CURRICULUM VITAE

Forenames, SURNAME:	Andreas Kurt Hans HOLZENBURG
Place of birth:	Hannover, Germany
Nationalities:	American, German
Languages spoken:	English, German, Spanish
Private address:	404 E Brookside Drive, Bryan, TX 77801, U.S.A.

Education

(1) June, 1978	completed Abitur at the Gymnasium Ohmoor, Hamburg, F.R.G. (GPA 1.6 with 1.0=high, 6.0=low)
(2) July, 1978	Employee of the Civil Court, Hamburg (general office duties)
(3) October, 1978	Student of Biology, University of Göttingen, F.R G.
(4) March 1980-Dec. 1983	Student worker at the Max-Planck Institute for Experimental Medicine (with Prof. Dr. G. v. Ehrenstein, Drs. R.C. Cassada, K. Dennich, and T. Cole)
(5) May, 1983 to July, 1984	Diploma (MSc-equivalent) in Biology (Microbiology, Botany, Organic Chemistry), University of Göttingen. Thesis: Experiments on the 2D Crystallization and Electron Microscopical Analysis of the Purified Enzyme D-Ribulose-1,5-Bisphosphate Carboxylase. Advisor: Prof. Dr. F. Mayer
(6) August, 1984 to April, 1987	Doctor of Natural Sciences (*summa cum laude*), University of Göttingen Thesis: Structure and Function-dependent Configurational Changes of D-Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase from *Alcaligenes eutrophus* H16. Advisor: Prof. Dr. F. Mayer Co-Advisor: Prof. Dr. H.G. Schlegel
(7) July, 1987 to April, 1989	Postdoctoral Fellow at the Biocenter of the University of Basel, Switzerland (Maurice E. Müller - Institute, Profs. Drs.U. Aebi & A. Engel)

Professional Experience

(1) February, 2010 current	Faculty member, Interdisciplinary Faculty of Toxicology (Texas A&M University)
(2) December, 2005 current	Faculty member, Health Science Center Graduate School of Biomedical Sciences (Texas A&M University System Health Science Center)
(3) September, 2005 to September, 2010	Director of the Materials Characterization Facility (Texas A&M University)
(4) August, 2002 current	Faculty member, Materials Sciences and Engineering Program (Texas A&M University)
(5) April, 2001 current	Professor of Biochemsitry and Biophysics, joint appointment (Texas A&M University)
(6) October, 2000 current Station, U.S.A.)	Director of the Microscopy and Imaging Center & Professor of Biology (Texas A&M University, College
(7) August, 2000 September, 2000	Senior Lecturer (University of Leeds, UK)
(8) July, 2000 (9) July, 1999	Visiting Professor, Institute of Virology, University of Marburg, F.R.G.
(10) January, 1991 to August, 2000	Lecturer in Structural Molecular Biology (School of Biochemistry & Mol. Biology and School of Biology, University of Leeds, UK), tenure as from March 1994
(11) January, 1990 to December, 1990	Feodor-Lynen Research Associate at the University of Georgia, Athens, U.S.A. (Dept. of Biochemistry; Prof. Dr. L.G. Ljungdahl)
(12) June, 1989 December, 1989	Guest Scientist (Institute for Microbiology, University of Göttingen, F.R.G., Prof. Dr. G. Gottschalk)

Awards and Honors

Feodor-Lynen Research Fellowship of the Alexander von Humboldt Foundation (1990)

Biology Prize 1994 of the German Akademie der Wissenschaften (Academy of Sciences) in Göttingen

Glaxo Prize for the best data presentation (presented at the BBSRC Biological Membranes Workshop 1995, UK)

British Crystallographic Association Trophy Award 1997 in recognition of our electron crystallographic work on blood coagulation factor IX

Poster Prize at the 23rd International Herpesvirus Workshop 1998 (presenting author: Dr. A. Pilling)

Fellowship of the European Science Foundation Program "Biophysics of Photosynthesis" (1999)

President of the Texas Chapter of the Alexander von Humboldt Association of America, 2006-2008

Selected for the Royal Microscopy Society profile (infocus - Proceedings of the RMS 21, 88-89, 2012)

VIP Recognition by Worldwide Who's Who to be included into the Registry of Executives, Professionals and Entrepreneurs 2013/2014

Synergistic Activities and Memberships

Founding and Deputy Editor-in-Chief, Advanced Structural and Chemical Imaging (Springer), current

Materials Research Society, current

Microanalysis Society (MAS), current

Scandinavian Electron Microscopy Society (SCANDEM) and European Microscopy Society (EMS), current

Editorial Board, Journal of Biological Chemistry, July 2009-September 2014

Microscopy Society of America (MSA) and MSA Education Committee, current
Fellow of the Royal Microscopical Society (RMS), current

German Association of University Professors and Lecturers (DHV), current

Humboldtians on Campus, current

German Society for Electron Microscopy (DGE), current

Editorial Board of "Micron", the International Research and Review Journal for Microscopy (Elsevier), current

International Advisory Editorial Board "Subcellular Biochemistry" (Springer), current

Association for General and Applied Microbiology, current

Organization Committee, 2008 Bi-Annual Meeting and Symposium (Kolleg) of the Alexander von Humboldt Association of America: The Universe and the World Around Us, 2007-2008
NSF, MRI panel (2007) and NIH BBCB, virology study, special emphasis, and fellowship panels (2001-2006)

National Academy of Engineering and Alexander von Humboldt Foundation: GAFOE symposium organizing committee (2001-2002)

Life Sciences Task Force (Texas A&M) (2000-2004)

Expert Evaluator Panel for the "Quality of Life and Management of Living Resources" program of the European Commission in Brussels, 2000

Management Committee of the Antimicrobial Research Centre (University of Leeds) (1996-2000)

Executive Committee of the UK Alexander von Humboldt Association (1997-2000)

Holder of a clean German, British, Swiss and U.S. (Georgia & Texas) driving licenses, U.S. privat pilot license, and British Food Hygiene Certificate.

Previous Experience in Research, Teaching and Administration

My research background is in Microbiology, Biochemistry and Structural Biology. Throughout my postgraduate and postdoctoral research I have used 2D/3D crystallization, electron microscopy [EM] and digital/analog image analysis/processing in connection with biochemical as well as immunological techniques to study structure-function relationships of soluble and membrane proteins of bacterial, plant, animal, viral and human origin. During my first stay in the USA I was concerned with the biochemistry and EM of *Clostridium* species and affiliated thermostable cellulases. In order to broaden my background knowledge of biophysical techniques, courses in NMR spectroscopy were attended.

I have been actively involved in attracting research funds/equipment amounting to more than US$ 12 millions in support of research and education. Under my leadership, the Microscopy and Imaging Center (MIC) as well as the Materials Characterization Facility (MCF) sustained a large range of projects. Impact studies revealed that grant income for which MIC support was critical totalled more than US$ 50 millions and resulted in more than 540 publications and classified communications (patents etc.) and an annual basis.
In cooperation with research and technical staff as well as graduate students, hundreds of individuals ranging from undergraduate students to senior academics (intra- and extramural, national and international) have been trained and advised in the relevant imaging techniques and introduced analog and digital image analysis/processing/display systems. Over the years, I have gained extensive experience in the area of directing (including personnel management and evaluation, financial & administrative management) and designing core research facilities.

From my first postdoctoral appointment in Switzerland (1987) onwards, I have mainly worked on macromolecular assemblies (see also list of publications) but was also able to maintain a steady interest in more cellular/subcellular EM work. The latter resulted in the production of the Royal Microscopical Society Handbook “Electron Microscopy in Microbiology” (βios Publishers Ltd., Oxford). During more recent years, I have also produced books for Kluwer Academic/Plenum and Springer endowing me with substantial editorial expertise.

Tutorials taught:

Lecture-accompanying tutorials in

- General Microbiology
- Biochemistry
- Biophysics

Practicals taught:

- Electron microscopy lab courses (intra- and extramural, national and international)
- advanced lab courses in Microbiology
- Biochemistry lab classes

Lectures given:

- Electron and light microscopy fundamental/advanced principles and preparation techniques (intra- and extramural, national and international)
- Genome structure, i.e.DNA structures & sequences, organisation into chromosomes
- Biophysics
- Control of gene expression
- Molecular Immunology
- Prokaryotic metabolism

Major duties performed:

- Provision of leadership for analytical core facilities (Microscopy and Imaging Center, Materials Characterization Facility)
- Core facility-based administration (including compliance/certification) and accounting
- Recruiting, selection, evaluation of personnel
- Departmental Enterprise Coordinator (development of novel teaching strategies designed to better equip students for their future employments; introduction of industrial placements)
- Course manager (Genome Structure, Biotechnology, Molecular Immunology)
- Biotechnology tutor for undergraduate students
- Supervision of final year Biochemistry, Biophysics and Genetics students
- Examination of Biochemistry, Biophysics, Biotechnology, Genetics, Medicine, and Microbiology students

- PhD examiner (internal and external, national and international)
- I have been asked to act as a **reviewer** for the following journals

Acta Crystallographica, Biochemical Education, Biochimica et Biophysica Acta, Cell Biochemistry and Biophysics, EMBO Journal, European Journal of Biochemistry, Journal of Biological Chemistry, Journal of Crystal Growth, Journal of Microscopy, Journal of Molecular Biology, Journal of Pediatric Biochemistry, Microbiology Today , Micron, Nature Structural Biology, Plant Journal, PLoS One, Protein Science, Zeitschrift für Kristallographie

and programs/organisations
MRC (UK), British Heart Foundation (UK), Cancer Research (UK), The Wellcome Trust (UK), BBSRC/AFRC/SERC (UK), Israel Science Foundation (Israel), Int. Science & Engineering Fair (USA), NSF (USA), Netherlands Organization for Scientific Research (NL), European Commission in Brussels (B), NIH and NSF (USA).

Research Portfolio

I have employed electron microscopy (EM)/crystallography as a tool for the structural elucidation of (sub)cellular components and biological macromolecules, particularly transmembrane and membrane-associated proteins. The structure determination involves image processing routines and is carried out in conjunction with thorough biochemical characterisations with the view to establish structure-function relationships. Furthermore, the EM approach is often used jointly with other biophysical approaches including X-ray crystallography and spectroscopical methods. As EM is an extremely versatile tool, a number of collaborations on structure-oriented projects have emerged over the years, examples of which are listed below:

- Structure of lipid-bound blood coagulation factors (with TW Barrowcliffe, NIBSC; G Kemball-Cook, Hammersmith Hospital, London)*
- Parasitic nematode feeding tube assembly (with HJ Atkinson, Leeds)*
- 3D architecture of the Herpes virus envelope (with DM Meredith, Leeds, G Cohen & R Eisenberg, Philadelphia)*
- Structure and function of the internal ribosomal entry site of the hepatitis C virus genome (with DJ Rowlands, Leeds)*
- Vascular plant photosystem I and II *in situ* architecture (with RC Ford, Manchester)*
- Symmetry of bacteriophage connectors (with B Lindqvist, Oslo, Norway)
- GABA and glycine receptor modeling (with HH Xue, Hong Kong)*
- Rh_D protein characterization (with J-P Cartron/O Bertrand, INSERM-U76, Paris, France)*
- Imaging of the p130 protein from HCMV (with E Bogner, Marburg, FR Germany)
- Reconsitution and structural characterization of cerebral Ca^{++}-ATPase (with A M Mata, Badajoz, Spain) *

*denotes projects for which funding was obtained with myself as PI or Co-PI

Current Research Interests

One of my laboratory's current research foci is on **deciphering chloroplast division** and, more specifically, the structure and assembly of the cytoskeletal tubulin-like FtsZ protein in plant chloroplats. FtsZ plays a pivotal role in the division of prokaryotic cells as well as plastids. One of the functional characteristics of FtsZ is its auto-assembly into a ring-like macromolecular complex called the Z-ring. During cell division, the Z-ring undergoes continuous and rapid remodeling via subunit exchange and constricts at the leading edge of the septum with the simultaneous loss of subunits. Consistent with the endosymbiotic origin of chloroplasts, plants possess nuclear-encoded, plastid-targeted homologues of bacterial FtsZ. However, whereas most prokaryotes, including the cyanobacterial relatives of chloroplasts, have a single form of FtsZ, two structurally and functionally distinct FtsZ protein families, FtsZ1 and FtsZ2, emerged in plants. Overall, the molecular mechanism of FtsZ filament assembly and its regulation, the structures of assembled protofilaments, and the structure of the *in vivo* FtsZ ring in chloroplasts remain poorly understood. Our overall goal is to expand the current model for FtsZ assembly and investigate and define the molecular structure and assembly dynamics of FtsZ rings in chloroplasts of *Arabidopsis thaliana* with the view to understand chloroplast size control. Modulation of the size of storage plastids (amyloplasts) and the starch granule size by changing the levels of FtsZ expression is of considerable interest to the chemical feedstock and food industry since increased starch granule size improves the wet-milling efficiency and thus the starch yield in staple crops.

A second project is in the area of **optimizing the quantum efficiency of photovoltaics using a biomimetic-computational approach**. The most effective circumnavigation of the challenges arising from responding to the economics and politics of climate change is achieved by utilizing non-fossil sustained energy sources. Sunlight is a huge source of energy, amounting to 120,000 TW/year. Tapping into this energy resource means being able to effectively use it. Currently, the most advanced low-cost organic solar cells have a quantum efficiency of approximately 10%. This is in stark contrast to plant/ bacterial light-harvesting systems which offer a quantum efficiency of approx. 95%. To this end, the biomimetic project is concerned with how one could make use of the underlying principal components of photosynthesis, i.e.

(i) harvesting of photons,

(ii) efficient photon transfer using funneling, spectral overlap and quantum coherence,

(iii) charge separation from P* into electron-hole pairs, and
(iv) avoidance of recombination by reacting charges into membrane potential, oxygen and reducing equivalents -

to develop highly efficient photovoltaic devices from man-made materials. Of particular interest in this regard is the highly effective quantum coherence-enabled energy transfer. Noting that quantum coherence is promoted by charged residues and local dielectrics, classical atomistic simulations and time-dependent density functional theory (DFT) are used to identify charge/dielectric patterns and electronic coupling at energy transfer interfaces. These interfaces have to be accurately defined both in terms of their chemistry and their locale. The latter is particularly critical as locations, distances, distances, orientations matter across the scales and vary in response to the environment. The calculations make use of structural information obtained on photosynthetic protein-pigment complexes while still in the native membrane. This way it may be possible to establish a link between supramolecular organization and quantum coherence in terms of what length scales enable fast energy transport and prevent quenching. Calculating energy transfer efficiencies between components based on different proximities will permit the search for patterns that enable defining material properties suitable for advanced photovoltaics. This project is in collaboration with Dr. Lisa Perez (Laboratory for Molecular Simulation, Dept. Chemistry).

Further:

Paving the way for cold microwave technology (CMT)-enhanced diagnostics

Aim: To further optimize CMT- enhanced antibody-antigen recognition and binding

Commercial ELISAs are very time consuming: using CMT could revolutionize clinical routines in human and veterinary diagnostic laboratories. Recent CMTe ELISA test results suggest that this may become a high impact technology for more readily sustained screening.

Enabling phage-based therapies

Aim: To develop a thorough understanding of phage-induced bacterial lysis

When bacteria are attacked by bacteriophages, the biggest challenge for the phage is about egress in order to set its progeny free. So far, using microscopy in conjunction with biochemical and molecular biology approaches, it became clear that the inner membrane is lysed by holins, the peptidoglycan by endolysins, and the outer membrane

likely by spanins. The latter step still remains to be further elucidated. Understanding the entire process at the molecular level will aid the development of new antibiotics in the age of ever-increasing resistances. This project is a long-term collaboration with Dr. Ryland Young (Dept. Biochemistry and Biophysics).

Professional Activities

13-18 Aug.	1984	Participant , 8th European Congress on Electron Microscopy, Budapest, Hungary
15-21 Sept.	1985	Participant, 22. Symposium of the German Society for Electron Microscopy in conjunction with the Swiss and Austrian Societies for Electron Microscopy, Konstanz, F.R.G.
12-14 May	1986	Participant, 12. EMBO Annual Symposium "Macromolecular Structure in Cellular Organization", EMBL, Heidelberg, F.R.G.
8-10 Oct.	1986	Participant and poster presentation, Joint meeting of the Belgian, Dutch and German Biophysical Societies, Bremen, F.R.G.
30 March - 1 April	1987	Participant and poster presentation, 26. Diskussionstagung der Arbeitsgemeinschaft Kristallographie, Berlin, F.R.G.
23-28 Aug.	1987	Participant and poster presentation, 9th International Biophysics Congress, Jerusalem, Israel
4-9 Sept.	1988	Participant and poster presentations, 9th European Congress on Electron Microscopy, York, England
13 Febr.	1989	Invited speaker, seminar, University of Toronto and Ontario Cancer Institute, Toronto, Canada
23 Febr.	1989	Invited speaker, seminar, EMBL, Heidelberg, F.R.G.
Jan.-Nov.	1990	Invited seminars during my Feodor-Lynen Fellowship (Alexander von Humboldt Foundation) at the Dept. Biochemistry of the University of Georgia, Athens, U.S.A.
18-20 Febr.	1991	Invited participant, Introductory Conference of the Alexander v. Humboldt Foundation, Bonn, F.R.G.
13 Nov.	1991	Poster presentation and participation in the discussion between the panel and Principal Investigators during the SERC Molecular Recognition Committee visit to Leeds
30 March - 1 April	1992	Invited participant, Colloquium of the Humboldt Foundation, Trinity College, Cambridge, England

7-10 April	1992	Invited speaker, Annual Spring Meeting of the Biochemical Society "Crystallographic and non-crystallographic approaches to membrane protein structure", Southampton, England
12 Sept. - 6 Oct.	1992	Collaborative research visit (Dr KH Downing, LBL, UC Berkeley, U.S.A.) sponsored by NATO
10-12 Oct.	1992	Invited speaker, workshop on "Structure-function relationships of membrane proteins: An assessment of current knowledge", Jarandilla de la Vera (Cáceres), Spain
7 May	1993	Invited speaker, Joint Seminar Series, Imperial College, London, England
10 Aug.	1993	Invited speaker, seminar, Wyeth-Ayerst Research Inc., Princeton, NJ, U.S.A.
8 Sept.	1993	Invited speaker, seminar, Wyeth Research (U.K.) Ltd., Taplow, Maidenhead, England
4 Oct.	1993	Invited speaker, seminar, University of Groningen, The Netherlands
6-10 Dec.	1993	Active participant, SCANDEM Electron Crystallography School, Structural Chemistry, University of Stockholm, Sweden
8 Feb.	1994	Invited speaker, seminar, University of Manchester Institute of Science and Technology, England
20-24 June	1994	Invited lecturer, SCANDEM Electron Crystallography School, Structural Chemistry, University of Stockholm, Sweden
18-27 Sept.	1994	Presenting participant, EMBO course "Cryo-electron microscopy and 3-D image reconstruction", EMBL, Heidelberg, F.R.G.
28 Sept.	1994	Invited speaker, seminar, Max-Delbrück Laboratorium der Max-Planck-Gesellschaft, MPI für Züchtungsforschung, Köln, F.R.G.
27 Oct.	1994	Invited participant, "Light Harvesting For Cleaner Processes" collaborative workshop (BBSRC/EPSRC Clean Technology Programme), Sheffield University, England
11 Nov.	1994	Biology Prize award, Public meeting of the German Akademie der Wissenschaften (Academy of Sciences) in Göttingen , F.R.G.

Jan./Feb.	1995	BBSRC rolling grant review panel member, Leeds and London, England
20-25 Aug.	1995	Presenting participant, 10th International Photosynthesis Congress, Montpellier, France
27-28 Sept.	1995	Presenting participant, BBSRC Biological MembranesWorkshop, Knebworth House, Stevenage, England
29 Sept.	1995	Participant, British Biophysical Society Discussion Meeting on Biophysical Studies of Membrane Protein Structure, Glaxo Wellcome Research Centre, Stevenage, England
17 Oct.	1995	Invited speaker, seminar, Institute for Microbiology, University of Göttingen , F.R.G.
20 Feb.	1996	Oral presentation to Prof. T. Blundell during his visit to the University of Leeds Research School of Biological Sciences
16 May	1996	Invited speaker, seminar, University of Warwick, England
5 July	1996	Invited speaker, Symposium of the Programme in Structural Molecular Biology and the Molecular Recognition Centre of the School of Biological Sciences, University of Leeds, England
26-30 Aug.	1996	Invited speaker, XI. European Congress on Electron Microscopy, Dublin, Ireland
30-31 Oct.	1996	Co-organiser and speaker, Antimicrobial Research Centre of the University of Leeds, Inaugural Symposium, Weetwood Hall, Leeds
22 Jan.	1997	Invited speaker, Medical Faculty of the University of Ulm, F.R.G.
16 May	1997	Invited participant, Inaugural Meeting of the UK Humboldtian Association, London, England
22 May-2 June	1997	Invited joint lecturer, NATO A.S.I. 25th International School of Crystallography and 26th Erice School on Electron Crystallography, *Ettore Majorana* Centre for Scientific Culture, Erice, Sicily, Italy
6-12 June	1997	Oral communication (refereed abstract score: top 5%), XVIth Congress of the International Society on Thrombosis and Haemostasis, Florence, Italy (sponsored by a BJH Research Trust Travelling Fellowship)
7-12 Sept.	1997	Lecture, Joint Conference of the German, Austrian, and Swiss Societies for Electron Microscopy (Dreiländertagung), Regensburg, F.R.G.

22 Oct.	1997	Invited speaker, seminar, MRC Clinical Sciences Centre, Imperial College School of Medicine, Hammersmith Hospital, London
13 Nov.	1997	Invited speaker, seminar, UMDS Guy's Hospital, London
1 Dec.	1997	Invited speaker, seminar, TNO Nutrition and Food Research Institute, Zeist, The Netherlands
12 Dec.	1997	Invited speaker, seminar, Dept. Chemistry, University of Glasgow, Scotland
23 Feb.	1998	Invited speaker, seminar, Institut National de la Santé et de la Recherche Médical Unité U76, Institut National de Transfusion Sanguine, Paris, France
4-14 July	1998	Collaborative research visit (Dr. Ana M. Mata Duran, University of Extremadura, Badajoz, Spain) sponsored by The British Council
18-19 July	1998	Participant, Annual Meeting of the UK Alexander von Humboldt Association, University of Warwick, England
1-7 Aug.	1998	Presenting participant, 23rd International Herpesvirus Workshop, York, England
12-18 Sept.	1998	Collaborative research visit (Prof. Hannah Hong Xue, Hongkong University of Science and Technology) sponsored by The British Council and the Hongkong Research Grants Council
2 Dec.	1998	Invited speaker, seminar, Mikrobiologisches Kolloquium und Kolloquium des SFB 286, Klinikum der Phillips-Universität Marburg, F.R.G.
8-18 Dec.	1998	Invited speaker, seminar, and collaborative research visit (Prof. Hannah Hong Xue, Hongkong University of Science and Technology) sponsored by The British Council and the Hongkong Research Grants Council
7 - 17 May	1999	Invited speaker and collaborative research visit (Dr. G. Garab, Biological Research Center of the Hungarian Academy of Sciences in Szeged) sponsored by the European Science Foundation
20-25 June	1999	Attendee, Gordon Research Conference on Three-Dimensional Electron Microscopy, New England College, N.H., U.S.A.

2 July - 3 August	1999	Visiting Professor, University of Marburg, Institute of Virology, FR Germany
9 - 15 Aug.	1999	Collaborative research visit (Dr. O. Bertrand, INSERM-U76, INTS, Paris) sponsored by The British Council
20 Oct.	1999	Invited speaker, Dept. of Biology, Texas A&M University, College Station, U.S.A.
16 Dec.	1999	Invited speaker, seminar, Karolinska Institute, Stockholm, Sweden
11 Jan.	2000	Invited speaker, seminar, Texas A&M University, College Station, U.S.A.
13 -15 Apr.	2000	Invited participant, 3rd NAE German-American Frontiers of Engineering Symposium, Bremen, FR Germany
15-22 June	2000	Collaborative research visit (Dr. O. Bertrand, INSERM-U76, INTS, Paris) sponsored by The British Council
15 July - 15 August	2000	Visiting Professor, University of Marburg, Institute of Virology, FR Germany
24 Jan.	2001	Invited speaker, Dept. Biochemistry and Biophysics, Texas A&M University, College Station, U.S.A.
15-16 Feb.	2001	NIH, BBCB study section panel member
25 March	2001	Invited speaker, symposium, Polymer Consortium, Dept. Mechanical Engineering, Texas A&M University, College Station, U.S.A.
28 March	2001	Invited speaker, Dept. Plant Pathology and Microbiology, Texas A&M University, College Station, U.S.A.
7-12 March	2001	Invited speaker and appraiser of electron microscopy facilities, Institute for Clinical and Molecular Virology, University of Erlangen, FR Germany
30 May	2001	Presentation to the CIMS (Center for Integrated Molecular Systems), Texas A&M University, College Station, U.S.A.
10 July	2001	NIH, BBCB special emphasis panel member
5-9 Aug.	2001	Presenting participant, MSA-MAS: Microscopy & Microanalysis conference, Long Beach, CA, USA

22 Aug.	2001	Presentation to the (LSTF) Life Science Task Force, Texas A&M University, College Station, U.S.A.
10-13 Oct.	2001	Participant and organizer, NAE/Alexander von Humboldt-Foundation, 4th German-American Frontiers of Engineering Symposium, Essen, FR Germany
25 Oct.	2001	Invited speaker, Dept. Chemistry, Texas A&M University, College Station, U.S.A.
3 Nov.	2001	Invited speaker, 12th Southwestern Macomolecular Symposium, Texas A&M University, College Station, U.S.A.
12 Dec.	2001	Presentation to the CPI (Council of Principal Investigators), Texas A&M University, College Station, U.S.A.
26 March	2002	Judge, Student Research Week, Texas A&M University, College Station, U.S.A.
8-10 Apr.	2002	ORAU-sponsored delegate, Joint Institute for Neutron Sciences Workshop: Using Neutrons to Probe Structure and Dynamics in Biological Systems, Oak Ridge, TN, U.S.A.
20 Apr.	2002	Secretary/treasurer, Alexander von Humboldt Association of America, Meeting of the Texas Chapter, Round Top, TX, U.S.A.
16-18 May	2002	Organizer and session co-chair, NAE/Alexander von Humboldt-Foundation, 5th German-American Frontiers of Engineering Symposium, National Academies Building, Washington D.C., U.S.A.
31 May-1 June	2002	Presenting participant, secretary/treasurer (Texas Chapter), 4th National Meeting of the Alexander von Humboldt Association of America, UC Berkeley and Claremont Resort & Spa, Berkeley, CA, U.S.A.
29 June-19 July	2002	Host for international research visitor Dr. Elke Bogner (Institute for Clinical and Molecular Virology, Erlangen, FR Germany)
26 July	2002	NIH, BBCB special emphasis panel member
4-8 Aug.	2002	Presentations at the MSA-MAS: Microscopy & Microanalysis Conference, Quebec City, PQ, Canada

23-25 Sept.	2002	Evaluation of high-end TEM instrumentation and business meetings, LEO Elektronenmikroskopie GmbH, Oberkochen, FR Germany
15 Nov.	2002	Dedication of the MIC together with Regents Vice Chairman Dionel Avilés and Vice President for Research Richard Ewing
21 Nov.	2002	Host for Sasol North Americ Inc., R&D and business meeting
21 April	2003	Invited lecture, Dept. Mech. Engineering, Texas A&M University
23-24 Apr.	2003	Invited roundtable discussant, The future of nanotechnology: bionanotechnology, EU-US Research and Public Policy Symposium. Presidential Conference Center, College Station, TX, U.S.A.
12 May	2003	Invited speaker, Texas-UK Collaborative Research Initiative, Bionanotechnology Workshop, Texas Medical Center, Houst
16 May	2003	Oral presentation, Raman Spectroscopy and Life Sciences: Introduction and Overview, Microscopy and Imaging Center, Texas A&M University
23 July	2003	Invited speaker, Institute for Clinical and Molecular Virology, Friedrich-AlexanderUniversity Erlangen-Nürnberg, FR Germany
3-7 Aug.	2003	Presentations at the Microscopy & Microanalysis Conference 2003 and the VII. Interamerican Congress on Electron Microscopy, San Antonio, TX, U.S.A.
5-8 Nov.	2003	Invited presentation, International conference on China-U.S. Relations: Past, Present, and Future. Presidential Conference Center, College Station, TX, U.S.A.
13-14 Nov.	2003	NIH, Biochemical. Biophysical and Chemical Sciences Fellowship panel member
21 Nov.-1 Dec.	2003	Invited lecturer and research scholar, Hong Kong University of Science and Technology, Kowloon, and SMMU Shanghai, China
3-4 Dec.	2003	Oral presentation, PMSF Retreat, Camp Allen, TX, U.S.A.

28-30 Mar.	2004	Invited speaker, Novel Technologies, UK/Texas Collaborative Initiative, Symposium on Tissue Engineering and Regenerative Medicine, Imperial College London, UK
4-6 June	2004	Invited presentation, Activities of the Texas Chapter, 5th National Meeting of the Alexander von Humboldt Association of America, Crystal Gateway Marriot & The National Geographic Society, Washington D.C.
1-5 Aug.	2004	Presentations at the 62nd Annual Meeting of the Microscopy Society of America, Savannah, GA
25-26 Oct.	2004	Invited speaker, Nanoscale biosensing and imaging, Texas/UK Collaborative InitiativeWorkshop on Biomedical Imaging to the Nanoscale, Bush Conference Center, College Station, TX
9-10 Nov.	2004	NIH, BBCB study section panel member
11 Nov.	2004	Invited speaker/panelist, Strategies to obtain instrumentation grants, TAMU-OVPR Seminars on Federal Instrumentation Programs, Texas A&M University
16 Nov.	2004	Invited video conference speaker/panelist, Strategies to obtain instrumentation grants, TAMU-OVPR Seminars on Federal Instrumentation Programs, Texas A&M University, Trans-Texas Video Conference Network
14-16 Dec.	2004	Invited speaker and panelist, Current activities and future Raman/NSOM/FTIR needs at the MIC, R&D meeting, HORIBA Jobin Yvon S.A.S., Villeneuve d'Ascq, France
28 Feb	2005	Invited participant, 3rd TX-UK Collaborative Research Initiative Symposium on "Tissue Engineering and Regenerative Medicine", Texas Medical Center, Houston, TX
19 April	2005	Invited speaker, Dept. of Biomedical Engineering, Texas A&M University
24 June	2005	Invited oral presentation, Office of the Vice-President for Research, Texas A&M University
31 July-4 Aug.	2005	Presentations at the Microscopy & Microanalysis Conference 2005, Honolulu, HI

5 Sept.	2005	Invited spaker, seminar, Instituto de Biotecnologia, UNAM, Cuernavaca, Morelos, Mexico
7 Sept.	2005	Invited speaker, seminar, School of Chemistry, UNAM, Mexico City D.F., Mexico
13-15 Oct.	2005	Oral presentation, Texas Society for Microscopy, Fall Meeting, San Antonio, TX
7 Dec.	2005	Oral presentation to Drs. T. Maldonado (Associate Dean, TEES) and M. Hall (Executive Assoc. Dean, College of Science), MIC, Texas A&M University
3-15 Jan. and 11-25 Mar.	2006	Invited research scholar, laboratory Prof. Dr. Robert C. Ford, University of Manchester, UK
30 July-3 Aug.	2006	Presentations (invited and contributed) at the Microscopy & Microanalysis Conference 2006, Chicago, IL
30 July-3 Aug.	2006	Organization of 38 vendor tutorials at the Microscopy & Microanalysis Conference 2006, Chicago, IL
14 Sept.	2006	Presentation to the College of Engineering Department Heads Council, Texas A&M University
22 Sept.	2006	Invited speaker/panelist, How to win instrumentation grants, TAMU-OVPR Seminars on Federal Instrumentation Programs, Texas A&M University
13 Oct.	2006	Invited speaker, seminar, Department of Physics, University of Texas at Austin
9 Nov.	2006	Invited presentation to the Academy for Advanced Telecommuications and Learning Technologies on the occasion of their Strategic Planning Retreat, Texas A&M University
13 Nov.	2006	NIH, Biophysical and Biochemical Fellowship review panel member
11 April	2007	NSF, Major Research Instrumentation (MRI) panel member in the Chemical, Bioengineering, Environmental, and Transport Systems Division

18-20 June	2007	Presenting participant, Responding to Conflict Workshop, American Management Association, New York, NY
5-9 Aug.	2007	Presentations (invited and contributed) at the Microscopy & Microanalysis Conference 2007, Fort Lauderdale, FL
5-9 Aug.	2007	Organization of 42 vendor tutorials at the Microscopy & Microanalysis Conference 2007, Fort Lauderdale, FL
21 Sept.	2007	Invited speaker/panelist, How to win instrumentation grants, TAMU-OVPR, Seminars on Federal Instrumentation Programs, Texas A&M University
20 Oct.	2007	Organizer & Chair, Annual TX Chapter Meeting of the Alexander von Humboldt Association of America (AvHAA), Old German Free School, Austin, TX
9 Feb.	2008	Participant, Beyond Science: The Economics and Politics of Responding to Climate Change, Baker Institue, Rice University, Houston, TX
25 Mar.	2008	Judge, Student Research Week, Texas A&M University, College Station, TX
30 April-26 May	2008	Visiting Professor (Host: PD Dr. habil. Elke Bogner), Institute for Virology, Charité Campus Mitte, Berlin, Germany
22 May	2008	Invited speaker, Center for Infection Biology and Immunity Colloquium Series, MPI for Infection Biology, Charité University Medicine and Humboldt University, Berlin, Germany
30 May-1 June	2008	Participant & Organization Committee member, Humboldt Symposium (Kolleg) “The Universe and the World Around Us” and membership meeting, Rice University, Houston, TX
5 June	2008	Invited presentation to the TAMUS Chancellor Dr. McKinney on the benefits of modern FIB technology
3-7 Aug.	2008	Presentations (invited and contributed) at the Microscopy & Microanalysis Conference 2008, Albuquerque, NM
3-7 Aug.	2008	Organization of 53 vendor tutorials at the Microscopy & Microanalysis Conference 2008, Albuquerque, NM

22 Nov.	2008	Keynote speaker, organizer and Chair, Annual Meeting of the Texas Chapter of the Alexander von Humboldt Association of America (AvHAA), Festival Hill, Round Top, TX
18 April	2009	Invited participant, The Journal of Biological Chemistry Editorial Board Meeting, New Orleans, LA
30 April-30 May	2009	Short-term Humboldt Fellowship (Laboratory of PD Dr. habil. Elke Bogner), Institute for Virology, Charité Campus Mitte, Berlin, Germany
13 May	2009	Invited speaker, Berlin-Brandenburg Humboldt Dialog, Arbeitswissenschaft & Produktergonomie, Technische Universität Berlin, Germany
26-30 July	2009	Organization of 51 vendor tutorials at the Microscopy & Microanalysis Conference 2009, Richmond, VA
16 Sept.	2009	Invited speaker, Department of Soil and Crop Sciences, Texas A&M University, College Station, TX
14 Oct.	2009	Invited speaker, Presentation to the SEMC, Texas A&M University, TTI, College Station, TX
10 Feb.	2010	Invited presentation, RGS Division, Texas A&M University, College Station, TX
5-7 May	2010	Invited speaker, Department of Physiology and Biophysics, University of Arkansas for Medical Sciences, Little Rock, AR
1-5 Aug.	2010	Presentation and organization of 65 vendor tutorials at the Microscopy & Microanalysis Conference 2010, Portland, OR
16-18 Sept.	2010	Invited speaker, Department of Physics, University of Arkansas, Fayetteville, AR
16 Nov.	2010	Invited speaker, Postdoctoral Association of the Health Science Center, Texas A&M University
21 Dec.	2010	Invited presentation, Inea LLC, Kronberg/Taunus, Germany
21-23 Jan.	2011	Invited participant, International Alexander-von-Humboldt Kolleg Conference “Rare Events with Catastrophic Consequences in Complex Systems”, UT Austin, TX

9 April	2011	The Journal of Biological Chemistry, Editorial Board Meeting, Washington DC
2-28 May	2011	Short-term Humboldt Fellowship and invitation to the Institute of Measurement and Automatic Control by Prof. Dr.-Ing. Eduard Reithmeier, Leibniz University Hannover, Germany
10 May	2011	Invited poster presentation, Innovation Forum Photonics "Optical Sensors", Imperial Palace, Goslar, Germany
13 May	2011	Visit of the Laser Center Hannover hosted by Dr. Carsten Reinhardt
16 May	2011	Meeting with Dr.-Ing. Thomas Fahlbusch,Managing Director of the Competence Network Photonics "PhotonicNet", Hannover, Germany
18 May	2011	Invited speaker, Hannover Optical Colloquium, Leibniz University Hannover, Germany
19 May	2011	Visit of the Institute for Solar Energy Research Hameln hosted by Prof. Dr.-Ing. Rolf Brendel (Director), Emmerthal, Germany
20 May	2011	Visit of the Energy Research Center of Lower Saxony at the Fraunhofer Heinrich Hertz Institute. Host: Dr. Stefan Kontermann (Head of Group Nano-Structured Materials for Energy Conversion), Goslar, Germany
7-11 Aug.	2011	Presentations (invited and contributed) and organization of 66 vendor tutorials, Microscopy & Microanalysis Conference 2011, Nashville, TN
8 Aug.	2011	Micron, Editorial Board Meeting, Nashville, TN
18 Oct.	2011	Invited participant, Alumni Roundtable, Alexander von Humboldt Foundation, Bonn, Germany
19 Oct.	2011	Guest of honor, Deutscher Hochschulverband (German Association of University Professors and Lecturers) Symposium 2011, Science Center Bonn, Germany
25 Oct.	2011	Invited speaker, Environmental Issues Committee, Texas A&M University, College Station, TX
10-11 Nov.	2011	Co-organizer and host, Microscopy for the Life Sciences Workshop (sponsored by Olympus America Inc.), Microscopy & Imaging Center, Texas A&M University, College Station, TX

7 Dec.	2011	Invited participant, Student Global Issues Conferences, Local Action – Global Impact Poster Session, Texas A&M University, College Station, TX
6 Feb.	2012	Presentation to the Material Science and Engineering Program (MSEN) Review Committee
15 Feb. - 1 March	2012	Co-organizer and host, Leica CW STED super-resolution workshop for the Life Sciences, Microscopy & Imaging Center, Texas A&M University, College Station, TX
15 March	2012	Invited speaker, National Science Foundation, Arlington, VA
18-22 Mar.	2012	Invited speaker, Keynote Lecture and Session Chair at the Humboldt Kolleg "Challenges and Frontiers of Physics and Chemistry to Modern Biology", Havana, Cuba
21 April	2012	The Journal of Biological Chemistry, Editorial Board Meeting, San Diego, CA
25-28 April	2012	Invited, Assessment of Core Infrastructure and Academic Integration, King Abdullah University of Science and Technology (KAUST), Thuwal, Kingdom of Saudi Arabia
20-22 June	2012	Invited speaker, International Symposium on X-ray and Electron Crystallography – from Materials Sciences to Structural Biology, Stockholm University, Sweden
29 July - 2 Aug.	2012	Presentations (invited and contributed) and organization of 80 vendor tutorials, Microscopy & Microanalysis Conference 2012, Phoenix, AZ
19 Sept.	2012	Host, Promega Inc.-sponsored seminar "Overcoming Challenges of Mammalian Protein Analaysis", Microscopy & Imaging Center, Texas A&M University, College Station, TX
14-16 Nov.	2012	Co-organizer and host, 2nd Annual Light Microscopy Workshop (sponsored by Olympus America Inc.), Microscopy & Imaging Center, Texas A&M University, College Station, TX
6 Feb.	2013	Organizer and co-host, S. Bryant Inc.-sponsored seminars by Yves Emery (Lyncée Tec SA, Lausanne, Switzerland): (i) "Quantitative phase measurements in the Life Sciences" and (ii)

		"Digital Holography Microscopy (DHM) for static and dynamical 3D characterization MEMS and MOEMS", Microscopy & Imaging Center and MSEN Program, Texas A&M University, College Station, TX
7 Feb.	2013	Invited speaker, College of Science and Engineering, University of Limerick, Ireland
21 Feb.	2013	CVM Graduate Student and Postdoc Research Symposium, advisee Niels Grützner wins Outstanding Graduate Student Platform Presentation Award for the paper "Novel cold microwave technology-enhanced ELISAs – using a canine serum/fecal biomarker" by Grützner, N, Heilmann, RM, Suchodolski, JS, Steiner, JM, and Holzenburg, A.
27 March	2013	Organizer and host, FEI seminar "Electron microscopy in the life and soft material sciences: Recent developments to boost your research" by Richard Gursky (FEI), Microscopy & Imaging Center, Texas A&M University, College Station, TX
20 April	2013	The Journal of Biological Chemistry, Editorial Board Meeting, Boston, MA
22-25 April	2013	Co-organizer and host, Leica GSD Fluorescence super-resolution demo and workshop, Microscopy & Imaging Center, Texas A&M University, College Station, TX
29-30 May	2013	Invited speaker, PREMIER Network Conference "Advances in Structural and Chemical Imaging", CAMCOR, University of Oregon, Eugene, OR
4-8 Aug.	2013	Presentations (invited and contributed) and organization of 80 vendor tutorials, Microscopy & Microanalysis Conference 2013, Indianapolis, IN
10-13 Sept.	2013	Presentation (contributed), MRS Technology Development Workshop "Photovoltaic Materials and Manufacturing Issues III", Denver Marriott West, Golden, CO
23 Sept.	2013	Invited speaker, Quantitative Biology Seminar, Department of Mathematics, Host: Dr. Jay Walton, Texas A&M University, College Station, TX
18 Oct.	2013	Invited speaker, Department of Physics, University of Texas, Austin, TX

22-24 Oct.	2013	Invited speaker, Plenary Lecture and Session Chair, 1° Taller de Nanoscopia Electronica, Cinvestav, Instituto Politécnico Nacional, Campus Zacatenco, Mexico D.F., Mexico
13 Nov.	2013	Presentation (invited) to 45 community leaders through the BCS Chamber of Commerce Leadership Brazos Program, Microscopy & Imaging Center, Texas A&M University, College Station, TX
14 Nov.	2013	Presentation (contributed poster session), ASM Student Night, ASM International Houston Chapter and Material Advantage Chapter at Texas A&M University, Jack E. Brown Building, Texas A&M University, College Station, TX
15 Nov.	2013	Presentation (contributed poster session), Texas A&M University ENG-LIFE Workshop, Emerging Technology Building, Texas A&M University, College Station, TX
19 Dec.	2013	Invited speaker, Hans Knöll Institute (HKI)-Kolloquium, hosted by: Prof. Dr. Axel Brakhage, Director of the Leibniz Institute for Natural Product Research and Infection Biology (HKI) and Institute of Microbiology, Friedrich Schiller University Jena, Germany; Prof. Dr.-Ing. Eduard Reithmeier, Director of the Institute of Measurement and Automatic Control, Leibniz University Hannover, Germany.
26 April	2014	The Journal of Biological Chemistry, Editorial Board Meeting, San Diego, CA
27-28 May	2014	Invited speaker and session chair, PREMIER Network Conference “Advanced Structural & Chemical Imaging”, Kane Hall, University of Washington, Seattle, WA
24-25 July	2014	Invited participant, NIH/NIAID Microscopy of Infectious Disease Agents Symposium, Rocky Mountain Laboratories, Hamilton. MT
3-7 Aug.	2014	Speaker and organizer of 59 vendor tutorials, Microscopy & Microanalysis Conference 2014, Hartford, CT

18 Sept.	2014	Invited speaker, Presentation to NSF-DMREF program managers and MSEN, Texas A&M University, College Station, TX
24-25 Oct.	2014	Invited participant, Microbiology Symposium honoring the late Hans Günter Schlegel, University Göttingen, Paulinerkirche, Göttingen, Germany
3 Nov.	2014	Invited speaker, School of Biochemistry and Immunology, Trinity College Dublin, Ireland
11-13 Nov.	2014	Invited presentation, Defense Energy Summit, AT&T Executive Education and Conference Center, Austin, TX
3 Dec.	2014	Co-organizer and host, Introduction to Fluorescence Microscopy Workshop and Demo (sponsored by Olympus America Inc.), Microscopy & Imaging Center, Texas A&M University, College Station, TX
11-14 Jan.	2015	Speaker, TMS Middle East – Mediterranean Materials Congress on Energy and Infrastrcuture Systems, Ritz-Carlton, Doha, Qatar
15 Jan.	2015	Invited presentation to the Theory, Modeling and Simulation Group (Dr. Sabre Kais, Director) Qatar Environment & Energy Research Institute, Doha, Qatar
17 Feb.	2015	Invited Faculty Fireside Chat Speaker, Department of Residence Life, Division of Student Affairs, Texas A&M University, College Station, TX
19-21 Feb.	2015	Speaker, Texas Society for Microscopy, The 50th Anniversary Meeting, Holiday Inn Austin Town Lake, Austin, TX
16 March	2015	Invited speaker, Friedrich-Loeffler Federal Research Institute for Animal Health (FLI), Greifswald - Insel Riems, Germany
24 April	2015	Invited poster presentation, Texas A&M ENG-LIFE Symposium – At the Interface of Engineering and Life Sciences, Texas A&M Health Science Center, College Station, TX
19-22 May	2015	Invited visitor to the Pacific Northwest National Laboratory and invited speaker at the PREMIER Network Conference "Advanced Structural & Chemical Imaging", Washington State University, Pullman, WA
25-26 May	2015	Invited imaging consultant, UTRGV in Edinburg, Harlingen, and Brownsville, TX

8-12 June	2015	Convener, *Introduction to the Nano World*, Aggie Academy Governor's STEM Champions Summer Camp, Microscopy & Imaging Center, Texas A&M University, College Station, TX
21 July	2015	Public speaker for the Science Café, *Tapping into Terawatts*, Revolution Café and Bar, Dowtown Bryan, TX
2-6 Aug.	2015	Presenter and organizer of 91 vendor tutorials, Microscopy & Microanalysis Conference 2015, Portland, OR
12 Aug.	2015	Invited speaker, seminar, UTRGV School of Medicine, Harlingen, TX

Publication Highlights

Holzenburg, A., Mayer, F., Harauz, G., van Heel, M., Tokuoka, R., Ishida, T., Harata, K., Pal, G.P. and Saenger, W.:
Structure of D-ribulose-1,5-bisphosphate carboxylase/oxygenase from *Alcaligenes eutrophus* H16.
Nature **325**, 730 -732 (1987).

Holzenburg, A., Bewley, M.C., Wilson, F.H., Nicholson, W.V. and Ford, R.C.: Three-dimensional structure of photosystem II.
Nature **363**, 470-472 (1993).

Shepherd, F.H. and Holzenburg, A.:
The potential of fluorinated surfactants in membrane biochemistry.
Anal. Biochem. **224**, 21-27 (1995).

Reviakine, I., Stoylova, S. and Holzenburg, A.:
Surfactosomes: A novel approach to the reconstitution and 2-D crystallisation of membrane proteins.
FEBS Lett. **380**, 296-300 (1996)

Stoylova, S.S., Flint, T.D., Ford, R.C and Holzenburg, A.:
Projection structure of photosystem II *in vivo* determined by cryo-electron crystallography.
Micron **28**, 439-446 (1997)

Stoylova, S.S., Ford, R.C. and Holzenburg, A.:
Cryo-electron crystallography of small and mosaic 2-D crystals: An assessment of a procedure for high-resolution data retrieval.
Ultramicroscopy **77**, 113-128 (1999).

Simidjiev, I., Stoylova, S., Amenitsch, H., Javorfi, T., Mustardy, L., Laggner, P., Holzenburg, A. and Garab, G.: Self-assembly of large-ordered lamellae from non-bilayer lipids and integral membrane proteins.
Proc. Natl. Acad. U.S.A **97**, 1473-1476 (2000).

Beales, L.P., Rowlands, D.J. and Holzenburg, A.:

Structural motifs of the internal ribosome entry site (IRES) of hepatitis C virus visualised by electron microscopy.
RNA **7**, 661-670 (2001).

Ford, R.C., Stoylova, S.S. and Holzenburg, A.:
An alternative model for photosystem II/light harvesting complex II in grana membranes based on cryo-electron microscopy studies.
Eur. J. Biochem. **269**, 326-336 (2002).

Stoilova-McPhie, S., Villoutreix, B.O., Mertens, K., Kemball-Cook, G. and Holzenburg, A.:
Three-dimensional structure of membrane-bound coagulation factor VIII.
Blood **99**, 1215-1223 (2002).

Sun, J., Savva, C.G., Deaton, J., Kaback, R.H., Svrakic, M., Young, R. and Holzenburg, A.:
Asymmetric binding of membrane proteins to GroEL.
Arch. Biochem. Biophys. **434**, 352-357 (2005).

Ford, R.C. and Holzenburg, A.:
Electron crystallography of biomolecules: mysterious membranes and missing cones.
Trends Biochem. Sci. **33**, 38-43 (2008).

Dewey, J.S., Savva, C.G., White, R.L., Vitha, S., Holzenburg, A. and Young, R.: Micron-scale holes terminate the phage infection cycle.
Proc. Natl. Acad. Sci. U.S.A. **107**, 2219-2223 (2010).

Grützner, N., Heilmann, R.M., Smith A.G., Johnson, C.B., Vitha, S., Steiner, J.M. and Holzenburg, A.:
Cold Microwave-Enabled Protein Detection and Quantification.
Methods Mol. Biol. **1314**, 207-217 (2015).

List of All Refereed Publications

1. Holzenburg, A., Mayer, F., Harauz, G., van Heel, M., Tokuoka, R., Ishida, T., Harata, K., Pal, G.P. and Saenger, W.: Structure of D-ribulose-1,5-bisphosphate carboxylase/oxygenase from *Alcaligenes eutrophus* H16. Nature **325**, 730 -732 (1987).

2. Quentmeier, A., Holzenburg, A., Mayer, F. and Antranikian, G.:
Reevaluation of citrate lyase from *Escherichia coli.*
Biochim. Biophys. Acta **913**, 60 - 65 (1987).

3. Ford, R.C. and Holzenburg, A.:
Investigation of the structure of trimeric and monomeric photosystem I reaction centre complexes.
EMBO J. 7, 2287 - 2293 (1988).

4. Ford, R.C., Pauptit, R.A. and Holzenburg, A.:
Structural studies on improved crystals of the photosystem I reaction centre from *Phormidium laminosum*.
FEBS Lett. **238**, 385 - 389 (1988).

5. Holzenburg, A., Engel, A., Kessler, R., Manz, H.J., Lustig, A. and Aebi, U.: Rapid isolation of Omp F porin - LPS complexes suitable for structure-function studies.
Biochemistry **28**, 4187 - 4193 (1989).

6. Holzenburg, A. and Mayer, F.:
D-ribulose-1,5-bisphosphate carboxylase/oxygenase: Function-dependent structural changes.
Electron Microsc. Rev. **2**, 139 - 169 (1989).

7. Harris, J.R. and Holzenburg, A.:
Transmission electron microscopic studies on the quaternary structure of human erythrocyte catalase.
Micron Microsc. Acta **20**, 223-238 (1989).

8. Reichelt, R., Holzenburg, A., Buhle, Jr., E.L., Jarnik, M., Engel, A. and Aebi, U.:
Correlation between structure and mass distribution of the nuclear pore complex, and of distinct pore complex components.
J. Cell Biol. **110**, 883-894 (1990).

9. Nolte, A. and Holzenburg, A.:
Studies on the anaerobic degradation of crystalline cellulose by *Clostridium thermocellum* using a new assay.
FEMS Microbiol. Lett. **72**, 201-208 (1990).

10. Ellis, C.M., Ford, R.C. and Holzenburg, A.:
Detergent sensitivity of the tonoplast H^+-ATPase and its purification from *Beta vulgaris*.
Biochim. Biophys. Acta **1136**, 319-326 (1992).

11. Holzenburg, A., Wilson, F.H., Finbow, M.E. and Ford, R.C.:
Structural investigations of membrane proteins: The versatility of electron microscopy.
Biochem. Soc. Trans. **20**, 591-597 (1992).

12. Holzenburg, A., Jones, P.C., Franklin, T., Pali, T., Heimburg, T., Marsh, D., Findlay, J.B.C. and Finbow, M.E.:
Evidence for a common structure for a class of membrane channels.
Eur. J. Biochem. **213**, 21-30 (1993).

13. Holzenburg, A., Bewley, M.C., Wilson, F.H., Nicholson, W.V. and Ford, R.C.:
Three-dimensional structure of photosystem II.
Nature **363**, 470-472 (1993).

14. Peteranderl, R., Canganella, F., Holzenburg, A. and Wiegel , J.:
Induction and regeneration of autoplasts from *Clostridium thermohydrosulfuricum* JW102 and *Thermoanaerobacter ethanolicus* JW200. Appl. Environ. Microbiol. **59**, 3498-3501 (1993)

15. Harris, J.R., Engelhardt, H., Volker, S. and Holzenburg, A.:
Electron micoscopy of human erythrocyte catalase: New 2-D crystal forms.
J. Struct. Biol. **111**, 22-33 (1993).

16. Harrison, M.A., Jones, P.C., Kim, Y.-I., Holzenburg, A., Finbow, M.E. and Findlay, J.B.C.:
Structure and function of related proton channel-forming proteins.
Pure & Appl. Chem. **66**, 35-41 (1994).

17. Holzenburg, A., Shepherd, F.H. and Ford, R.C.:
Localisation of the oxygen-evolving complex of photosystem II by Fourier difference analysis.
Micron **25**, 447-451 (1994).

18. Shepherd, F.H. and Holzenburg, A.:
The potential of fluorinated surfactants in membrane biochemistry.
Anal. Biochem. **224**, 21-27 (1995).

19. Ford, R.C., Rosenberg, M.F., Shepherd, F.H., McPhie, P. and Holzenburg, A.:
Photosystem II 3-D structure at 1.8 nm resolution: The role of the extrinsic subunits in photosynthetic oxygen evolution.
Micron **26**, 133-140 (1995).

20. Pali, T., Finbow, M.E., Holzenburg, A., Findlay, J.B.C. and Marsh, D.:
Lipid-protein interactions and assembly of the 16-kDa channel polypeptide from *Nephrops norvegicus*. Studies with spin label electron spin resonance spectroscopy and electron microscopy
Biochemistry **34**, 9211-9218 (1995).

21. Harris, J.R. and Holzenburg, A.:
Human erythrocyte catalase: 2-D Crystal nucleation and multiple 2-D crystal forms.
J. Struct. Biol. **115**, 102-112 (1995).

22. Reviakine, I., Stoylova, S. and Holzenburg, A.:
Surfactosomes: A novel approach to the reconstitution and 2-D crystallisation of membrane proteins.
FEBS Lett. **380**, 296-300 (1996)

23. Nicholson, W.V., Shepherd, F.H., Rosenberg, M.F., Ford, R.C.and Holzenburg, A.:
Structure of photosystem II in spinach thylakoid membranes: Comparison of detergent-solubilised and native complexes by electron microscopy.
Biochem. J. **315**, 543-547 (1996).

24. Nicholson, W.V., Ford, R.C. and Holzenburg, A.:
Current assessment of photosystem II structure.
Bioscience Reports **16**, 159-187 (1996).

25. Holzenburg, A., Flint, T.D., Shepherd, F.H. and Ford, R.C.:
Photosystem II: Mapping the locations of the oxygen evolution-enhancing subunits by electron microscopy.
Micron **27**, 121-127 (1996).

26. Collins, R.F., Flint, T.D., Holzenburg, A. and Ford, R.C:
Structural changes in photosystem II after treatment with the bifunctional cross-linker 1-ethyl-3-(3-dimethylaminopropyl)carbodi-imide: an electron microscopic study.
Biochem. J. **319**, 585-589 (1996).

27. Rosenberg, M.F., Holzenburg, A., Shepherd, F.H., Nicholson, W.V., Flint T.D. and Ford, R.C.:

Rebinding of the extrinsic proteins of photosystem II studied by electron microscopy and single particle alignment: an assessment with small two-dimensional ordered arrays of photosystem II.
Biochim. Biophys. Acta **1319**, 119-132 (1997).

28. Kitmitto, A., Holzenburg, A. and Ford, R.C.:
Two-dimensional crystals of photosystem I in higher plant grana margins.
J. Biol. Chem. **272**, 19497-19501 (1997).

29. John, S.A., Saner, D., Pitts, J.D., Holzenburg, A., Finbow, M.E. and Lal, R.:
Atomic force microscopy of arthropod gap junctions.
J. Struct. Biol. **120**, 22-31 (1997).

30. Stoylova, S.S., Flint, T.D., Ford, R.C and Holzenburg, A.:
Projection structure of photosystem II *in vivo* determined by cryo-electron crystallography.
Micron **28**, 439-446 (1997)

31. Glykos, N.M., Holzenburg, A. and Phillips, S.E.V.:
Low-resolution structural characterisation of the arginine repressor/ activator from *Bacillus subtilis*: A combined X-ray crystallographic and electron microscopical approach.
Acta Cryst. **D 54**, 215-225 (1998).

32. Stoylova, S., Gray, E., Barrowcliffe, T.W., Kemball-Cook, G. and Holzenburg, A.:
Structural determination of lipid-bound human blood coagulation factor IX.
Biochim. Biophys. Acta **1383**, 175-178 (1998).

33. Stoylova, S.S., Flint, T.D., Kitmitto, A., Ford, R.C and Holzenburg, A.:
Comparison of photosystem II 3-D structure as determined by electron crystallography of frozen-hydrated and negatively stained specimens.
Micron **29**, 341-348 (1998).

34. Rishovd, S., Holzenburg, A., Johansen B.V. and Lindqvist, B.H.:
Bacteriophage P2 and P4 Morphogenesis: Structure and function of the connector.
Virology **245**, 11-17 (1998).

35. Kitmitto, A., Mustafa, A.O., Holzenburg, A. and Ford, R.C.:
Three-dimensional structure of higher plant photosystem I determined by electron crystallography.
J. Biol. Chem. **273**, 29592-29599 (1998).

36. Stoylova, S.S., Ford, R.C. and Holzenburg, A.:
Cryo-electron crystallography of small and mosaic 2-D crystals: An assessment of a procedure for high-resolution data retrieval.
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37. Pilling, A., Rosenberg, M.F., Willis, S.H., Jäger, J., Cohen, G.H., Eisenberg, R.J., Meredith, D.M. and Holzenburg, A.:
The three-dimensional structure of herpes simplex virus type 1 glycoprotein D at 2.4 nm resolution.
J. Virology **73**, 7830-7834 (1999).

38. Kitmitto, A., Mustafa, A.O., Ford, J.W., Holzenburg, A. and Ford, R.C.:
Does photoinhibition and/or phosphorylation of photosystem II influence its *in vivo* oligomeric state?
Biochim. Biophys. Acta **1413**, 21-30 (1999).

39. Stoylova, S.S., Lenting, P. J., Kemball-Cook, G. and Holzenburg, A.:
Electron crystallography of human blood coagulation factor VIII bound to phospholipid monolayers.
J. Biol. Chem. **274**, 36573-36578 (1999).

40. Stoylova, S., Flint, T.D., Ford, R.C. and Holzenburg, A.:
Structural analysis of 2-D crystals of photosystem II in far-red light adapted thylakoid membranes: New crystal forms provide evidence for a dynamic reorganization of light-harvesting antennae subunits.
Eur. J. Biochem. **267**, 1-10 (2000).

41. Simidjiev, I., Stoylova, S., Amenitsch, H., Javorfi, T., Mustardy, L., Laggner, P., Holzenburg, A. and Garab, G.:
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Proc. Natl. Acad. U.S.A **97**, 1473-1476 (2000).

42. Xue, H., Zheng, H., Li, H.M., Kitmitto, A. Zhu, H., Lee, P. and Holzenburg, A.:
A fragment of recombinant $GABA_A$ receptor alpha1 subunit forming rosette-like homo-oligomers.
J. Mol. Biol. **296**, 739-742 (2000).

43. Ruffle, S.V., Mustafa, A.O., Kitmitto, A., Holzenburg, A.and Ford, R.C.:
The location of the mobile electron carrier ferredoxin in vascular plant photosystem I.
J. Biol. Chem. **275**, 36250-36255 (2000).

44. Beales, L.P., Rowlands, D.J. and Holzenburg, A.:
Structural motifs of the internal ribosome entry site (IRES) of hepatitis C virus visualised by electron microscopy.
RNA **7**, 661-670 (2001).

45. Rosenberg, M.F., Mao, Q., Holzenburg, A., Ford, R.C., Deeley, R.G. and Cole, P.C.:
The structure of the multidrug resistance protein (MRP1/ABCC1). Crystallization and single particle analysis.
J. Biol. Chem. **276**, 16076-16082 (2001).

46. Scheffczik, H., Kraus, I., Kiermayer, S., Bogner, E., Holzenburg, A., Garten, W. and Eickmann, M.:
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FEBS Lett. **506**, 113-116 (2001).

47. Xue, H., Shi, H., Tsang, S.Y., Zheng, H., Savva, C.G.., Sun, J. and Holzenburg, A.:
A recombinant glycine receptor fragment forms homo-oligomers distinct from its GABAA counterpart.
J. Mol. Biol. **312**, 915-920 (2001).

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