Andreas Kaiser - DTU Orbit (07/02/2019)

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Research outputs:

Alcohol dehydrogenase on inorganic powders: Zeta potential and particle agglomeration as main factors determining activity during immobilization
Research output: Research - peer-review › Journal article – Annual report year: 2018

Enzyme Immobilization on Inorganic Surfaces for Membrane Reactor Applications: Mass Transfer Challenges, Enzyme Leakage and Reuse of Materials
Research output: Research - peer-review › Journal article – Annual report year: 2018

Exploring the Processing of Tubular Chromite- and Zirconia-Based Oxygen Transport Membranes
Research output: Research - peer-review › Journal article – Annual report year: 2018

MgO as a non-pyrolyzable pore former in porous membrane supports
Research output: Research - peer-review › Journal article – Annual report year: 2018

New water treatment research activities at DTU Energy
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2018

Optimized cesium and potassium ion-exchanged zeolites A and X granules for biogas upgrading
Research output: Research - peer-review › Journal article – Annual report year: 2018

Performance and stability of (ZrO$_2$)$_{0.88}$(Y$_2$O$_3$)$_{0.02}$(Sc$_2$O$_3$)$_{0.01}$LaCr$_{0.85}$Cu$_{0.10}$Ni$_{0.05}$O$_{3-δ}$ oxygen transport membranes under conditions relevant for oxy-fuel combustion
Research output: Research - peer-review › Journal article – Annual report year: 2018

The Role of Pore-Formers on Grain Interior and Grain Boundary Conductivity in Tape-Cast Porous Sheets for Electrochemical Flue Gas Purification
Research output: Research - peer-review › Journal article – Annual report year: 2018

Advanced fabrication of porous ceramic multilayers for membrane applications
Research output: Research › Conference abstract in proceedings – Annual report year: 2017

Advanced manufacturing of porous ceramic structures for use in energy applications (invited)
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Ceramic processing of tubular, multilayered oxygen transport membranes (invited)
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017
Development and Performance of Zirconia Based Oxygen Transport Membranes for Carbon Capture Processes
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Ionic/Electronic Conductivity, Thermal/Chemical Expansion and Oxygen Permeation in Pr and Gd Co-Doped Ceria Pr\textsubscript{x}Gd\textsubscript{0.1}Ce\textsubscript{0.9-x}O\textsubscript{1.95-δ}
Research output: Research - peer-review › Journal article – Annual report year: 2017

Oxygen transport properties of tubular Ce\textsubscript{0.9}Gd\textsubscript{0.1}O\textsubscript{1.95-δ-La\textsubscript{0.6}Sr\textsubscript{0.4}FeO\textsubscript{3-δ} composite asymmetric oxygen permeation membranes supported on magnesium oxide
Research output: Research - peer-review › Journal article – Annual report year: 2017

Stability and performance of robust dual-phase (ZrO\textsubscript{2})\textsubscript{0.89}(Y\textsubscript{2}O\textsubscript{3})\textsubscript{0.01}(Sc\textsubscript{2}O\textsubscript{3})\textsubscript{0.10-AI\textsubscript{0.02-Zn\textsubscript{0.98}O\textsubscript{1.01}} oxygen transport membranes
Research output: Research - peer-review › Journal article – Annual report year: 2017

Design and optimization of porous ceramic supports for asymmetric ceria-based oxygen transport membranes
Research output: Research - peer-review › Journal article – Annual report year: 2016

Effect of pore formers on properties of tape cast porous sheets for electrochemical flue gas purification
Research output: Research - peer-review › Journal article – Annual report year: 2016

Graphite and PMMA as pore formers for thermoplastic extrusion of porous 3Y-TZP oxygen transport membrane supports
Research output: Research - peer-review › Journal article – Annual report year: 2016

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

Influence of pore former on porosity and mechanical properties of Ce\textsubscript{0.9}Gd\textsubscript{0.1}O\textsubscript{1.95-δ} electrolytes for flue gas purification
Research output: Research - peer-review › Journal article – Annual report year: 2016

Low cost porous MgO substrates for oxygen transport membranes
Research output: Research - peer-review › Journal article – Annual report year: 2016

Oxygen permeation flux through 10Sc1YSZ-MnCo\textsubscript{2}O\textsubscript{4} asymmetric membranes prepared by two-step sintering
Research output: Research - peer-review › Journal article – Annual report year: 2016

Processing and characterization of multilayers for energy device fabrication (invited)
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

The effect of tape casting operational parameters on the quality of adjacently graded ceramic film
Research output: Research - peer-review › Journal article – Annual report year: 2016

Tubular asymmetric oxygen transport membranes
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Oxygen transport membrane.
Research output: Research › Patent – Annual report year: 2015

A novel CO\textsubscript{2}− and SO\textsubscript{2}− tolerant dual phase composite membrane for oxygen separation
Research output: Research - peer-review › Journal article – Annual report year: 2015
Development of ceramic multilayer devices for clean and efficient energy conversion
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Effect of chemical redox on Gd-doped ceria mass diffusion
Research output: Research - peer-review › Journal article – Annual report year: 2015

Enhanced reducibility and electronic conductivity of Nb or W doped Ce_{0.9}Gd_{0.1}O_{1.95-δ}
Research output: Research - peer-review › Journal article – Annual report year: 2015

Fabrication and performance of a tubular ceria based oxygen transport membrane on a low cost MgO support
Research output: Research - peer-review › Journal article – Annual report year: 2015

Fabrication of porous 3-YSZ turbular supports for oxygen transport membranes
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Magnesium oxide supported thin dual phase composite oxygen permeation reactors
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Modeling constrained sintering of bi-layered tubular structures
Research output: Research - peer-review › Journal article – Annual report year: 2014

Oxygen permeation of dense dual phase tubular membranes supported on porous magnesium oxide
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Oxygen transport membranes for biomass gasification and cement industry

Tailoring of porosity of yttria-stabilized zirconia tubes as supports for oxygen separation membranes
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

The role of sacrificial fugitives in thermoplastic extrusion feedstocks on properties of MgO supports for oxygen transport membranes
Research output: Research - peer-review › Journal article – Annual report year: 2015

Ceria Based Composite Membranes for Oxygen Separation
Research output: Research - peer-review › Conference article – Annual report year: 2014

Experimental extrusion of tubular multilayer materials for Oxygen Transport Membranes
Research output: Research › Ph.D. thesis – Annual report year: 2015

Experimental Tape Casting of Adjacently Graded Materials for Magnetic Refrigeration
Research output: Research › Ph.D. thesis – Annual report year: 2014

HIGH PERFORMANCE CERIA BASED OXYGEN MEMBRANE
Research output: Research › Patent – Annual report year: 2014

Tailoring the microstructure of porous MgO supports for asymmetric oxygen separation membranes: Optimization of thermoplastic feedstock systems
Research output: Research - peer-review › Journal article – Annual report year: 2014
Thickness control and interface quality as functions of slurry formulation and casting speed in side-by-side tape casting
Research output: Research - peer-review › Journal article – Annual report year: 2014

Camber Evolution and Stress Development of Porous Ceramic Bilayers During Co-Firing
Research output: Research - peer-review › Journal article – Annual report year: 2013

Densification and grain growth during sintering of porous Ce$_{0.9}$Gd$_{0.1}$O$_{1.95}$ tape cast layers: A comprehensive study on heuristic methods
Research output: Research - peer-review › Journal article – Annual report year: 2013

Enhanced mass diffusion phenomena in highly defective doped ceria
Research output: Research - peer-review › Journal article – Annual report year: 2013

Fabrication and Characterization of multi-layer ceramics for electrochemical flue gas purification
Research output: Research - peer-review › Journal article – Annual report year: 2013

Poröser, gasdurchlässiger Schichtunterbau zu einer dünnen, gasdichten Schicht, zur Verwendung als funktionelle Komponente in Hochtemperatur-Brennstoffzellen
Research output: Research › Patent – Annual report year: 2013

Sintering process optimization for multi-layer CGO membranes by in situ techniques
Research output: Research - peer-review › Journal article – Annual report year: 2013

Verfahren zum Herstellen einer keramischen Schicht mit elektrischen oder elektrochemischen Eigenschaften
Research output: Research › Patent – Annual report year: 2013

Analysis of the sintering stresses and shape distortion produced in co-firing of CGO-LSM/CGO bi-layer porous structures
Research output: Research › Poster – Annual report year: 2012

Electrical conductivity of Ni–YSZ composites: Variants and redox cycling
Research output: Research - peer-review › Journal article – Annual report year: 2012

Tailoring the porosity and shrinkage of extruded MgO support tubes for oxygen separation membranes by thermoplastic feedstock development
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Electrical conductivity of Ni–YSZ composites: Degradation due to Ni particle growth
Research output: Research - peer-review › Journal article – Annual report year: 2011

Evaluation of thin film ceria membranes for syngas membrane reactors—Preparation, characterization and testing
Research output: Research - peer-review › Journal article – Annual report year: 2011

On the use of supported ceria membranes for oxyfuel process/syngas production
Research output: Research - peer-review › Journal article – Annual report year: 2011

Oxygen permeation in thin, dense Ce$_{0.9}$Gd$_{0.1}$O$_{1.95}$ membranes II. experimental determination
Research output: Research - peer-review › Journal article – Annual report year: 2011

Strength of Anode-Supported Solid Oxide Fuel Cells
Research output: Research - peer-review › Journal article – Annual report year: 2011
Continuum mechanics simulations of NiO/Ni-YSZ composites during reduction and re-oxidation
Research output: Research - peer-review › Journal article – Annual report year: 2010

Curvature and Strength of Ni-YSZ Solid Oxide Half-Cells After Redox Treatments
Research output: Research - peer-review › Journal article – Annual report year: 2010

Densification and Grain Growth during Early-stage Sintering of Ce0.9Gd0.101.95-5 in Reducing Atmosphere
Research output: Research - peer-review › Journal article – Annual report year: 2010

Sintering behavior of Ce0.9Gd0.101.95-delta in reducing atmosphere
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Characteristics of cerium-gadolinium oxide (CGO) suspensions as a function of dispersant and powder properties
Research output: Research - peer-review › Journal article – Annual report year: 2009

Dimensional behavior of Ni-YSZ composites during redox cycling
Research output: Research - peer-review › Journal article – Annual report year: 2009

Leveling and thixotropic characteristics of concentrated zirconia inks for screen-printing
Research output: Research - peer-review › Journal article – Annual report year: 2009

Mechanical properties of NiO/Ni-YSZ composites depending on temperature, porosity and redox cycling
Research output: Research - peer-review › Journal article – Annual report year: 2009

Redox stability of SOFC: Thermal analysis of Ni-YSZ composites
Research output: Research - peer-review › Journal article – Annual report year: 2009

Testing and improving the redox stability of Ni-based solid oxide fuel cells
Research output: Research - peer-review › Journal article – Annual report year: 2009

Sintering behaviour of Ce0.9Gd0.101.95-5; in reducing atmosphere
Research output: Research › Paper – Annual report year: 2008

Testing and improving the redox stability of Ni-based SOFC
Research output: Research › Paper – Annual report year: 2008

Verfahren zum Herstellen von Kontakten zwischen elektrochemisch aktiven Scheiben und Interkonnektoren in Hochtemperatur-Brennstoffzellen
Research output: Research › Patent – Annual report year: 2008

Abradable layer for a flow machine, comprises a particle composite material and a composite that contains ceramic particles with surface functional layers
Research output: Research › Patent – Annual report year: 2007

Dimensional behaviour of Ni-YSZ anode supports for SOFC under redox cycling conditions
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Optimization of screen printed LSM-YSZ cathodes
Research output: Research › Paper – Annual report year: 2007

Anode material for a high temperature fuel cell
Research output: Research › Patent – Annual report year: 2004
High temperature fuel cell with anode layer including
Research output: Research › Patent – Annual report year: 2004

Strukturierter Körper für eine in Brennstoffzellen verwendete Anode
Research output: Research › Patent – Annual report year: 2003

Verfahren zum Herstellen eines Hartstoff enthaltenden Granulats
Research output: Research › Patent – Annual report year: 2003

Anodic behaviour of $Y_{0.20}Ti_{0.18}Zr_{0.62}O_{1.90}$ towards hydrogen electro-oxidation in a high temperature solid oxide fuel cell
Research output: Research - peer-review › Journal article – Annual report year: 2001

Electrochemical characterization of ceramic SOFC anodes
Research output: Research - peer-review › Journal article – Annual report year: 2001

Methane electro-oxidation on a $Y_{0.20}Ti_{0.18}Zr_{0.62}O_{1.90}$ anode in a high temperature solid oxide fuel cell
Research output: Research - peer-review › Journal article – Annual report year: 2001

Niobia based rutile materials as SOFC anodes
Research output: Research - peer-review › Journal article – Annual report year: 2001

Tetragonal tungsten bronze type phases (Sr$_{1-x}$Ba$_x$)$_{0.6}$Ti$_{0.2}$Nb$_{0.8}$O$_{3-δ}$: Material characterisation and performance as SOFC anodes
Research output: Research - peer-review › Journal article – Annual report year: 2000

Phase relations at 1500°C in the ternary system ZrO$_2$-Y$_2$O$_3$-TiO$_2$
Research output: Research - peer-review › Journal article – Annual report year: 1999

Phase Relations at 1500°C in the Ternary System ZrO$_2$–Y$_2$O$_3$–TiO$_2$
Research output: Research - peer-review › Journal article – Annual report year: 1999

Electrical characterization of highly titania doped YSZ
Research output: Research - peer-review › Journal article – Annual report year: 1998

Influence of the Metal Complexation on Size and Composition of Cu/Ni Nano-Particles Prepared by Sol-Gel Processing
Research output: Research - peer-review › Journal article – Annual report year: 1997

Preparation Techniques and Materials For long Term Stable SOFC - Single Cell Membranes
Research output: Research - peer-review › Journal article – Annual report year: 1997

Fuel gas electrode used in electrochemical cells - consisting of cermet (precursor) material containing metallic or metal oxide component, and ceramic additives
Research output: Research › Patent – Annual report year: 1996

Fuel gas reforming electrode for high temperature fuel cells
Research output: Research › Patent – Annual report year: 1996

Reactions at the Interface La$_{0.6}$Ca$_{0.4}$MnO$_3$-YSZ/Al$_2$O$_3$ under Anodic Current
Research output: Research - peer-review › Journal article – Annual report year: 1996
Projects:

Membrane reactors for industrial applications
Project: PhD

Advanced materials and structuring for gas storage applications: Structuring of metal-organic frameworks (MOFs) into nanofibers for methane storage
Project: PhD

Nanofiber structures for efficient enzyme immobilization in membrane applications
Project: Research

Nanoscale design of Ammonia Carriers for Air Pollution Control (NANOCONTROL)
Project: Research

High performance immobilization of enzymes in inorganic membranes
Project: PhD

New Concepts for Efficient Immobilization of Enzymes in Inorganic Membrane Reactors
Project: PhD

Synthesis and characterization of Tubular Oxygen transport membranes
Project: PhD

Highly structured materials for upgraded biogas and storage
Project: Research

Development and characterization of novel high temperature and pressure alkaline electrolysis cells (HTP-AEC)
Project: PhD

The role of contact resistance in thermoelectric module
Project: PhD

Graded Oxygen Transport Membranes for Carbon Capture Processes
Project: PhD

Development and processing of n-type oxide thermoelectric materials
Project: PhD

Experimental Tape Casting of Adjacently Graded Materials for Magnetic Refrigeration
Project: PhD

Oxygen Membranes for Biomass Gasification and Cement Industry
Project: PhD
Development and application of a green Chemistry solution deposition technique for buffer layer coating on cue-textured metal substrates in view of further deposition of rare-earth based superconductors
Project: PhD

Experimental tape casting of multilayer for flue gas purification
Project: PhD

Experimental Extrusion of Tubular Multilayer Materials for Oxygen Membranes
Project: PhD

A high performance ion transport membrane (HP-ITM)
Project: Research

Activities:

Structuring of metal-organic frameworks into nanofibers for methane storage
Activity: Examinations and supervision › Supervisor activities

Advanced fabrication of porous ceramic multilayers for membrane applications
Activity: Talks and presentations › Conference presentations

Advanced manufacturing of porous ceramic structures for use in energy applications
Activity: Talks and presentations › Conference presentations

Enzymatic reactor on ceramic substrate for CO2 conversion
Activity: Examinations and supervision › Supervisor activities