

Doctoral Researcher in Converter-Dominated Power
Transmission Systems
Aalto University

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Posted May 21, 2024, set to expire Dec. 30, 2024

Job Title Doctoral Researcher in Converter-Dominated Power
Transmission Systems

Department T410 Dept. Electrical Engineering and Automation

Institution Aalto University
, , Finland

Date Posted May 21, 2024

Application Deadline Open until filled

Position Start Date Available immediately

Job Categories Graduate Student

Academic Field(s) Electrical and/or Electronics

Job Website https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-Researcher-in-Converter-Dominated-Power-Transmission-Systems_R39743-1

Apply By Email

Job Description

Renewable energy sources such as wind and solar power are replacing traditional synchronous generators in many power systems. These inverter-based resources (IBRs) are feeding power to the grid through a power electronic converter. Therefore, future power systems are expected to be converter-dominated in many cases.

We are looking for a Doctoral Researcher/PhD student for a project investigating the stability of converter-dominated power transmission systems. You will assess how the dynamics, stability and characteristics of a wide power transmission system change when large amounts of IBRs, such as wind and solar power and batteries are integrated into the system. You will especially focus on small-signal analysis of converter-driven stability. Various issues related to converter-driven stability have been observed recently in real power transmission systems and they may risk the stability of the

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system in some cases. Your main tools will be PSCAD simulation software, MATLAB and possibly PSS/E and we value previous experience in power system simulations and analysis.

The work will be done in the Department of Electrical Engineering and Automation, Aalto University, in collaboration with Fingrid (Finnish Transmission System Operator). In the project, you can develop your skills in modeling, simulation and analysis of power systems and become an expert of converter-dominated power systems.

The starting salary of Doctoral Researcher is approximately 2700 €/month, and it increases as you progress in your research and studies. The total duration of PhD studies is four years, and the employment contract will be made for 2+2 years. You are expected to apply and receive the doctoral study right at Aalto University during the first six months of the employment. Thus, please check the admission criteria and your eligibility already in advance at [[url=https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering](https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering)]<https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering>. The annual workload of research and teaching staff at Aalto University is currently 1612 hours.

We offer a wide range of staff benefits, such as occupational health care, flexible working hours, excellent sports facilities on campus and several restaurants and cafés on campus with staff discounts. The position is located at the Aalto University Otaniemi campus which can be easily reached by public transport.

How to apply?

Please submit your application at earliest convenience or latest by June 9, 2024. Please submit your application in our recruitment system by using the “Apply now!” link below. Application material should include (all documents in English): Letter of motivation (max. 1 page), CV, degree certificates and academic transcripts, contact details of at least two referees (or letters of recommendation, if already available). Please note that our recruitment system allows max 5 attachments, so please combine the copies of certificates and transcripts in one PDF, if necessary.

More information

Janne Seppänen, Professor of Practice

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Department of Electrical Engineering and Automation

Aalto University is where science and art meet technology and business. We shape a sustainable

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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 12 000 students, 400 professors and close to 4 000 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.

Aalto University is the foremost university in Finland in Engineering, Design, and Business. Less than a 15-minute metro ride away from center of Helsinki, capital of Finland, Aalto offers access to rich cultural and social life to help maintain healthy work-life balance. Finland is among the best countries in the world according to many quality of life indicators. For more information about living and working in Finland, please see: [[url=https://www.aalto.fi/en/careers-at-aalto/for-international-staff](https://www.aalto.fi/en/careers-at-aalto/for-international-staff)]<https://www.aalto.fi/en/careers-at-aalto/for-international-staff> and [[url=https://www.aalto.fi/en/careers-at-aalto/living-in-finland](https://www.aalto.fi/en/careers-at-aalto/living-in-finland)]<https://www.aalto.fi/en/careers-at-aalto/living-in-finland>.

Check out our virtual campus experience here: [[url=https://virtualtour.aalto.fi/](https://virtualtour.aalto.fi/)]<https://virtualtour.aalto.fi/>.

Contact Information

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

Contact

Finland