



## Two countries – one PhD program

The new international PhD program *Molecular Biosciences and Biomedicine*, which started in July 2013, provided eight doctoral students from Göttingen and Rosario (Argentina) the chance to spend a third of their doctoral research in the other country. The international PhD program bases on the tight cooperation of the University of Göttingen and the MPI-BPC with the Argentine National University of Rosario and the Max Planck Laboratory of Structural Biology, Chemistry, and Molecular Biophysics

in Rosario, respectively. Timo Strohäker and Caterina Masaracchia are students of the first generation in this program and found that their stay abroad was well worth the effort. Read in this *MPIbpc News* issue about their experiences in doing research and living in Argentina. In the upcoming issue of the *MPIbpc News* students from Rosario will share their impressions how they felt as a PhD student in Göttingen and what they enjoyed most working in a city which quickly felt like “a second home”.

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### The PhD program *Molecular Biosciences and Biomedicine* in a nutshell

The international PhD program *Molecular Biosciences and Biomedicine* is supported by DAHZ/CUAA. Regardless of the university, the thesis has to be completed after 36 to 48 months and has all the features of a structured PhD education such as a binational PhD committee and offer of courses that help students with the PhD thesis. For the final exam, the rules of the university apply where the doctoral students are enrolled. All courses within the bilateral program at the partner university are recognized by the respective home university. Funding by the DAHZ/CUAA covers the additional costs for PhD students and faculties during the exchange. For more information please follow the link at [www.cuaa-dahz.org/binationale-studiengaenge/binationale-promotionsprogramme](http://www.cuaa-dahz.org/binationale-studiengaenge/binationale-promotionsprogramme) or contact the Directors of the program.

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### The German-Argentine University Center/ *Centro Universitario Argentino-Alemán*

On the occasion of 200 years of independence of Argentina, the German Embassy in Buenos Aires promoted the idea of establishing a German-Argentine University Center/*Centro Universitario Argentino-Alemán* (DAHZ/CUAA). The DAHZ/CUAA's aim is to promote innovative projects on the development of university networks between Germany and Argentina, thereby strengthening the institutional, academic, and scientific cooperation between the two countries. Another important goal is to establish international doctoral programs with a double degree.

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Monument of the Flag in Rosario, Argentina.

## One should not be scared to choose the rockier road sometimes

Whenever people in Europe hear about Argentina they immediately think of football and barbecue. You can be sure that somebody you know has already been there on holidays, either hiking through the vast and empty landscapes of Patagonia, visiting the vibrating metropolis of Buenos Aires, climbing mountain tops in the Andes, drinking Malbec wine in Mendoza, enjoying the majestic waterfalls of Iguazú, or any other attraction of Argentina's manifold list of world class tourist destinations that easily fill 500 pages tourist guides.

**T**he politically interested ones remember Argentina's long-lasting cycles of growth and crisis or one of the many famous personalities such as the revolutionary and guerrilla leader Che Guevara or the country's former charismatic women's rights activist and first lady Eva Perón, to name only two. Many families might recall that some of their ancestors migrated to this fascinating country on the other side of the globe sometime in the first half of the 20<sup>th</sup> century.

Very few of us, though, have Argentina in mind when it comes to science. That comes for a good reason. The budgets of education, research, and science are the first to be cut in emerging economies. Moreover, education and research lack a powerful lobby. Long-term benefits and return on investment measures do not align very well with politicians' short-term goals of re-election after one legislative period of only four to five years.

For emerging economies such as Argentina it will still be a long and tough uphill battle to compete on the same level with some of the leading countries in Northern America, Europe, and Southeast Asia. This comparison, however, would also be rather unfair for a country that is still recovering from one of the most severe political and economic crises of recent history after almost ten years of irresponsible neo-

liberal politics and a bargain sale of the Argentine state that brought the whole country on the brink of collapse in 2001.

### Success to reverse scientific exodus and brain drain

Having this in mind, Argentina has recently shown some extraordinary development in many areas but particularly science and technology. The country could reverse the scientific exodus and brain drain it had suffered from in the beginning of the 21<sup>st</sup> century that led to the loss of a generation of talented scientists still fueling research institutes elsewhere around the globe.

Argentina nowadays not only offers a free and public higher education system supporting a promising scientific career but also heavily invests to attract scientists from the diaspora as well as its neighbor countries and the wider Latin American sphere. In order to make this success story durable and the whole scientific sector more sustainable even in economically difficult periods, it is absolutely necessary to further engage in scientific cooperations worldwide and establish strong ties with partner institutions such as the institutes of the Max Planck Society.

I am very thankful that I could spend approximately one third of my PhD program time in Argentina, more specifically in the city of Rosario, taking part in the binational doctor-



«What matters most to me are all those very hospitable and amazing people that I have met in Rosario and all over the country who immediately opened their hearts for me and who I will keep as good friends.»

Timo Strohäker



Timo Strohäker with the jersey of Rosario's Central football club.

ate program of the universities of Göttingen and Rosario and the partner research institutes MPI-BPC and IIDEFAR/Max Planck Laboratory of Structural Biology, Chemistry and Molecular Biology in Rosario (LMPbioR) to further strengthen the ties between Argentina and Germany with my own individual work.

I was working on the biophysical characterization of synuclein binding to biological membrane mimics with the help of NMR spectroscopy and other techniques. The IIDEFAR/LMPbioR is an interdisciplinary institute with expertise in many different fields spanning from cell biology and life-cell imaging over structural biology by nuclear magnetic resonance spectroscopy to classical biophysical methods and pharmaceutical chemistry, offering a perfect environment to tackle a scientific problem from all angles.

### Learning to think out of the box

It is nevertheless often challenging to perform research with fewer resources and slower supply chains compared to working in a research environment with excellent equipment. But in particular from the German perspective there is a lot to learn about how to use resources more efficiently, and as a scientist one is often confronted to think “out of the box” to obtain a certain result or perform a specific experiment. This can be very informative and helpful for anyone's scientific career.

Being part of the first generation of German candidates of the binational doctorate program, I can absolutely recommend students to make use of this opportunity and to participate in this unique program. Anyone who is willing to explore and learn new things is perfectly suited. You should not be scared to choose the rockier road sometimes. Having a basic level of Spanish certainly helps in daily life but it is not a compulsory requirement. The whole staff of the institute speaks English, and in case you want to improve your Spanish you will get plenty of chances to practice. I am very happy with the decision I made and if given such an opportunity again, I would make use of it without second thoughts.

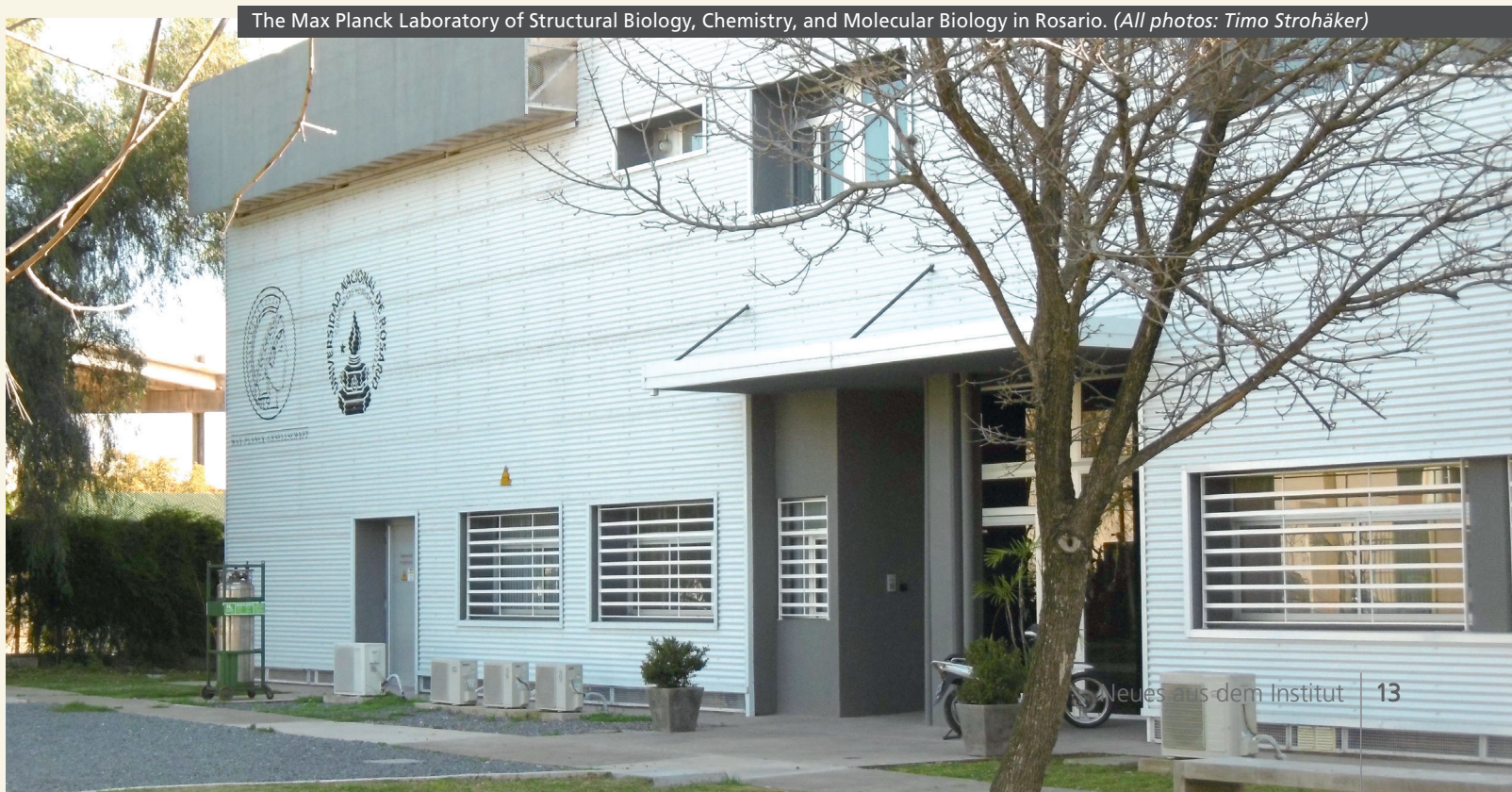
I think I do not have to tell you much about the many pleasures of Argentinian life that bring us back to the beginning of this report. What matters most to me, though, are all those very hospitable and amazing people that I have met in Rosario and all over the country who immediately opened their hearts for me and who I will keep as good friends.

*Viva Argentina!*

*Timo Strohäker*

*Research Group Structure Determination  
of Proteins Using NMR*

The Max Planck Laboratory of Structural Biology, Chemistry, and Molecular Biology in Rosario. (All photos: Timo Strohäker)





## One year in Argentina – a wonderful experience

When I chose a career in science as a researcher, I chose this for the curiosity and the passion I always had about the physical and biological phenomena that drive the world and ourselves, but also – with a bit of luck – it is a job that allows you to combine highly valuable experiences in your professional life with personal growth and an inestimable open-mindedness.

That's why I decided to do my PhD in such an international environment as the one the University of Göttingen offers. Even before I started the PhD, my supervisor informed me about the possibility to participate in a newly established international PhD program providing me with the opportunity to spend one third of my PhD time – approximately one year – in another university of another country and even in another continent!

Although at first I had some doubts worrying about wasting too much time, setting things up in a different lab, and possible negative consequences for my career carrying out part of my PhD in South America, I seized the moment and started what turned out to be the best experience in my life so far.

The experience, looking back, was wonderful. The host institute in Rosario, the third most populous city in Argentina, was the Max Planck Laboratory for Structural Biology, Chemistry and Molecular Biophysics (IIDEFAR/LMPbioR), a partner institute of the Max Planck Society. Furthermore, the institute is intrinsically connected with the National University of Rosario (UNR), and CONICET, the main organization in charge of the promotion of science and technology in Argentina.

I had a great and pleasant surprise observing that, regardless of the ups and downs of Argentina both in political and economic terms, the scientific community in Rosario – and all over the country – is much more vibrant than you would expect. As a matter of fact, in the last years there has been a considerable increase in the promotion and development of science and technology: A lot of talented scientists returned to their native country, bringing with them all the knowledge learned abroad. In addition, a lot of other highly qualified researchers from neighboring countries are coming.

Due to this multifaceted and versatile organization the IIDEFAR/LMPbioR institute was a unique and challenging experience for me to learn new techniques and to push my project forward from several different and sometimes opposite directions.







In Jujuy province in the extreme northwest of Argentina, at the borders with Chile and Bolivia. (All photos: Caterina Masaracchia)

«With a good asado, a glass of wine,  
and a bunch of friends  
everything can be solved.»

Catarina Masaracchia

My research project focuses on the study of structural and dynamic alterations that regulate alpha-synuclein (aSyn) aggregation by using a C-terminal tagged model version of the protein termed SynT.

aSyn is believed to be the main protein involved in several neurodegenerative disorders – namely synucleinopathies – including Parkinson’s disease, Alzheimer’s disease, and dementia with Lewy bodies. Despite its link with pathological, neurodegenerative processes, its physiological function is still obscure and neither the mechanisms triggering aSyn aggregation are clear, nor is known how aSyn aggregation is related to pathology.

To answer these questions it will be necessary to generate and test different hypotheses about structure and function of this protein in health and disease.

On the personal side, as I already mentioned, it was an incomparable experience. As Italian, I didn’t have problems to adapt to the warmth and the joy of life this South American country and its people spread far and wide. From the artistic, folkloristic, and touristic point of view, the beauty and the resources of Argentina are not questionable. Nevertheless, sometimes it can be a bit hard to deal with a poor and at times confused day-to-day organization, the economic instability, and the daily challenges everyone needs to face in a foreign country with a totally different lifestyle.

But with a good asado, a glass of wine, and a bunch of friends everything can be solved.

Catarina Masaracchia

Department of Neurodegeneration and  
Restorative Research, University Medical Center Göttingen