

The global culture of science is constantly evolving, but today we are in a period of profound, rapid change. TWAS is changing, too, to maintain and extend its leadership on issues of science and engineering in the developing world.

Since the founding of the Academy 30 years ago, our membership has been divided into Fellows and Associate Fellows. Fellows were scientists from developing countries who had achieved the highest standards of excellence in their work. Associate Fellows lived and worked in developed countries, but their work had brought dramatic benefits to science in developing countries. Historically, they were about 15% of our members.

Under a decision taken by the Academy at its 24th General Meeting in Buenos Aires, the division will be erased. TWAS membership beginning next year shall consist of 'Fellows' only.

This could seem like a change of limited impact on the affairs of our Academy. Even under the revised statute, scientists who live

and work in the developing world will continue to make up about 85% of our membership. But this shift reflects TWAS's changing relationship with global science.

Increasingly, scientists and engineers from the developing world are making major contributions not just in their home countries, but also at the global level. That is evident in Argentina, where scientists at the private company INVAP have built a satellite for NASA. China is leading the world in materials science publications. Brazil is a global leader in energy development, and India's tech sector has renowned strength.

## Building networks for a new era of science

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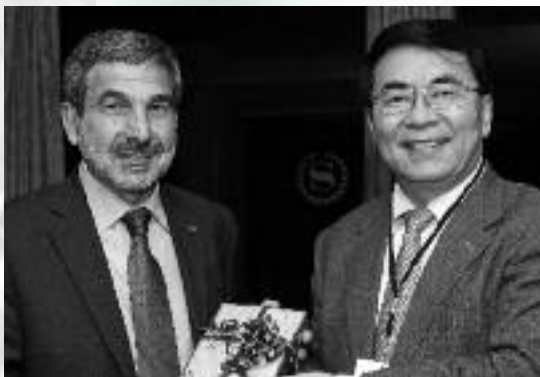
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Top to bottom:  
Roberto Salvarezza,  
president, CONICET,  
Argentina, left, and  
Bai Chunli, president,  
TWAS (Photo: Roque  
Silles); TWAS founder  
Abdus Salam (Photo:  
Ludovico Scrobogna);  
Argentinian science  
minister Lino Baraño.  
(Photo: Roque Silles)



At the same time, researchers from the developed world are making vital contributions in the developing world, in fields ranging from agriculture and health to energy and even astronomy. But most importantly, with increasing frequency these researchers are working together, across borders and cultures, as true partners. And their partnerships are models for addressing the challenges that confront humanity locally, regionally and globally.

This shift in our historic structure reflects an undeniable fact: When it comes to science, the borders between nations are fading. We are seeing the emergence of a more closely knitted global science culture, where interdependence is embraced and genuine partnerships are essential.

We welcome and celebrate that change. It is a measure of the success initiated by our founder, Abdus Salam, and the Founding Fellows. And it reflects the new opportunities to advance science for the benefit of people everywhere.

The Academy recognized this new reality in 2012, when it changed TWAS's name to The World Academy of Sciences. But make no mistake: TWAS remains an academy focused on the developing world, and that will not change.

Toward that end, under the direction of TWAS President Bai Chunli, TWAS will be making a push for new Fellows from two vitally important groups: from nations where there currently are few or no TWAS members, and from the ranks of excellent women scientists in the developing world.

In Salam's vision, both South-South and South-North cooperation were required to advance science in the developing world. At TWAS, we know that cooperation – truly global in nature – is becoming ever more important.

\* \* \*

In the early years after its founding, TWAS was like a seedling – full of possibility, but vulnerable. With support and shelter from the government of Italy, the International Centre for Theoretical Physics and other partners, we survived to grow healthy and strong.

So much has changed in the world, but our partnerships remain central to our operations and crucial to our ability to advance science. China and Brazil, India, Argentina – these are among the great success stories of the past 30 years. Yet today there remain the 48 Least Developed Countries, plus other science-lagging nations, and the opportunities TWAS offers can be crucial for their futures.

The importance of our partners, and the significance of their contributions, could be seen



in the weeks leading up to our General Meeting in Buenos Aires, and in every day of the meeting itself. Lino Barañao, Argentina's minister of Science, Technology and Productive Innovation, and Roberto Salvarezza, president of the National Council of Scientific and Technical Research (CONICET), provided extraordinary support and guidance. TWAS Vice President Francisco Barrantes was essential in every facet of developing and organizing the meeting.

During the meeting, Barañao announced that Argentina would support 30 new PhD fellowships annually, plus 15 postdoctoral fellows, and five visiting scientists; in addition, the nation has opened 175 of its centres of excellence to researchers from the developing world under the TWAS-UNESCO Associateship Scheme.

Thirumalachari Ramasami, secretary of India's Department of Science & Technology, announced that his government would create 25 new fellowships per year, funded over the next five years at total cost of USD3.3 million.

South African Science Minister Derek Hanekom said his government will sponsor at least 100 new fellowships for students from developing countries to study for PhDs in South Africa.

These generous contributions followed a series of new cooperative initiatives begun in 2013. The Chinese Academy of Sciences (CAS), under the leadership of Bai Chunli, announced a fellowship programme to provide 140 early career scientists every year a chance to earn their PhDs in China. In addition, CAS made a significant new investment in five CAS-TWAS Centres of Excellence, all of which offer education, training and research opportunities to developing world scientists.

The Kuwait Foundation for the Advancement of Sciences recently increased its contribution to TWAS publications. And the Swedish International Development Cooperation Agency (Sida) in 2012 provided significant new funding for fellowships at the Organization for Women in Science for the Developing World and for TWAS's growing science diplomacy programme.

Meanwhile, the Italian Ministry of Foreign Affairs provides steadfast support to our Academy, as it has from the start. And UNESCO continues to provide excellent administrative support and guidance, as it has since 1991.

The commitment among emerging nations is inspiring. They have long been TWAS partners, and they have made historic progress in building prosperity for their people. Now they are sharing their success with other developing nations that seek to follow their model.

"We feel it's very important for developing countries in the world to get together – and bring their scientists together – to try to find solutions to some of the problems that are particularly prevalent in developing countries," Hanekom said at the meeting. "It's important that among the developing countries, those which have some advantages or who are slightly stronger take greater responsibility to strengthen TWAS."

The vision and generosity of our partners is humbling, and it places a responsibility on TWAS to achieve a consistent standard of excellence. That means a process of constant building, consistent improvement and enduring creativity. It is a challenge, yes, but with partners like these, TWAS is up to the task. ■

◆◆◆ Edward W. Lempinen



Top to bottom:  
Romain Murenzi, TWAS;  
Elías Micha Zaga, CONACYT,  
Mexico; then-science minister  
of South Africa Derek  
Hanekom. (All photos:  
Roque Silles)