

Xiufu Sun - DTU Orbit (06/08/2016)

Sun, Xiufu

xisu@dtu.dk

Department of Energy Conversion and Storage - Development Engineer

Applied Electrochemistry

#### Publications:

##### **Pressurized Operation of a Planar Solid Oxide Cell Stack**

Jensen, S. H., Sun, X., Ebbesen, S. D. & Chen, M. 2016 In : *Fuel Cells*. 16, 2, p. 205–218 14 p.

Publication: Research - peer-review › Journal article – Annual report year: 2016

##### **Life Time Performance Characterization of Solid Oxide Electrolysis Cells for Hydrogen Production**

Sun, X., Chen, M., Liu, Y-L. & Hendriksen, P. V. 2015 In : *Electrochemical Society. Meeting Abstracts (Online)*. MA2015-03, 1, 400

Publication: Research - peer-review › Journal article – Annual report year: 2015

##### **Life Time Performance Characterization of Solid Oxide Electrolysis Cells for Hydrogen Production**

Sun, X., Chen, M., Liu, Y-L. & Hendriksen, P. V. 2015 In : *E C S Transactions*. 68, p. 3359-3368

Publication: Research - peer-review › Journal article – Annual report year: 2015

##### **Performance Characterization of Solid Oxide Cells Under High Pressure**

Sun, X., Bonaccorso, A. D., Graves, C. R., Ebbesen, S. D., Jensen, S. H., Hagen, A., Holtappels, P., Hendriksen, P. V. & Mogensen, M. B. 2015 In : *Fuel Cells*. 15, 5, p. 697-702

Publication: Research - peer-review › Conference article – Annual report year: 2015

##### **Understanding the processes governing performance and durability of solid oxide electrolysis cells**

Ebbesen, S. D., Sun, X. & Mogensen, M. B. 2015 In : *Faraday Discussions*. 182, p. 393-422 30 p.

Publication: Research - peer-review › Journal article – Annual report year: 2015

##### **Durability of high performance Ni-yttria stabilized zirconia supported solid oxide electrolysis cells at high current density**

Hjalmarsson, P., Sun, X., Liu, Y-L. & Chen, M. 2014 In : *Journal of Power Sources*. 262, p. 316-322

Publication: Research - peer-review › Journal article – Annual report year: 2014

##### **Durable solid oxide electrolysis cells for hydrogen production**

Sun, X., Chen, M., Hendriksen, P. V. & Mogensen, M. B. 2014 *Proceedings of 11th European SOFC and SOE Forum 2014*. European Fuel Cell Forum, p. 41 1 p. B1305

Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

##### **Impedance Spectra of Activating/Passivating Solid Oxide Electrodes**

Mogensen, M. B., Sun, X., Koch, S., Graves, C. R. & Hansen, K. V. 2014 *Proceedings of 11th European SOFC and SOE Forum 2014*. European Fuel Cell Forum, 10 p. B1209

Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

##### **Performance characterization of solid oxide cells under high pressure**

Sun, X., Bonaccorso, A. D., Graves, C. R., Ebbesen, S. D., Jensen, S. H., Hagen, A., Holtappels, P., Hendriksen, P. V. & Mogensen, M. B. 2014 *Proceedings of 11th European SOFC and SOE Forum 2014*. European Fuel Cell Forum, B1301

Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

##### **Storing electricity and CO<sub>2</sub> as synthetic hydrocarbon fuels by high temperature electrolysis**

Graves, C. R., Ebbesen, S. D., Jensen, S. H., Chen, M., Sun, X., Hendriksen, P. V. & Mogensen, M. B. 2014

Publication: Research › Poster – Annual report year: 2014

**TOF-SIMS characterization of impurity enrichment and redistribution in solid oxide electrolysis cells during operation**  
Kiebach, W-R., Norrman, K., Chatzichristodoulou, C., Chen, M., Sun, X., Ebbesen, S. D., Mogensen, M. B. & Hendriksen, P. V. 2014 In : Dalton Transactions. 43, 40, p. 14949-14958  
Publication: Research - peer-review › Journal article – Annual report year: 2014

**Durability of Solid Oxide Electrolysis Cell and Interconnects for Steam Electrolysis**  
Sun, X., Chen, M., Liu, Y-L., Hendriksen, P. V. & Mogensen, M. B. 2013 In : E C S Transactions. 57, 1, p. 3229-3238  
Publication: Research - peer-review › Conference article – Annual report year: 2013

**Durability of Solid Oxide Electrolysis Cells for Syngas Production**  
Sun, X., Chen, M., Liu, Y-L., Hjalmarsson, P., Ebbesen, S. D., Jensen, S. H., Mogensen, M. B. & Hendriksen, P. V. 2013 In : Journal of the Electrochemical Society. 160, 9, p. F1074-F1080  
Publication: Research - peer-review › Journal article – Annual report year: 2013

**Influence of the oxygen electrode and inter-diffusion barrier on the degradation of solid oxide electrolysis cells**  
Hjalmarsson, P., Sun, X., Liu, Y-L. & Chen, M. 2013 In : Journal of Power Sources. 223, p. 349-357  
Publication: Research - peer-review › Journal article – Annual report year: 2013

**Microstructural Degradation of Ni/YSZ Electrodes in Solid Oxide Electrolysis Cells under High Current**  
Chen, M., Liu, Y-L., Bentzen, J. J., Zhang, W., Sun, X., Hauch, A., Tao, Y., Bowen, J. R. & Hendriksen, P. V. 2013 In : Journal of the Electrochemical Society. 160, 8, p. F883-F891  
Publication: Research - peer-review › Journal article – Annual report year: 2013

**Microstructure characterisation of solid oxide electrolysis cells operated at high current density**  
Bowen, J. R., Bentzen, J. J., Chen, M., Ebbesen, S. D., Ehora, G., Hauch, A., Hendriksen, P. V., Liu, Y-L., Sun, X. & Zhang, W. 2013  
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2013

**Reversible solid oxide cells: Limitations and possibilities**  
Mogensen, M. B., Ebbesen, S. D., Graves, C. R., Sun, X., Tao, Y., Chen, M. & Jacobsen, T. 2013 *Proceedings of the 19th International Conference on Solid State Ionics*. 1 p.  
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

**Reversible Solid Oxide Cells: Limitations and Possibilities**  
Mogensen, M. B., Ebbesen, S. D., Graves, C. R., Sun, X., Tao, Y., Chen, M. & Jacobsen, T. 2013  
Publication: Research › Sound/Visual production (digital) – Annual report year: 2013

**Development of SOEC Cells and Stacks: Highlights, Challenges and future Perspectives**  
Kiebach, W-R., Chen, M., Nielsen, J. U., Sun, X., Norrman, K., Liu, Y-L., Høgh, J. V. T. & Hendriksen, P. V. 2012  
Publication: Research › Sound/Visual production (digital) – Annual report year: 2012

**Performance and Durability of Solid Oxide Electrolysis Cells for Syngas Production**  
Sun, X., Chen, M., Hjalmarsson, P., Ebbesen, S. D., Jensen, S. H., Mogensen, M. B. & Hendriksen, P. V. 2012 In : E C S Transactions. 41, 33, p. 77-85  
Publication: Research - peer-review › Conference article – Annual report year: 2012

**Production of "Green Natural Gas" Using Solid Oxide Electrolysis Cells (SOEC): Status of Technology and Costs**  
Mogensen, M. B., Jensen, S. H., Ebbesen, S. D., Hauch, A., Graves, C. R., Høgh, J. V. T., Sun, X., Das, S., Hendriksen, P. V., Nielsen, J. U., Pedersen, A. H., Christiansen, N. & Hansen, J. B. 2012 *Proceedings - 25th World Gas Conference*. International Gas Union, 13 p.  
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

**Thermodynamic analysis of synthetic hydrocarbon fuel production in pressurized solid oxide electrolysis cells**  
Sun, X., Chen, M., Jensen, S. H., Ebbesen, S. D., Graves, C. R. & Mogensen, M. B. 2012 In : International Journal of Hydrogen Energy. 37, 22, p. 17101-17110  
Publication: Research - peer-review › Journal article – Annual report year: 2012

### **Electrolysis for Integration of Renewable Electricity and Routes towards Sustainable Fuels**

Mogensen, M. B., Allebrod, F., Bowen, J. R., Chatzichristodoulou, C., Chen, M., Ebbesen, S. D., Graves, C. R., Hallinder, J., Hauch, A., Hendriksen, P. V., Holtappels, P., Høgh, J. V. T., Jensen, S. H., Lapina, A., Mollerup, P. L. & Sun, X. 2011 *Proceedings*.

Publication: Research › Article in proceedings – Annual report year: 2011

### **Performance and durability of solid oxide electrolysis cells for syngas production**

Sun, X., Chen, M., Hjalmarsson, P., Liu, Y-L., Ebbesen, S. D., Jensen, S. H., Mogensen, M. B. & Hendriksen, P. V. 2011 *Proceedings*.

Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

### **Hydrogen and synthetic fuel production using pressurized solid oxide electrolysis cells**

Jensen, S. H., Sun, X., Ebbesen, S., Knibbe, R. & Mogensen, M. B. 2010 In : *International Journal of Hydrogen Energy*. 35, 18, p. 9544-9549

Publication: Research - peer-review › Journal article – Annual report year: 2010

### **Studies on solid oxide electrolysis cells -aspect of synthetic hydrocarbon fuel production**

Sun, X., Jensen, S. H., Ebbesen, S. & Mogensen, M. B. 2010 *Conference proceedings*. AIChE, American Institute of Chemical Engineers

Publication: Research › Article in proceedings – Annual report year: 2011

### **Projects:**

#### **SOFC Testing Part 1 and 2**

Hagen, A. & Sun, X.

13/04/2015 → 31/10/2015

Project