Søren Bredmose Simonsen - DTU Orbit (17/11/2018)

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Research outputs:

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

Colloids for Catalysts: A Concept for the Preparation of Superior Catalysts of Industrial Relevance
Research output: Communication › 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

Investigating particle size effects in catalysis by applying a size controlled and surfactant-free synthesis of colloidal nanoparticles in alkaline ethylene glycol - The case study of the oxygen reduction reaction on Pt
Research output: Research - peer-review › Journal article – Annual report year: 2018

A toolbox to study precious metal nano-catalysts: surfactant free synthesis, characterization and catalytic activity
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Coarsening of carbon black supported Pt nanoparticles in hydrogen
Research output: Research - peer-review › Journal article – Annual report year: 2017

In situ TEM analysis of a symmetric solid oxide cell in oxygen and vacuum–cation diffusion observations
Research output: Research - peer-review › Journal article – Annual report year: 2017

In situ TEM study of the coarsening of carbon black supported Pt nanoparticles in hydrogen
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2017

In Situ Transmission Electron Microscopy in Materials Science - Possibilities and Prospects
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

On the Properties and Long-Term Stability of Infiltrated Lanthanum Cobalt Nickelates (LCN) in Solid Oxide Fuel Cell Cathodes
Research output: Research - peer-review › Journal article – Annual report year: 2017

Structural evolution during calcination and sintering of a \((La_{0.6}Sr_{0.4})_{0.99}CoO_3 \delta\) nanofiber prepared by electrospinning
Research output: Research - peer-review › Journal article – Annual report year: 2017
A TEM study of morphological and structural degradation phenomena in LiFePO$_4$-CB cathodes: Morphological and structural degradation in LiFePO$_4$-CB cathodes
Research output: Research - peer-review › Journal article – Annual report year: 2016

Coarsening of Pd nanoparticles in an oxidizing atmosphere studied by in situ TEM
Research output: Research - peer-review › Journal article – Annual report year: 2016

Comparison of ultramicrotomy and focused-ion-beam for the preparation of TEM and STEM cross section of organic solar cells
Research output: Research - peer-review › Journal article – Annual report year: 2016

Effects of strong cathodic polarization of the Ni-YSZ interface
Research output: Research - peer-review › Journal article – Annual report year: 2016

Electron microscopy investigations of changes in morphology and conductivity of LiFePO$_4$/C electrodes
Research output: Research - peer-review › Journal article – Annual report year: 2016

High-Performance Microchannelled Asymmetric Gd$_{0.1}$Ce$_{0.9}$O$_{1.95-\delta}$-La$_{0.6}$Sr$_{0.4}$FeO$_{3-\delta}$-Based Membranes for Oxygen Separation
Research output: Research - peer-review › Journal article – Annual report year: 2016

In-Situ Transmission Electron Microscopy on Operating Electrochemical Cells
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

In SITU Transmission Electron Microscopy on Operating Electrochemical CELLS
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2016

Large CZTS Nanoparticles Synthesized by Hot-Injection for Thin Film Solar Cells
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Long-Term Stability of Anode-Supported Solid Oxide Fuel Cells with a Co-Sintered Cathode Backbone and Infiltrated La$_{0.95}$Co$_{0.4}$Ni$_{0.6}$O$_3$ (LCN) Electro-Catalyst
Research output: Research - peer-review › Conference abstract in journal – 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

Scandium-doped zinc cadmium oxide as a new stable n-type oxide thermoelectric material
Research output: Research - peer-review › Journal article – 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

Synthesis of ligand-free CZTS nanoparticles via a facile hot injection route
Research output: Research - peer-review › Journal article – Annual report year: 2016

Elektrolyse gør al energi fra vindmøller værdifuld
Research output: Communication › Net publication - Internet publication – Annual report year: 2015
Analysis of the Interphase on Carbon Black Formed in High Voltage Batteries
Research output: Research - peer-review | Journal article – Annual report year: 2015

Eliminating degradation in solid oxide electrochemical cells by reversible operation
Research output: Research - peer-review | Journal article – Annual report year: 2015

Enhancement of the chemical stability in confined $\delta$-Bi$_2$O$_3$
Research output: Research - peer-review | Letter – Annual report year: 2015

Environmental TEM study of the dynamic nanoscaled morphology of NiO/YSZ during reduction
Research output: Research - peer-review | Journal article – Annual report year: 2015

Long Term Stability Investigation of Solid Oxide Electrolysis Cell with Infiltrated Porous YSZ Air Electrode Under High Current
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

Structure and crystallinity of water dispersible photoactive nanoparticles for organic solar cells
Research output: Research - peer-review | Journal article – Annual report year: 2015

NiO/YSZ Reduction for SOFC/SOEC Studied In Situ by Environmental Transmission Electron Microscopy
Research output: Research - peer-review | Conference abstract in journal – Annual report year: 2014

NiO/YSZ Reduction for SOFC/SOEC Studied In Situ by Environmental Transmission Electron Microscopy
Research output: Research - peer-review | Conference article – Annual report year: 2014

SOFC anode reduction studied by in situ TEM
Research output: Research - peer-review | Conference abstract for conference – Annual report year: 2013

Alloyed Ni-Fe nanoparticles as catalysts for NH$_3$ decomposition
Research output: Research - peer-review | Journal article – Annual report year: 2012

Effect of Particle Morphology on the Ripening of Supported Pt Nanoparticles
Research output: Research - peer-review | Journal article – Annual report year: 2012

Quantification of tip-broadening in non-contact atomic force microscopy with carbon nanotube tips
Research output: Research - peer-review | Journal article – Annual report year: 2012

Structure–activity relationships of Pt/Al$_2$O$_3$ catalysts for CO and NO oxidation at diesel exhaust conditions
Research output: Research - peer-review | Journal article – Annual report year: 2012

Ostwald ripening in a Pt/SiO$_2$ model catalyst studied by in situ TEM
Research output: Research - peer-review | Journal article – Annual report year: 2011
Sintering of oxide-supported Pt and Pd nanoparticles in air studied by in situ TEM
Research output: Research › Ph.D. thesis – Annual report year: 2011

Catalytic Soot Oxidation studied by ETEM
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2010

Direct Observations of Oxygen-induced Platinum Nanoparticle Ripening Studied by In Situ TEM
Research output: Research › peer-review › Journal article – Annual report year: 2010

In situ TEM studies of catalysts for diesel engine exhaust abatement
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2010

Size-selective aerobe oxidation by sinter stable gold nanoparticles embedded in zeolite crystals
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2010

Size-selective Oxidation with Au nanoparticles embedded in Zeolite Crystals
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2010

Substrate Size-Selective Catalysis with Zeolite-Encapsulated Gold Nanoparticles
Research output: Research › peer-review › Journal article – Annual report year: 2010

Catalytic Soot Oxidation studied by ETEM
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2009

Direct observations of CeO2-catalyzed soot oxidation at the nano-scale using environmental transmission electron microscopy
Research output: Research › peer-review › Journal article – Annual report year: 2008

Catalytic soot oxidation studied by Environmental Transmission Electron Microscopy
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2008

Ceria-catalyzed soot oxidation studied by environmental transmission electron microscopy
Research output: Research › peer-review › Journal article – Annual report year: 2008

Direct observations of catalytic soot oxidation on a nano-scale
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2008

In situ studies of catalytic soot oxidation by means of Environmental Transmission Electron Microscopy (ETEM)
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2008

In situ studies of CeO2-catalyzed soot oxidation by means of Environmental Transmission Electron Microscopy
Research output: Research › Book – Annual report year: 2008

Projects:

3D electron microscopy of nanostructures in energy devices
Project: PhD

In situ transmission electron microscopy on operating electrochemical cells
Project: Research
Ædelmetalkatalysatore til rensning af røg fra dieselmotorer
Project: PhD

In-situ transmission electron microscopy on operating electrochemical cells
Project: PhD

Green Production of Nanomaterials for Energy Conversion
Project: PhD

3D imaging center
Project: Research

Activities:

In situ TEM study of the coarsening of carbon black supported Pt nanoparticles in hydrogen
Activity: Talks and presentations › Conference presentations