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Growing Latin American Science

HOW CAN A COUNTRY RAPIDLY IMPROVE ITS CAPACITY IN SCIENCE, TECHNOLOGY, AND INNOVATION? Invest in people, as Latin America is doing. For Brazil, supporting this effort through international exchange and increased mobility over the past year will substantially enlarge the nation's corpus of highly qualified scientists and technologists. Argentina has increased its number of doctoral fellowships and is concentrating on recruiting back Argentine investigators working abroad to advance its own basic research and industry. And in Chile, special programs have been funding fellowships to send students abroad to obtain Ph.D. degrees in science. These activities reflect the growing desire of Latin American nations to train an educated workforce in the world's best institutions and foster "globalized" science on the continent.

Nations understand that they must equip themselves with future leaders of scientific and technological research and innovation to compete economically on the international stage. In July 2011, the Brazilian government dramatically addressed this challenge by launching the *Ciência sem Fronteiras* (CsF) program, which offers, through 2015, 100,000 scholarships for scientific study and research work abroad. The program is jointly administered by federal funding agencies and is partly funded by the private sector. This Brazilian *Science Without Borders* program has attracted the interest of universities across the globe that are eager to receive well-funded undergraduate, graduate, and postgraduate students and thereby establish collaborations with a rapidly developing economy. CsF specifically focuses on science, technology, engineering, and mathematics, and funds travel and installation expenses, health insurance, and salary for fellowships ranging from 1 to 4 years in academic or industrial centers. The program also provides incentives—start-up funds and fellowships—for out-of-country scientists to move to Brazil, whether in the academic, governmental, or industrial sector, even for brief 2-month periods.

By the end of 2012, Brazil will have selected more than 20,000 students and postdoctoral fellows to go abroad to 30 different nations in Europe, Asia, Australia, Africa, Central America, and North America.* And 250 have come to Brazil thus far through the special visiting scientist program. The national and international companies that joined the program are already competing to offer jobs to the Brazilian students as they return. As a result, Brazilian universities are increasingly engaging in international collaborations, with an unprecedented exposure already reflected in international university rankings. In the next few years, approximately 3000 Chilean students are expected to return to Chile with doctoral degrees. The challenge will be to allocate funding to support their continued training.

Latin American countries are also increasing the number of fellowships to attract talented students from developing countries, including those in Africa and Asia. For Brazil, this is being done in association with the Brazilian foreign ministry and international organizations such as The World Academy of Sciences (TWAS) and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Within Latin America, the South American Support Program of Science and Technology (PROSUL) is supporting all South American countries, with funding for joint research projects and for scientific events and research networking. Other successful programs include the Iberoamerican Program of Science and Technology (CYTED) and the African Thematic Program of Cooperation in Science and Technology (PROAFRICA).

Latin America must continue to strengthen the internationalization of its science, as well as exploit its local excellence through intracontinental collaborations, positioning the continent to become a global leader in science, technology, and innovation. Indeed, every nation can benefit by growing a capable and knowledgeable workforce.

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*www.cienciasemfronteiras.gov.br/web/csf/bolsistas-pelo-mundo

