

Jan JANTZEN

Date of birth: 28/08/1953 | **Nationality:** Danish | **Gender:** Male | (+45) 24629901 | jj@aegean.gr |

Vesterlokken 12, 8305, Samsø, Denmark

● WORK EXPERIENCE

2003 – CURRENT – Chios, Greece

ADJUNCT PROFESSOR – UNIVERSITY OF THE AEGEAN

Department of Financial and Management Engineering (<https://odim.aegean.gr/?q=el/node/58>)

The Management and Decision Engineering Laboratory (<https://mde-lab.aegean.gr/>).

Course: Computational Methods for Decision Making (<http://www.fme.aegean.gr/en/computational-methods-decision-making>).

2006 – CURRENT – Copenhagen, Denmark

EXTERNAL EXAMINER – CENSORNET.DK

Member of the corps of external examiners for the engineering programmes in Denmark. Evaluation of MSc and BSc thesis projects as well as course exams in four Danish universities, 114 evaluations to date (<https://www.info.censornet.dk/english>).

01/01/2008 – CURRENT – Samsø, Denmark

IN-HOUSE CONSULTANT – SAMSO ENERGY ACADEMY

Project manager of EU projects concerning renewable energy and islands (<https://energiakademiet.dk/en>).

04/2017 – CURRENT – Samsø, Denmark

MEMBER OF GOVERNING BOARD – BALLEEN-BRUNDBY DISTRICT HEATING

Tuning of a plant controller for network feed temperature and feed flow. The distribution network supplies heating to 300 connected buildings (<http://www.bbf-veo.dk/>).

2016 – 2016 – Gothenburg, Sweden

PART-TIME CONSULTANT – DRIVEC

Design of an indicator for passengers' ride-comfort in public busses (<https://drivec.se/en/>).

2009 – 2016 – Vienna, Austria

EXPERT EVALUATOR – CHRISTIAN DOPPLER RESEARCH ASSOCIATION

Four evaluation rounds of a research laboratory in Vienna (<https://www.cdg.ac.at/en/>).

1986 – 2008 – Kongens Lyngby, Denmark

ASSOCIATE PROFESSOR – TECHNICAL UNIVERSITY OF DENMARK

Research and teaching (50/50). Supervision of thesis projects.

Courses: Fuzzy control, fuzzy control distance teaching, Structural Analysis of Control Systems, Matlab, LEGO robots (<http://www.aut.elektro.dtu.dk/>).

2000 – 2000 – Nordborg, Denmark

PART-TIME CONSULTANT – DANFOSS

Fuzzy control of a 600 kW rotary screw chiller for cooling buildings (<https://www.danfoss.com/en/>)

1995 – 1995 – London, United Kingdom

PART-TIME CONSULTANT – UNIVERSITY OF LONDON, QUEEN MARY AND WESTFIELD COLLEGE

Fuzzy idle-speed control of a Ford Mondeo engine for the Ford Motor Company (https://en.wikipedia.org/wiki/Ford_Mondeo).

1993 – 1995 – Malmö, Sweden

PART-TIME CONSULTANT – SYDKRAFT

Control of a large water storage for public power generation (<https://en.wikipedia.org/wiki/Sydkraft>).

1988 – 1989 – Heden, Denmark

PART-TIME CONSULTANT – ROCKWOOL

Simulation of a coal feed controller for a cupola furnace for making insulation wool for buildings. Educational software for furnace operators (<https://www.rockwool.com/uk/>).

1986 – 1986 – Yorktown Heights, United States

VISITING RESEARCHER – IBM RESEARCH, THOMAS J. WATSON RESEARCH CENTER

Design of an expert system for the diagnosis of mainframe computer performance (<https://www.research.ibm.com/labs/watson/>).

1984 – 1986 – Copenhagen, Denmark

SOFTWARE SYSTEMS DEVELOPER – SIM-CORP

Software design and implementation for agriculture, banks, and insurance companies in the APL language (<https://www.simcorp.com/>).

1982 – 1983 – Kingston, Canada

VISITING SCHOLAR – QUEEN'S UNIVERSITY

Research and teaching (50/50). Development of the Nested Interactive Array Language, NIAL (<https://www.queensu.ca/>).

Courses: Database systems.

1979 – 1982 – Copenhagen, Denmark

SOFTWARE SYSTEMS DEVELOPER – LK-NES

Design and implementation of an order accounting system and a project management system. End-user support.

1972 – 1974 – Copenhagen, Denmark

SONAR CORPORAL IN THE SUBMARINES – ROYAL DANISH NAVY

Detection and tracking of surface ships by hydrophone and ear (https://en.wikipedia.org/wiki/Delfinen-class_submarine).

● EDUCATION AND TRAINING

1979 – 1982 – Kongens Lyngby, Denmark

PHD – Technical University of Denmark

Field(s) of study

- Systems Science

Prototyping for the End-User | <https://www.dtu.dk/>

1974 – 1979 – Kongens Lyngby, Denmark

MSC IN ELECTRIC POWER ENGINEERING – Technical University of Denmark

<https://www.dtu.dk/>

● **LANGUAGE SKILLS**

Mother tongue(s): DANISH

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **DIGITAL SKILLS**

Learning Management System (Moodle) | MATLAB&Simulink | Big Blue Button | sagemath

Ten relevant publications in reverse chronological order

Jan JANTZEN

4 March 2021

- Carli, R., Dotoli, M., Jantzen, J., Kristensen, M., & Ben Othman, S. (2020). Energy scheduling of a smart microgrid with shared photovoltaic panels and storage: The case of the Ballen marina in Samsø. *Energy*, 198(117188), 1–16.
<https://doi.org/10.1016/j.energy.2020.117188>
- Karampotsis, E., Dounias, G., & Jantzen, J. (2019). Machine Learning Approaches for Pap-Smear Diagnosis: An Overview. In G. A. Tsihrintzis, M. Virvou, E. Sakkopoulos, & L. C. Jain (Eds.), *Machine Learning Paradigms: Applications of Learning and Analytics in Intelligent Systems* (pp. 67–127). Springer. <https://doi.org/10.1007/978-3-030-15628-2>
- Østergaard, P. A., Jantzen, J., Marczinkowski, H. M., & Kristensen, M. (2019). Business and socioeconomic assessment of introducing heat pumps with heat storage in small-scale district heating systems. *Renewable Energy*, 139, 904–914.
<https://doi.org/https://doi.org/10.1016/j.renene.2019.02.140>
- Jantzen, J., Kristensen, M., & Christensen, T. H. (2018). Sociotechnical Transition to Smart Energy: The Case of Samso 1997-2030. *Energy*, 162, 20–34.
<https://doi.org/https://doi.org/10.1016/j.energy.2018.07.174>
- Jantzen, J., & Jakobsen, C. (2017). Turning PID controller tuning into a simple consideration of settling time. In *2016 European Control Conference, ECC 2016*.
<https://doi.org/10.1109/ECC.2016.7810313>
- Katsoulis, P., Thomaidis, N. S., & Jantzen, J. (2015). Risk Evaluation of Wind Turbine Investments. *Journal of Energy Markets*, 8(3), 69–94.
- Jantzen, J., & Kristensen, M. (2014). Household Energy Checks. *International Journal of Engineering and Management*, 6(2), 73–90. Retrieved from <http://mde-lab.aegean.gr/images/stories/docs/JantzenKristensen.pdf>
- Jantzen, J. (2013). *Foundations of Fuzzy Control: A Practical Approach* (2nd ed.). Wiley and Sons. Retrieved from <http://books.google.com/books?id=S2tY4HTN7IUC&pgis=1>
- Marinakos, Y., Marinaki, M., Dounias, G., Jantzen, J., & Bjerregaard, B. (2009). Intelligent and nature inspired optimization methods in medicine: the Pap smear cell classification problem. *Expert Systems*, 26(5), 433–457.
- Jantzen, J., Norup, J., Dounias, G., & Bjerregaard, B. (2005). Pap-smear Benchmark Data For Pattern Classification. In *Proc. NiSIS 2005, Albufeira, Portugal* (pp. 1–9).
<http://www.nisis.de: NiSIS>

Decisions and Control within Renewable Energy Systems

7 March 2021

Jan JANTZEN

Language of instruction: English

ECTS points: 2 (20 hours)

Scope and form: Lectures, exercises, and group work

Duration: 4 weeks

Type of assessment: All assignments must be completed, and a multiple-choice written exam (possibly online) passed with a score above 50 percent.

Aid: Any material is allowed at the multiple-choice exam.

Recommended prerequisites: Basic knowledge of programming (for instance Matlab), basic knowledge of matrix algebra, basic knowledge of formal logic. Knowledge of control theory is *not* required.

Learning objectives

1. To understand and experience fundamental theory for modelling purposes
2. To apply solutions to practical problems within renewable energy and climate

Core elements: dynamic systems, feedback loops, least squares data modelling, cash flow analysis, fuzzy logic, fuzzy clustering.

Key concepts: renewable energy cases (photovoltaics, battery storage, wind turbines, ground source heat pump, district heating), financial decisions, civic engagement, computational intelligence, planning for climate emissions reductions, sociotechnical transition to a climate neutral community, population model, 'culture and technology together' in summary.

Course literature: The students will be provided with technical literature, free of charge, during the course.