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Job Title Postdoctoral Researchers in Mathematics in

probabilistic and algebraic approaches to quantum field

theory

Department T302 Dept. Mathematics and Systems Analysis

Institution Aalto University

, , Finland

Date Posted Nov. 12, 2025

Application Deadline Open until filled

Position Start Date Available immediately

Job Categories Post-Doc

Academic Field(s) Mathematics/Applied Mathematics

Job Website https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-

Espoo-Finland/Postdoctoral-Researchers-in-

Mathematics-in-probabilistic-and-algebraic-approaches-

to-quantum-field-theory R44617

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 120 nationalities, 14 000 students, 400 professors and close to 5000 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 Department of Mathematics and Systems Analysis is an international highly regarded academic



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community of more than 100 employees, with around 20 professors, 10 lecturers, 20 postdocs, and 60 doctoral candidates. Our department has a particularly welcoming culture, nurturing innovativeness and communication among our international and diverse faculty.

The Mathematical Physics Research Group in the Department of Mathematics and Systems Analysis at the School of Science is seeking two

Postdoctoral Researchers in Mathematics in probabilistic and algebraic approaches to quantum field theory

to work under the supervision of Prof. Kalle Kytölä and Academy Research Fellow Shinji Koshida.

Your role and research focus

You will conduct research in one of the following directions:

- 1. Vertex operator algebras and their representation theory in conformal field theory. This position is associated with Shinji Koshida's academy research fellowship project Vertex operator algebras arising from lattice systems.
- 2. Probabilistic techniques in mathematical physics, including their formalization. This position is associated with Kalle Kytölä's research group, part of the Finnish Centre of Excellence in Randomness and Structures (FiRST).

The starting date is March 1, 2026, or as mutually agreed. The positions are for a period of two years, with a possible one-year extension.

Your experience

We expect you to have a PhD degree in Mathematics or a related field, and a strong research background in mathematics. We particularly value experience in the following topics: vertex operator algebras, infinite dimensional Lie algebras, tensor categories, lattice models of statistical physics, conformally invariant random processes, formalization of mathematics (preferably in Lean).

The working language of the group is English, and we expect all our team members to have strong written and oral English skills. Finnish language is not required.

What we offer

We offer a diverse, international, and open research environment.



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The initial salary is €4064, and the contract includes occupational health care.

Our vast array of professional development opportunities means you will grow and learn, having the chance to participate actively in staff trainings and projects based on your interests and needs. There is great freedom in your role, and we have a flexible modern working culture. The primary workplace is Otaniemi, Espoo. Life on the revitalized Otaniemi campus is vibrant, featuring stunning architecture, tranquil nature, and a variety of cafes, restaurants, and services, all complemented by excellent public transportation connections.

How to apply

Please send your application as a single PDF file through the eRecruitment system via the link 'Apply now'. Review of applications will begin on January 1, 2026, and continue until the position is filled. We may invite suitable candidates to an (online) interview already during the application period. The application portal will be closed latest on January 31, 2026. Application material should include (all documents in English): * Cover letter * Research statement * CV * List of publications * PhD certificate (or an estimated graduation date if the degree is not completed) * Names and contact details of 1-3 references

Please note: Aalto University's employees should apply for the position via our internal HR system Workday (Internal Jobs) by using their existing Workday user account (not via the external webpage for open positions). Aalto University's students and visitors should apply as external candidates with personal (not aalto) email.

For further information of the available position, contact Academy Research Fellow Shinji Koshida and/or Prof. Kalle Kytölä [url=mailto:firstname.lastname@aalto.fi]firstname.lastname@aalto.fi. In application process related questions, please contact HR Partner Johanna Glader ([url=mailto:firstname.lastname@aalto.fi]firstname.lastname@aalto.fi)

Aalto University reserves the right for justified reasons to leave the position open, to extend the application period and to consider also candidates who have not submitted applications during the application period.

Want to know more about us and your future colleagues? You can watch these videos: [url=https://www.youtube.com/watch?v=i8zawpNMVG8]This is Aalto University!, [url=https://www.youtube.com/watch?v=5k_og_6zUJQ]Aalto University - Towards a better world and [url=https://www.youtube.com/watch?v=ZK6pDWm1_CE]Shaping a Sustainable Future. Read more about working at Aalto: [url=https://www.aalto.fi/en/careers-at-



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aalto]https://www.aalto.fi/en/careers-at-aalto 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 listed again as the happiest country in the world: [url=https://worldhappiness.report/news/world-happiness-report-2025-people-are-much-kinder-than-we-expect-research-shows/]World Happiness Report 2025

Contact Information

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

Contact

Finland