collaborative competence centers at the department, which opens up the possibility for multidisciplinary collaboration. These are the [[url=https://www.aalto.fi/en/collaboration/finnceres](https://www.aalto.fi/en/collaboration/finnceres)]FinnCERES competence center for materials bioeconomy, [[url=https://www.aalto.fi/en/aalto-university-bioinnovation-center](https://www.aalto.fi/en/aalto-university-bioinnovation-center)]Bioinnovation center and [[url=https://www.aalto.fi/en/liber](https://www.aalto.fi/en/liber)]the Center of Excellence in Life inspired hybrid materials (LIBER).

### Expected qualifications and experience

The candidate must have the following: \*

- Doctoral degree in a field related to biorefineries \*
- Demonstrable teaching experience and commitment \*
- Demonstrated ability to learn modern pedagogical methods \*
- Excellent written and oral communication skills in English \*
- Strong knowledge of industrial, wood-based biorefineries

The additional will be regarded as merits: \*

- Written and oral communication skills in Finnish and/or Swedish \*
- Knowledge of the Finnish university education system \*
- Pedagogical studies \*
- Experience in teaching multidisciplinary student groups \*
- Experience of developing online education material \*
- Good publication record and activity \*
- Connections to bioproducts industry and research partners

### What we offer

The selected candidate will be offered a permanent position in the lecturer career system. Our facilities are located at Aalto University Otaniemi campus in Espoo, Finland.

Salary is determined according to the salary system of Aalto University, and it is based on the applicant's experience and qualifications.

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The employment contract includes occupational health care, and Finland has a comprehensive social security system. Aalto University provides excellent learning and development opportunities, and a commuter ticket benefit. Unisport offers versatile sports facilities and exercise services with a staff discount.

Ready to apply?

If you want to join our community, please submit your application through our online recruitment system no later than 24.11.2024 by using the link on Aalto University's webpage ("Apply now"). If you are an Aalto employee, you should apply for the position via our internal HR system Workday (Internal Jobs) by using your existing Workday user account (not via the external webpage for open positions).

To apply, please include the following documents in English and as a single pdf document: \*

- Motivation letter (1 page description of your motivation for applying for this position and why you would be a suitable candidate) \*

- CV \*

- Publication list \*

Teaching portfolio according to Aalto University's guidelines - see

[url=[https://www.aalto.fi/sites/g/files/flghsv161/files/2021-](https://www.aalto.fi/sites/g/files/flghsv161/files/2021-01/Teaching%20competence%20assessment_Guidelines_for_candidate_2020_Aalto%20University_FINAL.pdf)

01/Teaching%20competence%20assessment\_Guidelines\_for\_candidate\_2020\_Aalto%20University\_FINAL.pdf portfolio guidelines for candidates

Please see further instructions for preparing the application documents here:

[url=[https://www.aalto.fi/en/teaching-and-learning/lecturer-career-](https://www.aalto.fi/en/teaching-and-learning/lecturer-career-system)

system]<https://www.aalto.fi/en/teaching-and-learning/lecturer-career-system>

For further information about the position, please contact Prof. Thaddeus Maloney (thaddeus.maloney@aalto.fi). In recruitment-related questions, please contact HR Partner Noora Katisko (noora.katisko@aalto.fi).

Want to know more about us and your future colleagues? You can watch these videos:

[url=[https://www.youtube.com/watch?v=5k\\_og\\_6zUJQ](https://www.youtube.com/watch?v=5k_og_6zUJQ)]Aalto University - Towards a better world,

[url=<https://www.youtube.com/watch?v=dUfEGVM-ZP8&feature=youtu.be>]Aalto People, and

[url=[https://www.youtube.com/watch?v=ZK6pDWm1\\_CE](https://www.youtube.com/watch?v=ZK6pDWm1_CE)]Shaping a Sustainable Future. You can

also check out our webpage about Aalto and Finland: [url=[https://www.aalto.fi/en/services/welcome-to-aalto-university-](https://www.aalto.fi/en/services/welcome-to-aalto-university-and-finland-info-package)

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and-finland-info-package and check out our new virtual campus experience:  
[url=https://virtualtour.aalto.fi/]https://virtualtour.aalto.fi/

### About Finland

Finland is a great place for living with or without family - it is a safe, politically stable, and well-organized Nordic society. Finland is consistently ranked high in quality of life and was just listed again as the happiest country in the world: [url=https://worldhappiness.report/news/its-a-three-peat-finland-keeps-top-spot-as-happiest-country-in-world/]https://worldhappiness.report/news/its-a-three-peat-finland-keeps-top-spot-as-happiest-country-in-world/. For more information about living in Finland: [url=https://www.aalto.fi/en/careers-at-aalto/for-international-staff]For international staff | Aalto University

### Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

### Contact

Finland