CURRICULUM VITAE

- **Personal details:** Martin Hof

Born 21.9.1962 in Friedberg/Germany;
Czech and German citizen
Married to Mgr. Iveta Hofova, November 25, 1995; 1 child, Maxim (born May 28, 1997)
URL for web site: http://hof-fluorescence-group.weebly.com/

- **Scientific education**

2009 Full Professor for Physical Chemistry named by the Czech President
2006 Doctor of Science (DSc.), Academy of Sciences of the Czech Republic (CAS)
1999 Habilitation at the Faculty for Chemistry and Pharmacy of the Julius-Maximilians-University Würzburg
1990 Dissertation in Physical Chemistry at the University Würzburg ("with excellence (1.0)")
1987 "Diplom-Chemiker" at the University Würzburg; ("with excellence (1.0)")

- **Current positions**

5/2017- Director of the J. Heyrovský Institute of Physical Chemistry; CAS
2001- Lecturer and PhD advisor at
Faculty of Nature Sciences of the Palacky University Olomouc (Czech Republic),
Faculties of the Charles University Prague
Faculties of the Czech Technical University in Prague, and
Biological Faculty of the South Bohemian University Ceske Budejovice (Czech Republic)
2000- Senior Scientist at the J. Heyrovský Institute; Start-up of own scientific group

- **Previous positions**

2007-4/2017 Vice-Director of the J. Heyrovský Institute, CAS
2006-4/2017 Head of the Department of Biophysical Chemistry at that Institute
1997-1999 Scientist at the J. Heyrovský Institute, CAS
1997-1999 Assistant Professor at the Department of Physical Chemistry, Würzburg
1996 Visiting scientist at the University of Patras, Greece (Prof. P. Lianos)
1993-1995 Liebig Fellow at the Department of Physical Chemistry/Charles University Prague (Prof. V. Fidler)
1991-1993 Postdoctoral Fellow at the University of North Carolina at Chapel Hill (USA) (Prof. N. L. Thompson) and University Würzburg (Prof. F. W. Schneider)

- **Fellowships and awards**

1997-99 Habilitation Fellowship by Deutsche Forschungsgemeinschaft (University Würzburg and J. Heyrovský Institute of Physical Chemistry, CAS)
1993-95 Liebig-Fellowship for habilitation by Fonds der Deutschen Chemischen Industrie (Charles University Prague)
1991-93 Post-Doctoral Fellowship by Deutsche Forschungsgemeinschaft (DFG; Chapel Hill, Würzburg)
1987-89 PhD Fellowship by Fonds der Deutschen Chemischen Industrie (University Würzburg)
2024 Ioannes Marcus Marci Medal for achievements in fluorescence spectroscopy
2022 Medal of Emil Votocka - awarded by UCT Prague
2011 Praemium Academie award by the CAS
2007 Award of the CAS for exceptionally successful solution of program and grant projects
1991 Dissertation awarded by the "Unterfraenkische Gedenkjahresstiftung"

- **Supervision of graduate students and postdoctoral fellows; teaching activities**

2001- advisor or co-advisor of 15 Postdocs/ 27 PhD students/ 7 Master students at the J. Heyrovský Institute, in the framework of study programs of the above-mentioned Czech Universities; Teaching regular courses in spectroscopy and microscopy at those universities.
1993-2000 co-advisor of 3 PhD Students (Department of Physical Chemistry, Würzburg); Teaching regular courses in physical chemistry at the Faculty of Chemistry and Pharmacy, Würzburg

- **Organisation of scientific meetings (listed only if M. Hof served as chairman)**

2001-2011 Six times Biannual Seminars on Biophysics of Lipids; Prague/Wroclaw 50-70 participants
2003 "Methods and Applications of Fluorescence" (MAF); Prague; 300 participants

- **Institutional responsibilities (listed only if M. Hof served as chairman/coordinator)**

2007-2012 Chairman of the Board of the J. Heyrovský Institute
2006-2011 Coordinator of the Research Centre "Advanced Fluorescence Microscopy in Biosciences" financed by the Czech Ministry of education

2004-2006 Chairman of the Scientific Board of the J. Heyrovský Institute

- ## Commissions of trust and memberships of scientific societies

2008- Reviewer for international grant agencies (e.g. Austrian Science Foundation, Wallenberg foundation Sweden, German Science Foundation, Cancer Research UK, ERC)
2005- External PhD examiner at international Universities (e.g. University Leuven, KTH Stockholm, Humboldt Uni Berlin, Universities Singapore, Limoges, Umea; Lisbon, Freiburg; Dresden; Glasgow; Oxford; EPFL Lausanne)
2009-12 Panel member of Czech Science Foundation (Physical Chemistry)
2014 -2017 Editorial Board member "Biophysical Chemistry"
2011- Elected Fellow of the Learned Society of the Czech Republic
2011-2020 Series Editor of the "Springer Series on Fluorescence"
2013-14 Editorial Board member "Methods and Applications of Fluorescence"
2008-11 Editor in Chief for Europe of "Journal of Fluorescence"
2017- Editorial Board member "European Biophysics Journal"

- ## Major international active collaborations (recent joint papers or grants)

Sweden: Jerker Widengren (Stockholm), Gerhard Groebner (Umea); Finland: Ilpo Vattulainen (Tampere); Austria: Thomas Juffmann (Vienna); Germany: Walter Nickel (Heidelberg) and Jörg Enderlein (Göttingen); Portugal: Manuel Prieto, Fabio Fernandes (Lisbon); Netherlands: Sense van der Molen (Leiden); France: Burkhart Bechinger (Strasbourg);

- ## Publishing activities:

Author of 230 publications in impacted Journals, 5 publications in conference proceedings, 20 chapters in books, 1 patent, editor of 7 books; WoS on 12.3.2024, selected "all data bases": 6483 citations excluding auto citations; Highest number of citations/year: 667 (2021); H-index: 45
Since 2010: 139 publications in imp. J. including papers in Nat Chem Biol, Chem Sci, Small, Adv Func Mat; PNAS; Chemical Reviews, J. Cell Biol; two in ACS Nano and JACS, three in J Phys Chem Let, Angewandte, and eLife; 3934 citations without auto citations

- ## Brief summary of carrier development and research accomplishments

After his PhD in Würzburg and a DFG-funded postdoc at UNC Chapel Hill, M. Hof won a prestigious "Habilitations Liebig-Stipendium" in 1993. Rather than moving to one of the leading western universities, he decided due to family reasons to transfer the award to the Charles University in Prague. He was planning to launch an ambitious research program aimed at developing new fluorescence methods to study the blood coagulation process at the molecular level. Given the lamentable state of experimental equipment and support in freshly post-communist Czechia this was an almost impossible task. However, M. Hof succeeded in part due to his true grit and in part by performing parts of his research in Chicago (with Graham Fleming) and Würzburg (here he completed his habilitation in 1999). With conditions for science gradually improving in the Czech Republic, he accepted a position of group leader at the J. Heyrovsky Institute in 2000. His remarkable success in acquiring third-party funds allowed him to gradually build up his lab for development of novel fluorescence (F-) techniques.

Development of F-techniques: Methods like the time-dependent fluorescence shift approach (TDFS) for membrane (e.g. Sykora Langmuir 2002) and enzyme (Jesenska JACS 2009) sciences, the first calibration-free Fluorescence Correlation Spectroscopy technique (z-scan FCS; Benda Langmuir 2003), F lifetime CS (FLCS; e.g. Benda Rev Sci Instr 2005) and F Spectral Correlation Spectroscopy (Benda Optics Express 2014) were developed/co-developed in Prague. Moreover, he succeeded in advancing the following F-techniques: Fluorescence Lifetime Imaging Microscopy and Förster Resonance Energy Transfer method combined with Monte-Carlo simulations (e.g. Sachl Biophys J 2011), fluorescence antibunching for membrane-associated aggregation phenomena (Sachl BBA-Mol Cell Res 2015) and 2-foci FCS (Stefl Optics Express 2014). Recently, the interpretation of different fluorescence leakage assays was harmonised (Braun, ACS Nano 2018) and combined with single molecule number and brightness analysis (Steringer, eLife 2017; Sachl, Analytical Chem 2020; Vandana Analytical Chem 2023)

Applications of F-techniques: Concerning biophysics, M. Hof made fundamental contribution to the influence of solid support (e.g. Przbylo Langmuir 2006), ions (e.g. Melcerova Sci Rep 2016), oxidised lipids (e.g. Volinsky Biophys J 2011) and sterols (e.g. Kulig J Phys Chem Lett 2018), and lipid composition (Vinklarek J Phys Chem Lett 2019; Cebecauer Chem Rev 2018: Sarmento Biophys J 2021; Davidovic J Phys Chem Let 2023) on the physical chemical properties of lipid bilayers. In terms of application of these F-techniques in biology, the first usage of FLCS in living cells might serve as an interesting example (Huranova J Cell Biol 2010). In the last decade, M. Hof further increased the complexity of the addressed questions. One can highlight his contributions to rational enzyme design (Sykora Nat Chem Biol 2014; Amaro JACS 2015; Kokonnen JACS 2018), applications of TDFS in DNA and protein science (Dziuba Chemical Sciences 2016; Fischermeier, Angewandte 2017), application of new molecular rotors in live cell imaging (Dziuba Angewandte 2016; Hot paper), the single-molecule studies on the membrane-mediated oligomerisations of the β-amyloid peptide (Amaro Angewandte 2016; VIP paper) or of the FGF2 protein (Steringer Elife 2017, Lolicato J Cell Biol 2022; Lolicato Elife 2024)