



Women in science - 8 March 2015



EURAXESS is a [European Commission's Directorate General for Research and Innovation](#) initiative.

Read more about the [European Commission Strategy and Policy to Create Gender Equality in Science & Research](#) [below](#).



Helena Bonciani Nader was born on November 5th, 1947 in the city of São Paulo. She completed her undergraduate studies in Biomedical Sciences (bachelor degree) at the Federal University of São Paulo (Unifesp) in 1970 and received a bachelor of education from the University of São Paulo (USP) in 1971. After obtaining **her PhD in Molecular Biology** from **Unifesp** in 1974, Helena concluded her post-doctoral studies at the **University of South California** with a Fogarty grant (NIH).

Biography to be continued
next page

On the occasion of **International Women's Day**, EURAXESS Links went out to talk to female scientists from various different countries all over the world to hear their stories. What made them chose a career in science? Which obstacles are they facing in their profession? What solutions do they see to foster women participation in science and how mobility can held with this regard.

In Brazil, EURAXESS Links Brazil decided to feature a special interview with a woman with many hats. Helena Nader, who kinly accepted to answer our questions, is both an experienced researcher, but also holds a decision making position in science.

EURAXESS Links Feature – Interview with **Helena Nader**, researcher and president of the Brazilian Society for the Advancement of Science (SBPC)

Besides your position of president of the Brazilian Society for the Advancement of Science (SBPC), you are also full professor at the Federal University of São Paulo (Unifesp). Tell us a little bit about your roles and responsibilities.

Presently, I divide my time between my career at the university and the commitments at SBPC, which are many: from day-to-day bureaucracy to meetings with ministers, rectors, congressmen, and all kinds of people devoted to education, science and technology throughout the country. And, as you know, Brazil is a large country to travel around! SBPC headquarters are located in São Paulo city, but frequently I have to fly to Brasília to participate in meetings of national committees devoted to discuss and advise public policies in areas such as the environment, budgetary issues, research programs, and others. I also spend part of my time writing and preparing speeches and lectures, and talking to journalists and science communicators.

At the university, my research work focuses on Molecular Cell Biology, in particular on glycobiology, concentrating on studies of a complex class of glycoconjugates named proteoglycans, with an emphasis in heparin and heparan sulphates. These studies are related to the enrolment of these compounds in hemostasis, in the control of cellular division and in cellular transformation.

I still teach classes to undergraduate and medical students, graduate students, and advise papers and theses, i.e. the usual academic life.

And I give a lot of myself in everything I do, because **I strongly believe that good science can only be achieved with much dedication and passion.**

How is the current situation of scientific research for women in Brazil?

If we consider that the regulation of science activities is quite recent in Brazil, I believe that we are in a good position, especially when compared with other science productive countries. For instance, in an article published by Nature



Helena is a member of the **Brazilian Academy of Sciences**, of the **São Paulo Academy of Sciences**, and of the **World Academy of Sciences** (TWAS).

Throughout her scientific career she was honoured with various national and international prizes and academic titles. She is a visiting professor at the Loyola Medical School (Chicago, U.S.), W. Alton Jones Cell Science Center (NY, U.S.), Istituto Scientifico G. Ronzoni (Milan, Italy) and Opocrin Research Laboratories (Modena, Italy). She held the position of dean of undergraduate programs and of research and graduate programs at Unifesp. Before her present mandate as **president of the Brazilian Society for the Advancement of Science (SBPC)**, Helena Nader was president of **the Brazilian Society of Biochemistry and Molecular Biology (SBBq, 2009-2010)**.

called “Global gender disparities in science” (vol. 504, issue 7479) a graphic shows that amongst the 30 most productive countries in science, Brazil shows the highest ratio of female to male authorships (0,678) surpassing all science giants like the U.S., Germany, France and the UK. Other international figures like those presented by Unesco show that Brazilian women are already a majority of our bachelor students (59%) and doctoral students (52%). Even considering science, technology, engineering, and mathematics (STEM), recent data shows a striking increase of women’s enrolment in the area. Nevertheless, although we are a majority and the relevance of our scientific production is undeniable, we still have a long way to go in order to conquer gender equity in the world of science.

Do you believe that Brazilian women are discriminated in science, for instance in accessing public funding for research?

There might occur discriminatory attitudes, but I tend to believe that they are sparse or subtle and cannot be generalized. For the past decades, as it has happened in other countries, affirmative actions, regulations and laws have been trying to undermine gender discrimination in Brazil. These actions affect the science arena in a positive way, but still do not solve other forms of discrimination such as the access to decision making positions.

What are the greatest challenges female scientists face?

We still face some of the old problems that remain in sexist societies, like Brazil and so many other countries. Women, scientists included, usually have to conciliate a professional career with most of the housekeeping and motherhood work. This is changing in Brazil, I believe that the young generations are changing that, but in a very slow pace.

Scientific careers require a lot of dedication; they are time and energy consuming and require mobility, so I believe that some women either give up in order to take better care of the house and family, or live in a constant conflict, running against time and guilt. Or even choose not to have a family! I was particularly lucky in that matter since I married another scientist who understood and encouraged my career, but it is not the case for most women.

What could be done to motivate more women to choose a scientific career?

It has to **start very early**, as we enter elementary or high school, when there is the great chance to show a young girl that she can become a scientist, a mathematician, a physicist, a biologist, and so on. I understand that this is very much related to the way that parents, teachers and the media treat and show science to youngsters, so it is very much related to education patterns and the public communication of science.

During the past decades, there have been either governmental and/or non-governmental initiatives in order to raise the interest in scientific careers in Brazil. I recall the Mathematics and Physics Olympics that are promoted all over the country every year – with a significant participation of young female students. There is also the annual National Science and Technology Week with active



involvement of universities, S&T institutions and students from all over the country.

*Did you know that the Brazilian **Prof. Thaisa Storchi Bergmann** from the **Federal University of Rio Grande do Sul**, Porto Alegre, has just been designated recipient of the **L'Oréal-UNESCO For Women in Science Award** for Latin America? As stated on the prize website, « Prof. Thaisa Storchi Bergmann is being honored for her work leading to the understanding of massive black holes, one of the most enigmatic and complex phenomena of the universe: she was the first researcher to discover that matter could escape from black holes. »

For the first time this year, L'Oréal-Unesco launched the **International Rising Talent Grants**, awarded annually to 15 PhD students and post-doctoral Fellows.

One of the young talent chosen for Latin America is also Brazilian. **Doctor Carolina Andrade** from the Laboratory for Molecular Modeling and Drug Design at **Universidade Federal de Goiás**, was recognized for her project on multi-target drug discovery for Leishmaniasis using integrated strategies in Medicinal Chemistry.

Congratulations to both of them!

Last year, we at SBPC, started to include the so called Family Day at our annual meeting, where families from the host city are invited to bring their children to visit our annual science and technology exhibit. It was a great success of public and audience, especially considering that our last meeting was held at the state of Acre, in the Amazon region, a remote area of the country. I do believe that many girls there had the chance for the first time to get in close contact with scientists, laboratory equipment and experiments, and that is a seed to lighten up the desire to become a scientist, to work with science.

The importance of science is not always understood and well accepted by the non-scientific audience and the society in general. A better scientific communication would help in this regard. Do you think that women could play a specific role in the popularization of science in the country?

Yes, I do believe so. It is interesting to note that in Brazil, we also have many more female than male science journalists and science journalism professors and researchers. So, there is a significant group of female science writers, journalists and science communication researchers working in media, at universities and research organizations. They are already playing this role in the popularization of science.

Also we, at SBPC, have been doing a daily effort in communicating science and its policies to the general public. Our communication group has five female journalists, and I believe I can also include myself as a scientist who loves to communicate with the general public through all possible media!

You have been at the head of SBPC for almost two mandates now. The new interim Consecti President is a woman. Do you believe that there is a process of feminization of decision making positions in science?

More than we had before, but much less than we expect. Indeed we do have some women with mandates for decision making positions in science. Some of our major universities, like the University of São Paulo, the university I work for [Unifesp], the University of Minas Gerais, and others, are or were led by women as rectors. We also have a considerable number of women acting as head of departments, presidents of scientific associations and, most recently, as state secretaries of Science and Technology. We still have not had a female minister of S&T, but that can happen at any time.

Is there any good initiative to promote gender equality in Brazil or any other country that you would like to highlight?

There are some initiatives like the L'Oréal Prize for Women in Science* that I find quite interesting; some Brazilian scientists have achieved this and other prizes devoted to women in science. I also understand that, nowadays, we have a considerable number of gender studies which include the role of women in science as well as books and other outreach programs devoted to show what women scientists have been doing.

Special feature published by EURAXESS Links Brazil at the occasion of the **International Women's Day – 8 March 2015** | Page 3 of 6



Do you think that international mobility of researchers and scientists plays a role to reduce machismo and empower women?

It certainly does. International mobility is essential for all scientists and especially for women, so that they can establish relations with colleagues around the globe, promote their work, learn what other women are doing, and how sexism still affects women scientists in so many places. That is a way to empower and to promote affirmative actions amongst women scientists from different cultures and origins.

Are there any specific measures that you believe can encourage international mobility of female researchers and scientists?

In my understanding grass roots actions are much more effective than official or governmental patronized measures. One important role in that matter can be expected and achieved by the national associations for the advancement of science like the SBPC in Brazil, the AAAS in the U.S., the EuroScience, and others. These organizations are the meeting point of scientists in most countries, so it is an important environment to claim for a better and growing participation of women in science worldwide.

Thank you very much for your time and congratulations for your inspiring career!



Creating Gender Equality in Science & Research – European Commission Strategy and Policy

To create the very best conditions for researchers and scientists, the 28 member states of the European Union are working towards the creation of single [European Research Area \(ERA\)](#). Their common goal is to establish a unified research area which is open to the world, and in which researchers and knowledge circulate freely. Creating equal opportunities for women and men is an integral part of ERA.

The [Strategy for equality between women and men](#) (2010-2015) is a comprehensive framework committing the European Commission to promote gender equality into all its policies. It pursues three objectives, namely: gender equality in careers, gender balance in decision-making and the integration of the gender dimension in the content of research.

Gender equality in the European Research Area (ERA)

Since 2012, gender equality is one of the key priorities of a “Reinforced European Research Area Partnership for Excellence and Growth” (ERA). To this end, the 28 Member States of the European Union (EU) are invited to remove barriers to the recruitment, retention and career progression of female researchers, address gender balance in decision-making and strengthen the gender dimension in research programmes.

The European Commission encourages the EU Member States to create the appropriate legal and policy environment to incentivise institutional changes. This should aim to correct gender imbalances in careers and in decision making, and to strengthen the gender dimension in research programmes

Funding Agencies and Research Organisations and Universities are on the forefront in the implementation of institutional changes, in particular through Gender Equality Plans. Gender equality in research will not be achieved unless a critical mass of universities and research institutions are targeted through long-term institutional change actions.

Scientists themselves can contribute to change practices. Networking among practitioners and professional associations, platforms of women scientists and other networks play a key role in this context.

Gender Equality in Horizon 2020

Gender is a cross-cutting issue in Horizon 2020. The promotion of gender equality in research and innovation is a commitment of the European Commission. It is enshrined in the core documents establishing Horizon 2020, with the following objectives:

- [Gender balance in decision-making:](#)

The Commission has set a target of 40% of the under-represented sex in expert groups and evaluation panels. The H2020 Advisory groups have a target of



50% for the under-represented sex in expert groups and evaluation panels. For 2014-2015, there are 52 % of women.

About EURAXESS Links Brazil

EURAXESS Links Brazil is a networking tool for European researchers active/seeking activity in Brazil and for Brazilian researchers wishing to collaborate with and/or pursue a career in Europe.

EURAXESS Links Brazil provides information about research in Europe, European research policy, opportunities for research funding, for EU-Brazil and international collaboration and for trans-national mobility.

Membership is free.

Visit us at brazil.euraxess.org and facebook.com/EuraxessLinksBrasil and [Join the EURAXESS Links Brazil community](#).

EURAXESS Links networks have thus far been launched in North America (USA & Canada) Japan, China, India, the ASEAN hub (encompassing Singapore, Thailand, Malaysia, Indonesia and Vietnam) and Brazil.

Source and more details [here](#).

Gender balance in research teams at all levels:

Applicants for funding are encouraged to promote gender balance at all levels in their teams and in management structures. Gender balance in teams will also be taken into account when ranking proposals with the same evaluation scores.

By signing the grant agreement, beneficiaries will commit to promote equal opportunities between men and women in the implementation of their action. They will also commit to aim, as far as possible, for gender balance at all levels of personnel assigned to the action, including at supervisory and managerial level.

Integrating the gender dimension in the content of R&I:

R&I need to adequately take into account the needs, behaviours and attitudes of both women and men.

In Horizon 2020, the gender dimension is explicitly integrated from the outset in many of the specific programmes. So far, more than a 100 topics out of 610 are concerned. They are spread in 13 different programmes, out of 20. For each of these topics, one or more proposals will be selected. This gives a promising picture on the number of projects that will be developing a gender dimension and on the new knowledge that they will bring about.

Topics with an explicit gender dimension have been “flagged”, which means that a full list of those topics is available on the Participant Portal, under a “quick finder” link on gender. In addition, applicants may also use the search engine, which will list all the topics available which are explicitly referring to gender.

Facts and figures: She Figures

What is the proportion of female to male researchers in Europe, and how is this proportion evolving over time? In which scientific fields are women better represented? Do the career paths of female and male researchers follow similar patterns? Are statistics on women in science comparable across Europe? How many women occupy senior positions in scientific research in Europe?

Published every three years since 2003, She Figures replies to these questions. It presents human resource statistics and indicators in the research and technological development (RTD) sector and on gender equality in science.

The [She Figures 2012](#) shows that despite progress, gender inequalities in science tend to persist. The publication also gives an overview of the scientific fields where women are better or less represented, and compares the research workforce in different economic sectors (e.g. higher education, government, and business sectors).