

## CV - Søren Højgaard Jensen

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### Scientific profile

The research of Dr. Søren Højgaard Jensen is focused on solid oxide cells and batteries for large-scale electricity conversion and storage. During his career he has worked as project leader on several research and development projects focusing on development and testing of solid oxide cells and batteries. He has held courses on solid oxide cells, electrochemistry and impedance spectroscopy, as well as supervised several MSc, PhD students and Post Docs related to energy conversion and storage.

### Academic degree

2006: PhD, Technical University of Denmark, Dept. of Physics, "Solid Oxide Electrolyser Cell", Supervisors: Ib Chorkendorff, Mogens Mogensen, Nikolaos Bonanos, Peter Vang Hendriksen

### Position

2018- Energy Storage Consultant, Hybrid Greentech ApS  
2011-2018: Senior Scientist, Department of Energy Conversion and Storage, Technical University of Denmark (DTU)

### Recent Grants

2016 –2018: WP leader in the project "Maturing SOEC" The project aims to mature the SOC technology, and to demonstrate energy storage using pressurized SOC stacks.  
2014 – 2016: Project coordinator of the project "E2P2H2" funded by EUDP. The project aims to demonstrate energy efficient production of pressurized hydrogen using pressurized solid oxide electrolyser cells. The project also examines the techno-economic potential of the production method for large-scale production of hydrogen.

### Publication statistics (Web of Science\*)

Peer-reviewed articles: 44; H-index: 18; Citations: 2183

### Selected publications on Solid Oxide Cells and Batteries

1. G. Butera, S. H. Jensen, L. R. Clausen, A novel system for large-scale storage of electricity as synthetic natural gas using reversible pressurized solid oxide cells. *Energy*, **166**, 738-754 (2019)
2. R. Scipioni, P. S. Jørgensen, D. I. Stroe, R. Younesi, S. B. Simonsen, P. Norby, J. Hjelm and S. H. Jensen, Complementary analyses of aging in a commercial LiFePO<sub>4</sub>/graphite 26650 cell. *Electrochimica Acta*, **284**, 454 (2018)
3. C. Gadea, Q. Hanniet, A. Lesch, D. Marani, S. H. Jensen and V. Esposito, Aqueous metal-organic solutions for YSZ thin film inkjet deposition. *J. Mater. Chem. C*, **5**, 6021-6029 (2017)
4. S.H. Jensen, X. Sun, S.D. Ebbesen, M. Chen, Pressurized Operation of a Planar Solid Oxide Cell Stack. *Fuel Cells*, **16**, 205-218 (2016)
5. S. H. Jensen, C. Graves, M. Mogensen, C. Wendel, R. Braun, G. Hughes, Z. Gao and S. A. Barnett. Large-scale electricity storage utilizing reversible solid oxide cells combined with underground storage of CO<sub>2</sub> and CH<sub>4</sub>. *Energy & Env. Sci.* **8**, 2471-2479 (2015)
6. C. Graves, S.D. Ebbesen, S.H. Jensen, S.B. Simonsen, M.B. Mogensen, Eliminating degradation in solid oxide electrochemical cells by reversible operation. *Nature Materials*, **14**, 239-244 (2015)

\*) Publications indexed in *Web of Science Core Collection*; the databases *Science Citation Index Expanded* and *Social Sciences Citation Index*