

**Curriculum Vitae, Prof. Dr.
habil. Juergen Garche**

- **Education**

- PhD – Theoretical Electrochemistry - 1970
- Habilitation (highest university qualification) – Applied Electrochemistry (LAB - 1980)

- **Academia**

- Lecturer - Dresden University of Technology till 1990
- Professor Electrochemistry - Ulm University till 2010
- Visiting professor *Shandong University of Science and Technology* (China), 2005
- Visiting professor *Sapienza University Roma* (Italy), 2009, 2013, 2016
- Visiting professor *TUM-CREATE* (Singapore) 2014- 2016
- Visiting professor *Dalian Institute of Chemical Physics* (China), 2016
- Visiting professor *CNR Institute for Advanced Energy Technologies* (Italy) 2019
- Senior Professor – Ulm University since 2015

- **Topics**

- Batteries (especially Lead-Acid, Alkaline, Li-ion, Redox-Flow systems)
- Fuel Cells (PEFC, DMFC)
- Electrolyzer (PEM, Alkaline)
- Applications: Vehicle, Stationary Storage
- Environmental electrochemistry

- **Business**

- 1970 – 1990 Senior researcher, University lecturer at TU Dresden
- 1991 – 2004 Head of the Electrochemical Energy Storage and Energy Conversion Division of the Center for Solar Energy and Hydrogen Research, Ulm
- 2004 – now CEO of Fuel Cell and Battery Consulting (FCBAT) Ulm – www.fcbat.eu
- 2010 – now
 - Consultant for the German Ministry of Transportation (BMVI),
 - On behalf of the German BMVI Member of the IPHE Stiring Committee, Chair of Working Group Education and Training,
 - Consultant for the German National H2 and FC Organisation (NOW)
 - Consultant for the South African Department of Science and Technology
 - Consultant for Li-Ion Battery Developesr (USA, Japan, India, Germany)
 - Consultant for German Car Manufacturers (BMW, Daimler)

- **Publications**

365 papers, 10 patents, 9 Books
(inter alia: *Encyclopedia of Electrochemical Power Sources*, 5 Volumes, 350 Chapters, 4,070 pages)

- **Editorial board member of Journals**

- Fuel Cells – From Fundamentals to Systems, till 2017

- International Journal of Hydrogen Energy,
- Journal of Power Sources, till 2015

- **Awards**

- α - β PbO₂ Society Price (1998),
- Award of the German Gas Industry (2000),
- European FC-Award “Schoenbein Medail” (2003),
- FC and Battery Excellence Award (2006)
- Listed in “*World’s most Influential Scientific Minds*” by Thomas Reuters (2014)
- Listed in the book “*Profiles of 93 Influential Electrochemists*” (2015).

Publications J. Garche 2015 – 2022

1 Fast and Accurate Measurement of Entropy Profiles of Commercial Lithium-Ion Cells

Original Research Article

Electrochimica Acta, 177 (2015) 270-276

Patrick J. Osswald, Manuel del Rosario, Jürgen Garche, Andreas Jossen, Harry E. Hoster

2 Hydrogen production from renewable energies - electrolyser technologies

Review Article

in *Electrochemical Energy Storage for Renewable Sources and Grid Balancing* (ed. by P. Moseley, J. Garche), Elsevier Amsterdam, Oxford, 2015, Pages 103 - 128

T. Smolinka, E.T. Ojong, J. Garche

3 Lead–acid batteries for hybrid electric vehicles and battery electric vehicles

Review Article

In *Advances in battery technologies for electric vehicles* (ed. by B. Scrosati, J. Garche, W. Tillmetz), Elsevier Amsterdam, Oxford, 2015, Pages 75 – 101

J. Garche, P. Mosley, E. Karden

4 Recycling of Lithium Batteries

Review Article

In *Advances in battery technologies for electric vehicles* (ed. by B. Scrosati, J. Garche, W. Tillmetz), Elsevier Amsterdam, Oxford, 2015, Pages 503 – 516

B. Scrosati, J. Garche, JK. Sun

5 Li - Batterien – Grundlagen für die Anwendung in den Bereichen Erneuerbare Energien und Elektromobilität

Review Article

in *Batterien als Energiespeicher – Stationäre und mobile Anwendungen in den Bereichen der Energiewende* (ed. by E. Fahlbusch),
Beuth Verlag, Berlin-Wien-Zürich, 2015, Seiten 197 – 233

6 Status and perspectives of applications of fuel cell technologies

Review Article

Electrochemical Society – Interphase, Volume Summer 2015, pages 43 - 47
J. Garche, L. Jörissen

7 Polymer Electrolyte Membrane Fuel Cells

Review Article

In *Hydrogen and Fuel Cells*, (ed. by J. Töpler, J. Lehmann) Springer, Berlin, 2016,
Pages 239-281
L. Jörissen, J. Garche

8 Overview of batteries for future automobiles

Review Article

In *Lead–Acid Batteries for Future Automobiles*, (ed. by J. Garche, E. Karden, P.T. Moseley, D.A.J. Rand), Elsevier, 2017, pages 27-96
P. Kurzweil, J. Garche

9 Lead-acid batteries for future automobiles: status and prospects

Review Article

In *Lead–Acid Batteries for Future Automobiles*, (ed. by J. Garche, E. Karden, P.T. Moseley, D.A.J. Rand), Elsevier, 2017, pages 601-618
P.T. Moseley, D.A.J. Rand, J. Garche

10 Lead-acid batteries for E-bicycles and E-scooters

Review Article

In *Lead–Acid Batteries for Future Automobiles*, (ed. by J. Garche, E. Karden, P.T. Moseley, D.A.J. Rand), Elsevier, 2017, pages 528 - 547
J. Garche, P.T. Moseley

11 General Battery Safety Consideration

Review Article

In *Li-Battery Safety* (ed. by J. Garche, K. Brandt), Elsevier, 2018
K. Brandt, J. Garche

12 Overview of Li-Secondary Battery Safety Issues

Review Article

In *Li-Battery Safety* (ed. by J. Garche, K. Brandt), Elsevier, 2018
J. Garche, K. Brandt

13 Special risks during transport and storage

Review Article

In *Li-Battery Safety* (ed. by J. Garche, K. Brandt), Elsevier, 2018
G.A. Kerchner, J. Garche

14 Risks of fire and possibilities to extinguish it

Review Article

In *Li-Battery Safety* (ed. by J. Garche, K. Brandt), Elsevier, 2018
H. Döring, J. Garche, V. Liebau

15 Regenerative fuel cells

Review Article

In *Hydrogen Production by Water Electrolysis* (ed. by T. Smolinka, J. Garche),
Elsevier, 2022
J. Garche, T. Smolinka, M. Assunta Navarra, St. Panero, B. Scrosati

16 The history of water electrolysis - from its beginnings to the present

Review Article

In *Hydrogen Production by Water Electrolysis* (ed. by T. Smolinka, J. Garche),
Elsevier, 2022
T. Smolinka, H. Bergmann, J. Garche, M. Kusnezoff

17 Electrochemical Energy Storage for Renewable Sources and Grid Balancing

Book

Elsevier Amsterdam, Oxford, 2015, 473 pages
Editors: P. Moseley, J. Garche

18 Advances in Battery Technology for Electric Vehicle

Book

Woodhead Amsterdam, 2015, 526 pages
Editors: B. Scrosati, J. Garche, W. Tillmetz

19 Li-Battery Safety

Book

Elsevier Amsterdam, Oxford, 2018, 510 pages

Editors: J. Garche, K. Brandt

20 Metal-Air Batteries

Book

Elsevier Amsterdam, Oxford, 2020, 256 pages

Editors: H. Arai, J. Garche, L. Colmenares, Elsevier,

21 Hydrogen Production by Water Electrolysis

Book

Elsevier Amsterdam, Oxford, 2021, 486 pages

Editors: T. Smolinka, J. Garche,

22 Electrochemistry for Renewable Energy: Batteries, Fuel Cells, and Hydrogen Technologies

Book

McGraw-Hill Global Education, 2022, 424 pages

Autors: S. Petrovic, P. Kurzweil, J. Garche

23 Industrial Lead-Acid Batteries

Book

Elsevier Amsterdam, Oxford, Fall 2022, ca. 420 pages

Autors: E. Cantanio, B. Riegel, J. Garche

24 Second Edition Encyclopaedia of Electrochemical Power Sources

Encyclopaedia

Elsevier Amsterdam, Oxford, 2023, 6 Volume, 400 chapters

Editor-in-Chief: J. Garche