



Open goal

International researchers can help to improve the scientific enterprise in South America.

Productivity in offices and labs around the world will probably slip a little during the next month, as football fans tune in to watch the 2014 FIFA World Cup, which starts in Brazil this week. Four years ago, nearly half the world's population tuned in at some point during the tournament. And as the world focuses its attention on Brazil, *Nature* has taken the opportunity to widen the view with our special issue on science in South America (see page 201). The package of articles and commentaries details some of the success stories on the continent as well as the substantial challenges faced by researchers there as they seek to build scientific institutions in the wake of decades lost to dictatorships.

They need not struggle alone. From London to Boston to Tokyo, individual scientists and larger organizations in the developed world can offer significant help to South American countries. When *Nature* asked leading South American scientists what kind of assistance would bring tangible benefits, the answers invariably clustered around two key requests to their international colleagues: host young scientists in your laboratories, and come to visit South American researchers.

The flow of students from South America to the United States and Europe has grown in recent years but remains a trickle. Brazil sent fewer than 11,000 undergraduate and graduate students to the United States in 2013 — less than Turkey and Vietnam, countries with much smaller populations and economies. The tally for all students sent to US universities from Latin America and the Caribbean was less than one-third of the number sent by China.

Many South American scientists called on their northern colleagues to recruit more graduate students and postdoctoral

scientists from the continent. Even short visits of three to six months can help to train a young scientist. But the exchanges have to be done in a way that does not contribute to the brain drain that has lured many leading researchers to permanent positions in the United States and Europe (see pages 207 and 213). One solution is to provide start-up funds for researchers returning to South America. For example, after postdoctoral training in the United States, Lino Barañao received support from the Rockefeller Foundation to establish his lab at home in Argentina, where he is now the minister of science, technology and innovative production.

Travel needs to go both ways. According to South American researchers, too few scientists visit their continent to spend time in labs, give lectures and attend meetings. Even virtual visits, through video conferences, would help.

The networking requests go beyond the wish to trade research methods and results. Scientists in South America want to know how to select the best people and how to improve coordination between universities and industry. Many called for help in improving science-evaluation processes (see page 209). In Brazil, for example, assessments too often reward quantity over quality.

Investments in sending researchers back and forth can yield long-term dividends. In 1990, Argentine molecular biologist Eduardo Arzt started a fellowship at the Max Planck Institute for Psychiatry in Munich, Germany. After returning to Argentina, Arzt continued to collaborate with Max Planck colleagues — a connection that was key when the society was looking to expand its international programs. In 2011, it established its first South American partner institute in Buenos Aires, run jointly with Argentina's Council for Scientific and Technological Research, and with Arzt as director. Several of the research groups at the institute are led by Argentine scientists lured back from overseas by the opportunity to do top-tier science.

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Football fans in South America are used to seeing top players leave for abroad. Efforts to reverse the flow, in science as in sport, face great challenges. But they are a worthwhile goal. ■