Research outputs:

**Complementary analyses of aging in a commercial LiFePO4/graphite 26650 cell**
Research output: Research › peer-review › Journal article – Annual report year: 2018

**Combined DFT and DEMS investigation of the effect of dopants in secondary zinc-air batteries**
Research output: Research › peer-review › Journal article – Annual report year: 2018

**Continuous Hydrothermal Flow Synthesis of LaCrO3 in Supercritical Water and Its Application in Dual-Phase Oxygen Transport Membranes**
Research output: Research › peer-review › Journal article – Annual report year: 2018

**Intercalation of lithium into disordered graphite in a working battery**
Research output: Research › peer-review › Journal article – Annual report year: 2018

**Continuous Hydrothermal Flow Synthesis of Functional Oxide Nanomaterials Used in Energy Conversion Devices**
Research output: Research › Ph.D. thesis – Annual report year: 2017

**Correction to Creation of High Mobility Two-Dimensional Electron Gases via Strain Induced Polarization at an Otherwise Nonpolar Complex Oxide Interface**
Research output: Research › Comment/debate – Annual report year: 2017

**Investigation of a Spinel-forming Cu-Mn Foam as an Oxygen Electrode Contact Material in a Solid Oxide Cell Single Repeating Unit**
Research output: Research › peer-review › Journal article – Annual report year: 2017

**All-solid-state lithium-sulfur battery based on a nanoconfined LiBH4 electrolyte**
Research output: Research › peer-review › Journal article – Annual report year: 2016

**Comprehensive analysis of TEM methods for LiFePO4/FePO4 phase mapping: spectroscopic techniques (EFTEM, STEM-EELS) and STEM diffraction techniques (ACOM-TEM)**
Research output: Research › peer-review › Journal article – Annual report year: 2016

**Electron microscopy investigations of changes in morphology and conductivity of LiFePO4/C electrodes**
Research output: Research › peer-review › Journal article – Annual report year: 2016

**In situ X-ray powder diffraction studies of the synthesis of graphene oxide and formation of reduced graphene oxide**
Research output: Research › peer-review › Journal article – Annual report year: 2016
Creation of High Mobility Two-Dimensional Electron Gases via Strain Induced Polarization at an Otherwise Nonpolar Complex Oxide Interface
Research output: Research - peer-review › Journal article – Annual report year: 2015

Degradation Studies on LiFePO$_4$ cathode
Research output: Research - peer-review › Conference article – Annual report year: 2015

Erratum: In Situ Studies of Fe$^{4+}$ Stability in β-Li$_3$Fe$_2$(PO$_4$)$_3$ Cathodes for Li Ion Batteries
Research output: Research - peer-review › Comment/debate – Annual report year: 2015

Fundamental mechanisms in Li-air battery electrochemistry
Research output: Research › Ph.D. thesis – Annual report year: 2015

Growth of Highly Epitaxial YBa$_2$Cu$_3$O$_{7-δ}$ Films from a Simple Propionate-Based Solution
Research output: Research - peer-review › Journal article – Annual report year: 2015

Impedance-Based Battery Management for Metal-O2 Systems
Research output: Research - peer-review › Journal article – Annual report year: 2015

In Situ High Resolution Synchrotron X-Ray Powder Diffraction Studies of Lithium Batteries
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2015

In Situ Studies of Fe$^{4+}$ Stability in β-Li$_3$Fe$_2$(PO$_4$)$_3$ Cathodes for Li Ion Batteries
Research output: Research - peer-review › Journal article – Annual report year: 2015

In Situ Synchrotron X-Ray Diffraction Characterization of the Synthesis of Graphene Oxide and Reduced Graphene Oxide
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2015

In Situ X-Ray Diffraction Studies on Structural Changes of a P2 Layered Material during Electrochemical Desodiation/Sodiation
Research output: Research - peer-review › Journal article – Annual report year: 2015

Instability of Ionic Liquid-Based Electrolytes in Li−O$_2$ Batteries
Research output: Research - peer-review › Journal article – Annual report year: 2015

Low-voltage FIB/SEM Tomography for 3D Microstructure Evolution of LiFePO$_4$/C Electrode
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2015

Low-voltage FIB/SEM Tomography for 3D Microstructure Evolution of LiFePO$_4$/C Electrode
Research output: Research - peer-review › Conference article – Annual report year: 2016

Reduced graphene oxide for Li–air batteries: the effect of oxidation time and reduction conditions for graphene oxide
Research output: Research - peer-review › Journal article – Annual report year: 2015

Size of oxide vacancies in fluorite and perovskite structured oxides
Research output: Research - peer-review › Journal article – Annual report year: 2014

Structural Investigation of Sodium Layered Oxides Via in Situ Synchrotron X-Ray Diffraction
Research output: Research - peer-review › Journal article – Annual report year: 2015

Thermal decomposition of barium valerate in argon
Research output: Research - peer-review › Journal article – Annual report year: 2015
PV led engine characterization lab for standalone light to light systems
Research output: Research - peer-review › Poster – Annual report year: 2014

A New Look at the Stability of Dimethyl Sulfoxide and Acetonitrile in Li-O2 Batteries
Research output: Research - peer-review › Journal article – Annual report year: 2014

Communication: The influence of CO₂ poisoning on overvoltages and discharge capacity in non-aqueous Li-Air batteries
Research output: Research - peer-review › Journal article – Annual report year: 2014

Degradation Studies on LiFePO₄ cathode
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2014

Design and Characterisation of Solid Electrolytes for All-Solid-State Lithium Batteries
Research output: Research › Ph.D. thesis – Annual report year: 2014

Impedance perspectives on Li-air battery overpotentials
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

In Situ Synchrotron XRD on a Capillary Li-O2 Battery Cell
Research output: Research - peer-review › Poster – Annual report year: 2014

In Situ Synchrotron XRD on a Capillary Li-O2 Battery Cell
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2014

In Situ XRD Investigations on Structural Change of P2-Layered Materials during Electrochemical Sodiation/Desodiation
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2014

Ionic conductivity and the formation of cubic CaH₂ in the LiBH₄-Ca(BH₄)₂ composite
Research output: Research - peer-review › Journal article – Annual report year: 2014

PV led engine characterization lab for standalone light to light systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Residual stresses in a co-sintered SOC half-cell during post-sintering cooling
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Subsolidus phase relations of the SrO–SbOₓ–CuO system at 1140K in air
Research output: Research - peer-review › Journal article – Annual report year: 2014

Temperature- and Pressure-Induced Changes in the Crystal Structure of Sr(NH₃)₈Cl₂
Research output: Research - peer-review › Journal article – Annual report year: 2014

The LiBH₄-LiI Solid Solution as an Electrolyte in an All-Solid-State Battery
Research output: Research - peer-review › Journal article – Annual report year: 2014

Vacancy ordering and superstructure formation in dry and hydrated strontium tantalate perovskites: A TEM perspective
Research output: Research - peer-review › Journal article – Annual report year: 2014

Capillary-based micro-battery cell for in situ X-ray powder diffraction studies of working batteries: a study of the initial intercalation and deintercalation of lithium into graphite
Spin 1/2 Delafossite Honeycomb Compound Cu5SbO6
Research output: Research - peer-review › Journal article – Annual report year: 2011

Subsolidus phase relations of the SrO–WO3–CuO system at 800 °C in air
Research output: Research - peer-review › Journal article – Annual report year: 2011

Synthesis, crystal structure and thermal properties of Ca6(C12H14O4)4(CO3)(OH)2(H2O)X – a 3D inorganic hybrid material
Research output: Research - peer-review › Journal article – Annual report year: 2012

The Effect of Microstructure on the Lithium Ion Conduction of the LiBH4-Li Solid Solution
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2012

Exfoliation and thermal transformations of Nb-substituted layered titanates
Research output: Research - peer-review › Journal article – Annual report year: 2011

Combined XRD and XANES studies of a Re-promoted Co/γ-Al2O3 catalyst at Fischer–Tropsch synthesis conditions
Research output: Research - peer-review › Journal article – Annual report year: 2010

DIFFaX+ study of stacking disorder in a mixed oxide
Research output: Research › Poster – Annual report year: 2010

High energy synchrotron X-ray diffraction studies of lithium batteries
Research output: Research › Poster – Annual report year: 2010

High performance lithium batteries for transportation: In situ synchrotron X-ray diffraction studies
Research output: Research › Conference abstract for conference – Annual report year: 2010

Structural and microstructural changes during anion exchange of CoAl layered double hydroxides: an in situ X-ray powder diffraction study
Research output: Research - peer-review › Journal article – Annual report year: 2010

Syntheses, Crystal Structures, and Thermal Stabilities of Polymorphs of Cr(thd)3
Research output: Research - peer-review › Journal article – Annual report year: 2010

Synthesis and Properties of Layered-Structured Mn5O8 Nanorods
Research output: Research - peer-review › Journal article – Annual report year: 2010

The adsorption of methanol and water on SAPO-34: in situ and ex situ X-ray diffraction studies
Research output: Research - peer-review › Journal article – Annual report year: 2010

A comparison study on Raman scattering properties of alpha- and beta-MnO2
Research output: Research - peer-review › Journal article – Annual report year: 2009

A Structural Study of Stacking Disorder in the Decomposition Oxide of MgAl Layered Double Hydroxide: A DIFFaX plus Analysis
Research output: Research - peer-review › Journal article – Annual report year: 2009

Conductivity and water uptake of Sr-4(Sr2Nb2)O-11 center dot nH(2)O and Sr-4(Sr2Ta2)O-11 center dot nH(2)O
Research output: Research - peer-review › Journal article – Annual report year: 2009
Crystal Structures of Titanate Nanotubes: A Raman Scattering Study  
Research output: Research - peer-review | Journal article – Annual report year: 2009

Defect Chemistry of a Zinc-Doped Lepidocrocite Titanate CsxTi2−x/2Znx/2O4 (x = 0.7) and its Protonic Form  
Research output: Research - peer-review | Journal article – Annual report year: 2009

Efficient Complete Oxidation of Acetaldehyde into CO2 Over Au/TiO2 Core-Shell Nano Catalyst Under UV and Visible Light Irradiation  
Research output: Research - peer-review | Journal article – Annual report year: 2009

In situ studies of structural stability and proton conductivity of titanate nanotubes  
Research output: Research - peer-review | Journal article – Annual report year: 2009

Microstructures, Surface Properties and Topotactic Transitions of gamma-MnOOH Nanorods  
Research output: Research - peer-review | Journal article – Annual report year: 2009

Preparation of Nb-Substituted Titanates by a Novel Sol-Gel Assisted Solid State Reaction  
Research output: Research - peer-review | Journal article – Annual report year: 2009

Protonic titanate derived from CsxTi2−x/2Mgx/2O4 (x=0.7) with lepidocrocite-type layered structure  
Research output: Research - peer-review | Journal article – Annual report year: 2009

SAPO-34 methanol-to-olefin catalysts under working conditions: A combined in situ powder X-ray diffraction, mass spectrometry and Raman study  
Research output: Research - peer-review | Journal article – Annual report year: 2009

Structural and morphological evolution of beta-MnO2 nanorods during hydrothermal synthesis  
Research output: Research - peer-review | Journal article – Annual report year: 2009

Syntheses, Structures, and Magnetic Properties of Nickel-Doped Lepidocrocite Titanates  
Research output: Research - peer-review | Journal article – Annual report year: 2009

Temperature dependant X-ray diffraction study of PrSr3Co1.5Fe1.5O10−d; n=3 Ruddlesden-Popper phase  
Research output: Research - peer-review | Journal article – Annual report year: 2009

Projects:

Graphene supported transition metal oxide composites as metal-ion battery electrode materials  
Project: PhD

Next generation rechargeable batteries: Sustainable and earth-abundant materials  
Project: PhD

Development and characterization of emerging battery electrodes and electrolytes  
Project: PhD

Green Production of Nanomaterials for Energy Conversion  
Project: PhD

Electrochemical Reduction of CO2 to Sustainable Synthetic Fuels  
Project: PhD
In situ characterisation of structure and transport in battery electrolytes and electrodes
Project: PhD

Dynamical properties of nano-structured catalysts for methane conversion
Project: PhD

Preparation and characterization of cathode materials for lithium-oxygen batteries
Project: PhD

Management of Lithium-air batteries - safety, reliability and performance
Project: PhD

Development of novel electrode-catalyst materials for Li-air battery cathodes
Project: PhD

Performance and lifetime limiting effects in Li-ion batteries
Project: PhD

Udvikling og karakterisering af avancerede Li-batterier
Project: PhD

In-situ TEM Studies of Nanowire-based Batteries
Project: PhD

High Performance polymer solar cells through rational characterization and design
Project: PhD

Activities:

Lithium batterier til transport. Er det vejen frem?
Activity: Talks and presentations › Conference presentations

In situ studies of lithium batteries using high energy synchrotron X-ray diffraction
Activity: Talks and presentations › Conference presentations

In situ diffraction studies of materials for energy technology
Activity: Talks and presentations › Guest lectures, external teaching and course activities at other universities