

Let's Brazilianize science!

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Until a very short time ago, my institution did not often receive important researchers with global reputations; my colleagues and I regarded the arrival of an eminent scientist as an exceptional event, one that permitted us to discuss our most pressing scientific concerns. Besides research constraints, we presented available grant opportunities to international guests, who did not take them as seriously as we wished. Unfortunately, other than as a place for the incubation of ideas and future Nobel prizes, the scientific community misdiagnosed this country as the victim of a pervasive system of social inequality. Indeed, the depreciatory word Brazilianization is derived from the German sociologist Ulrich Beck, who speaks of a nation with a degenerated workforce system that is characterized by precariousness and insecure employment¹. Similarly, Michael Lind, referring to the future of social classes in the United States, used the same expression to define the phenomenon of “high-tech feudal anarchy, featuring an archipelago of privileged whites in an ocean of white, black and brown poverty”².

No one could foresee the incredible coming change: in the last months, we have received several guests, most of them leading scientists in clinical and basic research. Remarkably, these honored visitors are now declaiming full knowledge of recent research developments in Brazil, as well as our areas of expertise and, more importantly, the full and precise name of our grant programs. Indeed, it is amazing to hear terms like *Zienzia sin Fronteras* similar to the Brazilian Portuguese version of Science without Borders (SWB), a huge mobility program of the Brazilian government, launched in 2011, that plans to send 75,000 to 100,000 students abroad. Moreover, through the SWB platform, Brazil is offering scholarships to junior and senior scientists to work as collaborators in our research labs. As the website of the program indicates, “the mobility program proposed here aims to launch the seeds of what could revolutionize the R&D [research & development] system, Brazilian students and researchers exposed to an environment of high competitiveness and entrepreneurship”³. The international interest in Brazilian science is even more extensive: international researchers visiting Brazil are completely informed about other national grant agencies, such as the FAPESP, the CNPq, and the CAPES.

What explains this development? Can the recent expansion of Brazilian economy, the international crisis, and the lack of investment in research by the factors at work, among which one finds the following:

- North-American graduates are less prone to engage in research activities in the United States because of inauspicious future earning scenarios.
- The entire world has learned from the successful American research enterprise and is now fostering science and technology programs to improve economic and social indexes. Brazil, India, China, and other countries are strongly committed to such initiatives.
- As a consequence, the qualifications of scientists from these countries have improved, and they now possess high value in an international market with a dearth of valuable scientists.
- Developing countries are sending their young scientists abroad, looking to invest part of their recent economic wealth in science and technology partnerships with the United States.
- The world economic crisis has been longer, more serious, and less tractable than expected, altering the global role of various countries. Governments of some developing countries, aware of their increased economic and political strength, eagerly desire to demonstrate that they can weather the crisis.

Unlike previous decades, when a unilateral “brain drain” worried our universities, this new international stage seems more reasonable and balanced. Other than expanding global cultural contacts and understanding, this program will create strong international collaboration teams that will allow for more rapid and impressive advancements in scientific research and that will further academic careers in the United States and in Brazil. North-American researchers could spend some of their productive time collaborating with our scientific community. In addition, precautions have been established in order to get the most of this investment: scholarships are delivered on certified basis, that is, to receive these grants, researchers must certify that they will return home, otherwise penalties are imposed, including

the return of some of their stipends. We can assume that this program, which is directed at the best students, will further scientific progress in our community. However, the success of this complex and interdependent program raises several important questions:

- Do we have the necessary number of qualified students, with both the language skills and scientific expertise, to meet the targets of the mobility program?
- No country in the world has attempted to send so many students abroad. Would it not be better to begin with a pilot initiative with a small number of more qualified individuals?
- Upon return, would our national scientists succeed in organizing, applying, and conveying their internationally acquired knowledge?
- Would international scientists be interested in coming to Brazil?

To address these issues and increase the chance of success, it is necessary and urgent to make modifications in the way that the international scholarships are undertaken. Traditionally, the decision to apply for an international scholarship was an individual initiative. This characteristic, however, disregards the intrinsic responsibilities and interests of our institutions. Upon return, it is often difficult for students to find a place in an academic or scientific Institution. It would be fruitful for the mobility program to create “coming home” grants for young researchers. Students

returning from the international training program will be able to apply for their own grants and lead scientific projects. This initiative would certainly increase the interest of universities in hiring qualified scientists who have “a grant in their pockets”. A similar initiative called *Jovens Pesquisadores* already exists, but it accepts only researchers from the State of São Paulo⁴.

Second, the attraction of international scientists must be implemented less modestly and more effectively. The number of scholarships for international junior and senior researchers is too small (1,500), representing just 2% of the global total³. This number must be increased and the offers must be made competitive. In addition, strong marketing must advertise such scholarships and what researchers can learn and do with them in Brazil. The mechanisms responsible for the depreciatory term Brazilianization must vanish and be replaced by those that are real and positive. Let's Brazilianize science!

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