



Biographical notes. I am a *Professor at RWTH Aachen University and Director of the Institute of Energy and Climate Research at Forschungszentrum Jülich GmbH (FZJ)*, where I am heading the department for *Theory and Computation of Energy Materials (IEK-13)*. In Jülich, I am also acting as Scientific Coordinator of the *Center for Advanced Simulation and Analytics* (est. in 2021), Scientific Director of the *HiTEC Graduate School for Energy and Climate* (since 2024) and lead-PI of the *German-Canadian Materials Acceleration Centre (GC-MAC)*. After studying theoretical physics at RWTH Aachen (Diploma 1995), I obtained my doctoral degree in theoretical physical electrochemistry

from the Technical University of Munich (TUM) in 1999, followed by postdoctoral stints at FZJ, Los Alamos National Laboratory, and TUM. From 2003 to 2019, I was a *Professor at Simon Fraser University* in Burnaby, BC, Canada, and held, between 2003 and 2013, a cross-appointment to the fuel cell institute of Canada's *National Research Council* in Vancouver, BC, Canada.

In my research, I am committed to the field of electrochemistry on many frontiers, going after challenges that span from atomistic scale to the electrochemical cell or device level. Research at my institute integrates analytical theory and physical-mathematical modeling with quantum mechanical and classical simulations, striving to unravel the local reaction environment at interfaces, understand transport in polymer electrolyte membranes and nanoporous media, decipher electrocatalytic reactions, and rationalize the performance of complex electrodes in fuel cells and electrolyzers.

I have co-authored over 200 journal articles, 10 book chapters and a textbook on the physics of polymer electrolyte fuel cells, directed or (co-)organized > 20 conferences, workshops and symposia (including an ISE Topical Meeting in 2022) and serve the electrochemical community in various other roles (e.g., editorial roles). In 2017, I was awarded the Alexander Kuznetsov Prize for Theoretical Electrochemistry of the ISE "in recognition of [...] ground-breaking work on modelling polymer electrolyte/proton exchange fuel cells with an emphasis on water management, transport, and electrocatalysis", and was elected a fellow of the ISE in 2024. From 2013 to 2015, I was Chair of Division 7 (Physical Electrochemistry) of the ISE.

Candidate statement. Throughout the different stages of my career, I have come to deeply appreciate electrochemistry as a profoundly diverse and interdisciplinary field that is in constant transformation and affects many related disciplines. Electrochemistry encompasses scientific themes that range from the deep grounds of the physical sciences to applied sciences and innovative technologies that will shape the future of the planet. The ISE has an important role to play in fostering this dynamic diversity among its members and at the meetings and events that it organizes or supports. As vice president of the ISE, I would aspire to carry forward the vision of the society, increase engagement among scientists of all backgrounds and career stages in the life of the society, and grow global awareness and visibility for electrochemistry as a discipline needed to drive change and ensure a livable future.