Hauch, Anne
hauc@dtu.dk
Department of Energy Conversion and Storage - Associate Professor, PhD
Applied Electrochemistry

Publications:

Durable fuel electrode
Brodersen, K., Hauch, A., Chen, M. & Hjelm, J. 23 Feb 2017
Publication: Research › Patent – Annual report year: 2017

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

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

Concentration Impedance in Testing of Solid Oxide Cells Revisited
Publication: Research - peer-review › Journal article – Annual report year: 2017

High performance LaNi1-xCoxO3-δ (x = 0.4 to 0.7) infiltrated oxygen electrodes for reversible solid oxide cells
Publication: 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
Publication: 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
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Relation Between Ni Particle Shape Change and Ni Migration in Ni–YSZ Electrodes – a Hypothesis
Publication: Research - peer-review › Journal article – Annual report year: 2017

Study of Operating Parameters for Accelerated Anode Degradation in SOFCs
Publication: Research - peer-review › Journal article – Annual report year: 2017

Testing of Electrodes, Cells and Short Stacks
Publication: Research - peer-review › Book chapter – Annual report year: 2016
Towards long-term stable solid state electrolyzers with infiltrated catalysts
Ovtar, S., Chen, M., Brodersen, K., Hauch, A., Sun, X., Bentzen, J. J. & Hendriksen, P. V. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

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

in-Situ Formed Ce0.8Gd0.2O1.9 Barrier Layer on Yttria Stabilized Zirconia Back-Bone for Infiltrated Oxygen Electrodes
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2016

New Hypothesis for SOFC Ceramic Oxygen Electrode Mechanisms
Publication: Research - peer-review › Conference article – Annual report year: 2016

NiYSZ electrodes structures optimized for increased electrolysis performance and durability
Publication: Research - peer-review › Journal article – Annual report year: 2016

Relation between shape of Ni-particles and Ni migration in Ni-YSZ electrodes – a hypothesis
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Study of variables for accelerating lifetime testing of SOFCs
Ploner, A., Hagen, A. & Hauch, A. 2016
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Elektrolyse gør al energi fra vindmøller værdifuld
Publication: Communication › Internet publication – Annual report year: 2015

Er der vedvarende energi nok til os alle?: om brændselsceller og elektrolyseceller til effektiv energikonvertering
Hauch, A. 2015
Publication: Research › Sound/Visual production (digital) – Annual report year: 2015

High performing SOFC via multilayer tape casting?
Hauch, A. 2015
Publication: Research - peer-review › Poster – Annual report year: 2015

NiYSZ microstructure optimization for long-term stability of solid oxide electrolysis cells
Hauch, A., Brodersen, K. & Chen, M. 2015
Publication: Research - peer-review › Poster – Annual report year: 2015

Sulfur Poisoning of Ni/stabilized-zirconia Anodes: Effect on Long-Term Durability
Hauch, A., Hagen, A., Hjeim, J. & Ramos, T. 2015
Publication: Research › Sound/Visual production (digital) – Annual report year: 2015

Triple phase boundary specific pathway analysis for quantitative characterization of solid oxide cell electrode microstructure
Durable and Robust Solid Oxide Fuel Cells
Publication: Research › Report – Annual report year: 2013

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

Durability of Solid Oxide Cells
Publication: Research - peer-review › Journal article – Annual report year: 2011

Electrochemical characterisation of solid oxide cell electrodes for hydrogen production
Publication: Research - peer-review › Journal article – Annual report year: 2010

Electrolysis for Integration of Renewable Electricity and Routes towards Sustainable Fuels
Publication: Research › Article in proceedings – Annual report year: 2011

High performance anode supported SOFC produced by multilayer tape casting
Brodersen, K., Hauch, A., Hjalmarsson, P. & Hjelm, J. 2011
Publication: Research › Conference abstract for conference – Annual report year: 2011

Ni/YSZ anode – Effect of pre-treatments on cell degradation and microstructures
Publication: Research - peer-review › Journal article – Annual report year: 2011

Ni/YSZ electrode degradation studied by impedance spectroscopy — Effect of p(H2O)
Publication: Research - peer-review › Journal article – Annual report year: 2010

A Composite Glass Seal for a Solid Oxide Electrolyser Cell Stack
Lönnroth, N., Hauch, A., Mogensen, M. B. & Chen, M. 2010
Publication: Research › Patent – Annual report year: 2010

Complementary techniques for solid oxide electrolysis cell characterisation at the micro- and nano-scale
Publication: Research - peer-review › Conference article – Annual report year: 2010

Ni/YSZ electrode degradation studied by impedance spectroscopy: Effects of gas cleaning and current density
Durability of solid oxide electrolysis cells for hydrogen production
Publication: Research › Article in proceedings – Annual report year: 2007

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

How to transfer spectra from the INCA software to spectra that can be used in the NoranSystemSix software
Hauch, A. 2007
Publication: Research › Paper – Annual report year: 2007

Nanoscale chemical analysis and imaging of solid oxide cells
Hauch, A. 2007
Publication: Research › Paper – Annual report year: 2007

Reversible solid oxide cells
Publication: 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
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Silica segregation in the Ni/YSZ electrode
Publication: Research › Journal article – Annual report year: 2007

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

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

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

Proton Diffusion in the Ni/YSZ Electrode of a Solid Oxide Cell
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2006

The potential of the solid oxide electrolyser for the production of synthetic fuels
Publication: Research › Conference abstract for conference – Annual report year: 2006
Electrode stability in high temperature electrolysis of steam
Hauch, A., Jensen, S. H. & Mogensen, M. B. 2005
Publication: Research › Conference abstract for conference – Annual report year: 2005

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

Ni/YSZ electrodes in solid oxide electrolyser cells
Publication: Research › Article in proceedings – Annual report year: 2005

Stability of solid oxide electrolyser cells
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

$^2$H chemical shift anisotropies from high-field $^2$H MAS NMR spectroscopy
Publication: Research - peer-review › Journal article – Annual report year: 2003

Projects:

Modeling of degradation processes in high temperature electrolysis cells
Trini, M., Chen, M., Hauch, A. & Hendriksen, P. V.
01/09/2016 → 31/08/2019
Project: PhD

Development and pressure testing of solid oxide electrolyser cells
Gao, Y., Jensen, S. H., Graves, C. R. & Hauch, A.
01/07/2016 → 30/09/2016
Project: PhD

SOFC degradation studies
Pioneer, A., Hagen, A. & Hauch, A.
15/08/2015 → 14/08/2018
Project: PhD

Lifetime limiting effects in pre-commercial solid cell devices
01/03/2014 → 21/06/2017
Project: PhD

Elektrode Kinetics and Gas Conversion in Solid Oxide Cells
01/01/2014 → 20/04/2016
Project: PhD
In-situ Neutron Imaging of Solid Oxide Fuel Cells
01/01/2013 → 20/04/2016
Project: PhD

Forbedring af Materialer til fast Oxid Brændselsceller
Hauch, A., Jacobsen, T., Bilde-Sørensen, J., Mogensen, M. B., Skaarup, S., Falk, L. K. L. & Holtappels, P.
15/08/2004 → 28/01/2008
Project: PhD

Activities:

The 66th Annual Meeting of the International Society of Electrochemistry
Hauch, A. (Participant)
4 Oct 2015 → 9 Oct 2015
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Er der vedvarende energi nok til os alle?
Hauch, A. (Lecturer)
21 Sep 2015 → 25 Sep 2015
Activity: Talks and presentations › Conference presentations

Vedvarende energi: Ny teknologi, der ændrer vores hverdag
Hauch, A. (Lecturer)
20 May 2015
Activity: Talks and presentations › Conference presentations

Energikonvertering - Brændselsceller og brint: Vedvarende Energi
Hauch, A. (Lecturer)
10 Feb 2015
Activity: Talks and presentations › Conference presentations

Er der vedvarende energi nok til os alle?: Om brændselsceller og elektrolyseceller til effektiv energikonvertering
Hauch, A. (Lecturer)
26 Sep 2014
Activity: Talks and presentations › Conference presentations

European fuel cell 2014 - 11th European SOFC and SOE Forum 2014
Hauch, A. (Speaker)
1 Jul 2014 → 4 Jul 2014
Activity: Talks and presentations › Conference presentations

13th International Symposium on Solid Oxide Fuel Cells (SOFC-XIII)
Hauch, A. (Participant)
6 Oct 2013 → 11 Oct 2013
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

European Fuel Cell Forum 2012
Hauch, A. (Participant)
30 Jun 2012 → 3 Jul 2012
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Studienævn DTU Energi (External organisation)
Hauch, A. (Chairman)
1 Jan 2012 → 31 Dec 2015
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar
UDTU Education in University Teaching at DTU
Hauch, A. (Participant)
2 Aug 2010 → 30 Jul 2011
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.