Teaching portfolio

1. Teaching CV: A list of any lecturing and supervision tasks, including specification of academic fields, scope, level (bachelor, master, continuing education, PhD) as well as any external examiner tasks.

TEACHING IN COURSES

2013-2024 Teacher, PhD Course in Advanced LCA - Consequential modelling and input output LCA, Aalborg University. 5 ECTS (≈25 students both PhDs and professionals). Other course teachers: Bo Weidema, Jannick Schmidt, Søren Løkke, Agneta Ghose. Before 2019 I mainly assisted the other teachers during the group-exercises. Since 2019 I coordinate the course and teach one module (16 hours) that includes exercises and covers topics from the basic computational structure of LCA to the use of stochastic approaches to LCA and to global sensitivity analysis. The module is one of the few existing courses who includes teaching material to learn the python-based LCA software Brightway2 that is exclusively designed for LCA research. Current version of the course is organized in three modules, includes both online and onsite sessions and applied the flipped-classroom approach.

2023-2024 Teacher, PhD Course "Summer School in Applied Circular Economy". 5 ECTS (≈25 students both PhDs and professionals). Other course teachers: Prof. Nancy.Bocken (Maastricht Univ.), Prof. Melanie Jaeger-Erben (TU Brandenburg), Prof. Ruth Mugge (TU Delft). Assoc. Prof. Mette Alberg Mosgaard, Assoc. Prof. Michael Søgaard Jørgensenl, Assoc. Prof. Louise Møller Haase, Assoc. Prof. Reza Tadayoni, Assoc. Prof. Bent Thomsen + Assoc. Prof. Monia Niero. I coordinate the entire course as well as one of the three modules, that focuses on LCA of circular design strategies. The course is cross-faculty and involves staff from four departments. Current version of the course is organized in three modules, includes both online and onsite sessions and applied the flipped-classroom approach.

2023-2024 Teacher, Master course in Livscyklusvurdering (LCA) med fokus på klimaaftryk. 5 ECTS. ≈15 Students. he course in LCA targets and is designed for professionals and is offered as continued education (efteruddanelse) course. Teaching approach is flipped classroom with online and onsite workshops. Other course teacher: Søren Løkke (coordinator).

2017-2024 Teacher, Master course in Sustainable Products and Services 5 ECTS ≈30 students of Environmental Management and Sustainability Science, 1st sem. The course includes two blocks an ecodesign module and a LCA module. I teach several modules in the course, supervise the students in the preparation of a course portfolio collecting all exercises during the course and handed in at the exam, I also perform the oral examination. Other course teachers: Henrik Riisgaard, Rikke Dorothea Huulgaard, Søren Løkke, Jannick Schmidt.

2021-2022 Teacher at the Sustainability e-course organized by Aalborg University. A series of recorded online video lectures and associated material (quiz/assignments). I coordinated and contributed to the Module 3 on Systems Thinking and to the Module 5 on Environmental assessment.

2022 Teacher at PhD summer school: Plastic Biorefinery and Upcycling - Biotechnological Solutions for a Sustainable Plastic Sector (2022). Lecturing on LCA of biorefineries. Organizer: AAU plastic center – Aalborg University.

2017-2022 Teacher, Master course in Holistic Design at University of Southern Denmark. 7.5 ECTS. ≈30 students of Environmental and Resource Management 3rd Quarter. The course introduces to eco-design principles and provides knowledge and skills in LCA to students with a mixed background (social and natural sciences). I have been teaching the entire course (8 modules, 60 hours).

2014-2021 Teacher, Bachelor course in Miljøvurdering og forvaltning ("Environmental assessment and managemenr" Previously: Miljø og Livscyklusvurdering – "Environmental- and life cycle assessment"), Aalborg University. 5 ECTS. ≈30 students of Biology 6th Sem. and Miljøteknologi 4th Sem. The course is divided in four modules: LCA, Environmental Management, Environmental Impact Assessment, and GIS-technologies. The course objective is providing both theoretical knowledge and practical skills in these techniques. I have been teaching 3 out of 10 course modules (12 hours).

2014-2016 Teacher, Bachelor course in Problembaseret (PBL) læring i videnskab, teknologi og samfund ("Problem-based learning for science, technology and sociecty" - PBL) (also called "PV-kurset"). 5 ECTS. ≈60 students of 1st Sem. Geografi, Landinspektor, and By-, Energi- og Miljøplanlægning (BEM). The course is an introduction to the Aalborg model, i.e. problem based learning via group work. The course objective is providing knowledge and tools for collaborating in group on a project and for designing a research. I was responsible for the VTS part of the course, whereas Bente Nørgaard was responsible for the PBL part. In the course I also work as konsulent, i.e. as a co-supervisor following the group-work process during the 1st semester project (3 groups of BEM, ≈20 students).

2013-2017 Teacher, Bachelor course in Livscyklusvurdering og miljøkonsekvensanalyse ("Life cycle assessment and environmental assessment") at University of Southern Denmark. 7.5 ECTS. ≈10 students of Miljø og Ressource Management ("Environmental and resource management") 3rd Sem. a joint program between the two universities. The course introduces to sustainability assessment and provides knowledge and skills in LCA to students with a mixed background (social and natural sciences). I have been teaching the entire course (60 hours).

2013-2015 Teaching LCA modules in different courses of Aalborg University, such as Environmental Assessment and Climate Change, 6th Sem. Bachelor in Environmental Management; Tools for sustainable Development, 8th Sem. Master in Environmental Management and Sustainability Science, Current Topics 10th Sem. of Master in Environmental Management and Sustainability Science. Variable number of students ≈10-25. Content and duration of lectures varied, the majority being on theory and exercises on Life Cycle Impact Assessment. Other topics covered included: sustainability, recent developments in LCA, monetary valuation, and waste management.

SUPERVISION OF PHD STUDENTS

2024- Main supervisor of Kíra Lancz, PhD student. Project title: LCA for the circular bioeconomy. Topic: assessment of constraints to biomass availability and uncertainty in modelling biobased systems. Funded by Horizon Projects ALIGNED and LCA4BIO. Expected output: four co-authored scientific articles.

2024- Main supervisor of Ravalnath Shikhare, PhD student. Project title: Assessment of circular and novel seaweed-based products through a life cycle approach. The objective of the project is evaluating the sustainability and circularity of novel seaweed-based food products. The PhD project is integrated in BLUEBIO project FunSea. Expected output: four co-authored scientific articles.

2022- Main supervisor of Giovanni Codotto, PhD student. Project title: Constraints and Trade offs in the climate impacts of fisheries. The objective of the project is evaluating the climate impacts of fisheries and the feasibility and validity of consequential LCA methods in this context. The PhD project is integrated in the DFF 1 research project with the same name. Expected output: four co-authored scientific articles (one already published).

2020-23 Main supervisor of Pierre Jouannais, PhD student. Project title: Life Cycle Assessment for the Blue Bioeconomy Aquatic Resources in the Food System. The objective of the project is evaluating the sustainability of emerging technologies for microalgae-based disease treatment in land and marine aquaculture, within a Blue Bioeconomy context and using stochastic methods for LCA and uncertainty analysis. The PhD project is integrated in the AquaHealth EU project (BLUEBIO ERA-NET)). Output: four co-authored scientific articles.

2020-23 Main supervisor of Maddalen Ayala Cerezo, PhD student. Project title: Life Cycle Assessment for the Blue Bioeconomy: Bioplastic production from brown seaweed. Objective of the project is evaluating sustainability of seaweed-based production of bioplastic, an emerging technology for the circular blue bioeconomy, using consequential LCA as a starting point, and applying a mixed methods approach including quantitative storytelling and upscaling scenarios. Co-supervisor: Marianne Thomsen (AU). The PhD project is integrated in the PlastiSea EU project (BLUEBIO ERA-NET). Output: four co-authored scientific articles.

2020-21 Co-supervisor of Juanita Gallego Dávila, PhD student. Project title: Carbon Capture Use and Storage in Aalborg Portland: towards a low carbon economy in the cement industry. I am supporting Juanita in the LCA part of her project, mainly during the first half of the PhD project. The project is hosted at AAU and funded by MADE- Manufacturing Academy of Denmark. Main supervisor. Anne Remmen. Output: one co-authored scientific article.

2020-24 Co-supervisor of Kikki Lambert Ibsen, PhD student. Project title: Future oriented Conceptual Model for the Eco-design of Buildings- Based on a stepwise method including Dynamic Consequential Life Cycle Assessment and Absolute Environmental Sustainability Assessment. The project is hosted and funded by University of Sherbrooke (CA). Main supervisor: Prof Ben Amor Mourad. Co-supervisor: Morten Birkved (SDU). Output: four co-authored scientific articles.

2018-2021 Main supervisor of Susanne Köhler, PhD student. Project title: Sustainable Blockchain Technologies. Objective of the project is evaluating the sustainability of systems that make use of the blockchain technology. The project is funded by DFF - The Danish Council for Independent Research – Social Sciences. Output: four co-authored scientific papers published, plus several media interviews done together on the topic of Bitcoin impacts.

2015-2016 Co-supervisor of Hao Yin, PhD student. Project title: A Chinese PM2.5 health economic loss evaluation model and prediction system. Objective of the project was evaluating economic impacts of PM2.5 in China. The student was enrolled in a joint-PhD programme between Aalborg University and the School of environment at Beijing Normal University. Main Supervisor: Lin Xu. Output: two co-authored scientific papers published.

2013-2015 Co-supervisor of Morten Bidstrup, PhD student. Project title: Planning Sustainable Supply of Construction Aggregates. Objective of the project was combining LCA and Strategic environmental assessment (SEA) taking as starting point and case study the Danish aggregates extraction sector. Main Supervisor: Anne Merrild Hansen. Output: one co-authored scientific paper published.

SUPERVISION OF VISITING PHD STUDENTS

General rules for accepting students: I often receive requests from PhD students to join our group for a period, for example to work on a specific LCA topic like consequential LCA. Over time, I have elaborated my personal three ‘rules’ to host PhD students, they are explained in detail in a blog post (https://moutreach.science/2020/02/20/stay-abroad.html) and summarized here: 1) we work on a topic of common interest, 2) the duration of the stay is minimum three months, and 3) the outcome of the collaboration is to write, together, a co-authored paper.

2024 Uncertainty analysis of input-output databases compared to Process databases. Elisabetta Pigni. University of Bologna, Italy. 6 months stay. Expected output: one co-authored scientific paper.

2024 LCA modelling of upcycling and industrial symbiosis systems. Anna Ruini. University of Siena, Italy. 6 months stay. Expected output: one co-authored scientific paper.

2022 LCA of biorefineries, methodological improvements and uncertainty analysis. Ugo Javourez. Toulouse Biotechnology Institute, Bio & Chemical Engineering, Université de Toulouse. 3 months stay. Output: one co-authored scientific paper (under review).

2021 Meta-analysis based LCA of wastewater treatment systems. Supervision of Jorge Senán-Salinas, Visiting PhD student (3 months) IMDEA-Water Institute, University of Alcalá, Spain. Output: one co-authored scientific paper (in preparation).

2021 Consequential LCA of lignin-based technologies, identifying marginal suppliers of woody biomass. Supervision of Maxim Tschulkow, visiting PhD student (expected stay of 3 months, currently started remotely due to Covid travel restriction) at the Department of Engineering Management, Faculty of Business and Economics, University of Antwerp, Belgium. Main supervisor Prof. dr. Steven Van Passel. Output: one co-authored scientific paper.

2019 LCA of Spanish Dairy farms. Supervision of Daniel Francisco Egas Galarza, Visiting PhD student (2 months), BETA Technological Center, University of Vic - Central University of Catalonia (UVic-UCC), Spain.

2018 LCA of carbon capture and utilization. Supervision of Nils Thonemann, Visiting PhD student (3 months), Fraunhofer Institute for Environmental, Safety, and Energy Technology, Germany. Resulted in one co-authored scientific article in IF

>30 Journal.
2017 LCA of biomass to energy pathways. Supervision of Natalia R Matiz, Visiting PhD student (1 month), Institute of Energy Economics and Rational Energy Use, Univ. of Stuttgart, Germany.
2016 LCA of the Belgian construction sector. Supervision of Matthias Buyle, Visiting PhD student (3 months), EMIB-research group, Univ.of Antwerp, Belgium. Resulted in one co-authored scientific article.
2016 LCA of building refurbishment. Supervision of Agneta Ghose, Visiting PhD student (1-year), Massey Univ., New Zealand. Resulted in two co-authored scientific articles.
2015 LCA of Himalayan buildings. Supervision of Bhochhibhoya Silu, Visiting PhD student (2 months), Dep. of Land, Environment, Agriculture and Forestry, Univ.of Padova, Italy. Resulted in two co-authored scientific articles.
2015 LCA of brick production in Thailand. Supervision of Prateep Na Talang Rutjaya, Visiting PhD student (1 year), Dep. of Environmental Engineering, Kasetsart Univ., Bangkok, Thailand. Resulted in one co-authored scientific article.
SUPERVISION OF MASTER THESIS (30 ECTS)
2022 Investigating Harmonisation Issues within the Environmental Product Declaration (EPD) System - Focusing on EPDs Used in the Danish Building Sector. Freja Jeppesen and Kristine Sofie Holse Hansen. Master in Environmental Management and Sustainability Science.
2021 Uncertainty in the LCA of chemical use in textiles. Giovanni Codotto. Master in Environmental Management and Sustainability Science.
2019 Exploring the energy-economy interplay: A Spanish case study. Emmanuel Aramendia. Master in Environmental Management and Sustainability Science.
2019 Development of the EIFC-tool to explore environmental impacts of household food consumption. Daniel Benner, Annika Anderson Erjavec, Luzie Rück. Master in Environmental Management and Sustainability Science.
2018 Descriptive Statistical Analysis of Life Cycle Assessment Indicators in Type III Environmental Product Declarations. Veronika Maria Rahn, Master in Environmental Management and Sustainability Science.
2017 Small but Complex: Integrating Smallholders within the Handbook for Product Social Impact Assessments. Diana Indrane, Master in Environmental Management and Sustainability Science.
2016 Development of Ecofactors according to the Swiss Ecological Scarcity Method for Land-Use occupation with global coverage. Alexander Welsh, Master in Environmental Management and Sustainability Science.
2015 Sustainability assessment of ultra-high pressure homogenisation for milk and fresh cheese production: from pilot to industrial scale. Lucia Valsasina, Master in Environmental Management and Sustainability Science.
2014 Food wastage impacts identification with an LCA approach, Paulo Martins Silva and Manuel Xavier Mendes de Campos, Master in Environmental Management and Sustainability Science. Co-supervisor: Jannick Schmidt
2014 Environmental footprint study of Pandora production co., ltd. towards green industry. Chonlawan Thammaraska. Internship from Mahidol University (Thailand)
2014 Environmental profiling of products: the carbon footprint of a water cooling system, Marina Nazarenko, Master in Environmental Management and Sustainability Science.
2013 Life Cycle Assessments of DuPont's Emulsifiers, Britt Gamskjær Vroue, Master in Environmental Management and Sustainability Science.
2013 A comparison of LCA methods used in the assessment of CO2 emissions of forestry products, Michele De Rosa, Joint European Master in Environmental Studies. Main supervisor: Jannick Schmidt.
2013 The use and diffusion of Life Cycle Thinking / Assessment to ensure sustainable practices in the developing African economy: status, challenges, and barriers. Adedayo Adeiga Tosin, Joint European Master in Environmental Studies.
SUPERVISION OF GROUP PROJECTS (1-5 STUDENTS, 15 ECTS)
2020 Life cycle assessment of supercritical water oxidation treatment for PFAS contaminated wastewater: Comparing supercritical water oxidation and incineration. 3 sem. Master in Environmental Management and Sustainability Science.
2020 Life cycle assessment of circular strategies for a concrete back plate in a sandwich facade - A case study of Ambercon. 1 sem. Master in Environmental Management and Sustainability Science.
2020 A Strategic Framework: Conceptualizing how Ambercon can become more sustainable. 1 sem. Master in Environmental Management and Sustainability Science.
2019 Energy Intensity of the Spanish Economy - A Useful Work Study. 3 sem. Master in Environmental Management and Sustainability Science.
2018 Too Good To Go - a dynamic solution to food waste?: A socio-technical exploration of a fluid technology in three businesses in Aalborg. 3 sem. Bachelor in Techno-Anthropology.
2017 The Role of Woody Biomass Residues in an Uncertain EU Energy Future. 2 sem. Master in Environmental Management and Sustainability Science.
2017 Creating Eco Awareness with LCA data and Digitalisation. 2 sem. Master in Environmental Management and Sustainability Science.
2016 Recycling of residual materials in concrete production A case study of using waste treatment residues in concrete applying comparative life cycle assessment within the context of circular economy. 1 sem. Master in Environmental Management and Sustainability Science.
2016 Social Life Cycle Assessments: A Route Towards Implementing Product Social Assessments at Nestlé. 3 sem. Master in Environmental Management and Sustainability Science.
2015 Future Recycling of Household Plastic and Metal Waste in Northen Jutland - An Assessment of Environmental Impacts Compared to Incineration. 1. Sem. Master in Environmental Management and Sustainability Science. Main supervisor. Henrik Risgaard.
2015 Comparative Life Cycle Assessment of a Terra Preta Sanitation System and a Conventional Sanitation systems at the train station Hamburg Hauptbahnhof. Samuel Schlecht. 3. Sem. Joint European Master in Environmental Studies.

2015 Combining IO LCA and social databased for assessment of working environmental-related social impacts. Gilang Hardadi. 3. Sem. Joint European Master in Environmental Studies.
2014 Life Cycle Assessments of waste management of juice boxes and milk cartons. 1. Sem. Master in Environmental Management and Sustainability Science.
2014 Biogas in Denmark: a review of the Danish energy policy with a special focus on biogas. 2. Sem. Master in Environmental Management and Sustainability Science. Co-supervisor: Søren Løkke.
2013 LCA of air ventilation system at KE Fibertek. 1. Sem. Master in Environmental Management and Sustainability Science. Co-supervisor: Søren Løkke.
2013 Er økologi virkelig bedre for miljøet?- En sammenlignende LCA af økologisk dyrkede gulerødder og konventionelt dyrkede gulerødder. 5. Sem. Bachelor of By-, Energi- og Miljøplanlægning. Main-supervisor: Jannick Schmidt.

2. Study administration: A list of any study administration tasks, e.g. study board membership, head of studies or semester or course coordinator, accreditation, etc.

2021-2024 Teaching coordinator for the DCEA group. The task consists in making an overview of all the teaching assignments and teaching hours of the entire group, and check for inconsistencies and reporting issues, and then communicate this to the administration. As part of this role, I also prepare a budget of teaching activities for the incoming hear.
2020-2022 PhD Coordinator for the DCEA group. The task includes reading and approving the PhD plans that each PhD student in DCEA hands in (both the 2 Months plan and the revised version, the 11 Months plan). I also approve the short report that each PhD students makes each semester.
2017-2024 Course coordinator, Master course in Sustainable Products and Services ≈30 students of Environmental Management and Sustainability Science, 1st sem. 5 ECTS. ≈30 students of Environmental Management and Sustainability Science, 1st sem
2015-2024 Course coordinator, PhD Course in Advanced LCA - consequential modelling and input output LCA, Aalborg University. 5 ECTS (≈30 students both PhD and professionals).
2023-2024 Course coordinator, PhD Course in Summer School in Applied Circular, Aalborg University. 5 ECTS (≈25students both PhD and professionals).
2017-2021 Course coordinator, Master course in Holistic Design at University of Southern Denmark & Aalborg University. 7.5 ECTS. ≈30 students of Environmental and Resource Management 3rd Quarter.
2014-2020 Course coordinator, Bachelor course in Miljøvurdering og forvaltning (Previously: Miljø og Livscyklusvurdering), Aalborg University. 5 ECTS. ≈30 students of Biologi 6th Sem. and Miljøteknologi 4th Sem.
2014-2016 Course coordinator, Bachelor course in Problembaseret læring i videnskab, teknologi og samfund (PV-kurset). 5 ECTS. ≈60 students of 1st Sem. Geografi, Landinspektor, and By-,Energi- og Miljøplanlægning(BEM).
2013-2017 Course coordinator, Bachelor course in Livscyklusvurdering og miljøkonsekvensanalyse at University of Southern Denmark& Aalborg University. 7.5 ECTS. ≈10 students of Miljø og RessourceManagement 3rd Sem.

3. University pedagogy qualifications: A list of any completed courses in university pedagogy, PBL courses, workshops, academic development projects, collegial guidance and supervision, etc.

2020 Attended 1h Webinar: Inspiration and guidance on how to design digitally supported teaching, developed by Centre for Digitally Supported Learning at AAU. This was followed up by 1h individual meeting on how to create videos.
2019 Attended “Structure your Moodle Course”, 2h hands-on workshop on optimally structuring course webpages.
2017 Attended 2-day “PhD supervisor workshop”. The course focuses on the relation between PhD student and supervisor and covers theoretical models, tools and reflections related to PhD supervision in general. Course leader: Mirjam Godskesen (external consultant).
2017 Attended course in ”Samtale og formidling på Dansk” (“Conversation and communication in Danish”) about teaching in Danish for foreign staff at Aalborg University. Organized by Language and Communication Services (LACS), Aalborg University.
2015 I participated to a series of four internal department workshops (2 hours each) on PhD supervision, organized by Pia Bøgelund of the PBL group, Dep. of Planning. Workshop topics: 1) Supervision strategies; 2) Cross-cultural Supervision: The issue of independence; 3) Motivation and abandonment; 4) Contact and the art of negotiating conflicts. Workshops included presentations based on Pia Bøgelund’s field work and research, discussions, and group exercises. No diploma was issued being this an independent initiative.
2014 As part of the Adjunktpædagogikum, I volunteered to receive supervision on “How to teach in English” by Andrew James Fish, Department of Culture and Global Studies (AAU). Andrew attended to one of my lectures and gave good feedbacks on how to improve the theatrical aspects of the presentation (body language, speaking loud in front of an audience, etc.) and English spelling.
2014 Completed the pedagogical course: Adjunktpædagogikum (7 ECTS) at the Centre for University Teaching and Learning, Aalborg University - a professional course in problem-based learning with focus on key aspects of teaching and project supervision. The course includes four modules:
1)Reflecting on and documenting own teaching practice: development of teaching- and supervision skills. Teaching portfolio, colleague supervision and peer supervision (3 ECTS)
2)Teaching Methods and Learning Processes (1 ECTS)
3)Problem-based project work and supervision (2 ECTS)
4)Students, Teaching, Sustainability and Assessment in Higher Education – a Change Project (1 ECTS)

The Adjunktpædagogikum activities included: attending 16 seminars: writing a portfolio, being supervised several times by two supervisors on different aspects (supervision, lecture, exam), making a small change projects.

4. Other qualifications: Conference attendance, editorials, presentations, etc. relating to education, 'University Teaching Day', etc.

2017-2020 I wrote several blog posts about teaching LCA, for example about how to draft a LCA report, how to report inventory data in a report, and examples of exercises. They are all collected here under the “teaching” tag. https://moutreach.science/tags/

2020 Teaching brightway - right away. Abstract presented at the Brightcon 1-day online conference. The conference gathered the community of developers and practitioners using the python-based software Brightway2. My presentation was about my experiences in using the PBL approach to teaching Brightway2 to PhD students and python novices at our Advanced LCA PhD course.

2019 Attended the PhD day organizer by the TECH faculty. PhD students at the faculty presented their work and there was a chance to give feedback and network.

2020-201 Guest lecturer at Course in Life Cycle Assessment for Sustainable Engineering (main Instructor: Prof. Christoph Herrmann), Technical University of Braunscheiw (DE). I have been invited twice to give a guest lecture in this course of about 50 students, the first time about “Uncertainty in LCA” and the second time (online) about “Consequential LCA”. The lecture included exercises.

2017 Working against intuition: 12 years of experience with unlearning at the Danish Advanced LCA course. Pizzol M, Weidema BP, Løkke S., Schmidt, JH. Abstract presented at the 23rd SETAC Europe LCA Case Studies Symposium, Barcelona, Spain.

2016 Experiences from the use of web-based audience engagement systems in an LCA classroom. Weidema BP, Pizzol M, Schmidt J. Abstract presented at the 22nd SETAC-Europe LCA Case Studies Symposium, Montpellier, France. A summary of the use free web-based audience engagement system applied during the annual Ph.D. course on “Advanced LCA”. Available at: https://vbn.aau.dk/ws/files/249581774/abstracts_presentation_36479.pdf

2014 Experiment on teaching sustainability with stories and causal loop diagrams. I conducted this small “change project” as part of the Pedagogical course. The experiment consisted in using narratives and system mapping tools that typically target other audiences than students (general public, experts). These are combined in order to improve the teaching of sustainability and the development of systemic thinking skills.

2014 Problem Based Learning and sustainability: Experiences from teaching LCA at Aalborg University. Pizzol M, Løkke S, Schmidt JH. 2014. Abstract presented at the SETAC Europe 24th Annual Meeting, Basel, Switzerland, session on: Teaching and communicating sustainability – paving the way to a common understanding and meaningful actions. This work reflects on the advantages and limits of using PBL in teaching LCA, based on the experiences maturated at Aalborg University.

5. Teaching activity development and teaching materials: A list of any contributions to the development of new modules, teaching materials, study programmes, e-learning, collaboration with external business partners, etc.

2020-2021 Converting several of the courses and lecture I teach to online version with the flipped-classroom approach, by developing new video materials and preparation materials to go through before the lecture. Prepared approx. 5 hours of teaching videos (15 x 20min. videos)

2020 Topic supervisor for the Adjunktpædagogikum course of Agneta Ghose. I have been observing Agneta’s lectures as part of her 1-year pedagogical training course and providing feedback to her preparation, performance and teaching materials used, and discussing how to improve as well as various reflections on her teaching method.

2019 Developed ex-novo a 2-days module for the PhD course in Advanced LCA, focusing on LCA modelling with the python-based software Brightway2 and on its application for advanced uncertainty analysis in LCA.

2018 Developed ex-novo the course in Sustainable Products and Services, Master in Environmental Management and Sustainability Science, together with Henrik Rissgaard. The course includes two blocks, one on ecodesign and one on LCA, where ecodesign solutions are created and then assessed with LCA. The course includes the preparation of student portfolios collecting the group-exercises done during the course, that is the point of departure for the oral exam.

2014-2020 Teaching peer-review within the DCEA research group. DCEA started this independent and voluntary initiative based on the following idea: if we are peer-reviewing our research to improve its quality, why aren’t we doing the same for our teaching? Teachers attend to each other’s’ teaching activities and provide/receive feedbacks on specific points identified on beforehand. So far I have peer-reviewed two colleagues out of 7 participating (2 are located in Copenhagen)

2013 I have participated to the 2013 ILCA Challenge. This initiative of the ILCA- International Life Cycle Academy targets LCA teachers worldwide to compare their teaching practice and tools. I have submitted a 1-hour lecture video inclusive of description of lecture and teaching material.

6. Teaching awards you may have received or been nominated for.

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 pedagogic development, plans for following up on feedback/evaluations from students, etc.

FLIPPED CLASSROOM AND ONLINE TEACHING

During the 2020-21 COVID-pandemic I had to, like many other teachers, shift from lecturing in physical person to teaching remotely/online. The first approach can be summarised as “just doing the same as before but on Zoom”, but I figured out quickly that this approach was not effective and was very heavy and demanding for both students and teachers. Thus, for online lecturing in courses and classes I experimented and then shifted completely to the flipped classroom approach. This, in short, consisted in:

-Preparing videos with the lecture materials for the students to watch prior to the lecture. Or readings for the students to do do prior to the lecture.

-In class (virtual meeting room in Zoom, Teams, or similar) using the time for

o An initial “questions and answers” session on the material provided in preparation to the lecture, so that the students can get their doubts clarified and have a chance to hear some of the concepts explained once more.

o Exercises in group where students are assigned to breakout rooms and I “move around” the various rooms providing feedback or provide feedback via a dedicated chat (for example a shared Slack channel). This is followed by a presentation of the exercise results by the students in plenum and its discussion.

I believe this approach is optimal for online teaching and allows a lot of activation from the students, it’s less boring for both students and teacher, and allows to use the time together (remotely) more effectively and actively.

Examples of videos. These were used in the “Advanced LCA” PhD course, 2021 edition:

-Navigating activities and exchanges of a product system in the LCA software Brightway2:
https://panopto.aau.dk/Panopto/Pages/Viewer.aspx?id=a5803418-4950-4506-90b4-ad2400cc8fc7

-Performing a Monte Carlo simulation in the LCA software Brightway2:
https://panopto.aau.dk/Panopto/Pages/Viewer.aspx?id=ce6ff71d-1b57-469d-8924-ad2600e791c6

8. Any other information or comments.

Type your answer here...