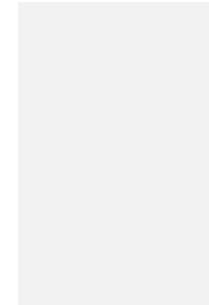
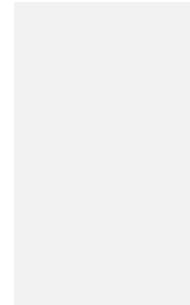


UiO : Centre for Materials Science and Nanotechnology

University of Oslo

UiO : NAFUMA

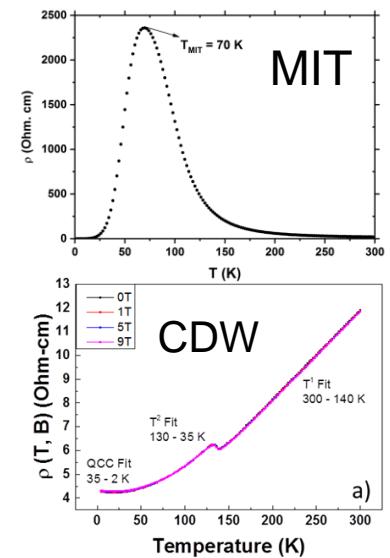
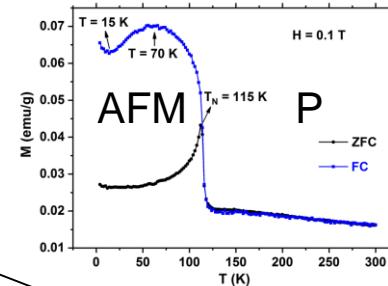
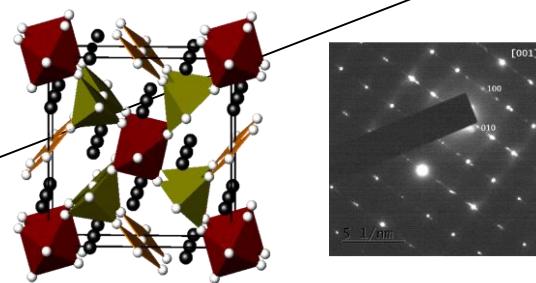
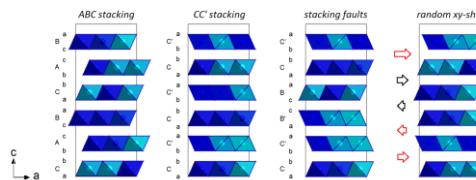
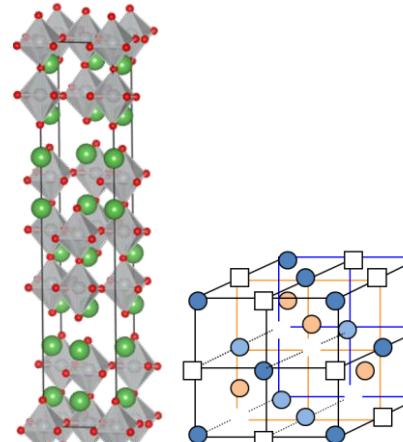


Struktur - egenskapsrelasjoner

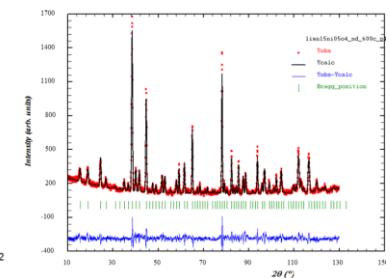
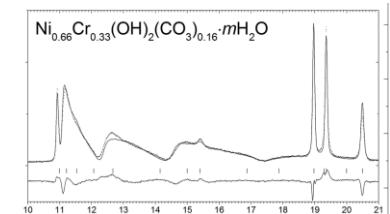
Syntese



Struktur



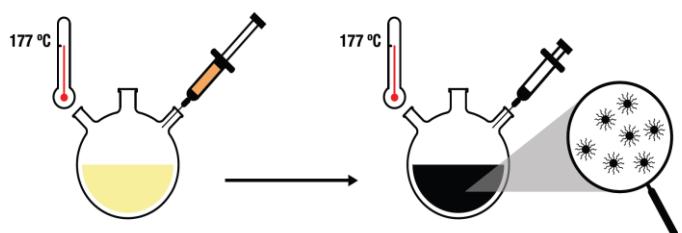
Egenskaper



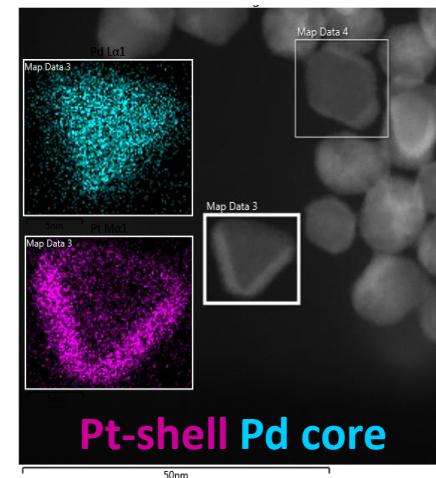
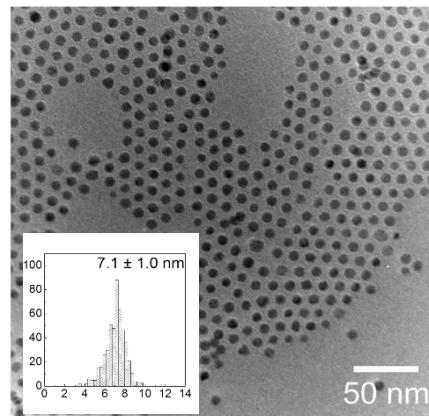
Nanoparticles for Catalysis

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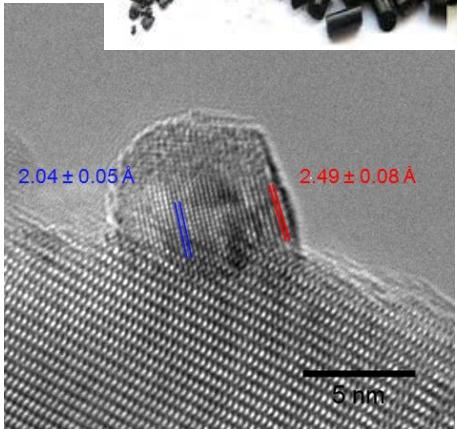
a) Synthesis



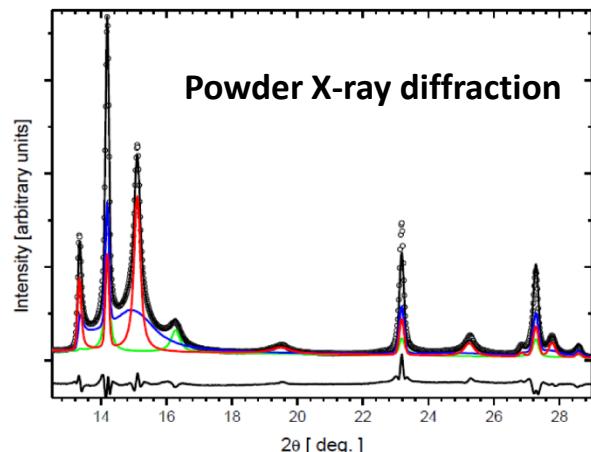
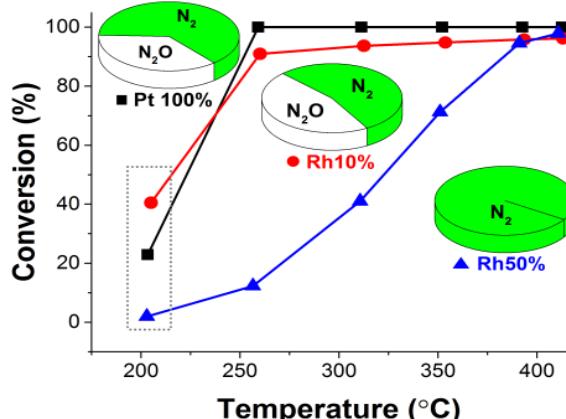
b) Characterization



c) Metal-support catalyst

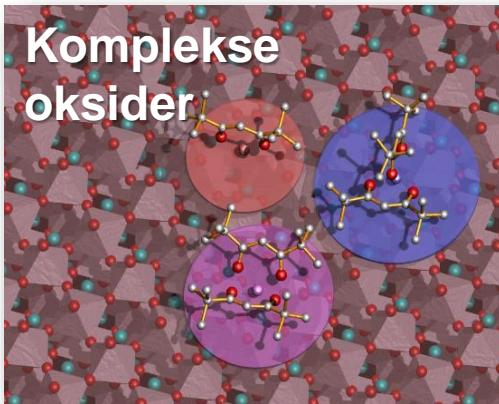


d) Catalytic testing

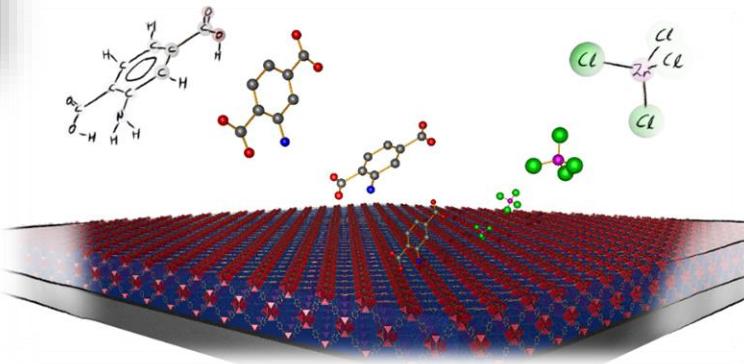


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Sjåstad

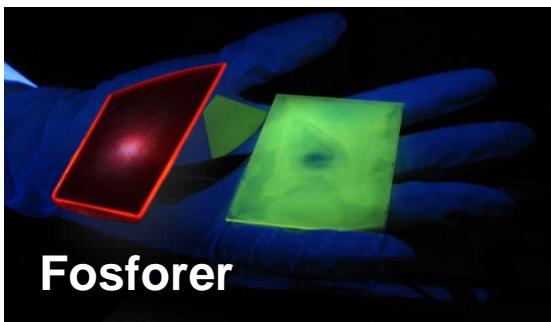
Tynnfilmaktiviteter



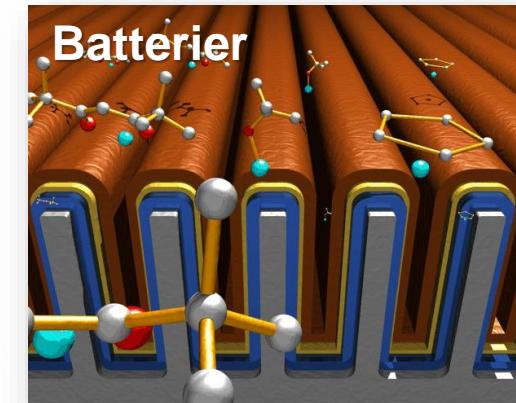
Kontroll av ladning (piezo/ferro)
Superleder
Grenseflater



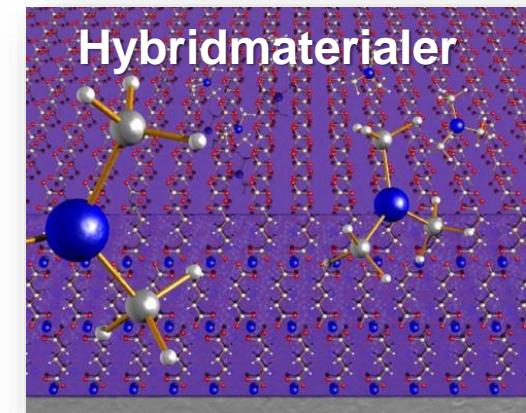
Gassensorer / biosensorer
Konvertere lys for solceller

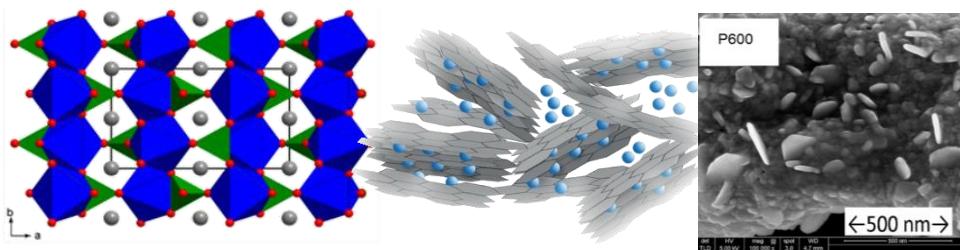


Nye materialer
Porøse filer
(separasjon, batteri)
Bioaktive overflater
(bakterier, cellevekst)

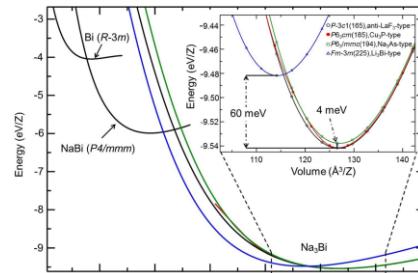


Elektrolytter
Nye prosesser
Fast stoff batterier





DFT simuleringer



Syntese, karakterisering, struktur

Anodematerialer
Katodematerialer
Fast-stoff elektrolytter

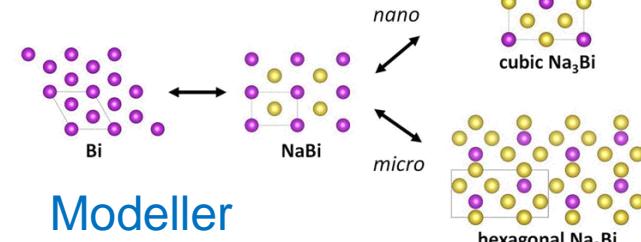
Li-ion batterier
Na-ion batterier

...

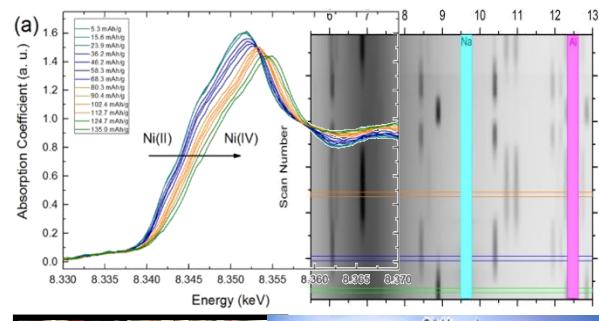
Elektrokjemisk karakterisering



Avanserte studier/operando
Synkrotronstråling(Grenoble)
Struktur/faseforhold/okstrinn
Diffraksjon/Spektroskopi/
Tomografi



Modeller

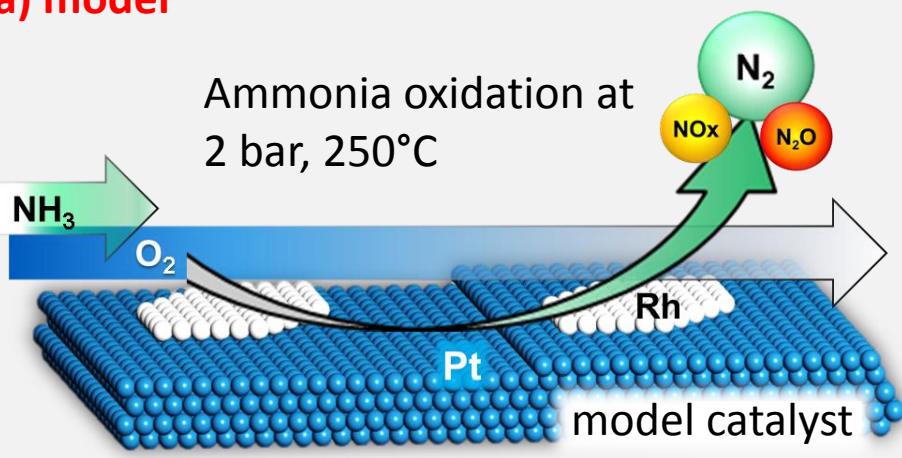


Catalytic model surfaces for operando studies

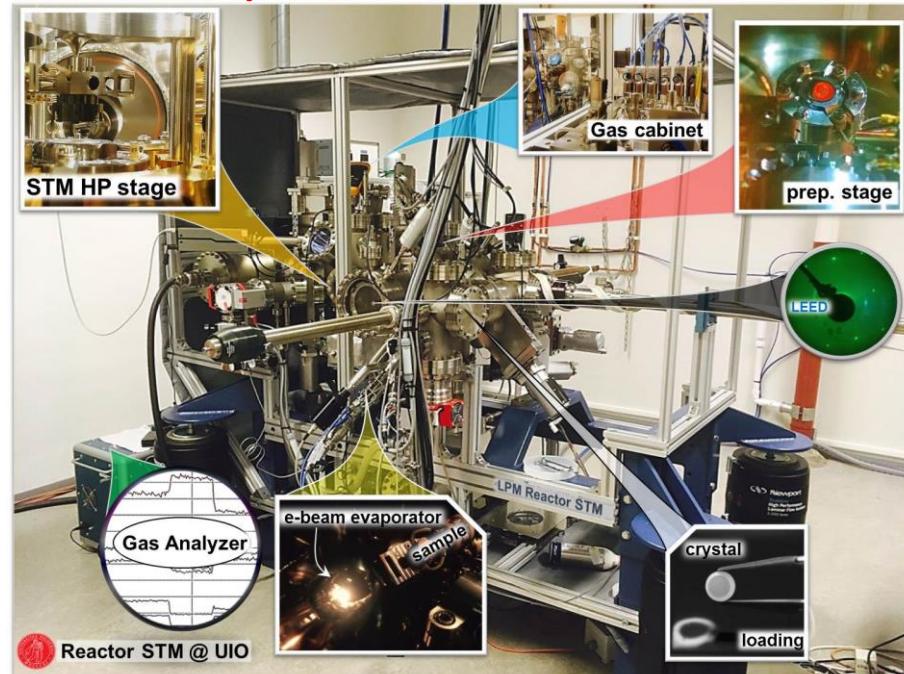
UiO NAFUMA

a) model

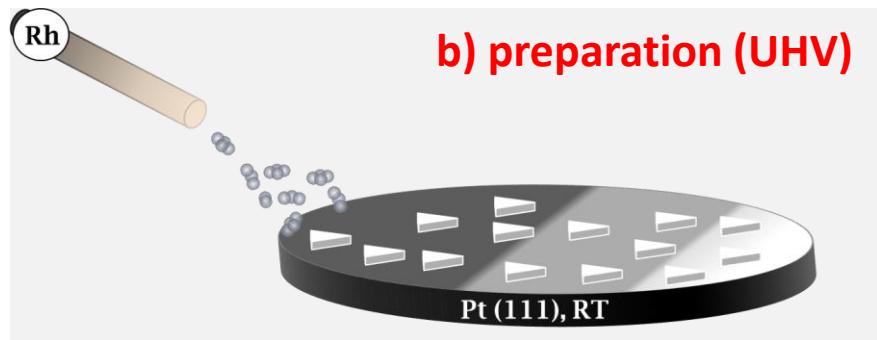
Ammonia oxidation at
2 bar, 250°C



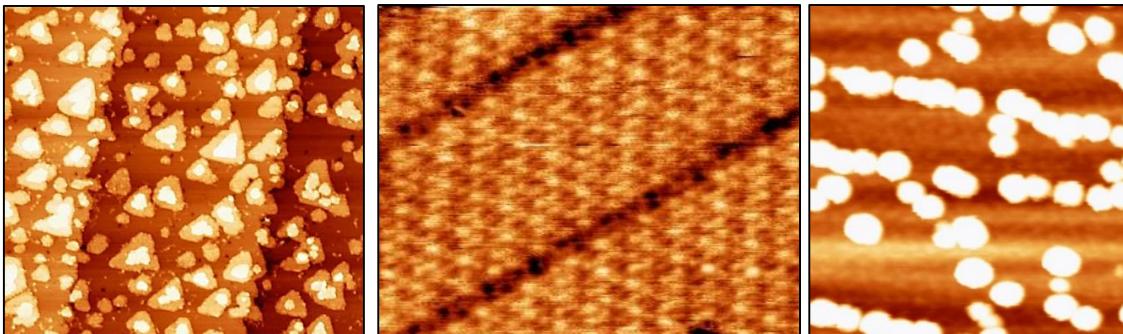
d) instrument



b) preparation (UHV)



c) STM measurements



See “Reactor STM at UIO, ASCAT”



e) People 😊

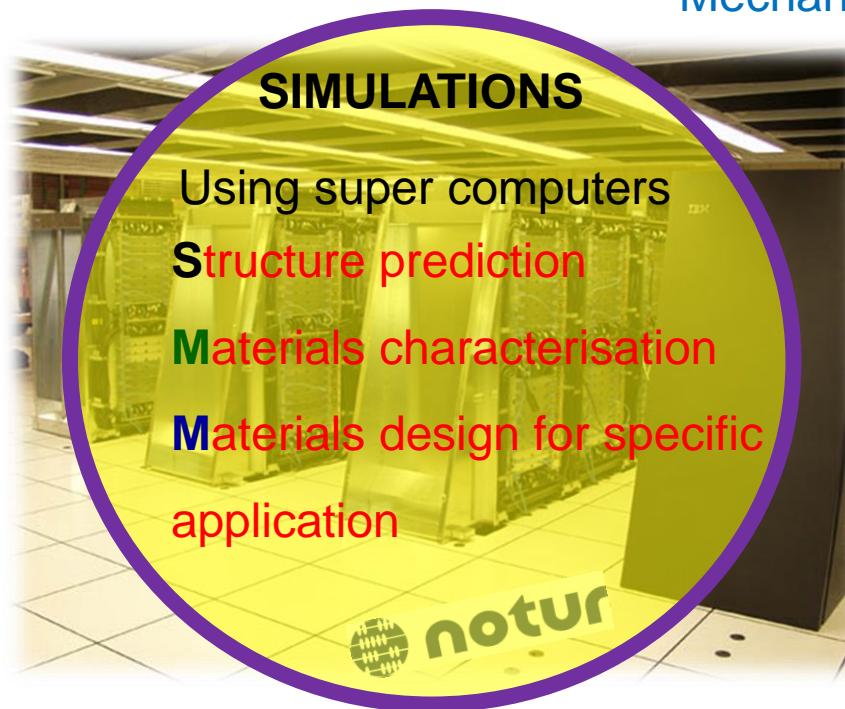
Oleksii
Ivashenko



Anja O.
Sjåstad

Predicting novel functional materials

- Multiferroics (magnetic, ferroelectric...)
- Mixed anion compounds
- Energy harvesting

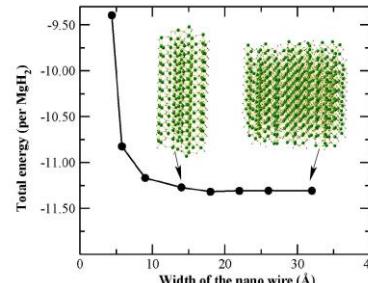


Materials characterisation

- Structure
- Raman-IR-NMR
- Phonons

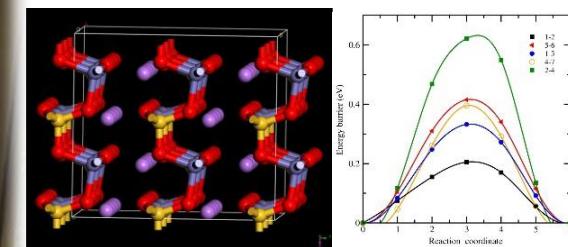
Properties of complex oxides etc

- Interfaces in heterostructures
- Optical properties; transitions
- Magnetic order and interactions



Battery materials

- Anodes/cathodes/solid electrolytes
- Voltages/Stability/Diffusion
- Mechanisms/interface effects



Bimetallic systems
Nanomaterials
Structural stability versus size
Physical properties

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