

A light blue map of Europe and Latin America is visible in the background, with the continents and national borders outlined. The map serves as a subtle background for the text elements.

NATIONAL AND INSTITUTIONAL STRATEGIES

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# EUROPEAN HIGHER EDUCATION INSTITUTIONS' COLLABORATION WITH LATIN AMERICA



## Bridging Europe and Latin America - The Brazil Centre of the University of Münster, Germany



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### Summary

The Brazil Centre of the University of Münster was created in 2010 as an umbrella organisation to bring together activities and interests of the university members in relation to Brazil. It extends the knowledge about Brazil at the university, advises the university community in their interests related to research, research transfer, student exchange, teaching and courses of study in Brazil, stimulates the intensification of the existing cooperation and assists the university members in the establishment of new collaboration activities with Brazilian partners. Since its creation, the request for the services of the Brazil Centre from the university community as well as from individuals outside the institution has been growing continuously. Evidence of this development is the tripling in the number of its members. The Brazil Centre of the University of Münster is a strategic hub clustering excellence in academic exchange and an example of best practice in international cooperation.

### Key words

Germany, Brazil, international research, academic exchange



## Brazil - a “continental country” takes part in the international research community

Hardly more than 60 years separate a basically agrarian country almost completely dependent on technology import from today's dynamic contributor to the world scientific output. Brazilian efforts in the direction of a global player in science started in the early fifties, with the establishment of the federal funding agencies CAPES (Brazilian Federal Agency for Support and Evaluation of Graduate Education), under the Ministry of Education and Culture (MEC), and CNPq (National Council for Scientific and Technological Development), attached to the Ministry of Science and Technology (MCT)<sup>1</sup>. Together, these agencies have been and still are responsible for the formation of scientific expertise by supporting graduate schools, international mobility and research projects. Subsequently, the creation under the MCT of the Brazilian Agency of Innovation (FINEP) in 1967 allowed the support of science and technology projects, both in research institutions and enterprises, stimulating also transfer and innovation. Besides these federal agencies, the individual Brazilian States, allocating resources directly from their State Budgets, have established their own Research Foundations (FAP), the first one being the São Paulo Research Foundation (FAPESP) in 1962.

The huge development resulting from such measures is surely of extremely high strategic relevance. The annual number of students graduating in the country has risen to around 10,000, a growth of 1,000 % between 1987 and 2009 and a fourfold increase in 15 years from 1996 to 2011. As consequence, Brazil accounted for 2.7 % of the world scientific output in 2010, with a yearly growth average of 11.3 %. If the number of German scientific publications was 18 times that of Brazil 1981, Brazil had picked up to a factor of 2.5 by 2010. Compared to the USA the difference decreased from 82.9 times in 1981-1985 to 10.6 times in 2009, with a growth of 7.8 in the number of publications (USA 0.6)<sup>2</sup>. These are remarkable positive developments, which ranked Brazil at the 13th position in the world scientific output in 2009, overtaking countries such as The Netherlands, Russia, and Israel. The times when Brazil stood only for coffee, football and carnival belong to the past. Brazil today stands in the technological forefront in areas such as aeronautics, biotechnology and informatics, being the only country in the world to use a fully electronic system to compute the results of elections.

## Germany and Brazil – scientific and technological partnership

Such a progress strongly recommends the country as a highly attractive partner for international cooperation and investments. Germany over time has become Brazil's third strongest international investor, a development that had its beginnings in the 19th century. By 2007 there were 1,200 German-Brazilian enterprises with about 250,000 employees, a significant German contribution to Brazil's economic and social development<sup>3</sup>. From this total, 800 companies were situated in São Paulo, the largest concentration of German businesses in a single city worldwide. The number of German companies in São Paulo is even larger than that in Cologne, Munich and Hamburg.

<sup>1</sup> Now Ministry of Science, Technology and Innovation (MCTI)

<sup>2</sup> Guimarães, J.A., Kick-off Meeting Ciência sem Fronteiras Alemanha, Bonn, 2012

<sup>3</sup> <http://www.dw-world.de/dw/article/0,,4090436,00.html>

Concerning the cooperation in education and research Brazil is Germany's most important partner in Latin America. The scientific technological cooperation (German: wissenschaftlich-technologische Zusammenarbeit - WTZ) between Germany and Brazil is based on a general agreement from 1969, updated in 1996. A joint commission meets every two years to stipulate the thematic focuses of the cooperation. Thereto a specific "Plan of Action of the German-Brazilian Strategic Partnership" was signed 2008. The German Ministries for Foreign Affairs and for Education and Research (BMBF) together launched the "Initiative Foreign Policies 2009", creating a global network of five German Houses of Science and Innovation (German: Deutsches Wissenschafts- und Innovationshaus - DWIH), aimed at the intensification of scientific exchange and the initiation of new research cooperation and innovation projects between researchers in Germany and the respective partner countries. One DWIH was established in São Paulo, reinforcing the relevance of the German-Brazilian scientific and technological relationship.

In terms of academic cooperation, Brazil has become the most important partner of Germany in Latin America today, with Germany being in turn the third most important Brazilian partner in the world, after the USA and United Kingdom. To further strengthen this development, the BMBF in cooperation with the German Rector's Conference carried out the highly successful German-Brazilian Year of Science, Technology and Innovation 2010/11, with a volume of more than 100 collaborative events in both countries<sup>4</sup>. At present, the Ministry of Foreign Affairs with the support of the German-Brazilian Commerce Chamber, the Goethe Institute and the DWIH São Paulo is promoting the "Germany Year in Brazil 2013-2014".

European countries are important destinations for Brazilian students; they receive more than 67% of Brazilian scholarship holders abroad (USA 21%, Canada 3%). Preferred destinations are France (30%), Portugal (13%) and Spain (8 %), which is certainly connected with the relationship between the languages. With 9%, Germany ranks among the favourite four world destinations. The German Academic Exchange Service (DAAD) is one of the most important partners of CAPES worldwide. Since the 1980s both agencies have been working together in the support of academic mobility. The exchange programmes UNIBRAL and PROBRAL, jointly conducted by DAAD and CAPES, are examples of a successful joint venture stimulating academic cooperation projects on undergraduate and graduate levels. More recently the German Research Foundation (DFG) has signed specific agreements with the State agencies FAPESP and FAPEMIG, facilitating the establishment of joint research projects coordinated by scientific institutions allocated in Germany and, respectively, the States of São Paulo and Minas Gerais. The Brazilian agencies CAPES, CNPq and FINEP, with the DFG, initiated in 2008 the joint funding program Brazilian-German Collaborative Research Initiative in Manufacturing Technology, the BRAGECRIM. By 2010, the program was supporting sixteen collaborative projects, and it is planned to run for at least 10 years<sup>5</sup>. The Brazilian government in 2011 launched the huge scholarship programme "Science without Borders" (Portuguese: Ciência sem Fronteiras - CsF), coordinated by CAPES and CNPq and aimed at the improvement of specialized scientific and technical manpower in the next years. So far, more than 2,000 Brazilian undergraduate and graduate students as well as young PhDs have spent a study or research period in German institutions, supported by a stipend from this programme. The DAAD coordinates the programme in Germany; the goal is to reach 10,000 stipends in the next years.

<sup>4</sup> [http://www.bmbf.de/pubRD/IB\\_DBWTL\\_Abschlussbericht.pdf](http://www.bmbf.de/pubRD/IB_DBWTL_Abschlussbericht.pdf)

<sup>5</sup> Letter of Intent on the Second Phase of BRAGECRIM, 2009

## The Brazil Centre of the University of Münster - tradition moving forward

Founded in 1780 the University of Münster (German: Westfälische Wilhelms-Universität Münster - WWU) is proud to offer in 15 departments a vivid, interdisciplinary, responsible as well as sustainable academic portfolio in research and teaching. With the two excellence clusters "Religion and Politics" and "Cells in Motion!", 11 winners of the Leibniz Prize, 14 affiliated institutes, including the Max Planck Institute for Molecular Biomedicine and the new Helmholtz-Institute Münster, eleven Collaborative Research Centres, five national and five international Research Training Groups as well as three Marie Curie Initial Training Networks, the University of Münster has developed a strong research profile in natural sciences, the humanities, medicine, law and business administration. It targets top-level research in high-performance areas and combines this with promoting first-class junior research staff. At the same time, securing stable conditions for broad research, it creates a firm basis on which excellence can thrive. With around 800 PhDs awarded annually, the University of Münster is one of the five most important research institutions in Germany. The university's aims in the field of research are closely linked with its own commitment to provide high-quality courses of study covering a wide range of subjects and to establish through joint research solid structures for transnational knowledge exchange. With around 43,000 students the university is today the third-largest Higher Education Institution in Germany.

The University of Münster has a long tradition in relations with Brazil. A good omen was the fact that the first Brazilian student at the university, Reinhold Hedges, came from the city Bom Princípio (Good Start) in the State Rio Grande do Sul; he began his studies in Natural Sciences in June 1919<sup>6</sup>. There are records of active cooperation involving the Faculties of Pharmacy and of Law of the universities of Münster and Rio Grande do Sul already in the sixth decade of the last century, even before the signing of the German-Brazilian general cooperation agreement. Formal university agreements were signed in 1985, the oldest one with the Federal University of Santa Catarina (UFSC).

By the end of 2008, the widespread cooperation activities with Brazilian institutions included areas such as Politics, Religion, History, Education, Psychology, Economy and Information Systems, Law, Geosciences and Geoinformatics, Landscape Ecology, Microbiology, Plant Biotechnology, Pharmacy, Medicine including Pharmacology, Infectiology and Gynaecology, Chemistry, Physical Chemistry, Food Chemistry, Physics, Bionics, Music and Research Transfer, involving almost all 15 departments of the university. These activities involved contacts with about 20 Brazilian institutions; some of these based on formal cooperation agreements on institutional or departmental levels. Especially strong activities existed in the field of Research Transfer and Innovation, transcending even the level of pure academic relationships. Under the frame "Basis and Perspectives of the German-Brazilian Technology Transfer" a series of thematic videoconferences have been carried out between 2000 and 2009 in a cooperation of the German-Brazilian Commerce Chamber in São Paulo and the Innovation Office of the university. Furthermore, in 2007 this Innovation Office in collaboration with the Brazilian MCT and CAPES promoted the first "German-Brazilian Biotechnology Forum" – the "Bioforum" – as part of the international biotechnology fair "Biotechnica" in Hanover. A second Bioforum was carried out 2008 in São Paulo.

At the end of 2008, a group of persons including prominent Brazilian alumni of the university and some professors with connections to Brazil met and, after discussing the intensity and strategic importance of the university's Brazilian contacts, decided to suggest the establishment of an institution to bring together and support such activities. After one year of feasibility studies and structural conceptions, just at the time of the installation of the DWIH and before the election of Brazil to host the World Cup and the Olympic Games, the Brazil Centre of the University of Münster was founded on March 15th 2010<sup>7</sup>, with head-quarters in Münster and an office at the DWIH in São Paulo.

<sup>6</sup> <http://sammlungen.ulb.uni-muenster.de/nav/classification/1643213>

<sup>7</sup> <http://www.uni-muenster.de/Brasilienzentrum/brasilien-zentrum/geschichte.html>



Figure 1. Opening ceremony of the Brazil Centre: Prof. Dr. Ursula Nelles, Rector of the University of Münster, Prof. Dr. Bernd Hellingrath, Scientific Director of the Brazil Centre and Dr. Wilhelm Bauhus, Director of the Innovation Office..

Foto: WWU - Julia Holtkötter

The Brazil Centre aims to broaden the knowledge about Brazil at the university, to advise all university members in matters concerning research, research transfer, academic exchange, teaching and courses of study in Brazil, and to encourage the intensification of the existing cooperation as well as support the establishment of new collaboration activities with Brazil. Particular attention is paid to the establishment of contacts to Brazilian research institutions and to the monitoring of funding programmes in Brazil and Germany. The Brazil Centre's office in the DWIH supports Brazilian students and academics interested in study and exchange visits to Germany as well as travels of research delegations, and facilitates direct contact with strategic partners, such as Universities, CAPES, CNPq, FAPs, the German embassy and consulates, representatives of German research organisations in Brazil and representatives of Brazilian universities. It provides a basis for contacts between Brazilian and German universities.



Figure 2. Prof. Dr. Stephan Ludwig, Vice-Rector for Research of the University of Münster and Dr Ricardo Schuch, Executive Director of the Brazil Centre, at the opening of the office at the DWIH

A board of directors consisting of three professors of the university and a core membership constitute the Brazil Centre. Members of the Brazil Centre are all interested employees of the university with a concrete activity related to Brazil. The Centre is coordinated by a scientific director and an executive manager.

The impulse given to Brazil-related activities by the establishment of the Brazil Centre of the university is reflected by the tripling in membership as shown in Fig. 2.

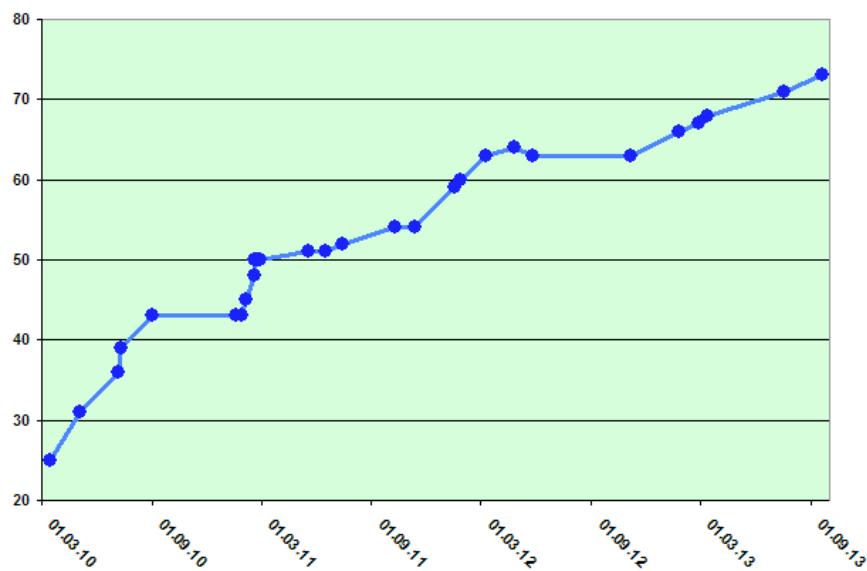


Figure 3. Evolution of the Brazil Centre's membership

The number of institutional as well departmental agreements has grown by more than 50 % since the creation of the Brazil Centre, and new ones are presently under negotiation. A very special and important agreement was signed with the CAPES: it established a “Brazil Chair” at the University of Münster, associated with the Brazil Centre. The first person to accept this Professorship was Prof. Dr. Fernando Batista da Costa from the Pharmacy Faculty of the University São Paulo (USP), campus of Ribeirão Preto. Currently the Brazil Chair is held at the Institute of Geoinformatics by Prof. Dr. Gilberto Câmara, former executive director of the Brazilian Institute of Spatial Research (INPE) and Doctor honoris causa of the University of Münster. The Professorship has a maximal duration of two years and is open for all academic areas of the university.



Figure 4. Prof. Dr. Jorge Almeida Guimarães, President of CAPES, with Rector Prof. Dr. Ursula Nelles, the other members of the rectorate, and the directors of the Brazil Centre of the University of Münster, after the signing of the bilateral cooperation agreement. Foto: WWU - Peter Grewerr

The Brazil Centre plays a strong role in the initiation of new projects. Significant logistic support is given through the notification of program calls, which has so far resulted in cooperation projects submitted to the programmes UNIBRAL, PROBRAL, BRAGECRIM and a joint call CNPq-BMBF, a relevant number of them approved for funding. The PROBRAL project “Application and Extension of Meta-Heuristics for Supply Chain Planning” of the Institute of Information Systems in collaboration with the University of Pernambuco and the Federal University of Ceará recently won the 2013 Brazil-Europe Top-3 Award for Collaborative Research from Institute for Studies Brazil Europe.

Especially during the German-Brazilian Year of Science, Technology and Innovation 2010-2011 the action of the Brazil Centre was decisive for the acquisition of a relevant number of projects, thus placing the University of Münster at the front of the university activities in this event. An overview of the projects coordinated or assisted by players of the university can be seen in Table 1.

Table 1 Activities of the University of Münster at the German-Brazilian Year of Science, Technology and Innovation

EVENT/PROJECT	COORDINATION	LOCAL	YEAR	PARTNER
Research Symposium GIScience for Environmental Change (GeoChange)	Institute of Geoinformatics	São José do Rio Preto	2010	Brazilian Institute of Spacial Research
Master Class Inspired by Minds and Nature	Inniation Office and Brazil Centre	Florianópolis	2010	Federal University of Santa Catarina
German-Brazilian Leadership Trairing Program	Inniation Office and Brazil Centre	Münster	2011	DWIH
Workshop GI@School Brasil	Institute of Geoinformatics	São José dos Campos	2011	Brazilian Institute of Spacial Research
FutuResCo	Brazil Centre	Florianópolis	2011	Federal University of Santa Catarina
Brazilian-German Research Initiative on Natural Products against Neglected Diseases	Institute of Pharmaceutical Biology and Phytochemistry	Münster	2011	-
DAAD Brazilian Day "Discover Brazil"	DAAD	Münster	2011	University of Münster International Office and Brazil Centre
IT-supported Networks	Institute of Information Systems	Florianópolis	2011	Federal University of Santa Catarina

Carrying on this work, the Brazil Centre presently supports university projects proposed for the "German Year in Brazil". In this context, the Innovation Office and the Botanic Garden of the University of Münster conducted the exposition "Evolution-Conflict-Truth – Fritz and Hermann Müller" in cooperation with the Brazil Center, the Institute of Geoinformatics presented the so-called "Triangle of Sustainability" on different occasions in Brazil, and the Faculty of Music proposed the workshop "Cello in Concert – German-Brazilian Cello Ensemble"

A particularly significant work of the Brazil Centre is the engagement in the promotion of the University of Münster outside as well as in Germany. In this context, the Brazil Centre takes part in various Promotion-Tours and Road Shows in Brazil. And in 2012, it organised a road-show of the Brazilian Association of Rectors of State and City Universities, visiting eleven institutions in the German states of North-Rhine Westphalia, Baden-Württemberg and Bavaria, with the support of Baden-Württemberg International (bw-i) and the Bavarian High School Centre for Latin America (BayLat), respectively.



Figure 5. ABRUEM delegation visiting the University of Münster. Foto: WWU - Peter Grewer

Since the launch of the program Science without Borders, the Brazil Centre has been engaged in its application and, together with the International Office, coordinates its administration at the university. With the implementation of a central tutorial board, the Brazil Centre offers crucial assistance to the Brazilian grant holders, a guaranty for a successful and profitable stay in Münster.

Table 2 CsF scholarships at the University of Münster

STIPEND MODALITY	NUMBER OF STIPENDS	AREA
Undergraduate study	18	Biology, Landacape Ecology, Physica, Medicine Study, Medical Clinic, Information Systems
PhD	8	Pharmacy, Food Chemistry, Battery Research, Medicine, Information Systems, Mathematics
Post-Docs	2	Mathematics, Nanotechnology

Summarizing, the Brazil Centre is not a centre for Brazilian studies, as sometimes mistakenly assumed, but a strategic hub for academic cooperation and exchange, clustering excellence and connecting Europe and Latin America.



Figure 6. Lucas Sartori, CsF-awardee at the University of Münster - "Another differential factor here is the presence of the Brazil Centr of the University of Münster, which acts as a joining agent for the Brazilian awardees at the university, making our daily routine easier, be it through the support for the resolution of bureaucratic questions or by the amusement and interaction promoted by the monthly organised meetings, which might be even a good opportunity to enjoy a delicious feijoada".



Figure 7. Meeting of the Brazil Centre with CsF-awardees

## Author

### Ricardo Schuch

Dr. Ricardo Schuch, born in São Paulo, Brazil, concluded his studies in Pharmacy and Biochemistry in 1976 at the Faculty of Pharmacy of the University São Paulo. In 1987, he received his PhD in Food Science at the same faculty, after a research period at the Federal Institute for Fat Research in Münster. Until 1988 he gave lectures on Food Technology at the University São Paulo. Since 1989, he has been living in Münster, where he has been research group leader at the Institute of Biochemistry of the university and at the Institute of Chemical and Biochemical Sensor Research. Working later at the Innovation Office of the University of Münster he organised the 1st German-Brazilian Biotechnology Forum. Since 2010 he is the Executive Director of the Brazil Centre.

### Bernd Hellingrath

Prof. Dr.-Ing. Bernd Hellingrath studied Computer Science and Mathematics at the University of Dortmund and got Ph.D. in Mechanical Engineering from the University of Dortmund. He was researcher and consultant at the Fraunhofer Institute for Material Flow and Logistics (IML) and Head of the department Enterprise Modelling at the Fraunhofer IML. Since 2008 he is Professor for Business Computing and Logistics at the University of Münster. Since 1998 he gives lectures at the university and in a number of industrial education seminars processes and IT systems for supply chain management and application of simulation in logistics. He finished numerous research and consultancy projects in the area of logistics, supply chain management and IT systems for logistics. Since 2010 he is the Scientific Director of the Brazil Centre.