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.

Courses:

•EMI/EMC in Power Electronics, Industrial/PhD course, Aalborg University, Aalborg, Denmark (2019-Present).

•EMI/EMC in Power Electronics, Master course, Aalborg University, Aalborg, Denmark (2017-Present).

Supervised PhD Projects:

•EMI Analysis and Mitigation of Highly Integrated Power Electronics, Pooja Babu, 2023-2026.
•Study of Spectral Characteristics of Low Frequency Conducted EMI on Smart Grid Robustness, Naser Nourani, 2021.
•Improvement of Transient Power Sharing Performance in Parallel Converter Systems, Mohamed Alhasheem, 2019

Co-Supervised PhD Projects:
•Physics based High Level Digital Twin concept modeling for Power2X Systems, Vicent Godoy, 2023-2026.
•Design and Control of Single-Phase WBG based Grid Connected Inverter in Photovoltaic Applications, Chen Liu, 2023-2026.
•Integrated Design for Reliability of Motor Drives in High-Power High-Speed Machines, Soroush Ahooye Atashin, 2024-2026.

•PROBABILISTIC ASSESSMENT AND ROBUSTNESS ANALYSIS OF POWER ELECTRONIC SUB-SYSTEM FOR GRID APPLICATIONS, Hosein Gholami Khesht, 2019-2022.
•Topology Optimization for High Efficiency Wide Band Gap Ground Power Unit, Alex Buss Nielsen, 2018-2021.
•Synchronization Stability of Grid-Connected Converters under Grid Faults, Mads Graungaard Taul, 2020.
•Reliable Control of Power Electronic based Power Systems, Joachim Steinkohl, 2021.
•An Optimized Dual Active Bridge Converter for EV On-board Charger, Bochen Liu, 2020.
•Topology Derivation and Mission Profile Based Modeling of Bridge less PFC Converters, Zhengge Chen, 2020.
•Three - Phase Slim DC - Link PMSM/SynRM Sensorless Drive, Yang Feng, 2017.

Supervised Master Projects:
•Frequency Dependent Inductance Measurement with DC Biased Current, Javier Gonzalez, 2025.
•Design of High-Power Density EMI Filter for Three-Phase Converter in Welding Machine Application, Abdelrahman Abdelsalam, 2025.
•Enhancing Multi-Output Flyback Converter EMI Performance, Final Master Project, Marc Lykke, 2024.
•EMI investigation of GaN based Buck converter with soft switching technology, 2nd Semester Master Project, Abdelhakim Zeghoudi, 2024.
•High-Power Density PFC Converter with SiC-based Power Module, Arun P. Vasudev, Master Project, 2023.
•PSpice-MATLAB based Evolutionary Algorithm for Automatic Extraction of Parasitic in SiC-MOSFET Test Circuits, Stefan Harmen Scholten, Thomas Broberg Jensen, Final Master Project, 2023. (excellent and innovative thesis award)
•Closed Loop Impedance Modeling of Three-Phase Active Rectifier Below 150 kHz Frequency Range, Steffen Peters, Simon Petersen, Benjamin Sørensen, Marcus Heidelbach, (Semester Master project), 2022.
•MW-Level Power Converter Solutions for Power-to-X Application, Jakob Damkjær, Ubaid Bashir Wani, Spyridon Lazaris, (Master Project), 2022.
•Modelling and Analysis of EMI Generation in Powertrain of Electric Vehicles, Simon 2021 (Master Internship Project).
•PEBB concept for SiC-based Power Converters, Yashank and Varvik, 2021 (Master Project).
•Design and Performance Analysis of a High-Power-Density PFC Converter, Estefania Ruiz Arenaza and MariaMagdalena Boghiu, 2020 (Master Thesis).
•Smooth Transition between Switching and Pass-Through Operation Mode in Boost Converters, Luntrasu FlaviusAlexandru, 2020 (Master Thesis).
•Design and Optimization of EMI Filter for Interleaved PFC Converters with Phase-Shedding Control, Mohamad Yamen Ahmed Munzer Saad, 2019 (Master Thesis).
•EMI Performance Analysis of Single-Phase Multi-Cell WBG-Based AC/DC Converters, Sakaria Omar Ahmed, 2019 (Master Thesis).
•Clean and Efficient Energy Conversion in Single - Phase PFC Converter, Himanshu Taunk, 2019 (Master Thesis).
•Reliability-oriented reactive power control in power-electronic-based low voltage ac microgrids, Daniela Pagnani, 2019 (Master Thesis).
•An Electronic Inductor-Based Front-End Rectifiers for Three-Phase Motor Drive Systems, Carlos Enrique Imbaquingo

Muñoz, Ioannis Manganas, Ioannis Mexis, Konstantinos Patmanidis, Radhika Sarda, 2016, (Master Intro Project)

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

- Aalborg University Pedagogy course (Adjunktpædagogikum, 2016-2017)
. The training consists of a number of workshops, teaching experiments, pedagogical supervisors observations in class, etc.
It covers the following five modules:

-Teaching at a PBL university
-Planning and implementation of group instruction
-The use of IT and Media for learning and teaching
-The PBL group-collaboration, process and supervision
-Planning, development and quality assurance of study programs

In addition to the above modules, other elective modules were taken as well:

-Working with institutions and companies in project work
-Creative project processes through blended learning
-Design of development projects to strengthen quality (quality assurance)

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.

•University Teaching Day (2015 and 2016)

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.

- EMI/EMC PhD course

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

Type your answer here...

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 utilized teaching style is based on combined PowerPoint with traditional blackboard, group discussion during class and including exercise within the lecture sessions; demonstration during the lecture. Moreover, active quizzes and use of IT for learning was also included as a part of exercises.

In my opinion a good and effective lecture is the one that is delivered in a way that is informative, interesting and engaging. To achieve this goal the following four aspects are key features that I try to implement in my lectures:
1- Know the students
2- Generate and maintain student interest
3- Create student engagement & Structure your class to enhance learning and active learning
4- Identify and apply active learning

8. Any other information or comments.

Type your answer here...