

PhD Position in Hygrothermal Building Physics for
Resilient Renovations
Aalto University

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Posted Dec. 2, 2024, set to expire Apr. 3, 2025

Job Title	PhD Position in Hygrothermal Building Physics for Resilient Renovations
Department	T214 Civil Engineering
Institution	Aalto University , , Finland
Date Posted	Dec. 2, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Graduate Student
Academic Field(s)	Civil Engineering
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/PhD-Position-in-Hygrothermal-Building-Physics-for-Resilient-Renovations_R41563-2

Apply By Email

Job Description

Aalto University is a community of bold thinkers in which 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 12 000 students and nearly 400 professors. Our campuses are in Espoo, Finland. The School of Engineering is an international unit with nearly 70 talented professors and 3400 full-time students.

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About the Position

Climate change is introducing unprecedented challenges to the built environment. In the Nordics, warmer summers and frequent heatwaves present new risks of overheating in buildings that were not

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designed for these conditions. Additionally, extreme rainfall and changing humidity levels may accelerate the degradation of facades in existing structures. To ensure a sustainable future, our buildings must be resilient, healthy, comfortable, sustainable, and energy-efficient. Addressing these complex challenges requires an interdisciplinary approach and systemic solutions.

This PhD research project at the [[url=https://www.aalto.fi/en/department-of-civil-engineering](https://www.aalto.fi/en/department-of-civil-engineering)]Department of Civil Engineering will examine how hygrothermal building physics can inform material-based renovation strategies to address these demands. This work might involve a collaboration with TalTech in Estonia, and other foreign institutions. Research activities may include experimental testing on building materials, on-site measurements in existing buildings, and numerical simulations. The role may also involve supporting Master's thesis students in their research and contributing to funding proposals.

The PhD funding duration is three years, with the possibility of a one-year extension upon mutual agreement. Contract is first made for two years, and then continued upon successful progress of the studies and research. There will be a compulsory midterm review which will be completed during the second year. More information: [[url=https://www.aalto.fi/en/programmes/aalto-doctoral-programme-in-engineering/midterm-review-of-doctoral-studies-eng](https://www.aalto.fi/en/programmes/aalto-doctoral-programme-in-engineering/midterm-review-of-doctoral-studies-eng)]Midterm review of doctoral studies.

Qualifications

The position is open to candidates with a Master's degree in Civil Engineering, Architectural Engineering, Energy Engineering, or related fields. We advise applicants to apply after obtaining their Masters' degree, but if your graduation is expected shortly, we may still consider your application.

The applicant for doctoral studies must satisfy the admission requirements of Aalto University, please see [[url=https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-engineering#11-how-to-apply-](https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-engineering#11-how-to-apply-)]Aalto Doctoral Programme in Engineering - How to apply. Do note that the applicants are not expected to apply to the Aalto doctoral programme at this point - only the successful candidate will do this at the next application window.

Strong written and spoken English skills are required.

Preferred Experience

Experience in any of the following fields would be advantageous in the selection process: * Dynamic hygrothermal or HAM (heat, air, and moisture) simulations * Energy/Building performance simulations * Laboratory testing on materials (especially earth-based, bio-based, or other porous materials) * Experimental research related to building physics * Programming (e.g., Python, MATLAB) * Indoor comfort analysis * Life cycle assessment * Heritage conservation

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Proficiency in Finnish is appreciated but not required.

Location and benefits

The main hosting institution for this PhD position is Aalto University, Finland's engineering, art, and business university for the Helsinki capital region. Located in Espoo, Aalto's campus is just a 15-minute metro ride from Helsinki city center.

Take a virtual tour of our campus here: [[url=https://virtualtour.aalto.fi/](https://virtualtour.aalto.fi/)]Aalto Virtual Campus Tour.

Our Nordic values of equality, collaboration, and low hierarchy are reflected in Finland's working culture, promoting a flexible and inclusive environment. Finland consistently ranks as one of the best countries globally in terms of quality of life, safety, and innovation. For six consecutive years, Finland has topped the World Happiness Report, recognized as the happiest country worldwide. Renowned for stability and safety, Finland also leads in R&D, digitalization, and entrepreneurship, benefiting from a strong innovation culture and open data policies. Finland offers a secure and supportive environment, with state-subsidized services that include affordable daycare, comprehensive healthcare, and world-renowned public education. For more information on life in Finland, explore:

[[url=https://www.aalto.fi/en/careers-at-aalto/for-international-staff](https://www.aalto.fi/en/careers-at-aalto/for-international-staff)]Living in Finland at Aalto.

Aalto University applies the salary system of Finnish universities. The position is contract-based and the financing is subject to the availability of funding. Funding is available for covering the expense of a 3-year PhD research, and it could be extended to 4-year funding after mutual agreement.

Additional benefits include occupational healthcare, retirement plans and other supportive provisions.

Application Requirements

The open applications for the doctoral student position are to be submitted through the eRecruitment system Workday via the link "Apply now!". Applications should be in English. Please, include the following documents in your application: * CV * Motivation letter * Master's thesis manuscript * Contact details for two academic references we may reach out to for recommendations

We encourage using this CV template for your application: [[url=https://phdcareerdocumentlibrary.s3.us-east-2.amazonaws.com/ph-d-career-document-library-raw-prQXThsa/content/assets/MITPhDResumeTemplate.docx](https://phdcareerdocumentlibrary.s3.us-east-2.amazonaws.com/ph-d-career-document-library-raw-prQXThsa/content/assets/MITPhDResumeTemplate.docx)]CV Template

The following information should be included in the CV: * Master's thesis title, supervisor, department, and university * Details of any exchange programmes or study abroad periods * Research experience (e.g., laboratory work, simulations, paper writing, grant writing, teaching assistantships) * Language skills and certifications

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Additional information regarding the position may be obtained from Professor Magda Posani (magda.posani@aalto.fi). In questions related to applying and recruitment process, please contact HR Generalist Jenna Koskenniemi ([url=mailto:jenna.koskenniemi@aalto.fi]jenna.koskenniemi@aalto.fi).

Please note: Aalto University's employees and visitors should apply for the position via our internal system Workday -> find jobs (not external aalto.fi webpage on open positions) by using their existing Workday user account.

Timeline

The deadline for applications is January 15, 2025.

The expected starting date is March 2025.

If you wish to start sooner than March 2025 or anticipate challenges with this start date so that you would prefer to postpone, please indicate this in your motivation letter.

We look forward to your application and to welcoming a new researcher to our team!

Aalto University reserves the right for justified reasons to leave the position open, to extend the application period, and reopen the application process.

Contact Information

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

Contact

Finland