

Postdoctoral Researcher in Remote Sensing, Time-Series Satellite Image Analysis, and AI

The Department of Environmental Science (ENVS) at Aarhus University, Roskilde, Denmark, invites applications for a position as Post Doc in Geospatial Data Science, focusing on advanced methods in satellite image analysis, remote sensing, and AI for environmental and urban development issues, particularly in African cities. The ideal candidate holds a PhD in Environmental Science, Computer Science, or a related field, specializing in remote sensing and AI for environmental analysis. The position is for two years, starting 15 April, 2025 (or as soon as possible). The physical workplace will be at the Aarhus University Risø campus in Roskilde (35 km West of Copenhagen).

Expected start date and duration of employment

The position is from 15 april 2025 or as soon as possible thereafter. The position is for 2 years.

Job description

The appointed researcher will contribute to a research project examining the environmental impacts and developmental challenges related to e-waste in African urban settings. The research will employ advanced econometric methods to analyze survey data and satellite images, generating insights into waste management practices, policy effectiveness, and the broader institutional and developmental implications of e-waste.

The candidate is expected to contribute to this project, including:

- Collecting, analysing, and processing time-series satellite imagery to track waste management trends in African cities and identify changes over time.
- Developing methods (eg. within, AI, deep learning, convolutional neural network, object based image analysis, random forest) to enhance the detection and interpretation of patterns in satellite imagery for environmental monitoring.
- Collaborate on interdisciplinary research addressing both environmental and economic aspects of development in Africa by integrating geospatial analysis with socio-economic factors affecting urban development in Africa.
- Contribute to publications and presentations that will reach academic and policy-oriented audiences.
- Communicate findings to local stakeholders in relevant African countries.

Your profile

The ideal candidate holds a PhD degree in Environmental Science, Computer Science, or a related field (completed or near completion). Moreover, the candidate has:

- Technical Skills: Expertise in remote sensing, geospatial analysis, and proficiency in satellite image processing.
- Advanced experience in image classification, such as AI techniques, particularly in computer vision and deep learning frameworks (e.g., TensorFlow, PyTorch) and/or object-based image analysis applied to geospatial data
- Programming skills in Python, Google Earth Engine, GIS software, and data libraries essential for satellite imagery and geospatial analysis.
- Proficiency in English, written and spoken.
- Excellent communication skills for both academic and policy audiences.
- Demonstrated ability to publish in international journals.
- Ability to develop and implement policy-oriented research ideas.
- Ability to cooperate with others in an international team.
- Ability to manage own research activities and meet deadlines.

Application Deadline:
17 January 2025

Faculty:
Faculty of Technical Sciences

Institute/Faculty:
Department of Environmental Science

Academic contact person:
Jessica Coria
Professor
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Vacant positions:
1

Hours per week:
37

Number of months:
24

Expected date of accession:
15/04/2025

Who we are

The Department of Environmental Science is an interdisciplinary department under the Faculty of Technical Sciences at Aarhus University. The expertise ranges from physics, chemistry, microbiology and mathematical modelling to social science, geography, economics and policy analysis. Both basic and applied research is conducted related to some of the major challenges facing society, such as pollution and pollution control mechanisms, land management, soil, water, air and biodiversity, protection of ecosystem services, climate change, and energy systems. Advisory services within these areas are offered to ministries and other stakeholders. Currently, about 170 staff and PhD-students are working at the department. Further information may be found at <http://www.envs.au.dk/en/>.

The department is located at Risø Campus in Roskilde 35 kilometers west of Copenhagen.

The selected candidate will be affiliated with the Environmental Social Science and Geography research unit. The unit employs approximately 25 staff, focusing on interdisciplinary analysis of the interlinkages between the environment and society from political science, economics and sociology perspectives. The strategic foci of the unit include environmental policy development, regulation and instruments, understanding of actions and actors in policy formulation and implementation, spatially integrated modelling as well as policies and economics of ecosystem services. Research findings are used for dissemination to the research community, in advisory services to decision makers as well as for teaching.

Our ambition is to have an inclusive and open working environment.

What we offer

The department offers:

- an exciting interdisciplinary and international environment with many national, international and industrial collaborators
- a research climate encouraging lively, open and critical discussion within and across different fields of research
- a work environment with close working relationships, networking and social activities
- a workplace characterised by professionalism, equality and a healthy work-life balance.

Place of work and area of employment

The place of work is Department of Environmental Science, Frederiksborgvej 399, 4000 Roskilde, Denmark, and the area of employment is Aarhus University with related departments.

Contact information

Further information may be obtained by contacting Professor Jessica Coria, email: Jessica.Coria@envs.au.dk, phone: +45 87 15 05 91.

Deadline

Applications must be received no later than Friday 17 January 2025.

Application procedure

Shortlisting is used. This means that after the deadline for applications – and with the assistance from the assessment committee chairman, and the appointment committee if necessary, – the head of department selects the candidates to be evaluated. All applicants will be notified whether or not their applications have been sent to an expert assessment committee for evaluation. The selected applicants will be informed about the composition of the committee, and each applicant is given the opportunity to comment on the part of the assessment that concerns him/her self. Once the recruitment process is completed a final letter of rejection is sent to the deselected applicants.

Letter of reference

If you want a referee to upload a letter of reference on your behalf, please state the referee's contact information when you submit your application. We strongly recommend that you make an agreement with the person in question before you enter

the referee's contact information, and that you ensure that the referee has enough time to write the letter of reference before the application deadline.

Unfortunately, it is not possible to ensure that letters of reference received after the application deadline will be taken into consideration.

Formalities and salary range

Technical Sciences refers to the [Ministerial Order on the Appointment of Academic Staff at Danish Universities under the Danish Ministry of Science, Technology and Innovation](#).

The application must be in English and include a curriculum vitae, degree certificate, a complete list of publications, a statement of future research plans and information about research activities, teaching portfolio and verified information on previous teaching experience (if any). Guidelines for applicants can be found [here](#).

Appointment shall be in accordance with the collective labour agreement between the Danish Ministry of Taxation and the Danish Confederation of Professional Associations. Further information on qualification requirements and job content may be found in the [Memorandum on Job Structure for Academic Staff at Danish Universities](#).

Salary depends on seniority as agreed between the Danish Ministry of Taxation and the Confederation of Professional Associations.

Aarhus University's ambition is to be an attractive and inspiring workplace for all and to foster a culture in which each individual has opportunities to thrive, achieve and develop. We view equality and diversity as assets, and we welcome all applicants.

Research activities will be evaluated in relation to actual research time. Thus, we encourage applicants to specify periods of leave without research activities, in order to be able to subtract these periods from the span of the scientific career during the evaluation of scientific productivity.

Aarhus University offers a broad variety of services for international researchers and accompanying families, including relocation service and career counselling to expat partners. Read more [here](#). Please find more information about entering and working in Denmark [here](#).

Aarhus University also offers a Junior Researcher Development Programme targeted at career development for postdocs at AU. You can read more about it [here](#).

The application must be submitted via Aarhus University's recruitment system, which can be accessed under the job advertisement on Aarhus University's website.

Aarhus University

Aarhus University is an academically diverse and research-intensive university with a strong commitment to high-quality research and education and the development of society nationally and globally. The university offers an inspiring research and teaching environment to its 38,000 students (FTEs) and 8,300 employees, and has an annual revenues of EUR 935 million. Learn more at www.international.au.dk/