

Curriculum Vitae

Prof. Dr. sc. agr. habil. Kerstin Wydra

MSc. agr., Dipl.-Ing. agr.

born in Recklinghausen, Germany



1 Previous and current appointments

- Since 2012 Professorship (permanent) at Erfurt University of Applied Sciences, Chair for 'Plant Production and Climate Change'; current appointment 2014: engagement in sustainability strategies, sustainability education, research and transfer projects
- 11/2012 President, Erfurt University of Applied Sciences
-2/2014 University management, 350 employees, among them 138 professors, 4500 students; public representation and national and international networking, strategic plan development, policy; interdisciplinary interaction and development towards a university following principles of sustainability
- 2010 Call in the High Level Panel of Experts (HPLE) of the UN Committee of World Food Security (CFS)
- 2009-2012 Managing Director at Centre for Tropical and Subtropical Agriculture and Forestry (CeTSAF), Georg-August Universität, Göttingen
Organization of international workshops in Germany and abroad on issues of biodiversity, nature conservation, food security, sustainable land use under climate change, forest and wild life conservation, etc; coordination of international projects and study programs with developing countries, establishing worldwide networks for research and capacity building
- 2011 Co-Founder - with University Medicine Göttingen - of the 'Göttingen International Health Network' (GIHN; <http://www.gihn.net/>); establishment of the 'One Health Concept' – human-plant-animal-environmental health
- 2010 Expert delegate of BMBF/DLR in EU-KBBE for elaboration of calls in 'Specific International Cooperation Actions' (SICA) in subject 'Primary Production and Food Security'; expert of BMBF/DLR & BMZ in elaboration of project calls on cooperation with developing countries
- 20010-2014 Project leader (German partner), research project (BMZ) 'Mitigating the impact of climate change on rice disease resistance in East Africa' in collaboration with national and international institutions (Africa Rice Centre; Tanzania, Uganda, Rwanda)
- 2010/2011 Commissioner for Internationalization of Faculty of Agricultural Sciences, University of Göttingen
- 2007-2011 Project leader in Federal Project on 'Pests and diseases in asparagus'
- since 2001 Assistant Professor, since 1/2005 Higher Assistant Professor, 2007 entitled Professor at Institute of Plant Diseases and Plant Protection, Leibniz Universität

- Hannover; working group leader and leader of various international projects. Evaluator of project proposals for international donors; supervision of 32 MSc and 18 PhD students from developing countries
- 2004-2008 Project leader (German partner) of research project ‘Selection of tomato genotypes with resistance against bacterial wilt’ with Asian Vegetable Research and Development Centre (AVRDC), Taiwan
- 2000-2006 Project leader of bilateral project ‘Integrated control methods in sustainable (biological) tomato production’ with partner at Kasetsart University and Asian Institute of Technology, Bangkok, Thailand *External evaluation: very good*
- 1999-2001 Scientist, Institute of Plant Pathology and Plant Protection, Göttingen, and Institute of Plant Diseases and Plant Protection, Hannover 1986 Research Assistant, Institute of Agricultural Chemistry, Göttingen; modelling P-fluxes in the rhizosphere
- 1998-2002 Coordinator of EU-INCO-DEV-project (IC18-CT-98-0306) ‘Development and implementation of integrated methods for the control of cassava bacterial blight’, ecozone/climate/environment interactions; with partners from France, Colombia, UK, Benin and Togo. *EU-evaluation: ,very good’*
- 1995 -1996 Elected coordinator of ‘Integrated pest management (IPM) in cassava’ program at IITA, coordination of research of 19 IITA-scientists; IITA-representative at international strategic meetings and donors’ organizations; *external project evaluation: ‘very good’*
- 1993-1999 Project leader, International Institute of Tropical Agriculture (IITA), Plant Health Management Division, Substation ‘Biological Control’, Republic of Benin (West-Africa)
Project ‘Ecologically sustainable cassava plant protection’; Leader of project ‘Integrated control methods of crop diseases’, ecozone/environment interactions; leader of an international, interdisciplinary team of entomologists, plant breeders, agronomists, biochemists, with University of Göttingen, in collaboration with ORSTOM, France, PPS, Wageningen, Netherlands, CIAT, Colombia, and national Institutes in Benin, Ghana, Nigeria and Cameroon
- 1993 Consultant, Plant Protection Department, establishment of a plant quarantine database, Food and Agriculture Organization (FAO), Rome, Italy
- 1989-1992 Project leader ‘Biotechnology’, production of polymers from bacteria, Company Diamalt/Schering GmbH, Munich
- 1986-1989 Research Assistant, Institute of Plant Pathology and Plant Protection, Göttingen.

2 Education and evaluations

- 2012 Professorship (permanent) at Erfurt University of Applied Sciences; Chair of Plant Production and Climate Change
- 8/2007 Title of ‘Professor’ (apl.) at the Faculty of Natural Sciences, Gottfried Wilhelm Leibniz Universität Hannover
- 12/2004 Award for ‘Projects in agricultural sciences to be specifically awarded’ of the ‘Foundation for the German Science’ through the German Research Foundation (DFG) for the integration of basic and applied research in development context. 12.750 EURO
- 11/ 2004 Habilitation
Title of habilitation thesis: Development of integrated control of bacterial diseases of cassava, cowpea and tomato
Title of colloquium: New knowledge on host-parasite interactions through genome analysis of phytopathogenic microorganisms
Venia legendi in Phytopathology
- 1992 MSc in Phytomedicine, Faculty of Agricultural Sciences, University of Göttingen, grade ‘very good’ (1.2)
Title of MSc-thesis: Methods for analysis of plant polysaccharides interacting with pathogens. Grade ‘very good’ (1.0). Published as: Wydra, K. & Rudolph, K. 1992: Analysis of toxic extracellular polysaccharides. In: Modern Methods of Plant Analysis. New Series, Vol. 13. Analysis of Plant Toxins. H.F. Linskens and J.F. Jackson eds., Springer Verlag, Berlin, 113-183. (supervision: R. Heitefuß, K. Rudolph)
- 1991 Dr. sc. agr., Institute of Plant Pathology and Plant Protection, Faculty of Agriculture, University of Göttingen , grade ‘summa cum laude’ (1.0)
Title of dissertation: Interactions between cell wall polymers of bean plants (*Phaseolus vulgaris*) and cells of *Pseudomonas syringae* pv. *phaseolicola* and their extracellular, polymer products (supervision: R. Heitefuß, K. Rudolph)
- 1986-1991 MSc studies in postgraduate courses on ‘Tropical and Subtropical Agriculture’ and ‘Phytomedicine’
 PhD studies, Faculty of Agricultural Sciences, University of Göttingen
- 1985 Diploma engineer in Agricultural Sciences,
 Diploma thesis at Institute of Agricultural Chemistry, University of Göttingen
Title of thesis: P-efficiency studies of tropical legumes
 (supervision: A. Jungk, N. Claassen) grade ‘very good’ (1.0)
- 1979-1985 Studies at the Faculty of Agricultural Sciences, major: Plant Production, Georg-August-University, Göttingen, Germany.

Languages

German (mothertongue), English (fluent), French (fluent), Spanish (medium level)

3 Leadership positions, activities in university bodies

- President of the Erfurt University of Applied Sciences (2012-2014), head of 138 professors, 350 employees (total) and 4500 students; chair person of the academic senate, member of the university board, chair person of the presidium with 3 vice-presidents, deputy chairperson of the federal committee of universities of applied sciences, Thuringia, representative of the university presidents of Thuringia in gender competence network

Develop structural plan until 2020, establishing networks between public (government, education) and private sector, NGOs and civil society, regional and international; responsible for acquisition of funds, public representation, communication with ministers and presidents of ministers

- Managing Director, Centre for Tropical and Subtropical Agriculture and Forestry (Tropenzentrum), University of Göttingen (2009-2012) with 56 members (mostly professors) from 7 faculties, board and member assemblies, coordination of collaboration with deans' offices of faculties, structural and strategic development of university centre(s), development of vision and mission, agendas and standing orders, and of a new concept supported by the great majority of members; support financing through diverse donors; development of scientific networks and research projects on highest levels (universities, ministries, EU); establishment of international Double Degree Programs, supervision of international MSc and PhD Programmes 'Forest and Nature for Society' and 'Sustainable Forest and Nature Management', establishment and management of 'Higher Education Partnerships' (HEP) between Universität Göttingen and Universities in Chile, Colombia, Indonesia, South Africa, Botswana
- Commissioner for internationalization, Fac. Agriculture, Univ. Göttingen, 2010/2011
- Foundation of the Göttingen International Health Network (GIHN) with University Medicine Göttingen, 2010, international launching event May 2011 (<http://www.gihn.net/>)
- Foundation of 'mass spectrometry forum' between University Hannover, Veterinary University Hannover, Medical University Hannover, Fraunhofer Society and companies (June 2007, together with one colleague) (<http://mf-hannover.de/>)
- Member in study commission (2005/2006), Member in examination board and admissions committee of BSc & MSc programs in Horticulture and Biotechnology, University of Hannover (LUH) (2007-2009)
- Member in habilitation committee, professor appointment committee (LUH)
- Development of concept for graduate school in framework of the excellence initiative of DFG (LUH) (second collaborator)
- Participation in meetings of faculty council and professor groups, and in development of Centre for Applied Plant Biotechnology (LUH)
- Member in founding committee of 'Centre of International Horticulture' (LUH)
- Member in founding committee of 'Centre of Plant Biotechnology' (LUH)
- Project leader of various large cooperative international projects (national and international donors) on sustainable development (1994-2014).

4 Committee memberships and representation duties

- Call in the High Level Panel of Experts (HPLE) of the Committee of World Food Security (CFS)
- Member of the expert group of the German Academic Exchange Service (DAAD)
- Board member, Council for Agricultural Research in the Tropics and Subtropics e.V. (ATSAF) (2008-2011)
- German Forum for Development Oriented Research (DFOR) Representative of Institute of Plant Diseases and Plant Protection, University of Hannover (since 2002; DFOR is now part of ATSAF)
- Deutsche Phytomedizinische Gesellschaft
- American Phytopathological Society (abeyant)
- International Project on GMO Environmental Risk Assessment Methodologies. (GMO ERA), Geobotanical Institute, Swiss Federal College of Technology (ETHZ), Zürich
- Representative of IITA at International Fund for Agricultural Development (IFAD), Rome: Development of strategic paper 'Development of a global cassava strategy' with representatives from 15 int. organizations; leader of a subgroup (Rome, 1996)
- Representative of IITA at international meeting of CGIAR-IPM Task Force 'Soilborne pathogens' (ICARDA, Syria, 1996).

5 International networking, workshops, knowledge transfer

University Göttingen and abroad, 2009-2012

In position of Managing Director of the 'Tropical Centre' of University Göttingen I organized numerous workshops and summer schools on biodiversity and nature conservation in an interdisciplinary context at University of Göttingen and in various countries (Iran, Philippines, Mexico, Tanzania, Indonesia, China, etc.) on (agro)-biodiversity, forestry, agriculture and health, etc.

Supervision of networks: GAIInBiNet – the German International Biodiversity Network (<http://www.uni-goettingen.de/de/205290.html>), GAForN – The German Forestry Alumni Network (<http://www.uni-goettingen.de/de/198920.html?c=144>), and several regional alumni networks on issues of biodiversity, nature conservation – Consortium of Goettingen-Kassel-Marburg German Alumni Network, German-Egypt-Arab Region Alumni Network, Germany-Iran Alumni Network, Red Cientifica Alemania Latinoamerica (<http://www.uni-goettingen.de/de/198920.html?c=150>), Göttingen International Health Network

International Workshops 2001, 2012: Cross-cutting agriculture and health. Ghana 2012. Tanzania 2011.

International Workshop: International Health Network, Göttingen, Mai 2011. Keynote: Agriculture, nutrition and health. http://www.gihn.uni-goettingen.de/datei/GIHN%20Jahresbericht%202011_2012.pdf

International Conference: (De-) Constructing Biodiversity. Göttingen, September 2011. (co-organizer) <http://www.uni-goettingen.de/de/210707.html>

International Symposium con Workshop: Ecosystem-based management and biodiversity conservation in forestry for Asia-Pacific (2011) <http://www.uni-goettingen.de/de/international-symposium-cum-workshop---ecosystem-based-management-and-biodiversity-conservation-in-forestry-for-asia-pacific-5-%E2%80%938-december-2011/222422.html>

International German Alumni Summer School: Consequences of multiple disturbances of tropical forests (2011) <http://www.uni-goettingen.de/de/international-german-alumni-summer-school-2011--consequences-of-multiple-disturbances-of-tropical-orests--/213662.html>

International German Alumni Summer School: Multidisciplinary approach for biodiversity conservation and management in the face of globalization (2011) <http://www.uni-goettingen.de/de/international-german-alumni-summer-school-2011--multidisciplinary-approach-for-biodiversity-conservation-and-management-in-the-face-of-globalization-/190822.html>

International Workshop with Netzwerkforum Biodiversität (Diversitas), Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung: Can agrobiodiversity enhance food security facing climate change? The insurance function of biodiversity declined through all scales (2011)

Semester seminars, Göttingen, 2010. Market-based instruments for ecosystem services. Universität Göttingen, <http://www.jura-goettingen.de/de/128381.html>

International Autumn School: Biodiversity conservation and management: Networking, economic approaches, policies, education and future strategies (2010) <http://www.uni-goettingen.de/de/international-autumn-school-networking-economic-approaches-policies-education-and-future-strategies/186378.html>

International Symposium cum Workshop: Protection and utilization of ecosystems in arid and semi-arid regions (2010) <http://www.uni-goettingen.de/de/symposium-cum-workshop--protection-and-utilization-of-ecosystems-in-arid-and-semi--arid-regions-/153657.html>

International German Alumni Summer School: Biodiversity Management and tourism development (2010) <http://www.uni-goettingen.de/de/international-german-alumni-summer-school-2010--biodiversity-management-and-tourism-development-/136557.html>

International Summer School Tropentag 2009: conservation and management of biodiversity in the tropics (2009) <http://www.uni-goettingen.de/de/international-daad-alumni-summer-school-tropentag-2009-conservation-and-management-of-biodiversity-in-the-tropics/164523.html>

International Symposium: Multi-purpose forestry: Managing and enhancing ecosystem services and production functions of forests, woodlands and trees outside the forests (2009) <http://www.uni-goettingen.de/de/international-symposium-on-multi-purpose-forestry-managing-and-enhancing-ecosystem-services-and-production-functions-of-forests-woodlands-and-trees-outside-the-forests/114487.html>

Workshop: Project Results and knowledge transfer of EU-INCO Project 2001, Togo

Various workshops - Transfer of methods for detection of pathogens, biological control of bacterial and fungal pathogens, integrated control of plant diseases, to African partner institutes and scientists:

National Root Crops Research Institute, Nigeria

Institute de Recherche Agronomique, Cameroon

Cassava diseases: survey techniques, epidemiology and diagnosis. Two training courses (1994)

IITA, Ibadan, Nigeria

Breeding for disease resistance. Participants from 19 countries. Together with 2 colleagues, 2-week courses (1994, 1995, 1996)

IITA, Cotonou, Benin

Cassava diseases: survey techniques, epidemiology, diagnosis, detection and isolation of pathogens. Training course (1994)

Biological control of pathogens. Training course of two weeks with 15 NARS scientists, together with a colleague (1996)

Plant Protection and Quarantine Service, Ghana

Quarantine regulations and production and distribution of healthy cassava planting material. Training course together with 2 colleagues (1996)

IITA, Cotonou, Benin

Integrated management of bacterial diseases and root and stem rots of cassava and cowpea. Workshop and training course of one week with 14 scientists from 9 African countries. BMZ Project-End-Workshop (1999)

IITA, Cotonou, Benin

Long-term training of 13 African post-graduates (1994-1999)

Institut de Recherche Agronomique, Togo

Workshop on 'Integrated control of cassava bacterial blight' with 27 participants from 5 African countries. EU Project End Workshop. Together with 3 colleagues (2001)

6 Invited presentations

Various invitations as expert for formulating future research goals by EU, and German ministries BMBF, BMZ, BMU (2010, 2011, 2014)

Keynote, Podium-member und HRK Repräsentantin in Academia-Public-Private Partnership Forum "Harnessing East Africa's Innovation Potential", organized by Inter-University Council for East Africa in collaboration with the East African Business Council, Kigali, Rwanda, 23./24 October, supported by the German Rectors Conference (HRK)

Keynote Workshop Agriculture and Health, Accra, Ghana, 2012: The One-Health Concept: improving food security and livelihood.

Keynote in III. International Conference on Plant Pathogenic Bacteria, Guadalajara, Mexico, September 2012: Management of bacterial diseases with mineral and biotic resistance inducers.

Workshop Agriculture and Health, Dar Es Salaam, Tanzania, 2011: The One-Health Concept: improving food security and livelihood.

Bioversity International, Rome, 2011: Agrobiodiversity, food security and health – challenges and opportunities for research and implementation

Keynote. International Conference: (De-) Constructing Biodiversity. September 2011.
Title: The insurance function of agrobiodiversity and the importance of monitoring its conservation and use to cope with change.

Keynote. International Workshop: International Health Network, Göttingen, Mai 2011. Agriculture, nutrition and health.

Keynote. International Conference organized by Bioversity International 2011, Frankfurt: On farm conservation of neglected and underutilized species: status, trends and novel approaches for coping with climate change. Title of presentation: The insurance function of agrobiodiversity and the importance of monitoring its conservation and use to cope with change.

Keynote: Crop diversity and food security (2011). **International Workshop:** Can agrobiodiversity enhance food security facing climate change? The insurance function of biodiversity declined through all scales. International Workshop in Göttingen, March 2011, together with Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitäts-forschung

University München-Weihenstephan HSWT (2011). Crop diversity and food security - declined through all scales.

Invited as expert for podium discussion on strategic planning of agricultural research in Sub-Saharan Africa (June 2010)

Invited by BMBF, Germany and French Ministry of Education and Research, IRD, CIRAD

‘Afrika-Tag’ of DAAD 2008

Agricultural Research and Cooperation with Africa. **Keynote speaker.** (11/2008)

International Workshop on ‘Bacterial blight of rice’. WARDA, IRRI, University of Hannover, NARS from 5 African countries. (6/2008)

Various lectures on basics of plant pathogenic bacteria, host-pathogen interaction (5 hours in French language)

2nd Internat. Symposium of Biological Control of Plant Bacterial Diseases, Florida 2008

Session Chair: ‘Mechanisms of biological control’. **Keynote speaker:** A model of silicon induced basal resistance against *Ralstonia solanacearum* in various hosts. (11/2008)

Göttinger Zentrum für Molekulare Biowissenschaften (GZMB) - Kolloquium Biochemie/Zellbiologie, SFB 523, Göttingen, 2008

Characterization of tomato – *Ralstonia solanacearum* interaction by transcriptomic, proteomic and biochemical methods

Agrarwissenschaftliche Fakultät Stuttgart-Hohenheim, Januar 2008

Charakterisierung der Interaktion Tomate – *Ralstonia solanacearum* mit molekularen und histochemischen Methoden

Zentrum für Pflanzenbiotechnologie, Universität Hannover, 2007

Transcriptomic, proteomic and partly biochemical characterization of resistance of tomato to a bacterial pathogen

Massenspektrometrie Forum, Naturwissenschaftliche Fakultät, Leibniz Universität Hannover, Tierhochschule und Medizinische Hochschule 2007

Massenspektrometrische Analytik in der angewandten Pflanzenwissenschaft - Beispiele aus der aktuellen Forschung an der LUH

Uppsala BioCenter, Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden, 2007

Agricultural plant pathology: an interdisciplinary bridge between basic and applied research

International Conference on Plant Pathogenic Bacteria, Edinburgh, UK

Influences of the agro-ecosystem on occurrence, disease development and control of cassava bacterial blight. (2006) **Invited plenary lecture.**

International Bacterial Wilt Symposium, York, UK, 2006. Chairpersonship Breeding and Host Resistance Session.

Conference on ‘Emerging Trends in Plant-Microbe Interactions’. University of Madras, Centre for Advanced Studies in Botany, Chennai, India

Polygalacturonase-inhibiting protein (PGIP) and structure and composition of cell wall polysaccharides of tomato in relation to resistance to *Ralstonia solanacearum*. (2005)

Institut für Phytopathologie und Pflanzenschutz, Universität Göttingen (Mai 2006) und Institut für Phytopathologie, Universität Kiel (Januar 2006)

Anwendung molekularer Methoden zur Charakterisierung und Verbesserung der Wirtspflanzenresistenz, dargestellt am Modellsystem Tomate / *Ralstonia solanacearum* (2005)

International Organization for Biological and Integrated Control of Noxious Animals and Plants (IOBC). International Meeting. Multitrophic Interactions in Soil for Integrated Plant Protection., Bonn, Germany: *Ralstonia solanacearum* – a mutable pathogen that complicates standard management strategies. (2003)

Institut für Botanik, Universität Hannover

The concept of resistance, tolerance and latency in bacterial diseases: case studies from cassava (2002)

Biologische Bundesanstalt Braunschweig

Integrated control of bacterial diseases: concept, basic and applied research, and implementation (2001)

Institut für Phytopathologie und Pflanzenschutz, Universität Göttingen (1995/1996)

Various seminars on ‘Vorkommen des Bakterienbrandes an Maniok (*Manihot esculenta*) in Benin und pathologische, genetische und physiologische Eigenschaften des Erregers.’

‘Pathologische und physiologische Eigenschaften des Erregers des Bakterienbrandes der Augenbohne aus verschiedenen geographischen Regionen.’

International Institute of Tropical Agriculture, Ibadan, Nigeria

Physiological, genetic and pathological characterization of strains of *Xanthomonas campestris* pv. *manihotis*, incitant of cassava bacterial blight, from West and Central Africa, and the consequences for breeders. Institutsweites Seminar (1995)

Centro Internacional de Agricultura Tropical (CIAT), Cali, Kolumbien

Cassava diseases in Africa: research and cooperation. (1995)

Institut für Pflanzenkrankheiten und Pflanzenschutz, Universität Göttingen

Bacterial blight and root rot pathogens of cassava: characterization, detection, epidemiology. (1994)

International Centre for Agricultural Research in the Dry Areas, Aleppo, Syrien

A model for host-parasite interactions. (1992)

Additional: Teaching - Lectures and courses held at German Universities

Host-Pathogen Interactions, Biological Plant Protection (Diseases), Phytomedicine Basics, Plant Protection in the Tropics and Subtropics (lectures and practical course), Bacteriology, Molecular Diagnosis (lectures and practical course), Experimental Course in Phytomedicine, Training Course on Pathogen Groups, Field Visits, various seminars and colloquia (1999-2010).

7 Evaluator / Referee / Studies / Reports

- Expert Report for Committee on World Food Security (CFS-HLPE) on land tenure and international investments, February 2011
Wydra, K. 2011. Consultation on Land Tenure and International Investments in Agriculture. Proceedings No. 66. Committee on World Food Security. High Level Panel of Experts (HLE), pp. 74-80.
(http://typo3.fao.org/fileadmin/user_upload/fsn/docs/HLPE/PROCEEDINGS_Land_tenure.pdf)
- Wydra, K. 2011. Consultation on Climate Change and Food Security: setting the track for the HLPE. Proceedings No. 71. Committee on World Food Security. High Level Panel of Experts (HLE), pp. 100
(<http://km.fao.org/fsn/discussions/climate-change0/en/>)
- Evaluator in German Program for Female Professorships (2013)
- Member of Editorial Board of 'Journal of Plant Diseases and Protection' (until 2009)
- Associated editor of 'Tropical Plant Pathology'
- Member of Board of Evaluators for 'Institute Partnerships' of Alexander von Humboldt Foundation (until 2012)
- Referee for the following international journals:
Agriculture, Ecosystems and Environment, Molecular Plant Pathology, Phytopathology, Plant Disease, Plant Physiology, Plant Physiology and Biochemistry, Journal of Plant Physiology, Annals of Microbiology, Plant and Soil, Physiological and Molecular Plant Pathology, Molecular Biology Reports, Crop Protection, Plant Pathology, Euphytica, BioMedCentral Genomics, European Journal of Plant Pathology, Journal of Phytopathology, Tropical Plant Pathology, Journal of Plant Diseases and Plant Protection, Australasian Phytopathology, Journal of Plant Nutrition and Soil Science, Agronomy Research, Archives of Agronomy and Soil Science, Biologia Plantarum, Journal of Plant Breeding and Crop Science, International Journal of Microbiology, Biocontrol Science & Technology, Tropicultura, African Journal of Biotechnology, Jordan Journal of Biological Sciences, Thai Journal of Agricultural Science, Ethiopian Journal of Agricultural Sciences
- Expert Report for GTZ (executive of German Ministry of Development and Technical Cooperation) on 'Chances and opportunities of genetechnology in agriculture (of developing countries)', GTZ, Eschborn, October 2004 (in German)
- Evaluator for project proposals of German Research Foundation (DFG), EU, BMBF and various research/donor organizations of Germany, Wissenschaftsgemeinschaft Gottfried Wilhelm Leibniz (Leibniz-Gemeinschaft) e.V., Italy (ICGEB), Colombia (in Spanish), Brazil, Hungary, etc. (about 5/year)
- Referee of BSc-, MSc- and PhD thesis at various institutes at the Faculty of Natural Sciences, Leibniz Universität Hannover, and abroad (Denmark)

8 Research cooperation, project coordination

International

- *Project coordination (1993-1995)* Bacterial diseases and root rots of food crops in West Africa, with special emphasis on cassava and cassava bacterial blight, and establishment of a phytobacteriological training laboratory

Project coordination (1995-1999) Development and implementation of integrated control methods of bacterial diseases of cassava and cowpea in Africa

'Special projects' of BMZ. Plant Health Management Division, International Institute of Tropical Agriculture (IITA), Cotonou, Benin

Collaboration with Institut für Pflanzenpathologie und Pflanzenschutz, University of Göttingen; **Prof. V. Verdier, IRD/ORSTOM, Frankreich; Dr. J. Janse, Plant Protection Service, Wageningen, Niederlande; NARS in six African countries**

- *Project (1996-2000)* Approach to the biological control of *Macrophomina phaseolina*, causal agent of charcoal rot of cowpea, and development of serological methods for its detection (PhD thesis) IITA PhD stipend. IITA, Cotonou, Benin

Collaboration with Prof. G. Wolf, Institut für Pflanzenpathologie und Pflanzenschutz, University of Göttingen

- *Project (1997-1999)* Sustainable protection of cowpea. Funded by Dutch government; participation as IITA research group. IITA, Cotonou, Benin.

Collaboration with NARS in Benin 1997-1999

- *Project coordination (1998-2001)* Development and implementation of integrated methods for the control of cassava bacterial blight. EU Projekt, INCO-DEV IC18-CT-98-0306. Universities Göttingen/ Hannover

Collaboration with Dr. R. Cooper, University of Bath, UK; Prof. V. Verdier, Dr. V. Jorge, Institut de Recherche pour le Developpement (IRD), France; CIAT, Colombia; ITRA, Togo; UNB, Benin

- *Project (1999-2001)* The role of insects as potential vectors for cassava and cowpea bacterial blight in West Africa (MSc-Arbeit) BMZ/DAAD. University of Hannover

Collaboration with IITA, Cotonou, Benin

- *Project (2000)* Mise au point et application de méthodes de détection a *Xanthomonas campestris* pv. *vignicola*, agent causal de la bactériose du niébé (Development of genetic detection methods for *Xanthomonas campestris* pv. *vignicola*). AUPELF-URELF, France. IITA, Cotonou, Benin

Collaboration with Prof. V. Verdier, IRD, Frankreich, Prof. C. Bragard, University of Louvain-la-Neuve, Belgium and University of Benin

- *Project leader (2001-2010)* Integrated management of bacterial diseases of tomato, with special emphasis on bacterial wilt. DFG: Project 7 of Research Group 431/1-1. **Collaboration with AIT and KU in Bangkok, Thailand** (<http://www.susvegthai.org>); 2. Phase (2004-2007)

- *Project (2002/2003)* Genetic and pathogenic diversity of *Ralstonia solanacearum* strains pathogenic to ginger and tomato and development of molecular methods for their detection (Diplomarbeit) DAAD

Collaboration with Dr. M. Fegan, CRC for Tropical Plant Protection, School of Molecular and Microbial Sciences, University of Queensland, Australia

- *Project (since 2003)* Structural and chemical analysis of lipopolysaccharides of *R. solanacearum* Russian Academy of Science
Collaboration with Dr. E. Zdorovenko, Gastwissenschaftlerin der Universität Moskau, Dr. Y. Knirel, Universität Moskau und Dr. Bushneva, Universität Kiew
- *Project (2003-2004)* Intercropping for control of bacterial blight in cassava in Togo. GTZ, Eschborn.
Collaboration with Dr. K Kpemoua, ITRA, Togo.
- *Project (2004)* Studies on antagonistic bacteria for their effect against *R. solanacearum* and fungal pathogens. Humboldt-Stiftung, Germany.
Collaboration with Prof. Dr. Hegazi, guest scientist, University of Cairo, Egypt.
- *Project (since 2004)* Studies on diseases of vegetable in Benin, West-Africa. DAAD, Bonn.
Collaboration with Dr. R. Sikirou, INRAB, Cotonou, Benin.
- *Project (2004-2010)* Development of integrated control of bacterial blight of tomato in Ethiopia, with special emphasis on soil amendment and cropping systems. DAAD, Bonn.
Collaboration with Prof. Dr. Fininsa, Alemaya University, Ethiopia.
- *Project (since 2006)* Identification of signaling pathways involved in induced resistance of tomato against *Ralstonia solanacearum*, by real-time PCR. DAAD, Bonn. Award of German Science Foundation.
Collaboration with Drs. Z. Bozso, P. Ott, Plant Protection Institute of the Hungarian Academy of Sciences, Budapest, Hungary
- *Project (since 2008)* Identification of molecular markers for resistance against strains of *Xanthomonas axonopodis* pv. *vignicola*.
Collaboration with Prof. Dr. Visser, Wageningen University, Netherlands, IITA, Nigeria
- *Project (2008-2010)* ,Characterization of the pathogen population structure of bacterial leaf blight of rice and host pathogen interaction studies'.
Collaboration with CGIAR Center Africa Rice, and NARS in West-Africa.
- *Project (2006-2010)* Characterization of the mode of action of rhizosphere bacteria against bacterial wilt.
Collaboration with Prof. Fininsa, C. Seid Ahmed, Alemaya University, Ethiopia.
- *Project (2009-2010)* Characterization of *Xanthomonas phaseoli* strains from Ethiopia.
Collaboration with Prof. Fininsa, C. Alemaya University, Ethiopia
- *Project (2010-2013)* Excellence in education: Higher Education Partnership.
Collaboration with Universities in Colombia, Chile, South Africa, Indonesia
- *Project (2009-2010)* Characterization of *Xanthomonas phaseoli* strains from Ethiopia.
Collaboration with Prof. Fininsa, C. Alemaya University, Ethiopia
- *Project (2010-2014)* Mitigating the impact of climate change on rice disease resistance in East Africa.
Collaboration with Africa Rice Centre, IRRI (Philippines) and NARS in Uganda, Malawi, Tanzania.

National (Germany)

- *In the framework of a PhD thesis (2003)* Chemical analysis of cell wall polysaccharides of tomato.
Collaboration with Prof. Dr. B Moerschbacher, Institut für Biochemie und Biotechnologie der Pflanzen, University of Münster
- *Project (since 2002)* Chemical analysis of lipopolysaccharides of *Ralstonia solanacearum* strains.
Collaboration with Dr. U. Zähringer, Forschungszentrum Borstel, Zentrum für Medizin und Biowissenschaften, Borstel

- *Project (2001- 2003)* Analysis of leaf surface waxes of cassava genotypes with resistant or susceptible reaction to bacterial blight. Teilprojekt im Rahmen von EU, INCO-DEV
Collaboration with Prof. L. Schreiber, Ökophysiologie der Pflanze, Institut für Botanik, University of Bonn
- Detection methods of *Ralstonia solanacearum* by PCR
Collaboration with Dr. K. Smalla, Biologische Bundesanstalt, Braunschweig.

Universities in Hannover

In the framework of PhD and MSc projects

- Proteomics / IPCL to identify xylem proteins involved in resistance of tomato against *Ralstonia solanacearum*
Collaboration with PD Dr. A. Pich, Institute of Toxicology, Medical Highschool Hannover
- High-throughput transcript analysis by microarrays to identify proteins involved in induced resistance of tomato against *Ralstonia solanacearum*
Collaboration with Prof. F. Stahl, Institut für Technische Chemie, Universität Hannover
- Proteomics to identify proteins involved in resistance of tomato against *Ralstonia solanacearum*
Collaboration with Prof. H.-P. Braun, Institut für Zierpflanzenbau, Baumschule und Pflanzenzüchtung, Abteilung Angewandte Genetik, Universität Hannover
- Studies on resistance mechanisms against pathogens by transcript analysis and other molecular genetic methods including transgenic plants.
Collaboration with Prof. H.-J. Jacobsen, Institut für Molekulargenetik, PD Dr. A. Gau, Institut für Botanik
- Effect of silicon on the resistance of tomato to bacterial wilt caused by *Ralstonia solanacearum* (MSc-thesis) DAAD
Collaboration with Prof. W. Horst, Institut für Pflanzenernährung
- Expression of polygalacturonases of *R. solanacearum* in *E. coli*; characterization of *Xanthomonas oryzae* pv. *oryzae*; ongoing
Collaboration with Prof. E. Maiss, Virologe, Molekulare Phytopathologie, Institut für Pflanzenkrankheiten und Pflanzenschutz.

9 Projects and fund raising

(Donor, duration, project location, short title and budget)

BMFT¹ 1989-1993: Support of Company Diamalt/Schering; PhD student, salary	BAT IIa/2, 3.5year
BMZ² 1994-1995: Project at IITA, Benin, management of diseases of cassava and cowpea (1 postdoc, 1 PhD student)	800.000,- DM
BMZ 1996-1999: Project at IITA, Benin; management of diseases of cassava and cowpea (4 PhD students)	1.2 Mio DM
BMZ 1999: project extension at IITA, Benin, 6 months	120.000,- DM
GTZ 1999: special funds for project-end-workshop	20.000,- DM
IITA 1996-2000: Project at IITA with University of Göttingen, ,Biological control of <i>Macrophomina phaseolina</i> '. (1 PhD student)	36.000,- \$
AUPELF, Frankreich 1999: Project at IITA and University Louvain-La-Neuve, C. Bragard, 3 months. Molecular detection of <i>Xanthomonas campestris</i> pv. <i>vignicola</i>	60.000,- FF
Dutch Government 1997-2002: Project over 5 years: Integrated control of diseases and pests of cowpea; funds for University of Benin and NARS in Benin; participation in project	Funds for NARS
EU, INCO-DC Programm 1998-2001: Project, Universities Göttingen/ Hannover, and Univ. Bath, ORSTOM, France, CIAT, Colombia, NARS in Benin and Togo; 'Integrated control of bacterial blight of cassava'. (2 PhD students for Univ. Hannover)	610.000,- ECU
DAAD³ 2003-2004: Research stay, dipl. student in Australia, 5m	Ca. 7.000,- DM
Russian Academy of Science, seit 2003: Project for structural analysis of lipopolysaccharides of <i>R. solanacearum</i> ; Guest scientist stay in Hannover for 1 month	Ca. 4.000,- DM
DFG⁴ 2001-2004: Project at University Hannover in collaboration with AIT, Thailand, in the framework of a DFG-Research group ,Management of bacterial diseases of tomato'. (1 PhD student)	BAT IIa/2, 3 y res. ass. + 2 y 135.750,-DM + 20.000,- Euro
BMZ 2001-2003: Project at University of Hannover in collaboration with KU, Thailand; ,Management of bacterial diseases of tomato'	108.849,00,- DM
GTZ⁵-Project 2003-2004: 'Control of cassava bacterial blight by mixed cropping and influence on cutting infection' in Togo; field trials and guest scientist stay	5.000,- Euro
Inwent Projects (BMZ) 2003-2004: guest scientist stay of two scientist	2 x 6 months + 7.000,- Euro
DAAD 2004: Guest scientist from Benin for 3 months	7.000,- Euro
Humboldt-Stipend 2004: guest scientist from Egypt	3 weeks stay
DFG-award 2004 of the ,Foundation for German Science' for Project: ,Integrated control of bacterial wilt with cultural measures microbial antagonists and host plant resistance'	12.750,- Euro

¹ German Ministry for Research and Technology

² Ministry for Development and Technical Cooperation

³ German Academic Exchange Service

⁴ German Research Foundation

⁵ Society for Technical Collaboration (executive of German Ministry f. Development and Technical Cooperation)

DAAD 2005: guest scientists from Tanzania for 3 months	7.500,- Euro
DAAD 2007: guest scientist Prof. Afouda, Univ. of Parakou, Benin, 3mths	8.000,- Euro
Universität Hannover 2008: PhD stipend support for ‘Analysis of proteome in tomato / <i>Ralstonia solanacearum</i> interaction’	5.000,- Euro
DFG 2004-2009: DFG project, 2nd phase: ‘Integrated management of bacterial wilt of tomato by cultural measures, microbial antagonists and host plant resistance	BAT IIA/2, 3y 2 MSc stipends 60.088,- Euro
BMZ 2004-2009: cooperative project with AVRDC, Taiwan: Mechanisms of resistance of tomato to bacterial wilt in relation to molecular markers of mapping populations based on introgressions from wild tomato species’ (1 PhD student)	109.000,- Euro
DAAD 2004-2009: Sandwich Project; 1 PhD student	PhD stipend, 3 y
BMZ 2008-2010: Project with CGIAR Center WARDA, Cotonou, Benin, and NARS in West-Africa. ,Characterization of the pathogen population structure of bacterial leaf blight of rice and host pathogen interaction studies’.	60.000,- Euro
DAAD 2006-2011: PhD project. Characterization of the mode of action of rhizosphere bacteria against bacterial wilt	Euro 45,000,-
Ministry of Lower Saxony 2007-2011: FAEN Joint Project with University of Göttingen, on Fusarium wilt of asparagus	BAT IIA/2,3 yrs, 133.000 Euro
Humboldt Stiftung 2009-2010: guest scientist support and bench fee for one year ‘Characterization of <i>Xanthomonas phaseoli</i> strains from Ethiopia’; transfered to GAUG, Prof. P. Karlovsky	39.000 Euro
Islamic Development Banc (IDB) 2008-2012: PhD project. Subject: Characterization of <i>Pectobacterium</i> spp. strains, their molecular interaction with tomato and resistance induction.	PhD stipend 3.5 y + 30,000 Euro
DAAD 2003-2010 Eleven stipends for MSc students	ca. 150.000 Euro
BMZ 2010-2014: Projekt with CGIAR Center Africa Rice, Benin, und NARS in East-Africa. , Mitigating the impact of climate change on rice disease resistance in East Africa’, including 235.000 Euro plus 3 PhD students for UGOE	1.2 Mio Euro
DAAD 2009-2010: Higher Education Partnership projects and various summer schools	ca. 180.000 Euro
DAAD 2010-2013: Excellence in education: Higher Education Partnership with univ. in Colombia, Chile, South Africa, Indonesia	ca. 336.000 Euro
2009-2012: various summer schools/workshops (DAAD) at CeTSAF, Univ. Göttingen, and in various countries	ca. 450.000 Euro
BMBF 2011: project preparation workshop with 70 partners from German, French and African institutions	75.000 Euro
DAAD 2011/2012: Workshops ,Cross-cutting agriculture and health’ in Ghana und Tanzania’	100.000 Euro

Total about 5,6 Mio Euro

Submitted to BMBF 2011: Proposal on ‘Food Security’ with 18 subprojects, with 70 partners from five German, three French, twelve African institutions, and nine International Agricultural Research Centres, amount 35 Mio Euro for 5 years. Participated in proposal development of a DFG-SFB and graduate school ‘Graduiertenschule’ (Universität Hannover).