



# Professor in Bioprocess Engineering



Aalto University



# Aalto University

## Aalto University is a multidisciplinary community of bold thinkers where science and art meet technology and business.

Aalto University is a university where research, art and education are promoted hand in hand. We are committed to **identifying and solving grand societal challenges** and building an innovative future.

With high-quality research we aim at creating significant impact on the international scientific community, industry and business, as well as the society at large. Disciplinary excellence is combined with **multidisciplinary** activities, engaging both students and the local innovation ecosystem.

Aalto has nearly 12 000 students and **six schools** with more than 400 professors. We are an international community: more than 40% of our academic personnel have an international background.

Aalto University was **founded in 2010** as three leading Finnish universities, Helsinki University of Technology, the Helsinki School of Economics and the University of Art and Design Helsinki, were merged. Our campuses are located in Espoo and Helsinki, Finland.

The University campus in Espoo is developing into a unique, open innovation hub and a center of collaboration that attracts partners from all around the world. It encourages sharing of ideas, inter-disciplinary encounters, creativity, growth and entrepreneurship. The core of the campus will be a vibrant city with versatile services and attractive places to meet.



Aalto University

More info at  
[aalto.fi](https://aalto.fi)



# School of Chemical Engineering

## Providing novel solutions to help society transform on a sustainable economy based on utilization of natural resources.

The School of Chemical Engineering combines natural sciences and engineering in a unique way. Research carried out at the School is focused on forest products technologies, chemical engineering, industrial biotechnology, materials science and nanotechnology, metals and minerals processing and energy technology. The activities cover the whole chain from scientific research and theory to processes resulting in innovative products and applications. The School is backed by strong cooperation with the business world: new knowledge created through research is used to reform industry and promote new forms of business.

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Aalto University  
School of Chemical  
Engineering

The school has **three departments**: Bioproducts and Biosystems, Chemical and Metallurgical Engineering, Chemistry and Materials Science.

It hosts two infrastructures: Bioeconomy infrastructure that enables research from molecular level to biobased technology concepts; Raw Materials research infrastructure supports the research of circular economy targeting to closed metallurgical and hydrometallurgical processes and inorganic energy materials.

The school has **480 staff** members in total, 45 professors and 150 doctoral students and approximately 800 students annually. It educates a wide range of responsible, broad-minded experts for industry.

More info at  
[chem.aalto.fi](https://chem.aalto.fi)



# Department of Bioproducts and Biosystems

**The department of Bioproducts and Biosystems (BIO2)** is one of the three departments in the School of Chemical Engineering at Aalto University, has an internationally leading reputation in basic and applied research for the development of advanced materials from natural resources.

It is one of the leading European research and higher education institution in the field of sustainable chemistry and engineering based on the utilization of renewable resources. BIO2 aims to contribute in 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.

The core competencies in forest products technology encompass the pretreatment and fractionation of lignocellulose biomass with a focus on the conversion of the isolated cellulose fraction into man-made cellulose fibers (MMCFs). Consequently, a close collaboration with the department of Design of the School of Arts, Design and Architecture has emerged, which allows us to work on the entire value chain of textile production.

The big national and international attention for the joint activities of the two Schools, **Chemical Engineering and Arts, Design and Architecture**, led to the decision to establish a dedicated graduate field of textile research in the department of BIO2.

The appointment of a Professor in Textile Chemistry and Engineering is part of the efforts of our Schools to establish both higher education and in-depth research in the development of sustainable textiles.

## **Tenure track in Aalto University**

The tenure track is open to talented individuals who have excellent potential for a scientific career. Individuals placed on the Aalto University professorial tenure track have the possibility to advance in their career through regular performance assessments, which take into account their merits in all areas of their scope of duty.

Launched in 2010, the tenure track has attracted a wide range of international applicants, giving Aalto University the possibility of recruiting top experts and young research talent to join the Aalto University community. Read more about the Aalto University tenure track system at [www.aalto.fi/en/tenuretrack](http://www.aalto.fi/en/tenuretrack) and <http://www.aalto.fi/en/about/careers/careerstories/>

More info at  
[bio2.aalto.fi/en](http://bio2.aalto.fi/en)



# Professor in Bioprocess Engineering

Bioprocess engineering is a central part of industrial biotechnology. Microbe-based processes are used for utilization of feedstocks for conversion to value-added chemicals, fuels, food, active proteins, or bio-based materials. Future challenges will be on how to diversify feedstocks so that the overall efficiency of raw materials usage is improved. Future bioreactors and processes must in a holistic way take into account the full utilization of side streams and provide solutions that minimize overall environmental impact. In this the capability to genetically engineer organisms is central. Bioprocess engineering solves problems related to the full conversion sequence from feedstocks to bioreactor performance to product recovery and downstream processing in an economically viable way. For this, both a thorough understanding of bioreactor design and performance as well as unit operations related to downstream processing are necessary.

As a professor at the Department of Bioproducts and Biosystems you will establish and lead your own research group. You will be responsible for education in the field of bioprocess engineering at BSc, MSc, and doctoral level.

## Requirements

We are looking for applicants who have:

- ✓ a doctoral degree in bioprocess engineering, microbiology, biochemistry, molecular biology, or another related field
- ✓ a research background supporting the topic of bioprocess engineering
- ✓ relevant teaching experience
- ✓ a strong publication record
- ✓ experience in international collaborations and projects
- ✓ documented experience in obtaining research funding

Applicants with an industrial background in addition to a scientific career are very welcome. The applicants will be reviewed on the basis of their research work, teaching and academic leadership and activity in the scientific community

## Further Information

Professor Markus Linder ([markus.linder@aalto.fi](mailto:markus.linder@aalto.fi)) or HR Coordinator Tiina Torvinen ([tiina.torvinen@aalto.fi](mailto:tiina.torvinen@aalto.fi))

## How to apply

To apply, please submit your application through the online recruitment system. Your application should include the following application materials in English and in pdf-format:

- ✓ Application letter
- ✓ Curriculum Vitae
- ✓ Summary of merits and highest achievements in research (max 2 pages)
- ✓ List of publications (with 10 most relevant publications regarding this position highlighted)
- ✓ A research statement describing past research and plans for future research (max 5 pages)
- ✓ Teaching portfolio
- ✓ Names and contact information for references

## Application deadline

January 29<sup>th</sup>, 2023

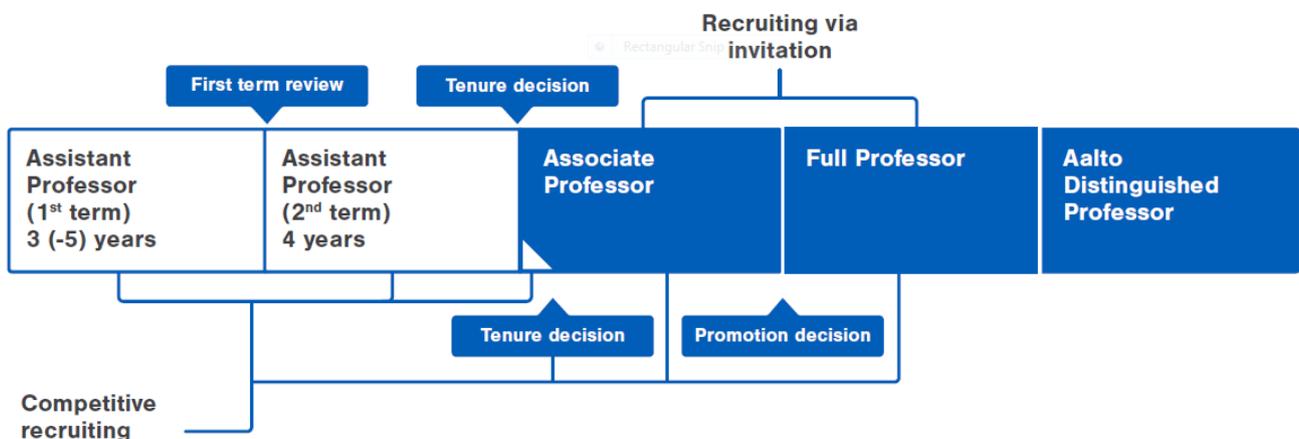
More info at  
[position.aalto.fi](https://position.aalto.fi)



# Tenure Track Career

Aalto University's tenure track career system offers a well-supported and clear career path for professor-level academics towards a permanent professorship.

- **Clear and transparent** criteria and processes for recruitment, evaluation, and promotion.
- **Compensation of success** – Adequate salary and compensation to motivate towards Aalto's vision and objectives.
- **Equal opportunity to succeed** – Motivation and cooperation increase as people in tenure track compete only with themselves, not against one another.



More info at  
[aalto.fi/tenuretrack](https://aalto.fi/tenuretrack)



# Tenure Track

## General time allocation for tenure track professors

<input type="checkbox"/> Fixed term <input checked="" type="checkbox"/> Permanent	Assistant Professor (1)	Assistant Professor (2)	Associate Professor	Full Professor	Aalto Distinguished Professor
Research/ artistic/ professional work	65% +/-10%	60% +/-10%	50% +/-10%	40% +/-15%	Negotiable
Teaching	30% +/-10%	30% +/-10%	30% +/-10%	30% +/-15%	30% +/-15%
Service	5% +5%	10% +/-5%	20% +/-10%	30% +/-15%	Negotiable

### Key principles

- Research emphasis high in the beginning to obtain research portfolio.
- Teaching relatively constant to maintain required teaching scale and senior professors in touch with students.
- Contribution for academic leadership and collaboration in research and artistic community increase with seniority through increased leadership, committee membership and societal interaction.
- Mandatory teaching for Distinguished Professors, otherwise work profile negotiated.

More info at  
[aalto.fi/tenuretrack](https://aalto.fi/tenuretrack)



# Working at Aalto University

## Why join us?

Established in 2010 as a merger of three leading Finnish Universities, we are both **challenger of the old, and traditional with strong history** and legacy.

Our unique combination of fields in **art and design, technology and business enable multi-disciplinarity** and finding clever solutions for the world's most wicked problems in the interfaces of these fields.

We aim for **societal impact**, educating game changers to drive sustainability.

We enjoy working at our evolving **collaborative campus close to the heart of Helsinki**, with good connections, great architecture and amazing nature.

We are **international and diverse**: more than 40 % of our faculty comes from outside of Finland. Our working environment is multi-cultural, widely English-speaking and its easy to settle in, despite of wherever you come from.

**We have strong [academic standing and reputation in our key fields](#)** – Aalto University is among top 10 of New Universities in the world (QS ranking).

Our **well-functioning and fair Tenure Track career system** enables building a successful academic career, providing support for fulfilling your professional ambitions.

**Culture that inspires and includes everyone.** It's the people that create Aalto, now and in the future. We want to be an open community where equality and inclusion enable curiosity, innovation, collaboration and wellbeing. We constantly keep learning to find the most impactful ways to empower – and invest in – our people.



# What do we offer?

## **Meaningful and inspiring environment**

We are proud of our purpose to shape a sustainable future. We spark the game changers of tomorrow, and renew society with research-based knowledge, creativity and an entrepreneurial mindset.

## **Culture that inspires and includes everyone**

All our work is guided by the values of the university: responsibility, courage, and collaboration. It's the people that create Aalto, now and in the future. We want to be an open community where equality and inclusion enable curiosity, innovation, collaboration and wellbeing.

## **Collaboration reimaged**

At Aalto University, a unique combination of science, art, tech, and business brings talent together. We have over 12 000 students and 4 000 employees joining forces to shape a sustainable future. Together with the surrounding companies, startups and technology parks at the Otaniemi campus, we are committed to driving ground-breaking research, educating the game changers of tomorrow, and renewing society.

## **Vibrant campus at a central location**

The vibrant Otaniemi campus, only 10 km away from Helsinki city centre, is the home of a bold and curious community, where science and art meet technology, business and innovation. Finland is famous for being the Happiest Country in the World, and having the world's best education system, world class academic freedom\*, cleanest air, high trust, and a low hierarchy – themes also important to Aalto.



**Aalto University**



# Living in Finland

Finland is [among the best countries in the world](#) according to many quality of life indicators, including being the [happiest country in the world \(UN study 2018\)](#).

We are humble people, but dare to say we have **one of the most advanced education systems in the world**.

The Nordic values of **equality and co-operation** are rooted deeply into our society. We are one of the world's top countries in press freedom and consider the many voices in our society a strength.

With high investments in R&D, a strong innovation culture, open data and advanced state of digitalization, we are a nation of **innovation and entrepreneurship**.

Gender equality, flexibility and low hierarchy are at the core of our **Nordic working environment**. Professional ambitions can be combined with a fulfilling personal life.

We are one of the world's most **reliable and stable** nations with low levels of corruption and high level of safety. We are proud to provide exceptionally high standards of social security and healthcare, financed by the state.

Having four distinct seasons, clean air and thousands of lakes, we are some nature-loving people and take good care of our **unique environment**. We enjoy our midnight sun in the summer and northern lights in the winter.

Finnish language is known to be a bit on the complicated side, but don't worry, we Finns are fluent in English, and have an **international mindset**.

We have **wide and reliable transport networks**, with Helsinki airport serving over 100 direct destinations. The comprehensive public transport makes it easy to commute. Our campus is situated within a 10 minute metro ride from the heart of Helsinki.

Want to live in the best country in the world?

More about [Helsinki](#)

More about [Espoo](#)

More about [Finland](#)

More about [working at Aalto](#)

**Aalto University –  
a community of  
game changers**  
*aalto.fi*



**Aalto University**