



AALBORG UNIVERSITY
DENMARK

Aalborg Universitet

A Journey in an Academic Life

Kolmos, Anette

Publication date:
2023

Document Version
Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

Citation for published version (APA):
Kolmos, A. (2023). *A Journey in an Academic Life*. Aalborg Universitet.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

Take down policy

If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.

A JOURNEY IN AN ACADEMIC LIFE



**Professor Anette Kolmos,
Aalborg University**

Table of contents

Preface	3
PART I: My social background	4
Learning to travel	4
Working community	5
School and TV	7
PART II: The importance of education and family	9
Upper secondary school	9
Choosing the right university	9
Aalborg University Centre (AUC)	10
PhD scholarship	11
Meeting my life companions	12
PART III: Problem- and project-based learning (PBL) and UNESCO	14
Aalborg University and project work	14
Pedagogical development and the big centres	16
UNESCO activities	18
SEFI and international travel	19
The external professorships	24
PhD students, colleagues and research group	24
CURRICULUM VITAE	27

Preface

This was written in response to receiving the Knight's Cross of the Order of Dannebrog from Her Majesty the Queen Margrethe II of Denmark. I received it by mail in the autumn of 2020, unfortunately with a message that Her Majesty the Queen would not be holding an audience due to the corona pandemic. It has always been a dream of mine to meet the Queen, having deep roots in the region of Southern Jutland as the Danish Royal House has a special significance in this region due to its history with the two world wars.

I handed in the Danish version of this life journey to the Queen in the autumn of 2021, and I asked for a translation so my international colleagues could read it as well. However, then there was no occasion to publish it – until now when I learned that I will be awarded the Leonardo da Vinci Medal from SEFI, the European Society for Engineering Education which I was leading from 2008-2011. This is the highest award for European engineering education, and I am very proud and grateful to receive this – and it means more to me than the Knight's Cross. This is a recognition from Europe and from my European colleagues. I am deeply touched and maybe my story of my life and academic career can

give inspiration to other women in the engineering education field.

This narrative includes three parts. The first of these is about me as a person, and where I come from. The second is about the importance of education and family. The third is about the UNESCO Centre I have been running which has become a global player in changing engineering education programmes. Organisations are made up of people, so of course, the three perspectives are interconnected. With the opportunities I have been given, others would probably have been able to achieve the same as I have, but I feel lucky that the opportunities were available to me. I'm forever grateful for that and for the fantastic collaboration with my colleagues. Furthermore, I'm grateful for my family, who over the years and through many periods only have seen their wife or mother in glimpses on the phone or via Skype. But then they have had more space and freedom without a mother nagging them all the time 😊 I guess it's a matter of balance

Aalborg, August 2023

Anette Kolmos

PART I: My social background

Learning to travel

As a child, I learned how to move – from one place to another and from one materiality to another. It's in my blood, and the materiality has often been the car or aeroplane that was transporting me and my luggage somewhere. It has always felt natural to me that this is part of my life.

I was born into a farming family on the island of Als as the youngest girl with two older brothers. In 1961, my parents bought the farm Herrestedgaard in Toftlund – 44 miles away from Als. They had been tenants of Abildgaard near the city of Augustenborg for 16 years, but a distant relative of the owners was going to take over the farm, and therefore, my parents had to find a new place to live. At this time, there were no farms for sale on Als, and they ended up – in their view – having to move very far away at the ages of 39 and 47. At Abildgaard, they had entered the inner circle of larger farming families. There were four families belonging to the Langdel farms and the families at Augustenborg Herregård, Bispegården and Solbjerggård. At that age, it was difficult to establish a new circle of friends in Toftlund and to be accepted as anything but newcomers. So, they kept a close relationship with their friends on Als, and from the age of five, I learned to travel from Toftlund to Als

– back and forth – and that was just how it was.

My mother painted porcelain and became really good at it. For many years, she taught porcelain painting in Toftlund and in the surrounding cities. In a late age, she let go of perfectionism and got a more abstract expression with more artistic brush strokes. However, she still had her porcelain ladies and her teacher Mrs Blichfeldt on Als – widow of the priest in Oksbøl – and remained part of that inner circle. Since I was the youngest, I was joining her on her monthly trips to Als. Who else was going to look after me? I always got car sick, and I remember that we tried all sorts of things to minimise the problem – including pills, a string under the car to establish ground contact or rolled down windows. However, for the most part, we ended up with filled plastic bags. We had to drive in our green Austin. I learned how travelling leads to a destination, and that the journey itself just has to be endured. I liked being on Als.

Our whole family also lived there. My mother came from a slightly larger farm in Pøl, and my father from a smallholding in Broballe. They met each other in 1941 at Mjels Inn and after that at Konkordia in Nordborg. There were ambitions in my mother's

family – and I know stories can get too long – but her parents were to take over the Søby Inn, which unfortunately went bankrupt during World War I due to failed real estate transactions. But with that in mind, my mother was born into ‘greatness’ in 1922.

My father was born in 1914. When he was five, he started in the German school in Broballe/Oksbøl, and when he was 14, he began working, first for Erichsen on one of the neighbouring farms. He worked his way up to work on the larger farms, which helped him to believe that he himself could be in charge of one of the large farms. He took over his parents’ smallholding in Broballe, and when my mother and father married in 1944, they began their life together in Broballe.

Since then, Broballe came to mean a lot to our travels, as my parents kept the house through all the years. A lesson from my childhood was to be careful with money, and my parents could have used the money they would earn from selling the house on Lusigvej 18, Broballe. But it never went on sale, because my grandfather lived there until he died in 1967, and my parents had committed to pay for the purchase of the house. Since then, my mother fought to keep the house as a base for our monthly trips to Als. The house was – despite the term smallholding – large and was built in 1874 for two unmarried sisters from a neighbouring farm. There were

two equal flats. One flat was rented out, the other served as a ‘holiday home’.

When we moved from Als in 1961, we took a lot with us – including the 16 chests filled with linen, tablecloths, childhood clothing, my grandparents’ clothes, duvets, magazines and much, much more. I grew up with the lesson that we don’t throw things out, and we take good care of our belongings. It’s a lesson which both my brothers and I are struggling to forget since we simply can’t leave the number of things we possess for the next generation.

We also brought along a language – we left Als in 1961 and have not further developed our Alsiian language – but when I’m with my brothers today, we still automatically switch to the old dialect. When we visit Als and speak that dialect, they look at us as if we were relics of the past, because we have not kept up with the development of the Alsiian language.

So, I learned how to travel, and I learned that travelling is a process toward a goal. When I look back at my work life, several factors define it: travel, goals, hard work and diligence, the ability to achieve success and not least integrity.

Working community

My mother and father had very different roles in our home. My mother was the captain of the house and was in

charge of our family's social life and of raising us, children. My father was in charge of the stable and fields. Herrestedgaard had around 270 acres of land, so we had our hands full. We moved from fat clay soil to medium soil in Toftlund, and when we came to Herrestedgaard, there were many uncultivated fields and meadows around brooks and other low-lying lands. We gave our fields names such as Alaska and Canada, and it was quite clear that we also saw ourselves as a family pioneering uncultivated land and a foreign culture. We were newcomers for better or worse – and it gives food for thought that 44 miles could make such a difference at that time.

I learned to work – there was always something that needed to be done in the kitchen or the stable. I was responsible for the vegetable garden and for mowing the huge garden from the age of 9-10, but someone has probably been available to help me if I needed it. The garden at Herrestedgaard was the place of my daydreams and the development of my imagination – whether there was work to do or not. I could always go for a walk and daydream under the big red beech or the chestnut tree. Around the small forest, there was a stone setting, and seven apple trees were spread across the garden. My mother arranged for a fire pit with large rocks as benches. We planted daffodils in the shelter-belt towards the church.

I was often alone as a child. At first, I played a bit with the neighbour's son, but I was left to myself most of the time. From the windows at Herrestedgaard, I could see a yellow house that looked very romantic. It was a few years before I found out that it was an ice cream shop where you could buy ice cream and sweets. I'm not blaming anyone, but as the youngest child, I think you can get a little overlooked and left behind, and I think it's quite natural. My mother was in charge of the household and the upbringing of me and my brothers, and she focused a lot on my brothers to get them well on their way. And I was probably 10 – the year my eldest brother left home – before the focus really shifted to me. So, I have had much freedom and was therefore probably hard to 'tame'.

I was definitely my father's girl. He very rarely reprimanded me, and he always gave me space. Although I did not quite live up to his dream of taking over the farm, he did not seem disappointed at all. My mother was the explicit one – a role and function that's definitely not always appreciated, but which most often belongs to the women.

My mother taught me how to organise and plan properly. She made sure to hold on to the old entourage from Als and arranged parties for everyone we knew in the large dining room. Herrestedgaard was the old church inn with a very large dining room, which

had served as a banquet hall, and with a tavern, which became our living room. It was very spacious – 200 square meters on the ground floor.

When our family and friends from Als came to visit, we had been baking and cooking for weeks before their arrival. They were invited together with our new friends from Toftlund. Today, when I'm responsible for planning events, I often look back at all those parties. They were huge, and there's no question where I got my hosting skills from.

School and TV

My mother established a new circle of friends from the large farms around Toftlund, and one of the families had children, who were almost our age. I started playing with Lisbeth once in a while. She was a bit younger than me. My mother wanted me to stay at home for one more year, so I waited to start school, even though I was assessed as ready for school.

The fact that I waited a year came to affect my entire time in primary school. I was more mature than the others, and learning came easily to me. In fact, I had it too easy, and I found school a bit boring. I was not challenged intellectually, but I did, however, have great challenges socially. I never got to participate in the social life of my class – a class where there were many cliques and bullies. I defended the girls who were bullied

for having lice, and I could afford to do it because I was the 'smartest' in class, and every once in a while, they all needed my help. In the 4th-7th grade, I was often used as an assistant teacher in both arithmetic and Danish classes. It was probably beneficial to my own learning, as teachers are usually the ones who learn the most in the classroom.

The 1960s were in many ways a great time. In Southern Jutland, we had four TV channels – three of them were German and one was Danish. On the German channels, we watched synchronised American movies, and the Danish channel became our window to the world. I was a loyal watcher of the show Kikkassen – and then there was Trille. My mother scolded me in the background every time Trille was on the screen, and I was often told not to watch it. In my prepubescent years, Trille came to symbolise freedom and new ways of thinking.

Secondary school was easier for me – there were more demands. I was very fond of both Danish and arithmetic, as it was called at that time. In the Danish classes, we got a newly qualified teacher, Lis Mikkelsen, and she was very enthusiastic about my imaginative essays. I always scored high marks and was reassured that I was going to do something with writing. Here, I found a different kind of freedom – or a free space – with an experience of infinity like my child-

hood daydreaming in the garden at Herrestedgaard.

After graduating from secondary school, I went to upper secondary school. This had not been in the cards for me. My two older brothers had been allowed to enrol in an upper secondary school programme, but my mother and father were discussing who would then take over the farm? My two older brothers had both gone to Odense to study medicine, and agriculture was facing difficult times. My father was not thrilled, because he wanted an heir. That's why his plan was for me to be a nurse, and then I could marry a farmer and take over the farm. I could still get into nursing school, even though I graduated from upper secondary school. Sadly, I disappointed him, but he took it well.

In upper secondary school, I was going to choose a programme, and there was no doubt that I was fond of Danish, but Latin, English and German were different matters. I did okay, but I did not find these classes as interesting as the math classes with Miss Hansen. I could sit in my bed with the math exercises and enjoy myself, and it was a great satisfaction to find solutions. I could just barely find the same excitement for German grammar, but I was never as committed to that as I was to the math classes. However, at a meeting at the school, my mother and teachers agreed that I should choose the language pro-

gramme since my brothers had done the same. And even if Miss Hansen probably was convinced that I would be more than qualified for the mathematical programme, this option was never even considered.

PART II: The importance of education and family

Upper secondary school

I started at Åbenrå State School in 1973 because this school had the best school transportation options at the time. My youngest older brother had gone there too. Overall, upper secondary school was a downer for me. Up until then, I had been passionate about creating my own essays in Danish classes, but now, I was forced to do strict text analyses. I found math easy, and I enjoyed it. With the language subjects, it was so-so – I did well enough though. In my life course, the years in upper secondary school were when I matured socially, and I learned to stand on my own two feet. I still suffered from motion sickness when I travelled by car or bus, so I insisted on moving to Åbenrå in my third year of upper secondary school. It was an amazing time. My rent was around €28, and I received around €55 per month in student grants. I managed to make my money last. I ate a lot of rye bread and piquant cream cheese. My parents gave me a roast whenever I came home on the weekend, but I never got any financial support.

In upper secondary school, there was this incident that influenced my further choice of education and got me interested in project work. We did a group project in biology, and

Hanne Tietze, whom I sat next to since the first year, and I did a project on oral contraceptives. I can't remember how the project turned out, but I do remember that the process was extremely rewarding, because we were allowed to choose the topic, theories and methods ourselves. Yes, that made me feel the same excitement I had been feeling in Lis Mikkelsen's Danish classes in secondary school. The biology project whetted my appetite – project work was interesting.

Choosing the right university

Our history and social studies teacher was also our student counsellor – Porsfeldt. The year was 1976, and he recommended that we go to the new universities in Aalborg, Odense or Roskilde. He believed that these universities were more innovative and that our lives would be easier there.

I was not going to Odense, that was for sure. Both my brothers went there. They studied medicine and even married female medics. My brothers are amazing, as are my sisters-in-law, but at that time, I felt that everything was about medicine when they were home on the weekend. My father and mother wanted me to apply to nursing school. That was an absolutely NO GO.

Should I have lower education than my brothers and sisters-in-law? And should I sit and listen to all their medical talk being 'only' a nurse?

For some years of my life, I have thrived better facing headwinds. I don't know how to explain it. Trille was responsible for some of it, being a third child with two older brothers probably contributed as well, since the youngest child must shout to be heard. The fact that I found my freedom in my garden fantasies definitely contributed too. I wanted to be my own.

In addition to this, I had a friend from the German upper secondary school in Åbenrå, who had started at Aalborg University. Hanne Tietze, my neighbour in upper secondary school, and I decided to go to Aalborg. It was far away, and there was no motorway at the time, so you had to go through Kolding, Vejle, Horsens, Skanderborg, Aarhus, Randers, Hobro and then finally be at the top of the hill at Ellidshøj to be able to see Aalborg. I don't think I need to mention that my parents were not thrilled at all – and it was without their support that I made that choice.

What I have taken with me from my family and home has had a significant impact on my life. It has become clearer to me over the years that many of my competencies don't necessarily come from my education but

from the path of my life. There is no doubt that the working community at Herrestedgaard has shaped my further path. Communities have meant a lot to me – having and creating common experiences.

Aalborg University Centre (AUC)

At the end of August 1976, I moved to Anne Maries Vej 14. On the 2nd floor, I got two rooms, and Hanne got a room in the same building. Hanne moved on again after only a few months. She enrolled in a basic musical aesthetic programme but quickly moved on to live in collective housing. I had brought my red bike and rode it to Langagervej 2 where I started the Basic Social Sciences Programme. I chose that programme to get something more tangible – this makes me smile now as it was definitely not more tangible.

The 1970s were a special time at the universities – and not least at the two university centres that had been established, RUC and AUC. Project work was seen as a politically conscious process, at least interpreted by Negt and Kluge. I'm not sure I ever fully understood it – or rather experienced it – but obviously, I was politically active like the rest of the people at Social Sciences. I was particularly interested in gender politics. My master thesis, written with a female fellow student, was about our study choices, and I already focused on identifying

factors behind women's – including my own – choice of study.

In 1982, I took psychology as a minor and was also offered a teaching assistant job at the Basic Social Sciences Programme. I had been a tutor for new students for many years, so it was natural for me to accept it. At the time, all teaching assistants at the Faculty of Social Sciences were asked if anyone wanted to teach surveyor and engineering students in technology and society. I did, so I said yes to that offer. This became the beginning of my career because I felt so at home with the engineers. There I found something tangible. I returned home to my mathematical and physical understanding of the world.

In 1984, before completing my minor in psychology, I had written an application with a project formulation about women in science and technology for a number of graduate fellowships at the Faculty of Engineering and Science at Aalborg University. It took a year for them to make their decision. In the meantime, I had completed my post-graduate teaching training and gotten a job in an upper secondary school. I loved teaching, and I was really in my element. However, I accepted the offer of becoming a graduate fellow.

PhD scholarship

I joined the Technology and Society Union along with two other fellows. Mona Dahms was my first-year super-

visor – a young female engineer, who was very interested in social conditions and not least gender studies.

My scholarship period became my first meeting with the international community. One of the first conferences I attended was GASAT (Gender and Science and Technology), which was held in London. Jan Harding led that movement, and I got to meet several Danes who were all working with gender and technology at the time. We felt powerful and strong together, so when it was suggested that the next European GASAT conference should be in Israel, we immediately suggested it should be in Denmark instead. It was held in Elsinore in 1988. The conference was good, but it was a really bad investment for my writing.

In 1987, I went on a field trip with Mona Dahms in the US where we travelled around visiting American gender researchers and science museums – a six-week trip with a packed programme, and where I for the first time needed to draw on my skills as a traveller.

In October 1989, I finally completed my PhD. An assistant professor position in didactic engineering became available, and I applied for it. In 1993, an associate professorship was advertised in the same field. I finally got a permanent position. And I began to discover that my life in Aalborg was not like a railway station; I actually lived here. In

1995, I moved back to Anne Maries Vej – this time in No. 7 together with my life companions.

Meeting my life companions

After my first address in Aalborg on Anne Maries Vej 14, I lived in many places – and mostly in collective housing on disused properties on the outskirts of Aalborg. I had a few roommates along the way, but again, it was an issue that I did well academically, which was not always the case for my male roommates. They had a hard time coping with that, and I was starting to think that I would end up being a single mother if I ever wanted to have children. So, when I approached my 30s during my time as a PhD student, without a man and with a burning desire for children and a family, I wanted to meet someone who could handle a ‘strong woman’ but at the same time see my vulnerable side.

Mona had a boat and several male engineering colleagues. One of them became my husband and my life partner, Peter Henningsen. He’s an engineer at heart and always thinks of alternative or smarter ways to solve problems. When I met him, he had a catamaran – a racing catamaran. It was called ‘Krabat’ (Beast), which bears witness to his strengths. He likes to invent, build and be innovative. Since 1986, when I met him, he has built and reconstructed catamarans, couch bikes, and playhouses for our children, renovated our houses, he has brewed his

own beer, built musical instruments and pedalos and much more. He has never been jealous of me, and he has always given me space and supported me – also in difficult times. Conversely, he has always had space for himself and a life partner who could take care of herself.

He has also been my way into the technical world, which I did not get to enter myself as a young woman. He’s extremely knowledgeable and well-read and great at explaining complicated things to technical novices like myself. When we were young, I often went with him on measurement assignments in the field. Besides the technical field, he has an interest in religion at a philosophical level. I feel extremely lucky that I have been able to share the first 37 years with him at the time of writing.

We also wanted to have children, but that did not come so easily. Fortunately, I had a great example in my eldest brother, who had adopted two amazing children. So, after a while, we chose to do the same and got through all the approval procedures. When we finally had to choose a country, adoptions from Ecuador had just been approved, and we would have the opportunity to be offered a child more quickly. It was clearly my selfish need for us to have children.

We have travelled to Ecuador twice to pick up our two beautiful children, Nis

born in 1990 and Maria born in 1993. In 1991 and 1994, we went to pick them up and stayed at least a month each time in Ecuador. Our children have completed our lives and we have felt like an integrated family. They are indeed my life companions, and I'm deeply grateful that I got to be their mother. Children are the greatest gift in life.

I could write a whole book about that alone – but not here. However, it has been important to show the background of my career, leading me to the honour of receiving the Knight's Cross.

PART III: Problem- and project-based learning (PBL) and UNESCO

Aalborg University and project work

My PhD was about gender and technology, but the assistant professorship I applied for in 1989 was entitled Technology and Engineering Education. In my PhD, I studied engineering education, and the Dean of the Faculty of Engineering and Science, Jørgen Østergaard, found that there was a need to document the new pedagogical model.

In the 1990s, my position had the function of documenting the problem-oriented and project-organised model and providing concepts for the new practice. During the 1980s, engineers from Aalborg University found it difficult to be recognised, partly because they could not be admitted to what was then called the Danish Engineering Association, later the Danish Society of Engineers (IDA). When establishing AUC, the business community in North Jutland had requested project work, since it was and still is the way engineers work. Engineers are problem solvers and innovators of a technology that can only be understood from a system perspective. But despite this, there was a lot of opposition to the new educational model where students had to work in project groups and were examined together in project groups. Data was needed,

and in 1989, we started the first survey of the companies' experience of our graduates.

Since then, many empirical studies were conducted on e.g., how female engineers were doing in the labour market, and how the project and academic skills of engineering students develop through the programme. The deans of the Faculty of Engineering and Science – first Jørgen Østergaard and later Finn Kjærdsdam – requested these studies. I was happy to have returned to the roots of my interest: mathematics, physics, and technology, even though I got to work with them in a somewhat different way.

During the 1990s, I also had the opportunity to participate in an evaluation of the Basic Engineering and Science Programme together with Helle Algreen-Ussing and Mona Dahms. Carsten Sørensen from BUILD (later COWI) and Martin Raussen from Mathematics also participated. These were my first data collections from project work at AAU, and those articles paved the way for my entrance into PBL research and are today among the most cited articles within PBL.

I published and participated in several conferences in Scandinavia and

Europe. I continued my participation in GASAT and went on my first trip to Australia in 1991, the same year I later had my son Nis. After that, I mostly went on trips within Europe for a few years. If I could get home within 24 hours, it was okay to be away from my children. My husband was great, but I was always only 'away and home again'. No extra days to see anything but airports, taxis, lecture halls or seminar rooms.

I quickly started to get a lot of inquiries. There was a need for change in engineering pedagogy around the world at that time. The programmes were far too theoretical, and the graduates could not relate their knowledge to the problems that they had to solve in the real world. So, there was a need to apply new pedagogy. AUC – which became Aalborg University (AAU) in 1994 – practised an alternative to this, and I possessed the knowledge and data on how it worked.

The problem-oriented project work was a completely new way of learning; in groups, making projects and constructing knowledge together and not least helping to choose which real-life problems to solve. We provided physical facilities to support the learning model, and we wanted the students to feel like they had a real workplace. Therefore, it also became socialisation in working life. In Denmark in the 1970s, students spent a very long time completing their programmes, and

the business community claimed that it was difficult for graduates to adapt to the labour market. AAU quickly showed that their graduates completed their programmes faster, and not least that companies were happy with their competencies.

Developing the new project work models was characterised by a fantastic pioneering spirit, and after my PhD, I met Helle Algreen-Ussing, who together with a couple of colleagues had written the first teaching books on how students could work in project groups. The Faculty of Engineering and Science saw the need to introduce the students to problem-oriented project work together with an understanding that these new forms of work could provide new required competencies. They held courses for the students called PA courses (project work methodology).

During the 1990s, PA teaching was combined with reflection. We now called the courses SLP (collaboration, learning and project management). Later, I have written about the development of this – and it's still a cornerstone of AAU. Recently, a progression of these competencies has been carried out formally in the curricula from the first year of study to the last semesters of the students' programmes. Experiences can't in themselves provide competencies, this only occurs when experiences are processed through reflection and theoretical concepts.

My interest in research into project work in engineering education was aroused, and it was a completely new field. Previous books and articles on project work were written from a very Marxist and socially critical perspective, but this was not my perspective. I followed a different path: I did not start with criticism but wanted to set goals for what engineers should learn about society in order to be able to do a proper problem analysis. I thus stepped outside the critical discourse and was probably considered an instrumentalist by my old colleagues at the Faculty of Social Sciences and the Faculty of Humanities. Basically, these are two different approaches – starting with criticism or starting with the goal. My experience supports the latter: avoid conflict by pointing to new goals and creating new experiences.

AAU had different types of project work, and the supervisors had different interactions with the students. We lacked a language for the variations between open and more closed problems, between disciplinary and interdisciplinary problems, and between different forms and scopes of project work.

At some point during the 1990s, I participated in a student-centred learning network consisting of a number of the newer reform universities established in Europe in the 1960s and 1970s. They included Aalborg, Tromsø, Linköping, Maastricht and Roskilde. Many of

these universities celebrated their 20-25th anniversaries at this time, and we were invited to each other's anniversary conferences. But even though we worked from the same learning principles, the models we applied differed: problem-oriented, student-centred, case or project, teams, and method orientation. This increased the understanding of the characteristics of these new universities. They were not only going to establish study programmes but also research in particular. We are talking about a huge effort, which has also characterised the staff members at AAU. The pride in creating something new, proving the quality of the university to gain respect, and a lot of hard work.

Pedagogical development and the big centres

During his rector period (1976-2004), Sven Caspersen had invested in the research and development of PBL several times and had tried to establish a cross-cutting research environment. In 1994, a pedagogical development centre (PUC) was established, and I applied for the management position and was freed from my associate professor position at the Department of Planning. I was head of the PUC from 1995 to 2001. It was one of the first universities in the country to establish a pedagogical unit, and we developed and ran pedagogical courses. Teaching colleagues was different from teaching students. We were criticised – of course – and suddenly, at a young

age, I had to develop an organisation, make it work in the AAU system across the faculties and not least face the intellectual elite from the humanities and social sciences faculties, among others, and they did not think that pedagogical development was something to invest money in. I suffered a lot from stomach aches during this period.

In 1991, I was at a SEFI conference in Berlin where I met Ole Vinther from the School of Engineering in Copenhagen. Ole was an electronics engineer and had been interested in pedagogy for many years. The meeting in Berlin led to a meeting at my kitchen desk a few years later where we made an application to the ministry for the establishment of the Engineering Education Network (IPN). It was a network for all engineering schools in Denmark. I helped run a number of courses for engineering schools that wanted to make use of project work. These were fantastic years when the Danish engineering programmes were changing.

AAU increasingly welcomed international guests. The Netherlands in particular was on the same trajectory of change as Denmark, and we had buses of Dutch people coming to AAU to hear about our experiences. But they also came from the other Scandinavian countries and not least the US. I still remember when Professor Larry Leifer of Stanford University visited us and said, 'And here's such an amazing

model that's ahead of its time, and it seems as if the staff themselves aren't aware of it.' They became aware of it later though... by collecting data about AAU, writing, travel and presenting. I have not been the only one who has travelled and presented, but I'm probably the one who has the most publications in the field. This has generated awareness – and resulted in many contacts over the last 25 years.

It was also during the PUC period that I contributed to some large projects – the Danish Centre for Science (DCN) and the Knowledge Centre for Learning Processes (VCL). Finn Kjærdsdam was Dean of the Faculty of Engineering and Science, and I was invited to a meeting regarding the application for DCN, which was submitted by the Faculty of Engineering and Science. I had written the application, and DCN had to have a management team. Finn Kjærdsdam said, cheerfully as always, that they would then open a professorship that I could apply for. But I was not ready for that – I definitely did not feel professorial, and I did not want to have to do anything where I did not respect myself. I did not think I had enough publications to become a professor.

The money for the two large centres was raised – a total of €8m – and I decided to leave the PUC and the two centres and go back to my associate professorship at the Department of Planning to concentrate on the development of teaching for the students

and to make myself professorial. Many would probably not have made that choice, but I had two small children, and I would not feel comfortable pretending that I was going to be something I did not think I was. I also got comments from some people, who said that they had never before met someone who could say no to such a large sum of money.

I published more articles, and I applied for and got an MSO professorship (professor with special responsibilities) that was advertised in 2003 for staff members who had made a special effort in PBL. In 2008, I got a full professorship.

UNESCO activities

Both Sven Caspersen and Finn Kjærdsdam, who have been the two most dominant rectors in AAU's history to date, had an interest and a flair for international relations. Finn Kjærdsdam had met the head of the UNESCO International Centre for Engineering Education, who wanted to create a satellite centre in Europe. It was suggested that AAU be the host and partner, and I was asked to be the general manager of this centre as well as to link up with Europe and especially the EU coffers. The centre was inaugurated in June 2002. I applied for EU project funds, and we were lucky to receive around €200,000 for the development of a master's programme in PBL. The collaboration with the headquarters of UICEE (UNESCO International Centre

for Engineering Education) was problematised by Tony Marjoram, educational specialist, UNESCO, Paris. The aim of the establishment of the UNESCO Centre was never to establish autonomous units with subdivisions without any direct reference to UNESCO. So, there was a conflict between UNESCO and UICEE that we knew nothing about, so at AAU, we began looking for a solution.

Stig Enemark, Flemming Fink and Egon Moesby were heads of programme and very committed to the university's teaching form. Stig was president of the International Association of Surveyors and travelled the world to talk about PBL at AAU's surveyor programme. Flemming was interested in making new forms of continuing education for engineers. Egon experienced a process of change in terms of PBL when he came from the engineering school Esbjerg Teknikum, which was integrated into AAU in the 1990s. Egon established contacts with many universities that wanted to change their programmes, and he travelled a lot as a consultant in Mexico, among other countries. Stig suggested that we apply for a UNESCO Chair in PBL, and we contacted Tony Marjoram again to do so. A chair is a professorship, so I was an obvious candidate since I had the most experience with PBL research.

UNESCO is a piece of heavy bureaucratic machinery that takes time to

get to know. Applications to UNESCO must go through the governments of the countries, and for each country, there is a national commission. It's a whole new world of abbreviations, relationships and policies that can be quite opaque to outsiders. We submitted our first application for a UNESCO Chair in 2004, and it was not until 2007 that we inaugurated the UNESCO Chair in PBL in Engineering, Science and Sustainability.

Tony Marjoram was a huge help throughout the process because he knew UNESCO from within. He was also the one who wanted us to apply for a UNESCO Category 2 centre since the activities of the UNESCO Chair quickly became quite comprehensive. After another extensive application process, we were thus able to inaugurate the Aalborg Centre for Problem Based Learning in Engineering, Science and Sustainability under the auspices of UNESCO. We have never received money from UNESCO, but UNESCO must approve our annual reports and budgets and thus the quality of our work.

One of the key activities held by the UNESCO Chair and later the UNESCO Centre is the International Research Symposium on PBL (IRSPBL): Aalborg 2007; Victoria University, Melbourne, Australia 2009; Coventry University, UK 2011; UTM, Malaysia 2013; Mondragon, Spain 2015; National University of Colombia 2017; Tsinghua Universi-

ty, China 2018; Aalborg 2020-21; MIT and Harvard 2023. Regional Research Symposia on PBL (RRSPBL) was a new initiative we started in India where we have held two so far and KLE TECH Hubli, India, 2019 and 2021. Meeting the different cultures has been crucial to our success. No one else can do exactly what we do in Denmark. But they can be inspired and get the courage to start their own processes.

SEFI and international travel

Throughout the 1980s and 1990s, I travelled to conferences (GASAT and SEFI) and held a few workshops. I have an anecdote from 1993: through a Finnish colleague from GASAT, I was invited to give one of the first invited keynotes about Aalborg's PBL model. For the first time, I was away from my son Nis for two nights. I arrived, did the keynote, and no one applauded. They just said thank you, and then I went back to my hotel and felt like a big failure. On my way to the hotel, I stopped by one of the new indoor shopping centres to buy something for Nis – the teddy bear Monkey. I felt stupid that I had taken the trip up there just to make a fool out of myself – and I felt even more guilty when I came home to Nis just to be hit by him. I should not have left him. Monkey has been Nis' faithful companion throughout his life ever since.

On the way home, I thought: Yes, it's a good thing that no one back home will know about my failures. Two years later, I was invited to convene a two-

day workshop, and then I learned that it had been a great success the first time. You should not judge events on the values of your own culture, but you should try to understand the culture you are currently in as well as possible.

In 2003 and 2004, I travelled more and more. I was invited to do keynotes and workshops, and it accelerated. It was always home, away and home again. In the beginning, I always talked to my neighbour on the plane. This taught me so much about who was travelling and why. However, it was not long before I turned into a travel zombie like everyone else living in a bubble.

From 2001 to 2006, I got to use my German language skills. They were quite rusty, but what I had learned from the TV shows from my childhood quickly got me started. I was part of *Programbeirat für Hochschuldidaktik*, *Ministerium für Wissenschaft, Forschung und Kunst*, Baden Württemberg, Germany. There, I could use my experience from both PBL research and not least my years as head of the PUC.

I also became more and more active in SEFI (European Society for Engineering Education) and quickly became a driving force in establishing a new field that was on the rise in the US, namely Engineering Education Research. Somehow, I had gotten in touch with Jack Lohmann from Georgia Tech, US, and he invited me to be associate editor of the *Journal of Engineering Ed-*

ucation (JEE) from 2006 to 2009. JEE became the most prestigious journal with the highest ranking and journal citation impact. During that time, I also organised a Nordic and European network, and we tried to get the research up and running in Europe with the support of the European Union.

It was also during those years that I met Jorg Steinbach, who was the rector of TU Berlin. He was president of SEFI from 2007 to 2009, and at that time, the rules of SEFI stipulated that after a year, the president was to choose a president-elect, a successor. He chose me, and that really took me by surprise. When I talked to Peter about it, he told me it was a bad idea, and he only did this one time. I promised to focus on Europe, which almost felt like travelling domestically. Nevertheless, I ended up travelling a lot internationally during those years. I have demanded a lot from my family – but I'm aware of that, and I'm deeply grateful for their support.

I was elected president-elect at a SEFI conference in Aalborg in 2008 – and I invited a number of SEFI colleagues to my house for pizza and beer afterwards. I was president for almost three years. Jorg was a busy rector and entrusted me with many activities from day one. Françoise Come, who is Secretary-General, was a huge help to me and was great at preparing me for meetings. She became a good friend of mine. When I came to SEFI, I

thought it was a bit of an old man's club – so I tried to renew the organisation by eliminating the long agendas for the meetings and instead introducing dialogue and discussion. I also made a work schedule for my time at SEFI. What did I want to achieve? What was the organisation supposed to achieve? It was the first time a work schedule like that was made.

I was also the first female president – and a non-engineer. It was not always easy. I really got to feel the diversity of culture, from south to north and east to west in Europe. Of course, I was challenged – but it did not get to me. I had set goals for what needed to be achieved, so I continued to work unabashedly – not to say that I always came through.

I learned a lot about masculine culture in an international context and about sticking to the cause and trying to make a change. In my experience, the advantage for women in an extremely masculine culture is that it's not 'permissible' to bash women in public. But the downside is that female leaders are quickly put in a situation where they have to be looked after, and where you can't expect too much of them. I saw that quickly, and I did not wait for anyone to open any doors for me – I opened them myself and took the lead. I don't know how much I changed, but in those years, a younger generation came along, and they thought it was great

with some fresh blood. I established working groups for sustainability in engineering programmes, more visible cooperation with companies, and more international cooperation, and I introduced a more informal way of working, using first names, among other things.

Through SEFI, I met Xavier Fougier from Dassault Systemes. He was a huge support and a great conference friend. He has supported PBL conferences ever since and is one of the great proponents of PBL and not least in an intellectual capacity.

The fact that I was UNESCO Chair in PBL and president of SEFI attracted much attention, not only in Europe but throughout the world. My position as president opened doors for me, which were otherwise closed in the EU system, and I was in Brussels at least once a month. For me, it was just a domestic trip.

SEFI also became my ticket to keynotes at major engineering education conferences around the world. American Society for Engineering Education (ASEE), Australasian Association for Engineering Education (AAEE), and International Federation for Engineering Education Societies (IFEES). In 2013, I received the IFEES Global Award for Engineering Education Excellence in Colombia. There was strong opposition to me receiving the most prestigious award for engineering education

since I was a non-engineer working with something as 'criminal' as PBL. I was also the first woman to receive this award.

But I have travelled and made contacts and amazing friendships around the world. Whether I have been in South Africa, China or the US, I have been greeted with respect. I can't mention here all the organisations that I have been a part of and all the countries and amazing people I have come to know - only a few that have meant a great deal to me. Khairiyah Yussof, a professor at the University of Technology, Malaysia with whom I have spent days in the backseat of a car through Malaysia or through the dense traffic in Bangalore and Mumbai, India, or in Singapore. Khairiyah is a very devout Muslim. I have visited that part of the world many times, and there's an elite of women climbing the ladder, and they have all taken me in. In assemblies, women and men would sit separately, which I noticed the first few times before I understood that I just had to work with the women.

The fragmentation of society is also visible in academic contexts. South Africa was quite extreme with black people sitting to my right and white people to my left. A very complicated society that I visited a number of times during their first affirmative action plan where the leadership had to transition to the black majority. Most

places had dual leadership, as the black majority had not yet developed the required competencies.

I have been to India several times - each time, I have been overwhelmed by so many contradictions, but also by the impression of a giant nation that wants to move forward and is extremely credible. I met Gopalkrishna Joshi at a conference in Kuala Lumpur where we forgot about time and space while talking about the world and values. Sandeep Inamdar, who first brought me to India and opened his home and the Indian culture to me. The caste system no longer exists formally, but in reality, it still persists. Today, it's 'family tribes' where you prefer to marry within the same tribe, but it has also been like that in Denmark where the saying 'equal children play best' basically still prevails. We call it something else, and it's woven into our society in a different way, but we are also subject to fear of foreign cultures and fear of that which is not embedded in our shared experience.

South America is a continent close to my heart. Naturally, because my children were born in Ecuador, but also because I encountered such seriousness, diligence, and willingness to change. The same qualities that I find among the colleagues I meet in India. They want changes, and they struggle with rigid structures that obstruct these changes, but they keep going. In Colombia, they use PBL at regional

universities, which were established after the civil war.

I met my very best international colleague, Roger Hadgraft, 21 years ago in Melbourne. I had written to him and asked for an article about PBL, and in that context, I told him that I would be in Melbourne. He picked me up at the hotel, and I was offered dinner at his home. Our friendship has since then resulted in numerous publications. We have included his wife Janice and my Peter in our friendship.

In the US, my list of colleagues is very long – from Olin College, Harvard and MIT. There are many I could call today to announce my arrival, and they would open their doors for me. But Cindy Atman in particular sticks out, and we have spent days together at conferences and museums talking about the big issues of life and discussing design- and problem-based learning.

No matter where you travel internationally, there is a global corridor with the same brands and the same stores. I remember the first time I was in China and wanted to bring a Mao cap home for Peter. But what I found was Gucci stores, Valentino stores, Fendi stores, you name it... So sad, and they were just so proud of their airport which in no way reflects China besides a small tea shop. However, I have also been outside the global corridor – especially my trips to India, China, South Africa, the US, and Colombia have shown me

the ‘suburbs’, poverty, colourfulness and different cultures.

I have never been afraid when travelling. However, there were a few years when the children were small when I felt slightly anxious during take-off and landing. I have always been looked after, and it would have been a disaster for the hosts if anything happened to me. Perhaps my gender has had an impact in this regard. There was a period when I did not feel comfortable travelling alone in Muslim countries due to the Muhammad cartoons controversy. I did not talk loudly about coming from Denmark in the hotel receptions, but this was only for a few years.

I have learned to respect cultures and appreciate the diversity that we have in the world. The richness and the colour palette are amazing. My trips have mainly taken place in what I call the global corridor – from home to airports to taxis and hotels, and with small children at home, I wanted to come home as quickly as possible. I don’t know how many times Peter has picked me up at the airport – and since the kids were small, it was quite convenient because we then had 20 minutes on the way home from the airport where I could get updated on the family situation. And I don’t know how many times I have come home to my family just to start cleaning up before I could sit down and hear all their stories. Today, I can feel ashamed of myself towards my family – but I also

feel huge gratitude towards them. I have had tunnel vision – I have never had lunch with my colleagues, only with my computer. I have always been product-oriented; I must achieve something, and through work, I can create communities, which is something that is part of my DNA. I'm not very good at just being, but I have gotten a little better over the years.

We have also welcomed international guests who came to Denmark to visit AAU. My house has hosted them – we have ordered takeaway and some bottles of wine – and it has been an experience for people to come to the rich neighbourhood in Aalborg where we live. My son thought it was great to meet all sorts of nationalities around the table. My daughter sometimes thought it was too much. My Peter has just always been there for me.

So many amazing people and a smile make a world of difference when you arrive. I have met many upper-crust and poor people throughout my life, but it has never impressed me. I come from a middle-class but money-poor home. But upper-crust or poor, showing humanity and warmth has opened many doors for me. I have quickly become known internationally as the PBL expert, and I have no desire to cross other people's boundaries by trying to get them to "buy" something. This is not a purchase. What I have been working with is a cultural change, and you must be ready to change.

The external professorships

I have been given the chance to experience other institutions along the way. Most of all, I would have loved to have spent a year abroad, but that's where my husband's job set the limit. Instead, I have travelled, and when possible, I have brought my family along. I have been a visiting professor at several universities. In the early 2000s, I was affiliated with Louvain-la-Neuve where I worked with the French-speaking staff. It was a challenge for me – my French skills have never reached a level where I can have conversations. At the University of Technology, Malaysia, I have been affiliated as a visiting professor several times and also at Republic Polytechnic Singapore.

My longest and most comprehensive visiting professorship was at KTH Royal Institute of Technology, Stockholm from 2012 to 2017. It was extensive but also helped to achieve internal recognition at AAU.

PhD students, colleagues and research group

I have mentioned a lot of names. They have all been people who have created a framework for me or my international colleagues. But there are also those who have created the framework with me. I have never done any of this alone.

At a SEFI conference in Copenhagen in 1993, I met Erik de Graaff. He was an associate professor at Delft University and had helped develop Maas-

tricht University's PBL model. When I was elected UNESCO Chair, he was an assistant professor and later an MSO professor. He was a huge help in relation to all the PhD students who came through our system. I have almost only had international PhD students from China, Malaysia, Thailand, Portugal, Sweden, and the US. In total, there have been about 20 PhD students – I can't quite remember the exact number. A few years ago, Erik chose to retire, unfortunately.

Since 2002, when I returned to the Department of Planning, I have been involved in the organisation of research groups. We have been responsible for SLP teaching, which later became PBL teaching. We have had external projects and a number of internally funded projects. I have always been provided with a basic amount of money from the technical faculties. Slowly, I have built an organisation with responsibilities – and developed it from a one-woman show into a shared responsibility. It was only about 15 years ago that research groups began to be created, and there were explicit requirements for Key Performance Indicators (KPIs). Research collaboration and research association had to be organised bottom-up, which I slowly carried out. It's quite different today where research organisation is conducted in fixed groups, and where positions are created for the research groups. The individual is no longer expected to just look after themselves. During the

last 25 years, I have been involved in finding funding for more than 30 PhD scholarships and supervising 22 PhD students from 10 different countries. It has been a journey each time – in how to start and how to finish these pieces.

My colleague Jette Holgaard has been the backbone of the organisation, overseeing the operation with spreadsheets, teaching planning, a strategic eye for competence development and being incredibly hard-working. She did her PhD in an environmental group and had worked with organisational learning and wanted to do PBL. She was part of some projects and slowly became a core member of our group. Having colleagues on the home front whom you trust 120 % is essential for being able to work in the field. Otherwise, it just would not work.

Today, we are more than 35 full-time staff members, and I have hired two professors to take over from me. Of the 35 staff members, most are women. I have not deliberately looked for female staff members, but that's how it has turned out. It's a group with very different educational backgrounds, from scientists and engineers to humanists, and all are very product-oriented. We design and create together in this interdisciplinary environment – and when I look back on my childhood, it's a continuation of a working community. We help and reach out, and I find it hard not to think that I'm 'just'

like the others, which I prefer to be. On the other hand, I can't help but make things move forward. Everyone in the group works hard and contributes, and for several years, I have dropped by the office just to get a status update as soon as I came home from my trips. I have never taken a management course, but I guess my authority has slowly evolved over the years. I'm experienced and have a strategic overview, but this has developed from my experience.

And I have had Peter. I can't count how many times I have faced something big or new where I have thought, 'Oh no, can I do this?' His answer has always been, 'Of course, you can - what's the problem?' Where do men get their self-confidence from?

I can't keep travelling as much as I have done up till now. The corona pandemic has helped me appreciate the fact that I have **not** had to sit in aeroplanes, wait for delayed flights, or run through the airport to reach the last flight home to Aalborg. Corona has been tough in a different way, though, with a myriad of meetings in front of the screen, but that's a different story.

When I turned 60, I started planning my retirement. I have colleagues who are well into their 70s before they resign, and that's not healthy for an organisation. Each age has its functions, and the 60s are the age where you have gained an overview, and your task is

to help the next leaders and the young colleagues get settled.

And now when I am turning 67 in the autumn of 2023, I have finalised the generational shift for the UNESCO Centre. I was lucky to get funding from the Poul Due Jensen Foundation to research PBL and interdisciplinarity, the InterPBL project, which will be my focus in the coming years. This has given me time for finalising some of the research and publications that are still in the pipeline.

I may have been product-oriented, but I also flow with the energies. Ideas and visions are derived from collaboration and communication. The strategies were built according to where the energies were, and when there was no energy, we would not fret about it. I have often said that I have been lucky that a great number of opportunities have come my way, but it's one thing to be given opportunities, another is to grab them and pursue them. Energies, intuition for opportunity, collaboration and industriousness have all been ingredients in my life.

Thank you for giving me this opportunity for reflection - it has taken some time, but it has been a pleasure.

Appendix

CURRICULUM VITAE

Personal Data

Name: Anette Jepsen Kolmos
Born: 1956
Nationality: Danish
Civil status: Married. Two children born in 1990 and 1993.
Work Address: Aalborg University, Rendsburggade 14, 9000 Aalborg, Denmark
Phone: + 45 99408307
Mobile +45 20204208
Email: ak@plan.aau.dk

Education

1989: PhD degree from Aalborg University. PhD thesis: Gender and Technology.
1984: MA in Social Science and Psychology.
1976: General Certificate of Education, Aabenraa High School.

Employments

2023- Founding and former Director Aalborg Centre for PBL in Engineering, Science and Sustainability under the auspices of UNESCO.
2014-2022 Director for Aalborg Centre for PBL in Engineering, Science and Sustainability under the auspices of UNESCO.
2014-2017 Distinguished Professor at Republic Polytechnique, Singapore
2012-2017 Guest Professor (20%) at KTH Royal Institute of Technology
2011-2012 Guest Professor at UTM University Technology Malaysia
2008- Professor in Engineering Education and Problem Based Learning, Aalborg University.

- 2007-2014 Chairholder for the UNESCO Chair in Problem Based Learning in Engineering Education, Aalborg University, Denmark.
- 2003-2008 Professor with special duties in Engineering Education and Problem Based and Project-Based Learning (PBL), Department for Development and Planning.
- 2003: Visiting Professor at Chaire UNESCO de pédagogie universitaire, Université catholique de Louvain.
- 1994-2003: Associate Professor, Department for Development and Planning, Aalborg University.
- 1989-94: Assistant Professor, Department for Development and Planning, Aalborg University.
- 1985-88: PhD scholarship, Department for Development and Planning, Aalborg University.
- 1984-85: Teacher in upper secondary school, Nørresundby Gymnasium.

Selected University and International Academic Activities

- 2020- Strategic Advisor for NTNU, Norway
- 2016- Member of advisory board and strategic advisor for Center for Engineering Education, Tsinghua University, China
- 2012-2016 Member of REEN – Research on Engineering Education Network – a global network
- 2009-2011 President of European Society of Engineering Education SEFI
- 2008-2009 Founding chair of the SEFI Working group on Engineering Education Research.
- 2008: Appointed as President-Elect of the European Society of Engineering Education, SEFI
- 2007- Chair of the national team for developing and maintaining research credits lists for the subject areas: education, subject didactics and pedagogy.
- 2007-2008: Member of Programbeirat für Hochschuldidaktik, für alle Universitäten in Baden Württemberg, Germany.
- 2006-2009: Member of the External Advisory Board for 7th Framework Programme: People, European Commission.

- 2007-2008: Member of the Programme Committee for Journal of Engineering Education's Research Symposium on Engineering Education.
- 2007: Member of the Programme Committee for the engineering education research Reflektori 2007, 3. – 4.12.2007, Espoo, Finland
- 2007: Member of the Programme Committee for Journal of Engineering Education's conference at Hawaii, June 22-24, 2007: International Conference for Research on Engineering Education.
- 2006: Member of expert panel for accreditation of selected Danish Engineering Educations.
- 2005-2006: Co-chair for the Danish National Pedagogical Network for Engineering Education.
- 2005-2007: Elected member of the Study Board for the First Year Programme in Engineering.
- 2003-2004: Vice Director for UCPBL (UNESCO International Centre for Engineering Education, Centre for Problem Based Learning.
- 2002-2006: External Advisory Group for the EU programme on Human Resources and Mobility Programme, for 6th Framework Programme, European Commission.
- 2001-2006: Member of Programbeirat für Hochschuldidaktik, Ministerium für Wissenschaft, Forschung und Kunst, Baden Württemberg, Germany.
- 2002: Deputy Director for UICEE-EHQ, UNESCO International Centre for Engineering Education, European Headquarter.
- 2000-2006: Coordinator for the courses on Cooperation, Learning and Project Management at Faculty for Engineering and Science, Aalborg University.
- 1998-1999: Chair of the Research Centre for the Interdisciplinary Study of Learning.
- 1995-2002: Head of Centre for University Teaching and Learning, Aalborg University.

International Research Activities

- 2007-present: Associate editor for European Journal of Engineering Education, Taylor and Francis.
- 2006-2009: Associate editor for Journal of Engineering Education, American Association for Engineering Education.
- 2006-2007: Member of editorial board for European Journal of Engineering Education, Taylor and Francis.
- 2006-present: Member of editorial board for International Journal for the Scholarship of Teaching & Learning (IJ-SoTL).
- 2006-2009: Member of editorial board for Personal- und Organisationsentwicklung in Einrichtungen der Lehre und Forschung, UniversitätsVerlagWebler.
- 2005-2010: Member of editorial board for International Journal for Academic Development, Routledge.
- 2004-2007: Coordinator for the EU-project, Socrates project, PBL-Engineering which is developing the master programme: Problem Based Learning in Engineering and Science.

Awards

- 2023 SEFI: The Leonardo da Vinci Medal
- 2020 Knight of Dannebrog
- 2015 SEFI Fellowship award
- 2013 IFEES Global Award for Excellence in Engineering Education (<http://www.sefi.be/?p=3646>)

Latest external funding

- | | | |
|-----------|---|----------------|
| 2021-2024 | PI The Poul Due Jensen Foundation | DKK 5.900.000 |
| 2017-2020 | PI for Aalborg University on PBL research project | DKK 11.600.000 |
| 2014-2024 | PI The Obel Family Foundation | DKK 4.200.000 |
| 2015-2017 | PI for Proceed-2-work on the future of technical education: support from the Ramboll and COWI foundations and Siemens | DKK 250.000 |

Publications

Please see: <https://vbn.aau.dk/da/persons/107361/publications/>

