

## **Internationalization strategy, Faculty of Agriculture, University of Bonn**

December 2022

The faculty of agriculture (LWF) is the fourth largest faculty of the University of Bonn and very diverse in its structure. It embraces not only agricultural sciences but also nutritional and food sciences as well as geodesy. It closely cooperates with the faculty of mathematics and natural sciences and the medical faculty and has a strong academic reputation in Germany and internationally. The faculty not only offers German B.Sc. and M.Sc. Programs but also three international M.Sc.-programs. The faculty has a large international network and projects with universities and other research institutions, as well as private enterprises and many local actors in partner countries.

Internationalization plays an important role in the thematic areas of the faculty, especially due to the high degree of globalization and interconnectedness of farming, trade and food systems, which is reflected in the advanced state of the internationalization process of the faculty visible in research publications at high international impact level. The process supported the acquisition of the interdisciplinary, DFG-funded cluster of excellence dealing with robotics and phenotyping in sustainable crop production, of several collaborative research centers with faculty participation and of a large number of international research projects. At the same time, an intensified recruitment of international professors and researchers developed. This affects all areas of administration and led to the creation of one centrally located position dealing with international affairs in the faculty of agriculture.

One output of this process is the development of the faculty's internationalization strategy, which is based on the internationalization strategy of the university of Bonn, following its guidelines, objectives and five action areas:

- **Internationalization of academic research**
- **Internationalization of study offerings and teaching**
- **Framework for internationalization**
- **Strategic partnerships and other international cooperation**
- **Collaboration based in the international city of Bonn**

Based on the university-wide strategy the goal of the present document is to highlight the priorities, perspectives and needs of the faculty of agriculture. For the development of the strategy, inputs were collected in two working groups during the yearly faculty retreats (2021,2022), during the Germany wide, yearly faculty day (2022), GD-meetings and individual conversations with the professors of the faculty. The faculty stresses the importance of carrying forward internationalization in all five action areas with the objective of increasing quality and competitiveness in research and teaching. The international collaborative and

innovative work environment and culture enables researchers to develop research ideas from multiple perspectives and to find solutions for today's problems and the society, while embracing diversity, inclusion and sustainability.

### **1. Action area 1: Internationalization of academic research**

The LWF is well embedded in the international research environment and has a broad range of working groups with international teams and outreach. Most publications coming from the faculty are in English language and published in international journals (478 category-1 publications in 2021). In the QS World University rankings for agriculture and forestry, the faculty is well-positioned at rank 4 in Germany and at rank 83 worldwide (2022).

The research of the different institutes and projects (see attachment 3) is internationally visible and publication activities have increased tremendously in the last years. However, the international activities are somewhat fragmented and therefore, the faculty as a whole is not perceived as very international by universities abroad.

The agricultural faculty was successful in winning a cluster of excellence, PhenoRob, that is front-runner in internationalization (courses, events, recruitment, publication, communication). The faculty also recently acquired the collaborative research center DETECT, contributes substantially to the collaborative research center "Future Rural Africa" and is active in numerous international collaborative projects. Especially the institutes that host international M.Sc. programs have a strong international connotation (courses, staff, etc.), but generally institutional agreements (a list can be found on our homepage) and individual contacts enable lively exchange of researchers (e.g. guest professorships, students doing internships or M.Sc./B.Sc.-theses work or doctoral/postdoc research stays, conferences, summer schools etc.).

The faculty participates in two joint doctoral degree programs. The JUMPA (Juelich-University of Melbourne Postgraduate Academy) program with the strategic partner of the University of Bonn, the University of Melbourne and the Marie-Skłodowska Curie Innovative Training Network MANNA under the EU framework program Horizon 2020. MANNA „The European Joint Doctorate in Molecular Animal Nutrition“ offers a three-year doctoral program in two different universities. The graduate school, BIGS - Land and Food, was founded in 2008 and connects many international and German doctoral students at the faculty through joint capacity development programs (thematic courses, soft skills etc.).

43 percent of PhD students at the faculty are international and a large number of postdoc researchers as well (numbers are currently collected). With regard to professorships, 3 out of 49 professors are of international origin, not yet reaching the envisaged number of 15 percent as mentioned in the central internationalization strategy.

#### *Challenges*

- International visibility of the faculty as a whole is limited despite very international working groups and activities

- Recruitment and keeping of international professors
- Sufficient mobility of doctoral students and postdocs
- Qualification of German researchers

### *Objectives*

- Increase the international visibility of the faculty as a whole
- Increase flexibility to enhance attractiveness to international researchers
- Improve critical well-being of international researchers

### *Measures*

- International recruitment of professors and postdocs
- Recruitment of guest professors
- Communicating clearly language expectations with regard to specific search processes
- Providing extra support in transition periods of developing language competence (3 years, extra personnel)
- Continue to allow zoom for search processes and doctoral defenses
- Mobility support for doctoral students and post-docs
- Organizing conferences jointly with partners (pushing e.g. the DigiCrop-format)
- Expanding social activities with postdocs and PhDs, maybe jointly with BIGS depending on needs assessment
- Promoting mobility program for academic staff
- Promoting translation service of University of Bonn for publications
- Onboarding document for new international staff

## **2. Action area 2: Internationalization of study offerings and teaching**

Over the last years, the internationalization of study offerings and teaching has progressed enormously. The numbers of outgoing students from the faculty and the number of international students in the faculty have grown along with the study offerings in English language. Most offerings, however, are on M.Sc. level and part of the three well-established M.Sc. Programs (Agricultural and Food Economics, Agricultural science and resource management in the tropics and subtropics, Geodetic Engineering), hence they are open to exchange students and students from German programs. On B.Sc. level, the faculty recently allowed for elective modules and examinations in English. English language skills on B2 level have become the entry requirement also for German programs, which can be a hurdle to international students (e.g. from China) who have sufficient knowledge of German but lack English language skills. As part of the re-accreditation in 2020, the mobility windows were transformed into flexibility windows, so that credit points up to 30 ECTS can be selected and accredited e.g. from semesters abroad. The percentage of international students in the international M.Sc. Programs is high at more than 80 percent, the faculty as a whole has 13 % international students (2021/2022).

Currently, there are 36 partner universities in the Erasmus-program with 128 seats per year, of which the Scandinavian countries as well as the Netherlands, Spain, Austria and Czechia are in highest demand (see figure 2, attachment 2). The number of incoming exchange students ranges in the Erasmus-program between 14 and 20, whereas the number of outgoing students ranges between 30 and 40 students per year (see figure 1, attachment 2).

The limited number of courses in English on the B.Sc. level and in animal and nutritional sciences prevent incoming students (Erasmus) to enroll in our faculty, especially coming from the countries in high demand by outgoing students (Scandinavia, the Netherlands etc.), which leads to an imbalance between incomings and outgoings and is a threat to the continuation of the existing cooperations with the faculty's partner universities in Europe. It also hampers the establishment of new cooperation agreements. Nevertheless, a new agreement was signed in 2021 with the Norwegian University of Life Sciences, with a very good response from the faculty's students. To achieve more offerings in English, the faculty aims at recruiting more internationally and attracting guest professors. The lack of courses in English also results in more Erasmus-students using the option of doing an internship (research stay, B.Sc./M.Sc.-thesis research work) at our faculty, which is attractive to professors and working groups and easily possible in English.

Two of the international M.Sc.-programs will be running out of funding for scholarships and are currently looking for alternative solutions to still enable excellent students from the global South to study in Bonn in the future and to maintain quality and diversity of the programs. Along with the search for funding options, also marketing and alumni concepts for all three programs are currently developed.

The international affairs unit of the faculty of agriculture supports the students and interns with organizational support and provides them with welcome, social and cultural program. Since 2020 two social tutors support the program with weekly meetings and events of low-threshold and the faculty organizes integration program two to three times per semester, offering welcome events, a Christmas party, a visit to Siebengebirge, the German opera, etc. One aim of the social program is to connect the international students from the three different M.Sc.-programs. The social program received very positive feedback of the students. In addition, the coordinators of the M.Sc.-programs were connected through regular meetings to establish an active communication channel and enable best-practice-learnings regarding marketing and alumni work or all-day coordination of the programs. For assigning study buddies and language integration (German courses) the offers of the international Office (IO) are promoted.

### *Challenges*

- Teaching in German by international recruitments and vice versa
- Small numbers of incoming international exchange students
- Maintaining and expanding partnerships for student exchange for the benefit of the Bonn students
- Maintaining and improving the attractiveness of study programs for international top students

## *Objectives*

- Increase the number of incoming exchange students
- Secure funding to maintain high level of support for international students
- Increase the portfolio of international master programs

## *Measures*

- Expanding the share of English courses in the B.Sc. programs
  - Develop teaching collaborations at the international level (exchanges of modules – selected online modules or exchange of instructors)
  - Recruitment of English-speaking guest professors and lecturers
- Search for alternative funding for M.Sc. programs and development of alumni and marketing concepts for the three programs
- Maintaining and expanding Erasmus partnerships, especially with countries in high demand by outgoings
- Maintaining and intensifying the good support system and social tutoring for international students
- Reservation of seats in language and integration courses of the IO, organizing faculty courses upon demand (through the IO)

### **3. Action area 3: Framework for internationalization**

Currently most administrative processes require German language skills. Technical and administrative staff is often not equipped to handle administrative matters in English. Therefore, the staff needs translation support.

Regarding central documents such as examination regulations, PhD regulations, application forms or guidelines, the translation process is ongoing and various documents are already available in English. Email communication within the faculty and between dean's office and faculty is mostly taking place in German language, which excludes international staff and limits their participation in the faculty's decision-making processes and its development.

The committees and faculty meetings are taking place in German, however, a first step towards a language change is to provide PowerPoint slides in English and the next faculty retreat is planned as a trial in an international format. The faculty day of all agricultural faculties in Germany in 2022, which is a good platform to learn about best-practice-examples, has provided access to another faculty that has an advanced state regarding the internationalization of administration; communication with the agricultural faculty in Giessen has been initiated.

Since 2020, the faculty has a new position dealing with international affairs, a 50 percent position taking care of all international affairs at faculty level and a top-up of 25 percent to the position of the Erasmus coordinator to support overall international affairs. The two positions are responsible for strategic development, take care of student mobility (counseling), support international students and staff, maintain cooperations, and serve as a connecting point to Dezernat 6 (International Office).

### *Challenges*

- Administrative processes and documents in German
- Language and intercultural skills of staff not sufficient
- Dissemination of information from the international office within the faculty

### *Objectives*

- Increase availability of central documents and communications in English
- Improve language skills of administrative staff
- Intensify communication between IO and faculty

### *Measures*

- Development of guidelines for email communication in English (invitations, memos etc.)
- Bilingual automatically generated Emails, intro to tools to facilitate translations
- Increasing use of PPT slides in English in committees
- Translating central documents into English language → prioritization depending on demand
- Advertising Erasmus staff mobility
- Intercultural training for technical and administrative staff
- Faculty retreat with an international focus/format
- Newsletter of the international affairs unit/updates in faculty meetings on IO topics

## **4. Action area 4: Strategic partnerships and other international collaboration**

LWF has numerous formal and informal cooperations around the globe through joint projects, institutionalized Memorandums of Understanding (MoUs) or personal relations. Beyond the 36 Erasmus agreements with European Universities, mentioned under action area 2, many MoUs with universities outside of Europe exist and in addition professors and researchers make use of their personal contacts and networks to exchange students, doctoral students and postdocs or cooperate in other ways. The international affairs unit currently tries to document these formal and informal cooperations and aims at publishing them on the webpage, so that the information is bundled and available to students and faculty members. These networks do not only include universities, but also other research institutions (e.g. CG Center or private research units) and enterprises.

With the strategic partners of the university of Bonn (St. Andrews, Waseda, Melbourne, Emory Hebrew, Ghana) the agricultural faculty has close relations only to the University of Melbourne (through the joint PhD program, JUMPA, and small grant projects) and with Hebrew University of Jerusalem (through small grant projects). The most intense relationships exist to the Wageningen University in the Netherlands, ETH Zürich and AIFARMS Illinois, US, especially through the research and project activities of the Excellence Cluster, PhenoRob. Therefore,

the faculty of agriculture currently considers these three partners as strategic partners who will receive special attention at the faculty level.

The majority of contacts and networks are found in the Global North (US, Canada, Australia, the Netherlands, Great Britain, France, Bulgaria) as well as in China, Eastern and Western Africa. The Global South is comparatively less represented in the cooperations of the faculty of agriculture; expanding its network into this region is aimed at in the future. For the moment, the cooperations comprise of the collaborative research center “Future Rural Africa” and the collaborative research project One Health (ZEF) as well as other small projects in African, Asian and South American countries.

All collaborations are not only important for knowledge and researcher’s exchange but also an important platform for recruitment and visibility of the faculty.

### *Challenges*

- Low visibility of who our important international partners are
- Low visibility of wide network of institutes’ and individual contacts and personal relationships that also define the international profile of the faculty
- Limited overview at faculty level lead to limited synergy effects and low visibility of how international we already are

### *Objectives*

- Naming strategic partners to sharpen our profile and clear focus on core activities with wider faculty participation for selection of strategic partners
- Higher visibility of our international research partners and activities
- Documenting and promoting active international networks at faculty level

### *Measures*

- Identification and promotion of strategic partners and development of specific core activities
  - Development of process to add strategic partners over time (Evaluation of existing and potential new strategic partners)
  - Suggestions for a (small) set of strategic partners: Wageningen University, ETH Zürich, AIFARMS (Illinois)
- Preparation of a list of all partner institutions and map of MoUs with the faculty/institutes, published on our website and visualized in a ‘living map’
- Making better use of exchange programs jointly with strategic and other international partners: Promoting/developing blended mobility options (Erasmus), ‘Studienreisen’ (DAAD) etc.

## 5. Action area 5: Collaboration in the international city of Bonn

LWF closely cooperates with the international organizations in Bonn, especially with ZEF, where a large number of its doctoral students are enrolled in the Bonn International Graduate School for Development Research and with whom joint events and courses are organized. Similar activities are conducted with UNU and the orientation day and language courses have been organized jointly. Collaborative research projects have involved EFI, GIZ and ECMWF and experts are exchanged frequently between the LWF and international organizations as well as internships/job opportunities are communicated. The DAAD is closely connected to LWF through review services offered by professors and the funding of scholarships for the renowned M.Sc.-course in tropical agriculture (ARTS), being 18 years part of its EPOS-program. Other important institutions are BICC, DIE and the UN-secretariats.

### *Challenges*

- International environment taken for granted, not much advertised

### *Objectives*

- Higher visibility of our activities within the international environment in Bonn with
  - Center for Development Research (ZEF)
  - United Nations University (UNU)
  - German Corporation for International Cooperation (GIZ)
  - European Centre for Medium-Range Weather Forecasts (ECMWF)
  - European Forest Institute (EFI)
  - German Academic Exchange Service (DAAD)
  - Center for Earth System Observation and Computational Analysis (CESOC)

### *Measures*

- Information on website about the institutions, links, activities
- Continuation of activities and inclusion of experts in teaching



## 6. Attachments

### 1. Erasmus-Cooperation partners

Cooperation Partner	Number of seats per year/total number of months
A WIEN03 - Universität für Bodenkultur Wien	2/16
B GENT01 - Universiteit Gent	4/24
B LIEGE01 - University of Liège	1/5
B LOUVAIN01 - Université catholique de Louvain (UCL)	3/36
BG PLOVDIV05 - University of Food Technologies	2/20
HR ZAGREB01 - University of Zagreb	3/18
CZ PRAHA02 - Czech University of Life Sciences Prague	4/40
SF HELSINK01 - University of Helsinki	5/25
F PARIS487 - l'Institut Agro	6/24
F LILLE103 - Université de Lille	2/20
F PARIS481 - Université Paris-Saclay (former AgroParis Tech)	2/20
F ST-DENI01 - Université de la Réunion	2/20
F TOULOUS28 - Institut National Polytechnique Toulouse (Toulouse INP)	6/40
G ATHINE03 - Agricultural University of Athens	2/12
G THESSAL01 - Aristotle University of Thessaloniki	2/12
HU GODOLLO01 - Hungarian University of Agriculture and Life Sciences	4/20
I MILANO01 - Università degli Studi di Milano	5/30
I MILANO02 - Politecnico di Milano	3/15
I MILANO03 - Università Cattolica del Sacro Cuore	4/24
LT VILNIUS02 - Vilnius Gediminas Technical University	2/10
NL WAGENIN01 - Wageningen University	6/36
N AS03 Norwegian University of Life Sciences (NMBU)	3/30
PL WARSZAW05 - Warsaw University of Life Sciences	6/60
PL WROCLAW04 - Wrocław University of Environmental and Life Sciences	3/18
E BARCELO01 - Universitat de Barcelona	2/10
E BARCELO03 - Universitat Politècnica de Catalunya	2/10
E LLEIDA01 - Universitat de Lleida	4/20
E MADRID05 - Universidad Politécnica de Madrid	2/24
E MURCIA04 - Universidad Politécnica de Cartagena	8/12
E VALENCI01 - Universitat de València	4/30
E VALENCI02 - Universitat Politècnica de València	6/60
E ZARAGOZO1 - Universidad de Zaragoza	2/20
S UPPSALA02 - Swedish University of Agricultural Sciences	6/60
TR ADANA02 - Adana Science and Technology University	2/12
TR BURSA01 - Uludag University	2/12
TR IZMIRO2 - Ege University	2/12

## 2. Figures: Erasmus Mobility

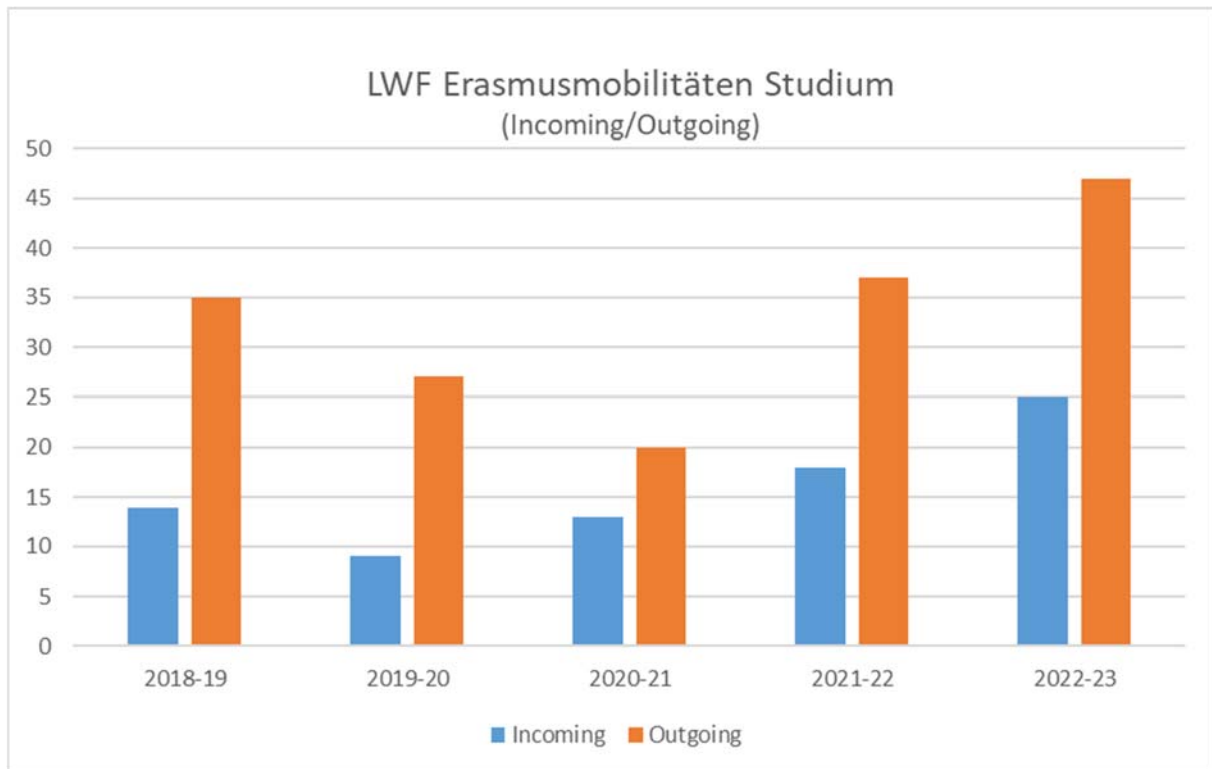


Figure 1: Erasmus Mobility – Incomings/Outgoings LWF

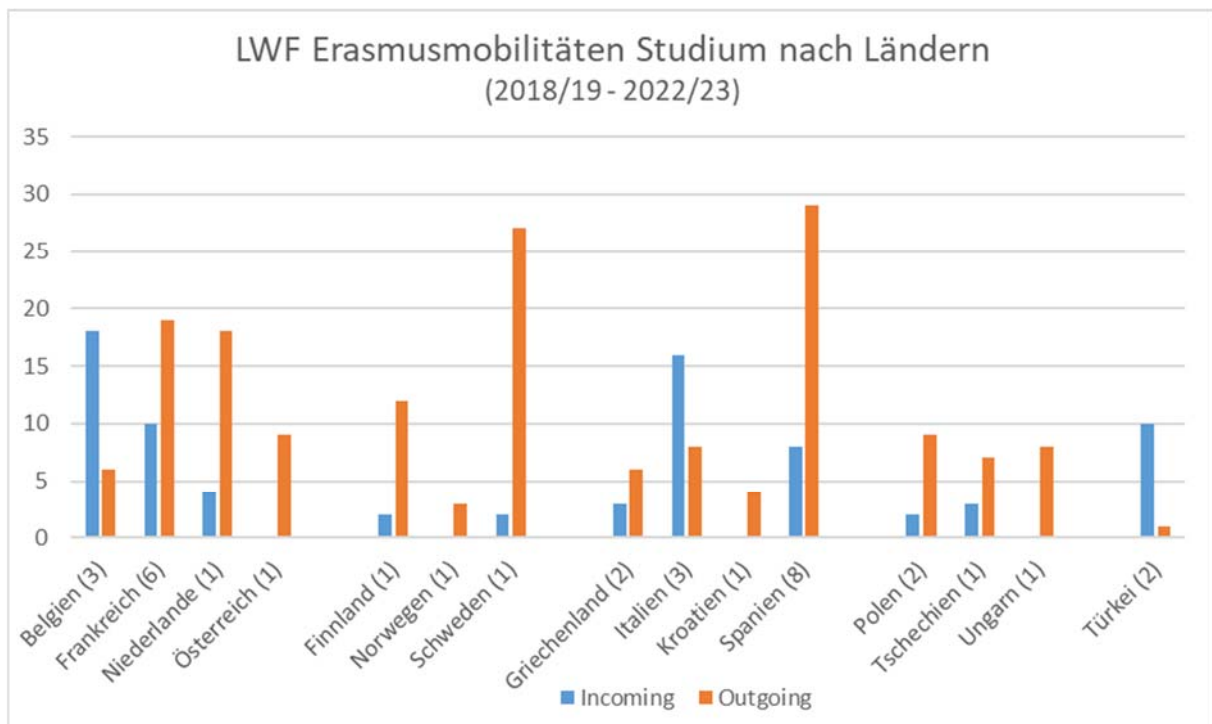


Figure 2: Erasmus Mobility – Countries

### 3. Collaborative Research projects

Type	Project	Location
Collaborative Research Center	<b>SFB/TR 228</b> Future Rural Africa: Future-making and social-ecological transformation	Africa
Cluster of Excellence	<b>Phenorob</b>	Academic network -> Zürich, Melbourne, Queensland, UK, Wageningen, US (Illinois, California)
EU Projects	<b>BATModel</b> Better agri-food trade modelling for policy analysis	International workshop (EU)
	<b>MANNA</b> European Joint Doctorate in Molecular Animal Nutrition	Barcelona, Zagreb, Glasgow, Slowakei , Milan
	<b>REMESH</b> Research Network on Emergency Resources Supply Chain	Liverpool
	<b>MIRA</b> Microbe induced Resistance to Agricultural pests	Copenhagen
	<b>SIMBA</b> Sustainable innovation of microbiome applications in food system	
	<b>Mind- STEP Modelling</b> Individual Decisions to Support the European Policies Related to Agriculture	
BMBF	<b>GROCE</b> Greenland Ice Sheet Ocean Interaction	Greenland
BMZ	<b>PARI</b> Program of Accompanying Research for Agricultural Innovation (ZEF)	Research in Africa, India

#### 4. Memorandums of Understanding, LWF

<b>Country</b>	<b>University</b>	<b>Project / Research area</b>
Zambia	University of Zambia	TR228
Namibia	Namibia University of Science and Technology	CRC228
Brasil	Federal University of Minas Gerais (UFMG)	Institutes' partnership; CSR
Ethiopia	Hawassa University Ethiopia	Collaborative research project
Pakistan	MNS University of Agriculture, Multan	
Luxembourg	University Luxembourg	Collaborative research projects
Bulgarien	University of Food Technologies, Plovdiv	Food technologies