

**Current positions**

Head of the Division “Electrochemical Energy Technology” at DLR, Institute of Engineering Thermodynamics (since 2004)  
Professor, University of Stuttgart, Germany (since 2004)

**Previous positions**

Senior Scientist at the Centre for Solar Energy and Hydrogen Research (ZSW), Section 3, Electrochemical Energy Conversion and Storage, Ulm, Germany.  
Senior Scientist at Department of Physics, E19, Technical University of Munich, Germany.

**Scientific degree**

Dr. rer. nat. (PhD) in Chemistry, Freie Universität Berlin, Germany (1990)

**Recent research topics**

Electrolysis, fuel cells (solid oxide and polymer electrolyte membrane), electrocatalysis, advanced batteries (Li, Mg, metal)

**Awards, honors, memberships**

2nd f-cell award 2016 - Research & Development (group)  
Ertl prize at the 3rd Ertl Symposium 2014  
Hellmuth Fischer Medal 2009 (DECHEMA)

**Publications/Patents (5 most important)**

- **P. Lettenmeier, L. Wang, R. Abouatallah, et. int., A. Gago, K.A. Friedrich**, Low-Cost and Durable Bipolar Plates for Proton Exchange Membrane Electrolyzers, *Sci. Rep.* 7, 44035 (2017) [doi:10.1038/srep44035](https://doi.org/10.1038/srep44035)
- **P. Lettenmeier, L. Wang, U. Golla-Schindler, P. Gazdzicki, N.A. Cañas, et al.**, Nanosized IrOx-Ir Catalyst with Relevant Activity for Anodes of Proton Exchange Membrane Electrolysis Produced by a Cost-Effective Procedure, *Angew. Chem. Int. Ed.* 55, 742 (2016) [doi:10.1002/ange.201507626](https://doi.org/10.1002/ange.201507626)
- **T. Morawietz, M. Handl, C. Oldani, K.A. Friedrich, and R. Hiesgen**, Quantitative in Situ Analysis of Ionomer Structure in Fuel Cell Catalytic Layers, *ACS Appl. Mater. Interfaces* 8, 27044 (2016) [doi:10.1021/acsami.6b07188](https://doi.org/10.1021/acsami.6b07188)
- **N. A. Cañas, S. Wolf, N. Wagner, and K.A. Friedrich**, In-situ X-ray diffraction studies of lithium-sulfur batteries, *J. Power Sources* 226, 313 (2013) [doi:10.1016/j.jpowsour.2012.10.092](https://doi.org/10.1016/j.jpowsour.2012.10.092)
- **P. Metzger, H. Müller-Steinhagen, G. Schiller, K.A. Friedrich**, SOFC Characteristics along the Flow Path, *Solid State Ionics* 177, 2045 (2006) [doi:10.1016/j.ssi.2006.06.019](https://doi.org/10.1016/j.ssi.2006.06.019)