



Faculty of Engineering at University of Southern Denmark









University of Southern Denmark

Established 1966

Turnover: 351 mill. EUR

5 faculties:

- Engineering
- Science
- Health Sciences
- Humanities
- Business and Social Sciences

6 campuses

Academic staff: 1.973

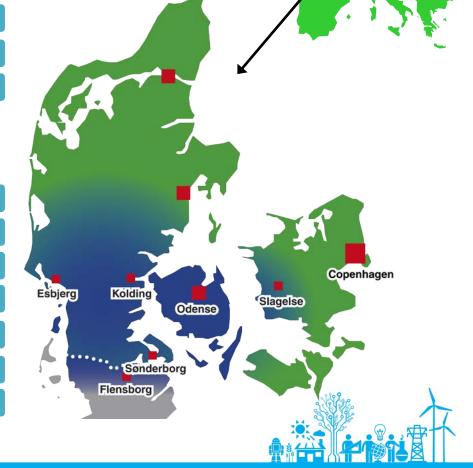
Technical and adm. staff: 1445

Students, total no : 28.700

International students: 4700

Number of programmes: 222 of which 81 is in English

Leiden World Ranking: 188



Faculty of Engineering

Facts

Established in 2006 – Merger between SDU and IOT

Turnover: 32 mill. EUR

Research and educational activities in Odense and Sønderborg

4 departments

Research centres and an innovation unit

175 researchers and lectures

104 technical and administrative employees

77 PhD students – hereof 7 industrial PhD students

2900 students

600 international students

23 engineering programmes





Organisation



Faculty Management

Director of Studies Henning Andersen Head of Secretariat Søren Lind Christiansen

Department of Innovation and Technology

Nano-optics, Structural dynamics, Energy Technology, Production, Robot Mechanics, Supply Chain Management, Product Development & Innovation, Design.

> Head of Department Michael Evan Goodsite

The Maersk Mc-Kinney Moller Institute

Robot and Software Technology, Biological inspired robot technology, Cognitive vision, Mathematic Modelling, Embedded Systems, Power Electronics, Robot and IT technology for industry, agriculture, healthcare and welfare.

> Head of Department Lars Dyhr

Department of Chemical Engineering, Biotechnology and Environmental Technology

Analytical Chemistry, Spectroscopy, Natural Products Chemistry, Purification, drugs, Food Quality, Biogas, Biodiesel, Bacteria, Microalgae, Recombinant Proteins, Environment, Greenhouse Gases, Waste Management, Life Cycle Analysis, Advanced Materials Chemistry, Chemical Separation Techniques, Process Design.

> Head of Department Lars Porskjær Christensen

The Mads Clausen Institute (Sønderborg)

Mechatronics, Control, Power Electronics, New Energy Sources, Energy Efficiency, Modeling, Nano- Micro- og Cleanroom Technology, New light Sources, Microfluidics, User-Oriented Design, Innovation & Business.

> Head of Department Horst-Günter Rubahn



www.sdu.dk/tek



Strategic objectives





Education

The Faculty of Engineering should educate recognised, highly qualified engineers to satisfy the needs of society.



Research

The Faculty of Engineering wants to be broadly recognised in society as a faculty conducting research of a high international standard.



Innovation and collaboration

The Faculty of Engineering wishes to appear and act as an innovative, interdisciplinary faculty where knowledge and technology is generated and applied for the benefit of society.



TEK as a workplace

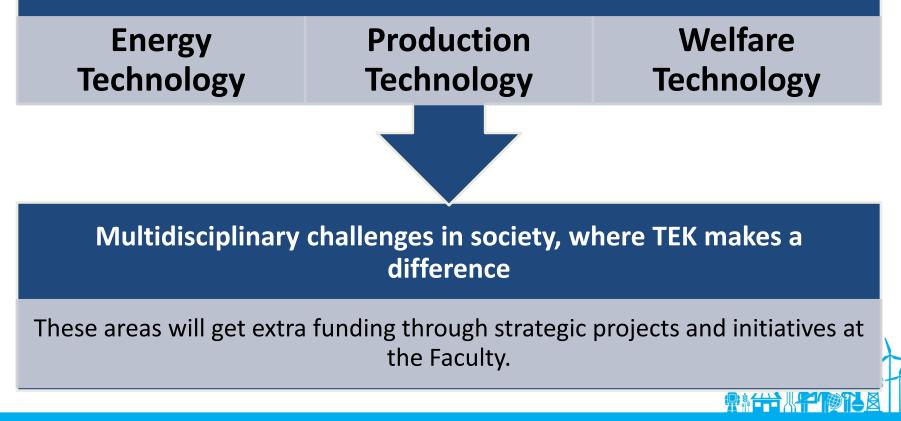
The Faculty of Engineering must be an attractive and inspiring workplace.



TEK THREE

Strategic focus areas – up to 2017





Engineering Programmes

11 Bachelor of Engineering programmes

Civil Engineering	Energy Technology (master offered from 202
Electrical and Electronic Engineering	Physics and Technology
Global Management and Manufacturing	Innovation & Business
Integrated Design	Chemistry
Interaction Design	Structural Engineering (Master)
Information and Communication Technology	Learning and Experience Technology
Chemical Engineering	Mechatronics
	Environmental Technology (Master)
Mechanical Engineering	Product Development and Innovation
Mechatronics	Robot Systems
Manufacturing Engineering & Management	Software Engineering
Electrical Power Engineering	Welfare Technology

12 Master of Science in

Engineering programmes

14)

Furthermore TEK has:

- 1 Master programme "IT Product Design"
- 2 Part Time Programmes
- Admission Course in Odense and Sønderborg



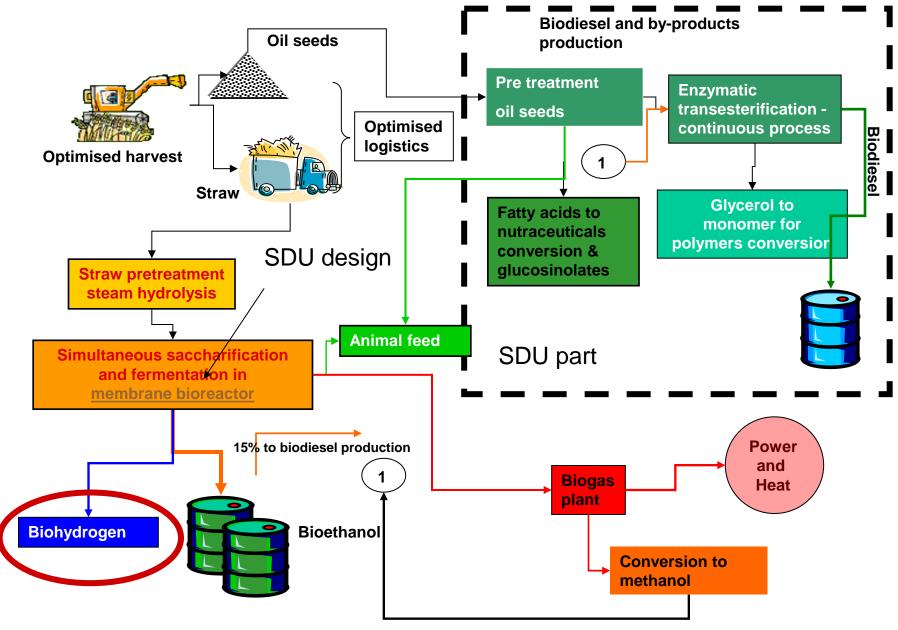




Department of Chemical Engineering, Biotechnology & Environmental Technology (CEBE)



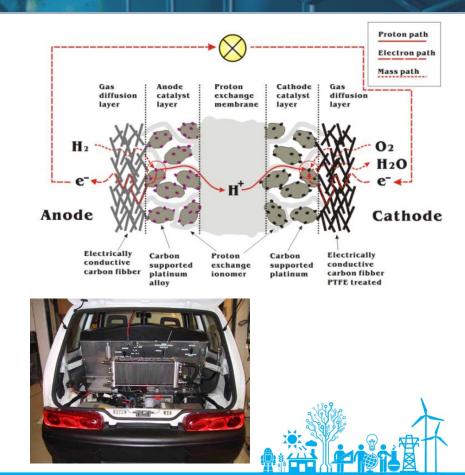
BIO-fuel production



Chemical Engineering – Materials Chemistry & Fuel Cells

Fuel cell research

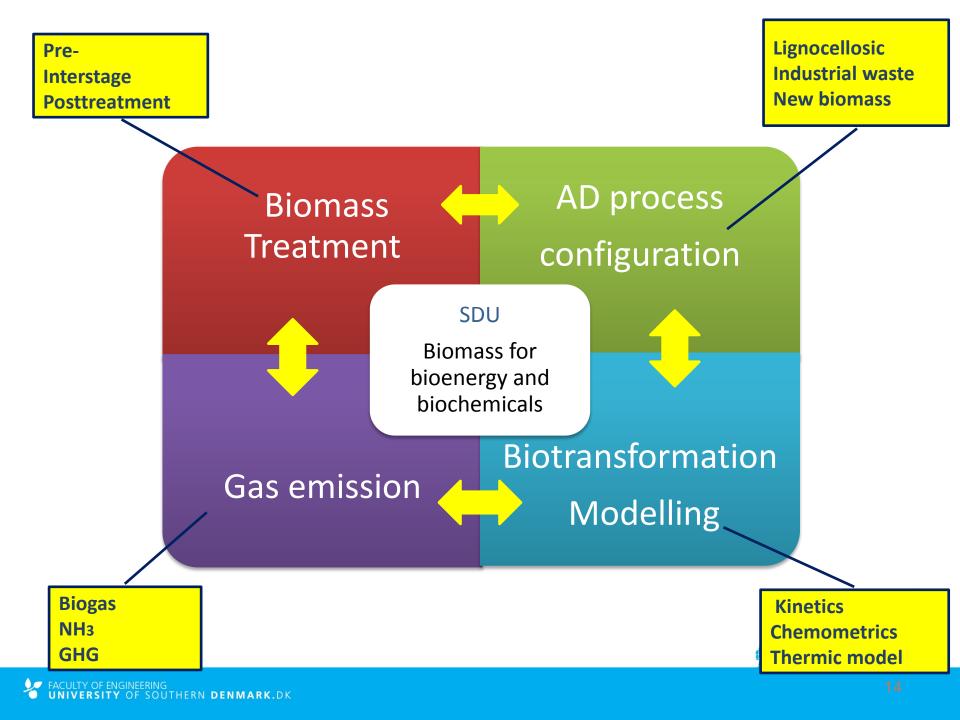
- Development of cheaper and more durable alternative membranes (longer lifetume) based on readily available commercial membranes modified by radiation grafting and reinforced with nano sized inorganic fillers.
- To understand the degradation mechanisms of electrodes and to improve electrode materials and develop "safe" operational protocols.



Biotechnology – Organic Waste Management & Bioenergy Production

- Bioenergy production with focus on energy carriers: biogas and biodiesel.
- Green house gas (GHG) reduction.
- Nitrogen (N) and phosphorous (P) recycling.
- Environmental technologies for managing organic waste from agriculture.
- Developing country projects. see <u>www.susane.info</u>.

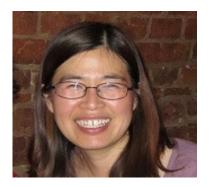




Biomass research group







Prof. Sven G. Sommer Assoc. Prof. Sasha Hafner, Assis Prof. Jin Mi Triolo







PhD Charlotte Rennuit PhD Simon V. Pedersen PhdD Ali Heidarzadeh Vazifehkhoran

Research area's

- Anaerobic digestion, batch and continuous reactors at the laboratory scale and, through work with industrial partners, pilot and full scale
- Greenhouse gas emission from organic waste during storage and management
- Biomass characterization by traditional and new methods that can be used to predict biogas production and the fate and effects of biomass in the environment