

Postdoctoral Researcher, Fluvial Research Aalto University

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Posted Apr. 12, 2024, set to expire Dec. 30, 2024

Job Title Postdoctoral Researcher, Fluvial Research
Department T213 Built Environment
Institution Aalto University
, , Finland

Date Posted Apr. 12, 2024

Application Deadline Open until filled
Position Start Date Available immediately

Job Categories Post-Doc

Academic Field(s) Water Resources Engineering
Ecological and Environmental

Job Website https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Postdoctoral-Research--Fluvial-Research_R39366-3

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 close to 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.

POSTDOCTORAL RESEARCHER IN FLUVIAL RESEARCH, including field work, modelling and laboratory experiments

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The Water and Environmental Engineering research group (WAT: <https://www.aalto.fi/en/department-of-built-environment/water-and-environmental-engineering>), and its fluvial dynamics research team (lead by Research Fellow and Assistant Professor Eliisa Lotsari), has 1 (or 2, depending on the applications) vacancies for a highly talented and motivated postdoctoral researcher, who is specialist fluvial research, including experiments and/or field work and hydro-morphodynamic modelling in different type of northern river systems. The postdoctoral researcher candidate will study river ice - flow characteristics - sediment transport interactions at different spatial and temporal scales. Methodologically the work can include: (1) harmonized and integrated datasets with field measurements in different northern European river systems, (2) new experimental settings in laboratory flume experiments (with ice), and (3) modelling for upscaling to larger temporal and spatial scales. In doing so, the postdoctoral researcher(s) will overcome the limitations of current data, and tools for analysing and modelling the interactions of river ice, river flow characteristics and sediment transport processes in seasonally ice-covered rivers.

The postdoctoral researcher(s) will work in close collaboration with Digital Waters (DIWA) Flagship (<http://www.digitalwaters.fi>), whose PI at Aalto University is Assistant Professor Eliisa Lotsari (Funded by the Research Council of Finland). DIWA will form, facilitate and foster a new generation of the water sector. We enable a transition towards the digital representation of real-world water systems (Digital Twin) to reproduce hydrological storages, their states, fluxes and processes, as well as ecosystem responses with novel options for improved scenario analysis, planning and governance. The candidate would become a part of a multidisciplinary team of experts. In addition to Aalto University, DIWA Flagship includes experts from several Finnish universities and institutes, e.g. University of Oulu, University of Turku, Finnish Environment Institute (Syke), Finnish Geospatial Research Institute, and Finnish Meteorological Institute. The work within DIWA will aim for enhancing water security through digital models, and Digital Twins created from the supersites of the consortium.

The post-doctoral researcher would overall concentrate on Research Theme 1 “Hydrosphere processes” of DIWA Flagship, more precisely related to “Surface water processes and environment”. The post-doctoral researcher would be analysing the hydro-morphodynamic changes in seasonally ice-covered river channels and participate in field measurements (incl. during ice-covered winter season), but also conduct flume experiments with ice-covered conditions. In particular, the post-doctoral researcher would concentrate on analysing and modelling open-channel and ice-covered flow and sediment transport magnitudes and changes in different types of river channels within Finland (from South to North). The field data gathered from ice-covered and open-channel flow seasons in Finnish rivers would be applied for the refinement of the model parameterization, but also, if necessary, of their code and application approaches. Thus, the candidate would be part of constructing the Digital Twins

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at Finnish river systems and watersheds.

Requirements

The position requires a strong theoretical background in fluvial research, and experimental and computational methods. Thus, applicants should have a doctoral degree in water and environmental engineering, hydrological sciences, environmental sciences, physical geography or other relevant fields of science regarding fluvial research and computational methods. The doctoral degree should be awarded within past 5 years. We accept applications from persons at the final stage of their doctoral studies, but we expect you to have your doctoral degree completed before starting in the position.

For this position, the candidate should have skills fluvial (geomorphology) research and experimental (field and/or laboratory) studies. Skills in programming (Python or similar), geoinformatics, and quantitative analysis will be an asset. Experience of computational fluid dynamics and their codes are considered as an asset.

The candidate must have high motivation and aptitude for research and must enjoy working as part of a team. Fluent written and verbal communication skills in English are essential. A driver's license (valid in Finland) is needed during the field campaigns with the research team. The candidate must be able to generate bright scientific ideas and propose new methodological solutions. We also expect the candidate to work independently, and write research funding proposals and scientific articles, and participate in teaching and presenting their results in conferences.

Salary, terms and conditions

Funding for the postdoc is available until the end of 2027 (i.e. for ~3.5 years period). The expected starting date is as soon as possible (negotiable with the candidate).

The salary range, terms and conditions are based on a collective bargaining agreement among Finnish universities. The starting salary for postdoctoral researchers at Aalto University is currently around 3960€ per month (gross) which may be gradually increased over time according to performance. The annual total workload of research and teaching staff at Aalto University is 1612 hours. The contract includes Aalto University occupational health care.

How to apply?

All applications must include the following materials. * Letter of Motivation (1-2 pages), where you introduce yourself and describe your motivation for the position. Also clearly indicate your competence in the key themes of the position. * Curriculum Vitae (2-3 pages), including details of all academic merits, your language competence as well as contact details of two relevant referees. You are also encouraged to include links to your possible LinkedIn page or other similar website. * Important:

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include in the CV an outline of the potential experience in field work and/or laboratory experiments, methods (incl. modelling, programming/coding) and research related to the relevant scientific fields (e.g. fluvial processes / water engineering). * List of Publications, including a link to your Doctoral Thesis (if available)

All materials should be submitted in English in a single pdf-file (compiled in the order specified above, name it as "firstname_lastname_application.pdf"). The application should be submitted through our online eRecruitment system (press 'Apply' button at the end of the page) latest on Sunday 26th May 2024. 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.

Kindly note that we will start to go through the applications and may also invite suitable candidates for interview during the application period. The position will be filled as soon as suitable candidate is identified: this can happen already before the application period closes. You are thus encouraged to submit your application as soon as possible.

Applications submitted by email will not be accepted. Aalto University reserves the right to leave the position open, extend the application period and consider candidates who have not applied during the application period.

Further information

Further information about working at Aalto University can be found at [url=https://www.aalto.fi/aalto-university/international-staff-information-package]https://www.aalto.fi/aalto-university/international-staff-information-package. Content-related questions about the vacancy may be directed via email to Eliisa Lotsari (Research Fellow and Assistant Professor, in Water Engineering, eliisa.s.lotsari [at] aalto.fi) while recruitment-related questions may be directed to Kirsi Kärkkäinen (HR Advisor, using the email format firstname.lastname@aalto.fi). Please send your possible inquiries by 26 April 2024.

Contact Information

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

Contact

Finland

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