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.

•4th Bachelor semester project – EN4-404 – "Energy Management Systems for Residential Microgrids", supervisor, in English, 02/2022 – 06/2022, number of students: 6
•Master thesis - PED4 – "Microgrids: control and interaction with IoT systems", supervisor, in English, 06/2017-06/2018, number of students: 1
•3rd Master semester project – PED3-940 – "An Energy Management Solution for Renewable Energy Integrated Residential Homes", supervisor, in English, 09/2020 – 01/2021, number of students: 1
•Master thesis – PED4-1051 – "Hierarchical control strategies for Parallel connected Inverters in AC Microgrids", supervisor, in English, 03/2021 – 10/2021, number of students: 1
•Ph.D. co-supervision – "Control and Protection of Modular Uninterruptible Power Supply (UPS) System", in English, 09/2017 – 05/2018
•Ph.D. co-supervision – "Bio-Inspired Resiliency Analysis and Control Architectures for Microgrid Clusters", in English, 11/2017 – 10/2018
•Ph.D. co-supervision – "Coordinated Control and Management of Multiple Electric Ships forming Seaport Microgrids", in English, 09/2020 – 08/2022
•Ph.D. co-supervision – "Operational Management Systems for Resilient Microgrids in Remote and Islanded Communities Under Natural Disasters", in English, 01/2022 – 01/2023.
•Ph.D./Industrial course – AC Microgrids (3/2 ECTS), Lecturer, in English, yearly from 2015 (except 2020), number of students: 20-25 yearly
Responsibility: I have been in charge of preparing simulation models, handbooks, lecturing and guiding the students with the laboratory exercises since 2015. I have been lecturing on "IoT in Microgrids" since 2019, "Control of Parallel Connected Inverters", and "Modeling and Stability Analysis of Microgrids" since 2022.

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.

None

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

•PhD Course – "Problem Based Learning – pedagogy and philosophy", 3 ECTs, 2018,
•AAU pedagogy for Assistant Professors: finished all the course modules, group discussions, and supervisor meetings to acquire knowledge, skills, and competences.
•AAU certification in English as a medium of instruction to level C1 of the Common European Framework of Reference for Languages (CEFR), Dec. 2020.
•Passed Danskuddannelse til voksne udlændinge – Prøve i Dansk 3, June 2019.

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.

•Conference oral presentations: ICEMS ECCE 2014, ECCE Asia 2015, APEC 2015, ECCE Asia 2016, APEC 2017, ISIE 2017, GIoTsummit 2017, ECCE ASIA 2018, ECCE 2018, SecRIoT 2019.

•Conference poster presentation: ECCE 2015, ECCE Asia 2020

•Tutorial speech: IECON 2017, in charge of the sub-topic - The Internet of Energy and Ongoing projects

•Keynote speech: Electric power and Power Electronics Conference 2019, Sweden, topic: Microgrid and Energy Internet

•Presentations:
oMission Innovation - Green Energy Community Webinar 2021, online, topic: Microgrid and Energy Internet Research Cases in CROM
oAAU Energy Research Day, 2022, Denmark, topic: Remote Islands Electrification and Resilience Endowment under Natural Disasters

•Editorial and special session chair
oSpecial Session on “Energy Internet” on “IEEE Transactions on Industrial Informatics”, 2017-2018, Guest Editor.
oSpecial Session on “IoT-driven eNErgy sysTems (INET): Advances and Applications” on “IEEE International Conference on Internet of Things”, 2018, Guest Editor
oSpecial Session on “IoT and Energy Internet” on “Inventions”, 2018-2019, Guest Editor.
oSpecial Session Chair in “IEEE ECCE ASIA Conference” on “Advanced Power Converter Topologies”, 2020.
oSpecial Session on “Planning, Design, Control, and Optimal Operation of Energy Storage-Smart Grid Interactive System (ESSGIS) for High Penetration Renewable Resource Integrated Power System Applications” on “International Journal of Electrical Power & Energy Systems”, 2021, Guest Editor.
oSpecial Session on “Carbon Capture, Utilization, and Storage” on “Frontiers in Energy Research”, 2022, Guest Editor.
oSpecial Session on “Security of Energy Supply and Energy Prices in the Post-Pandemic Era the Role of Smart Grids” on “Frontiers in Energy Research”, 2022, Guest Editor.
oReview Editor for the Power Electronics section of Frontiers Electronics

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.

•2015-present (except 2020): Preparation and updating the simulation models and Lab instructions for the Ph.D./Industrial course – AC Microgrids (3/2 ECTS)
•2019-present (except 2020): preparation of slides for the lectures on “Internet of Things in Microgrids”, “Control of Parallel Connected Inverters”, and “Modeling and Stability Analysis of Microgrids” for the Ph.D./Industrial course – AC Microgrids (3/2 ECTS)
•2020-present: preparation of slides for the Master and Bachler student semester projects on energy management system and control strategy for microgrids.

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

None.

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)

As we all know, Problem Based Learning (PBL) as a pedagogical approach is a core value for Aalborg University (AAU) and is adopted for all educational activities at AAU. I am active to be a facilitator to implement such education models to focus on motivation and assist my students to achieve self-defining purposes and to take initiative. I have been continuously improving my pedagogic skills and propose interesting project/course proposals.

8. Any other information or comments.

No