

Professional environments for new research- and innovation VIP's

Aarhus University is currently expanding its strategic efforts within innovation and entrepreneurship, with the aim of bringing more research into play as concrete societal solutions, spin-outs, and collaborations with established companies. This initiative is closely aligned with Aarhus University's Strategy 2030, where research-based innovation and entrepreneurship constitute a central strategic focus area.

The specific themes are presented in the job posting. The departments and the professional environment for each theme is presented below.

Theme 1: Innovation Hub for Feed and Food Processing hosted by the Department of Animal and Veterinary Science (ANIVET)

We aim to establish a leading innovation hub positioning AU as a top center for feed and food processing technologies. The initiative bridges the gap between research and industry by providing access to pilot-scale facilities, testing, and research-based collaboration. By connecting existing competencies and infrastructure, the hub will accelerate innovation and support the green transition by emphasizing the use of novel sustainable biomasses, resource-efficient production systems, while minimizing the environmental burden.

The hub builds upon AU's existing facilities, including the feed factory and biorefinery situated at campus AU Viborg, while expanding pilot-scale capacity for testing new raw materials, processes, and products. It will function as an open innovation environment for industry collaboration, project development, matchmaking, and external funding activities. The initiative is expected to boost AU's international position, increase innovation speed, reduce implementation risks for companies, and support new value chains based on alternative biomass resources.

The position is hosted by the Department of Animal and Veterinary Sciences (ANIVET) who performs strategic and innovative research in issues relating to the nutrition, health and welfare of livestock, companion animals and humans. In brief, we are solving challenges within the green transition. sustainable food production, nutrition, health and welfare for animals and humans (<https://anivet.au.dk/en/>).

The position will be affiliated with the research area in monogastric nutrition: <https://anivet.au.dk/en/research/research-groups/monogastric-nutrition>.

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Theme 2: Resilient crops with new genomic techniques (NGT) hosted by the Department of Agroecology (AGRO)

NGT (New Genomic Techniques) is a key technology for developing crop varieties with stable yields, lower pesticide use, reduced fertilizer inputs, lower greenhouse gas emissions, and improved resilience to climate change. AU is a leading European player with solid experience in gene editing, including patents, commercial solutions, and successful spinouts. The goal is to concentrate efforts and realize the full innovation potential of NGT by integrating targeted traits into major crops. So far, this potential has only been partly utilized. A targeted investment in an NGT pipeline, combined with testing infrastructure and strategic partnerships, can accelerate the innovation pathway from research to practical crop varieties with improved resilience and competitiveness under increasingly challenging growing conditions.

The Department of Agroecology aims to deliver sustainable solutions to some of the world's biggest problems within the areas of food and biomass production linked and the interlinkages to the environment and climate. We contribute to fundamental knowledge generation and the attainment of sustainable crop production systems via innovative research, contracted policy advice, and education. We offer professional laboratories, greenhouses, semi-field, and field-scale research facilities, advanced computing as well as an extensive national and international researcher network. The department consists of nine research sections with around 400 highly skilled employees, of which approximately 50% are scientific staff.

The position will be affiliated with the research section on Crop Genetics and Biotechnology.

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Theme 3: Integrating nature-based/technical solutions to address multiple water challenges at catchment scales hosted by the Department of Ecoscience (ECOS)

Integrated nature-based solutions have significant potential to address challenges related to water quality and quantity, climate adaptation, and biodiversity at catchment scales. By combining ecosystem-based approaches with advanced water technologies and modelling, solutions can be optimised and scaled from river source to coastal systems. The initiative builds on strong interdisciplinary competencies in the WATEC and C-NBS centres, including water management, restoration, and technological innovation. A dedicated innovation effort should support the implementation of major agendas such as the Green Tripartite Agreement through new decision-support tools and innovative solutions to practical challenges. The position aims at bridging, and integrate, natural sciences, engineering while strengthening collaboration with public authorities and industry. Overall, the area offers strong societal impact, scalable solutions, and significant funding potential linked to initiatives such as EIT Water. See more at: <https://ecos.au.dk/en/nbs>

The Department of Ecoscience creates and shares knowledge about the state, dynamics and interrelationships of nature – from land through streams and lakes to fjords and the sea. We focus on the Danish Realm, but our scientific coverage extends from the broad Arctic to the global south. We conduct research, develop talent and provide research-based consultancy that gives society a solid foundation for sustainable decisions that lead to more and better nature and environment. Through close collaboration with authorities, knowledge institutions, businesses and other stakeholders, we translate research and consultancy into solutions and management that strengthen and develop nature and benefit future generations.

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Theme 4: Bioaerosol surveillance and integrated early warning systems hosted by The Department of Environmental Science (ENVS)

The measurement of bioaerosols has undergone significant technological development since the beginning of 2020, driven by advances in DNA technologies, physical sensing technologies, and computing technologies, including GPU-based data processing and the application of artificial intelligence (AI).

At Aarhus University, these developments are brought together within the innovation field Bioaerosol Surveillance and Integrated Early Warning Systems. The field focuses on the development of integrated systems for monitoring and early warning of bioaerosols in order to strengthen the link between research, technology development, and practical application.

The field is based on the interdisciplinary integration of:

- DNA-based methods enabling quantitative detection at the single-cell level
- Physical sensing technologies (e.g., laser-based and imaging-based systems)
- Artificial intelligence and machine learning for data analysis and forecasting

The objective is to establish robust and scalable solutions that enable real-time monitoring and data-driven decision support. This includes the development of digital platforms and app-based early warning systems that can be implemented in both public and private organizations and continuously enhanced as new sensing technologies emerge.

The Department of Environmental Science conducts problem-oriented research and generates knowledge on ecological, chemical, and physical processes in the environment, as well as on the economic, political, and social dimensions of the interaction between the environment and society. The Department also performs science-based policy advice.

The Department's expertise spans atmospheric chemistry and physics, environmental chemistry, microbiology and biotechnology, as well as environmental economics, environmental geography, political science, and sociology.

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Theme 5: Food Biosolutions and Hybrid Food Systems hosted by The Department of Food Science (FOOD)

The Department of Food Science is strengthening its strategic focus on biosolutions and hybrid food systems to accelerate the transition towards sustainable, healthy and resilient food production. The ambition is to establish a leading innovation environment that bridges fundamental research, technology development and industrial implementation across the food value chain. Building on internationally recognised expertise in food chemistry, ingredient functionality, processing, dairy technology, muscle biology and plant science, the department is advancing food solutions by integrating plant-, animal- and microbial-based resources. The thematic area offers significant innovation potential through novel ingredients, sustainable production systems and hybrid foods. By strengthening innovation at medium and high technology readiness levels, the department aims to accelerate the translation of research into industrial and societal impact, creating new value chains and positioning the Department as a leading innovator for hybrid food systems.

The Department of Food Science conducts internationally recognised research, education and science-based policy advice that supports the transformation of food systems. Through its unique location in Agro Food Park, FOOD is embedded in a leading food innovation ecosystem, creating unique opportunities for collaboration and translating research into impact.

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Theme 6: Digital phenotyping across plants, insects and farmed animals hosted by the Centre for Quantitative Genetics and Genomics (QGG)

Quantitative genetics and breeding increasingly rely on large-scale digital measurements of complex traits captured through sensors, imaging and computer vision. Phenomics covers high-throughput phenotyping across animals, crops, insects and agrobiodiversity, focusing on phenotyping technologies, trait-extraction workflows, data-processing pipelines and biological and genetic validation. The field spans phenotyping infrastructure, AI-driven trait and data pipelines, trait definition, phenotypic and genetic validation, and cross-domain translation linking genomics and phenomics through multi-omics. These developments support breeding, precision management, environmental resilience and innovation in agricultural and biological systems.

Within this domain, the position will mature phenomics prototypes—from sensor stacks and vision pipelines to AI-based trait extraction—toward industry-ready solutions; develop and manage partnerships; progress commercialization paths; support phenomics-related entrepreneurship; and act as a node in the wider AgriTech and AI innovation ecosystem.

QGG comprises more than 100 employees and brings together expertise in quantitative genetics, genomics and related disciplines, contributing to mission-driven research in climate-neutral agriculture, the twin transition, human health, biodiversity and sustainable food systems.

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Theme 7: Water technology hosted by the Department of Biological and Chemical Engineering (BCE)

Water Technology, enabling circular resource streams, water reuse and water efficiency, is crucial for food, pharmaceutical and many other industries requiring high quality water as a resource as well as a barrier for pollution entering drinking water or being returned to the environment with used water. Innovation in the very cross-disciplinary water technology area involves both new technologies and creating systems as well as collaboration with large industry, utility companies as well SMEs. The position will bridge collaborative innovation with industries to the universities science and engineering research in the WaTeC centre. [Water Technology - Biological & Chemical Engineering, AU](#)

The Department of Biological and Chemical Engineering focus on living systems, the biology of organisms, efficient production, and transformation of chemicals, materials and energy. We translate knowledge within biotechnology, food technology, environmental technology, chemical engineering, industrial biotechnology, medical biotechnology and electrochemical engineering into new technologies and value-creating solutions that can also be used in the business community. Close collaboration with the public sector and private businesses ensures that the knowledge and technology generated benefits the surrounding society.

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Theme 8: Advanced production technologies for biogenic building materials hosted by the Department of Civil and Architectural Engineering (CAE)

Development of digital and automated production technologies for a more sustainable construction sector. The field focuses on circular material flows, bio-based resources, reuse, and renovation through the application of software, AI, and robotics. The position will help translate research into practice in collaboration with students, startups, and industry, while fostering interdisciplinary collaboration across construction, manufacturing, and the circular bioeconomy. The field holds significant innovation potential and societal impact in advancing the green transition and the digitalization of the built environment.

The Department of Civil and Architectural Engineering (CAE) educate the engineers of tomorrow and drive mission-led, interdisciplinary research that accelerates sustainable and regenerative solutions within building design, climate adaptation, renovation, digitalization, energy, indoor environments, new materials, and infrastructure. Together with industry, we strengthen the green transition of the construction sector and its capacity to shape a resilient future.

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Theme 9: Building the resilient, flexible, multi-energy microgrids of tomorrow hosted by the Department of Electrical and Computer Engineering (ECE)

Despite vast investment in renewable energy, Denmark and Europe lack sufficient grid capacity to secure a reliable energy supply to citizens, businesses, and critical infrastructures. AU's multi-energy research ecosystem at AU Viborg provides a unique platform for collaboration on digital infrastructures and demonstration environments linked to future resilient energy systems and infrastructures. ECE leads the work on multi-energy microgrids with excellent scope for translating advanced energy system research into innovative, practical solutions. We invite increased collaboration with industry, other research institutes and societal actors to design and run experiments, pilots and larger-scale tests.

The Department of Electrical and Computer Engineering (ECE) is an interdisciplinary engineering department with 220 staff, 1,500 enrolled students and we are growing. With strong roots in research, education and industry collaboration our goal is to be internationally recognised for what we do, and to create measurable societal impact. We focus on major societal challenges, such as the green transition and digitalisation, where ECE's competences often play an important role. We have labs and other experimental facilities to support applied, solution-oriented engineering and collaboration is part of our DNA. We have a long and successful track-record of collaborating with private and public organisations to translate advanced research results into innovative solutions and services.

Link: [Institut for Elektro- & Computerteknologi - Technical Sciences, AU](#)

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Theme 10: Advanced Materials, Biomechanical Systems, Human-centric and Intelligent Manufacturing for a Sustainable and Resilient society hosted by the Department of Mechanical and Production Engineering (MPE)

The department's research contributes to the advancement of sustainable, high-performance products, energy systems, and healthcare technologies as well as human-centric robotics. Interdisciplinary collaboration across engineering, healthcare, and industry sectors is a defining feature, enabling the translation of fundamental material insights into innovative solutions.

Research activities are centered on the development and application of advanced materials in manufacturing processes, biomechanical systems, and medical device design. Key areas include additive manufacturing, material performance optimization, and analysis of material behavior and structural integrity using computational modelling, advanced imaging technologies, and AI-driven methods.

The Department of Mechanical and Production Engineering has 135 researchers and staff from 20+ countries, forming an internationally oriented research environment. The department conducts cutting-edge research across its three sections, with strong collaboration both internally and with industry partners. This research-driven ecosystem includes close integration with industrial projects and innovation activities, creating a dynamic setting where new knowledge is developed and applied. Educational programs and supervision of MSc, BEng, and PhD candidates are closely aligned with and informed by these research activities.

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