Curriculum Vitae

Prof. Dr. Christopher Hebling

Personal Details

Prof. Dr. rer. nat. Physics Christopher Hebling

Fraunhofer Institute for Solar Energy Systems, ISE
Heidenhofstr. 2, 79110 Freiburg, Germany
Director Business Division Hydrogen Technologies
Co-Director Division Energy Technologies and Systems,

Date of birth: 26. April 1963 in Weinheim, Germany
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Professional Career

Since 05/2019	Honorary Professorship at the University of Cape Town, South Africa
Since 04/2011	Director Business Division Hydrogen Technologies (150 staff, scientists, engineers and students, 95% external project funds)
Since 01/2018	Co-Director Division Energy Technologies and Systems at Fraunhofer ISE (approx. 500 staff, scientists, engineers and students)
01/2001 – 03/2011	Head of department Energy Technologies
10/1999 – 12/2005	Founder and Head of the group ‘Micro Energy Technology’ (Approx. 40 staff)
01/1992 – 10/1999	Scientist in the silicon solar cell department at Fraunhofer ISE

Education

05/2019	Honorary Professorship at the University of Cape Town, South Africa
11/1998	Ph.D. in Physics, University Konstanz with “Summa Cum Laude” award
04/1993 - 10/1998	Ph.D. Thesis ‚Die kristalline Silicium-Dünnschichtsolarzelle auf isolierenden Substraten‘ (‚Crystalline Silicon Thin-Film Solar Cells on Insulataing Substrates‘), University Konstanz / Fraunhofer ISE, Freiburg
04/1992	Diploma in Physics
04/1991 – 09/1992	“Untersuchungen von Defekten an Solarzellenmaterial mittels Fourierspektroskopie”, („Investigations of Defects in Solar Cell Materials by Means of Fourier Spectroscopy“) Fraunhofer ISE, Freiburg
10/1985 – 12/1991	Albert-Ludwigs-Universität Freiburg, Faculty of Physics
06/1982	High school graduation (Abitur)
08/1973 – 06/1982	High school (Heissenberg Gymnasium Weinheim)

Publications

Publication of more than 150 journal and conference papers
(Main topics: Integrated Energy Systems, Hydrogen in a Renewable Energy System, Sustainable Mobility, PEM fuel cells, PEM Electrolysis, Power-to-Liquid, Life Cycle Analysis, Crystalline Silicon Thin-Film Solar Cells, Micro Energy Technology, Power MEMS)

- 6432 citations
- h-index = 32 (May 2023)
- www.ise.fraunhofer.de/de/geschaeftsfelder/wasserstofftechnologien.html#conference-paper

Associations/Engagements

- Member of the Governance Board of the **Centre for Hydrogen Innovations** of the **National University of Singapore**, NUS
- Member of the expert committee of the German Government on the Future Fund for the ***Transformation of the Automobile Industry***
- Vice Chair of the Board of the ***National Organization Hydrogen and Fuel Cells***, NOW
- Vice President of the ***German Hydrogen and Fuel Cell Association***, DWV
- Delegate on behalf of Germany in the Executive Committee of the ***Technology Collaboration Program for Research and Development on the Production and Utilization of Hydrogen*** (TCP) of the International Energy Agency IEA
- Sherpa in the Round Table *Industry* of the ***European Clean Hydrogen Alliance***
- Co-Speaker of the Strategic Research Topic ***Hydrogen Technologies*** of the Fraunhofer Society
- Spokesperson of the **Fraunhofer Society for *Network Hydrogen*** (33 Fraunhofer Institutes)
- Board Member of the Fraunhofer ***Cluster of Excellence Integrated Energy Systems***
- Member of the ***HySupply Platform on Sustainable Hydrogen*** between Germany and Australia performed by acatech (National Academy of Science and Engineering) and BDI (The Federation of German Industries)
- Member of the ***Energy Systems of The Future***, ESYS working group on ***Hydrogen Economy 2030 – Transport Vectors for Green Hydrogen***.
- Member of the annual Jury meeting for the ***Green Tech Awards*** (since 2009)
- International Advisory Board Member of the ***Hydrogen South Africa*** **HySA**, Flagship Program of the Department of Science and Innovation, Government of South Africa (2015-2019)
- Member of the organization committee of ***Energy Storage Europe*** conference (since 2014)
- Member of the advisory board of ***f-cell / World of Energy Solutions*** conference (since 2001)
- Venture Advisor - ***EARLYBIRD Venture Capital*** (2010-2015)
- Founder and coordinator of Fraunhofer Future Theme ***Micro Energy Technology*** (2003-2007)
- **Conference Chair** of the:
  - Internat. Workshop 'Perspectives on Power-to-Liquids and Power-to-Chemicals' (2016/18/21)
  - Internat. Workshop on PEM Electrolysis (2016)
  - Solar Summits 2010 (2010)
  - Fraunhofer Symposium on Micro Energy Technology (2006, 2007)

- PowerMEMS 2007
- European Fuel Cell Forum, Lucerne (2005)
- TPV6 (Thermophotovoltaic) (2005)

- Co-Chair of the ***Indo-German Frontiers of Engineering Symposium*** (INDOGFOE) of the Alexander von Humboldt Foundation AvH, (2009, 2010, 2011 and 2012).
- Participant at the ***German-American Frontiers of Engineering Symposium*** of AvH (2008)
- Member of Intern. Steering Committee ***PowerMEMS' Series - 'International Workshop on Micro and Nanotechnology for Power Generation and Energy Conversion*** (until 2010)
- **f-cell Award** in bronze (2002)
- **Reviewer** of national and international project proposals in the field of *fuel cell /electrolysis technology, hydrogen model regions, integrated renewable energy systems*, LCA.
- Three years of education in the field of ***Gestalt Therapy***:
  Degree as a ***Gestalt Supervisor, Gestalt Therapist, Gestalt Group Leader***.

Most cited papers

1. ***Photovoltaic Materials, History, Status and Outlook***
   A. Goetzberger, C. Hebling, H.-W. Schock
   Materials, Science and Engineering, Vol. R40 (1), pp. 1-46 (2003) 1421 citations
2. ***Visualization of Water Buildup in Cathode of a Transparent PEM Fuel Cell***
   K. Tüber, D. Pócza, C. Hebling,
   Journal of Power Sources, Vol. 124, pp. 403-414 (2003) 761 citations
3. ***Photovoltaic Materials, Past, Present, Future***
   A. Goetzberger, C. Hebling
   Solar Energy Materials and Solar Cells, Vol. 62, pp. 1-19 (20 487 citations
4. ***A PEM Fuel Cell for Combined Measurement of Current Temperature Distribution and Flow Field Flooding***
   A. Hakenjos, H. Münter, U. Wittstadt, C. Hebling
   Journal of Power Sources, Vol. 131, pp. 213-216 (2004) 398 citations
5. ***Fuel Cells for Low Power Applications***
   A. Heinzel, C. Hebling, M. Müller, M. Zedda, C. Müller
   Journal of Power Sources, Vol. 105, pp. 148-153 (2002) 281 citations
6. ***Planar Self-Breathing Fuel Cells***
   A. Schmitz, M. Tranitz, S. Wagner, R. Hahn, C. Hebling
   Journal of Power Sources, Vol. 118, pp. 162-171 (2003) 171 citations
7. ***Investigation of Fractal Flow Fields in Portable PEMFC and DMFC***
   K. Tüber, A. Oedegaard, C. Hebling, M. Hermann
   Journal of Power Sources, Vol. 131/1-2, pp. 175-181 (2004) 147 citations
8. ***Influence of Diffusion Layer Properties on Low Temperature DMFC***
   A. Oedegaard, R. Tunold, C. Hebling, A. Schmitz, S. Moller-Holst
   Journal of Power Sources, Vol. 127, pp. 187-196 (2004) 116 citations
9. ***Hydrophilicity and Hydrophobicity Study of Catalyst Layers in Proton Exchange Membrane Fuel Cells***
   H.M. Yu, C. Ziegler, C. Hebling, M. Oszcipok, M. Zobel
   Electrochimica Acta, Vol. 51, pp. 1199-1207 (2006) 134 citations

10. ***A polymer electrolyte Membrane Fuel Cell System for Powering Portable Computers***
K. Tüber, M. Zobel, H. Schmidt, C. Hebling
Journal of Power Sources Vol. 122, pp. 1-8 (2003) 105 citations