Welcome to KTH and IGSHPA Sweden's INTERNATIONAL GSHP MEETING 2016

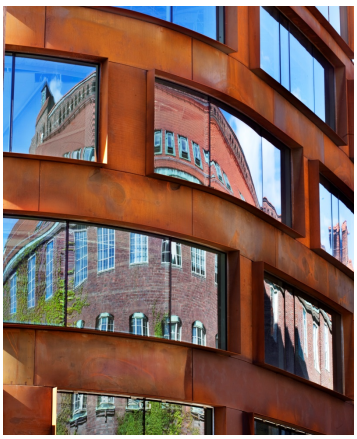
Björn Palm, Head of Department

KTH, the Royal Institute of Technology
Excellence in Education, Research and Entrepreneurship

KTH was founded in 1827 and has remained the largest of Sweden's technical universities.

Sweden's leading technical university

- Sweden's oldest and largest technical university
- More than 12,000 full-time students
- More than 1,900 PhD students
- More than 3,600 full time employees
- Five campuses in the Stockholm region
- Ranked 92nd best university in the world by QS



www.kth.se

A top-ranked institution

QS World University Ranking

- 92nd best university in the world
- 17th best in Electrical Engineering
- 24th in Architecture and Built Environment
- 25th in Mechanical Engineering

Times Higher Education (THE)

- 155th best university in the world
  42nd best in Engineering and Technology globally
- 52nd best university in Europe

Figures for 2015 and 2016

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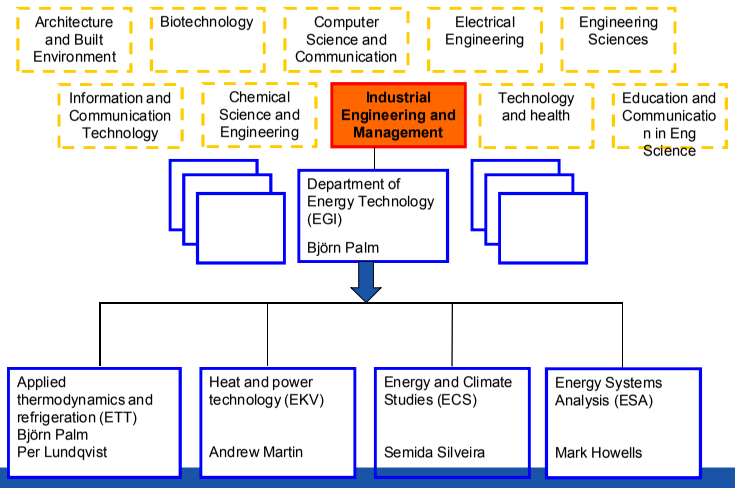
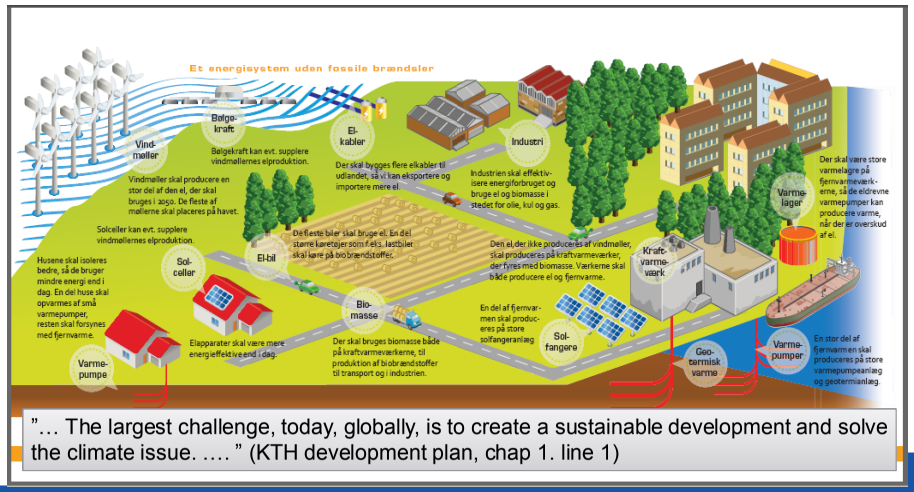
The Dept of Energy Technology at KTH



The Vision of Dept Energy Technology

To contribute to a sustainable future by inspired teaching and world class research in innovative energy technologies and energy systems.



"… The largest challenge, today, globally, is to create a sustainable development and solve the climate issue. …." (KTH development plan, chap 1. line 1)

Research areas:

Heat pumping technologies:

- Refrigeration systems, Heat pumps, AC systems

Heating and ventilation

- Indoor climate, Green buildings

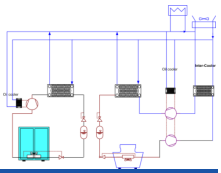
System simulation

- Simulation of supermarkets, buildings, neighborhoods, cities.

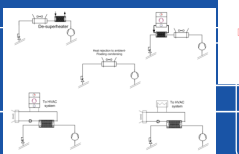
Heat transfer

- Compact heat exchangers
- Cooling of electronics
- Two-phase flow

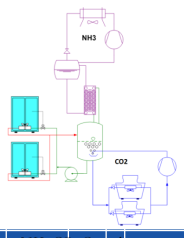
CO_2 Commercial Refrigeration and Heating Systems in Supermarkets



CO_2 Transcritical system

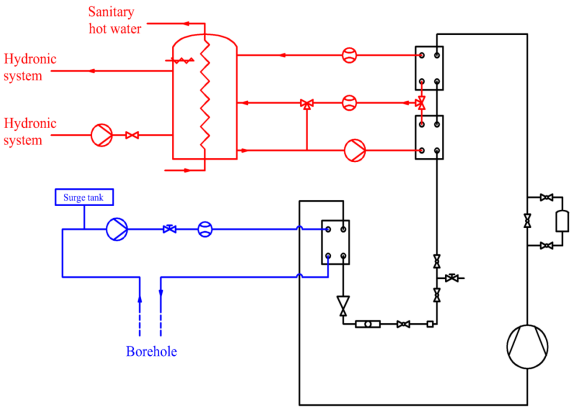


Heat Recovery form Refrigeration system



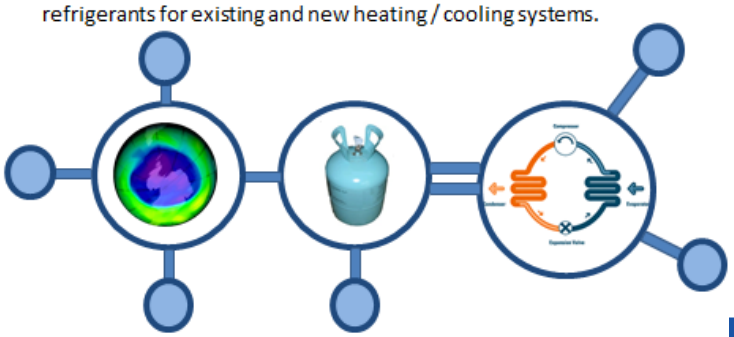
NH_3-CO_2 Cascade system

Small ammonia heat pump



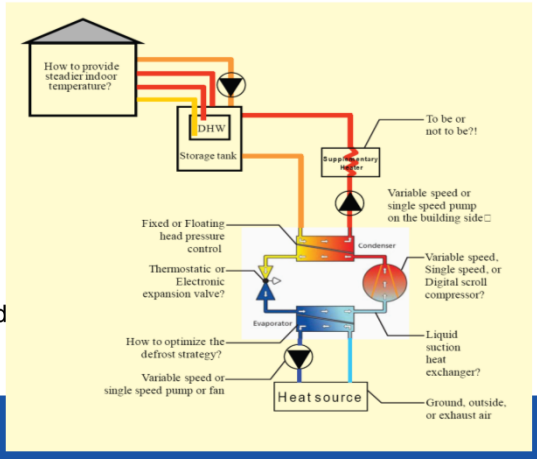
New low GWP refrigerants

the project aims to provide data, support and prerequisite information of alternative refrigerants with low GWP at the phasing out of HFC refrigerants for existing and new heating / cooling systems.

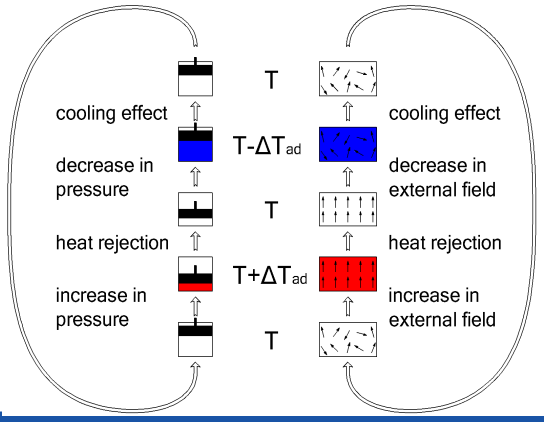


Heat pumps with variable speed compressors, fans and pumps – optimum control

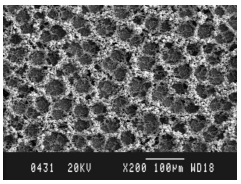
New project: FDD Fault Detection and Diagnosis

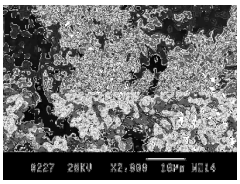


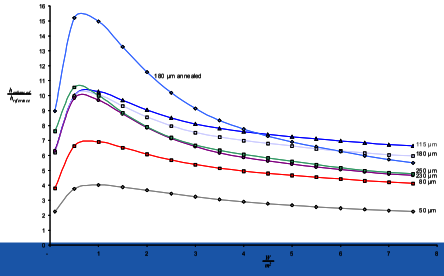
Magnetic refrigeration

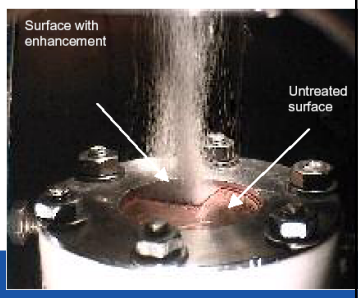


Microporous surface for enhancing heat transfer in boiling

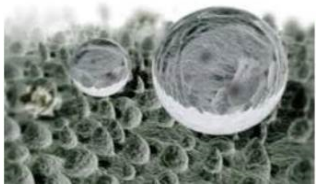


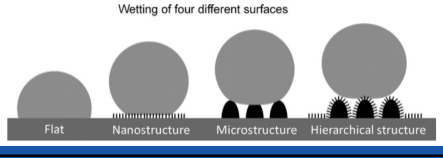




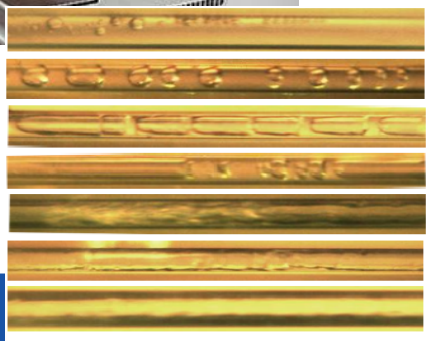


Efficient defrosting of air coils





Bubble growth in narrow channel



KTH Energy Technology is one of the initiators of IGSHPA Sweden and IGSHPA Sweden's head quarters!