

# TIME-TESTED NETWORKS FOR A NEW SCIENCE ERA

TOP SCIENCE LEADERS MEETING ALONG THE DANUBE EXPLORED HOW THE SCIENTISTS OF CENTRAL EUROPE AND THE NORTHERN MEDITERRANEAN COULD RENEW OLD BONDS TO ADDRESS REGIONAL CHALLENGES.

In the years of the Cold War, thousands of young scientists from North Africa and the developing world left home and travelled great distances to study in Central and Eastern Europe. Some universities and laboratories behind the Iron Curtain were among the world's best, but as the Cold War ended and the Soviet Union broke apart, those networks faded into irrelevance.

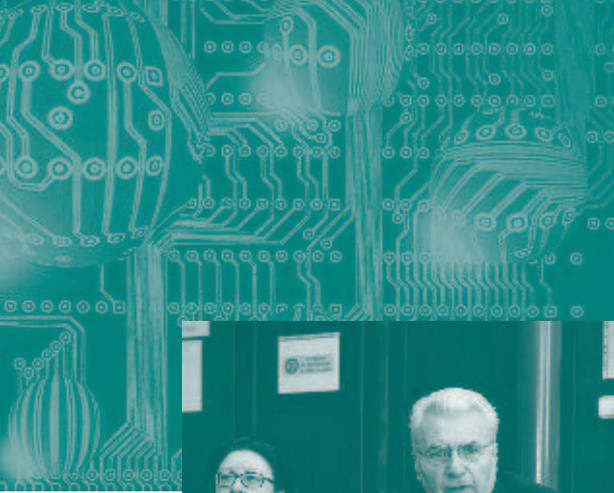
Today, however, the old networks may have new purpose. At a gathering convened by the Hungarian Academy of Sciences and TWAS, high-ranking science leaders, educators and diplomats explored whether bonds that linked the nations of Northern Africa and Central Europe during the Cold War could be retooled for the 21st century.

Speakers at the event suggested that there is a natural foundation for strong relations between the



regions. They share common interests in science and engineering, and they face common, high-stakes challenges. Collaboration could bring broad potential benefits.

“Both in the Mediterranean region and in parts of Europe, we are going through serious challenges related to climate change as well as food crisis and scarcity,” said Adel ElSayed Tawfik El-Beltagy, chair of the International Dryland Development Commission and president of *Centre International des Hautes Etudes Agronomiques Méditerranéennes* in Egypt. “We are going through a financial tsunami, which is hitting both Europe and the rest of the Mediterranean, along with political and socio-economic changes that emerged following the Arab Spring. All of this is creating a complex and dynamic landscape where the problems are tightly coupled.”



Left: (from left) Maria Asunta Accili, Italy's ambassador to Hungary; József Pálincás, president of the Hungarian Academy of Sciences; and AAAS President Alan I. Leshner spoke to journalists who attended the roundtable. Above: The roundtable drew nearly 50 science, policy, and diplomatic leaders from 13 countries. [photos by Mariann Ördög, Hungarian Academy of Sciences]

“If we don’t recognize that, for Europe, the prosperity on the southern side of the Mediterranean is very important for its own security – if we don’t see the ‘we’ – the future is bleak.”

Romain Murenzi, executive director of TWAS, noted that a core of countries worldwide, including some in the Southern Mediterranean, are being left behind as other developing nations begin to prosper.

“Central and Eastern Europe have a role to play,” Murenzi told a news conference during the roundtable. “They have a historical reputation for scientific excellence. During the Cold War era, they received many science students from developing countries. I would like to see if there’s a possibility to develop North-South networks, just as many of us are building South-South networks.”

The roundtable – ‘Science & Diplomacy: Central Europe and Southern Mediterranean’ – was organized under the auspices of the 2013 Italo-Hungarian International Year of Culture and Science and held on 8 April at the Italian Institute of Culture in Budapest.

Nearly 50 science and policy leaders attended from 13 countries: Algeria, Croatia, Hungary, Egypt, Italy, Libya, Morocco, Poland, Romania, Serbia, Slovakia, Tunisia, and the United States. Important support was

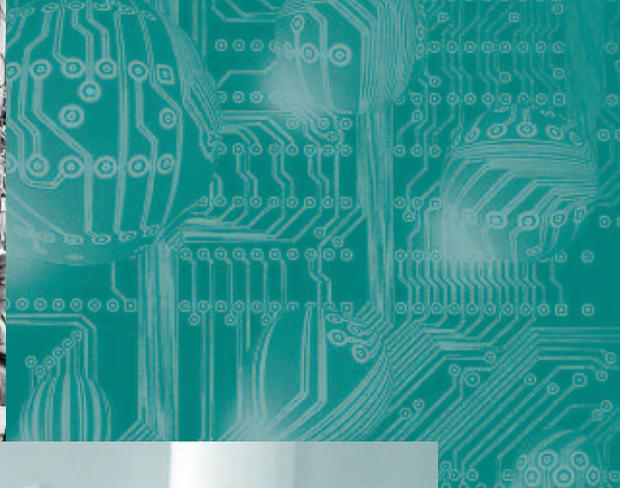
provided by the Italian Embassy; the Italian Ministry of Foreign Affairs; the United Nations Educational, Scientific and Cultural Organization (UNESCO); and the Swedish International Development Cooperation Agency (SIDA). IAP, the global network of science academies, was represented at the roundtable by its co-chairman, Mohamed H.A. Hassan, who also serves as treasurer of TWAS.

The day-long roundtable generated extensive news coverage in Italy and Hungary. Discussions at the event ranged broadly, from the challenges confronting women in science and engineering and the role of science academies in building research strength, to weak governance and other obstacles

encountered by less developed countries as they seek to build research capacity.

For UNESCO, the focus on Africa and on women are top priorities, said Katalin Bogyay, president of the UNESCO General Conference. “We feel the empowerment of women is a very important possibility for everyone in humanity”, she said. “We need to strengthen the rights of women because there are many places where they have to fight to go to school to study, to take part in a deeper sense in science and in science diplomacy as well.”

***During the Cold War, Eastern Europe featured numerous centres of excellence in science.***



Above: A press conference at the roundtable contributed to extensive news coverage in both Hungary and Italy. [Photo by Mariann Ördög, Hungarian Academy of Sciences]. Right: Valéria Csépe, deputy secretary general, Hungarian Academy of Sciences; Adel El Sayed Tawfik El-Beltagy, chair, International Dryland Development Commission (IDDC), and president, Centre International des Hautes Etudes Agronomiques Méditerranéennes (CIHEAM), Egypt; Katalin Bogyay, president, UNESCO General Conference; and Omaima Mohamed Sawan, co-head, Agricultural and Biological Division, National Research Center, Egypt.



## BUILDING A NETWORK OF PARTNERS

Maria Assunta Accili, Italy’s ambassador to Hungary, said in her welcoming remarks that the role of Trieste as an Italian – and international – centre of science is paralleled by the ambitious international role played by the Hungarian Academy of Sciences.

Trieste is “a melting pot for scientists all over the world”, Accili said. “Hungary has a very, very open and extremely developed scientific research system. If we would like to enhance cooperation, which is the goal of my government, we would like to have Hungary more and more involved in the types of activities we are leading in Trieste.”

Gergely Pröhle, deputy state secretary for European bilateral relations and cultural diplomacy in Hungary’s Ministry of Foreign Affairs, also cited important bonds between the two nations, both historically and in contemporary times. Today, he added, his country is increasingly turning East – to the Far East, and the Middle East. For Hungary, “science and higher education play a very important role” in diplomacy, Pröhle said.

Immacolata Pannone, of the Italian Ministry of Foreign Affairs’ Bilateral and Multilateral Scientific and Technological Unit, predicted that the discussions could help align the efforts of many nations.

The roundtable was planned “to improve the coordination of existing academies and organizations and to develop new partnerships by focusing on scientific research”, she said. “As a result of the discussion, it will be clear that our universities, our academies and institutions, and even our industrial systems may share the same proposals and work together.”

## SCIENCE DIPLOMACY: CREATING NEW POSSIBILITIES

In the day’s opening session, leaders in international science described the powerful potential of science diplomacy. Bogyay cited the World Science Forum, organized every two years by the Hungarian Academy of Sciences, as a compelling example of science cooperation and diplomacy. (The next Forum will be held in Rio de Janeiro, Brazil, from 24 to 27 November.)

The day’s keynote speaker was Alan I. Leshner, chief executive officer of the American Association for the Advancement of Science (AAAS) and executive publisher of the journal *Science*. AAAS founded its influential Center for Science Diplomacy (*diplomacy.aaas.org*) five years ago. Leshner called TWAS “one of the most important organizations” in the world for advancing science diplomacy.

Science diplomacy is a potentially powerful tool for knitting together regional and global science communities, Leshner said. However, he added:

“If we want to build a global science community, we have to bring the emerging scientific nations into that community, and that’s a very difficult issue. The reason we want diversity is not because of equity. We want diversity because we want novel ideas. Novel ideas come from people who don’t come out of the long-standing traditions, but come from different traditions.

“We have to help build the capacity that we’ve all been talking about in a way that allows people to be full, valued partners in the global scientific enterprise.”

József Pálincás, president of the Hungarian Academy of Sciences, struck a similar note.

“Talent is spread in the world much more evenly than the output of scientific performance would have you believe,” Pálincás said. “It is our task to provide this talent with a fertile ground to flourish and make it produce outstanding results in the field of science.”

He noted that Central and Eastern Europe, despite their historic strength in research, today face challenges similar to those of developing countries. “It is not a simple exercise to fight brain-drain or to ensure access to state-of-the-art research infrastructure”, he acknowledged. “But it is far from impossible. The example of the Hungarian Academy of Sciences proves

that by focusing existing resources in the service of excellence, it is also possible for less developed countries to make significant progress.”

### SCIENCE IN A POST-REVOLUTIONARY LANDSCAPE

During the years of the Cold War, Eastern Europe featured several centres of excellence in science, mathematics and related fields. And it was through science that the region maintained access to new ideas and international networks. Piotr Salwa, director of the Scientific Centre of the Polish Academy of Sciences in Rome, suggested that the experience reinforced a deeply important relationship between science and society.

“For many years, the academic world of Poland has profited from the openness that science cooperation has given us just to maintain

contact with the Western world”, Salwa said. “And these contacts also guaranteed circulation of ideas. I think that all the academic researchers of my age, or a bit older or a bit younger, remember very well how important this openness has been to us.”

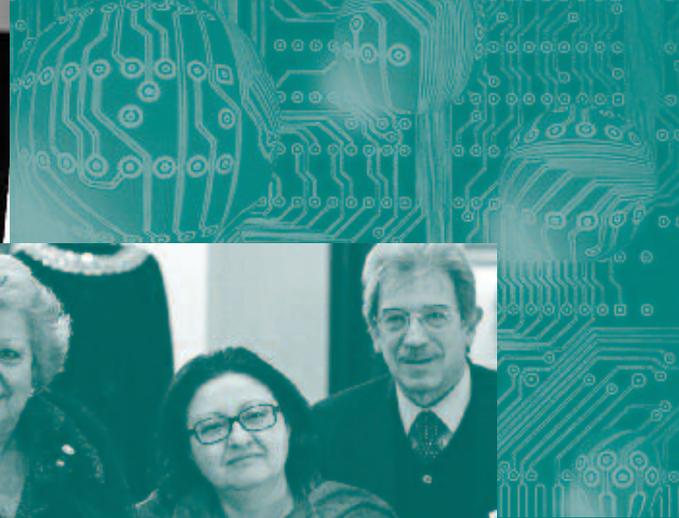
Today, a number of countries in the Southern Mediterranean region are dealing with the aftermath of revolution. But following years of autocratic governments, the hopes of the Arab Spring are giving way to economic and social instability and fears about a new generation of political repression.

Naeem Abdurrahman, a nuclear scientist and engi-

***The hopes of the Arab Spring are giving way to economic and social instability and fears of political repression.***

Left: (from left) Maria Assunta Accili, Italy’s ambassador to Hungary; Gergely Pröhle, deputy state secretary in Hungary’s Ministry of Foreign Affairs; Immacolata Pannone, of the Italian Ministry of Foreign Affairs; and Gina Giannotti, director of the Italian Institute of Culture in Budapest. Centre: Assia Harbi, research director and leader, North African Group for Earthquake and Tsunami Studies, Algeria. Right: Lidia Brito, director of UNESCO’s Science Policy and Sustainable Development Division, and TWAS Executive Director Romain Murenzi at the press conference.





Above: Leshner, El-Beltagy and Bogyay delivered opening remarks at the roundtable. Right: Pannone, Accili and TWAS special adviser Giusto Sciarabba

neer who served as the Minister of Higher Education and Scientific Research in the Libyan Transitional Government, described the underfunding and neglect of education and scientific research in his country and some of its neighbours.

After many years of working in the United States, Abdurrahman returned to Libya after the fall of Muammar Gaddafi and was “surprised at the magnitude of damage that has been done to the science education and infrastructure.” At a time of profound economic crisis, he added, it “is very difficult to convince public officials of the importance of science and to commit sufficient resources to education and scientific research.”

### NETWORKS FOR THE FUTURE

Education is critically important for addressing challenges in developing nations. So too with fellowship and exchange programmes that expose scientists to new ways of thinking. Those are some of the values defining TWAS’s networks that span the South, and it’s why networks extending to Central and Eastern Europe could be valuable.

Murenzi said that during his student years in East Africa, many young people from Rwanda and Burundi studied in Eastern Europe. The quality of the region’s science was strong and the students were well-educated. Today, China, India, Brazil, Malaysia and South Africa are receiving students from developing countries; if Central European nations have underutilized research

capacity, they might be another very valuable education destination.

Science and science education have undergone considerable changes since the end of the Cold War, speakers said. Financial pressures on former Soviet block countries are significant; many researchers have left the region to live and work in the United States or other parts of Europe.

Still, Salwa agreed, a constructive renewal of the old ties should be considered.

***At a time of crisis,  
it is difficult  
to convince lawmakers  
to invest in science.***

“My general knowledge makes me believe that there is a research potential in Poland that could be committed to projects in common with the Southern Mediterranean”, he said. While nations of Eastern and Central Europe are often dealing with financial constraints and

brain drain, exploring those issues and finding valuable joint projects could aid both regions.

For Poland, “there is a tradition of exchange with developing nations“, he explained. “For these researchers, living and working in Poland could be interesting and constructive”. For example, he suggested, some renowned Polish centres might hold great appeal for students from developing nations.

Salwa’s conclusion: “I think it’s major now, or within one or two years, to enter this international cooperation.”

◆◆◆ Edward W. Lempinen