

CV – Prof. Dr. Karl-Heinz Ernst

Prof. Dr. Karl-Heinz Ernst
In der Pünt 12
CH-8317 Tagelswangen, Schweiz

<http://www.empa.ch/mss>

Professional Experience:

1992-2024 Distinguished Senior Researcher, Empa, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland, since 1998 head of *Surface Technology Group*, (now *Molecular Surface Science Group*)

2018-2020 European Mobility Professor at the Czech Academy of Sciences, Prague, Institute of Physics, nanosurf Laboratory (Dr. Pavel Jelinek)

since 2021 Senior Scientist at the Czech Academy of Sciences, Prague, Institute of Physics

since 6/2018 Lawrence Berkeley Lab Research Affiliate

2012 Visiting scientist at IBM Almaden, San Jose, California, USA, w/ Dr. Andreas Heinrich

Since 2010 Professor, Department of Chemistry, University of Zurich

10/2017 Visiting Professor Université Angers, France

7/2009 Visiting Scientist Chinese Academy of Sciences, Institute of Physics, Prof. H.-J. Gao

9/2003-8/2004 On sabbatical leave to University of Washington, Seattle, USA, Department of Bioengineering, Group of Prof. Viola Vogel

8/1999-5/2000 On sabbatical leave to UC Berkeley, Department of Physics and Lawrence Berkeley National Laboratory, California, USA, Group of Prof. Yuen-Ron Shen

1992 Visiting scientist at the Freie Universität Berlin, Sonderforschungsbereich (SFB 6) of the German National Science Foundation (DFG)

1990 - 1991 Post-Doctorate at the University of Washington, Seattle, USA, Department of Chemistry, Group of Prof. Charles Campbell

Education:

2007 Habilitation at University Zurich, Degree: **Private Docent (PD)**

1986 - 1990 Graduate Study at the Inst. f. Physical Chemistry, Freie Universität Berlin and at the Berlin Electron Storage Ring for Synchrotron Radiation (BESSY),
Supervisor: Prof. Dr. Klaus Christmann, Thesis reviewers: Prof. Dr. Klaus Christmann, Prof. Dr. Gerhard Ertl, Degree: **Dr. rer. nat.** (magna cum laude)

1982 - 1986 Chemistry, Freie Universität Berlin (FUB), Degree: **Diplom-Chemiker**

1979 - 1982 Chemical Engineering at the University of Applied Sciences (Technische Fachhochschule, TFH) Berlin, Degree: **Chemie-Ingenieur (grad.)**

1978 - 1979 Compulsory military service, Gießen & Hann. Münden, Germany

1977 - 1978 College specialising in technical subjects, (Technische Fachoberschule), Braunschweig, Degree: **Fachhochschulreife**

1975 - 1977 Professional training, School of Chemistry Dr. Heinemann, Braunschweig, Degree: **Chemisch-Technischer Assistent (CTA)**

1966 - 1975 Primary and Secondary Schools

Awards:

2022 JVSS-Microbeam Analysis Award from the Japan Society of Vacuum and Surface Science (JVSS), Division of Microbeam Analysis (MBA)

2016 *Functionalized Nano-Materials Award* for outstanding achievements in nano materials science, ICON² Symposium, Changchun, Jilin, China

2014 Promotion to *Empa Distinguished Senior Researcher*

2003 Empa Research Prize

1992 Habilitation Fellowship of the German National Science Foundation (Deutsche Forschungsgemeinschaft, DFG)

1990 Postdoctoral Fellowship of the German National Science Foundation (Deutsche Forschungsgemeinschaft, DFG)

Publications: 174, peer reviewed 137, h-citation index: 45 (> 7000 citations)

Presentations: 329 oral presentations, of which 277 were invited

Professional memberships and honorary functions

- a) Lecturer at the Department of Chemistry, University Zurich (since 2007)
- b) Lecturer at the Materials Science Department, ETH Zurich (since 2005)
- c) Lecturer at the Chemistry Department, ETH Zurich (2005–2014)
- d) Lecturer in Physical Chemistry, University of Applied Sciences (TFH) Berlin (1988–1990)
- e) President of the Swiss Working Group for Surface and Interface Science (SAOG) and Chair of the annual SAOG Meeting (since 2008, panel member since 1998)
- f) Member of the editorial board of the Wiley journal *Chirality* (since 2019)
- g) Member of the editorial board of the Swiss Chemical Society Journal *CHIMIA* (2012 – 2016)
- h) Member of the editorial board of the Elsevier journal *Surface Science* (2012 – 2014)
- i) Member of the International Editorial Advisory Board of the Wiley journal *Helvetica Chimica Acta* (since 2016)
- j) Member of the local Scientific Advisory Board, European Conference of Applied Surface and Interface Analysis – ECASIA 2003, Berlin
- k) Local organizer of the COST CM0601 ECCL – WG3 Meeting, 07. 03. 2009, Zürich, CH
- l) Member of the Scientific Program Committee ECOSS 2014, Antalya, TR
- m) Organizer of *Chirality at the Nanoscale* Symposium, 13. – 17. 10. 2019, Ascona, CH
- n) Organizer of Symposium of Atomic and Surface Physics (SASP), 2.–7. 02. 2020, St. Moritz, CH
- o) Organizer of the Symposium 'Chirality at Surfaces', ECOSS 2014, Antalya, TR
- p) Member of the Deutsche Bunsengesellschaft (DBG) for Physical Chemistry (since 1987)
- q) Member of the Deutsche Physikalische Gesellschaft (DPG, since 1986)
- r) Member of the Swiss Chemical Society (SCG, since 2010)
- s) Member of the American Chemical Society (ACS, since 2019)
- t) Member of the Swiss SSSTC Delegation to Chinese Academy of Science, Beijing, Sept. 2010
- u) Reviewer for international scientific journals such as *Angewandte Chemie*, *Nature*, *Nature Chemistry*, *Nature Nanotechnology*, *Nano Letters*, *ChemPhysChem*, *Advanced Functional Materials*, *Advanced Materials Interfaces*, *Journal of the American Chemical Society*, *ACS Nano*, *ACS Omega*, *Surface Science*, *Journal of Chemical Physics*, *Journal of Physical Chemistry*, *Surface and Interface Analysis*, *Langmuir*, *Zeitschrift f. Physikal. Chemie*, *Chemistry – A European Journal*
- v) Referee and examiner for diploma and PhD theses at EPF Lausanne, University Zurich and University Groningen
- w) Reviewer of promotions to full and associate professorships at universities world-wide (>10)
- x) Organizer of two symposia at the National Meetings of the American Chemical Society 2008
- y) Member of the Organizing Committee of the International Conference on Atomic Level Characterization (ALC) 2009: Maui, Hawaii; 2011: Seoul, Korea; 2013: Kona, Hawaii, 2015: Matsue, Japan, 2017: Kauai, Hawaii.
- z) Member of the International Advisory Committee of the International Conference on Atomic Level Characterization (ALC) 2019: Kyoto, Japan, Okinawa, Japan
- aa) Co-organizer of the 22nd and 30th Symposium of Surface Science (3S) in St. Moritz 2009 & 2017
- bb) Co-organizer of the PIRE ECCI Workshop on heterogeneous catalysis, Dalian, China 2009
- cc) Panel Member for the European Research Council (ERC), consolidator grants, 2013 – 2017
- dd) Panel Member for beam time allocation at BESSY II, Berlin, 2013 – 2016
- ee) Reviewing expert for the European Research Council (ERC), startup, consolidator and advanced grants
- ff) Reviewing expert for the Swiss-Korean Science & Technology programme
- gg) Reviewing expert for NWO, the Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)
- hh) External expert for appointments of professorships at European universities
- ii) Reviewer of PhD theses and official opponent at PhD defenses at Aarhus and Aalborg University, DK; University Groningen, NL; University Leuven, B
- jj) Guest editor for *Journal of Physics: Condensed Matter* – Karl-Heinz Rieder Festschrift
- kk) Guest editor for the Swiss Chemical Society Journal *CHIMIA*
- ll) Guest editor for the *Journal of Chemical Physics* (IOP)
- mm) Member of the prize committee Gerhard Ertl Young Investor Award of the German Physical Society (DPG) 2014 (endowed by Elsevier)