

Kein Quark\*,  
aber ebenso  
elementar:

Wissenschaft braucht  
Management.



\* Quarks sind eine Klasse von Elementarteilchen innerhalb des Standardmodells der Teilchenphysik. Protonen und Neutronen sind aus jeweils drei Quarks aufgebaut und werden durch die starke Wechselwirkung zusammengehalten.

## Trojan Horse of Tolerance

"Science goes to School!" aims to provide research and world openness and was honored with the Saxony Integration Award



The "Science goes to School!" team at the Saxony Parliament, where the young scientists received the Integration Award.

Young researchers from the MPI of Molecular Cell Biology and Genetics are demonstrating in the classroom what a central issue cultural variety is – not just for science.

"Don't forget – we are 60 percent banana!" says Sebastian Dunst, a doctoral student at the Dresden-based MPI of Molecular Cell Biology and Genetics (MPI-CBG), while his Indian colleague Govind begins to mash bananas. The eighth-graders at Glückauf High School will later extract DNA from this. The students giggle; they are happy about the visit, which is part of the "Science goes to School!" program. Doctoral students from the areas of biology and bioengineering want to spark curiosity about science and increase openness and expertise in dealing with other cultures.

All of the experiments are carried out in English and in multinational teams. The name of the project says it all: the scientists go out into schools, and while they are teaching, they themselves are also learning something – about how young people in their town think. "Science goes to School!" was

started in November 2010, and since then, eight high schools and colleges with around 360 young people have become involved. "The positive feedback is the real success," comments Marcus Jahnelt, a doctoral student at the MPI-CBG. He is also pleased that the project received third place in the 2011 Saxony Integration Award.

Sadly, what prompted the science project was the summer 2009 murder of Marwa El-Sherbini, whose husband worked as a doctoral student at the MPI-CBG. "We quickly realized that, as researchers who rely on specialists from all over the world, we must do our part to help make the city a more tolerant place," explains Marcus Jahnelt. In "Science goes to School!," this Trojan horse of tolerance is perfect, as it is becoming clear that openness and curiosity are basic requirements for success, both in science and in society. "It's people's ideas that count, not where they come from or what they look like," he says. The researchers don't want to point fingers; they want respect to set an example: "Young people need positive models in order to learn tolerance."

# A Fixed Roadmap to a Ph.D.

The International Max Planck Research Schools mark ten years since their inception

Doctoral students on a clear course to a Ph.D. – this is the principle behind the research schools the MPG has established across Germany. Everyone benefits: young scientists like Natalia Manrique Hoyos and the institutes alike.

There's one thing that doesn't taste quite as good: Natalia Manrique Hoyos came to Göttingen four years ago, delighted to be here and without a doubt in her mind that she had made the right decision to leave Colombia and take up the rare opportunity of a place at the International Max Planck Research School (IMPRS) in Neurosciences. But in the cafeteria of the MPI of Experimental Medicine, the Ph.D. student can't avoid pointing to the coffee she has just taken from the machine. "It tastes better at home – we're not one of the world's biggest producers for nothing."

But that's the only fault she brings up as we discuss the IMPRS. "The range of subjects on offer is superb, and the support I received right from the start is fantastic," says the 27-year-old. It began with the visa paperwork, extended to the search for a place to live, and still continues to this day. "The only thing I had to sort out myself at the start was my cell phone contract," she recalls, thinking back to her early days in Göttingen.

## "THE GÖTTINGEN SCHOOL" AS A MODEL

The IMPRSs have been in existence for more than ten years now, expounding the MPG's principle of structured doctoral studies. Göttingen was one of the first locations, and now there are 62 IMPRSs across Germany. More than half of the 5,000 or so doctoral students who work at a Max Planck institute in the course of their Ph.D. are integrated in one of them. Under the program, organized in close partnership with the local university, the doctoral students have a clear roadmap to their Ph.D., which normally spans three years. The schools also offer

courses in which students can deepen their knowledge of theories and methods and obtain training in, for example, academic writing and soft skills. The doctoral students get either a contract or a fellowship to cover their living costs. Göttingen has three IMPRSs. Whereas the IMPRS for Physics of Biological and Complex Systems picks up after the master's degree, as most of the schools do, the IMPRS for Molecular Biology and for Neurosciences – which each accept up to 20 students per year – enroll students straight after their bachelor's degree. "There is an orientation year during which the students take a program of courses and can complete their master's," explains Steffen Burkhardt, Coordinator of the IMPRS for Molecular Biology. And to enable the students to experience the world of research first hand, there are three practical lab placements on the curriculum: Natalia Manrique Hoyos dipped into university medicine, then worked in a department of the German Primate Center funded by the Leibniz Association before finally moving to the MPI of Experimental Medicine, where she is now doing her Ph.D. in a group led by Mikael Simons. As Michael Hörner, Coordinator of the IMPRS for Neurosciences, explains, "This is a great example of how the IMPRSs in Göttingen are integrated in a larger network." The model is successful within the Initiative for Excellence, and combines eleven Ph.D. programs in one graduate school, including the three IMPRSs, in which three of Göttingen's four MPIs have a stake. The benefit is that "the cooperation with the university and other research organizations that has evolved over ten years gives doctoral students greater choice – there's more on offer for them," says Michael Hörner. Added to that, Directors and senior research scientists at the MPIs are closely integrated in the university's teaching program and, as authorized examiners for the IMPRS, can supervise Ph.D.s. For Max Planck President Peter Gruss,



Natalia Manrique Hoyos at the Neurizons 2011 conference

in view of the double-size graduating classes, that is a desirable path for all IMPRSs.

## ON THE WAY TO THE NEXT LAB

Natalia Manrique Hoyos, who received a research excellence grant to complete her doctoral studies as one of the year's best in her master's program, plans to have her Ph.D. in the bag by the fall. "You do have to see which lab you can move to next." She is likely to leave Göttingen, at least for the time being. "I may well come back after my postdoc." After all, everything is good here – in the lab and in life in general. And the cafeteria coffee – well, at least it's average.

# A Binding Formula for Women

The MPG is continuing its work toward greater equality of opportunity with voluntary commitment

The Max Planck Society wants to increase the number of women in management positions in science and is working toward voluntary commitment. In mid-March, a proposal was put to the Senate for a resolution on how this goal can be achieved for the individual career levels.

The MPG is aware that the business and science worlds are both facing a serious deficit in that there are not enough women in top management positions. The MPG is actually above average compared with other research organizations, mainly because the number of women postdocs and research group leaders is quite high. Yet of the 277 Scientific Members, there are still too few women.

Not least as a result of the discussion on women's quotas for businesses, the Joint Science Conference (GWK), as the representative of the federal and state ministers responsible for research, is now increasingly turning its attention to the science organizations financed by public funds. In the fall of 2011, the GWK resolved to obligate the Max Planck Society, the Fraunhofer Gesellschaft, the Helmholtz Association and the Leibniz Association to establish flexible target quotas. To

The higher up you gaze at the career ladder, the fewer women you see: Michaela Kreyenfeld, Research Group Leader at the MPI for Demographic Research, and Annette Denker, postdoc at the European Neuroscience Institute (from top).



Christiane Nüsslein-Volhard, Director at the MPI for Developmental Biology, is the Max Planck Society's only female Nobel laureate.

this end, the organizations are expected to orient their efforts toward the German Research Foundation (DFG) equal opportunities standard, which is also based on the cascade model. This aims for the number of women at each career level to correspond to the ratio of men and women at the lower level. Admittedly, this won't happen overnight, particularly because there is a considerable gap between the numbers for the penultimate and the highest remuneration stages, from W2 to W3, and the pool of female scientists is significantly smaller in many technical-natural science subjects than, for example, in the humanities.

However, between 2005 and 2010, the MPG discovered how positive an effect voluntary commitment can have: It was able to increase the number of women at two management levels per year by at least one percentage point five times in a row. President Peter Gruss is confident of accomplishing this again. The starting point for voluntary commitment by 2017 would be the figures for January 1, 2012. The number of women in the salary groups W3 and W2 together at that time was 19.2% (broken down into Directors (W3) 8.7% and group leaders (W2) 27.4%), and in salary groups E13 to E15Ü of the collective agreement for the civil service (postdocs), 28.3%.

"But more important than any specific goal," explains Peter Gruss, "is that all of us in the MPG have the same understanding of and insight into the situation and, with commensurate commitment, can remedy the existing inequality together." Promoting women would have to be realized in the Max Planck institutes. There are already many established measures for reconciling work and family in the MPG, including dual-career options, management training for female postdocs, mentoring opportunities, and the now 47 co-operation agreements between Max Planck institutes and external providers for childcare options. In addition, the third audit process for renewing the "work and family" certificate is approaching. In 2006, the MPG was the first science organization to have a completely successful assessment.