

Teaching portfolio

1. Teaching CV: A list of teaching and supervision tasks, including specification of academic fields, scope, level (bachelor, master, continuing education, PhD). Please state the teaching method used (e.g. lecture, class teaching, exercises, supervision, examination, coexamination, distance teaching, internet-based teaching and evaluation of teaching). Please also indicate the language of instruction.

1.1 Teaching and Academic Supervision at Aalborg University Copenhagen · 2022, 2023: Course design and teaching for MSc. Eng. in Sustainable Design (1st semester). Responsible for all modules in the course *Production Systems and Sustainability*. · 2022: Course design and teaching for BSc. in Techno-anthropology (4th semester). Responsible for two modules in the course, *Domæneviden om teknologisk forandring (Matematisk og teknisk modellering III og IV)*. · 2021, 2022: Supervising MSc. Eng. in Sustainable Design: *Projects in External Organizations* (3rd semester). Aalborg University Copenhagen, PLAN. · 2021: Course design and teaching for BSc. in Techno-anthropology (1st semester). Responsible for four modules in the course, *Problembaseret læring*: Modul 3+4, Udfordringen ved at arbejde med sammensmeltning af teknologi og socialiteter; Modul 8+9, Analyse af sammensmeltningen af teknologi og socialiteter. · 2017, 2018, 2019: Guest Lecturer for MSc. Eng. in Sustainable Design (1st semester) in the course, *Distributed Technology Design*. **1.2 Examiner Experience** · 2021, 2022, 2023: BSc. Eng. in Mechatronics: *Linear Elasticity* (5th semester). University of Southern Denmark, Mads Clausen Institute. · 2022: BSc. Eng. in Mechatronics: *Semester Project* (4th semester). University of Southern Denmark, Mads Clausen Institute. · 2022: BSc. in Techno-anthropology: *Teknologivurdering*, (2nd semester). Aalborg University Copenhagen, PLAN. · 2022: MSc. Eng. in Sustainable Design: *Projects in External Organizations* (3rd semester). Aalborg University Copenhagen, PLAN. · 2022, 2023: *MSc. Thesis* in Technology Entrepreneurship. Technical University of Denmark, Centre for Tech Entrepreneurship. · 2021, 2022, 2023: BSc. Eng. in Mechatronics, and Electronics: *Reliability of Electronic Systems*. (5th semester). University of Southern Denmark, Mads Clausen Institute. · 2019, 2020, 2021, 2022, 2023: *BSc. Eng. Diploma Projects* in Mechatronics, and Innovation & Business. University of Southern Denmark, Mads Clausen Institute, and SDU NanoSYD. · 2019, 2020, 2021, 2022, 2023: *MSc. Eng. Theses* in Mechatronics, and Innovation & Business. University of Southern Denmark, Mads Clausen Institute, and SDU NanoSYD · 2019: BSc. Eng. in Mechatronics, and Innovation & Business: *Hydraulics* (5th semester). University of Southern Denmark, Mads Clausen Institute. · 2016: BSc. Interaction Design: *Design Anthropology* (1st semester). University of Southern Denmark, Mads Clausen Institute. **1.3 PhD Level Activities** · 2012-2013, and 2013-2014: Industrial Supervisor for PhD Project, *Semi-Deterministic Numerical Simulations of Wear on Various Scales - From Chemo-Mechanical Effects to the Wear of Components in Orbital Type Hydraulic Motors*. Danfoss Power Solutions, and Luleå University of Technology, Division of Machine Elements. **1.4 Course Development with Industry and NGOs** · 2023: Co-led development and instruction: *Scope 3 Decarbonization Calculations*, for Danfoss PowESG Leads. Danfoss Center of Sustainability, Danfoss Business Solutions, and Danfoss Technology & Management. Nordborg, Denmark. · 2021: Led development and instruction of diverse online courses in component, product, and simulation technologies for White Drive engineers, as part of *R&D Knowledge Exchange for White Drive Divestment from Danfoss Power Solutions*. Danfoss Training and Education. Nordborg, Denmark; Wrocław, Poland; and Hopkinsville, USA. · 2020: Led development and instruction: *Designing Experiments for Gear Set Verification and Problem Solving* for Danfoss Power Solutions engineers. Danfoss Training & Education. Nordborg, Denmark and Zhenjiang, China. · 2020: Led development and instruction: *Designing Experiments for Shaft Seal Verification and Problem Solving*, for Danfoss Power Solutions engineers. Danfoss Training & Education. Nordborg, Denmark and Zhenjiang, China. · 2019: Co-development and instruction: *Multi-disciplinary Innovation Course for Danish High-schools* (12-week math/physics/society module around Danfoss Power Solutions products and technologies). Danfoss Training and Education with Naturvidenskabernes Hus, Sønderborg Gymnasium and Sønderborg HTX. Sønderborg and Nordborg, Denmark. · 2019: Participant in Program Application Workshop: *10-year Program for School-business Cooperation in Danish Primary and Secondary Schools*. Tektanken with Naturvidenskabernes Hus. Vejle, Denmark. · 2014: Co-development and instruction: *Principles of Tribology and Lubrication for Hydraulic Engineers*. Danfoss Training & Education, and Luleå University of Technology. Nordborg, Denmark. **1.5 Industrial Supervision of University Students at Danfoss Power Solutions, 2010 - Present**: 10 *BSc. Eng. Internships* (Aarhus University, University of Southern Denmark, Technical University of Denmark). · 9 *BSc. Eng. Diploma Projects* (Aarhus University, University of Southern Denmark, Technical University of Denmark). · 8 *MSc. Eng. Thesis Projects* (Aalborg University, Luleå University of Technology, University of Southern Denmark, Technical University of Denmark). · 6 *BSc./MSc. Eng. Semester Projects* (Aalborg University, University of Southern Denmark).

2. Study/programme administration and management: Experience in programme management and coordination. A list of study administration tasks, e.g. study board membership, chair of study board, semester or course coordinator, accreditation tasks, etc. Experience in planning teaching activities. Experience in programme development. Participating in committees and commissions etc. on education issues.

Member. **Advisory Board for BSc. and MSc. Engineering Education in Mechatronics, University of Southern Denmark, Sønderborg, 2020 - Present** The purpose of the Advisory Board is to ensure a continuous dialogue on the relevance, content and understanding of the needs of the business community. Additionally, the Faculty of Engineering would like to

engage with members of the panel to contribute to the day-to-day work of the program through dialogue with the students, thesis and project collaborations, internships, company visits, etc.

3. Formal pedagogical training: A list of completed courses in university pedagogy, PBL courses, workshops, academic development projects, collegial guidance and supervision, etc. Written assessment from the course in university pedagogy for assistant professors. Participation in conferences on pedagogy and didactics. Please enclose any documentation of the above, such as course certificates, references, etc

· 2013 - Present: *Leading engineers, technicians, external specialists/consultants, and project managers in teams, initiatives and projects* at Danfoss Power Solutions. China, Denmark; Germany, India, Japan, Poland; USA. · 2010 - Present: *Industrial Supervisor* for >50 University students (BSc., MSc., PhD) in internships and projects at Danfoss Power Solutions. Nordborg, Denmark.

4. Other qualifications: Conference contributions and attendance, contributions to debates, scientific articles on pedagogical issues etc. Peer supervision, editorials, mentoring experience or other types of competence development activities.

· 2017 - Present: Biannual presentations at *Product Knowledge Intro Week for New Apprentices*, at the Danfoss production facility in Nordborg, Denmark. · 2021: Lecture. *On sustainable hydraulic fluids - or the trouble with evolving infrastructures*. Tribology Days 2021. Luleå University of Technology. Luleå, Sweden. · 2020 - 2021: Participated as a mentor in *Danfoss #goMAD initiative (Mentoring Accelerates Development)*. · 2020: Keynote speech. *Challenges and benefits of multidisciplinary cooperation in high-tech industry*. Opening Ceremony of the 10th Annual Sino-Foreign Post-graduate Academic Forum of Jiangsu University. Zhenjiang, China. · 2019: Completed course: *Knowledge Expert* (32 hours). Danfoss Training and Education, with Leadership Pipeline Institute. Sønderborg, Denmark. · 2018: Lecture. *Engineering readiness -Technology Readiness Levels as a calculative device*. Social Informatics Cluster and the University of Edinburgh Business School, Entrepreneurship and Innovation Group. Edinburgh, Scotland. · 2018: Panelist. *Sustainable Future Energy Systems - Skills for the energy transition*. Sustainable Future Energy Systems, Nordic Clean Energy Week. Aalborg University. Copenhagen, Denmark. · 2015: Completed course: *Leading Others - Core & Clear* (32 hours). Danfoss Training and Education, with Leadership Pipeline Institute. Sønderborg, Denmark.

5. Pedagogical development and research: Development of new courses, teaching materials, teaching methods, examination types or other types of pedagogical development. Didactic and pedagogical research. Cooperation with external collaboration partners.

· 2021 - Present: Development of course modules for BSc./MSc. Eng. in Sustainable Design, and BSc. in Techno-anthropology. Aalborg University, Copenhagen, Denmark. · 2008 - Present: Development of diverse courses, workshops and whitepapers relating to new component, material, product, and process technologies associated with the design, verification, production, and application of hydraulic motors and steering units at Danfoss Power Solutions. Nordborg, Denmark; Wrocław, Poland; Zhenjiang, China; and Hopkinsville, USA. · 2019: Co-developed and co-executed: *Multi-disciplinary Innovation Course for Danish High-schools* (12-week math/physics/society module around Danfoss Power Solutions products and technologies). Danfoss Training and Education with Naturvidenskabernes Hus, Sønderborg Gymnasium and Sønderborg HTX. Sønderborg and Nordborg, Denmark. · 2019: Participant in Program Application Workshop: 10-year program for school-business cooperation in Danish Primary and Secondary Schools. Tektanken with Naturvidenskabernes Hus. Vejle, Denmark.

6. References on your teaching skills from superiors or colleagues. Teaching evaluations and any teaching awards received.

N/A

7. Personal reflections and initiatives: Here you may state any personal deliberations as regards teaching and supervision, any wishes and plans for further pedagogical development, plans for following up on student feedback/evaluations, etc. Personal reflections on your own pedagogical practice, including objectives, methods and implementation. This should include an analysis and a reasoned description of your pedagogical activities in relation to your pedagogical understanding and student learning. Thoughts on the teaching method at Aalborg University (which is largely based on group-organised project work and problem-based learning)

My part-time teaching is shaped by my experiences as a practicing technology manager and engineer, where motivations driving my work with industrial technology development include: Facilitating engagement across specialized networks;

Fostering common points of reference and alignment of interests across diverse stakeholders; and Helping actors to articulate and mobilize resources within their organizations. What these motivations have taught me, and what I hope to share with students, is a view of engineering practice as a network of objects and actors "still in the making" - where even the most promising of technological solutions are necessarily developed, matured and ultimately implemented, via a dogged focus on the complex infrastructures into which they are intended to perform. To this end, I draw on practical challenges - large and small - which my colleagues and I encounter every day, as sensemaking examples to support the students' understanding of more theoretical texts, and to illustrate how a variety of highly specialized skills and resources can (and do!) come together in a greater whole to identify and address the wicked problems of modern living. I am a big fan of Problem Based Learning and as a follow-up to examples "from the front lines of industry", I endeavor to provide the students with practical assignments through which they can interact and experiment with the abstract concepts of the course literature in small groups – whereafter we can discuss their findings in plenum. My full-time employment as a technology manager and engineer, at an industry leader within a very particular high-tech market, provides me with a unique blend of insights, spanning what are sometimes termed the "hard" (e.g., mathematical modelling and simulation) and "soft" (e.g., project management and talent development) poles of the engineering sciences. In both my teaching and supervision of external projects, I attempt to leverage practical experience to assist students in their own reflections on how to navigate the complex sociotechnical infrastructures of industrial organizations and maximize their impacts therein.

8. Any other information or comments.

My approach to teaching is grounded in the industrial *practice of engineering and management*, which I aspire to shape and improve by leveraging 18 years of experience – working with sustainability, entrepreneurialism, communication, teamwork and leadership – in sensemaking interaction with the next generation of engineers and techno-anthropologists. Working as an external lecturer and examiner allows me to identify students with capabilities that my industrial employer might require for specific projects, and which can be pursued via internships, semester or diploma projects, and MSc. theses in following semesters. Of the 50-plus such students for whom I have been an industrial supervisor since 2010, approximately 15% were offered and accepted employment at Danfoss A/S upon their graduation. These successful transitions from university education to industrial practice motivate and inspire my teaching, where the enthusiasm and curiosity I experience in the classroom energize my ongoing work as a *practicing* technology manager and engineer.