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

In Situ Analysis of the Li-O2 Battery with Thermally Reduced Graphene Oxide Cathode: Influence of Water Addition
Research output: Research - peer-review › Journal article – Annual report year: 2016

In-situ SEM electrochemistry and radiolysis

Magneto-elastic coupling in La(Fe, Mn, Si)13Hy within the Bean-Rodbell model
Research output: Research - peer-review › Journal article – Annual report year: 2016

Nanocomposite YSZ-NIO Particles with Tailored Structure Synthesized in a Two-Stage Continuous Hydrothermal Flow Reactor
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2016

Performance and Lifetime Limiting Effects in Li-ion Batteries

Preparation and Characterization of Cathode Materials for Lithium-Oxygen Batteries

Rechargeable Lithium-Air Batteries: Investigation of Redox Mediators Using DEMS
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2016

Simulation, design and proof-of-concept of a two-stage continuous hydrothermal flow synthesis reactor for synthesis of functionalized nano-sized inorganic composite materials
Research output: Research - peer-review › Journal article – Annual report year: 2016

Strain development during the phase transition of La(Fe,Mn,Si)13Hy
Research output: Research - peer-review › Journal article – Annual report year: 2016
Thermo-Chemo-Mechanical Response of Solid Oxide Cells during Reduction and Cooling
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2016

Analysis of the Interphase on Carbon Black Formed in High Voltage Batteries
Research output: Research - peer-review › Journal article – Annual report year: 2015

Analysis of the Interphase on Carbon Black Formed in High Voltage Batteries
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

An Electrochemical Impedance Spectroscopy Investigation of the Overpotentials in Li−O2 Batteries
Research output: Research - peer-review › Journal article – Annual report year: 2015

Capillary based Li-air batteries for in situ synchrotron X-ray powder diffraction studies
Research output: Research - peer-review › Journal article – Annual report year: 2015

Charge Localization in the Lithium Iron Phosphate Li3Fe2(PO4)3 at High Voltages in Lithium-Ion Batteries
Research output: Research - peer-review › Journal article – Annual report year: 2015

Comparison Study of YBa2Cu3O7-x Films Deposited by Using Various Carboxylate Solutions
Research output: Research - peer-review › Journal article – Annual report year: 2015

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 LiFePO4 cathode
Research output: Research - peer-review › Conference article – Annual report year: 2015

Erratum: In Situ Studies of Fe4+ Stability in β-Li3Fe2(PO4)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 YBa2Cu3O7−δ Films from a Simple Propionate-Based Solution
Impedance-Based Battery Management for Metal-O2 Systems

In Situ High Resolution Synchrotron X-Ray Powder Diffraction Studies of Lithium Batteries

In Situ Studies of Fe⁴⁺ Stability in β-Li₃Fe₂(PO₄)₃ Cathodes for Li Ion Batteries

In Situ Synchrotron X-Ray Diffraction Characterization of the Synthesis of Graphene Oxide and Reduced Graphene Oxide

In Situ X‐Ray Diffraction Studies on Structural Changes of a P2 Layered Material during Electrochemical Desodiation/Sodiation

Instability of Ionic Liquid-Based Electrolytes in Li–O₂ Batteries

Low-voltage FIB/SEM Tomography for 3D Microstructure Evolution of LiFePO₄/C Electrode

Low-voltage FIB/SEM Tomography for 3D Microstructure Evolution of LiFePO₄/C Electrode

Reduced graphene oxide for Li–air batteries: the effect of oxidation time and reduction conditions for graphene oxide

Size of oxide vacancies in fluorite and perovskite structured oxides

Reduced graphene oxide for Li-air batteries: the effect of oxidation time and reduction conditions for graphene oxide

Size of oxide vacancies in fluorite and perovskite structured oxides

Structural Investigation of Sodium Layered Oxides Via in Situ Synchrotron X-Ray Diffraction
Thermal decomposition of barium valerate in argon
Torres, P., Norby, P. & Grivel, J-C. 2015 In : Journal of Analytical and Applied Pyrolysis. 116, p. 120-128
Research output: Research - peer-review › Journal article – Annual report year: 2015

5bv.3.21 PV led engine: 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
Grivel, J-C., Norby, P. & Andersen, N. H. 2014 In : Journal of Alloys and Compounds. 582, p. 674-679
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
Johnsen, R. & Norby, P. 2013 In : Journal of Applied Crystallography. 46, p. 1537–1543
Research output: Research - peer-review › Journal article – Annual report year: 2013

Chemical stability of DMSO and ACN solvents in contact with Li2O2
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2013

Combined DFT and Dems Study On the Role of CO2 Poisoning On the Electronic Conduction and Overpotentials in Li-Air Batteries
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2013

Combined XRD and Raman studies of coke types found in SAPO-34 after methanol and propene conversion
Research output: Research - peer-review › Journal article – Annual report year: 2013

Effect of Heat Treatment on the Lithium Ion Conduction of the LiBH4–LiI Solid Solution
Research output: Research - peer-review › Journal article – Annual report year: 2013

Electrochemical storage: batteries
Research output: Research - peer-review › Report chapter – Annual report year: 2013
Frame Stability of Tunnel-Structured Cryptomelane Nanofibers: The Role of Tunnel Cations
Research output: Research - peer-review › Journal article – Annual report year: 2013

In situ powder X-ray diffraction in heterogeneous catalysis
Research output: Research - peer-review › Book chapter – Annual report year: 2013

In Situ Study of High Voltage Performance of Li3Fe2(PO4)3 Cathodes for Li-ion batteries
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2013

Reduced Graphene Oxide for Li-Air Batteries: The Effect of Oxidation Time and Reduction Conditions for Graphene Oxide
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2013

Simulation Tool for Designing off-Grid PV Applications for the Urban Environments
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Structure and Magnetic Properties of Cu3Ni2SbO6 and Cu3Co2SbO6 Delafossites with Honeycomb Lattices
Research output: Research - peer-review › Journal article – Annual report year: 2013

The Influence of CO2 Poisoning on Overvoltages and Discharge Capacity in Non-aqueous Li-Air Batteries
Research output: Research › Poster – Annual report year: 2013

Volume of Oxide Vacancies in Fluorite and Perovskite Structured Oxides
Mogensen, M. B., Norby, P., Chatzichristodoulou, C. & Hendriksen, P. V. 2013
Research output: Research › Sound/Visual production (digital) – Annual report year: 2013

Plasma properties during RF magnetron sputtering of lithium phosphorous oxy nitride thin films
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Resolving the stability and structure of strontium chloride amines from equilibrium pressures, XRD and DFT
Research output: Research - peer-review › Journal article – Annual report year: 2012
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
Johnsen, R. E. & Norby, P. 2009 In : Journal of Physical Chemistry Part C: Nanomaterials and Interfaces. 113, 44, p. 19061-19066
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
Gao, T., Fjellvåg, H. & Norby, P. 2009 In : Inorganic Chemistry. 48, 4, p. 1423-1432
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
Gao, T., Fjellvåg, H. & Norby, P. 2009 In : Chemistry of Materials. 21, 15, p. 3503-3513
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
Song, H., Yu, Y-T. & Norby, P. 2009 In : Journal of Nanoscience and Nanotechnology. 9, 10, p. 5891-5897
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
Gao, T., Fjellvåg, H. & Norby, P. 2009 In : Journal of Materials Chemistry. 19, 6, p. 787-794
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
Gao, T., Fjellvåg, H. & Norby, P. 2009 In : Nanotechnology. 20, 5, p. 055610
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
cao, H., Chi, Q., Mossin, S. & Norby, P.
Stipendie fra udlandet
01/01/2018 → 31/12/2020
Project: PhD

Next generation rechargeable batteries: Sustainable and earth-abundant materials
Christensen, M. K., Norby, P., Hoster, H. E. & Vegge, T.
Samfinansieret - Andet
01/12/2015 → 30/11/2018
Project: PhD

Development and characterization of emerging battery electrodes and electrolytes
Lefevr, J., Blanchard, D., Hoster, H. E. & Norby, P.
Institut stipendie (DTU)
01/12/2015 → 30/11/2018
Project: PhD

Green Production of Nanomaterials for Energy Conversion
Forskningsrådsfinansiering
01/07/2014 → 30/09/2017
Project: PhD

Electrochemical Reduction of CO2 to Sustainable Synthetic Fuels
Samfinansieret - Andet
01/06/2014 → 20/09/2017
Project: PhD

In situ characterisation of structure and transport in battery electrolytes and electrodes
Globaliseringsmidler
01/01/2011 → 26/02/2014
Project: PhD

Dynamical properties of nano-structured catalysts for methane conversion
1/3 FUU, 1/3 inst 1/3 Andet
01/09/2007 → 20/04/2011
Preparation and characterization of cathode materials for lithium-oxygen batteries
Forskningsrådsfinansiering
15/08/2012 → 20/09/2016
Project: PhD

Management of Lithium-air batteries - safety, reliability and performance
Christensen, A. E., Norby, P., Larsen, E., Vestin, K., Jensen, S. H., Monroe, C. W. & Møller, P. J.
Forskningsrådsstipendium
01/12/2012 → 20/04/2016
Project: PhD

Development of novel electrode-catalyst materials for Li-air battery cathodes
Forskningsrådsstipendium
01/01/2012 → 01/07/2015
Project: PhD

Performance and lifetime limiting effects in Li-ion batteries
Offentlig finansiering
01/06/2013 → 20/09/2016
Project: PhD

Udvikling og karakterisering af avancerede Li-batterier
Institut, samfinansiering
01/03/2011 → 02/09/2015
Project: PhD

In-situ TEM Studies of Nanowire-based Batteries
Institut, samfinansiering
15/12/2012 → 15/06/2016
Project: PhD

High Performance polymer solar cells through rational characterization and design
Forskningsrådssfinansiering
01/07/2009 → 19/10/2012
Project: PhD

Activities:

Lithium batterier til transport. Er det vejen frem?
Norby, P. (Speaker)
23 Sep 2010
Activity: Talks and presentations › Conference presentations

In situ studies of lithium batteries using high energy synchrotron X-ray diffraction
Norby, P. (Speaker)
8 Sep 2010
Activity: Talks and presentations › Conference presentations
In situ diffraction studies of materials for energy technology
Norby, P. (Lecturer)
6 May 2010
Activity: Talks and presentations › Guest lectures, external teaching and course activities at other universities