Looking back at 2015, our four temporary locations were a challenge for us. However, I was very glad to see – despite all the practical difficulties – all the effort, good spirit and social activities which have strengthened the solidarity in the department in many creative and new ways.

The Division of Water & Soil had developed into a quite large division with an immense professional span and numerous group members. In order to streamline the research fields, we decided to divide it into two new divisions: The Division of Water and Environment headed by Jes Vollertsen and The Division of Reliability, Dynamics and Marine Engineering headed by Jens Peter Kofoed.

In 2016, our main focus is our new building. We are looking forward to new ways of working together in our “living laboratory” surroundings which will show off our competences and research fields in new and modern facilities.

Next year will also see the implementation of AAU’s strategy “Knowledge for the world” which constitutes an essential roadmap for AAU in the coming years with focus on our research and education. This will be a challenge for us in lieu of the government’s announced cutbacks.

Peter Frigaard
Head of department
The Department of Civil Engineering focuses on research concentrated on developing and impacting the building sector in the future. Research and teaching are conducted in areas which centre on understanding environmental causality and planning people’s physical environment. We undertake contractual research projects for government institutions as well as private companies.

Regarding both student and research projects, we are widely experienced in collaborating with external partners. We mainly collaborate with companies within the building and construction sector, and we have a profound knowledge of the demands and legislation within this area.

New projects and co-operations are always welcome as new thoughts and ideas are best developed through dialogue!
DIVISION OF ARCHITECTURAL ENGINEERING

Research field
We work with research and education in analysis, design, construction and operation of engineering systems for commercial, industrial and institutional facilities. Our main research areas are energy-efficient building design, indoor environment and building informatics.

Research groups
• Architectural and Structural Design
• Building Informatics
• Indoor Environmental Engineering
• Strategic Research Centre on Zero Energy Buildings (ZEB)

HEAD OF DIVISION
Kjeld Svidt
E-mail: ks@civil.aau.dk
Phone: +45 9940 8546

DIVISION OF RELIABILITY, DYNAMICS AND MARINE ENGINEERING

Research field
We centre our research and teaching activities on the challenges related to the design and construction of large civil structures, port facilities, offshore structures, wind turbines and wave energy converters. We are especially focused on risk and reliability, structural dynamics, analysis of wind-generated waves, stability studies of breakwater structures and modelling, development and evaluation of various wave energy converters, power production and structural loads.

Research groups
• Coastal Engineering Research Group
• Reliability and Risk Analysis Research Group
• Structural Dynamics Research Group
• Wave Energy Research Group

HEAD OF DIVISION
Jens Peter Kofod
E-mail: jpk@civil.aau.dk
Phone: +45 9940 8474
DIVISION OF STRUCTURES, MATERIALS AND GEOTECHNICS

Research field
Our research field revolves around both theoretical and numerical modelling and experimental verification within the field of structural mechanics, structural materials and geotechnics.

Research groups
• Advanced Structural Engineering
  • Innovative Structures
  • Geotechnical Engineering
• Danish Centre for Risk and Safety Management (RISK)

HEAD OF DIVISION
Lars Damkilde
E-mail: lda@civil.aau.dk
Phone: +45 9940 7648

DIVISION OF TRANSPORTATION ENGINEERING

Research field
Our research and teaching is centered on Intelligent Transport Systems (ITS), road safety, road construction, traffic management and public transportation in built-up and rural areas. We also work with various aspects of physical planning, such as local planning and development with specific focus on the city, urban development and planning and development of rural towns and areas.

Research groups
• Traffic Research Group

HEAD OF DIVISION
Lars Bolet
E-mail: bolet@civil.aau.dk
Phone: +45 5118 4855
DIVISION OF WATER AND ENVIRONMENT

Research field
The majority of our research is in urban and rural environmental processes. Our focus points are hydrology and hydraulics of the urban environment, precipitation forecast, biological and chemical processes in sewerage systems and drinking water supply systems, stormwater quality management, soil physics and physical geography mainly aimed at environmental and resource issues.

Research groups
• Water and Environment

OUR RESEARCH

We are proud of the fact that our researchers at the Department of Civil Engineering are very productive individuals who produce a large amount of research publications each year. Below is the number of research publications that we have produced in the last couple of years. All of our research is registered in the Research Database of Aalborg University (VBN). In VBN, you can find research publications, research projects, activities, press clippings and more.

RESEARCH PUBLICATIONS*

*The figures should be accepted with caution as they will typically increase as reporting is carried out continuously, including previous years.
WORKING ENVIRONMENT AWARD

On May 18, 2015, our laboratories were awarded with Aalborg University’s first ever Working Environment Award for the year 2014. Assoc. Prof. Benjamin Nordahl Nielsen, head of the laboratories, accepted the award on behalf of himself and his colleagues at the laboratories and pointed out that this recognition was attributed to a joint effort in the laboratories.

The AAU Working Environment Committee cited the persistent and hard work in creating a change in behaviour and culture in the working environment at the laboratories as the reason for awarding the laboratories with the Working Environment Award 2014. The laboratories have now created a safer working environment, in which all students, teachers and researchers who use the laboratories must uphold the safety precautions and wear the correct safety equipment – with no exception.

The department is proud of the fine work carried out in our laboratories, and now we can also say that we handle it with the greatest care for safety.
OUR PHD PROGRAMME

The PhD programme constitutes an important part of the research done at the department. During the three-year duration of the programme, the PhD student will take part in courses and teaching. The research project will culminate in a PhD thesis, which will be defended in public by the PhD student.

Another branch of the programme is the Industrial PhD programme. Here, the student will be employed at a company where the research will have its origin so working hours are divided between the company and the department.

In 2015, the total of enrolled PhD students was 50.

PhD students, newly enrolled | PhD degrees awarded
---|---
2013 8 | 2013 12
2014 16 | 2014 13
2015 7 | 2015 11

OUR SECRETARIAT

Our administration unit, the secretariat, plays an essential role spanning across the entire department. They administer the internal economy, carry out preparatory work for the researchers, handle internal communication, handle the employees’ welfare and manage the interests and obligations both internally and externally. Their work is an important supplement to the work carried out at the department.

Teams
• Finance and Accounts
• HR
• Information Office
• Service
• Study

HEAD OF SECRETARIAT

Pernille Bisgaard Pedersen
E-mail: pbp@civil.aau.dk
Phone: +45 9940 8684
FINISHED PHD STUDENTS IN 2015

Elisa Angelelli, Hydrodynamic induced by an array of wave energy converters. Experimental and numerical analysis

Simon Ambühl, Reliability of Wave Energy Converters

Aligi Foglia, Bucket foundations under lateral cyclic loading

Gitte Lyng Grønbech, Savind Marl – Behaviour of a plastic fissured Eocene clay

Andrea Mortensen, Energy Renovation of Danish Single-family Houses – An Investigation of Barriers and Motivation Factors

Morten Møller Jakobsen, Wave-Structure Interactions on Point Absorbers, an experimental study

Søren Heide Lambertsen, Fatigue and Fracture Problems in Materials and Welds

Jeppe Emil Mogensen, Functional Textiles in Hospital Interiors

David Getreuer Jensen, Combining weather radar nowcasts and numerical weather prediction models to estimate short-term quantitative precipitation and uncertainty

Zili Zhang, Passive and Active Vibration Control of Renewable Energy Structures

Tao Yu, Energy Performance of a Novel System Combining Natural Ventilation with Diffuse Ceiling Inlet and Thermally Activated Building Systems (TABS)

OUR TEACHING

Besides from our research staff, 15 % of the teaching is given by external partners. We emphasise that our students come into contact with the surrounding world via e.g. guest lectures or actual courses held by co-operation partners.

This not only creates valuable bonds between our students and potential future employers; it also facilitates knowledge sharing at a high level between the academic universe and industry to the benefit of society. You can find information about the study programmes and courses in Aalborg University’s studyguide.

Graduates from the Study Board of Civil Engineering

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<th>2012</th>
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<tr>
<td>Master’s degree</td>
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<td>100</td>
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<td>In total</td>
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FURNISHING OUR NEW BUILDING

Regarding furnishing of our new building and Mai B. Rasmussen’s PhD project, we tested Knotworking, a new working method. Knotworking gathers interested parties for the purpose of solving pre-defined knots together. In this case the knots were selected room types that need furnishing in our new building.

Mai B. Rasmussen facilitated the process and gathered 20 interested parties for 1 ½ day and after 5 hours the result was approx. 7,000 m² of roughly furnished rooms – a process that would normally take 1–2 months. The participants consisted of external furniture suppliers and the following AAU units: employees and students from our department, interior designers from Campus Service, cleaning staff and building officers. They used new digital VR (virtual reality) equipment developed by with Evocon, an AAU originated company, in collaboration with Kjeld Svindt and Rasmus L. Jensen. The equipment consisted partly of a touchscreen for arranging room layouts with furniture and partly of Oculus Rift 3D glasses for experiencing the spatiality and furniture in 3D.

This Knotworking process will form the foundation for the purchase of furniture for and the final furnishing of our new building.

2015 HIGHLIGHTS

AAU WORKING ENVIRONMENT AWARD

Our laboratories were awarded with Aalborg University’s Working Environment Award for 2014 (read more on page 12)

NEW HEAD OF DIVISION

Professor Jes Vollertsen is the new head of the Division of Water and Environment.

ANNIVERSARY

In 2015, both Associate Professor Erik Kjems and Head of Secretariat Pernille B. Pedersen could celebrate 25 years in the service of the state.

RETIREMENT

After 12 years at Aalborg University, we said goodbye to Associate Professor Eigil V. Sørensen.

TOPPING-OUT

On September 28, 2015, the Danish Building and Property Agency hosted the topping-out ceremony for our new building, which is planned for completion in 2016. Among the many speakers at the event were University Director Antonino Castrone, Aalborg’s Mayor Thomas Kastrup-Larsen and Head of Department Peter Frigaard. The ceremony was well-attended by both staff and students curious to see more of the building in which they will be working and studying respectively in the near future.

CONFERENCES

• Trafikdage 2015 – research, analysis and practical experience within the transport sector (www.trafikdage.dk)
• WEIB 2015 – offshore wave energy international Business2Business event (www.weib.biz)
CONTACT

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