Teaching portfolio
Zheng Ma
Mærsk Mc-Kinney Møller Instituttet
SDU Sundhedsteknologil
Postadresse:
Campusvej 55
5230
Odense M
Danmark
E-mail: zma@mmmi.sdu.dk
Telefon: 65503589
Mobil: 29101947
Fax: 66157697

TEACHING EXPERIENCE
I have many years of teaching experience from my current position and also while conducting my PhD research. Currently, I have taught at both the Bachelor and Master’s level (as listed below), and been involved in designing almost all of the courses I have taught. Over the years, I have supervised several term papers, bachelor theses, and master’s theses. Additionally, I have taught both long and short courses in several different countries, such as the United Kingdom, China, Taiwan, and Denmark. A lot of what I have learned from my multi-cultural experience can be transferred to my teaching. My classroom teaching blends lecturing, case discussions, and student presentations. I use varied methods to evaluate my students’ learning outcomes, such as written/oral exams and individual/group assignments. The exact proportion of the mixture depends on the size of the class and the level of the students.

This is a fairly complete list of courses I have taught:
• MSc (Eng) in Energy Business Ecosystem
• MSc (Eng) in Software Business Ecosystem
• MSc (Eng) in Scientific Methods
• MSc (Eng) in Innovative Energy Solutions
• MSc (Eng) in Innovative Software Solutions
• MSc (Eng) in Product and Innovation Management
• MSc (Eng) in Qualitative Market Research
• MA in International Business
• MSc and BA in Design of Operations Facilities and Systems
• MSc in Time Management
• BSc (Eng) in Cross-Cultural Management
• BSc (Eng) in Innovation Strategy
• BSc (Eng) in Product Development and Innovation
• BSc (Eng) in Qualitative Market Research

Educational practice - Basis / values
My teaching aim is not only to train students in applying theories and models to identify, analyse, discuss, and solve practical problems, but also to equip them with creative thinking skills and an innovative spirit in a global context. Specifically, my teaching is highly practice-based. I try to encourage my students to identify and solve the real problems or challenges in a particular situation/case, identify the pertinent theories or models which may intuitively provide an understanding of the problem and its attendant context, and then embed the innovation concept to reach potential strategic solutions.

In terms of my background, I am fully experienced in cultural diversity due to having worked and taught in several different countries. My international experience strengthens my teaching methods based on my understanding of different students’ background, interests, and demands.

FORMAL PEDAGOGICAL TRAINING
I completed the Danish university teachers’ pedagogical training programme in December 2012, and also attended the Associate Teachers’ Programme (ATP) while conducting my PhD research at the University of Nottingham.

OTHER ACTIVITIES RELATED TO TEACHING AND TEACHING DEVELOPMENT
2017-2018: Internal mentor for SDU Lecturer Training Programme
2017: Project of Developing Students Inter-Cultural Competences

Publikationer
A Comprehensive Review of Machine Learning in Multi-objective Optimization
Qu, Y., Ma, Z., Clausen, A. & Jørgensen, B. N., 20. aug. 2021, 2021 IEEE 4th International Conference on Big Data and Artificial Intelligence (BDAI). IEEE, s. 7-14
A digital twin framework for evaluating industrial consumers’ demand response participation: a comparison between Denmark and China

A Scoping Review of Deep Neural Networks for Electric Load Forecasting

Business ecosystem architecture development: a case study of Electric Vehicle home charging

Industrial consumers’ electricity market participation options: A case study of an industrial cooling process in Denmark


An Overview of Digitalization for the Building-to-Grid Ecosystem

Digital Twin Framework for Industrial Production Processes

Greenhouse Industry 4.0 – Digital Twin Technology for Commercial Greenhouses

A generic agent-based framework for modeling business ecosystems: a case study of electric vehicle home charging

A Comprehensive Review on Evolutionary Algorithm Solving Multi-Objective Problems
Qu, Y., Ma, Z., Clausen, A. & Jørgensen, B. N., 2021, 2021 22nd IEEE International Conference on Industrial Technology (ICIT). IEEE, s. 825-831

Agent-based simulation framework for evaluating energy flexibility solutions and adoption strategies

Digital Twin Framework for Energy Efficient Greenhouse Industry 4.0

Evaluation of Industrial Energy Flexibility Potential: A Scoping Review

Methodology for identifying technical details of Smart Energy Solutions and Research Gaps in Smart Grid: An Example of Electric Vehicles in the energy system

Smart buildings and urban spaces
System architecture modelling framework applied to the integration of electric vehicles in the grid

Digitalisation for energy efficiency and flexibility

Suitability assessment of electricity market mechanisms for electric vehicle grid integration

Research on Edge Intelligence-based Security Analysis Method for Power Operation System

Data Architecture for Digital Twin of Commercial Greenhouse Production

Analysis of Energy Storage Technologies for Island Microgrids: A Case study of the Ærø Island in Denmark

A literature review of energy flexibility in district heating with a survey of the stakeholders' participation

Agent-based Simulation Design for Technology Adoption

Agent-Based Simulation of Implicit Demand Response Adoption for Water Distribution System Reservoirs

Multi-agent Simulation of Households' Behaviors Towards Hourly Electricity Price Scheme in Denmark

Policy Challenges for the Development of Energy Flexibility Services

Distributed Energy Resource Adoption for Campus Microgrid

Optimization of Greenhouse Production process: An Investigation of Energy efficiency potentials
Agent-based Modeling for Optimizing CO2 Reduction in Commercial Greenhouse Production with the Implicit Demand Response
Christensen, K., Ma, Z., Demazeau, Y. & Jørgensen, B. N., 2020, SAMCON2020. 7 s.

Agent-based Modeling of Climate and Electricity Market Impact on Commercial Greenhouse Growers' Demand Response Adoption

Optimization of Energy Flexibility in Cooling Process for Brewery Fermentation with Multi-Agent Simulation

Business Ecosystem modeling - The Hybrid of System Modeling and Ecological Modeling: An application of the smart grid

Universities' Implicit Demand Response Participation

Agent-based Decision Making for Adoption of Smart Energy Solutions
Christensen, K., Ma, Z., Værbak, M., Demazeau, Y. & Jørgensen, B. N., nov. 2019, IEEE Sciences and Humanities International Research Conference (SHIRCON). IEEE, s. 1-4 4 s.

A survey of demand response adoption in retail stores DR control preferences, stakeholder engagement, and cross-national differences

The Application of Ontologies in Multi-Agent Systems in the Energy Sector: A Scoping Review

A cross-national comparative study of the political and regulatory impact on the adoption of demand response in Denmark and Austria

Agent-Based Modelling of Demand-Side Flexibility Adoption in Reservoir Pumping
Værbak, M., Ma, Z., Christensen, K., Demazeau, Y. & Jørgensen, B. N., 2019, 2019 IEEE Sciences and Humanities International Research Conference (SHIRCON). IEEE, 4 s.

Ecosystem Thinking: Creating Microgrid Solutions for Reliable Power Supply in India's Power System

Ecosystem-Driven State-of-the-Art Investigation for Social Workers' Back Pain

Location-based energy efficiency and flexibility strategies for smart campuses: Consideration of different levels of building intelligence and typologies
Peer-to-Peer Trading Solution for Microgrids in Kenya

Framework for microgrid design using social, economic, and technical analysis

Energy flexibility of the commercial greenhouse growers: The potential and benefits of participating in the electricity market

A discussion of building automation and stakeholder engagement for the readiness of energy flexible buildings
Ma, Z. & Jørgensen, B. N., 2018, Energies, 11, 1

An assessment for energy management in retail stores
Ma, Z., Jørgensen, B. N. & Billanes, J. D., 2018, Journal of Energy and Power Engineering, 12, s. 231-243

Industrial consumers’ smart grid adoption: influential factors and participation phases
Ma, Z., Jørgensen, B. N. & Asmussen, A., 2018, Energies, 11, 1

Solutions for Remote Island Microgrids: Discussion and analysis of Indonesia’s remote island energy system

The Bright Green Hospitals: Case Studies of Hospitals’ Energy Efficiency And Flexibility in Philippines

A Business Ecosystem Driven Market Analysis: The Bright Green Building Market Potential

Aggregation Potentials for Buildings - Business Models of Demand Response and Virtual Power Plants

Consumer Central Energy Flexibility in Office Buildings

Energy Flexibility in Retail Buildings: From a business ecosystem perspective

Energy Flexibility in the Power System: Challenges and Opportunites in Philippines

Energy Flexibility Potential of Industrial Processes in the Regulating Power Market
The Island Smart Energy System and Market

Demand Response Integration Through Agent-Based Coordination of Consumers in Virtual Power Plants

Energy Efficiency in a Mobile World

Discussion on China's Power Sector Reforms and Where to Next?

Market Opportunities and Barriers for Smart Buildings

Smart Energy in the Philippines
Ma, Z., Jørgensen, B. N. & Billanes, J. D., 2016, 35 s.

The international electricity market infrastructure-insight from the nordic electricity market

The National Multi-Island Smart Energy System in Philippines

The Overview of Smart Building Market and Potentials in Philippines
Ma, Z., Jørgensen, B. N. & Billanes, J. D., 2016

The Smart Grid Impact on the Danish DSOs' Business Model

Triple-layer smart grid business model: A comparison between sub-Saharan Africa and Denmark

Ecosystem Based Business Model of Smart Grid

Global Smart Grid Transferability: Insights from Europe, the U.S., and China
Ma, Z., Jørgensen, B. N. & Prljaca, Z., 2015, I: Journal of Energy and Power Engineering. 9, s. 1078-1092

Global Smart Grid Transmission: Comparison of Europe, the U.S., and China
Ma, Z. & Jørgensen, B. N., 2015. 4 s.
Industrial consumers' acceptance to the smart grid solutions: Case studies from Denmark

Smart grid in China: The key stakeholders, policies, regulations and challenges

Transformation of Manufacturing Firms to Servitisation Firms: An Ego Network Approach for SMEs

Exploring Employee motivation in Collaborative Ideation Communities - Insights from Employee Expectation and Hierarchy Distance

Keeping Ideation Alivel The Role of Employee Collectiveness and Management Intervention for Ideation Sustainability

Transformation of Manufacturing Firms to Servitisation Firms: an Ego Network Approach for SMES
Ma, Z., Lin, C-C. & Tanev, S., 2013.

A qualitative study of the challenges related to the development of product enabled services in technology driven start-ups
Pedersen, S., Tanev, S., Ma, Z. & Lin, C-C., 2012. 11 s.

E-learning implementation from strategic perspective: a case study of nottingham university
Lin, C-C., Ma, Z. & Chang, C-C., 2012, I: International Journal of Learning and Intellectual Capital. 9, 1/2, s. 125-136 136 s.

The 'Green' concern in e-learning development findings from a university case study in the UK
Lin, C-C., Ma, Z. & Gerstlberger, W., 2012, I: International Journal of Foresight and Innovation Policy. 8, 1, s. 84-100

The NPD team conflict: insights from cultural diversity and geographical dispersion
Ma, Z., Lin, C-C. & Tanev, S., 2012, I: Innovative Marketing. 8, 3, s. 62-72 10 s.

Three Tails of Organizational Innovation: from the Value Creation Perspective

Re-examining the Critical Success Factors of e-learning from the EU perspective
Ma, Z., Lin, C-C. & Lin, R. C-P., dec. 2011, I: International Journal of Management in Education. 5, 1, s. 44-62 19 s.

Modelling the innovation related outcomes of co-creation practices in technology-driven firm

A Study on the Impact of E-commerce in Improving Performance of Taiwanese SMES

Value co-creation: from an emerging paradigm to the next practices of innovation
Tanev, S., Thomsen, M. S. & Ma, Z., 2010. 13 s.