



Alias [Jeronimo](#)

Highest degree:

Doctorem mathematicae et disciplinarum naturalium, Leiden University (1994)

Current position:

Deputy, senior Scientist and Lecturer, Program Coordinator Infection Biology

Address:

Institute of Biochemistry, University of Lübeck, Center for Structural and Cell Biology in Medicine,
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Numbers:

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Current interests:

Crystallogenesi; Macromolecular Crystallography; Structural Neurobiology; Infection biology

Raised funds:

DFG, Zuschuss, ME 2741/3 - ICCBM15

DFG, Sachbeihilfe, ME 2741/2 - Viral-gestörter zerebraler Metabolismus (Selfish Brain, KFO-126)

DFG, Sachbeihilfe, ME 2741/1 - Kdo-Aktivierung und -Transfer in *A. aeolicus*

DAAD, PPP Tschechien, D/03/44441 - Chemical reactions and interactions inside protein crystals

DAAD, PPP Tschechien, Project-ID 57219159 - 3D-Biotech-Enzymologie

Raised funds > 250 k€

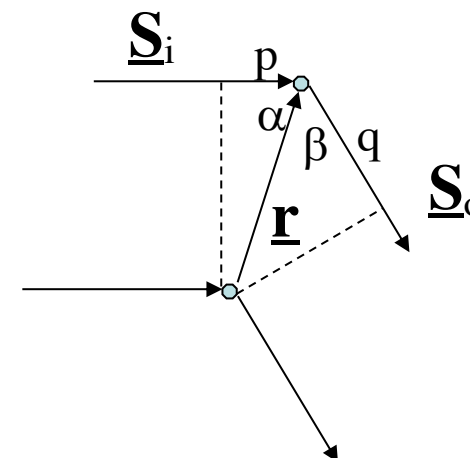
Role(s):

Visiting Professorship in Biophysics, University of South Bohemia at Ceske Budejovice (since 2002)

X-ray radiation-, biological- and laboratory-safety officer

President of the IOBCr (International Organization for Biological Crystallization)

Webmaster



Employment:

- 02/2003 – present Deputy, senior Scientist and Lecturer (permanent position), Institute of Biochemistry (Director: Prof. Dr. Dr. h.c. R. Hilgenfeld) at the University of Lübeck
- 02/2013 – 01/2014 Part-time Researcher (BMBF project 'TiBioS'), Department of Cardiac and Thoracic Vascular Surgery (Director: Prof. Dr. H.H. Sievers), University Clinic of Schleswig-Holstein, Campus Lübeck
- 12/1998 – 01/2003 Researcher (permanent position since May 2000), Structural Biology and Crystallography group (Head: Prof. Dr. R. Hilgenfeld) of the Institute of Molecular Biotechnology (*i.e.* Fritz Lipmann Institute) in Jena
- 09/1994 – 11/1998 Post-Doc (European Commission 'Human Capital and Mobility' and BMBF 'Molekulare Naturstoffforschung') at the Structural Biology and Crystallography group (Head: Prof. Dr. R. Hilgenfeld) of the Institute of Molecular Biotechnology in Jena

Education:

- 08/1987 – 06/1994 Ph.D. studies at Leiden University (with Dr. B. Kraal and Prof. Dr. L. Bosch). Degree: *doctorem mathematicae et disciplinarum naturalium*
Title Ph.D. thesis: GTP binding proteins and polypeptide chain elongation
- 09/1981 – 07/1987 Biochemistry studies at Leiden University. Degree: *doctorandus*
Main topics: Biochemistry, Computer Programming, and Bioreactor-Technology (at Delft University of Technology)

Publications 2000–2018 (Total ±47 publications; ±1779 times cited, cumm. cit. index ±245, average. cit. per item ±37,8, h-index 21):

- Grinkevich P, Iermak I, Luedtke NA, [Mesters JR](#), Ettrich R & Ludwig J: pHluorin-assisted expression, purification, crystallization and X-ray diffraction data analysis of the C-terminal domain of the HsdR subunit of the Escherichia coli type I restriction-modification system EcoR124I. *Acta Cryst. F Struct Biol Commun.* **72**, 672–676 (2016)
- Qin Z, Xiao Y, Yang X, [Mesters JR](#), Yang S & Jiang Z: A unique GCN5-related glucosamine N-acetyltransferase region exist in the fungal multi-domain glycoside hydrolase family 3 β -N-acetylglucosaminidase, *Scientific Reports* 5, 18292 / DOI: 10.1038 (2015)
- Einspahr H, Smatanova IK, Betzel C & [Mesters JR](#): Introduction to selected articles from the 15th ICCBM, *Acta Cryst.* **F71**, 805 (2015)
- Sanchez-Vallet A, [Mesters JR](#) & Thomma BPHJ: The battle for chitin recognition in plant-microbe interactions, *FEMS Microbiology Reviews* 39, 171–183 (2014) (*First published online: 23 December 2014*) (**Editors' Choice**)
- Lei J, [Mesters JR](#), Drosten C, Anemüller S, Ma Q & Hilgenfeld R: Crystal structure of the papain-like protease of MERS coronavirus reveals unusual, potentially druggable active-site features. *Antiviral Res.* **109**, 72–82 (2014)
- Lahoda M, [Mesters JR](#), Stsiapanava A, Chaloupkova R, Kutý M, Damborský J & Kuta Smatanova I: Crystallographic analysis of 1,2,3-trichloropropane biodegradation by haloalkane dehalogenase DhaA31. *Acta Cryst.* **D70**, 209–217 (2014)

- Sánchez-Vallet A, Saleem-Batcha R, Kombrink A, Hansen G, Valkenburg DJ, Thomma BPHJ & [Mesters JR](#): Fungal effector Ecp6 outcompetes host immune receptor for chitin binding through intrachain LysM dimerization. *eLife* 2, e00790 (2013).
(*Science Editors' Choice, Issue August 2nd, 2013: page 436*)
- Tan J, George S, Kusov Y, Perbandt M, Anemüller S, [Mesters JR](#), Norder H, Coutard B, Lacroix C, Leyssen P, Neyts J & Hilgenfeld R: 3C protease of enterovirus 68: Structure-based design of Michael acceptor inhibitors and their broad-spectrum antiviral effects against picornaviruses. *J. Virol.* 87, 4339–4351 (2013).
- Brix B, [Mesters JR](#), Pellerin L, & Jöhren O: Endothelial cell-derived nitric oxide enhances aerobic glycolysis in astrocytes via HIF-1 α mediated target gene activation. *J. Neurosci.* 32, 9727–9735 (2012).
- Schmidt H, Hansen G, Singh S, Hanuszkiewicz A, Lindner B, Fukase F, Woodard RW, Holst O, Hilgenfeld R, Mamat U & [Mesters JR](#): Structural and mechanistic analysis of the membrane-embedded glycosyltransferase WaaA required for lipopolysaccharide synthesis. *Proc. Natl. Acad. Sci. USA* 109, 6253–6258 (2012). (*Heinrich-Dräger Science Prize 2013* for outstanding scientific publication)
- Schmidt H, [Mesters JR](#), Wu J, Woodard RW, Hilgenfeld R & Mamat U: Evidence for a Two-Metal-Ion Mechanism in the Cytidyltransferase KdsB, an Enzyme Involved in Lipopolysaccharide Biosynthesis. *PLoS One.* 6, e23231 (2011).
- Lei J, [Mesters JR](#), von Brunn A & Hilgenfeld R: Crystal structure of the middle domain of human poly(A)-binding protein-interacting protein 1. *Biochem. Biophys. Res. Commun.* 408, 680–685 (2011).
- García-Caballero A, Gavira J, Pineda-Molina E, Chayen N, Govada L, Kurshid S, Saridakis E, Boudjemline A, Swann M, Shaw Stewart P, Briggs R, Kolek S, Oberthur D, Dierks K, Betzel C, Santana M, Hobbs J, Thaw P, Savill T, [Mesters JR](#), Hilgenfeld R, Bonander N & Bill R: Optimization of Protein Crystallization: The OptiCryst Project. *Cryst. Growth Des.* 11, 2112–2121 (2011).
- [Mesters JR](#) & Hilgenfeld R: Glutamate Carboxypeptidase II . In: *Handbook of Metalloproteins, Volumes 4 & 5*, edited by Albrecht Messerschmidt. Chichester, UK: John Wiley & Sons, Ltd, pp 681–692 (2011). Previously: *Handbook of Metalloenzymes Online Edition* (Ed. A. Messerschmidt). Wiley Interscience (2008).
- Wolfova J, Smatanova IK, Brynda J, [Mesters JR](#), Lapkouski M, Kutý M, Natalello A, Chatterjee N, Chern SY, Ebbel E, Ricci A, Grandori R, Ettrich R, and Carey J: Structural organization of WrbA in apo- and holo-protein crystals. *BBA-Proteins Proteom.* 9, 1288–1298 (2009).
- Mamat U, Schmidt H, Munoz E, Lindner B, Fukase K, Hanuszkiewicz A, Wu J, Meredith TC, Woodard RW, Hilgenfeld R, [Mesters JR](#), Holst O: WaaA of the hyperthermophilic bacterium *aquifex aeolicus* is a monofunctional 3-deoxy-D-manno-oct-2-ulosonic acid transferase involved in lipopolysaccharide biosynthesis. *J Biol Chem.* 284, 22248–22262. (Epub online ahead of print: Jun 22, 2009).
- Tan J, Vonnrhein C, Smart OS, Bricogne G, Bollati M, Kusov Y, Hansen G, [Mesters JR](#), Schmidt CL, Hilgenfeld R: The SARS-unique domain (SUD) of SARS coronavirus contains two macrodomains that bind G-quadruplexes. *PLoS Pathog.* 5, e1000428 (2009).
- Ponnusamy R, Moll R, Weimar T, [Mesters JR](#), Hilgenfeld R: Variable oligomerization modes in coronavirus non-structural protein 9. *J Mol Biol.* 383, 1081–1096 (2008). Epub, July 30.
- Robel I, Gebhardt J, [Mesters JR](#), Gorbalenya A, Coutard B, Canard B, Hilgenfeld R, Rohayem J: Functional characterization of the cleavage specificity of the Sapovirus chymotrypsin-like protease. *J Virol.* 82, 8085–8093 (2008).

- Verschuieren KHG, Pumpor K, Anemüller S, Chen S, [Mesters JR](#), Hilgenfeld R: A Structural View of the Inactivation of the SARS-coronavirus main proteinase by benzotriazole esters. *Chem Biol.* 15, 597-606 (2008).
- [Mesters JR](#), Hilgenfeld R: Protein glycosylation, sweet to crystal growth? *Crystal Growth Design* 7 (ICCBM11 issue), 2251-2253 (2007). Epub, Oct 24.
- Wolfova J, [Mesters JR](#), Brynda J, Grandori R, Natalello A, Carey J, Smatanova IK: Crystallization and preliminary diffraction analysis of *E. coli* WrbA in complex with its cofactor flavin mononucleotide. *Acta Crystallogr.* F63, 571-575 (2007). Epub, June 11.
- [Mesters JR](#), Henning K, Hilgenfeld R: Human glutamate carboxypeptidase II inhibition: crystal structures of GCPII in complex with two potent inhibitors, quisqualate and 2-PMPA. *Acta Crystallogr.* D63, 508-513 (2007). Epub, Mar 16.
- [Mesters JR](#), Practical protein crystallization. In: *Principles of Protein X-Ray Crystallography (Third Edition)* by Jan Drenth. Chapter 16, pp. 297-304. Springer Science+Business Media LLC, New York (2006).
- [Mesters JR](#), Tan J, Hilgenfeld R: Viral enzymes. *Curr Opin Struct Biol.* 16, 776-786 (2006). Epub, Nov 3.
- Hilgenfeld R, Anand K, [Mesters JR](#), Rao Z, Shen X, Jiang H, Tan J, Verschuieren KGH: Structure and dynamics of SARS coronavirus main proteinase, (Mpro). *Adv Exp Med Biol.* 581, 585-591 (2006). Nidovirus conference book, Colorado Springs (June 2005), USA.
- Ponnusamy R, [Mesters JR](#), Ziebuhr J, Moll R, Hilgenfeld R: Non-structural proteins 8 and 9 of human coronavirus 229E. *Adv Exp Med Biol.* 581, 49-54 (2006). Nidovirus conference book, Colorado Springs (June 2005), USA.
- Matthes N, [Mesters JR](#), Coutard B, Canard B, Snijder EJ, Moll R, Hilgenfeld R: The non-structural protein Nsp10 of Mouse Hepatitis Virus binds zinc ions and nucleic acids. *FEBS Lett.* 580, 4143-4149 (2006).
- Ondráček J, [Mesters JR](#): Ensemble of crystallographic models enabled description of novel bromate-oxoanion species, trapped within a protein crystal. *Acta Crystallogr.* D62, 996-1001 (2006).
- Al-Gharabli SI, Ali Shah ST, Weik S, Schmidt FM, [Mesters JR](#), Kuhn D, Klebe G, Hilgenfeld R, Rademann J: An efficient method for the synthesis of peptide aldehyde libraries employed in the discovery of reversible SARS corona virus main protease (SARS-CoV Mpro) inhibitor. *ChemBioChem* 7, 1048-1055 (2006).
- [Mesters JR](#), Barinka C, Li W, Tsukamoto T, Majer P, Slusher BS, Konvalinka J, Hilgenfeld R: Structure of glutamate carboxypeptidase II, a drug target in neuronal damage and prostate cancer. *EMBO J.* 25, 1375-1384 (2006). Epub, Feb 9.
- Tan J, Verschuieren KH, Anand K, Shen J, Yang M, Xu Y, Rao Z, Bigalke J, Heisen B, [Mesters JR](#), Chen K, Shen X, Jiang H, Hilgenfeld R: pH-dependent conformational flexibility of the SARS-CoV main proteinase (M(pro)) dimer: molecular dynamics simulations and multiple X-ray structure analyses. *J Mol Biol.* 354, 25-40 (2005). Epub, Sep 23.
- Anand K, Ziebuhr J, Wadhwani P, [Mesters JR](#), Hilgenfeld R: Coronavirus main proteinase (3CLpro) structure: basis for design of anti-SARS drugs. *Science* 300, 1763-1767 (2003). Epub, May 13.
- Weber J, [Mesters JR](#), Lepsik M, Prejdova J, Svec M, Sponarova J, Mlcochova P, Skalicka K, Strisovsky K, Uhlikova T, Soucek M, Machala L, Stankova M, Vondrasek J, Klimkait T, Kraeusslich HG, Hilgenfeld R, Konvalinka J: Unusual binding mode of an HIV-1 protease inhibitor explains its potency against multi-drug-resistant virus strains. *J Mol Biol.* 324, 739-754 (2002).

- Anand K, Palm GJ, [Mesters JR](#), Siddell SG, Ziebuhr J, Hilgenfeld R: Structure of coronavirus main proteinase reveals combination of a chymotrypsin fold with an extra alpha-helical domain. *EMBO J.* 21, 3213-3224 (2002).
- Hogg T, [Mesters JR](#), Hilgenfeld R: Inhibitory mechanisms of antibiotics targeting elongation factor Tu. *Curr Protein Pept Sci.* 3, 121-131 (2002).
- [Mesters JR](#), Hogg T, Hilgenfeld R: G proteins. In: *Encyclopedia of Life Sciences*. Macmillan (Nature), London, 2001 (www.els.net).
- Vogele L, Palm GJ, [Mesters JR](#), Hilgenfeld R: Conformational change of elongation factor Tu (EF-Tu) induced by antibiotic binding. Crystal structure of the complex between EF-Tu.GDP and aurodox. *J Biol Chem.* 276, 17149-17155 (2001). Epub, Jan 30.
- Zuurmond AM, Martien de Graaf J, Olsthoorn-Tieleman LN, van Duyl BY, Morhle VG, Journak F, [Mesters JR](#), Hilgenfeld R, Kraal B: GE2270A-resistant mutations in elongation factor Tu allow productive aminoacyl-tRNA binding to EF-Tu:GTP:GE2270A complexes. *J. Mol. Biol.* 304, 995-1005 (2000).
- Hilgenfeld R, [Mesters JR](#), Hogg T: Insights into the GTPase Mechanism of EF-Tu from Structural Studies. In: *The Ribosome. Structure, Function, Antibiotics, and Cellular Interactions*, eds. R.A. Garrett, S.R. Douthwaite, A. Liljas, A.T. Matheson, P.B. Moore, and H.F. Noller. Chapter 28, pp. 347-357. ASM Press, Washington DC (2000).

Oral Presentations 2001-2017:

- Protein preparation for biophysical studies. *Proteins in Action*, June 26 - 28, 2017, Ceske Budejovice (Budweis)
- Standard Crystallisation Techniques: How do they work? International School on Biological Crystallization (ISBC), May 28 - June 2, 2017, Granada
- Theory of X-ray Diffraction I + II. FEBS-INSTRUCT Advance Course „Advanced methods in protein crystallization VII“, June 27 - July 2, 2016, Nove Hradky
- Conventional Crystallization Methods and their Modifications. FEBS-INSTRUCT Advance Course „Advanced methods in protein crystallization VII“, June 27 - July 2, 2016, Nove Hradky
- Snapshots of a journey through time in Biocrystallography. Summerschool biophysics and systemsbiology, July 19 - 22, 2015, Nove Hradky
- High-throughput, structure- and fragment-based techniques in lead compound identification, Summerschool biophysics and systemsbiology, July 19 - 22, 2015, Nove Hradky
- Crystallisation techniques: How do they work? J.-M. Garcia-Ruiz & J.R. Mesters, International School on Biological Crystallization (ISBC), May 24-29, 2015, Granada
- Conventional Crystallization and its Modifications. International School on Biological Crystallization (ISBC), May 24-29, 2015, Granada
- Conventional Crystallization Methods and their Modifications. FEBS-INSTRUCT Advance Course „Advanced methods in protein crystallization VI“, June 20 - 27, 2014, Nove Hradky
- Crystallography and Molecular Modeling, Cluster of Excellence “Inflammation at Interfaces”, Indien Summer School, November 19 - 21, 2013, Kiel

Drug Design, GRK 1727 "*Modulation of Autoimmunity*" Seminar Series, November 5, 2013, UK-SH, Lübeck

Crystallisation techniques: How do they work? J.-M. Garcia-Ruiz & J.R. Mesters, International School on Biological Crystallization (ISBC), May 26-31, 2013, Granada

Theory of X-ray Diffraction I + II. FEBS-INSTRUCT Advance Course „Advanced methods in protein crystallization VI“, June 22 - 29, 2012, Nove Hradý

Conventional Crystallization and its Modifications, FEBS Advance Course „Advanced methods in protein crystallization V“, June 22 - 29, 2012, Nove Hradý

On the use of Additives in Protein Crystallization, FEBS Advance Course „Advanced methods in protein crystallization V“, June 22 - 29, 2012, Nove Hradý

Mensch versus Krankheitserreger – Ein unendliches Wettrennen, Tag der Wissenschaft, St. Petri zu Lübeck, 29 Oktober 2011, Lübeck.

Röntgen, Laue, and Bragg – X-Ray Crystallography, Protein Crystallization Workshop, University of Copenhagen, January 10-14, 2011, Copenhagen

Screening – Do's and Don't's, Protein Crystallization Workshop, University of Copenhagen, January 10-14, 2011, Copenhagen

Vapour Diffusion Crystallization, International School on Protein Crystallization (ISPC) at ICCBM13, October 10-16, 2010, Dublin

Interpretation of the Crystallization Drop Result, PEPC-7, EMBL, August 23-31, 2010, Hamburg

Conventional Crystallization and its Modifications, FEBS Advance Course „Advanced methods in protein crystallization IV“, June 25 - July 2, 2010, Nove Hradý

On the use of Additives in Protein Crystallization, FEBS Advance Course „Advanced methods in protein crystallization IV“, June 25 - July 2, 2010, Nove Hradý

Wie entstehen neue Influenzaviren, Öffentlicher Vortrag in der Vertretung des Landes Schleswig-Holstein beim Bund, Exzellenzcluster Entzündungsforschung, 21. April 2010, Berlin

Crystal growth techniques: Vapor diffusion, Microbatch under oil, Counterdiffusion, The ISBC *ensemble*
A. McPherson, J. Ng, J.R. Mesters, J.A. Gavira, International School on Biological Crystallization (ISBC), May 18-22, 2009, Granada

On the use of seeding techniques, International School on Biological Crystallization (ISBC), May 18-22, 2009, Granada

Conventional Crystallization and its modifications, FEBS Advance Course „Advanced methods in macromolecular crystallization III“, October 3-10, 2008, Nove Hradý

Pre-crystallization stage: handling of protein solutions, International School on Protein Crystallization (ISPC) at ICCBM12, May 3-9, 2008, Cancun

Membrane protein crystallization, School of Crystallization at the Laboratory for Structural Biology of Infection and Inflammation, July 2007, Hamburg

Nucleation and growth of protein crystals, School of Crystallization at the Laboratory for Structural Biology of Infection and Inflammation, July 2007, Hamburg

Pre-crystallization stage: bio-informatics & protein preparation, School of Crystallization at the Laboratory for Structural Biology of Infection and Inflammation, July 2007, Hamburg

Glycosylated proteins: challenges in crystallization, Practical Protein Crystallization 9 (PPC9), November 13-17, 2006, Uppsala

Conventional techniques and their modifications, Practical Protein Crystallization 9 (PPC9), November 13-17, 2006, Uppsala

Pre-crystallization stage: bioinformatics and protein preparation, Practical Protein Crystallization 9 (PPC9), November 13-17, 2006, Uppsala

Conventional crystallization methods and their modifications (using oils), FEBS PLC „Advanced methods in macromolecular crystallization II“, October 6-13, 2006, Nove Hradý

Structural evolution of Ritonavir Resistance in HIV-1 Proteinase, Fourth ICAV International and First Pacific Rim ICAV Meeting, September 23-25, 2006, Brisbane

Glutamate carboxypeptidase II, a drug target in neuronal damage and prostate cancer, Centre de Recherche du CHUL (Université LAVAL), August 19, 2006, Quebec

Protein glycosylation, a problem in crystal growth?, International School on Protein Crystallization (ISPC) at ICCBM11, August 14-16, Quebec

Pre-crystallization stage: bio-informatics & protein preparation International School on Protein Crystallization (ISPC) at ICCBM11, August 14-16, 2006, Quebec

Interest of macromolecular crystallization in pharmaceutical industry, International School on Protein Crystallization (ISPC), May 22-26, 2006, Granada

Post-translational modifications and additives in protein crystal growth, International School on Protein Crystallization (ISPC), May 22-26, 2006, Granada

Structural Evolution of Ritonavir-resistance in HIV-1 Proteinase, International Workshop on Discovery of Antiviral Compounds, April 26-29, 2006, Lübeck

The good, bad and ugly: About proteins, buffers and crystals, Vizier Workshop, February 2006, Leuven

Domain design and Prediction, Vizier Workshop, February 2006, Leuven

Following the emergence of HIV drug resistance mutations by X-ray crystallography, HASYLAB Users Meeting, January 27, 2006, Hamburg

Model building, Vizier Training Workshop on Structural Biology, December 15-16, 2005, Hamburg

EF-Tu, a GTPase switch molecule in protein biosynthesis as an antibiotic target, Bayer HealthCare, October 2005, Wuppertal

Additives in crystal nucleation and growth, Crystallization Course (CC2005), October 2005, Nove Hradý

Diffraction theory, Crystallization Course (CC2005), October 2005, Nove Hradý

The principles of crystallography, Crystallization Course (CC2005), October 2005, Nove Hradý

Conventional crystallization methods and their modifications (using oils), Crystallization Course (CC2005), October 2005, Nove Hradý

Macromolecular Crystallography, 1st EuCheMS School on Protein chemistry (FECS), January 9 -14, 2005, Bressanone/Brixen

Ritonavir-resistance evolution, a structural exploration, joint HIV-PR inhibitors and Virulence Meeting, EU 5th Framework Projects, October 2004, Budapest

Carboxy- and aminopeptidases with dinuclear zinc centers: Structures, catalytic mechanism and inhibition, SFB 436 Microsymposium, October 2004, Jena

Conventional crystallization methods and their modifications (using oils), FEBS PLC „Advanced methods in macromolecular crystallization“, October 2004, Nove Hradý

Bio-Crystallography in Lübeck, 1st Baltic Sea Biocrystallography Meeting (BSBC1), September 2004, Travemünde

Ritonavir-resistance evolution, a structural exploration, HIV-PR inhibitors Meeting, EU 5th Framework Project, May 2004, Heidelberg

Glycosylation can be important for crystallization, DGK DGKK Meeting March 2004, Jena

Phasing, Crystallization Course (CC2003), October 2003, Nove Hradý

Diffraction theory, Crystallization Course (CC2003), October 2003, Nove Hradý

The principles of crystallography, Crystallization Course (CC2003), October 2003, Nove Hradý

Structure of Membrane Glutamate Carboxypeptidase II, a Multifunctional Protein in Prostate and Brain, SFB604 and GK768 Microsymposium, September 2003, Jena

Bio-Crystallography in Lübeck, 6th Heart of Europe Meeting on Bio-Crystallography, September 2003, Wittenberg

HIV PR Inhibitor with Broad Specificity Displays Unusual Binding Mode, Department of Biochemistry and Molecular Biology, University of Hamburg, January 2003, Hamburg

The role of zinc in protein structure and function, Berliner Herbsttagung, Hahn-Meitner-Institut, November 2002, Berlin

Crystallization and Harvesting Tips, XIX IUCr Congress - Pre-Conference-Workshop, August 2002, Geneva

EF-Tu-aurodox structure explains enhanced GTPase activity, GTPasen als zentrale Regulatoren zellulären Funktionen (DFG Schwerpunktprogramm), September 2001, Berlin

Public relations / Presentations:

Protein Cave - Life Sciences;

3. Lübecker Nacht der Labore - Hanse trifft Humboldt, CBBM, 18. Juni 2016, Lübeck
- 50 Jahre Uni Lübeck, Institut für Geschichte der Medizin, Königstr., 05. Nov. 2014, 20:30 - 22 Uhr, Lübeck
1. Lübecker Nacht der Labore, Auditorium Maximum, 2. Juni 2012, Lübeck
4. Nacht des Wissens, DESY, 29. Oktober 2011, Hamburg
8. Lübecker Hochschultag, Musik und Kongresshalle (MUK) - Raum: Künstlergarde, 26. November 2009, Lübeck
3. Nacht des Wissens, DESY, 7. November 2009, Hamburg
7. Lübecker Hochschultag, Musik und Kongresshalle (MUK) - Raum: Künstlergarderobe, 15. November 2007, Lübeck
2. Nacht des Wissens, DESY, 9. Juni 2007, Hamburg
- Tag der deutschen Einheit, Exzellenzkluster Ausstellung, Oktober 2006, Kiel

Post-Doctoral Education:

Biophysik ionisierender Strahlung und Strahlenschutzgrundkurs, Isotopenlabor, Uni Lübeck, 27 Feb – 15 März, 2013

X-ray radiation refresher course at Norddeutsches Seminar für Strahlenschutz Kiel, February 11, 2013

DSC training course at Microcal, Milton Keynes, May 13–15, 2008

X-ray radiation refresher course at Norddeutsches Seminar für Strahlenschutz Kiel, February 25, 2008

ITC training course at Microcal, Milton Keynes, November 6–8, 2007

Didactics course at Lübeck University, October 31, 2007

Biological safety course at Lübeck University, October 13–14, 2003

X-ray radiation safety course at the LPS in Berlin, November 12–15, 2001

Training course rotating anode FR591 at Nonius BV, Delft, January 6–8, 1998

Teaching:

Infection Biology

Virology (Master students)

Macromolecular Crystallography (Master students)

Molecular Life Science

Introduction Structure Analysis (Bachelor students)

Biochemistry (Bachelor students)

Biochemistry Practical Course (Bachelor students)

Macromolecular Crystallography (Master students)

Structural Aspects of Protein Biosynthesis (Master students)

Virology (Master students)

Medicine

Biochemistry Seminars

Biochemistry Practical Course

Crystallogenesi (* Course organization and management)

ICCBM16, July 2017, Prague

ICCBM14, September 2012, Hunstville*

Protein Crystallography Workshop Practicals, January 2011, University of Copenhagen

PEPC7, October 2010, EMBL, Hamburg

ICCBM13, September 2010, Dublin*

ICCBM12, May 2008, Qancun*

School for Crystallization at the Laboratory for Structural Biology of Infection and Inflammation, July 2007, Hamburg*

Practical Protein Crystallization PPC9, November 2006, Uppsala

ICCBM11, August 2006, Quebec*

ISPC/ISBC, May 2006, May 2009, May 2011, May 2013, May 2015, May 2017, Granada

2st FEBS-INSTRUCT practical crystallization course (2016) in the middle EU "Advanced methods in macromolecular crystallization VII"

1st FEBS-INSTRUCT practical crystallization course (2014) in the middle EU "Advanced methods in macromolecular crystallization VI"

FEBS Advanced Course, October 2004, October 2006, October 2008, June 2010, and June 2012, Nove Hradý (CZ)

DGK-DGKK Crystallization Course, March 2004, Jena*

ICCBM9, March 2002, Jena*

CC2001, CC2003, CC2005, October of each year, Nove Hradý

Conference chair:

ICCBM15, September 13-20, 2014, Hamburg

Last Century Publications:

Krasny L, Mesters JR, Tieleman LN, Kraal B, Fueik V, Hilgenfeld R & Jonak J (1998) Structure and expression of elongation factor Tu from *Bacillus stearothermophilus*. *J. Mol. Biol.* 283, 371-381.

Christian A, Bilgin N, Lindschau C, Mesters JR, Kraal B, Hilgenfeld R, Erdmann VA & Lippmann C (1995) Phosphorylation of elongation factor Tu prevents ternary complex formation. *J. Biol. Chem.* 270, 14541-14547.

Zeeff LAH, Mesters JR, Kraal B & Bosch L (1995) A growth-defective kirromycin-resistant EF-Tu *E. coli* mutant and a spontaneously evolved suppression of the defect. *Gene* 165, 39-43.

Kraal B, Zeeff LAH, Mesters JR, Boon C, Vorstenbosch ELH, Bosch L, Anborgh PH, Parmeggiani A & Hilgenfeld R (1995) Antibiotic resistance mechanisms of mutant EF-Tu species in *E. coli*. *Biochem. Cell Biol.* 73, 1167-1177.

Mesters JR, Vorstenbosch ELH, de Boer AJ & Kraal B (1994) Complete purification of tRNA, charged or modified with hydrophobic groups, by using an in-line combination of both a wide-pore C4 and C18 column. *J. Chromatogr. A.* 679, 93-98.

Mesters JR, Zeeff LAH, Hilgenfeld R, de Graaf JM, Kraal B & Bosch L (1994) The structural and functional basis for the kirromycin resistance of mutant EF-Tu species in *Escherichia coli*. *EMBO J.* 13, 4877-4885.

Mesters JR, Potapov AP, de Graaf JM & Kraal B (1994) Synergism between the GTPase activities of EF-Tu:GTP and EF-G:GTP on empty ribosomes. Elongation factors as stimulators of the ribosomal oscillation between two conformations. *J. Mol. Biol.* 242, 644-654.

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- Mutations in the fireman's grip of HIV-1 protease. 2nd Heart of Europe Meeting on Bio-Crystallography, Lübben Spreewald, September 30 to October 2, 1999.
- Refined structure of a model compound for the aminoacylated 3'-end of tRNA, bound to EF-Tu. European Meeting on Elongation Factors, Kemer, Turkey, September 25-28, 1999.
- Crystal structure of a ternary complex of elongation factor Tu, a GTP analogue, and a minimal model for aminoacyl-tRNA. The Ribosome Conference, Helsingor, June 13-17, 1999 (Poster).
- Peptidomimetic inhibitors of HIV-1 proteinase. Academy of Science, Praha, Czech Republic, April 18-22, 1999.
- Stereochemical details of the interaction between HIV-1 proteinase and peptidomimetic inhibitors. 3. Jenaer Proteolysetag, Jena, December 11, 1998.
- Four diastereomeric peptidomimetic inhibitors of HIV-1 PR, 1st Heart of Europe Meeting on Bio-Crystallography, Walkmühle Mühlthal, October 8-10, 1998.
- A crystallographic and molecular modelling study of the potencies of four diastereoisomers of peptidomimetic HIV-1 proteinase inhibitors. 18th European Crystallographic Meeting, Prague, August 15-20, 1998.
- Resistance to antibiotic MDL 62,879 and amythiamicin: evidence for a novel binding mode to elongation factor Tu. 25th Silver Jubilee FEBS Meeting Copenhagen, Denmark, July 5-10, 1998 (FEBS 98 Abstracts, p. 141, Invited).
- Towards crystallization of NO synthases. 3rd BMBF group-Meeting, Institute of Pharmacology and Toxicology, Julius-Maximilians University, Würzburg, May 20, 1998.
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