Resume - Soren Bertelsen Scott

Personal & Contact Information

Place and Date of Birth:	Honolulu, USA — 28 May 1991
Citizenship:	Denmark & USA
Email:	sbscott@ic.ac.uk
Mobile:	+44 7341205780

Skills Summary

- Diverse international experience in basic and applied renewable energy sciences in academic institutions, national laboratories, and start-up companies
- Co-developer of commercialized technology
- Published findings on Power-to-X catalysis in 17 peer-reviewed journal articles
- Skilled programmer, author of open-source experimental data analysis software in python
- BSc in Chemistry, MSc in Chemical Engineering, and PhD in physics; experienced teacher
- Speaker of English, Danish, German, and Mandarin Chinese

Work Experience

November 2020 - present
Post-doctoral fellow at **Imperial College London**
ScaleOx: Targeted discovery of a scalable electrocatalyst material for water oxidation in acid
In addition to my own research in Power-to-X electrocatalyst discovery, my postdoc involves developing equipment and software for electrocatalysis research and co-supervision PhD students. I have a Marie Curie industrial co-funded "Energy for Future" fellowship grant.

January 2020 - November 2020
Research & Development Engineer at **Spectro Inlets A/S**
Mass spectrometer sensor for biogas process monitoring
Development of software, hardware, and theory for quantifying volatile compounds in complex matrices with a quadrupole mass spectrometer.

August 2013 - May 2014
US Department of Energy internship at **Lawrence Berkeley National Laboratory**
Photoelectrochemical water splitting
Internship at JCAP under the supervision of Dr. Joel Ager. Worked on doping of bismuth vanadate ($BiVO_4$) photoanodes for more efficient solar-powered hydrogen production.

August 2009 - January 2010
English Teacher at **Shazitang Primary School** in Changsha, Hunan, China
Following a month of training in Beijing, I was placed at a primary school in south-central China where I developed and taught a curriculum of conversational english and Western culture to classes of up to 60 Chinese students aged 8-12.

Education

September 2016 - September 2019

PhD in Physics

Technical University of Denmark (DTU), Lyngby, Denmark.
Supervisor: professor Ib Chorkendorff (DTU)
Co-supervisor: Professor Jan Rosmeissl (University of Copenhagen)
Research Work: Electrochemistry - mass spectrometry development, isotope-labeling studies in water splitting electrocatalysis, and understanding the active catalyst surface in propene oxidation and CO_2 electroreduction.
Thesis: *Isotope-Labeling Studies in Electrocatalysis for Renewable Energy Conversion, and the Net CO2 Impact of this PhD Project.* DTU Physics. Defended on September 3, 2019
Opponents: Professors Beatriz R. Cuenya (Director at the Max Plank Institute in Berlin), Aliaksandr Bandarenka (Technical University of Munich), and Debasish Chakraborty (DTU)
Evaluation: Top 3% of PhD's from high level universities worldwide (PhD committee recommendation attached or available on request)

March - April 2019
External stay at the Chinese Academy of Science in Fuzhou, Fujian (中科学院海西物质结构研究所) in collaboration with professor Zhenhai Wen

September 2014 - June 2016	Masters program in Chemical and Biochemical Engineering, **Technical University of Denmark** (DTU), Lyngby, Denmark *Honors Program* — Focus Area: Energy and Environmental Engineering Thesis: *Investigating the Electrochemical Reduction of Carbon Dioxide using In-Situ Mass Spectrometry* Advisor: Prof. Ib Chorkendorff Grade: 12/12 Overall GPA: 11.1/12.0 for 120 ECTS points
July - August 2015	Research project at **Stanford University**, California, USA Two month experimental project in the group of professor Tom Jaramillo.
September 2010 - July 2013	Bachelors degree in Chemistry **University of Copenhagen** (UCPH), Copenhagen, Denmark Thesis: *Hunting for Zinc Proteins in Rice Endosperm.* Advisor: Professor Søren Husted Grade: 12/12 Overall GPA: 11.9/12.0 for 183 ECTS points
September 2012 - January 2013	Exchange Semester at **Peking University** Beijing, China Four chemistry courses taken and passed in Chinese

Software (see GitHub)

ixdat: The in-situ experimental data tool. Open-source python package for data management analysis and plotting in experimental energy sciences

- Documentation at https://ixdat.readthedocs.org
- Code and collaboration at https://github.com/ixdat

EC_MS: Open-source electrochemical mass spectrometry data treatment.

msquant: Real-time quantitative chemical analysis for online process monitoring in (bio)chemical plants.

Languages

English:	First Language
Danish:	Fluent
German:	Proficient
Mandarin Chinese:	Proficient - HSK 6 Certification (highest level), October 2011

Other Interests and Activities

Music:	I am a pianist and composer and have played in jazz, balkan, flamenco, and rock bands.
Bicycle touring:	- Chongqing to the Three Gorges Dam in central China — 900 km, August 2010 - Around the San Francisco Bay — 450 km, May 2014 - Around Taiwan — 1100 km, November 2019
Running:	Copenhagen Marathon, May 15, 2022

Selected Publications (see full list on Publons)

Jason K. Cooper, Soren B. Scott, Yichuan Ling, ..., Ian D. Sharp. **The Role of Hydrogen in Defining the n-Type Character of $BiVO_4$ Photoanodes**. *Chemistry of Materials*, 28(16), 5761-5771, **2016**

Soren B. Scott[1], Daniel B. Trimarco[1], Anil H. Thilsted, Jesper Y. Pan, Thomas Pedersen, Ole Hansen, Ib Chorkendorff, and Peter C.K. Vesborg. **Enabling Real-time Detection of Electrochemical Desorption Phenomena with Sub-Monolayer Sensitivity**. *Electrochimica Acta*, 268, 520-530, **2018** [1]Shared first authorship

Soren B. Scott[1], Claudie Roy[1], Béla Sebök[1], ..., Ib Chorkendorff. **Impact of Size and Lattice Oxygen on Water Oxidation on $NiFeO_xH_y$**. *Nature Catalysis*, 11(1), 820-829, **2018**

Anna Winiwarter[1], Luca Silvioli[1], Soren B. Scott, ..., Ib Chorkendorff. **Towards an Atomistic Understanding of Electrocatalytic Partial Hydrocarbon Oxidation: Propene on Palladium**. *Energy and Environmental Science*, 12, 1055-1067, **2019**

Soren B. Scott, Thomas V. Hogg, Alan T. Landers, ..., Ib Chorkendorff. **Absence of Oxidized Phases in Cu under CO Reduction Conditions**. *ACS Energy Letters*, 4, 803-804, **2019**

Stephanie A. Nitopi[1], Erlend Bertheussen[1], Soren B. Scott, ..., Ib Chorkendorff. **Progress and Perspectives of Electrochemical CO2 Reduction on Copper in Aqueous Electrolyte**. *Chemical Reviews*, 119, 7610-7672, **2019**

Soren B. Scott[1], Reshma R. Rao[1], Choongman Moon, Jakob E. Sørensen, Jakob Kibsgaard, Yang Shao-Horn and Ib Chorkendorff. **The low overpotential regime of acidic water oxidation part I: The importance of O2 detection**. *Energy and Environmental Science*, Advance Article, **2022**

Soren B. Scott, Jakob E. Sørensen, Reshma R. Rao, Choongman Moon, Jakob Kibsgaard, Yang Shao-Horn and Ib Chorkendorff. **The low overpotential regime of acidic water oxidation part II: trends in metal and oxygen stability numbers**. *Energy and Environmental Science*, Advance Article, **2022**