

Undervisningsportfolio

1. Undervisnings-CV: Oversigt over undervisnings- og vejledningsopgaver med angivelse af fagområder, omfang, niveau (BA, kandidat, EVU, Ph.d) samt evt. censoropgaver.

Teaching experience

Courses Taught

2019 Fall: Co-lecturer: Fundamental energy systems physics and topology, Energy Technology, 1. Semester, Aalborg University
2019 Fall: Co-lecturer: Resource Characterization & Conversion Technologies of Recourses, Environmental and Resource Management, 7. Semester, University of Southern Denmark
2019 Spring: Lecturer: Combustion Technology and Chemical Reactors, Energy Technology, 8. Semester, Aalborg University
2018 Fall: Co-lecturer: Fundamental energy systems physics and topology, Energy Technology, 1. Semester, Aalborg University
2018 Fall: Co-lecturer: Test and validation. Elective course, Energy Technology, 9. Semester, Aalborg University
2018 Fall: Co-lecturer: Resource Characterization & Conversion Technologies of Recourses, Environmental and Resource Management, 7. Semester, University of Southern Denmark
2018 Spring: Lecturer: Combustion Technology and Chemical Reactors, Energy Technology, 8. Semester, Aalborg University
2017 Fall: Co-lecturer: Fundamental energy systems physics and topology, Energy Technology, 1. Semester, Aalborg University
2017 Fall: Co-lecturer: Test and validation. Elective course, Energy Technology, 9. Semester, Aalborg University
2017 Fall: Co-lecturer: Resource Characterization & Conversion Technologies of Recourses, Environmental and Resource Management, 7. Semester, University of Southern Denmark
2017 Spring: Co-lecturer: Basic Energy Technology for Planners, Environmental and Resource Management, 4. Semester, University of Southern Denmark
2017 Spring: Co-lecturer: Bioenergy Systems – Thermochemical and/or Biochemical Biomass Conversion, Energy Technology, 8. Semester, Aalborg University
2016 Fall: Co-lecturer: Combustion Technology and Chemical Reactors, Energy Technology, 7. Semester, Aalborg University
2016 Fall: Co-lecturer: Resource Characterization & Conversion Technologies of Recourses, Environmental and Resource Management, 7. Semester, University of Southern Denmark
2016 Fall: Co-lecturer: Fundamental energy systems physics and topology, Energy Technology, 1. Semester, Aalborg University
2015 Fall: Main lecturer: CHE 602, Biorefinery Processes and products, Masdar Institute
2015 Spring: Main lecturer: CHE 503, Chemical Reactor Engineering, Masdar institute
2014 Fall: Main lecturer: CHE 602, Biorefinery Processes and products, Masdar Institute
2014 Spring: Main lecturer: CHE 503, Chemical Reactor Engineering, Masdar institute
2013 Spring: Main lecturer: CHE 602, Biorefinery Processes and products, Masdar institute
2013 Fall: Main lecturer: CHE 602, Biorefinery Processes and products, Masdar Institute
2012-2013: Co-lecturer (30%) in Systems Engineering (Process Design, Economics, and Modelling), Masdar institute
2012: Guest lecturer in CHE609: Bioprocess Engineering for Waste(water) Treatment and Energy Production (Bioethanol lecture), Masdar institute
2012: Guest lecturer in CHE 503: Chemical Reactor Engineering (Enzymatic reaction fundamentals, Fermentation kinetics lectures), Masdar institute
2003: Assistant teacher in Modelling of biotechnological processes using Berkeley Madonna, 8. Semester, Aalborg University Esbjerg.
2001: Assistant teacher in Technical Microbiology, 5. Semester, Aalborg University Esbjerg.

Main supervisor for Ph.D. students

2014-2017: Ph.D. thesis: Sumaya Al Hosani (MI). Biofuels Production from local Halophytes in UAE
2014-2017: Ph.D. thesis: Rashed Farzanah (MI). Techno-economical evaluation of Sea Weed farming and processing in Abu Dhabi.
2013-2016: Ph.D. thesis: Tanmay Chaturvedi (MI). Sustainability assessment of biorefineries.

Co-supervisor for Ph.D. students

2017: Ph.D. thesis: Muhammad Tahir Ashraf (MI). Production of second generation biofuels from agricultural waste – annual biomasses.
2017: Ph.D. thesis: Chuanji Fang (MI). Production of biofuels and biochemicals from Agricultural waste in Abu Dhabi – perennial biomasses.
2017: Ph.D. thesis: Tomasz Bochenski (MI). Screening, isolation, and characterization of industrially interesting microalgae species native to Abu Dhabi.
2007-2010: Ph.D. thesis: Thalia Arvaniti (Risø-DTU). Pretreatment of the rapeseed straw and agricultural residues and bioethanol production with in-situ ethanol membrane extraction.

2007-2010: Ph.D. thesis: Piotr Oleskowicz-Popiel (Risø-DTU). Combined biogas, bioethanol and protein fodder in organic farming.

2006-2008: Ph.D. thesis, Carina Juel Lomborg (AAUE). Representative sampling and multi-sensor monitoring of fermentation and bioconversion processes.

Main supervisor for M.Sc. students

2019: Samah Assafadi (SDU). Biodegradation of plastic. Main supervisor.

2018: M.Sc. thesis: Kaidi Kaaret. The Driving and Influencing Factors of Bioenergy Sector Growth – The case of Estonia.

2016: M.Sc. thesis: Mohamed Al Ghailani. Techno-economical analysis of Integrated Seawater Energy and Agricultural System.

2016: M.Sc. thesis: Samar Al Jitan (MI). Extraction and Analysis of Bioactive Components with Nutraceutical Applications from UAE Native Halophytes.

2016: M.Sc. thesis: Saeed AlKhoodri (MI). Phyto-chemicals production from common coastal halophytes of the United Arab Emirates.

2015: M.Sc. thesis: Sabeera Haris (MI). Optimization of single cell, pure culture conversion of Organic Fraction of Municipal Solid Waste (OFMSW).

2014: M.Sc. thesis: Ayah Allassali (MI). Evaluation of Second-Generation Biofuels Production from Halophytes by Focusing on Wet-Fractionation of Native Halophyte *Salicornia sinus-persica*.

2014: M.Sc. thesis: Rashed Farzanah (MI). Aquatic biomass refinery: Co-production of bioenergy and high value biochemical from aquatic biomass native to Abu Dhabi

2013: M.Sc. thesis: Amaka Nwobi (MI). Techno-Economic Analysis of Biofuel Production from Organic Fraction of Municipal Solid Waste (OFMSW) Generated in Abu Dhabi, UAE.

2013: M.Sc. thesis: Tanmay Chaturvedi (MI). Techno-Economic Analysis of Bioenergy Production from Lignocellulosic Biomass of *Salicornia Bigelovii*.

2007: M.Sc. thesis: Mark Langdahl (AAUE). Characterisation of samples of wheat straw using Near Infrared Spectroscopy.

2006: M.Sc. thesis: Michael Madsen (AAUE) Detoxification of hemicellulose fraction pre-treated at harsh conditions.

2006: M.Sc. thesis: Mladen Stojanov (AAUE) Detoxification of hemicellulose fraction pre-treated at harsh conditions.

2006: M.Sc. thesis: Søren Hovgaard (AAUE). Bioethanol from Germinated Grains.

2006: M.Sc. thesis: Chen Wu (AAUE). Bioethanol from Germinated Grains.

2006: M.Sc. thesis: Nøbert Tajoacha (AAUE). Bioethanol from Germinated Grains.

2005: M.Sc. thesis: Piotr Oleskowicz-Popiel (AAUE). Simultaneous saccharification and fermentation with different carbon sources in anaerobically digested and wetoxidised manure.

2005: M.Sc. thesis: Prezemyslaw Lisiecki (AAUE). Simultaneous saccharification and fermentation with different carbon sources in anaerobically digested and wetoxidised manure.

2005: M.Sc. thesis: Joanna Pilarska (AAUE). Biogas and bio-ethanol potential of wet oxidised straw and manure.

Co-supervisor for M.Sc. students

2015: M.Sc. student: Saad Asadullah Sharief (MI). Genetic Modification of Yeast For Enhanced Ethanol Production From Saline Biomass

2014: M.Sc. student: Akinleye Sowunmi (MI). Anaerobic Digestion of Organic Wastes Generated in the Emirate of Abu Dhabi. A Biorefinery Approach.

Main Supervisor for undergraduate students (summer students and research assistants)

2014: Summer student: Cyrine Cherrat (Université de Rennes I). Extraction of phyto-chemicals from halophytes native to UAE.

2008: Student Employee: Anne Deen Christensen (University of Copenhagen). Fermentation of organic cheese whey using the lactose fermenting yeast *K. marxianus*.

2007: Summer Student: Anne Deen Christensen (University of Copenhagen). Fermentation of organic cheese whey using the lactose fermenting yeast *K. marxianus*.

2006: Summer Students: Andrea-Louise Grovn Nissen, Maria Matbjerg (University of Copenhagen). Immobilisation of *Saccharomyces cerevisiae* and *Mucor indicus* in calcium-alginate gel.

2005: 8. Semester Project: Lars Damgaard, Anne-Sophie Knudsen (Roskilde University, Denmark). Bioethanol from wheat straw.

2008: Summer Student: Jasper N. Jacobsen (Technical University of Denmark). Temperature and pH dependency on biomass and metabolite production by *Mucor indicus* during aerobic and anaerobic batch cultivation.

Supervisor for Guest Scientist

2007: Guest Scientist, Jin Hua (Jilin Province Light Industry Design & Research Institute, China). The study of ethanol production by *Mucor Indicus* on wheat straw hydrolyzate.

2005: Guest Scientists, Frank Sun (Jilin, China), Lu Jun (Jilin Light Industry, China, Institute Food and Biotechnology Division), Jin Hua (Jilin Province Light Industry Design & Research Institute, China). Pentose utilisation in bioethanol fermentation.

2004: Guest Scientists, Ling Feng (Jilin Tuopai Agricultural products developing Co., Ltd., China), Lu Jun (Jilin Light Industry, China, Institute Food and Biotechnology Division), Hou Lin (Jilin Light Industry, China, D&R Institute Fermentation Department). Characterization of biomass for bio-ethanol production.

2004: Guest Scientist, Carlos Martin. Department of Chemistry and Chemical Engineering, University of Matanzas,

Matanzas 44740, Cuba. Ethanol fermentation of clover grass by *Mucor indicus*.

External examiner

2008: External Examiner: 7th semester, Tek.-Samf. Resource characterization and conversion technologies and resources, University of Southern Denmark, (2 project groups), 25/1-08.

2007: External Examiner: 3rd semester Biotechnology, Technical University Aarhus, Denmark, 16/1-07.

Membership of external evaluation committees

2019: member of the examination board for the PhD defence of Jorge Enrique González Londoño, Characterization of Fast Anaerobic Digestion in a Novel Reactor Design with Immobilized Biofilms, DTU Copenhagen, 06-06-2019.

2018: Member of the examination board for the PhD defence of Io Antonopoulou, Development of Biocatalytic Processes for Selective Antioxidant Production. Luleå, Sweden, June 2018.

2008: Evaluation of Maria del Prado García Aparicio for the position as Post Doc in Biomass Conversion at Forest & Landscape, Faculty of Life Sciences, University of Copenhagen, July-08.

Membership of Thesis evaluation committees

2019: Member of evaluation committee for hiring Assistant professor in Enzymatic Bioconversions & Analytics, Technical University of Denmark.

2018: Member of the examination board for the PhD defence of Io Antonopoulou, Development of Biocatalytic Processes for Selective Antioxidant Production Luleå, Sweden, June 2018.

2016: Oluwadamilola I. Pikuda. M.Sc. Thesis (MI). Modified Brookite-Rutile TiO₂: Photoactivity under Visible Light Irradiation in Water Treatment Applications.

2015: Fabian Bonk. M.Sc. Thesis (MI). Development and economic analysis of anaerobic mixed culture fermentations to convert organic waste to carboxylic acids.

2014: Celia Lopez. M.Sc. Thesis (MI). Isolation and screening of halotolerant fungi from mangrove sediments for cellulase activity.

2013: Khalid Rashid. M.Sc. Thesis (MI). Prospects for Algal Biofuels in UAE: Technology and Economics.

2013: Joao Marcus Uratani. M.Sc. Thesis (MI). Anaerobic digestion of halophytic plant residues for biogas production and nutrient recovery.

Student recruitment activities

30/09/2019: One day visit – Ribe katedralskole (highschool students) – Research presentations, lab experiments, and tour of campus.

20/09/2019: Speech at the Esbjerg City hall during FridaysFor Future.

21/06/2019: Filming Biogas and Biorefinery Lab research video with students – published at social media.

18/06/2019: Meeting with “Esbjerg Søfartsmuseum” about a joint exhibition on saline biomass and algae. (ongoing discussions)

2. Studieadministration: Oversigt over studieadministrative opgaver, eksempelvis medlem af studienævn, studieleder, semesterkoordinator, fagkoordinator, akkreditering m.v.

Skriv dit svar her...

3. Universitetspædagogiske kvalifikationsforløb: Oversigt over gennemførte universitetspædagogiske kursusforløb, PBL-kurser, workshops, udviklingsprojekter, kollegial supervision o.l.

Skriv dit svar her...

4. Anden form for kvalificering: Konferencedeltagelse, debatindlæg, oplæg m.v. i relation til uddannelse, "Undervisningens dag", o.l.

Skriv dit svar her...

5. Undervisningsudviklingsforløb og undervisningsmateriale: Oversigt over medvirken til udvikling af nye moduler, undervisningsmateriale, uddannelser, e-learning, samarbejde med eksterne samarbejdspartnere o.l.

Skriv dit svar her...

6. Nominering til og/eller modtagelse af undervisningspriser.

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.

Skriv dit svar her...

8. Andet.

Skriv dit svar her...