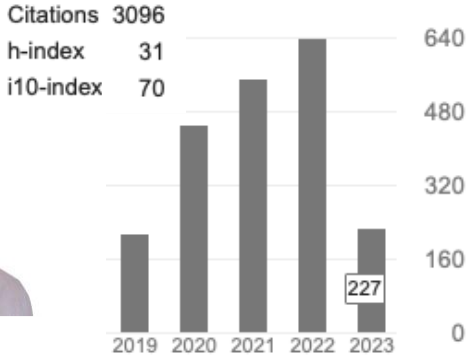
Curriculum vitae with track record

18.04.2023



Personal information

First name, Surname:	Burheim, Odne Stokke		
Date of birth:	1981, March 24	Sex:	Male
Nationality:	Norwegian		
Researcher unique identifier(s) (ORCID, ResearcherID, etc.):	https://scholar.google.no/citations?user=QIrBA4UAAAAJ&hl=en ORCID: https://orcid.org/0000-0002-3491-2775		

Education

Year	Faculty/department - University/institution - Country
2009	PhD: “Thermal signature and thermal condutctiviteis of PEM Fuel Cells”. Fac. Nat. Sci./Dep. Chemistry, Norwegian Uni. Sci. Technol. – NTNU, Norway
2005	Master of Technology; Engineering Electrolysis – aqueous and molten salt. Fac. Nat. Sci./Dep. Materials Technol., Norwegian Uni. Sci. Technol. – NTNU, Norway

Positions - current and previous ()

Year	Job title – Employer - Country
2015-pres.	Professor, Energy storage, NTNU, Norway
2013-2015	Assoc. Professor, NTNU (HiST), Norway
2010-2012	Postdoc 30-50%, Wetsus centre of excellence water technol. The Netherlands
2010-2013	Postdoc 50-100% NTNU, Norway
2005-2010	PhD Fellowship (incl 1.75 years of teaching duties at dep. chem.), NTNU Norway

Career breaks

Year	Reason
2019	Paternity leave 6 months
2016/17	Paternity leave 5 months.

Project management experience

Burheim has **ample experience as manager of large interdisciplinary** projects with several partners. Particularly I have applied for and lead KeyTech-NeVe-Chino, NorGiBatF and ENERSENSE, that alone sums up to 87 million Nok, which together includes ten folds of companies, several international universities and almost 20PhD/postdocs.

The SESRG is at administrative level 4 at NTNU, has 35-40 scientific staff members and is lead by Burheim.

	Project and role, funding from
2021-24	MoreIsLess – Lithium ion Battery electrode development, ca 13 MNOK from RCN.
2021-24	2nd LIFE – The value of second life batteries in the future energy system, partner and 1 postdoc, 15 MNok from RCN and industry partners.
2020-23	**Key-Tech-NeVe-ChiNo** -Research and Demonstration of Key Technol. for Reliable and Efficient Application of New Energy Vehicles in China and Norway, 26 Mnok Research project, **PI & project leader**, RCN.
2020-2023	**Norwegian Giga Battery Factories**, 24 Mnok KPN, **PI & project leader**, 2 pdrf & 4 phd. RCN,
2019-2020	Giga battery factory Norway and institution leader and 2 PhD students and on pdrf, 6.8 MNOK H2020 eit InnoEnergy.
2016-2022	**ENERSENSE** and **PI & project leader**, 40 Mnok strategic research project funded by NTNU.
2019-2022	PRICE – Process industries in the circular economy and WP leader and 2 PhD students, 25.6 Mnok by Reseaerch Council of Norway (RCN) and industrial partners.
2018-2021	BATTMAriNe – safety and ageing of Li-ion batteries and 1 PhD student, 17.3 MNOK from RCN and industry partners.
2016-2019	REN-BTL - Biomass-to-Liquid and supervisor 1 PhD, 5 Mnok from RCN.
2013-2017	SafeLiLife – safety and life time of Li-ion batteries and 1 PhD student, RCN and industry.
2016-2020	CANOPENER mobility grant and participant, 4.5 MNOK INTPART project from RCN.
2017-2020	ED and RED as an enabling technology and leader and 1 PhD, NTNU internal grant
2015-2019	Advanced flow cell battery and leader and 1 PhD, 1 NTNU internal grant
2015-2019	Transport phenomena in advanced flow cell batteries and 1 PhD, NTNU internal grant
2014-2018	Thermal gradients and heat managent in electrochemical devices and leader, NTNU grant

Supervision of students (Total number of students, main and co-superv.)

Master's students	Ph.D. students	Post doctoral fellows	University/institution - Country
28	22	6	NTNU, Norway and other

Other relevant professional experiences

Year	Description - Role
2013-	**Teaching:** Engineering Batteres 1, Execituve education, 2.5 ects, 2 twice a year, 2022

	Engineering Energy Storage 1, 7.5 ects. *2021,22* Engineering Batteries, TEP21, 3.75 ects, *2020, 21, 22* Renewable Energy, TPRE8001/TFNE3007/ TFNE1001, 10 ects, *2015, 16, 17,18, 19, 21, 22* Energy Efficiency, YFLF2002, 5 ects, *2018, 19, 20, 21, 22* Thermodynamics, TFNE2001/FENT1011/TEP4120, 10/7.5 ects, *2013, 15, 16, 18, 19, 20, 22* Fluid Mechanics, TFNE2002, 10cp, *2014* Energy Storage, TFNE3003 and TFNE3006, 10cp, *2014, 15, 16*
2013-	• Group leader "sustainable Energy systems" at dep. Energy and process engineering. • External examiner of 4 phds
2020 -	**Editor** (Associate 2021), Electrochemical Engineering, Frontiers **Editor** (associate 2020), Hydrogen, MDPI. **Editor** (Board member 2021), Green Energy and Intelligent Transportation Elsevier
2018-	Journal guest co-editor; "International J. Hydrogen Energy, xx (2019)", Guest editor MDPI Energies "Advanced Technology to Improve Energy Efficiency and Storage" in progress
2009-	**International Scientific peer reviewer experience: 25+ journals and scientific boards:** Nature; Research Council of Canada; Int. J. Hydrogen Energy, Elsevier; Energy Procedia, Elsevier; Chem. Engin. Journal, Elsevier; Electrochimica Acta, Elsevier; Int. J. of Thermophysics, Springer; Int. J. Heat Mass Transf., Elsevier; Energies, MDPI; Fuel Cells, JohnWiley Inc.; Desalination, Elsevier.; IMECE2011, ASME; Int. J. Heat Mass Transf., Elsevier; Env. Sci. & Technology, ACS; Basic Energy Sciences, DOE; NOAA: U. S. Dep. of Commerce; NSRC Canadian Res. Counc.; J. Electrochem. Soc.; Entropy, MDPI; J. Phys. Chem. B, ACS; Energy, Elsevier; Int. J. Energy Engin., W.A. Pub. Co.; Int. Com. Heat & Mass Trans., Elsevier; J. Power Sources, Elsevier; Sustainability, MDPI

MOBILITY, beyond 3 months

	Name of faculty/department/centre, name of university/institution/country
2011-2012	Wetsus, the Netherlands. **4 months** in 2011, **5 months** in 2012
2010-2011	Queens Univ., Canada. Dep of Mech Engin. **3 months** in 2010, **3 months** in 2011
2005	Univ. of Cambridge, England. Dep. Of Metallurgy and Mat. Sci. **6 months**
Remark:	From October 2010 to the end of 2012 I held a part time postdoc position in the Netherlands and another in Norway. The position in Norway allowed the exchange to Canada. HiST did not give sabbatical terms.

Track record: 120+ publications, H-index 31 (27 in scopus)

ORCID 0000-0002-3491-2775; 104 documents, and 26 book chapters

Selected research publications, citations by scholar.google.com

LITHIUM ION BATTERY:

Richter, Vie, Kjelstrup, **Burheim**, *Measurements of ageing and thermal conductivity in a secondary NMC-hard carbon Li-ion battery and the impact on internal temperature profiles*, Electrochimica Acta**,** 2017, **68 citations**.

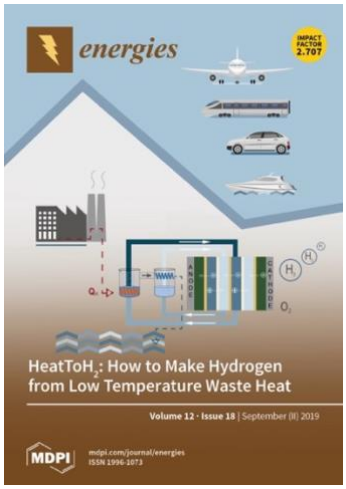
Richter, Kjelstrup, Vie, **Burheim,** *Thermal conductivity and internal temperature profiles of Li-ion secondary batteries*, Journal of Power Sources, 2017, **69 citations**

Burheim, Onsrud, Pharoah, Vullum-Bruer, Vie, *Thermal conductivity, heat sources and temperature profiles of Li-ion batteries*, ECS Transactions, 2013, **53 citations**

Bryntesen, Strømman, Tolstorebrov, Shearing, Lamb, **Burheim,** *Opportunities for the State-of-the-Art Production of LIB Electrodes—A Review,* Energies, 2021, **40 citations**.

Spitthoff, Shearing, **Burheim**, *Temperature, ageing and thermal management of lithium-ion batteries* Energies, 2021, **31 citations.**

Bryntesen, Kahrom, Lamb, Tolstorebrov, **Burheim**, *Experimental Analysis of Drying Kinetics and Quality Aspects of Convection-Dried Cathodes at Laboratory Scale*, Batteries 2023



Renewable HYDROGEN production and Fuel Cells

Krakhella, Bock, **Burheim**, Seland, Einarsrud, *Heat to H2: Using waste heat for hydrogen production through reverse electrodialysis*, **Front page cover, Editors Choice, Feature Paper**, Energies, 2019, **24 citations**. →

Burheim, Su, Pasupathi, Pharoah, Pollet**,** *Thermal conductivity and temperature profiles of the micro porous layers used for the polymer electrolyte membrane fuel cell***,** International Journal of Hydrogen Energy, 2013**, 91 citations**

Burheim, Ellila, Fairweather, Labouriau, Kjelstrup, Pharoah, *Ageing and thermal conductivity of porous transport layers used for PEM fuel cells*, Journal of Power Sources 2013, **55 citations**

Islam, **Burheim**, Pollet, *Sonochemical and sonoelectrochemical production of hydrogen*, Ultrasonics and sonochemistry, 2019, **95 citations**.

Bock, Shum, Xiao, Karoliussen, Seland, Zenyuk, **Burheim**, *Thermal Conductivity and Compaction of GDL-MPL Interfacial Composite Material*, Journal of The Electrochemical Society, 2018, **21 citations**

Burheim, Pharoah, Lampert, Vi, Kjelstrup, *Through-plane thermal conductivity of PEMFC porous transport layers*, J. Fuel Cell Sci. Technol. 2011, **110 citations**.

Burheim O., Vie P.J.S., Pharoah J.G., Kjelstrup S., *Ex situ measurements of through-plane thermal conductivities in a polymer electrolyte fuel cell***,** Journal of Power Sources, 2010**, 215 citations**

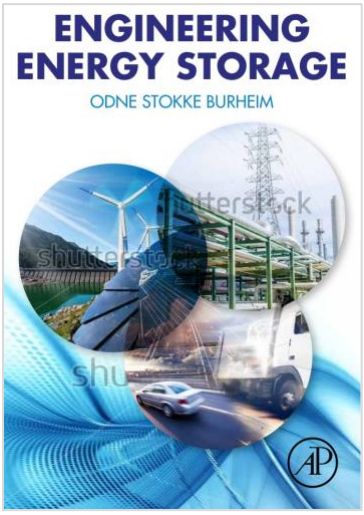
OTHER ZERO EMISSION research examples

Hillestad, Ostadi, Serrano, Rytter, Austbø, Pharoah, **Burheim**, *Improving carbon efficiency and profitability of the biomass to liquid process with hydrogen from renewable power,* 2018, **77 citations**

Borset , Wilhelmsen, Kjelstrup, **Burheim**, *Exploring the potential for waste heat recovery during metal casting with thermoelectric generators: On-site experiments and mathematical modelling*, Energy, 2017, **47 citations**

Burheim, Seland, Pharoah, Kjelstrup**,** *Improved electrode systems for reverse electro-dialysis and electro-dialysis, Desalination*, 2012, **78 citations**

Text Book; "Engineering Energy Storage" **90 citations** →



Invited presentations of importance:

- *O. Burheim*,et al. **Invited Speaker**, "Electrodialysis in hydrometallurgical processes", TMS 2020, San Diego USA, **2020**.
- *O. Burheim*,et al. **Invited Speaker**, "Novel Fuel Production Based on Power Ultrasound & Sono(electro)Chemistry", 236th ECS meet, Atlanta, USA **2019.**
- *O. Burheim*, **Invited Speaker**, "Thermal Conductivity and Temperature Gradients in PEM Fuel Cells, Relative to Other Galvanic Cells", AiMES 2018 Meeting, Cancun, Mexico Oct, **2018**
- *O. Burheim*, **Keynote**, "Thermal conductivity in different PEMFC components and corresponding internal temperature gradients." World Hydrogen the 7th World Hydrogen Conference and Exhibition, July **2017**, Praag.
- *O. Burheim*, **Invited Speaker**, "PEMFC Materials' Thermal Conductivity and Resulting Temperature Gradients", the Electrochemical Society (ECS) Prime, Washington, Oct 1-6, **2017**.