



UNIVERSITY OF
HOHENHEIM



AMAIZE-P

First Block Seminar of the 3rd Cohort

11 - 16 November 2024



Sino-German International Research Training Group

AMAIZE-P

中德国际研究培训项目

Adaptation of maize-based food-feed-energy systems
to limited phosphate resources

粮食-饲料-能源玉米生产系统磷资源高效利用

Funded by

DFG Deutsche
Forschungsgemeinschaft
German Research Foundation

(GRK 2366/2)

Excursion for doctoral candidates and bachelor students

Saturday, 09 November 2024:

Departure: 09:00 AM from bus stop “Universität Hohenheim” (Heinrich-Pabst-Strasse)

Travel (by coach) to karst cave “Nebelhöhle” on the Swabian Alb

Morning visit: Karst cave “Nebelhöhle”, Gewann Nebelhöhle, 72820 Sonnenbühl

<https://hoehlen.sonnenbuehl.de/startseite/nebelhoehle.html>

Time (CET)	
10:00-10:15	Introduction to Nebelhöhle outside the cave
10:15-11:15	Tour (in 1-2 groups) through the karst cave Nebelhöhle
11:30-13:00	Lunch at Maultaschenwirt (Swabian dumplings, five varieties, preordered) https://www.maultaschen-wirt.de/

Departure: 13:15 h: Return to Heinrich-Pabst-Strasse in Stuttgart-Hohenheim

Arrival: 14:15 h (approx.)

For excursion on 09 November 2024 see map on p. 20.

Venue: Greenhouse of Institute of Crop Science (340 h+i), Fruwirthstrasse 20, south side.

19:00-23:00 | Social event by PhD students (self-organized)

Monday, 11 November 2024: First block seminar of IRTG AMAIZE-P 3rd cohort (Day 1)

Venue: University of Hohenheim, Katharinasaal in Euroforum, Kirchnerstrasse 3, 70599 Stuttgart

CET Beijing time	Content	Speakers	Title/organization
Opening Ceremony - Welcome addresses			
Chairperson: Jun.-Prof. Dr. Andreas Schweiger			
09:00-09:10 16:00-16:10	Opening and Introduction	Jun.-Prof. Dr. Andreas Schweiger	Principle Investigator IRTG AMAIZE-P University of Hohenheim
09:10-09:20 16:10-16:20	Welcome address from Ministry of Food, Rural Affairs and Consumer Protection (MLR), Baden-Württemberg	Ms. Isabel Kling	Ministerial Director MLR Baden-Württemberg
09:20-09:30 16:20-16:30	Welcome address from China Agricultural University (CAU)	Prof. Dr. Taisheng Du	Vice President for Internationalization, China Agricultural University
09:30-09:40 16:30-16:40	Welcome address from University of Hohenheim	Prof. Dr. Andreas Pyka	Vice President for International Affairs, University of Hohenheim
09:40-09:50 16:40-16:50	Welcome addresses from Deans of Colleges	Prof. Dr. Ralf Vögele Prof. Dr. Lixing Yuan	Dean, Faculty of Agricultural Sciences, UHOH Dean, College of Resources & Environmental Sciences, CAU
09:50-10:00 16:50-17:00	Welcome addresses from Spokespersons	Prof. Dr. Torsten Müller Prof. Dr. Xuejun Liu	Institute of Crop Science, UHOH College of Resources & Environmental Sciences, CAU
10:05-10:35 17:05-17:35	Group photo Coffee/tea break		

Session I: Scientific talk by invited speaker

Chairpersons: Prof. Dr. Torsten Müller, Prof. Dr. Xuejun Liu

11:00-12:00 18:00-19:00	P behaviour and sustainable P management	Prof. Dr. Wim De Vries	Wageningen University and Research, The Netherlands
12:00-13:00 19:00-20:00	Lunch at UHOH (Mensa) (self-organized)		

Monday, 11 November 2024: First block seminar of IRTG AMAIZE-P 3rd cohort (Day 1)

Venue: Tagungshaus Christkönigshaus, Paracelsusstrasse 89, 70599 Stuttgart

CET Beijing time	Content	Speakers	Title/organization
---------------------	---------	----------	--------------------

Session II: Scientific talks by invited speakers

Chairpersons: Prof. Dr. Uwe Ludewig, Prof. Dr. Lixing Yuan

14:00-14:45 21:00-21:45	Talk on 'Circular P economy'	Prof. Dr. Susanne Schmidt	University of Queensland, Australia
14:45-15:45 21:45-22:45	Principles and methods for efficient P use in soil-cropping systems with special respect to indigenous mycorrhizal fungi and P-solubilizing bacteria	Prof. Dr. Gu Feng	College of Resources & Environmental Sciences, China Agricultural University
15:45-16:05 22:45-23:05	Coffee/tea break		

Session III: Educational content for German and Chinese doctoral researchers

Chairpersons: Dr. Marco Roelcke, Prof. Dr. Xuejun Liu

16:05-17:55 23:05-00:55	Class on 'Introduction to Research'	Adjunct Prof. Dr. Jagdish Kumar Ladha	University of California, Davis, USA
17:55-18:00 00:55-01:00	Closing remarks and announcements Day 1		

19:00-21:00	Dinner (self-organized)
Evening: Free for bilateral activities of the RSs	

ZOOM Meeting Day 1 (11 November): 08:00 h CET, 15:00 h Beijing time

<https://uni-hohenheim.zoom-x.de/j/62996939117?pwd=VQBzl3jpPNAW9tW8bZDtzXIAM90HXK.1>

Meeting ID: 629 9693 9117

Passcode: miT4Rb

Tuesday, 12 November 2024: First block seminar of IRTG AMAIZE-P 3rd cohort (Day 2)

Venue: Tagungshaus Christkönigshaus, Paracelsusstrasse 89, 70599 Stuttgart

CET Beijing time	Content	Speakers	Title/organization
Session I: Two scientific talks by invited speakers			
Chairpersons: Dr. Marco Roelcke, Prof. Dr. Xuejun Liu			
09:00-09:45 16:00-16:45	Carbon and Nitrogen Management for Climate-Resilient Crop Production and SDG Achievement	Adjunct Prof. Dr. Jagdish Kumar Ladha	University of California, Davis, USA
09:45-10:15 16:45-17:15	Mineral nutrients-driven grain starch quality: P-triggered biosynthesis-structure-functionality	Dr. Xudong Zhang Postdoctoral researcher	Institute of Crop Science, Quality of Plant Products, University of Hohenheim
10:15-10:45 17:15-17:45	Coffee/tea break		
Chairpersons: Dr. Kirsten Boysen-Urban, Prof. Dr. Lin Zhang			
10:45-11:15 17:45-18:15	Farm economic modelling of P-use efficient cropping systems: insights from ongoing research	Dr. Christian Sponagel	Institute of Farm Management, University of Hohenheim
11:45-13:30 18:45-20:30	Lunch at UHOH (Mensa) (self-organized)		
Session II: Educational content for German and Chinese doctoral researchers			
Chairpersons: Ms. Michelle Herrmann, Dr. Zhong Zhuang			
14:00-15:00 21:00-22:00	Educational exercise on Student – Advisor Interactions	Prof. Dr. Susanne Schmidt	University of Queensland, Australia
15:00-15:30	Coffee/tea break		
Session III: World Café format:			
Chairpersons: Prof. Dr. Torsten Müller, Prof. Dr. Lixing Yuan			
15:30-17:25 22:30-00:25	Meetings within and among the research subjects (RS) followed by internal meetings of the individual RS. Issues to be addressed: <ul style="list-style-type: none"> Conclusion of 2nd cohort, as well as data synthesis in cooperation with SA 4 Working plan for 3rd cohort Cooperation between Research Subjects 		
17:25-17:30 00:25-00:30	Closing remarks and announcements Day 2		
18:30-21:00	Official Vice Rector's dinner (Advisory Board, Chinese and German PIs, Senior Scientists, Postdocs)	Restaurant "Denkbar", Fruwirthstrasse 24, 70599 Stuttgart-Hohenheim	

ZOOM Meeting Day 2 (12 November): 08:00 h CET, 15:00 h Beijing time

<https://uni-hohenheim.zoom-x.de/j/61705030438?pwd=gbYcjYqNsWUm9k2Jb8CsaQXXHSkiY3.1>

Meeting ID: 617 0503 0438

Passcode: cF8JJ0

Wednesday, 13 November 2024: First block seminar of IRTG AMAIZE-P 3rd cohort (Day 3)

Venue: Tagungshaus Christkönigshaus, Paracelsusstrasse 89, 70599 Stuttgart

CET	Content		
Beijing time			
Session I: Educational content for German and Chinese doctoral researchers			
Chairpersons: Dr. Marco Roelcke, Prof. Dr. Lin Zhang			
08:30-09:30	Talk on 'The art of scientific writing'	Prof. Dr. Wim De Vries	Wageningen University, The Netherlands
15:30-16:30			
Session II: Self-introductions by doctoral researchers (German and Chinese side)			
Chairpersons: Dr. Jürgen Franzaring, Prof. Dr. Huafen Li			
09:30-10:15	RS 1.1, RS 1.2, RS 1.3	5 min. doctoral researcher UHOH + 5 min. doctoral researcher CAU + 10 min. disc., same for all below	
16:30-17:15	(6 presenters)		
10:15-10:35	Coffee/tea break		
17:15-17:35			
Session III: Self-introductions by doctoral researchers (German and Chinese side)			
Chairpersons: Dr. Kirsten Boysen-Urban, Assoc. Prof. Dr. Wei Zhang			
10:35-11:25	RS 2.1, RS 2.2	5 min. doctoral researcher UHOH + 5 min. doctoral researcher CAU + 10 min. discussion	
17:35-18:25	(6 presenters)		
11:25-11:55	RS 2.3, RS 2.4		
18:25-18:55	(6 presenters)		
12:00-13:30	Lunch at UHOH (Mensa) (self-organized)		
19:00-20:30			
Session IV: Self-introductions by (post-)doctoral researchers (German and Chinese side)			
Chairpersons: Dr. Christian Sponagel, Prof. Dr. Wenfeng Cong			
13:30-14:15	RS 3.1, RS 3.2, RS 3.3	5 min. doctoral researcher UHOH + 5 min. doctoral researcher CAU + 10 min. discussion	
20:30-21:15	(7 presenters)		
14:15-15:05	RS 3.4, RS 4.1, RS 4.2, RS 4.3		
21:15-22:05	(8 presenters)		
15:05-15:30	Coffee/tea break		
Session V: Future collaboration			
Chairpersons: Jun.-Prof. Dr. Andreas Schweiger, Prof. Dr. Lin Zhang			
15:30-17:00	Brainstorming amongst group of younger PIs (to be in the lead) for planning future Sino-German joint collaborative activities (part 1)		
22:30-24:00			
Session VI: AMAIZE-P Advisory Board meeting			
17:00-18:00	Advisory Board meeting incl. German and Chinese PI and Senior Researchers. Discussion of general and specific issues, agenda t.b.d. by Advisory Board		
24:00-01:00			

ZOOM Meeting Day 3 (13 November): **07:30 h CET, 14:30 h Beijing time**

<https://uni-hohenheim.zoom-x.de/j/65565968137?pwd=BiMDfM3dOBZJgdCXMkG0Hyh1dvq4L1>

Meeting ID: 655 6596 8137

Passcode: EmmM42

Excursion

Thursday, 14 November 2024: First block seminar of IRTG AMAIZE-P 3rd cohort (Day 4)

Departure: 07:00 AM from bus stop “Universität Hohenheim” (Heinrich-Pabst-Strasse)

Travel (by coach) to Fischereiforschungsstelle Baden-Württemberg in Langenargen

Morning visit: Fischereiforschungsstelle (Fishery Research Station) Baden-Württemberg at Lake Constance (organized by MLR Baden-Württemberg): Argenweg 50/1, 88085 Langenargen
<https://www.efs-360.de/>

Time (CET)	
10:00-11:30	Guided tour through the research station (English language guide).
11:30	Walk to the pier
12:00-13:30	Ship ride on Lake Constance
12:00-13:30	Lunch on ship (fish buffet)
13:30	Arrival at pier
13:30-14:00	Walk back to research station, time for questions, closing

Departure: 14:15 h: Transfer to Zwiefalten Monastery in Zwiefalten

Afternoon visit: Zwiefalten Monastery: Beda-Sommerberger-Strasse 3, 88529 Zwiefalten

16:00-17:00 Guided tour of Zwiefalten Monastery (two groups, German English)

17:00 h: Move to restaurant

Zwiefalter Klosterbräu, Brauhaus Gaststätte, Hauptstrasse 24, 88529 Zwiefalten

<https://www.zwiefalter.de>

17:15-19:30 Supper and beer at Restaurant Zwiefalter Klosterbräu (with own beer brewery) (self-paying)

Departure: 19:30 h: Return to Heinrich-Pabst-Strasse in Stuttgart-Hohenheim

Arrival: 21:00 h (approx.)

For excursion on 14 November 2024 see map on p. 21.

Friday, 15 November 2024: First block seminar of IRTG AMAIZE-P 3rd cohort (Day 5)

Venue: University of Hohenheim, Katharinasaal in Euroforum, Kirchnerstrasse 3, 70599 Stuttgart

CET Beijing time	Content	Speakers	Title/organization
Session I: Presentations by German and Chinese PIs 1			
Chairpersons: Prof. Dr. Torsten Müller, Prof. Dr. Chunqin Zou.			
09:00-09:30	How is phosphorus nutrition of modern maize cultivars regulated? A nutritional crop physiologists' view	Prof. Dr. Uwe Ludewig	Institute of Crop Science, University of Hohenheim
16:00-16:30			
09:30-10:00	Phosphate recovery in hydrothermal conversion	Dr. Gero Becker	Institute of Agricultural Engineering, Univ. Hohenheim
16:30-17:00			
10:00-10:30	Cross-kingdom nutrient exchange in the plant–arbuscular mycorrhizal fungus–bacterium continuum	Prof. Dr. Lin Zhang	College of Resources & Environmental Sciences, China Agricultural University
17:00-17:30			
10:30-11:00	Coffee/tea break		
17:30-18:00			
Session II: Presentations by German and Chinese PIs 2			
Chairpersons: Dr. Gero Becker, Prof. Dr. Lin Zhang			
11:00-11:30	Evaluation and design of sustainable diversified cropping systems	Prof. Dr. Wenfeng Cong	College of Resources & Environmental Sciences, China Agricultural University
18:00-18:30			
11:30-12:00	Does prolonged fertilization pose an alarming risk of Cd from agroecosystems to human health	Dr. Zhong Zhuang	College of Resources & Environmental Sciences, China Agricultural University
18:30-19:00			
12:00-13:30	Lunch at UHOH (Mensa) (self-organized)		
19:00-20:30			
Session III: Future collaboration			
Lecture room HS 106, Euroforum. Chairpersons: Prof. Dr. Simone Graeff-Hönninger, Prof. Dr. Wenfeng Cong			
14:00-15:45	Brainstorming amongst group of younger PIs (to be in the lead) for planning future Sino-German joint collaborative activities (part 2).		
21:00-22:45			
15:45-16:00	Coffee/tea break		
Session IV: World Café format:			
Katharinasaal + HS 106, Euroforum. Chairpersons: Prof. Dr. Torsten Müller, Prof. Dr. Xinping Chen			
16:00-16:50	Short summaries of world café format discussions		
23:00-23:50			
Evaluation and closing			
16:50-17:00	Closing ceremony	Prof. Torsten Müller, Dr. Marco Roelcke UHOH	
23:50-24:00		Prof. Dr. Lixing Yuan, Prof. Dr. Xuejun Liu, CAU	

ZOOM Meeting Day 5 (15 November): 08:00 h CET, 15:00 h Beijing time

<https://uni-hohenheim.zoom-x.de/j/65796567004?pwd=Pi6kiDyaaNuJ9xvqblbHd1CsHHNewy.1>

Meeting ID: 657 9656 7004

Passcode: 5yWsRu

Excursion

Saturday, 16 November 2024: First block seminar of IRTG AMAIZE-P 3rd cohort (Day 6)

Departure: 08:00 h from bus stop “Universität Hohenheim” (Heinrich-Pabst-Strasse)

08:00-09:15 h: Drive by coach to 72145 Hirrlingen

Time (CET)	
09:15-10:45	Guided visit of AMAIZE-P Central Field Experiment in Hirrlingen

11:00 h: Transfer to Hechingen

11:30-13:30	Lunch at Restaurant Hofgut Domäne in Hechingen (selection of dishes, preordered) Hofgut Domäne, Brielhof 1, 72379 Hechingen. www.hofgut-domaene.de
-------------	--

13:30 h: Transfer to Hohenzollern Castle

Afternoon visit: Hohenzollern Castle:

Burg Hohenzollern, 72379 Burg Hohenzollern

13:45-14:15	Walk up to Hohenzollern Castle
14:15-16:00	Visit (self-guided) of Hohenzollern Castle (outside courtyards, walls, etc.).
16:00-16:20	Walk back to bus

Departure: 16:30 h: Return to Heinrich-Pabst-Strasse in Stuttgart-Hohenheim

Arrival: 18:00 h (approx.)

For excursion on 16 November 2024 see map on p. 22.

Thursday, 21 November 2024:

Educational contents for 3rd generation of doctoral researchers at University of Hohenheim

Venue: Lecture hall S 14 (HDZ), Wollgrasweg 43, 2nd floor

Approx. 18 participants

09:00-12:30	“FIT for China” seminar, part I morning session	Ms. Ning Huang	Language Center, University of Hohenheim
10:30-11:00	Group photo and coffee/tea break		
12:30-13:30	Lunch at UHOH (Mensa) (self-organized)		
15:00-15:30	Coffee/tea break		
13:30-17:00	“FIT for China” seminar, part I afternoon session	Ms. Ning Huang	Language Center, University of Hohenheim

Friday, 22 November 2024:

Educational contents for 3rd generation of doctoral researchers at University of Hohenheim

Venue: Seminar room 106, Euroforum, Kirchnerstrasse 3, 2nd floor

Approx. 18 participants

09:00-12:30	“FIT for China” seminar, part II morning session	Ms. Ning Huang	Language Center, University of Hohenheim
10:30-11:00	Coffee/tea break		
12:30-13:30	Lunch at UHOH (Mensa) (self-organized)		
15:00-15:30	Coffee/tea break		
13:30-17:00	“FIT for China” seminar, part II afternoon session	Ms. Ning Huang	Language Center, University of Hohenheim

Short biographical profiles of invited speakers



Professor Dr. Wim De Vries

Chair Group Earth Systems and Global Change
Wageningen University and Research
E-mail: wim.devries@wur.nl
Orcid number: 0000-0001-7879-9404

Biographical Sketch: Wim de Vries is professor at Wageningen University where he holds the chair "Integrated nutrient impact modelling". His key expertise is in the field of soil chemistry with special reference to soil acidification, nutrient cycling, greenhouse gas emissions and heavy metal pollution.

His research is organized around impacts of agricultural nutrient use on ecosystem services and the environment and related boundaries in view of those impacts. This includes impacts on air, soil and water quality, crop and wood productivity, carbon sequestration of terrestrial ecosystems and greenhouse gas emissions. These impacts are assessed by the development, validation and application of models from landscape to global scale.

Wim de Vries wrote more than 600 publications as an author or co-author on the above mentioned topic, including more than 250 publications in international peer reviewed journals.

[Wim de Vries - Google Scholar Citations](#)

Selected recent publications:

De Vries, W., M. Posch, D. Simpson, F.A.A.M. de Leeuw, H.J.M van Grinsven, L.F. Schulte-Uebbing, M.A. Sutton and G.H. Ros, 2024. Trends and geographic variation in adverse impacts of nitrogen use in Europe on human health, climate, and ecosystems: a review. *Earth Science Reviews* 253, <https://doi.org/10.1016/j.earscirev.2024.104789>

De Vries, W., J. Kros, J.C. Voogd and G. H. Ros, 2023. Integrated assessment of agricultural practices on the loss of ammonia, greenhouse gases, nutrients and heavy metals to air and water. *Science of the total Environment* 857, Part 1, 2023, 159220, <https://doi.org/10.1016/j.scitotenv.2022.159220>

Deng, O., J. Ran, S. Huang, S. Wang, X. Zhang, J. Duan, S. Reis, L. Zhang, Y. Xia, J. Xu, J. Xu, W. de Vries, M.A. Sutton and B. Gu, 2024. Well-managed urbanization could halve nitrogen pollution in China. *Nature Communications* (2024)1 5:401 <https://doi.org/10.1038/s41467-023-44685-y>

Gu, Y., G. H. Ros, Q. Zhu, D. Zheng, J. Shen, Z. Cai, M. Xu and W. de Vries, 2023. Responses of total, reactive and dissolved phosphorus pools and crop yields to long-term fertilization. *Agriculture, Ecosystems & Environment* 357, 108658. <https://doi.org/10.1016/j.agee.2023.108658>

Schulte-Uebbing, L.F., A.H.W. Beusen, A.F. Bouwman and W. de Vries, 2022. From planetary to regional boundaries for agricultural nitrogen pollution. *Nature* 610: 507–512. <https://doi.org/10.1038/s41586-022-05158-2>

You, L., G.H. Ros, Y. Chen, Q. Shao, M. Young and W. de Vries, 2023. The global mean nitrogen use efficiency in croplands can be enhanced to 70% by optimal nutrient, crop and soil management practices. *Nature Communications* 14, 5747 (2023). <https://doi.org/10.1038/s41467-023-41504-2>



Professor Dr. Gu Feng

College of Resources and Environmental Sciences
China Agricultural University (CAU)
Haidian, Beijing, P.R. China
E-mail: fenggu@cau.edu.cn
ORCID: <https://orcid.org/0000-0002-1052-5009>

Biographical Sketch: Professor Feng is an expert in Soil Biology and Plant Nutrition at China Agricultural University. He finished his BA and PhD studies in the Department of Soil Science and plant nutrition, at Northwestern Agricultural University, China. He has been working with arbuscular mycorrhizal (AM) symbionts for 35 years. His research is focused on improving efficient P utilization and production of crops by AM fungi. His group is very interested in understanding the mechanism under which fungi and P-solubilizing bacteria (PSB) synergistically promote soil P mobilization. Recently, he developed some useful methods for quantifying AM-PSB interactions in the hyphosphere and published some interesting research papers. He published more than one hundred research papers in international journals, such as Microbiome, New Phytologist, Soil Biology and Biochemistry, etc.

Selected peer-reviewed research papers:

Peng Y, Huo W, Feng G Maximising cotton phosphorus utilization for zero surplus and high yields: A review of innovative P management strategies. *Field Crops Research*, 2024, 313, 109429
<https://doi.org/10.1016/j.fcr.2024.109429>

Jin Z, Jiang F, Wang L, Declerck S, Feng G, Zhang L Arbuscular mycorrhizal fungi and Streptomyces: brothers in arms to shape the structure and function of the hyphosphere microbiome in the early stage of interaction. *Microbiome*, 2024, 12: 83
<https://doi.org/10.1186/s40168-024-01811-2>

Qin Z, Y Tian, W Hao, J Zhang, G Feng, P Christie, J Gai Identifying the predictors of mycorrhizal response under multiple fertilization regimes. *Agriculture, Ecosystems & Environment*, 2024, 365, 108926

Wang G, Jin Z, George TS, Feng G, Zhang L Arbuscular mycorrhizal fungi enhance plant phosphorus uptake through stimulating hyphosphere soil microbiome functional profiles for phosphorus turnover. *New Phytologist*, 2023, <https://doi.org/10.1111/nph.1877>

Zhou J, L Zhang, G Feng, TS George 2022 Arbuscular mycorrhizal fungi have a greater role than root hairs of maize for priming the rhizosphere microbial community and enhancing rhizosphere organic P mineralization - *Soil Biology and Biochemistry*, 171:108713

Wang F, Zhang L, Zhou J, George TS, Rengal Z, Feng G Exploring the secrets of hyphosphere of arbuscular mycorrhizal fungi: processes and ecological functions. *Plant and Soil*, 2022, 481: 1–22



Professor Dr. J.K. Ladha
Adjunct Professor
Department of Plant Sciences
University of California, Davis, USA
E-mail: jkladha@ucdavis.edu

Biographical Sketch: Professor J.K. Ladha devoted more than 35 years to aspects of sustainable management of agriculture and natural resources for increasing food security and environmental quality in developing countries. He served at the International Rice Research Institute (IRRI) from 1980 to 2017 was an adjunct senior scientist at the Columbia University until 2016. Currently, he is an Adjunct Professor in the Dept of Plant Sciences at the University of California-Davis. Dr Ladha provided leadership to the Cereal System Initiative System for South Asia and the Rice-Wheat Consortium Project that aims to sustainably enhance the crop productivity. He was a "Frosty" Hill Fellow at Cornell University (July 07–June 08) and an adjunct professor of Soil Science at the University of the Philippines (1990–2004).

Professor Ladha is a fellow of the American Association for the Advancement of Science (AAAS), American Society of Agronomy (ASA), the Soil Science Society of America (SSA), the Crop Science Society of America (CSSA), the Indian Academy of Agricultural Sciences (NAAS), and an associate member of the Philippine Council of Agricultural Research (PARC). He is a recipient of several awards and honors notably, the Third World Academy of Sciences Agriculture Prize 2016, the International Crop Science Award 2015, the International Service in Agronomy Award 2011, International Soil Science Award 2010, International Plant Nutrition Institute Science Award 2009. In 2000 and 2004, the CGIAR awarded the Chairman's Excellence Science Award for Outstanding Scientific Partnership and the prestigious King Baudoin Award for Outstanding Research to the Rice-Wheat Consortium in which Professor Ladha was the key scientist and IRRI's coordinator. Recently, on the Fifteenth day of October of 2024, Professor Ladha was conferred with Honorary Degree of Doctor of Science by Rajmata Vijayaraje Scindia Agriculture University, Gwalior, India.



Professor Dr. Susanne Schmidt

School of Agriculture and Food Sciences
University of Queensland, Brisbane, Australia
E-mail: susanne.schmidt@uq.edu.au

Biographical Sketch: Prof Susanne Schmidt is a scientist and educator who studies tropical agro-ecosystems at The University of Queensland, Brisbane, Australia. She graduated from the University of Hohenheim in Agricultural Biology and chose Australia for her PhD research.

As part of a diverse team, Susanne works across ecology and agriculture, focusing on plant nutrition, ecophysiology and biogeochemistry. Interdisciplinary by nature, her work spans sustainable agriculture, restoration of degraded land, and supports Australian Indigenous people in developing industries based on native plants and botanicals.

A long focus has the circular nutrient economy with next-generation fertilisers made from recycled materials that efficiently supply nutrients to crops and recarbonise soil. A more recent focus is how fertilisers and composts benefit food quality and agronomies for native plants. Susanne is the deputy leader of International Nitrogen Initiative (INI.org, Oceania) and a Fellow of the Alexander von Humboldt Foundation among other.



Dr. Xudong Zhang
University of Hohenheim
Institute of Crop Science, Quality of Plant Products (340e)
E-mail: xudong.zhang@uni-hohenheim.de

Biographical Sketch: Dr. Zhang completed his PhD at the University of Hohenheim in 2020, followed by postdoctoral research at the University of Tübingen in 2021. Since 2022, he has continued his postdoctoral work at the Institute of Crop Science, University of Hohenheim.

His research focuses on Agri-Food sustainability, with expertise in plant nutrition, crop stress physiology, and food science. He aims to enhance the grain quality of staple crops by optimizing nutrient availability to increase the added value of nutrient-driven grain-based food products. Additionally, Dr. Zhang investigates the physiological mechanisms of crops under abiotic stresses, such as soil salinity, drought, and nutrient imbalance, both at the whole plant and cellular levels, including stomatal biology.

He has authored over 20 peer-reviewed articles in prestigious journals, including *Journal of Experimental Botany*, *Journal of Agronomy and Crop Science*, *Journal of Agricultural and Food Chemistry*, *Trends in Food Science and Technology*, *Food Hydrocolloids*, *Carbohydrate Polymers*, *Food Chemistry*, and *International Journal of Biological Macromolecules*.

Selected recent publications:

Zhang X, Blennow A, Jekle M, et al. Climate–nutrient–crop model: novel insights into grain-based food quality. *Journal of Agricultural and Food Chemistry*, 2023, 71(27): 10228-10237.

Zhang X, Guo D, Blennow A, et al. Mineral nutrients and crop starch quality. *Trends in Food Science & Technology*, 2021, 114: 148-157.

Geilfus C M, **Zhang X***, Mithöfer A, et al. Leaf apoplastic alkalization promotes transcription of the ABA-synthesizing enzyme Vp14 and stomatal closure in *Zea mays*. *Journal of Experimental Botany*, 2021, 72(7): 2686-2695. (*Correspondence)

Participants List

Invited guests

1. Ms. Isabel Kling, Ministerial Director, Ministry of Food, Rural Affairs and Consumer Protection (MLR), Baden-Württemberg, Germany
2. Ms. Maëlenn Redien, Ref.20, Ministry of Food, Rural Affairs and Consumer Protection (MLR), Baden-Württemberg, Germany

Invited speakers

3. Prof. Dr. Gu Feng, China Agricultural University, Beijing, China
4. Prof. Dr. Wim de Vries, Wageningen University and Research, The Netherlands
5. Prof. Dr. Jagdish Kumar Ladha, University of California, Davis, USA
6. Prof. Dr. Susanne Schmidt, University of Queensland, Brisbane, Australia
7. Dr. Xudong Zhang, Institute of Crop Science (340e), University of Hohenheim, Germany
8. Ms. Ning Huang, Stuttgart, Germany

German Side

9. Prof. Dr. Andreas Pyka, Vice President for International Affairs, University of Hohenheim
10. Prof. Dr. Ralf T. Vögele, Dean, Faculty of Agricultural Sciences, University of Hohenheim (UHOH)
11. Prof. Dr. Torsten Müller, IRTG Spokesperson, Institute of Crop Science, UHOH
12. Prof. Dr. Reiner Doluschitz, former IRTG Deputy Spokesperson, Institute of Farm Economics, UHOH
13. Dr. Marco Roelcke, IRTG Coordinator, UHOH
14. Prof. Dr. Tobias Würschum, Institute of Plant Breeding, Seed Science and Population Genetics, UHOH
15. Prof. Dr. Uwe Ludewig, Institute of Crop Science, UHOH
16. Prof. Dr. Waltraud Schulze, Department of Plant Systems Biology, UHOH
17. Jun.-Prof. Dr. Andreas Schweiger, Institute of Landscape and Plant Ecology, UHOH
18. Prof. Dr. Simone Graeff-Hönninger, Institute of Crop Science, UHOH
19. Prof. Dr. Jan Frank, Institute of Biological Chemistry and Nutrition, UHOH
20. Prof. Dr. Amélia Camarinha Silva, Institute of Animal Science, UHOH
21. Prof. Dr. Markus Rodehutscord, Institute of Animal Science, UHOH
22. Prof. Dr. Andrea Kruse, Institute of Agricultural Engineering, UHOH
23. Prof. Dr. Enno Bahrs, Institute of Farm Economics, UHOH
24. Dr. Hans Oechsner, State Institute for Agricultural Engineering and Bioenergy, UHOH
25. Dr. Kirsten Boysen-Urban, International Trade and Food Security, UHOH
26. Dr. Sebastian Munz, Institute of Crop Science, UHOH
27. Dr. Jürgen Franzaring, Institute of Landscape and Plant Ecology, UHOH
28. Dr. Gero Becker, Institute of Agricultural Engineering, UHOH
29. Dr. Christian Sponagel, Post-doctoral researcher, Institute of Farm Economics, UHOH
30. Dr. Muhammad Jamal Alhnidi, Post-doctoral researcher, Institute of Agricultural Engineering, UHOH

31. Ms. Wanda Haller, Doctoral researcher on German side, RS 1.1
32. Ms. Pia Engl, Doctoral researcher on German side, RS 1.2
33. Ms. Nasim Gandomdoust, Doctoral researcher on German side, RS 1.3
34. Mr. Chieh-Fu Hsiao, Doctoral researcher on German side, RS 2.1
35. Ms. Fangfang Ning, Doctoral researcher external on German side, RS 2.1
36. Ms. Fatima Jafri, Doctoral researcher on German side, RS 2.2
37. Mr. Ali Malakshahi Kurdestani, Doctoral researcher on German side, RS 2.2
38. Ms. Afsaneh Yousefi, Doctoral researcher external on German side, RS 2.2
39. Mr. Khandoker Tanjim Ahammad, Doctoral researcher on German side, RS 2.3
40. Ms. Huiyan Wang, Doctoral researcher on German side, RS 2.4
41. Ms. Sepideh Sadighbathi, Doctoral researcher on German side, RS 3.1
42. Ms. Dokyung Lee, Doctoral researcher on German side, RS 3.2
43. Ms. Kea Purwing, Doctoral researcher on German side, RS 3.3
44. Ms. Leiddi Leal, Doctoral researcher on German side, RS 3.4
45. Mr. Pascal Wendel, Doctoral researcher on German side, RS 4.1
46. Ms. Michelle Herrmann, (Post-)doctoral researcher on German side, RS 4.2
47. Mr. Mamadou Jallow, Doctoral researcher on German side, RS 4.3

48. Dr. Zhangkai Wu, Post-doctoral Researcher, Institute of Agricultural Engineering, University of Hohenheim
49. Ms. Friederike Selensky, Doctoral Researcher, trans4num project, University of Hohenheim
50. Ms. Katharina Gundermann, Bachelor Student, Institute of Crop Science, University of Hohenheim

Chinese Side

51. Prof. Dr. Taisheng Du, Vice President for Internationalization, China Agricultural University (CAU)
52. Ms. Ying Tang, Director, International Office, China Agricultural University (CAU)
53. Prof. Dr. Fusuo Zhang, Academician, IRTG Spokesperson, National Academy of Agriculture Green Development, China Agricultural University (CAU)
54. Prof. Dr. Lixing Yuan, Dean, College of Resources and Environmental Sciences (CRES), China Agricultural University (CAU)
55. Prof. Dr. Xuejun Liu, IRTG Deputy Spokesperson, Coordinator, CRES, CAU
56. Prof. Dr. Xinpeng Chen, College of Resources and Environment, Southwest University
57. Prof. Dr. Huaiyu Yang, College of Resources and Environment, Southwest University
58. Prof. Dr. Wenfeng Cong, CRES, CAU
59. Prof. Dr. Zhongtao Jia, CRES, CAU
60. Prof. Dr. Huafen Li, CRES, CAU
61. Prof. Dr. Xuexian Li, CRES, CAU
62. Prof. Dr. Jianbo Shen, CRES, CAU
63. Prof. Dr. Lin Zhang, CRES, CAU
64. Prof. Dr. Chunqin Zou, CRES, CAU
65. Prof. Dr. Pu Wang, College of Agronomy and Biotechnology, CAU
66. Prof. Dr. Shunli Zhou, College of Agronomy and Biotechnology, CAU
67. Prof. Dr. Xiongkui He, College of Science, CAU

68. Prof. Dr. Jianfen Liang, College of Food Science and Nutritional Technology, CAU
69. Prof. Dr. Qiugang Ma, College of Animal Science and Engineering, CAU
70. Prof. Dr. Ji Ma, College of Economics and Management, CAU
71. Prof. Dr. Laping Wu, College of Economics and Management, CAU
72. Assoc. Prof. Dr. Lingyun Cheng, CRES, CAU
73. Assoc. Prof. Dr. Tao Zhang, CRES, CAU
74. Assoc. Prof. Dr. Prof. Wenxin Liu, College of Agronomy and Biotechnology, CAU
75. Assoc. Prof. Dr. Jianbin Guo, College of Engineering, CAU
76. Assoc. Prof. Dr. Si Shen, CRES, CAU
77. Assoc. Prof. Dr. Wei Zhang, College of Resources and Environment, Southwest University
78. Dr. Zhong Zhuang, Post-doctoral researcher, CRES, CAU

79. Ms. Yueli Wang, Doctoral researcher on Chinese side, RS 1.1
80. Mr. Bo Yang, Doctoral researcher on Chinese side, RS 1.2
81. Ms. Lianlian Liu, Doctoral researcher on Chinese side, RS 1.3
82. Mr. Zudong Xiao, Doctoral researcher on Chinese side, RS 2.1
83. Mr. Zhen Chen, Doctoral researcher on Chinese side, RS 2.1
84. Ms. Jingyi Hu, Doctoral researcher on Chinese side, RS 2.2
85. Mr. Fucheng Gao, Doctoral researcher on Chinese side, RS 2.2
86. Mr. Saike Jiang, Doctoral researcher on Chinese side, RS 2.3
87. Mr. Jiang Liu, Doctoral researcher on Chinese side, RS 2.4
88. Ms. Jingwen Cheng, Doctoral researcher on Chinese side, RS 2.4
89. Ms. Ruotong Si, Doctoral researcher on Chinese side, RS 2.4
90. Ms. Lei Ma, Doctoral researcher on Chinese side, RS 3.1
91. Ms. Tianyi Liu, Doctoral researcher on Chinese side, RS 3.1
92. Ms. Yafei Liu, Doctoral researcher on Chinese side, RS 3.2
93. Ms. Xueling Ran, Doctoral researcher on Chinese side, RS 3.3
94. Ms. Qing Xu, Master student on Chinese side, RS 3.4
95. Ms. Chengtao Wen, Doctoral researcher on Chinese side, RS 4.1
96. Mr. Feiyu Ying, Doctoral researcher on Chinese side, RS 4.2
97. Mr. Han Gao, Doctoral researcher on Chinese side, RS 4.3

98. Ms. Ziyang Tian, Bachelor student, Yantai Institute of CAU
99. Mr. Xingyu Lyu, Bachelor student, Yantai Institute of CAU
100. Ms. Xiaotong Liu, Bachelor student, Yantai Institute of CAU
101. Ms. Xiaoxuan Ren, Bachelor student, Yantai Institute of CAU
102. Ms. Yanlai Liu, Bachelor student, CAU, Beijing
103. Ms. Yuhang Li, Bachelor student, CAU, Beijing
104. Ms. Siying Lu, Bachelor student, CAU, Beijing
105. Ms. Lanxiang Wang, Bachelor student, CAU, Beijing
106. Ms. Siyu Lu, Bachelor student, CAU, Beijing
107. Mr. Yiran Xu, Bachelor student, CAU, Beijing
108. Mr. Zihe LI, Bachelor student, CAU, Beijing
109. Ms. Chengfei Wang, Bachelor student, CAU, Beijing

Block seminar venues in Hohenheim:

11.11.2024 morning, 15.11.2024 whole day:

Katharinasaal, Euroforum

Kirchnerstrasse 3, 70599 Stuttgart-Plieningen

11.11.2024 afternoon, 12.11. whole day, 13.11.2024 whole day:

Tagungshaus Christkönigshaus

Paracelsusstrasse 89, 70599 Stuttgart-Plieningen

12.11.2024 Evening Reception:

Restaurant Denkbar

Fruwirthstrasse 24, 70599 Stuttgart-Hohenheim

Front cover

Central field experiment plot of AMAIZE-P at Hirrlingen, Baden-Württemberg, Germany. Photo:

© Mr. Daniel Wanke, 2024.

Project website:

<https://amaize-p.uni-hohenheim.de/>



Contact Information:

Prof. Dr. Torsten Müller: mobile (+49) 0173 8060343 torsten.mueller@uni-hohenheim.de

Dr. Marco Roelcke: mobile Germany: (+49) 01520 4385461

mobile China: (+86) 13810839060 marco.roelcke@uni-hohenheim.de

Ms. Michelle Herrmann: mobile: (+49) 0157 77048407 m.herrmann@uni-hohenheim.de

Ms. Wanda Haller mobile: (+49) 015756351745 wanda.haller@uni-hohenheim.de

Prof. Dr. Xuejun Liu: mobile: (+86) 13811559176 liu310@cau.edu.cn

Prof. Dr. Lixing Yuan: mobile: (+86) 13911809064 yuanlixing@cau.edu.cn

Prof. Dr. Lin Zhang: mobile: (+86) 15901013348 linzhang@cau.edu.cn

Dr. Zhong Zhuang: mobile: (+86) 15656763932 zhuangzhong@cau.edu.cn

Hotel accommodation in Hohenheim:

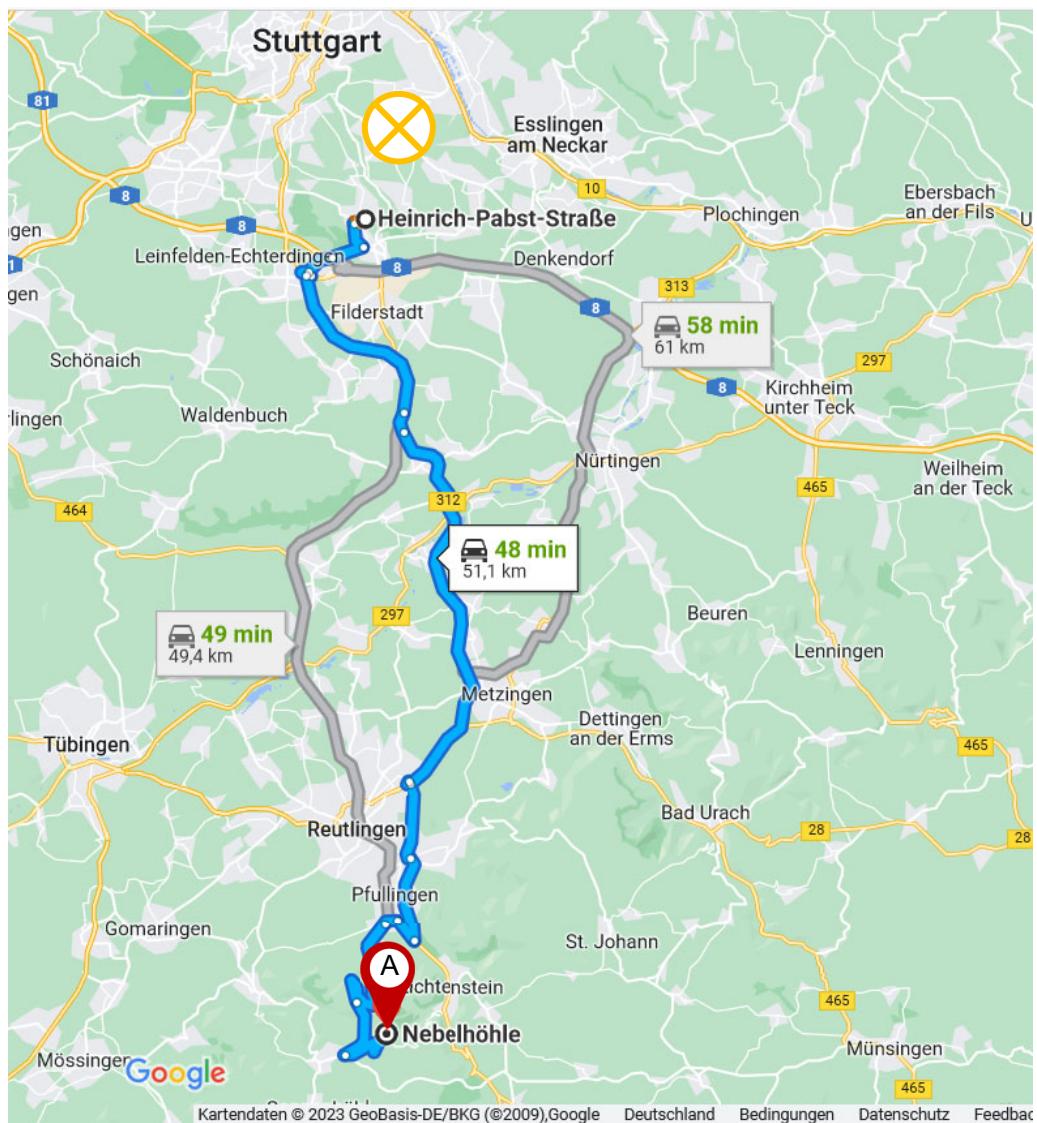
Apart Business Hotel
Scharnhauser Strasse 4
70599 Stuttgart-Plieningen
Tel: (+49) 0711-45010
info@apart-hotel.de

Airport und Messe Hotel Filderpost
Schoell Strasse 4, corner with Filderhauptstrasse, 70599 Stuttgart-Plieningen
Tel. (+49) (0)711 4584-0
services@filderpost.de

Christkönigshaus
Paracelsusstrasse 89, 70599 Stuttgart-Plieningen
Tel. (+49) (0) 711 458282-3
christkoenigshaus@tagungshaus.net

Research subjects (RS)	Title
Subject Area (SA) 1	
RS 1.1	Genetic variation, genetic architecture, and genomic prediction of phosphate-use-efficiency traits in European and Chinese maize
RS 1.2	Molecular determinants of P and N synergism in maize roots and rhizosphere
RS 1.3	Regulatory modules of carbon resource allocation under different phosphate availabilities
Subject Area (SA) 2	
RS 2.1	Genotype to phenotype modelling of phosphate acquisition and related biomass and yield traits of maize
RS 2.2	Increasing soil phosphate availability and phosphate fertilizer efficiency
RS 2.3	Detecting phosphate status in soil and in maize canopies by non-invasive methods
RS 2.4	Uptake and allocation of heavy metals from P-fertilizers along the soil-plant-atmosphere continuum
Subject Area (SA) 3	
RS 3.1	The impact of reduced phosphate-availability on essential micronutrients in maize for human consumption
RS 3.2	Inositol phosphates, phosphate utilization, and microbiome in the digestive tract of pigs and laying hens fed maize-based diets
RS 3.3	Deployment of phosphate resources for nutrient recycling via anaerobic digestion systems
RS 3.4	Hydrothermal conversion of biomass to carbon materials with phosphate recovery
Subject Area (SA) 4	
RS 4.1	Economic analyses at plot, farm enterprise, and regional level
RS 4.2	Synthesis and field experiments
RS 4.3	Economic assessment of future phosphate availability: Impacts on agricultural and food markets at farm, national and global level

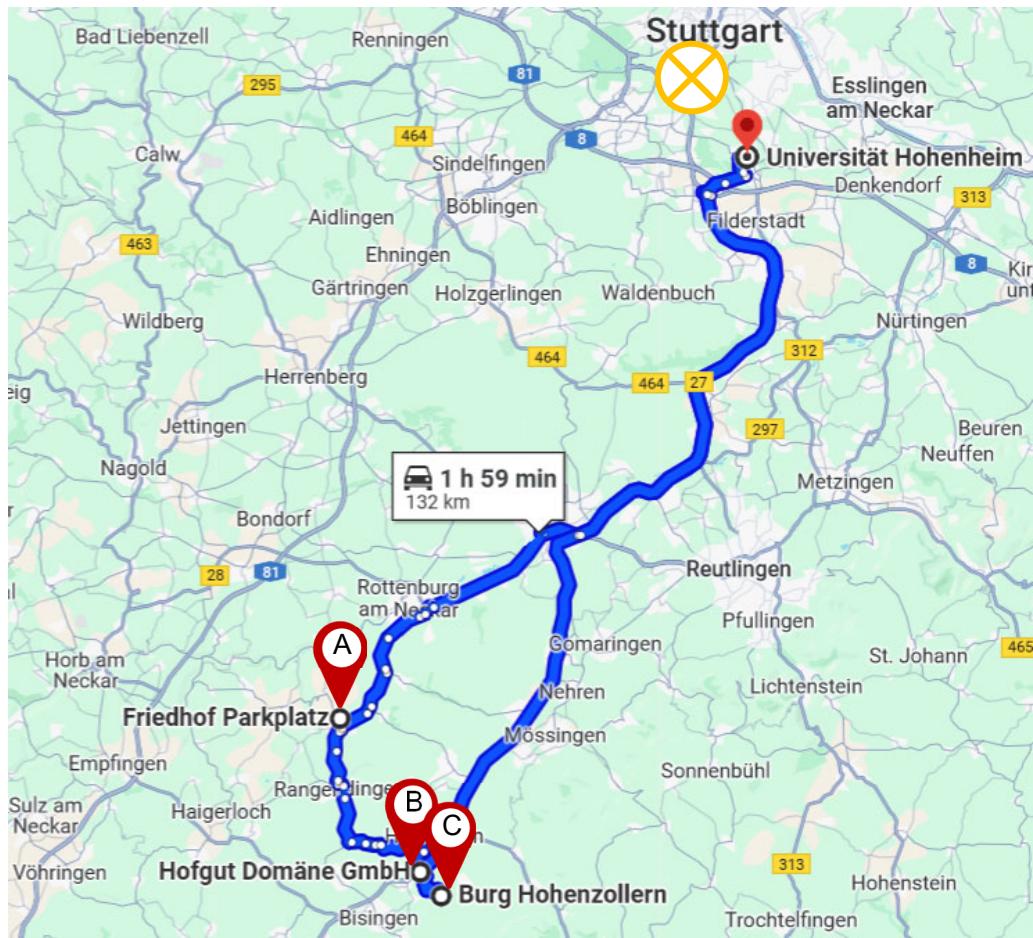
(see maps on following pages)



	University of Hohenheim
	Karst cave Nebelhöhle, 72820 Sonnenbühl



	University of Hohenheim
	Fishery Research Station Baden-Württemberg
	Zwiefalten Monastery and Zwiefalter Klosterbräu



	University of Hohenheim
	Central Field Experiment AMAIZE-P Friedhof Parkplatz, Frommenhauser Strasse, 72145 Hirrlingen
	Restaurant Hofgut Domäne Brielhof 1, 72379 Hechingen
	Hohenzollern Castle 72379 Burg Hohenzollern

