Research outputs:

Complementary analyses of aging in a commercial LiFePO$_4$/graphite 26650 cell
Research output: Research - peer-review › Journal article – Annual report year: 2018

A novel system for large-scale storage of electricity as synthetic natural gas using reversible pressurized solid oxide cells
Research output: Research - peer-review › Journal article – Annual report year: 2018

Continuous Hydrothermal Flow Synthesis of Gd-doped CeO$_2$ (GDC) Nanoparticles for Inkjet Printing of SOFC Electrolytes
Research output: Research - peer-review › Journal article – Annual report year: 2018

Diffusion rates of reactants and components in solid oxide cells
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Noise Phenomena in Electrochemical Impedance Spectroscopy of Polymer Electrolyte Membrane Electrolysis Cells
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 LiFePO$_4$/Graphite 26650 Cylindrical Cell
Research output: Research - peer-review › Journal article – Annual report year: 2017

Aqueous metal–organic solutions for YSZ thin film inkjet deposition
Research output: Research - peer-review › Journal article – Annual report year: 2017

Concentration Impedance in Testing of Solid Oxide Cells Revisited
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Correction: Large-scale electricity storage utilizing reversible solid oxide cells combined with underground storage of CO$_2$ and CH$_4$
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

Life cycle assessment of hydrogen production from water electrolysis
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Pressurized reversible operation of a 30-cell solid oxide cell stack using carbonaceous gases
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

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 LiFePO_4-CB cathodes: Morphological and structural degradation in LiFePO4-CB cathodes
Research output: Research - peer-review › Journal article – Annual report year: 2016

Characterisation of a Planar Solid Oxide Cell Stack Operated at Elevated Pressure
Research output: Research - peer-review › Conference abstract in journal – 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

Performance and Lifetime Limiting Effects in Li-ion Batteries

Pressurized Operation of a Planar Solid Oxide Cell Stack
Research output: Research › Conference article – Annual report year: 2016

Reversible Operation of Solid Oxide Cells for Sustainable Fuel Production and Solar/Wind Load-Balancing
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2016

Elektrolyse gør al energi fra vindmøller værdifuld
Research output: Communication › Net publication - Internet publication – Annual report year: 2015

Alkali Metal-O2 Batteries. Performance and Lifetime Limiting Effects
Research output: Research › Ph.D. thesis – Annual report year: 2015

Degradation Studies on LiFePO_4 cathode
Research output: Research - peer-review › Conference 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: 2014

Erratum: In Situ Studies of Fe^{4+} Stability in β-Li_3Fe_2(PO_4)_3 Cathodes for Li Ion Batteries
Research output: Research - peer-review › Comment/debate – Annual report year: 2015

Fabrication of thin yttria-stabilized-zirconia dense electrolyte layers by inkjet printing for high performing solid oxide fuel cells
Research output: Research - peer-review › Journal article – Annual report year: 2015

In Situ Studies of Fe^{4+} Stability in β-Li_3Fe_2(PO_4)_3 Cathodes for Li Ion Batteries
Research output: Research - peer-review › Journal article – Annual report year: 2015

Integration of CO_2 air capture and solid oxide electrolysis for methane production

Large-scale electricity storage utilizing reversible solid oxide cells combined with underground storage of CO_2 and CH_4
Research output: Research - peer-review › Journal article – Annual report year: 2015
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

Performance Characterization of Solid Oxide Cells Under High Pressure
Research output: Research - peer-review › Conference article – Annual report year: 2015

Redox Probing Study of the Potential Dependence of Charge Transport Through Li2O2
Research output: Research - peer-review › Journal article – Annual report year: 2015

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

High Temperature Electrolysis in Alkaline Cells, Solid Proton Conducting Cells, and Solid Oxide Cells
Research output: Research - peer-review › Journal article – Annual report year: 2014

Performance characterization of solid oxide cells under high pressure
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Storing electricity and CO2 as synthetic hydrocarbon fuels by high temperature electrolysis
Research output: Research › Poster – Annual report year: 2014

Co-Electrolysis of Water and CO2 for synthetic fuels
Research output: Research › Sound/Visual production (digital) – Annual report year: 2013

Durability of Solid Oxide Electrolysis Cells for Syngas Production
Research output: Research - peer-review › Journal article – 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

Modeling degradation in SOEC impedance spectra
Research output: Research - peer-review › Journal article – Annual report year: 2013

Operation and Degradation Aspects of EV Batteries
Research output: Research - peer-review › Book chapter – Annual report year: 2013

Technology data for high temperature solid oxide electrolyser cells, alkali and PEM electrolysers
Research output: Research › Report – Annual report year: 2013

Measurements of Electric Performance and Impedance of a 75 Ah NMC Lithium Battery Module
Research output: Research - peer-review › Journal article – Annual report year: 2012

Performance and Durability of Solid Oxide Electrolysis Cells for Syngas Production
Research output: Research - peer-review › Conference article – Annual report year: 2012

Plasma properties during RF magnetron sputtering of lithium phosphorous oxyxitride thin films
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012
Production of "Green Natural Gas" Using Solid Oxide Electrolysis Cells (SOEC): Status of Technology and Costs
Research output: Research › peer-review › Article in proceedings – Annual report year: 2012

Thermodynamic analysis of synthetic hydrocarbon fuel production in pressurized solid oxide electrolysis cells
Research output: Research › peer-review › Journal article – Annual report year: 2012

Performance and durability of solid oxide electrolysis cells for syngas production
Research output: Research › peer-review › Conference abstract in proceedings – Annual report year: 2011

Synthetic fuel production using pressurized solid oxide electrolysis cells
Research output: Research › Paper – Annual report year: 2011

Hydrogen and synthetic fuel production using pressurized solid oxide electrolysis cells
Research output: Research › peer-review › Journal article – Annual report year: 2010

Poisoning of Solid Oxide Electrolysis Cells by Impurities
Research output: Research › peer-review › Journal article – Annual report year: 2010

Prospects for large scale electricity storage in Denmark
Research output: Research › peer-review › Journal article – Annual report year: 2010

Studies on solid oxide electrolysis cells -aspect of synthetic hydrocarbon fuel production
Research output: Research › Article in proceedings – Annual report year: 2011

Advanced Test Method of Solid Oxide Cells in a Plug-Flow Setup
Research output: Research › peer-review › Journal article – Annual report year: 2009

Electrochemical impedance spectroscopy as diagnostic tool
Research output: Research › peer-review › Book chapter – Annual report year: 2009

Kan vi få CO₂-neutral benzin?
Research output: Communication › Journal article – Annual report year: 2009

SOEC potential economics, peak shaving
Research output: Research › Conference abstract for conference – Annual report year: 2009

Electrolysis of steam and CO₂
Research output: Research › Paper – Annual report year: 2008

Gas Concentration Impedance in an SOFC Plug Flow Setup
Research output: Research › peer-review › Conference abstract in proceedings – Annual report year: 2008

Separation of process contributions in impedance spectra by variation of test conditions
Research output: Research › Article in proceedings – Annual report year: 2008

SOFC Ni-electrode Resistance Distribution Investigated by Gas Concentration Impedance in a Plug-Flow Setup
Research output: Research › peer-review › Conference article – Annual report year: 2008

Solid Oxide Electrolysis Cells: Microstructure and Degradation of the Ni/Yttria-Stabilized Zirconia Electrode
Research output: Research › peer-review › Journal article – Annual report year: 2008
Solid Oxide Electrolyser Cell
Research output: Research › Ph.D. thesis – Annual report year: 2007

A method to separate process contributions in impedance spectra by variation of test conditions
Research output: Research - peer-review › Journal article – Annual report year: 2007

Durability of solid oxide electrolysis cells for hydrogen production
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

EM investigations of impurities in a fuel cell H2 electrode
Research output: Research › Conference abstract for conference – Annual report year: 2007

Hydrogen and synthetic fuel production from renewable energy sources
Research output: Research - peer-review › Journal article – Annual report year: 2007

New method in resolving process responses in impedance spectra
Research output: Research › Paper – Annual report year: 2007

New method in resolving process responses in impedance spectra. Postdoc presentation
Research output: Research › Paper – Annual report year: 2007

Passivation and activation of SOFC nanostructured cathodes
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Reversible solid oxide cells
Research output: Research › Paper – Annual report year: 2007

Reversible Solid Oxide Cells: Performance of Reversible Solid Oxide Cells: 301-MogensenPerformance of Reversible Solid Oxide Cells: A Review
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Silica segregation in the Ni/YSZ electrode
Research output: Research - peer-review › Journal article – Annual report year: 2007

Solid oxide electrolysis for fuel production
Research output: Research › Conference abstract for conference – Annual report year: 2007

Performance and durability of solid oxide electrolysis cells
Research output: Research - peer-review › Journal article – Annual report year: 2006

Performance and stability of barium strontium cobaltite composite cathodes for SOFC
Research output: Research › Article in proceedings – Annual report year: 2006

Performance of reversible solid oxide cells: A review
Research output: Research › Article in proceedings – Annual report year: 2006

Ni/YSZ-electrode passivation at cathodic current
Research output: Research › Article in proceedings – Annual report year: 2005

Ni/YSZ electrodes in solid oxide electrolyser cells
Research output: Research › Article in proceedings – Annual report year: 2005
High temperature electrolysis of steam and carbon dioxide
Research output: Research - peer-review › Article in proceedings – Annual report year: 2003

Projects:

Modeling of Large-Scale Electricity Storage Systems based on Pressurized Reversible Solid Oxide Cells
Project: Research

Biofuel production based on Integrated Systems combining Biomass Gasification and Solid Oxide Cells
Project: PhD

Højtemperatureselektrolyse
Project: PhD

Co-electrolysis SOEC
Project: PhD

Modeling Energy Supply for Future Cities
Project: PhD

Development og highly efficient solid oxide electrolyzer cell systems
Project: PhD

Investigation of performance and lifetime limiting effects in Li-air battery cells
Project: PhD

Electrochemical Removal of NOx and Hydrocarbons
Project: PhD

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

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

Udvikling og karakterisering af avancerede Li-batterier
Project: PhD

Fabrication of Green Hydrocarbon Fuels via Capture and Electrolysis of CO2
Project: PhD

Activities:

Reversible Operation using Carbonaceous Gasses of a 30-cell Solid Oxide Cell Stack
Activity: Talks and presentations › Conference presentations

Prizes:
Third Price EFC17 Best Paper Awards
Prize: Prizes, scholarships, distinctions

Press clippings:

Danska bränsleceller ger konstgjord bensin
Press/Media: Press / Media