Curriculum Vitae
Harald Berchtold (Dr. phil. nat.)

PERSONAL INFORMATION

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May, 1st, 2023

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Place of birth - date Lahr im Schwarzwald, 10.06.1962 *Nationality* German

ACADEMIC QUALIFICATIONS

10/1983 - 04/1989	University Freiburg im Breisgau, „Diplom Chemiker“ with „Hauptfach“ Biochemistry Vor- und Hauptdiplom Gesamtnote:1.0 („sehr gut“) Diploma thesis *“Röntgenstruktur-Untersuchungen an den Flavoenyzmen Glutathion-Reduktase und Pyruvat-Oxidase“* within the group of Prof. Dr. Georg E. Schulz
06/1988	University of Cambridge/UK, Member of the Research Team Prof. Dr. Richard N. Perham
05/1989 - 12/1992	Goethe University Frankfurt am Main, External PhD student of Prof. Dr. J.W. Engels
10/1992	PhD thesis at Hoechst AG Frankfurt am Main, Prof. Dr. Rolf Hilgenfeld *“Hochauflösende Proteinkristallographie: Strukturuntersuchungen an Humaninsulinderivaten und am Elongationsfaktor Tu“* - summa cum laude 12/1992 – Dr. phil. nat.
1991-1992	University of Bayreuth, Prof. Dr. Mathias Sprinzl: several collaborative one week visits
07/1993	Preis der Freunde & Förderer der Goethe Universität für die hervorragende Dissertation

WORK EXPERIENCE

05/1989 – 12/1992	Protein Crystallography Hoechst AG, Frankfurt, Research Team Rolf Hilgenfeld
01/1993 – 04/1994	Lab Head Protein Crystallography, Hoechst AG, Frankfurt am Main
05/1994 – 12/1996	Group Head Protein Crystallography, Hoechst AG with worldwide responsability
08/1996	Invited Talk and Scientific exchange visit at Genentec Inc. South San Francisco
01/1997 – 12/1998	Leitender Angestellter and Promotion to „Operational Manager” Hoechst Marion Roussel Core Research Functions & Biotechnology (~ 200 associates, ~ 25 Mio. € Opex & ~ 5 Mio.€ Capex administered) working with Prof. Dr. Seibert, Prof. Dr. Peter Hammann, Dr. Timm-H. Jessen (1997) and Dr. Bernd Kirschbaum (1998)
01/1999 – 12/2004	Head of the Global Pharmaceutical Development Frankfurt Solid State Platform
01/2005 – 12/2010	Promotion to Associate Director and Head of the Analytical Services Group
2007 - 2020	Registered “Leiter der Qualitätskontrolle” Regierungspräsidium Darmstadt
01/2010 – 06/2020	Sanofi Global Patent Representative for Analytical Sciences Patents
11/2011 – 06/2020	Head of TIDES Analytical Technologies Team and 2018-2020 Department Head of the Analytical Sciences Department (~ 100 associates)
2006 – 2019	CMC Global project leader of several Sanofi insulin pump systems, including the gPump collaboration with Google LLC and Medtronic PLC (2017-2019)

Hoechst – Aventis - Sanofi Board and Leadership Team memberships: HMR Emergency Board (1997-98), Process Optimization Team Insulin Board (2000-20), Material Sciences Board (2006-12), TIDES Board (2017-20); Sanofi Patent Germany Board (2010-20)

“Lehrauftrag” at Goethe University as **University Lecturer** since **2017** in the Bachelor- and Master program of Goethe University, Fachbereich 14 (Biochemie, Chemie & Pharmazie).

Representative of Sanofi German R&D Hub at Goethe University within the “PhD&PostDoc Job Opportunities in Industry” Platform, Senior Coach and Mentor within the Sanofi “Young Talents Program” and within the “German Gender Balance Network”.

PEER-REVIEWED PUBLICATIONS

1. H. Berchtold, A. Liesum, M. Dörschug, K. Geisen, U. Grau, P. Habermann, R. Ober-maier, D. Schwabe, L. Vértesy & R. Hilgenfeld:
Crystallographic Studies on Human Insulins Modified at the Chain Termini.
E. Borona et al. (eds.): Insulin Receptor and Insulin Action, Molecular and Clinical Aspects, Verona (Italy) **(1990),** 24-25

2. R. Hilgenfeld, A. Liesum, M. Dörschug, R. Obermeier & **H. Berchtold**:
Controlling Insulin Bioavailability by Crystal Contact Engineering.
J.Biomol.Struct.Dynamics (1991), 8, a275

3. L.S. Reshetnikova, C.O.A. Reiser, N.K. Schirmer, **H. Berchtold**, R. Storm, R. Hilgenfeld & M. Sprinzl:
Crystals of Intact Elongationfactor Tu from Thermus thermophilus Diffracting to High Resolution.
J.Mol.Biol. (1991), 221, 375-377

4. L.S. Reshetnikova, C.O.A. Reiser, N.K. Schirmer, **H. Berchtold**, R. Storm, R. Hilgenfeld & M. Sprinzl:
Crystals of Intact Elongationfactor Tu from Thermus thermophilus Diffracting to 1.45 Angström Resolution.
J. Cryst.Growth (1992), 122*,* 360-365

5. H. Berchtold, L.S. Reshetnikova, N.K. Schirmer, C.O.A. Reiser, M. Sprinzl & R. Hilgenfeld:
Crystal structure of active elongation factor Tu reveals Major Domain Rearrangements (Article) **Nature (1993)** 365, 126-132

6. Harald Berchtold & Rolf Hilgenfeld:

Neue Proteinstrukturen: Trendbericht Biochemie und Molekulargenetik 1993 **Nachr.Chem.Tech.Lab. (1994),** 42, 168-170

7. Harald Berchtold:

Neue Proteinstrukturen: Trendbericht Biochemie und Molekulargenetik 1995 **Nachr.Chem.Tech.Lab. (1996),** 44, 168-172

8. G.Lange-Savage, **H.Berchtold**, A.Liesum, K.H.Budt, A.Peyman, J.Knolle, J.Sedlacek, M.Fabry & R.Hilgenfeld:

Structure of HOE/BAY 793 complexed to human immunodeficiency virus (HIV-1) protease in two different crystal forms. **Eur.J.Biochem. (1997),** 248, 313-322,

9. Harald Berchtold & Rolf Hilgenfeld: *Binding of Phenol to R6 Insulin Hexamers*
Peptide Science (1999), 51(2), 165-172 (+ Front cover picture of the journal)

10. N. Nagel, H. Schweitzer, H. Urbach, W. Heyse, B. Müller, **H. Berchtold**
*Ramipril***: Acta Crystallogr. E (2001),** 57, o463-o465

11. Chunlei Pei, Chuan-Yu Wu, David England, Stephen Byard, **Harald Berchtold**, Michael Adams:
A DEM Model for Contact Electrification of Irregular Shaped Particles
Powder Technology (2013) 248, 34-43

12. Rolf Hilgenfeld, Gerhard Seipke, **Harald Berchtold**, David R Owens
*EVOLUTION OF INSULIN GLARGINE AND ITS CONTINUING CONTRIBUTION TO DIABETES CARE***,**
Review Article, Drugs (2014), 74, 911-927

13. Sergio Mauri, Stephen Byard, David England, **Harald Berchtold** and Heike Arnolds:

Insulin Adsorption on Hydrophobic and Hydrophilic Silane Self-Assembled Monolayers

Langmuir (2015), 31, 8892-8900

14. Chunlei Pei, Chuan-Yu Wu, Stephen Byard, **Harald Berchtold**:

Contact *electrification and charge distribution on elongated particles in a vibrating container*

Chemical Engineering Science (2015) 125, 238 - 247

15. Klaus Gast, Anja Schüler, Martin Wolff, Anja Thalhammer, **Harald Berchtold**, Norbert Nagel, Gudrun Lenherr, Gerrit Hauck & Robert Seckler:

Rapid-acting and Human Insulins: Hexamer Dissociation Kinetics upon Dilution of the Pharmaceutical Formulation

Pharmaceutical Research (2017) DOI 10.1007/s 1095-017-2233-0

16. Norbert Nagel[a,*], Melissa Graewert[b], Mimi Gao[a], Winfried Heyse[a], xy[b], Dimitri Svergun[b], **Harald Berchtold[a]**

The Quaternary Structure of Insulin Glargine and Glulisine under Formulation Conditions

Biophysical Chemistry 253 (2019) 106226

17. Peyman Sakhaii Bojan Bohorc Uwe Schliedermann **Harald Berchtold** Wolfgang Bermel

Mirror symmetric broadband homodecoupled perfect echo spectroscopy

J Magn Reson (2020) Jun 15; 315:106753. Epub 2020 May 15; PMID: 32464370

18. A review article summarizing the history of insulin “100 years of Insulin1922 -2022” has been elaborated together with Prof. David Owens, PhD, University of Cardiff, UK

INTERNATIONAL FELLOWSHIPS, Lectures & Conference Participations

1994 – 1995	Member of the Scientific Steering Committee of CAPE (Center of Applied Protein Engineering) at the GBF, Braunschweig
1995	Representative of Hoechst AG at conferences on Evolutionary Biotechnology organized by the BMBF and by IMB Jena e.V.
1996	Participation in the International conference on Advanced Technologies for information extraction of complex data sets, (Bioinformatics, JAVA)
1997	Member of a Scientific Advisory Board authorized by BEO, Jülich
1998	Member of the Scientific Committee, International Conference on Micro Reaction Technology at the Institute for Micromechanics, Mainz
Since 1996	Member of the International Union of crystallography (IUCr) Participation at the Global Meetings at Seattle, 1996; Glasgow, 1999 and Osaka, 2008
Since 2000	Senior member of the Group of “Industrial crystallographers”, (Organizer of 2004 meeting at Sanofi-Aventis Frankfurt/Main together with U. Wendt)
2001	Participation in the EUFEPS conference “Optimizing Drug Development: Rational Design of Drug Materials and Drug Delivery Sytems”

Since 2002	Member of the Eurostar Science organization of Applied Physical Chemistry, Basel, Switzerland
2004	Participation in the 8th International Conference Phanta, Ascona, CH
2007	International Workshop of Physical Characterization of Pharmaceutical Solids, Boston, USA
2008	XXI Congress Int. Union of Crystallography, Osaka, Japan
2009	Participation in the 25th European Crystallographic Meeting, Istanbul
2011	Member of the European Association for the Study of Diabetes (EASD)
2011	Participation in the European Association for the Study of Diabetes (EASD) Conference at Lisbon (September 2011)
2012	8th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Istanbul
2013	"Patients at Heart" Workshop September Kronberg, 12 + 13th, 2013
2013	Participation in the European Association for the Study of Diabetes (EASD) Conference at Barcelona (September 2013)
2014	Lecture given at the ANALYTICA conference in Munich, April 2nd, 2014: *The Evolution of insulins and their continuing contribution to Diabetes Care*
2014	Participation in the European Association for the Study of Diabetes (EASD) Conference at Vienna (September 2014)
2015	Participation in the European Association for the Study of Diabetes (EASD) Conference at Stockholm (September 2015)
2015	Lecture given at the GDCh Symposium at RWTH Aachen, Nov, 10nd, 2015: *The Evolution of insulins and their continuing contribution to Diabetes Care*
2016	Participation in the European Association for the Study of Diabetes (EASD) Conference at Munich (September 2016)
2017	Participation in the European Association for the Study of Diabetes (EASD) Conference at Lisbon (September 2017)
2018	Lecture given at the Biochemical Colloquium University Lübeck 18.4.2018: *The Evolution of insulins and their continuing contribution to Diabetes Care*
2019	Lecture given at Targets & Ligands Conference University Lübeck 05.4.2019: *Controlling insulin bioavailability by rational drug design and crystal contact engineering*

Patents

1996 – 2019: 17 national & international patent applications filed as inventor or "major contributor" according to German law (WO 2010/139685, WO 2010/068601, WO2012/130821, WO 2013/007518, etc.). A total of 33 "Record of Innovation" files have been submitted as inventor to the Hoechst / Aventis / Sanofi Global Patent Department.

PERSONAL SKILLS and FURTHER PROFESSIONAL ACTIVITIES (2020-ongoing)

Languages	**German:** mother tongue **English:** professional & excellent **French:** moderate & expandable **Italien & Spanish:** some basics
Charity	Member of Freunde & Förderer of Goethe University, Kronberg Academy & hr sinfonie Orchester; Member of the Patronatsverein Oper & Schauspiel FFM.
Professionality	Registered Consultant at Aristo Group, Munich; Neo-Experts, Ismaning; k-recruting, Munich; Claus Hochgrebe Consulting Ffm & Guidepoint International