

# DENMARK'S LARGEST UNIVERSITY FOR IT



## DENMARK'S MOST CITED COMPUTER SCIENTISTS • PARTNERS WITH LARGE COMPANIES SUCH AS VESTAS WIND SYSTEMS AND NOKIA BELL LABS • LARGEST ADMISSIONS TO IT PROGRAMMES IN DENMARK ...

Aalborg University (AAU) offers research, teaching and knowledge sharing at the highest level in the digital Denmark. Big data, antenna technology, IoT, cyber physical systems and artificial intelligence aim directly and ambitiously at the society's current digital transformation.

### RESEARCH

#### STRONG RESEARCH AREAS

- › Information Technology
- › Big Data/Data Intensive Systems
- › Distributed and Embedded Systems
- › Internet of Things / Connectivity
- › Artificial Intelligence/Machine Learning
- › Antennas and Mobile Technology
- › Wireless Communication
- › Acoustics and Audio Technology
- › Signal Processing
- › Automation and Control
- › Navigation and Communications

#### BEST ENGINEERING UNIVERSITY IN EUROPE

Highly ranked: #1 in Europe and #4 in the world in Engineering (US News & World Report 2020). #1 in DK and #49 in the world in Electrical Engineering (QS World University Rankings 2019).

#### HIGHEST RANKED IN COMPUTER SCIENCE IN DK

AAU is the highest ranked university in Denmark in Computer Science, measured either on total number of publications or number of publications among the 10% most cited publications in the area (Mathematics and Computer Science, Leiden Ranking 2019).

#### MOST CITED COMPUTER SCIENTISTS IN DK

The two computer scientists in Denmark with the highest quality and relevance in terms of citations are Christian S. Jensen, Professor and Kim G. Larsen, Professor – both of AAU (h-index, Google Scholar 2020).

#### AI FOR THE PEOPLE

New AI Center joins and coordinates the multitude of AI activities across all five faculties at Aalborg University. [www.ai.aau.dk](http://www.ai.aau.dk)

#### CHAIR OF HIGH-PROFILE CONFERENCES, E.G.

- › IEEE Smart Grid Com 2018
- › IEEE Conference on Control Technology & Applications 2018
- › IEEE 28th International Workshop on Machine Learning for Signal Processing 2018
- › IEEE International Conference on Data Engineering 2019
- › IEEE Communication Theory Workshop 2019

### EDUCATION

#### BEST IN EUROPE, FOURTH IN THE WORLD

Leading international experts designated AAU's engineering programmes #1 in Europe and #4 globally. (The Global State of the Art in Engineering Education, Massachusetts Institute of Technology (MIT), March 2018)

#### LARGEST ADMISSIONS TO IT PROGRAMMES IN DK

AAU accounts for 25% of all IT programme admissions at Danish universities, while numbers two and three account for 17% and 16% (2019 Admissions to IT programmes, Ministry of Higher Education and Science).

#### THREE NEW IT PROGRAMMES

Three new IT programmes at AAU Copenhagen: Software Engineering (BSc from 2020 / MSc from 2023) and Cyber Security (MSc 2020).

#### NEW DIGITAL LEARNING MODEL

AAU launches a new digital version of its project- and problem-based learning model. The new model features an even greater degree of project work. A large number of subject modules support each project. The modules are regularly involved and as needed in the project on a digital platform.

#### DIGITAL LEARNING OBJECTIVES IN ALL EDUCATIONAL PROGRAMMES

As part of the strategy, all educational programmes at AAU set education-specific goals for digital competences of the students.

#### PROBLEM BASED LEARNING AND IT

The UNESCO Center for problem-based learning and sustainability, located at AAU, contributes to innovation in the field of digitalization. [www.ucpbl.net](http://www.ucpbl.net)

In 2020, the center will organize a week of international PBL conferences focusing on new digital PBL models. Participation and contributions of, among others, Harvard, MIT, Stanford and Tsinghua as well as from the UNESCO Director of Science Policy and Capacity Building.



**AALBORG UNIVERSITY**  
DENMARK

### COLLABORATION

#### COOPERATION AGREEMENTS

Annually, about 600 new research agreements with public and private actors, incl. major digital businesses like Vestas Wind Systems and Nokia Bell Labs (Danish Agency for Science and Higher Education).

#### DIGITAL 20% PROFESSORS

Professors with 20% work time at AAU and 80% in a company. Contributes to the strong link between the university and the community. Includes Grundfos, B&O, GridData and Oticon.

#### AAU SCIENCE AND INNOVATION HUB

Construction of a DKK 200 million state-of-the-art building for interdisciplinary research (DKK 100 million - A.P. Møller Foundation). In innovative environments, researchers, students and companies partner to develop business ideas to benefit Danish society and the rest of the world. The activities will support e.g. digital strategies of Danish companies. Completion expected 2021/2022.

#### CLOSE PARTNERSHIP WITH SMES

AAU emphasizes working with SMEs, such as through the ICT cluster DigitalLead (former BrainsBusiness) and the IT innovation network InfinIT, certified gold and bronze, respectively, by the European Cluster Excellence Initiative.

#### COMMERCIALIZATION TO BENEFIT SOCIETY, E.G.

- › GomSpace (space missions, nanosatellites, components – such as software defined radio). From three AAU students to more than 150 staff, customers in 50 countries, market value approx. DKK 670 million.
- › Reseiwe (reliable wireless connections for industry, drones and defense): Founded by an AAU researcher and an industrialist, customers the world over, market value in DKK tens of millions
- › Steinwurf (software for fast and efficient data sharing via networks): Founded by researchers from AAU and MIT, customers the world over, market value in DKK tens of millions

#### AAU IT ENTREPRENEURS

In the last year, 100 teams emerged as IT entrepreneurs with the help of AAU's SEA (Supporting Entrepreneurship at Aalborg University). Successes in previous years include Trifork (600+ staff) and Atira which has in the meantime been sold for app. DKK 100 million.