

The Laboratory of Latin America

Success stories from research cooperation and plans for even closer partnerships



Earth surface processes in the Andes – one of many DFG-funded research projects in Argentina

A continent reinvents itself” – this was the title of a supplement to the DFG magazine “german research” that appeared seven years ago, providing an insight into the emergent research area of Latin America and the various forms of cooperation between researchers there and in Germany. Since then the dynamic process of development has increased in pace and intensity, with more and more researchers expressing an interest in cooperation. Since 2011 they have also been advised and supported by a dedicated DFG office in São Paulo. In 2014, the DFG funded 157 projects with Latin American partners, with a funding volume of approximately €8.5 million in that year.

To expand the portfolio of joint and co-financed funding opportunities, the DFG maintains an ongoing dialogue with partner organisations. At the end of 2014, DFG President Professor Dr. Peter Strohschneider paid a visit to Chile and Brazil, while in May 2015 Secretary General Dorothee Dzwonnek took part in consultations in Brazil and Argentina. It’s a degree of commitment that has borne fruit. To give one recent example, an announcement issued by the DFG and FAPERJ in Rio de Janeiro attracted more than 50 proposals – nearly half of which were funded.

All in all, it’s an excellent time to take another look at Latin America. This supplement presents a number of success stories, mainly from coordinated programmes, such as the International Research Training Group (IRTG) “Between Spaces” with Mexico and the recently launched first IRTG with Argentinian partners, devoted to climate processes in the Andes. Plans for a joint review process carried out by the DFG and FAPERJ in São Paulo, which Professor Dr. Euclides de Mesquita Neto explains in our interview, reveal how this cooperation could become even closer. Finally, the Emmy Noether independent junior research group led by Dr. Micah Dunthorn, which is focussing on the species diversity of single-celled organisms in tropical soils, provides an exemplary illustration of Latin America as a research region. There is certainly plenty to discover in the “laboratory” of Latin America. *Vamos là!*

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“We Have a Similar DNA”

Engineering scientist Euclides de Mesquita Neto talks about voluntary links between Brazilian and German research funding.

Euclides de Mesquita Neto, Professor of Computational Mechanics at the University of Campinas in São Paulo, Brazil, is the coordinator for engineering sciences at research funding organisation Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP). During our interview in the Department of Physics at the Humboldt University of Berlin, he looks back on the two-day project renewal review of the German-Brazilian Research Training Group “Dynamic Phenomena in Complex Networks”, in which he participated with great interest, as he explains.

german research: Professor de Mesquita Neto, you travelled over 10 000 kilometres to participate in the review of an International Research Training Group here in Berlin. Was it worth it?

Euclides de Mesquita Neto: For me it was an incredible experience to observe the very de-

researchers too, and how an in-depth internal discussion ultimately resulted in a recommendation. Yes, the trip was worth it.

For how long have FAPESP and the DFG been working together?

Next year we’ll be able to look back on ten years of cooperation, because the collaboration started in 2006 with an agreement that was initially limited to smaller projects, jointly funded by the DFG and FAPESP for 24 months. Our call for proposals proved very popular, with the result that we expanded it to become a long-term funding opportunity. Proposals for joint funding can now be submitted to us at any time, and this has now been extended to include larger projects lasting up to five years, for example joint Research Training Groups like this one.

In May of this year the Secretary General of the DFG, Dorothee Dzwonnek, held further meetings with FAPESP. What were the most important outcomes, in your view?

It was very gratifying that both sides saw how fruitful the cross-border collaboration has been so far, and we agreed to take it one step further by introducing joint review processes for coordinated programmes. Some of the details still have to be worked out, but this basic agreement marks a significant step forward for us at FAPESP. Particularly after the impressions I gained over the last few days, I think that our Brazilian researchers can only benefit from an open review process of the kind used by the DFG.

What is the basic “funding philosophy” at FAPESP?

Without committing myself too far, I would say that we and the DFG have a similar DNA. All our funding activities are based on academic achievement and scientific excellence – which is why we potentially fund all fields of research. But we also aim to collaborate with the best research institutions worldwide. So a good relationship with a well established organisation like the DFG is of course particularly beneficial.



At FAPESP Week 2014 in Munich: Euclides de Mesquita Neto (left) and DFG President Peter Strohschneider

tailed and in particular open review process. At FAPESP you don’t see this kind of open discussion between applicants and reviewers; the whole process is anonymous. So it was fascinating to see how both sides entered into a dialogue, how the reviewers spoke to the doctoral



LAUNCH OF THE FIRST INTERNATIONAL RESEARCH TRAINING GROUP WITH ARGENTINA: At the end of May, Professor Roberto Salvarezza, President of the Argentinian National Scientific and Technical Research Council (CONICET), and Dorothee Dzwonnek, Secretary General of the DFG, inaugurated the jointly funded German-Argentinian Research Training Group at a ceremony in Buenos Aires. The group, named “Surface Processes, Tectonics and Georesources: The Andean Foreland Basin of Argentina”, will operate initially from October 2015 until March 2020 and will study climatic and sedimentological processes. Argentinian spokesperson Professor Monica López (Universidad de Buenos Aires) and German spokesperson Professor Manfred Strecker (University of Potsdam) gave an introduction to the research programme. Addressing the assembled guests, the German ambassador in Argentina, Bernhard Graf von Walderssee (2nd from left), expressed his pleasure at the setting-up of the International Research Training Group: “The addition of the programme of the International Research Training Group to the long tradition of successful collaboration in research and higher education is very valuable to bilateral relations between Argentina and Germany.”

What international programmes does FAPESP already participate in?

It ranges from smaller research projects to large-scale ones. In particular we also support postdoctoral researchers and PhD students. Through our new Young Researcher Award we support young, highly qualified researchers to develop their specific knowledge in a particular field of research in Brazil. Anyone can apply for it, no matter which country they come from. In addition, we now offer the FAPESP Excellency Chair, which will enable researchers with a global reputation to spend a number of months carrying out intensive research in Brazil.

What science policy framework in Brazil does FAPESP depend on?

Our organisation was founded in 1962 and since then it has been stipulated in the constitution of the federal state of São Paulo that FAPESP receives a percentage of tax revenue. This amounts to around 700 million dollars per year. This enables us to develop and carry out long-term funding programmes.

Do you also have the infrastructure you need?

Brazil in general, and the federal state of São Paulo in particular offer a very good research environment. As well as having good facilities, we simply have “good people”! I want people to know that yes, today you can come to Brazil and carry out top-level research. And at FAPESP we have the funding to support this.

You yourself have experience of working in Germany and completed your engineering doctorate in Hannover. What was your motivation?

There were two reasons why I came to Germany. Firstly, the outstanding technical knowledge I acquired in Hannover and then as a postdoc in Braunschweig meant that I could pursue an academic career as a professor at a good university in Brazil. Secondly, I’m very interested in German culture, which is completely different from Brazilian culture. Simply learning German gives you access to so much history and literature, which you are deprived of if you limit yourself to English in the international arena.

Processes of Globalisation

The International Research Training Group “Between Spaces” with Mexican partners is analysing dynamics of migration from colonial times to the present day.

Movements, actors and representations of globalisation can be readily studied using the example of Mexico – a country that serves as a cultural intersection between the northern and southern hemispheres and between east and west. “For centuries many different ethnic groups have mixed here, giving Latin America the edge over Europe in terms of globalisation experience”, explains Professor Stefan Rinke, a historian at the Institute for Latin American Studies at the Free University of Berlin. Together with politologist Professor Marianne Braig, he is the spokesperson for the International Research Training Group “Between Spaces”, which is being funded by the DFG and Mexican funding agency Consejo Nacional de Ciencia y Tecnología (CONACYT) from 2009 until the end of the second funding period in 2018.

To analyse the complex patterns of globalisation that have taken place starting in the colonial era, throughout the 19th century and up to the present day, the group is utilising a transnational and interdisciplinary approach to area studies. Rather than a rigidly defined entity or nation state, a “space” is understood to be relational and dependent on the participating actors, says Stefan Rinke: “We are dealing with spaces that constantly change along with the relevant actors. We are interested in the dynamics between these spaces.”

Doctoral researcher Kenya Herrera, for example, is interested in the *buchonas*, women on the drug dealing narco scene, who live a life shaped by both conservative values and crime



Taking a look at globalisation from Mexico City, home to several million people

along the Mexican-US border. For her field research, Herrera carried out autobiographical semi-structured interviews with the women to investigate their understanding of their own roles within the narco culture from a gender studies perspective. “Often, their first contact with the scene is that they fell in love with a man who was involved in drug dealing”, she reports. “These men usually have a high status and the money to provide the women with the lifestyle associated with the drug-dealing scene – including cosmetic surgery.”

Impressum

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Alongside Herrera, the Research Training Group is currently funding 14 other doctoral researchers and two postdoctoral researchers working on global issues such as trade links, knowledge transfer, slavery, perpetrator and victim roles, urban spaces, security and defence, and the energy transition. Global movements are analysed both historically and in their present manifestations. German and Mexican doctoral students can spend up to a year or six months in the partner country, benefiting from workshops, summer schools and lectures by guest speakers. “To be honest, we were rather sceptical at first – we thought we would lose these young people to the glamorous attractions of Berlin”, says Marianne Braig with a smile. But despite the attractions of Berlin’s nightlife, an intense study atmosphere developed: “At eight o’clock in the morning our doctoral researchers were already arriving at the Iberoamerican Library. Their enthusiasm was mutually contagious!” The success of the programme was reflected in the high proportion of successfully completed doctorates and the shorter time to degree: within the Research Training Group doctorates are completed in an average of three and a half years.

Marianne Braig has had academic links with Mexico for 30 years. Her personal connections helped to establish the intercontinental initiative with colleagues at the Institute for Latin American Studies, the departments of Romance languages at the Humboldt University of Berlin and the University of Potsdam, the Colegio de México, the Universidad Nacional Autónoma de México and the Centro de Investigaciones y Estudios Superiores en Antropología Social. Stefan Rinke stresses that building a basis of trust, for example through joint conferences and publications, is essential to a structure as complex as an International Research Training Group.

The Research Training Group “Between Spaces” is the first to be funded by both Mexican and German funding agencies. “It was very valuable to us that we had researchers in Mexico who liaised with the funding agency CONACYT”, says Marianne Braig. “The willingness to take responsibility for a joint project is crucial in intercultural cooperation.” The end result was a Research Training Group which itself is an example of the movement dynamics of knowledge across the seemingly fixed boundaries of states, disciplines and academic traditions.

New Director in São Paulo

In July 2015, Dr. Kathrin Winkler succeeded Dr. Dietrich Halm as the director of the DFG’s Latin America office in São Paulo. Prior to this she was the programme director for physical chemistry at the DFG’s Head Office in Bonn.

german research: Ms. Winkler, what are the responsibilities of the Latin America office of the German Research Foundation?

Kathrin Winkler: First of all, we’re the point of contact for all academic affairs of the DFG relating to Latin



America and we have an advisory role for researchers in both places. We also actively maintain cooperations with our partner organisations, identify suitable instruments and develop joint funding programmes. In addition we represent the DFG in Latin America, acting as an ambassador for German research.

What personal connections do you have with the continent?

I developed an interest in the Spanish language and culture when I was working as a researcher in Barcelona. My language skills allowed me to get to know people quickly on a number of longer visits to Latin America. I wanted to live here for a longer period of time, immerse myself more in the culture, experience and understand the cultural situation. I’m delighted that I now have that opportunity.

What challenges are there in your day-to-day work?

One of the challenges, and perhaps the greatest attraction of working at an international office, is the many different hats you have to wear. I’m an office director, manager, advisor, facilitator, colleague and mediator rolled into one. We are responsible for a large number of countries, together with our colleagues in Bonn and our Liaison Scientists. But the greatest challenge is the Brazilian bureaucracy, which couldn’t be more different from the fleet-footed samba!

Welcome to the Jungle

Micah Dunthorn and his Emmy Noether group are studying the multitude of single-celled microorganisms in the tropical forests of Ecuador, Costa Rica and Panama.



On an expedition in La Selva, Costa Rica

Illustration: Dunthorn Group

It's eerie to discover the fresh tracks of big cats in the forest soil. But unfortunately – or maybe I should say fortunately – a panther hasn't crept past me yet," says Micah Dunthorn. "In the jungle, I'm just too loud for that. I squelch too much." Equipped with a GPS device and numerous plastic tubes, the animal ecologist and his field team are embarking on expeditions in remote corners of Central and Latin America. The areas under investigation are three lowland rainforests in Costa Rica, Panama and Ecuador. "These forests are remote places, but very well mapped," explains the 39-year-old. "Another crucial factor was the fact that I already knew scientists on the ground who could help me. You wouldn't believe how many permits you need to get first!"

10 to 20 metres off the dirt track, Dunthorn takes samples of the topmost soil layer from various locations using a spatula and places them in small tubes labelled with the geographical coordinates. The biologist is not searching the soil for plants or animals, but single-celled microorganisms known as protists (from the Greek for "very first creature"). Unlike bacteria, protists have a cell nucleus with a membrane. "In the rainforest ecosystem, the focus is often on flora and fauna. So far protists are the least studied aspect of neotropical forests, yet they're an important part of the system", says Dunthorn, who, along with the rest of his independent junior research group, has been funded by the DFG through the Emmy Noether Programme since 2012. "We're interested in the biodiversity of these tiny organisms and we

want to know where they are distributed and how they reproduce." With the aid of the samples, the group is creating biogeographical maps showing the distribution of the protists. So-called endemic species are only found in very limited areas, and there are huge numbers of them in the rainforests.

Dunthorn, who was born near Miami (Florida), studied in Fairfax (Virginia) and St. Louis (Missouri) and wrote his doctorate in Amherst (Massachusetts) on ciliates, a group of protists. However, the cradle of protist research is in Germany, he says. So it was a good decision to move to the Technical University of Kaiserslautern in 2009 as an Alexander von Humboldt Postdoctoral Fellow. The Emmy Noether Group "Biodiversity and Biogeography of Microbial Eukaryotes" allows the American to continue his research, for example on the question of whether there are asexual protists and which genes are responsible for asexuality.

Once the carefully packed soil samples have made the long journey to Kaiserslautern, they are analysed using the latest sequencing technology: "We do this with a universal primer that identifies all protists", explains Dunthorn. "This produces an immense quantity of data, but the more data we produce the more accurate the conclusions we can reach." Postdoctoral researcher Frédéric Mahé, who specialises in the analysis of biodata, has created a programme to manage the huge amounts of data. "Our results are spectacular", enthuses Dunthorn. Just back from a trip to Legoland with his son, the Southerner is now happily returning his attention to the publication of the results.

"Impressive horizons"

DFG Secretary General Dorothee Dzwonnek talks about her consultations in Brazil and Argentina and the progress achieved in research cooperation.

german research: Ms. Dzwonnek, in May 2015, you travelled to Latin America. What made the greatest impression on you?

Dorothee Dzwonnek: Without a doubt, the impressive, even astonishing degree to which cooperation with Latin America has developed in recent times. This is certainly true of the many ongoing projects, but impressive horizons are also emerging for future collaboration. This was especially evident at the launch of the first German-Argentinian Research Training Group, which is concerned with "Surface Processes, Tectonics and Georesources" – an important contribution to environmental and climate research.

The programme for the delegation's trip included the handover to the new director at the DFG office in São Paulo ...

... Yes, I took the opportunity to say goodbye to Dr. Dietrich Halm, who has developed the DFG Office Latin America since 2011. He has done this very successfully with convincing concepts, a forward-looking vision and a great deal of personal drive. He has left things in excellent order for the new director, Dr. Kathrin Winkler. As well as having an in-depth knowledge of DFG fund-



Dorothee Dzwonnek and Agueda Menvielle (left) from the Argentinian Ministry of Science, Technology and Productive Innovation (MINCYT)

ing programmes she has also spent a lot of time in Brazil and Argentina, where she has gained all relevant experience.

In Brasília, São Paulo and Buenos Aires you met with key individuals in research policy and representatives of Latin American research funding organisations. Did you find a common denominator?

It was very gratifying to see that in all the meetings I attended along with Dr. Annette Schmidtman, the new head of our Scientific Affairs department, there was a consensus: the expectations of the bilateral cooperations have been fully met for both our Latin American partners and for us, which is why both sides expressed a wish for more and closer cooperation.

What concrete plans are there and how are they to be implemented?

In terms of research topics, sustainability research is a key area, particularly renewable energies and our oceans. By the start of next year we intend to develop a lead agency procedure for the review and decision-making process for Collaborative Research Centres, Research Units and International Research Training Groups in German-Brazilian funding programmes and put it into practice in both countries. There will also be new initiatives to encourage the exchange of highly qualified early career researchers. We also plan to hold workshops for interested researchers from Latin America and Germany to identify further areas of possible joint research.

What is first on the agenda?

We plan to hold an information event at the DFG's Head Office for the research and international departments of our member organisations. At this event we will take a very practical look at the proposal and funding opportunities available with Latin American partners and countries. And of course, this is always a good opportunity for questions, discussion, new perspectives and ideas.

Illustration: DFG São Paulo

Country Expert

DFG Liaison Scientists give advice and forge links

As a Liaison Scientist, my main job is to find partners on both sides”, says biochemist Dr. Gudrun Kausel. Originally from Bavaria, she has represented the DFG in Chile since 2006. “I talk to researchers, advise them, support workshops and attend events in Chile. For me, building relationships in Chile’s various scientific communities – whether it’s in volcanology, deep sea research or astronomy – is tremendously enjoyable”, says Kausel.



Illustration: Private

The DFG’s Liaison Scientists network researchers with key scientific institutions and partner organisations within a country and provide information about the DFG’s funding activities. They also identify outstanding research groups and early career researchers with a view to initiating cooperations with Germany.

Brazil

Prof. Dr. Helmut Galle
Universidade de São Paulo
Phone +55 11 3062-2717
helmut_galle@hotmail.com

Chile

Dr. Gudrun Kausel
Universidad Austral de Chile
Phone +56 63 221798, 081 377852
gkausel@uach.cl

Mexico

Dr. Christina Siebe
Universidad Nacional Autónoma
de México
Phone +52 5622 4265-155
siebe@servidor.unam.mx



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Contact

DFG Office Latin America

Dr. Kathrin Winkler
c/o German House of Science and
Innovation
R. Verbo Divino, 1488
04719-904 São Paulo, Brazil
Phone +55 11 5189-8308
and +49 228 885-4550
kathrin.winkler@dfg.de
www.dfg.de/lateinamerika

DFG Head Office

Dr. Dietrich Halm
International Cooperation
Kennedyallee 40
53175 Bonn, Germany
Phone +49 228 885-2347
dietrich.halm@dfg.de

Partner Organisations

Argentina

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The DWIH in São Paulo,
home to the DFG office