
Program for folkeskolelærerkurset 8+9/9 2011
Torsdag 8/9 (Auditoriet)
09:00: Ankomst og morgenmad
10:30: Klima og energi - rigtig og forkert (KJO)
12:00: Frokost
17:00: Aftenbuffet
20:00: Slut


Lipton


Naturgas:
Ammoniak:

Fyld en reaktor spillet
Grading
Effektivitet
Navn
Distribution
Filtrering
Filterkapacitet
Pris
Antal klodser (pris for load)
TK-10 +++ +++ Høj 7 2 (14)
TK-15 +++ ++ Høj 4 3 (12)
TK-25 ++ ++ Meget høj 10 3 (30)
TK-30 ++ + Mellem 2 5 (10)
Guard
Effektivitet
Navn
Fjerne Ni
Fjerne V
Fjerne As
Antal klodser (pris for load)
TK-45 - - ++ 2 4 (8)
TK-47 - - +++ 5 2 (10)
TK-743 +++ +++ + 7 2 (14)
TK-831 ++ ++ + 3 4 (12)
Bulk
Navn
Pris
Antal klodser (pris for load)
~1000 ppm S
~10 ppm S
TK-527 3 10 (30) -
TK-561 BRIM™ 5 7 (35) 12 (60)
TK-605 BRIM™ 8 5 (40) 10 (80)
10 4 (40) 9 (90)
Pris
Antal klodser (pris for load)
Krakning og cold flow
Farve
12 10 (120) 10 (120)
12 10 (120) 10 (120)
13 10 (130) 10 (130)
14 10 (140)
10 20 (200)


Ø
N
S
V
HALDOR TOPSØE


Du kan redde et liv!


CASE


CASE
Energi, brændselsceller og katalysatorer
CASE-HTAS kursus
8.-9.september
ANNE HANSEN, ASSOCIERET LEDER, CASE, DTU

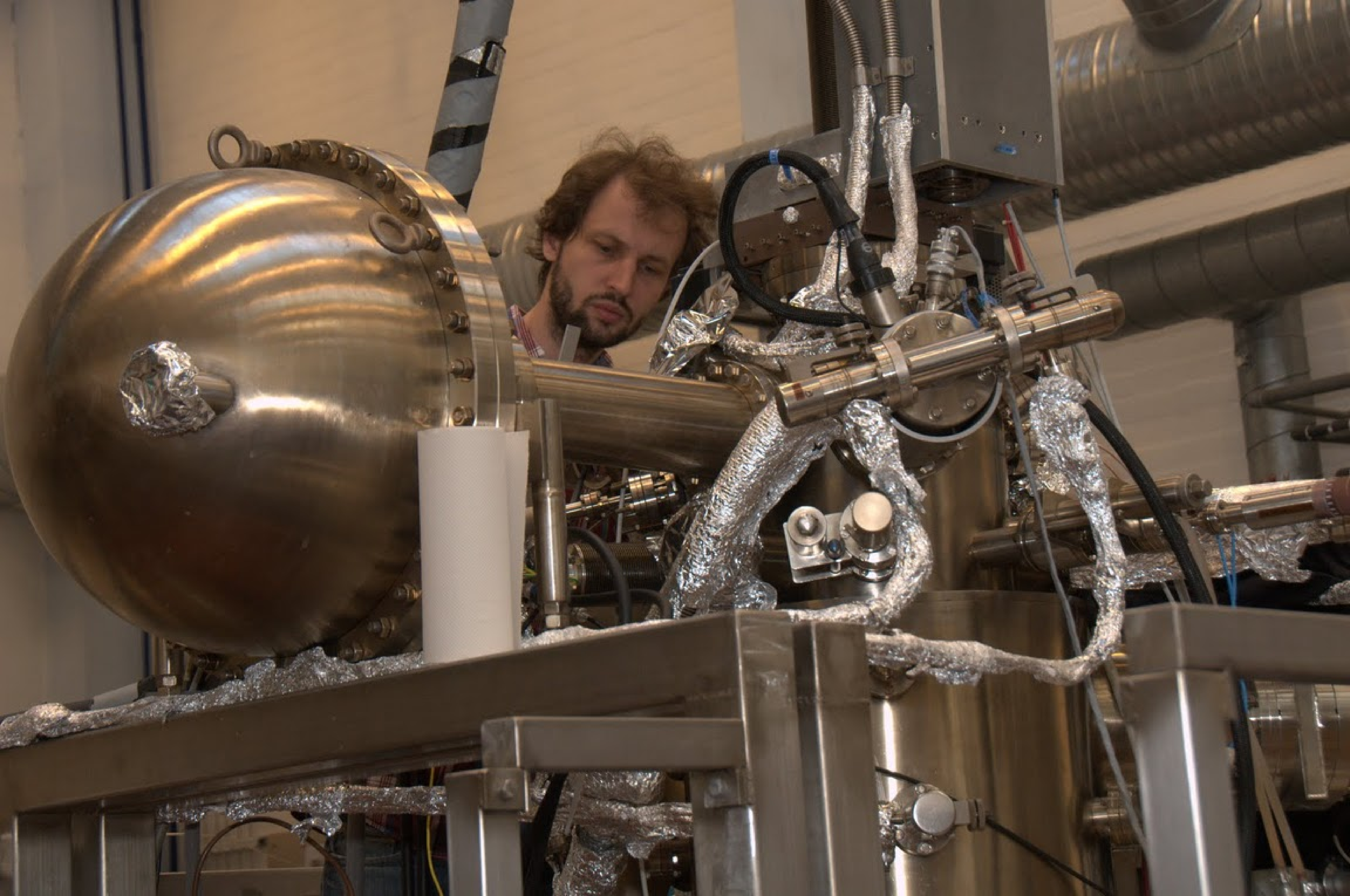

Kap. 3: Verdens bedste energikilde
CASE forskningen beskrevet på side 59-61
Kemisk energi


Kap. 3: Verdens bedste energikilde
CASE forskningen beskrevet på side 59-61
Kemisk energi

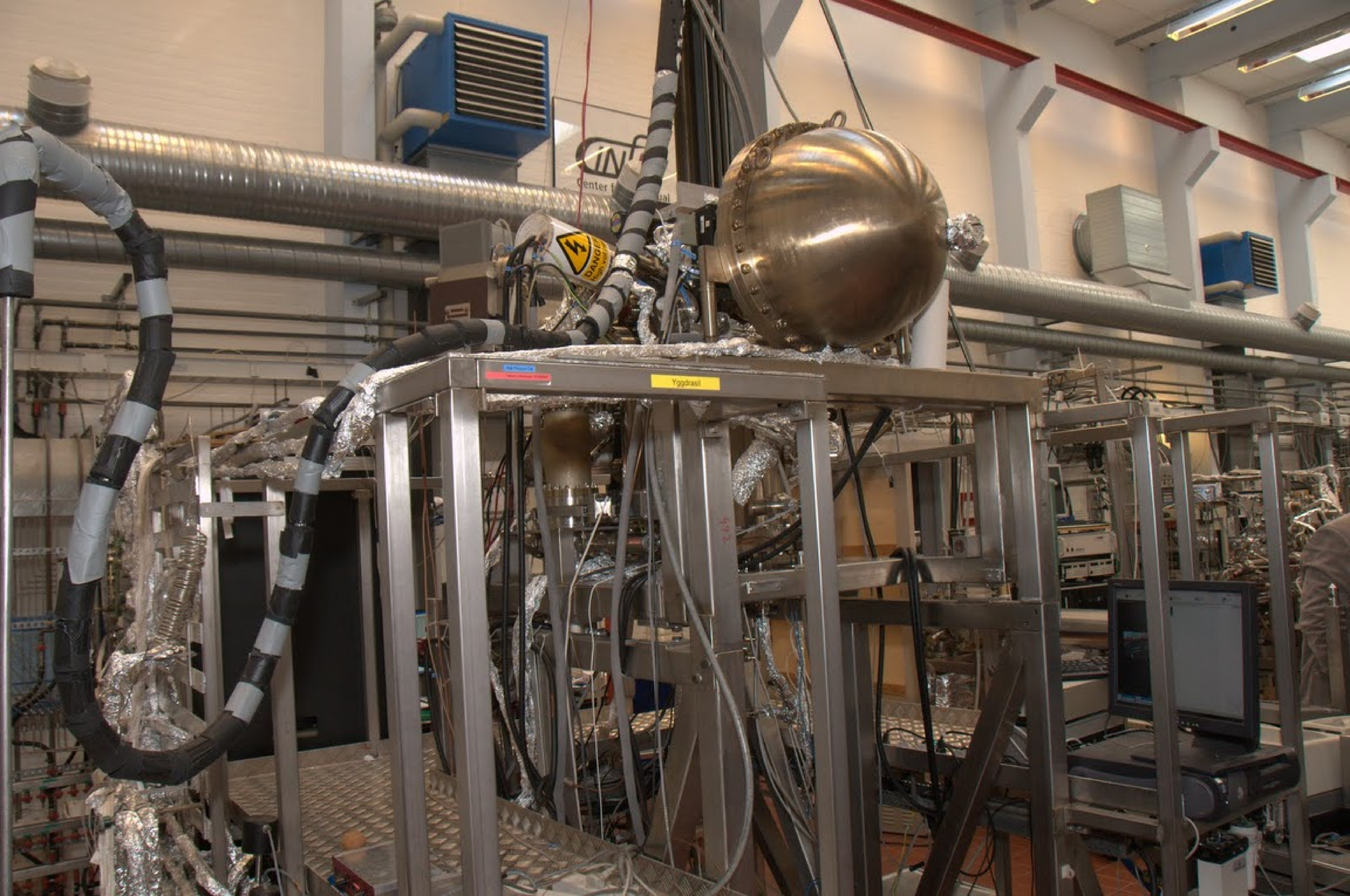

energikilde
CASE forskningen bes
Solenergi

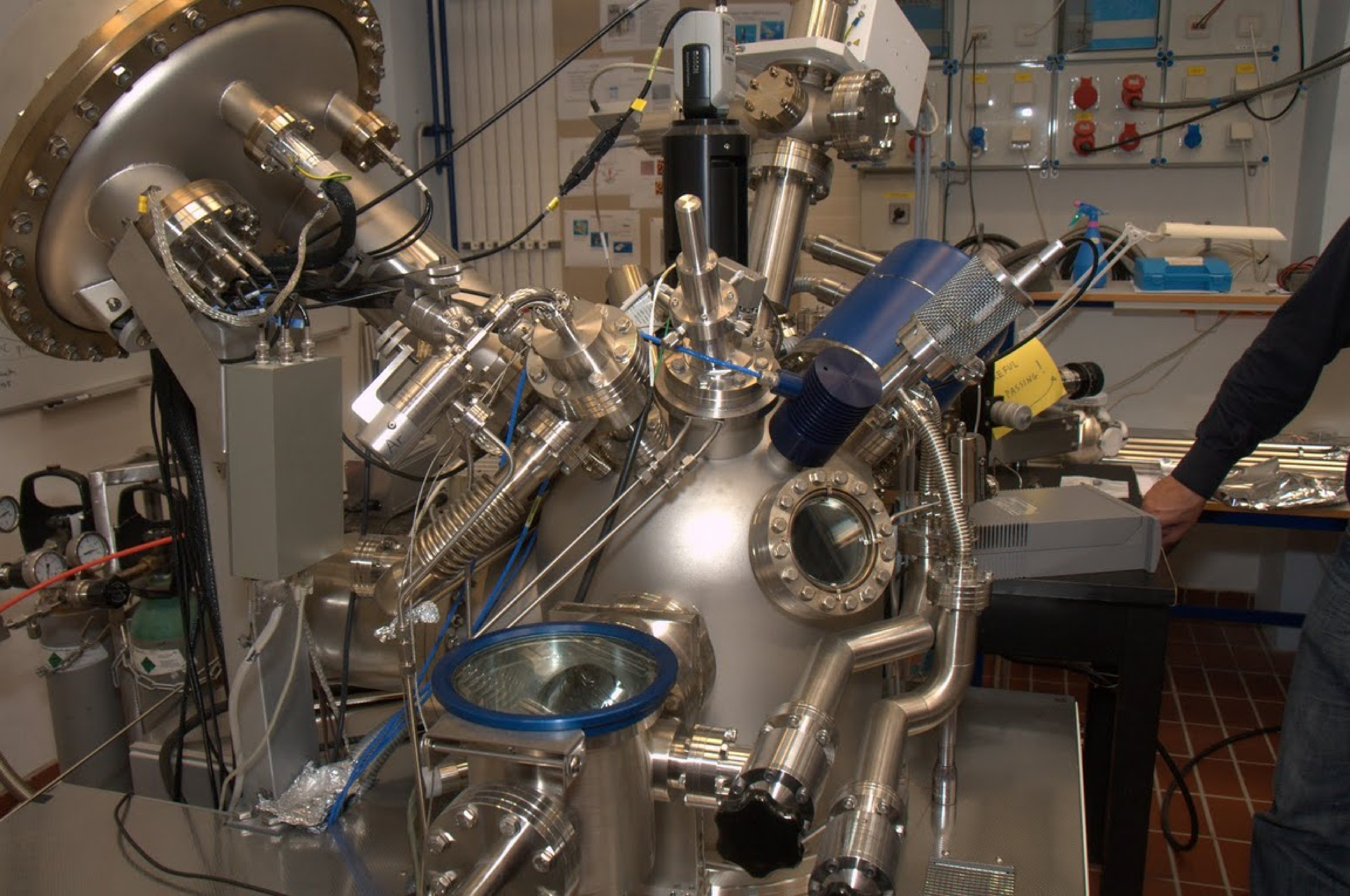

CASE
Energi fra biomasse
LÆS MERE
METHANOL
ETHANOL
HYDROGEN
KULBRINTER
AMMONIAK

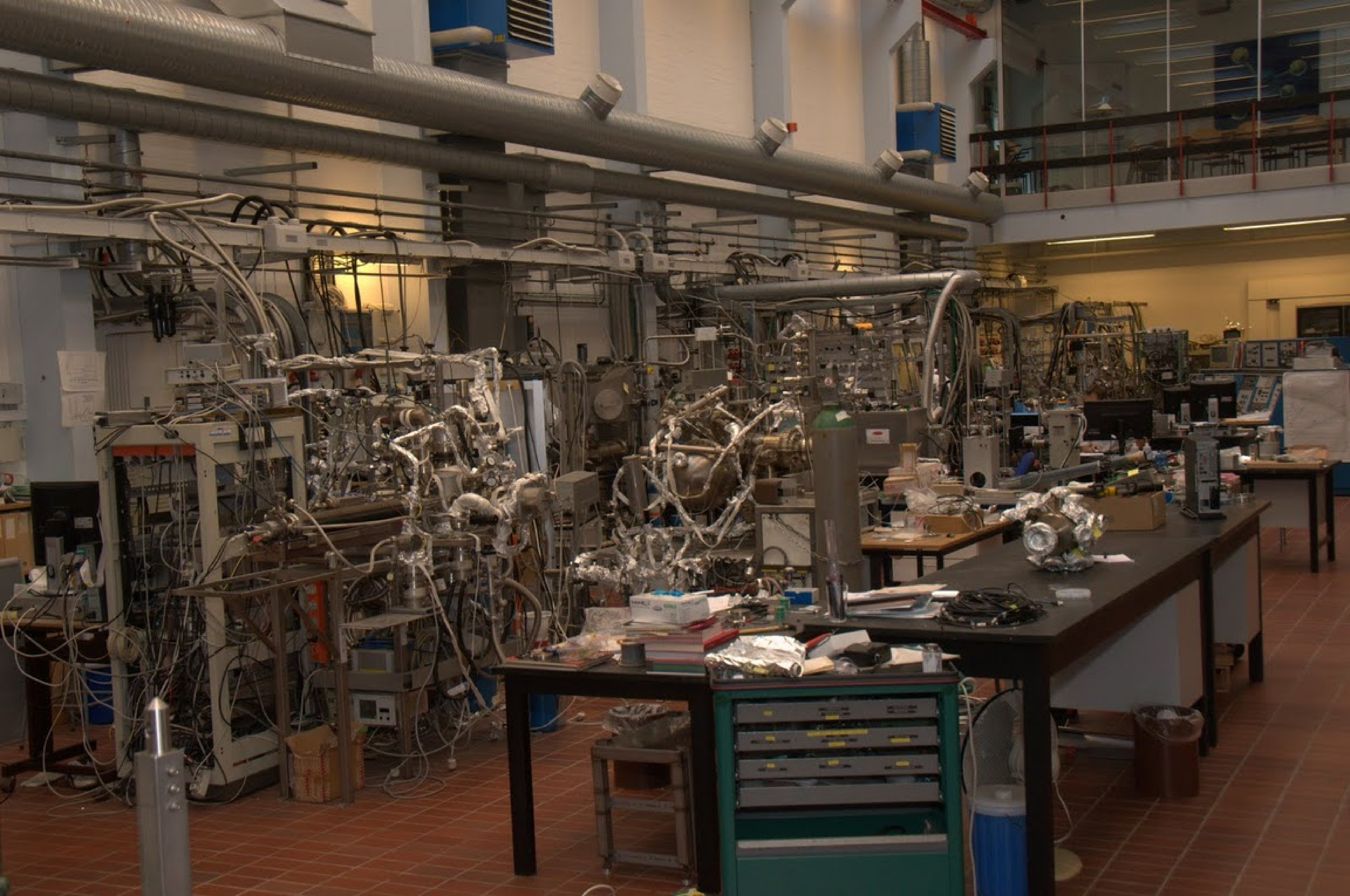

ved
Nuværende
Livscyklus for
for olie er

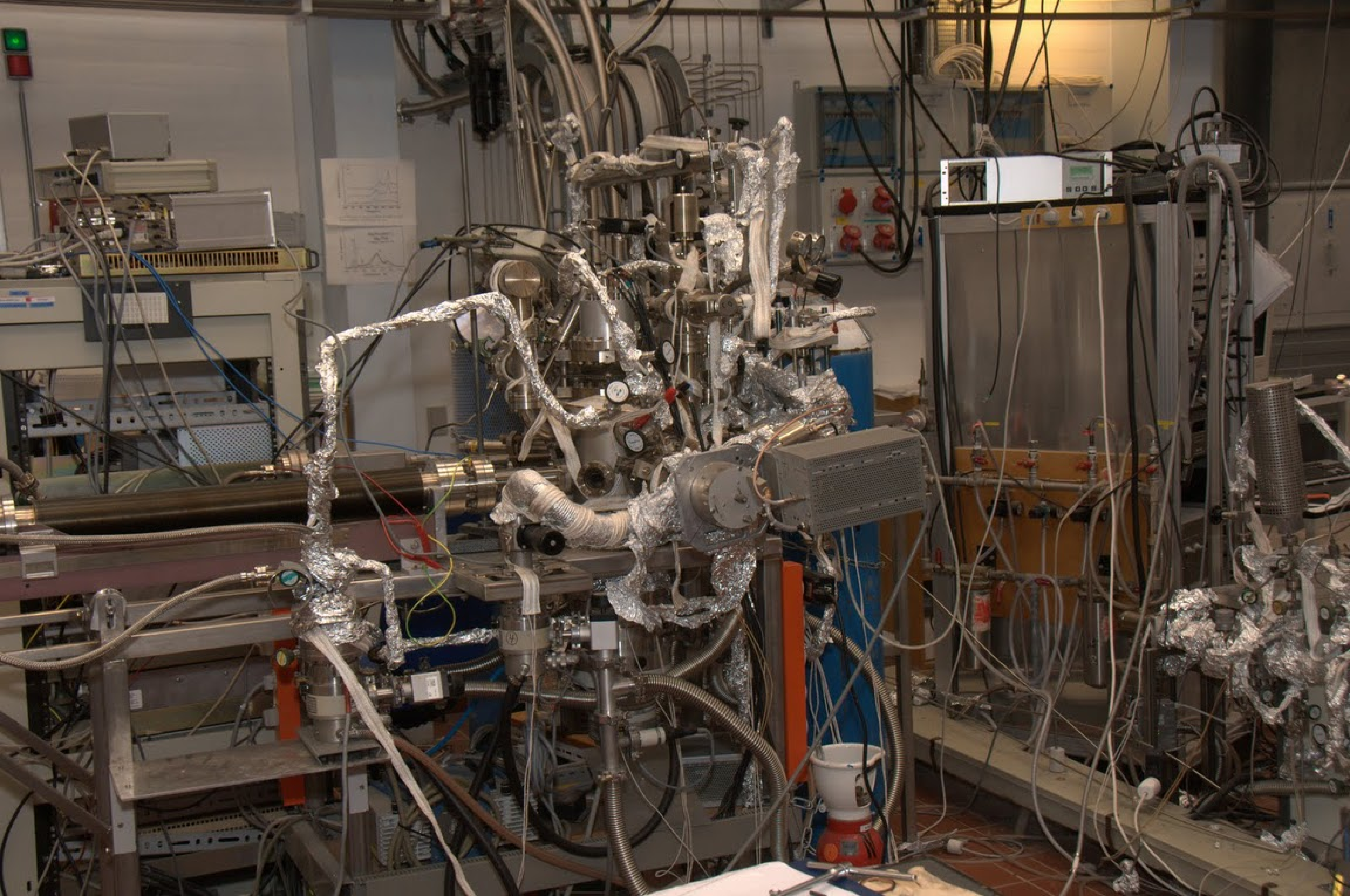


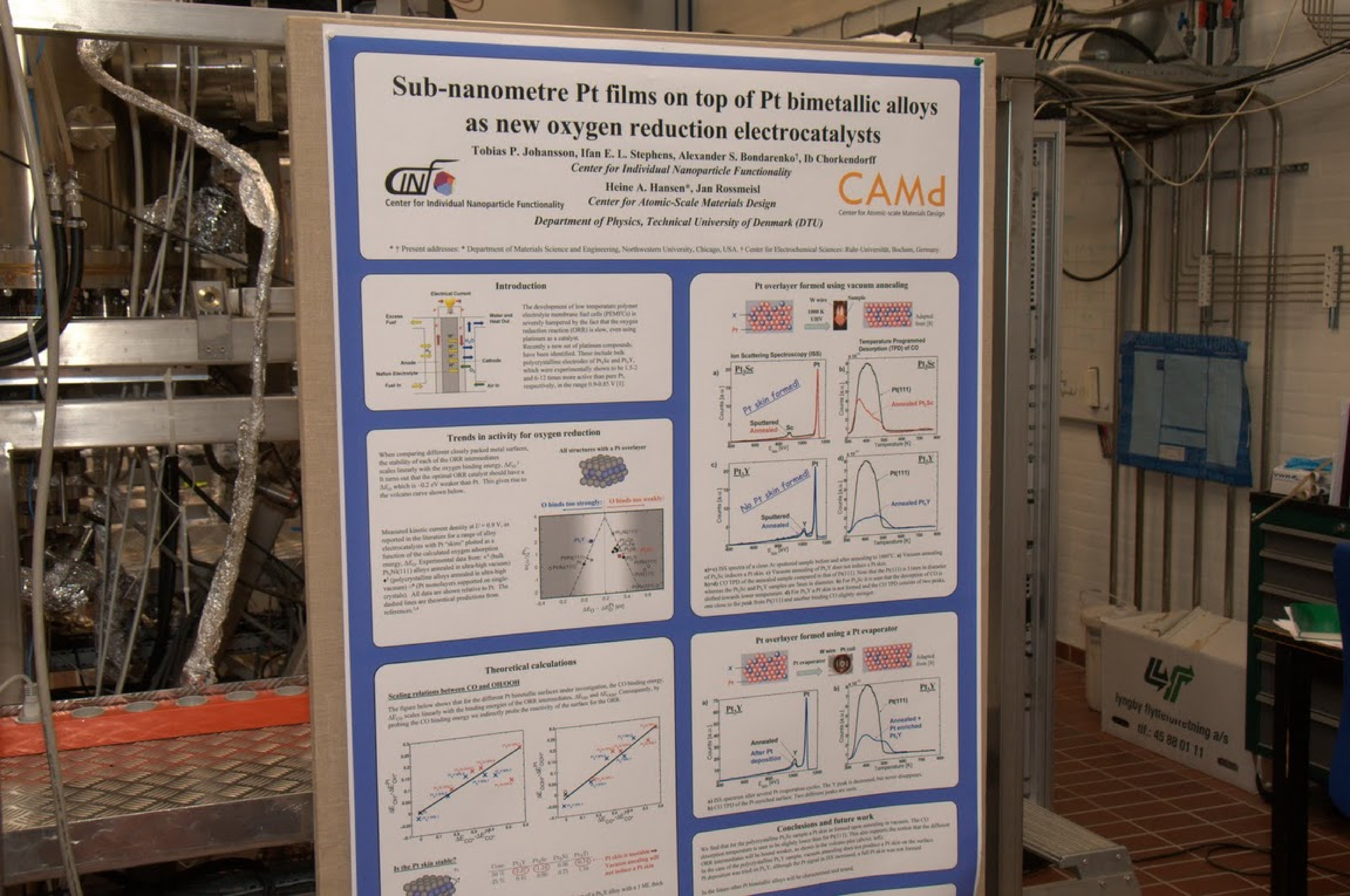

Thermo


Yggdrasil








Sub-nanometre Pt films on top of Pt bimetallic alloys as new oxygen reduction electrocatalysts
Tobias P. Johansson, Ifan E. L. Stephens, Alexander S. Bondarenko†, Ib Chorkendorff
Center for Individual Nanoparticle Functionality
Heine A. Hansen*, Jan Rossmeisl
Center for Atomic-Scale Materials Design
Department of Physics, Technical University of Denmark (DTU)
Center for Individual Nanoparticle Functionality
CAMd
Center for Atomic-scale Materials Design
Introduction
Electrical Current
Excess Fuel
Water and Heat Out
Anode
Cathode
Nafion Electrolyte
Fuel In
Air In
The development of low temperature polymer electrolyte membrane fuel cells (PEMFCs) is severely hampered by the fact that the oxygen reduction reaction (ORR) is slow, even using platinum as a catalyst.
Recently a new set of platinum compounds, have been identified. These include bulk polycrystalline electrodes of Pt_3Sc and Pt_3Y, which were experimentally shown to be 1.5-2 and 6-12 times more active than pure Pt, respectively, in the range 0.9-0.85 V [1].
Trends in activity for oxygen reduction
All structures with a Pt overlayer
O binds too strongly
O binds too weakly
Theoretical calculations
Scaling relations between CO and OH/OOH
Is the Pt skin stable?
Pt overlayer formed using vacuum annealing
W wire
Sample
1000 K UHV
Adapted from [8]
Ion Scattering Spectroscopy (ISS)
Temperature Programmed Desorption (TPD) of CO
Pt_3Sc
Pt skin formed!
Sputtered
Annealed
Sc
Pt
Pt(111)
Annealed Pt_3Sc
Temperature [K]
Counts [a.u.]
Pt_3Y
No Pt skin formed!
Annealed Pt_3Y
Pt overlayer formed using a Pt evaporator
Pt evaporator
Pt coil
After Pt deposition
Annealed + Pt enriched Pt_3Y
Conclusions and future work
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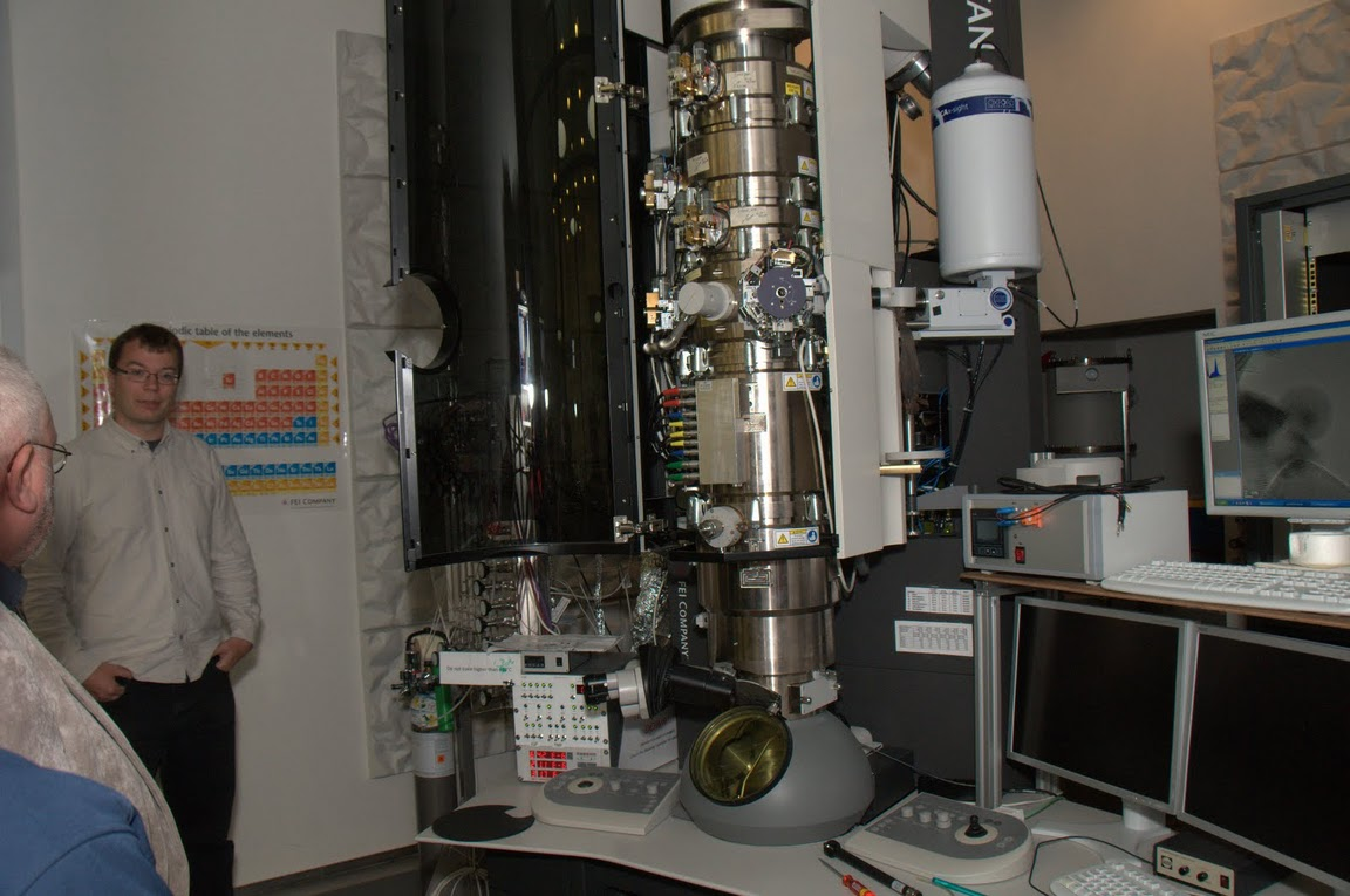
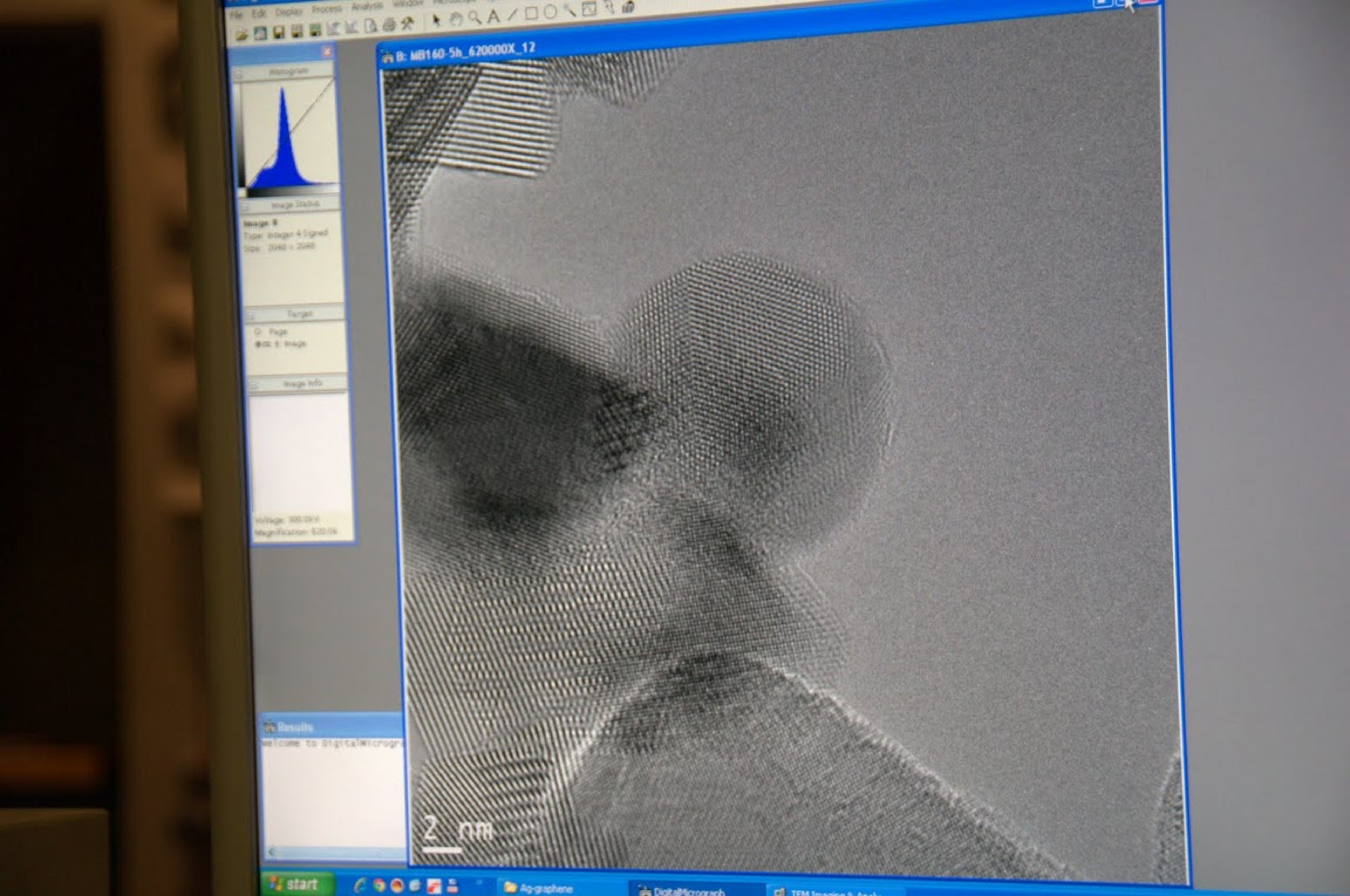
tlf.: 45 88 01 11


FEI COMPANY
FEI COMPANY

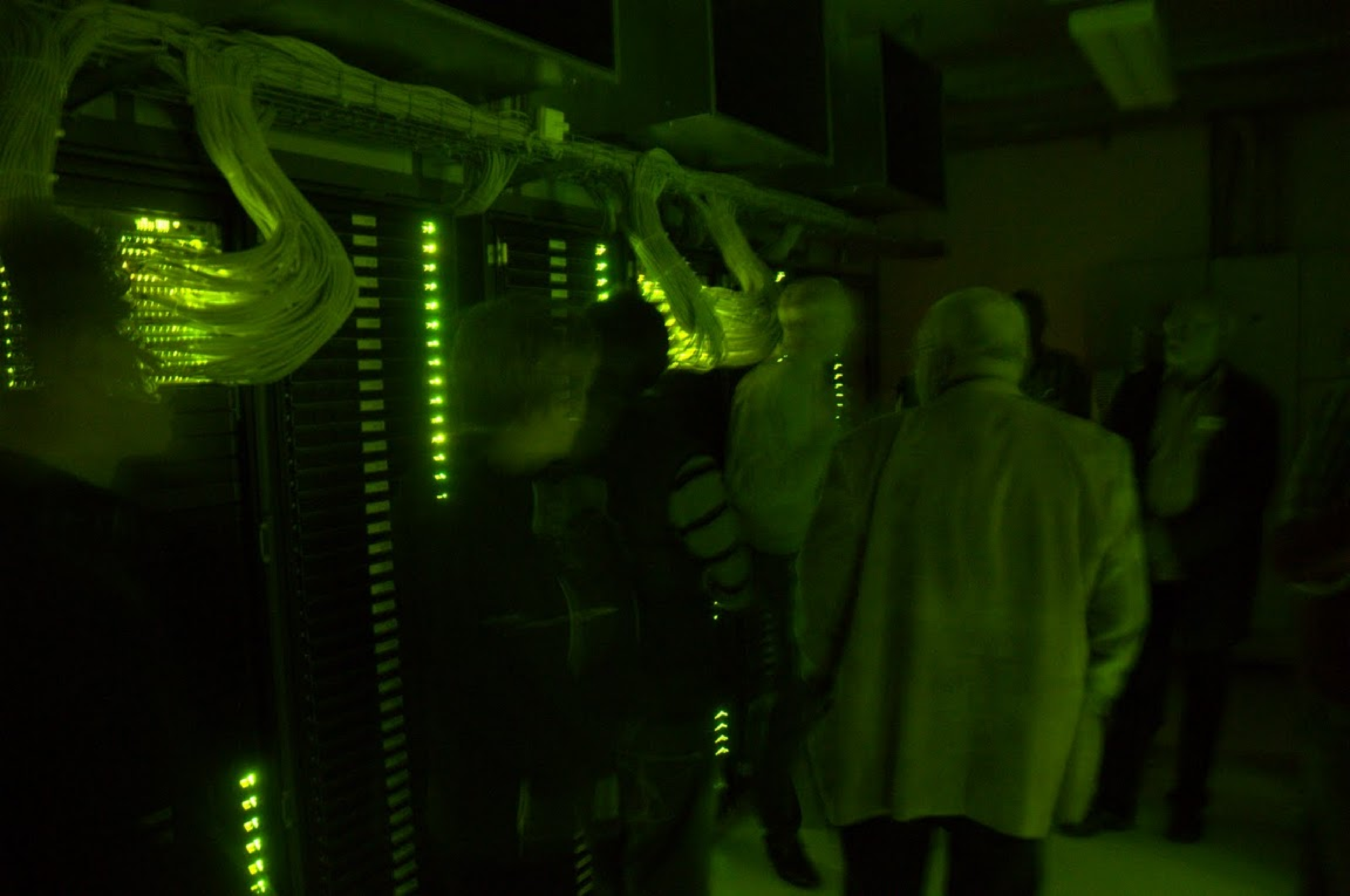

The perio
Do not bake higher t

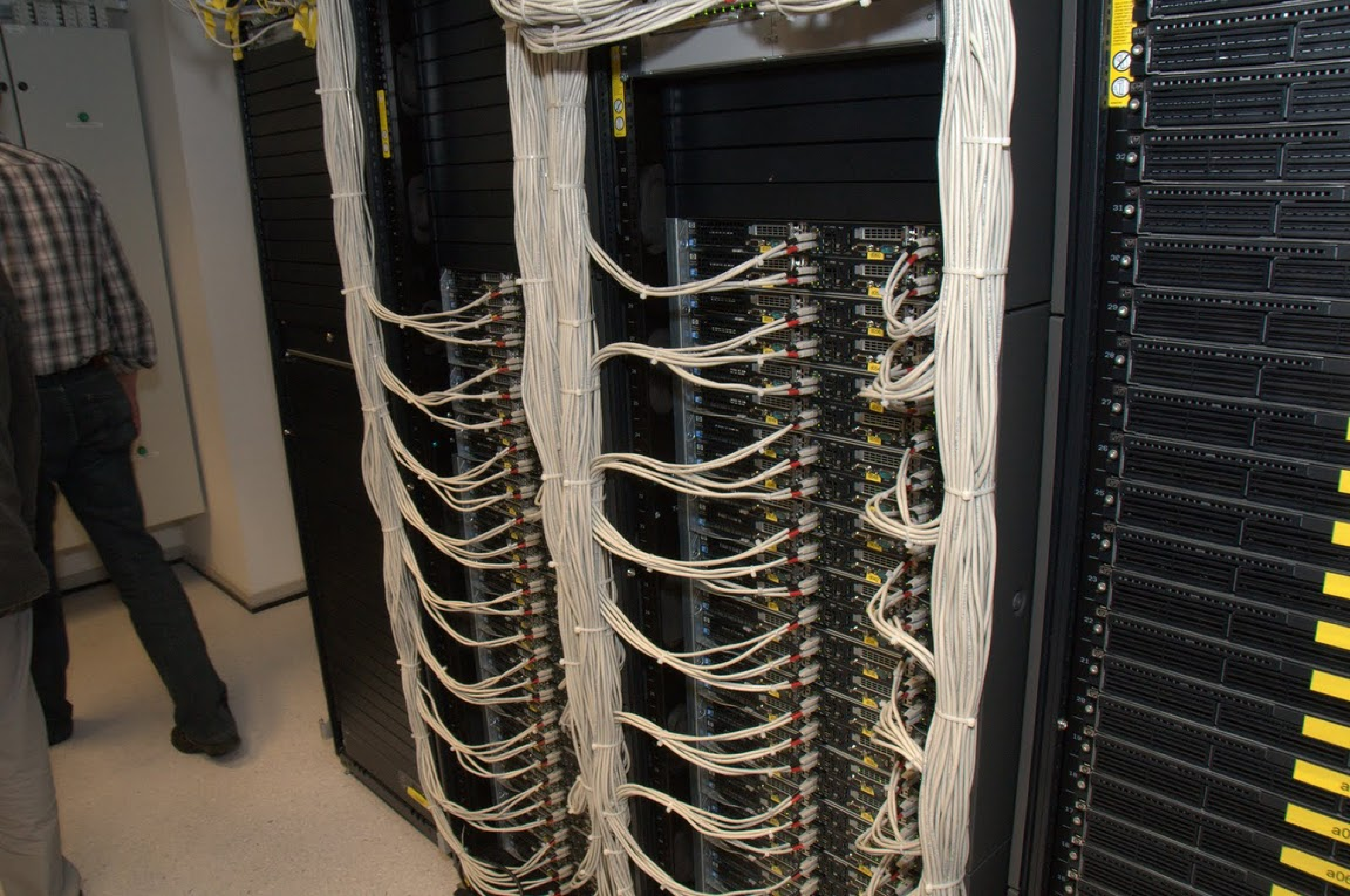

B: MB160-5h_620000X_12
Results
2 nm
start
Ag-graphene
DigitalMicrograph


The periodic table of the elements

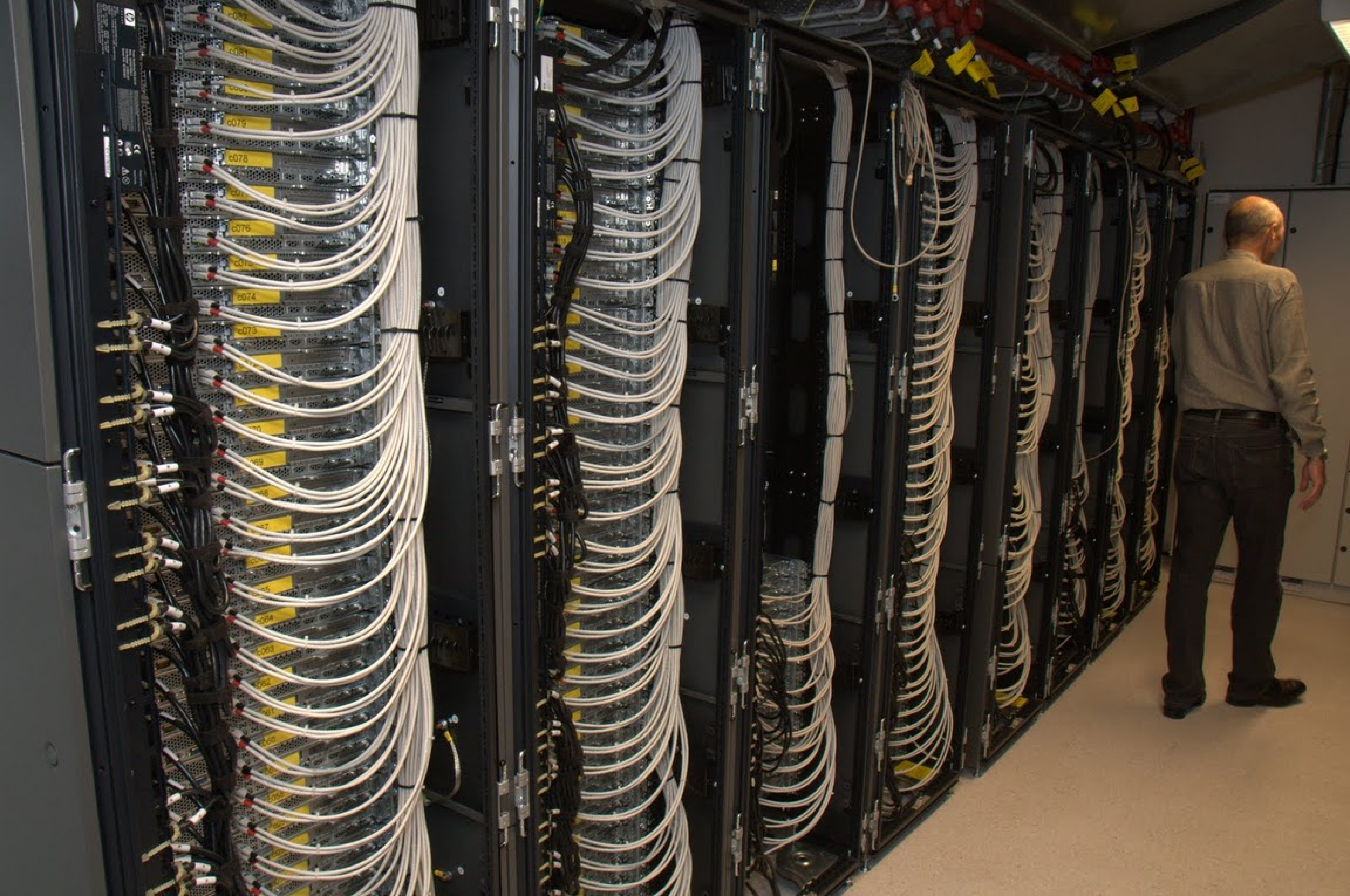

TP35


Windows
EDAX



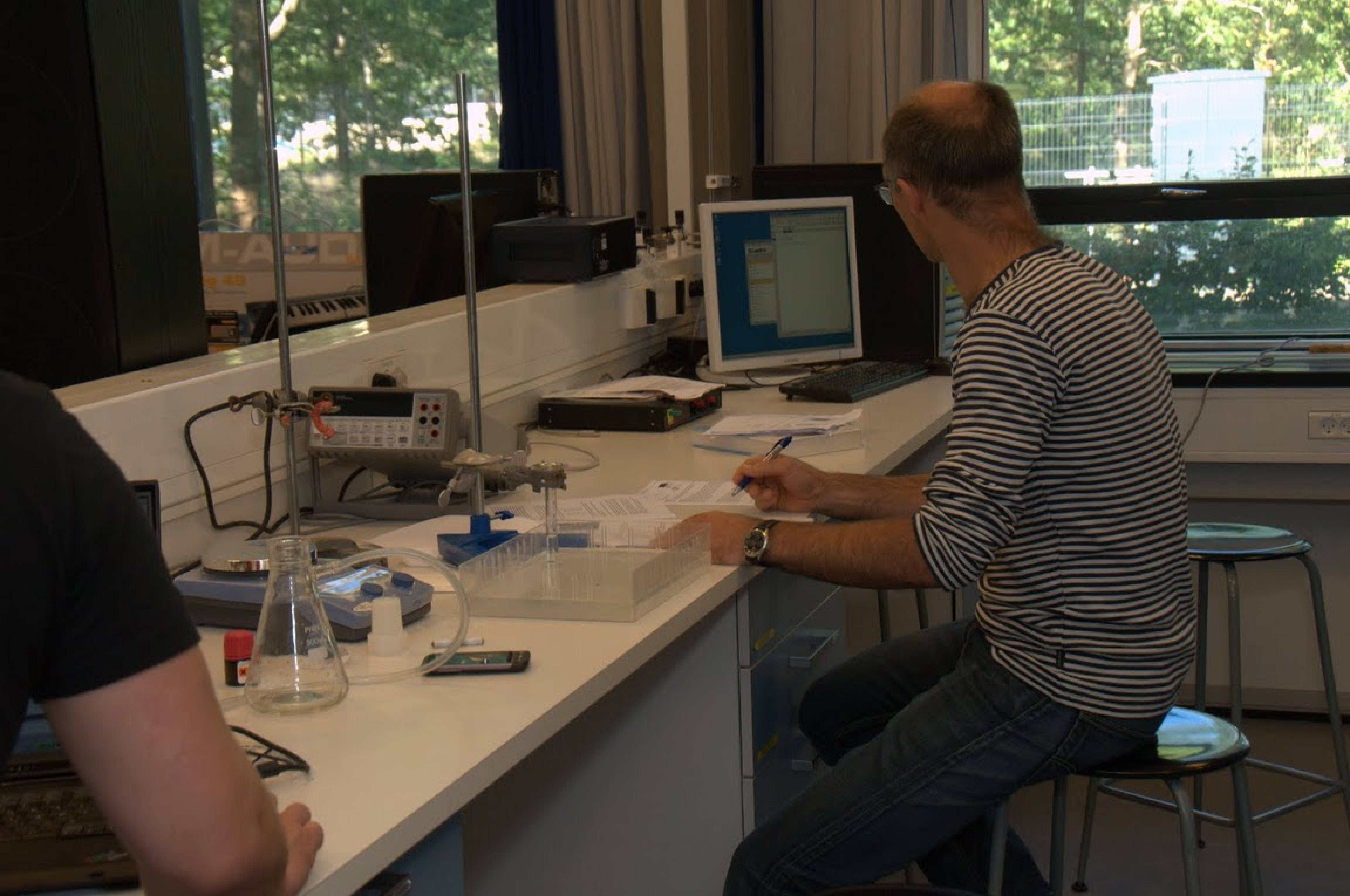


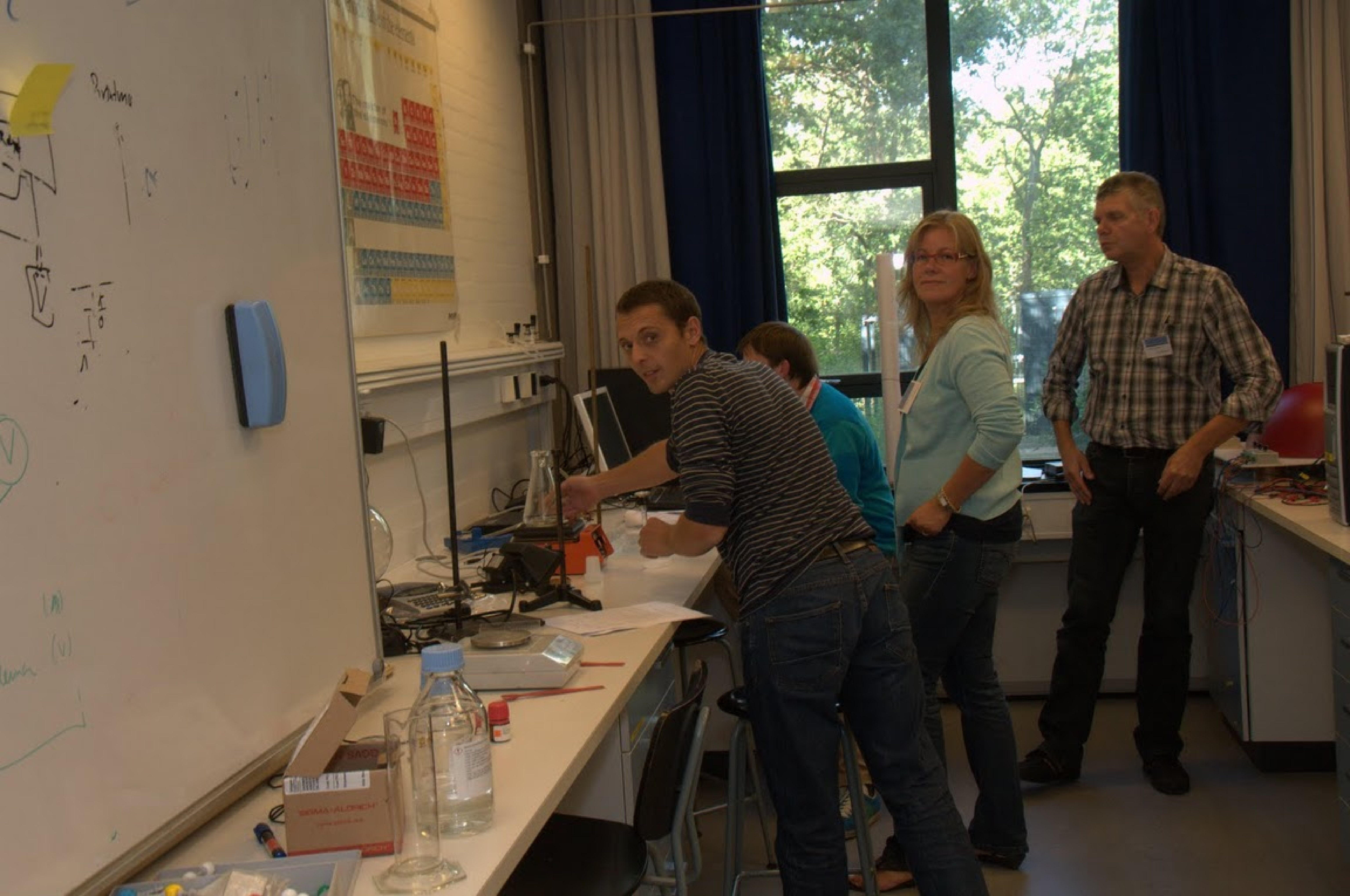

DCSC


c079
c078
c076
c074
c073


STOP
Sabatier princippet forklaret
via H_2O_2 dekomponering
September 2011
Ved Anders B. Laursen og
Christian N. Conradsen


Vulkan plot
Aktivitet
Activity in millimole oxygen per square meter of catalyst and per second
Pt
Ag
Au
Cu
Free Energy in kJ pe mol
Reaktivitet
DIESEL
XEROX




SIGMA-ALDRICH