

Undervisningsportfolio

1. Undervisnings-CV: Oversigt over undervisnings- og vejledningsopgaver med angivelse af fagområder, omfang, undervisningsniveau (bachelor, kandidat, efter-/videreuddannelse, ph.d.). Type af undervisningsform angives, f.eks. forelæsning, holdundervisning, øvelse, vejledning, eksamination, censur, fjernundervisning, internetbaseret undervisning og evaluering af undervisning. Undervisningssprog angives.

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 Heidelberg, (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

2. Administration og ledelse af uddannelse: Erfaring med uddannelsesledelse og –koordinering. Oversigt over studieadministrative opgaver, eksempelvis medlem af studienævn, studieleder, semesterkoordinator, fagkoordinator, akkreditering m.v. Erfaringer med planlægning af uddannelsesafvikling. Erfaring med udvikling af uddannelser. Deltagelse i udvalg, kommissioner m.m. vedr. uddannelse.

None

3. Formel pædagogisk uddannelse: Oversigt over gennemførte universitetspædagogiske kursusforløb, PBL-kurser, workshops, udviklingsprojekter, kollegial supervision o.l. Udtalelse fra universitetspædagogikum. Deltagelse i konferencer om pædagogik og didaktik. Dokumentation i form af kursusbeviser, udtalelser m.m. vedlægges.

- 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. Andre kvalifikationer: Bidrag til konferencer, debatindlæg, videnskabelige artikler om pædagogiske emner m.v. Kollegiasupervision, redaktørarbejde, erfaring som mentor og anden kompetenceudvikling.

•University Teaching Day (2015 and 2016)

5. Pædagogisk udvikling og forskning: Udvikling af nye kurser, undervisningsmateriale, undervisnings- og eksamensformer eller andet udviklingsarbejde. Didaktisk og pædagogisk forskning. Samarbejde med eksterne samarbejdspartnere.

- EMI/EMC PhD course

6. Udtalelser om undervisningskompetencer fra foresatte og kolleger. Undervisningsevalueringer og eventuelle udmærkelser for undervisningsvaretagelse.

Skriv dit svar her...

7. Evt. personlige refleksioner og initiativer: Personlige overvejelser knyttet til undervisning og vejledning, ønsker til og planer for pædagogisk videreudvikling, planer for opfølgning på undervisningsevalueringer m.v. Refleksioner over eget pædagogiske arbejde, dets målsætninger, metoder og gennemførelse. I refleksionen analyseres og motiveres dine pædagogiske aktiviteter i forhold til din pædagogiske forståelse og de studerendes læring. Tanker om undervisningsformen på Aalborg Universitet, der har et stort indhold af gruppeorganiseret projektarbejde og problembaseret læring (PBL).

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. Andet.

Skriv dit svar her...