Research outputs:

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

Characterization of three dimensional transport networks in a long-term tested solid oxide electrolysis cell
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Sample Design and Preparation Techniques for Dynamic Microstructural Studies of High Temperature Electrochemical Cells
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Three dimensional characterization of nickel coarsening in solid oxide cells via ex-situ ptychographic nano-tomography
Research output: Research - peer-review › Journal article – Annual report year: 2018

A Decade of Solid Oxide Electrolysis Improvements at DTU Energy
Research output: Research - peer-review › Conference article – Annual report year: 2017

A Physically-Based Equivalent Circuit Model for the Impedance of a LiFePO4/Graphite 26650 Cylindrical Cell
Research output: Research - peer-review › Journal article – Annual report year: 2017

Enhanced densification of thin tape cast Ceria-Gadolinium Oxide (CGO) layers by rheological optimization of slurries
Research output: Research - peer-review › Journal article – Annual report year: 2017

Estimation of current constriction losses via 3D tomography reconstructions in electrochemical devices: a case study of a solid oxide cell electrode/electrolyte interface
Research output: Research - peer-review › Journal article – Annual report year: 2017

Ex-situ tracking solid oxide cell electrode microstructural evolution in a redox cycle by high resolution ptychographic nanotomography
Research output: Research - peer-review › Journal article – Annual report year: 2017

In operando studies of an yttria stabilized zirconia electrolyte supported symmetric solid oxide cell by Dark field X-ray Microscopy at ID06
Research output: Research › Poster – Annual report year: 2018

In operando studies of an yttria stabilized zirconia electrolyte supported symmetric solid oxide cell by Dark field X-ray Microscopy at ID06
Research output: Research › Conference abstract for conference – Annual report year: 2018
In operando studies of ScYSZ electrolyte supported symmetric solid oxide cell by X-ray Diffraction at ESRF, ID06 Beamline
Research output: Research › Poster – Annual report year: 2018

Microstructural Characterization of Ni/YSZ Electrodes in a Solid Oxide Electrolysis Stack Tested for 9000 Hours
Research output: Research - peer-review › Journal article – Annual report year: 2017

Microstructural Characterization of Ni/YSZ Electrodes in a Solid Oxide Electrolysis Stack Tested for 9000 Hours
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Tracking Solid Oxide Cell Microstructure Evolution by High Resolution 3D Nano-Tomography
Research output: Research › Ph.D. thesis – Annual report year: 2017

Using Dark Field X-Ray Microscopy To Study In-Operando Yttria Stabilized Zirconia Electrolyte Supported Solid Oxide Cell
Research output: Research › Conference abstract for conference – Annual report year: 2018

A Decade of Improvements for Solid Oxide Electrolysis Cells. Long-Term Degradation Rate from 40%/Kh to 0.4 % Kh
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2016

A TEM study of morphological and structural degradation phenomena in LiFePO4-CB cathodes: Morphological and structural degradation in LiFePO4-CB cathodes
Research output: Research - peer-review › Journal article – Annual report year: 2016

Current Constriction at Electrode/Electrolyte Interfaces in Solid Oxide Cell Electrochemical Devices Calculated Via 3D Reconstructions
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2016

Electrodeposition of metallic 3D surface-profiles for superconductor tapes
Research output: Research - peer-review › Conference abstract for conference – 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

Improved electrodes and gas impurity investigations on alkaline electrolysers
Research output: Research - peer-review › Poster – Annual report year: 2016

Relaxation of stresses during reduction of anode supported SOFCs
Research output: Research - peer-review › Article in proceedings – 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

Colloidal stabilization of cerium-gadolinium oxide (CGO) suspensions via rheology
Research output: Research - peer-review › Journal article – Annual report year: 2015

Computation of Effective Steady-State Creep of Porous Ni–YSZ Composites with Reconstructed Microstructures
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
Dictionary Based Segmentation in Volumes
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Dictionary Based Segmentation in Volumes
Research output: Research - peer-review › Poster – Annual report year: 2016

Effect of Aging on the Electrochemical Performance of LSM-YSZ Cathodes
Research output: Research - peer-review › Journal article – Annual report year: 2015

Enabling Flexible Polymer Tandem Solar Cells by 3D Ptychographic Imaging
Research output: Research - peer-review › Annual report year: 2014

Low-voltage FIB/SEM Tomography for 3D Microstructure Evolution of LiFePO4/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 LiFePO4/C Electrode
Research output: Research - peer-review › Conference article – Annual report year: 2016

Ni-hydroxide growth in vacuum plasma sprayed electrodes for alkaline electrolysis
Research output: Research › Poster – Annual report year: 2015

RES Hydrogen: efficient pressurised alkaline electrolysers
Research output: Research › Report – Annual report year: 2015

Triple phase boundary specific pathway analysis for quantitative characterization of solid oxide cell electrode microstructure
Research output: Research - peer-review › Journal article – Annual report year: 2015

Assessment of full ceramic solid oxide fuel cells based on modified strontium titanates
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

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

Effect of Ru/CGO versus Ni/CGO Co-Infiltration on the Performance and Stability of STN-Based SOFCs
Research output: Research - peer-review › Journal article – Annual report year: 2014

Formation of desert rose structures in vacuum plasma sprayed electrodes for alkaline electrolysis
Research output: Research - peer-review › Poster – Annual report year: 2014

Formation of desert rose structures in vacuum plasma sprayed electrodes for alkaline electrolysis
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

In situ characterization of delamination and crack growth of a CGO–LSM multi-layer ceramic sample investigated by X-ray tomographic microscopy
Research output: Research - peer-review › Journal article – Annual report year: 2014
Instability and growth of nanoscale Ce$_{0.8}$Gd$_{0.2}$O$_{1.9}$/Ni infiltrate in Sr$_{0.94}$Ti$_{0.9}$Nb$_{0.1}$O$_{3-Zr_{0.84}Y_{0.16}}$O$_{1.92}$ anodes for solid oxide fuel cells
Research output: Research - peer-review › Journal article – Annual report year: 2014

Investigation of nano scaled electro catalysts in ceramic solid oxide fuel cell anodes based on niobium modified strontium titanate
Research output: Research - peer-review › Poster – Annual report year: 2014

Micromechanical Modeling of Solid Oxide Fuel Cell Anode Supports based on Three-dimensional Reconstructions
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Microstructure analysis of vacuum plasma sprayed electrodes for alkaline electrolysis
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

On the accuracy of triple phase boundary lengths calculated from tomographic image data
Research output: Research - peer-review › Journal article – Annual report year: 2014

Site specific 3D pathway analysis of functional energy materials
Research output: Research - peer-review › Poster – Annual report year: 2014

Long-Term Stability of LSM-YSZ Based Cathodes
Research output: Research - peer-review › Conference article – Annual report year: 2013

Performance of Electrolyte Supported Solid Oxide Fuel Cells with STN Anodes
Research output: Research - peer-review › Conference article – Annual report year: 2013

Transmission Electron Microscopy Specimen Preparation Method for Multiphase Porous Functional Ceramics
Research output: Research - peer-review › Journal article – Annual report year: 2013

Durable and Robust Solid Oxide Fuel Cells
Research output: Research › Report – Annual report year: 2013

Microstructural evolution of nanosized Ce$_{0.8}$Gd$_{0.2}$O$_{1.9}$/Ni infiltrate in a Zr$_{0.84}$Y$_{0.16}$O$_{1.92}$Sr$_{0.94}$Ti$_{0.9}$Nb$_{0.1}$O$_{3-δ}$ based SOFC anode under electrochemical evaluation
Research output: Research › Poster – Annual report year: 2012

Multilayer tape cast SOFC – Effect of anode sintering temperature
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Performance-Microstructure Relations in Ni/CGO Infiltrated Nb-doped SrTiO3 SOFC Anodes
Research output: Research - peer-review › Conference article – Annual report year: 2012

Determination of Three Dimensional Microstructure Parameters from a Solid Oxide Ni/YSZ Electrode after Electrolysis Operation
Research output: Research - peer-review › Conference article – Annual report year: 2011

Geometrical characterization of interconnected phase networks in three dimensions
Research output: Research - peer-review › Journal article – Annual report year: 2011

Ni/YSZ anode – Effect of pre-treatments on cell degradation and microstructures
Research output: Research - peer-review › Journal article – Annual report year: 2011
Quantitative data analysis methods for 3D microstructure characterization of Solid Oxide Cells
Research output: Research › Ph.D. thesis – Annual report year: 2010

A framework for automatic segmentation in three dimensions of microstructural tomography data
Research output: Research - peer-review › Journal article – Annual report year: 2010

Auto-Segmentation of Head and Neck Cancer using Textural features
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Characterization of the 3-dimensional microstructure of a graphite negative electrode from a Li-ion battery
Research output: Research - peer-review › Journal article – Annual report year: 2010

High accuracy Interface characterization of three phase material systems in three dimensions
Research output: Research - peer-review › Journal article – Annual report year: 2010

Towards automated 3D electrode microstructure characterisation from a data analysis perspective
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Surface Area Determination of Metal Ceramic Composite by FIB Sectioning and BET Measurements
Research output: Research - peer-review › Journal article – Annual report year: 2009

Unsupervised Assessment of Subcutaneous and Visceral Fat by MRI
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Automated 3D FIB-SEM analysis of solid oxide fuel cells
Research output: Research › Poster – Annual report year: 2008

Automatic quantitative image analysis of micrographs
Research output: Research › Article in proceedings – Annual report year: 2008

Robust automatic high resolution segmentation of SOFC anode porosity in 3D.
Research output: Research › Article in proceedings – Annual report year: 2008

Automatic assessment of intrabdominal fat by MRI
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2007

Boundary based segmentation of 2D electron microscope images. Ph.D. presentation
Research output: Research › Paper – Annual report year: 2007

Projects:

Physical model priors for tomogram segmentation
Project: PhD

Electrodeposition of Metallic 3D Surface-Profiles for Superconductor Tapes
Project: Research

Dark Field X-ray Microscopy of energy materials
Project: PhD
In-situ 3D microstructure characterisation of solid oxide fuel cells using X-ray tomography methods
Project: PhD

Automatic Quantitative Image Analysis of 3D Micrographs
Project: PhD

Hydrogen from RES: pressurised alkaline electrolyser with high efficiency
Project: Research

Activities:

Solid oxide fuel cells – from a materials science perspective
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Workshop on Image Analysis in SOFC Degradation Research
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Towards automated 3D electrode microstructure characterization from a data analysis perspective
Activity: Talks and presentations › Conference presentations