



UNIVERSITY OF
HOHENHEIM



Second Block Seminar

The genetic potential of phosphate efficiency

18-23 March 2019

Programme



Sino-German International Research Training Group

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

Deutsche Forschungsgemeinschaft (DFG) GRK 2366

Date:	Activity/Event	Hotel accomodation
Saturday, March 16	Arrival of most Chinese PIs in Hohenheim, Optional: bilateral RS meetings.	Catholic Academy Hohenheim Paracelsusstraße 91, 70599 Stuttgart Tel. 0711-451034600
Sunday, March 17	Optional: bilateral RS meetings	Catholic Academy Hohenheim
Monday, March 18	<p>Venue: University of Hohenheim, Euro-Forum Katharinasaal</p> <p>Morning Session I: Scientific talks by 7 invited speakers and advisory board members:</p> <p>9:00-9:05: Welcome: Torsten Müller (UHOH) and Lixing Yuan (CAU)</p> <p>09:05-09:45: Assoc. Prof. Dr. Matthias Wissuwa: "Breeding phosphorus efficient rice: From classical breeding to genomic prediction"</p> <p>09:45 – 10:25 h: Dr. Jurandir de Magalhaes: "Enhancing Phosphorus Acquisition for Sustainable Maize and Sorghum Production on Acidic Soils"</p> <p>10:25 – 10:55 h: Coffee/tea break</p> <p>10:55 – 11:35 h: Prof. Dr. Albrecht E. Melchinger: "Libraries of doubled haploid lines from landraces: a new tool for broadening the genetic diversity in hybrid breeding programs of maize"</p> <p>11:35 – 12:15 h: Dr. Johannes Postma: "How the root phenotype influences phosphorus uptake on low P soils: Conclusions from functional structural plant modeling"</p> <p>12:15 – 13:30 h: Lunch break at University "Mensa"</p> <p>Afternoon Session I: Scientific talks (contd.)</p> <p>13:30 – 14:10 h: Dr. Laurent Nussaume: "Phosphate and metals"</p> <p>14:10 – 14:50 h: Dr. Stefanie Schulz: "Bacterial strategies to acquire phosphorus in agricultural soils"</p> <p>14:50 – 15:30 h: Prof. Dr. Günter Neumann: P-solubilizing microorganisms as plant inoculants - Vision or reality?</p> <p>15:30 – 16:00 h: Coffee/tea break</p> <p>16:00-16:45 h: Educational talk by Dr. Matthias Wissuwa: "Internal P utilization efficiency: How to address this trait in crop breeding?"</p>	

	<p>16:45 – open end Joint preparation of project reports and individual supervision by invited speakers</p> <p><u>In parallel to Educational talk:</u> 16:00 h –open end: Venue: Lecture hall 24 PI meeting, incl. Advisory Board members</p>	Catholic Academy Hohenheim
Date:	Activity/Event	Hotel accomodation
Tuesday, March 19	<p>Venue: Euro-Forum Katharinasaal</p> <p>Morning session II: Presentations by doctoral researchers</p> <p>Chairpersons: Willmar Leiser, Lixing Yuan 08:30 – 09:00 h: RS 1.1 (German+Chinese PhD students+discussion, same for all below) 09:00 – 09:30 h: RS 1.2 09:30 – 10:00 h: RS 1.3</p> <p>10:00 – 10:30 h: Coffee/tea break</p> <p>10:30 – 11:00 h: RS 2.1 11:00 – 11:30 h: RS 2.2 11:30 – 12:00 h: RS 2.3</p> <p>12:00 – 13:30: Lunch break at University “Mensa”</p> <p>Afternoon session II: Presentations by doctoral researchers</p> <p>Chairpersons: Tobias Hartmann, Jiechen Wu 13:30 – 14:00 h: RS 2.4 14:00 – 14:30 h: RS 3.1 14:30 – 15:00 h: RS 3.2</p> <p>15:00 – 15:30 h: Coffee/tea break</p> <p>15:30 – 16:00 h: RS 3.3 16:00 – 16:30 h: RS 3.4 16:30 – 17:00 h: RS 4.1 17:00 – 17:30 h: RS 4.2 17:30 – 18:00 h: Joint discussion.</p> <p><i>18:30 h:</i> Official Rector’s Reception Hohenheim Palace, “Great Foyer”</p>	Catholic Academy Hohenheim

Date:	Activity/Event	Hotel accomodation
Wednesday, March 20 - Excursion -	<p><i>09:00 h:</i> Departure to Quedlinburg</p> <p>Lunch: On the road to Quedlinburg</p> <p><i>Afternoon:</i> Town visit <i>19:00 h:</i> Dinner in restaurant Brauhaus Lüdde, Blasiistr. 14, 06484 Quedlinburg Tel. 03946-705206</p>	<p>Hotel zum Bär Markt 8/9 06484 Quedlinburg Tel. 03946-777-0</p> <p>and</p> <p>Hotel Schlossmühle Kaiser-Otto-Str. 28 06484 Quedlinburg Tel. 03946-787-0</p>
Thursday, March 21 - Excursion -	<p><i>09:00-12:00 h:</i> Visit Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben</p> <p>Scientific talks II by 3 – 4 IPK senior scientists</p> <p>Lunch: On bus with packed lunches by IPK</p> <p><i>Approx. 14:30-16:30 h:</i> Visit of KWS SAAT Seed company in Einbeck</p> <p><i>Late afternoon:</i> proceed to Bad Liebenstein. Buffet dinner at Kulturhotel Kaiserhof</p>	<p>Kulturhotel Kaiserhof, Esplanade 9, 36448 Bad Liebenstein Tel. 036961-7337-0</p>
Friday, March 22 - Excursion -	<p><i>09:15 h:</i> Visit Erlebnis Bergwerk Merkers (K+S Kali GmbH potash mine) near Bad Hersfeld, followed by short introduction to K+S GmbH company</p> <p>Lunch: On the road to Hohenheim</p> <p><i>Afternoon:</i> Return to Hohenheim</p>	<p>Hirsch Hotel, Stuttgarter Str. 7, 73760 Ostfildern Tel. 0711-44130-0</p>

Participants List

Invited speakers and Advisory Board members

1. Prof. Dr. Friederike Lang, Chair of Soil Ecology, University of Freiburg, Freiburg, Germany
2. Prof. Dr. Albrecht E. Melchinger, Institute of Plant Breeding, Seed Science and Population Genetics, University of Hohenheim, Germany
3. Prof. Dr. Günther Neumann, Institute of Crop Science, University of Hohenheim
4. Dr. Laurent Nussaume, Laboratory of Plant Development Biology, CEA Cadarache, Saint-Paul-lez-Durance, France
5. Dr. Johannes Postma, Forschungszentrum Jülich, Institute of Bio- and Geosciences, Jülich, Germany
6. Prof. Dr. Michael Schloter, Research Unit Comparative Microbiome Analysis, Helmholtz Zentrum München - German Research Center for Environmental Health, Munich, Germany
7. Dr. Stefanie Schulz, Research Unit Comparative Microbiome Analysis, Helmholtz Zentrum München - German Research Center for Environmental Health, Munich, Germany
8. Dr. Jurandir Vieira de Magalhaes, Research Scientist, Brazilian Agricultural Research Corporation – EMBRAPA, Sete Lagoas, MG, Brazil
9. Assoc. Prof. Dr. Matthias Wissuwa, Japan International Research Center for Agricultural Sciences (JIRCAS), Tsukuba, Japan

German Side

10. Prof. Dr. Torsten Müller, IRTG Spokesperson (German side), Institute of Crop Science, University of Hohenheim
11. Prof. Dr. Reiner Doluschitz, IRTG Vice Spokesperson (German side), Institute of Farm Economics, University of Hohenheim
12. Dr. Marco Roelcke, IRTG Coordinator (German side), University of Hohenheim
13. Prof. Dr. Tobias Würschum, State Plant Breeding Institute, University of Hohenheim
14. Prof. Dr. Uwe Ludewig, Institute of Crop Science, University of Hohenheim
15. Prof. Dr. Waltraud Schulze, Department of Plant Systems Biology, University of Hohenheim
16. Prof. Dr. Andreas Fangmeier, Institute of Landscape and Plant Ecology, University of Hohenheim
17. Prof. Dr. Simone Graeff-Hönninger, Institute of Crop Science, University of Hohenheim
18. Prof. Dr. Joachim Müller, Institute of Agricultural Engineering, University of Hohenheim
19. Prof. Dr. Jan Frank, Institute of Biological Chemistry and Nutrition, University of Hohenheim
20. Prof. Dr. Markus Rodehutschord, Institute of Animal Science, University of Hohenheim
21. Prof. Andrea Kruse, Institute of Agricultural Engineering, University of Hohenheim
22. Dr. Hans Oechsner, State Institute for Agricultural Engineering and Bioenergy, University of Hohenheim
23. Dr. Willmar Leiser, State Plant Breeding Institute, University of Hohenheim
24. Dr. Tobias Hartmann, Post-doctoral researcher, Research Subject (RS) 4.2, University of Hohenheim
25. Dr. Sebastian Munz, Institute of Crop Science, University of Hohenheim
26. Dr. Peteh Mehdi Nkebiwe, Post-doctoral researcher, Institute of Crop Science, University of Hohenheim
27. M.Sc. Gero Becker, Institute of Agricultural Engineering, University of Hohenheim

28. Ms. Thea Mi Weiß, Doctoral candidate on German side, Research Subject (RS) 1.1
29. Ms. Melissa Mang Doctoral candidate on German side, RS 1.2
30. Ms. Xuelian Li, Doctoral candidate external on German side, RS 1.2
31. Ms. Mingjie He, Doctoral candidate on German side, RS 1.3
32. Mr. Filippo Abele, Doctoral candidate on German side, RS 2.1
33. Mr. Daniel Wanke, Doctoral candidate on German side, RS 2.2
34. Ms. Yawen You, Doctoral candidate external on German side, RS 2.2
35. Ms. Alice Reineke, Doctoral candidate on German side, RS 2.3
36. Ms. Giovanna Niño Savala, Doctoral candidate on German side, RS 2.4
37. Mr. Peter Erwin Lux, Doctoral candidate on German side, RS 3.1
38. Mr. Moritz Novotny, Doctoral candidate on German side, RS 3.2
39. Mr. Konstantin Dinkler, Doctoral candidate on German side, RS 3.3
40. Mr. Jens Pfersich, Doctoral candidate on German side, RS 3.4
41. Ms. Qing Xue, Doctoral candidate external on German side, RS 3.4
42. Ms. Xiaomin Yu, Doctoral candidate on German side, RS 4.1

43. Ms. Michelle Herrmann, B.Sc. student, University of Hohenheim

Chinese Side

44. Prof. Dr. Xuejun Liu, IRTG vice Spokesperson (Chinese side), College of Resources and Environmental Sciences (CRES), China Agricultural University (CAU)
45. Prof. Dr. Lixing Yuan, Scientific Coordinator of IRTG (Chinese side), CRES, CAU
46. Assoc. Prof. Dr. Prof. Wenxin Liu, College of Agronomy and Biotechnology, CAU
47. Prof. Dr. Xuexian Li, CRES, CAU
48. Prof. Dr. Shunli Zhou, College of Agronomy and Biotechnology, CAU
49. Prof. Dr. Pu Wang, College of Agronomy and Biotechnology, CAU
50. Assoc. Prof. Dr. Huaiyu Yang, College of Resources and Environment, Southwest University, Chongqing
51. Dr. Wei Zhang, College of Resources and Environment, Southwest University, Chongqing
52. Prof. Dr. Xiongkui He, College of Science, CAU
53. Prof. Dr. Huafen Li, CRES, CAU
54. Assoc. Prof. Dr. Aohan Tang, CRES, CAU
55. Prof. Dr. Jianfeng Liang, College of Food Science and Nutritional Engineering, CAU
56. Assoc. Prof. Dr. Qiugang Ma, College of Animal Science and Engineering, CAU
57. Assoc. Prof. Dr. Jianbin Guo, College of Engineering, CAU
58. Assoc. Prof. Sen Yang, CRES, CAU
59. Assoc. Prof. Tao Zhang, CRES, CAU
60. Prof. Dr. Ji Ma, College of Economics and Management, CAU
61. Dr. Jiechen Wu, CRES, CAU

62. Mr. Dongdong Li, Doctoral candidate on Chinese side, RS 1.1
63. Mr. Zhe Chen, Doctoral candidate on Chinese side, RS 1.2
64. Mr. Liyang Wang, Doctoral candidate on Chinese side, RS 1.2
65. Ms. Yanting Zhong, Doctoral candidate on Chinese side, RS 1.3

66. Mr. Yang Han, Doctoral candidate on Chinese side, RS 1.3
67. Ms. Zhenzhen Yan, Doctoral candidate on Chinese side, RS 2.1
68. Mr. Yuwen Zhang, Doctoral candidate on Chinese side, RS 2.2
69. Ms. Yue Wu, Doctoral candidate on Chinese side, RS 2.2
70. Ms. Wenjia Yu, Doctoral candidate on Chinese side, RS 2.2
71. Mr. Weihong Liu, Doctoral candidate on Chinese side, RS 2.3
72. Mr. Zhong Zhuang, Doctoral candidate on Chinese side, RS 2.4
73. Ms. Xin Ma, Doctoral candidate on Chinese side, RS 2.4
74. Mr. Xiaohong Sun, Doctoral candidate on Chinese side, RS 3.1
75. Ms. Xiuxiu Chen, Doctoral candidate on Chinese side, RS 3.1
76. Ms. Lan Li, Doctoral candidate on Chinese side, RS 3.2
77. Mr. Bowen Li, Doctoral candidate on Chinese side, RS 3.3
78. Ms. Xiaomin Xie, Doctoral candidate on Chinese side, RS 3.4
79. Ms. Xinyue He, Doctoral candidate on Chinese side, RS 3.4
80. Ms. Yajuan Li, Doctoral candidate on Chinese side, RS 4.1
81. Mr. Zihan Wang, Doctoral candidate on Chinese side, RS 4.2

82. Mr. Zhichong Wang, Centre for Chemicals Application Technology (CCAT), CAU
83. Mr. Xin Zhao, College of Humanities and Development Studies, CAU

Contact Information

Prof. Dr. Torsten Müller: mobile: [REDACTED]
Dr. Tobias Hartmann: mobile: ([REDACTED]) 3
Dr. Marco Roelcke: mobile: [REDACTED] marco.roelcke@uni-hohenheim.de
Ms. Thea Mi Weiß: mobile: [REDACTED]
Ms. Xiaomin Yu: mobile: [REDACTED]
Prof. Dr. Xuejun Liu: mobile: [REDACTED]
Prof. Dr. Lixing Yuan: mobile: [REDACTED]
Ms. Xin Ma: mobile: [REDACTED]

Front cover

Site of central field experiment of IRTG project in Germany, near Hirrlingen, Baden-Württemberg. Photo: © Daniel Wanke, 2019.

Annexes

- Detailed programme of visit to the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) on 21 March 2019.
- Background information on excursion (20-22 March 2019) including map, and for case study.

Leibniz-Institut für Pflanzengenetik
und Kulturpflanzenforschung (IPK)
Corrensstraße 3
06466 Seeland/OT Gatersleben
Regina Devrient
Öffentlichkeitsarbeit, Geschäftsstelle des Direktoriums
Tel.: (039482) 5837
Fax: (039482) 5500
E-mail: devrient@ipk-gatersleben.de



Gatersleben, 26. Februar 2019

Programm

Für den Besuch im Leibniz-Institut für Pflanzengenetik und Kulturpflanzenforschung

Gruppe: Deutsch-Chinesischen Internationalen Graduiertenkollegs (DFG GRK 2 der Universität Hohenheim mit der China Agricultural University (CAU).

Anzahl der Personen: 70

Tag des Besuchs: Donnerstag, 21. März 2019

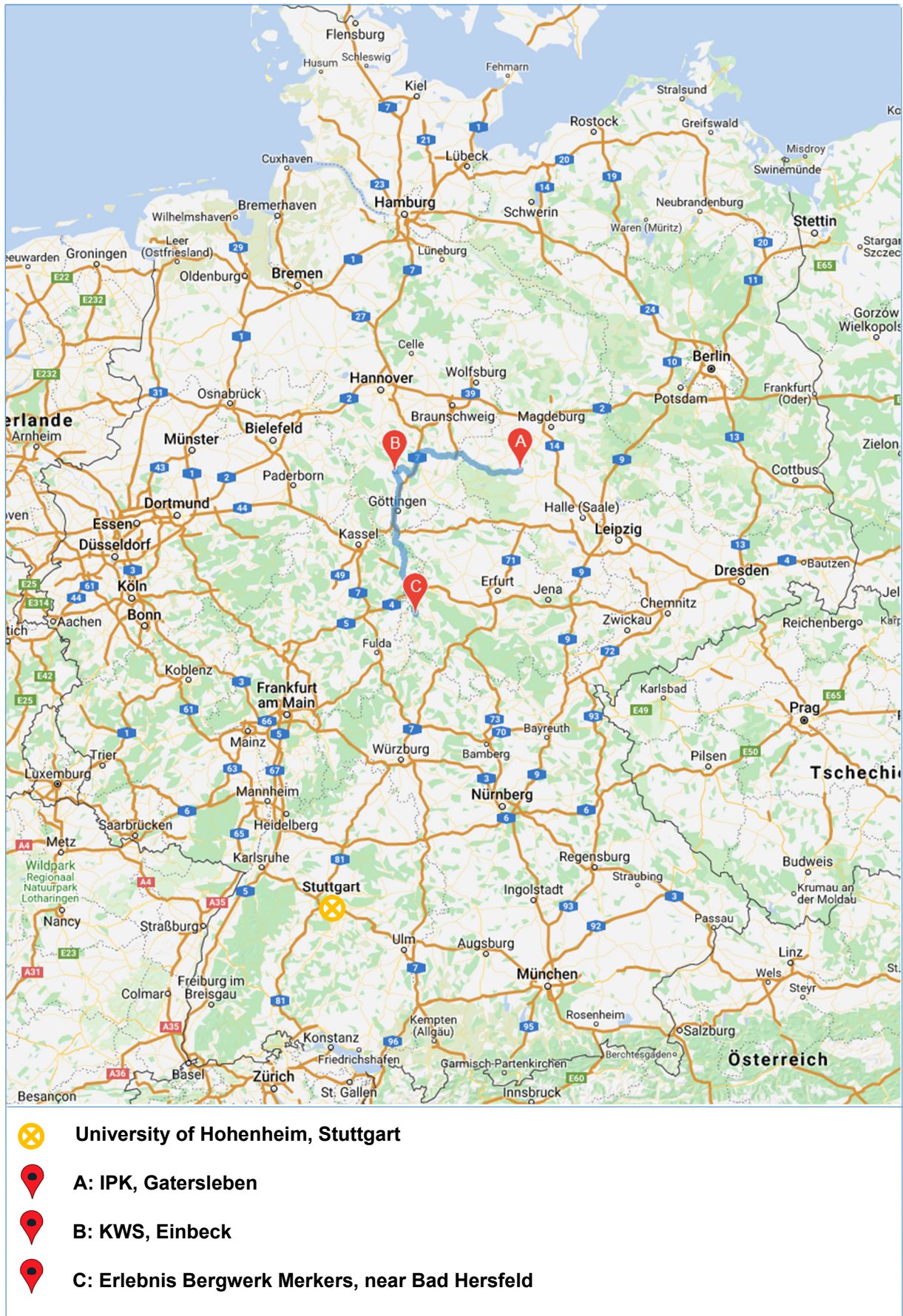
Uhrzeit	Gruppe 1	Gruppe 2	Gruppe 3
09:00-10:00		Institutseinführung und Vortrag Prof. Dr. Nicolaus von Wirén Hörsaal des IPK	
10:00 - 11:00	Genbankführung PD Dr. Andreas Börner Leiter der Ag RGR	Pflanzenphänotypisierung Ag HET	Pflanzenphänotypisierung Dr. Astrid Junker Leiterin der Ag ADP
11:00 - 12:00	Pflanzenphänotypisierung Ag HET	Genbankführung PD Dr. Andreas Börner Leiter der Ag RGR	Genbankführung Dr. Ulrike Lohwasser Ag RGR
12:00	Lunchpakete		

Kontakt

Dr. Marco Roelcke, Coordinator
International Research Training Group (DFG GRK 2366) University of Hohenheim Fruw
70599 Hohenheim, GERMANY
Tel. (+49) (0)711-45923984
Fax: (+49) (0)711-45923295
Mobile China: (+86) 13810839060

Background information: Excursion

Map of Germany showing excursion destinations:



A) Leibniz Institute of Plant Genetics and Crop Plant Research (IPK)

IPK is one of 95 Leibniz institutes in Germany. The Leibniz Association consists of independent research institutes, which are financed jointly by the German Federal Government (for example 6 Leibniz institutes, but not the IPK, are co-funded by the Federal Ministry of Food and Agriculture, BMEL) and the 16 Länder (federal states) of Germany.



The IPK is specialized in 'conserving, exploring, and exploiting crop diversity' and accommodates one of the world's largest *ex-situ* gene banks. The gene bank comprises 151.002 accessions (=items in the collection) from 2,933 species, which are conserved, characterized, evaluated and multiplied in Gatersleben, Germany. Additionally, IPK has a leading role with regard to the assessment of plant phenotypes (=observable characteristics of an individual) and developed for instance the plant cultivation hall, which allows the precise characterization of the entire plant under field-like conditions. Overall, around 180 scientists from 33 nations work at IPK, which employs in total ca. 500 people.

<https://www.ipk-gatersleben.de/en/>

B) Kleinwanzlebener Saatzucht (KWS SAAT SE)

KWS is a family-owned seed and biotechnology company with its headquarters in Einbeck, Germany. It was founded in 1856 in Klein Wanzleben and is nowadays the 4th biggest seed producer worldwide.



KWS breeds sugar beet, corn, cereals (rye, wheat, barley, oats, triticale), oilseed rape, sunflower, sorghum, soy, alfalfa and catch crops.

In total, the company KWS employs 4,950 people, of which ca. 1,900 are located in research and development, and is active in over 70 countries. China is deemed to be a core market of KWS' activities.

<https://www.kws.com/corp/en/>

C) Merkers Adventure Mine (Erlebnis Bergwerk Merkers)

Glück Auf! (=German miners' greeting) Established in 1991 and funded by the K+S Group, a tour through the Merkers Adventure Mine gives insights into a modern mining company.



The aim is to show the visitor several hundred meters underground how the life of a miner looks like. Hence, interesting facts about the history, development and tradition of the potash mining are shared and to be experienced during the tour.

The Werra-Fulda-Kali Territory covers 1000 sq km and is thus one of the largest coherent potash reservoirs in Germany.

<http://www.erlebnisbergwerk.de/de/index.html>

D) K+S Kali GmbH potash mine (K+S)

The formerly called Kali und Salz AG is a stock market-listed mining company with its headquarters in Kassel, Germany. The company K+S is specialized in the extraction and refining of potash and magnesium salts.

As the world's largest salt producer and among the top potash providers, K+S spans the product portfolio of fertilizers (soil conditioners, liquid, foliar fertilizers), pharmaceutical salts (high-purity potassium and magnesium salts), dietary supplements (human food and beverage industry, pet and livestock feeding) as well as industrial raw materials.

K+S has over 14,000 employees at their production sites in Europe, North and South America. In total, K+S is represented at 80 locations across four continents.

<http://www.k-plus-s.com/en/index.html>

