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iap

the global network of science academies

ANNUAL REPORT 2013

Vision and Mission

IAP is a global network of over 100 science academies, bringing together the world's best scientific minds. Its goals are threefold:

- to increase the number of high-quality, independent and evidence-based statements prepared by IAP member academies, working both individually and together, that provide advice on critical issues of global significance to governments and society;
- to develop programmes for scientific advisory capacity building, and for the contribution of academies to science education, science communication and other science-related issues of global or regional significance; and
- to forge closer collaboration among science academies and other scientific institutions.

Science academies play a vital role in supporting, promoting and communicating science, influencing national and international policy on science-related matters, and fostering the next generation of young and talented scientists.

Reflecting the principles of its membership – independence and objectivity – IAP strives to be free from national or disciplinary bias to ensure that its actions and decisions are strictly merit-based and reflect the best scientific evidence available. Consequently, it is one of the leading organizations in the world with the intellectual capacity, credibility and independence to function as an authoritative and impartial adviser on scientific issues of regional and global importance.

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ANNUAL REPORT 2013

IAP Annual Report 2013

Peter McGrath: Writer/editor

Joanna Lacey: Administrative assistance

We would like to thank colleagues from member academies and regional networks who supplied reports on their 2013 activities.

We would also like to thank Jeremy McNeil, chair, and the other members of the IAP Publications and Communication Committee for their comments and edits on the text.

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the global network of science academies

Message from Co-chairs

Dear member academies, colleagues,

IAP – the global network of science academies – was established in 1993. During the last 20 years it has had a number of successes, not least in bringing together the world's academies of science into one global network, followed by the establishment of four regional networks of academies that give added strength to the work of our member academies in Africa, Asia, Europe and the Americas.

While it is important to look back over the past two decades and the activities we have undertaken, including helping to create new academies and to strengthen our weaker members, it was also appropriate to look forward to our 21st year – regarded as the 'coming of age' in many cultures.

Therefore, in 2013 we took the first steps towards becoming a more 'mature' organization. Over the years, IAP has collaborated closely with the InterAcademy Council (IAC), hosted by the Royal Netherlands Academy of Arts and Sciences (KNAW). IAP also worked closely with the InterAcademy Medical Panel (IAMP) which, like IAP, is hosted by The World Academy of Sciences (TWAS) in Trieste, Italy. Following a review by a Development Advisory Committee established by IAP and IAC – and with an eye to increasing the impact of our activities – it was recommended that we create a single entity resulting in less confusion to potential collaborators and allowing the three organizations to speak with 'one voice' to governments, international organizations and other stakeholders.

We are pleased to report that the first steps towards such an 'inter-academy umbrella organization' were taken during a meeting of the executive committees of IAP and IAMP and the board of IAC in Amsterdam, the Netherlands, in June 2013. These initial discussions were very positive – and we have since moved closer to integrating our academy organizations.

But even as these discussions continue, so did our regular activities. In this regard, we would like to thank the Brazilian Academy of Sciences for hosting the IAP conference, General Assembly and Executive Committee meeting in Rio de Janeiro in February 2013; and the Australian Academy of Science for hosting our Executive Committee meeting in Canberra in October-November 2013. Furthermore, we thank all those academies whose in-kind support in 2013 gave our work a greater impact and relevance across the globe.

At the end of General Assembly in Brazil, Howard Alper completed his two terms as IAP Co-chair, and we would like to offer our sincere thanks to him for his effort and commitment in guiding our organization for those six years.

In addition, we would like to acknowledge the efforts of Lucilla Spini, Coordinator of both IAP and IAMP at the secretariat in Trieste from February 2012 until November 2013, during which time she managed many of the recent changes in the administration of IAP affairs. We are happy to welcome Peter McGrath as the new IAP/IAMP Coordinator, hoping that he will bring his 10 years of experience with TWAS to bear on our programmes and activities.

Mohamed Hassan
IAP Co-chair

Volker ter Meulen
IAP Co-chair

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OVERVIEW

Looking back: 2013

Established in 1993, IAP, the global network of science academies, focuses on promoting cooperation and capacity building among the world's merit-based science academies.

In 2013, the IAP General Assembly and conference were hosted by the Brazilian Academy of Sciences in Rio de Janeiro, Brazil, 25-27 February 2013. The conference, with the theme 'Grand Challenges and Integrated Innovations: Science for poverty eradication and sustainable development', opened with a keynote speech by Marco Antonio Raupp, Brazil's Minister of Science, Technology and Innovation, who spoke on 'Science for Poverty Eradication and Sustainable Development'. More than 100 delegates representing 70 national academies of science attended.

The main outcome of the conference was the 'Letter from Rio-2013 on the Role of Science Academies in Grand Challenges and Integrated Innovations for Sustainable Development and Poverty Eradication'. This document emphasised that efforts to eradicate poverty and to increase sustainable development must address key grand challenges in many areas, including health, food, water, energy, biodiversity, climate, disaster management, education and governance. Following the conference, the Brazilian Academy of Sciences established a commitee with the mandate of initiating the implementation of the recommendations in the 'Letter from Rio-2013' and to promote the role of academies of science in attaining the targets to be set by the post-2015 Sustainable Development Goals.

The conference was followed by the IAP General Assembly on 27 February 2013, where Executive Committee membership for the period 2013-2015 was determined. Volker ter Meulen (Germany) was elected co-chair, taking over from Howard Alper (Canada) who had completed his second term. Mohamed Hassan (Sudan) was re-elected for his second term as co-chair. In addition, the General Assembly elected academy representatives to the IAP Executive Committee for the coming triennium (see box, page 13).

During the meeting, IAP membership also grew to 106 academies when the application of the *Academia Nacional de Ciencias del Uruguay* was formally accepted by the assembly.

The General Assembly also approved IAP's Strategic Plan III with six target priorities to be addressed over the 2013-2015 year period:

- Positioning IAP and IAP members as recognized and independent providers of high quality global science advice;
- Championing science education;
- Promoting accurate and effective science communication;
- Strengthening existing academies and establishing new ones;
- Strengthening IAP operation and fund-raising strategy; and
- Strengthening partnerships with other organizations.

The first meeting of the newly elected Executive Committee was hosted by the Australian Academy of Science in Canberra, Australia, on 31 October - 1 November 2013. During the meeting, committee members visited a local primary school to see an in-class demonstration of the Australian Academy of Science's primary science education programme, 'Primary Connections: Linking Science with Literacy', an activity supported by IAP. The Executive Committee meeting also included the official launch of the Australian academy's cutting-edge new secondary school science education programme, 'Science by Doing'.

Following an annual call and external review process, the Executive Committee approved funding to projects submitted by member academies and regional networks that

will run from 2013 to 2014. These included an international conference on 'Entrepreneurship for Young Women and using of New Technologies: Issues and Challenges', led by the Israel Academy of Sciences and Humanities; support to the Global Young Academy's 3rd International Conference and General Assembly, which took place in Santiago de Chile, Chile, also with the support of the Chilean Academy of Sciences (an IAP member); IAP's global Science Education Programme, led by the *Académie des Sciences*, France; and a project on 'Science Education through Communication', led by the Korean Academy of Science and Technology (KAST).

IAP's affiliated regional networks were also active in 2013.

The European Academies Science Advisory Council (EASAC) launched its Policy Report 21 on 'Planting the Future: Opportunities and Challenges for using Crop Genetic Improvement Technologies for Sustainable Agriculture' at the Permanent Representation of Saxony-Anhalt with the European Union (EU) in Brussels, Belgium, on 27 June 2013. The report highlights the current situation in research, legislation and use of the technologies in several countries, as well as the EU policy's impact on countries in Africa and was published with funding by IAP.

With the support of IAP, the Association of Academies and Societies of Sciences in Asia (AASSA) organized four regional workshops and an international symposium that collectively drew over 170 foreign participants from 31 countries. The meeting on 'Sustainable Development of

Asian Countries: Water resources and biodiversity under climate change', held in Barnaul, Russia, on 19-22 August 2013, was jointly organized and sponsored by AASSA, IAP, the Siberian Branch of the Russian Academy of Sciences and its Institute for Water and Environmental Problems. A training workshop for young scientists and engineers was organized and hosted by the Israel Academy of Sciences and Humanities on 'Sharing the Start-Up Experience' in Jerusalem, Israel, on 25-28 November 2013. Thirty one participants from a dozen Asian countries benefited from this formative experience, as it provided them a new perspective on their scientific research and engineering endeavours and suggested additional avenues available for them to contribute to their societies and countries. The International Conference on 'Entrepreneurship for Young Women and using of New Technologies: Issues and challenges', organized by NASIC (the Network of Academies of Science in OIC Countries), took place on 26-27 November 2013 in Rawalpindi, Pakistan. The conference was attended by more than 250 women scientists, engineers, entrepreneurs and students from Fatima Jinnah Women University, Rawalpindi, Pakistan. Delegates from Bangladesh, Egypt, Iran, Malaysia, Senegal, Uganda and United Kingdom also participated.

A major activity of the InterAmerican Network of Academies of Science (IANAS) focused on the full inclusion and empowerment of women in science and technology, from the top decision-making levels down to the grass roots. The IANAS Women for Science programme produced a book of short biographies of outstanding women scientists from 16 academies of the Americas. The book, 'Women Scientists in the Americas: Their Inspiring Stories', was released in all IANAS countries on World Women's Day, 8 March 2013. In several countries the release was accompanied by special events designed to honour women scientists.

The Network of African Science Academies (NASAC) also had a busy year, hosting discussions on adaptation to climate change on the continent, as well as holding its both its board and general assembly meetings in Addis Ababa, Ethiopia, in November, hosted by the Ethiopian Academy of Sciences. At the general assembly, a new board was elected chaired by Mostapha Bousmina, Hassan II Academy of Science and Technology of Morocco.

IAP funding was also provided to the thematic network, the InterAcademy Medical Panel (IAMP), to the Global Young Academy (GYA) and to the InterAcademy Council (IAC).

On 23 September 2013, IAP released a statement: 'Response to the Report of the High Level Panel of Eminent Persons on the post-2015 development agenda'. There has been much discussion on the progress actually made towards realizing the 2000-2015 Millennium Development Goals (MDGs) and on what will be needed to ensure sustainable development from 2015. Given the scientific and technical nature of many of the world's most pressing issues, IAP noted that it is critically important that priority-setting and actions be based on sound science, and that the network is ready to provide expert, independent and concise advice to the panel appointed by UN Secretary-General Ban Ki-moon, as well as to other structures of the international community.

IAP also worked with IAMP to issue a Joint Statement on 'Antimicrobial Resistance: A call for action', which was endorsed by a majority of IAMP and IAP member academies. The report, released on 18 November 2013, received added visibility through the concurrent release of a 'Commentary' published in *The Lancet*, and through its presentation to the executive board of the World Health Organization (WHO), thereby ensuring that the concerns of the world's academies of science and medicine were brought to the attention of global health leaders.

Throughout 2013 IAP continued to interact closely with the Global Young Academy (GYA). This included facilitating the participation of some 20 young scientists in the World Economic Forum's Annual Meeting of the New Champions in Dalian, China, in September, as well as providing financial support for the production of a brochure 'Opportunities for Young Scientists in Academies' in collaboration with IAMP, TWAS and the Organization for Women in Science for the Developing World (OWSD), also based in Trieste.

In collaboration with IAC, and following recommendations of the IAP Development Advisory Committee (DAC), IAP also undertook a fundraising campaign during 2013. Both voluntary contributions, as well as financial support to develop a large-scale fundraising campaign were requested from member academies. Many have pledged contributions and/or in-kind support to host workshops or other group meetings, thus strengthening IAP and its mission to help academies of science to work together, which would not be possible without the generous contribution the Government of Italy, which supports IAP's core activities.

Guruprasad Madhavan (India/USA), Wibool Piyawattanametha (Thailand), Eva Alisic (Australia), Wilfred van der Wiel (Netherlands) and Yusuf Baran (Turkey) at the World Economic Forum's Annual Meeting of the New Champions, 2013.

The young scientists community at the World Economic Forum's Annual Meeting of the New Champions, 2013.

Introducing the co-chairs

At its General Assembly on 27 February 2013, IAP re-elected Mohamed Hassan as co-chair to represent the developing world, and elected Volker ter Meulen as the new co-chair to represent developed countries. Each will serve a three-year term.

Mohamed H.A. Hassan

Mohamed H.A. Hassan is co-chair of IAP, and chairman of the council of the United Nations University (UNU). Born in Sudan, Hassan holds a PhD in plasma physics from the University of Oxford, UK (1974). Back in Sudan, he became professor and dean of the school of mathematical sciences at the University of Khartoum.

From 1983-2011, Hassan was the founding executive director of The World Academy of Sciences (TWAS), and he now serves as the academy's treasurer. He is past president of the African Academy of Sciences, and serves on the board of trustees of the Bibliotheca Alexandrina in Egypt; the Council of the Science and Technology in Society Forum in Japan; and the board of the International Science Programme in Sweden.

He is also a member of several merit-based academies of science that include TWAS, the African Academy of Sciences, the Islamic World Academy of Sciences, and the *Academia Colombiana de Ciencias Exactas*.

Volker ter Meulen

Volker ter Meulen is a virologist who has held top academic and science policy posts in Germany and Europe. In 1966, he specialized in paediatrics and, in 1975, became a full professor and chairman of the institute of virology and immunobiology at the University of Würzburg. From 1998-2002, he was dean of the Faculty of Medicine at the University of Würzburg.

From 2003-2010, ter Meulen was president of the German Academy of Sciences Leopoldina, and from 2007-2010, he served as president of the European Academies of Science Advisory Council (EASAC).

In recognition of his scientific achievements, ter Meulen was called as political advisor on scientific issues to state and federal ministries of science in Germany.

The IAP Executive Committee met on 31 October - 1 November 2013 in Canberra, Australia: outside the Shine Dome on the premises of hosts, the Australian Academy of Science.

Science for Poverty Eradication and Sustainable Development

Highlights from the IAP conference, General Assembly and Executive Committee meeting, hosted by the Brazilian Academy of Sciences in Rio de Janeiro, 24-27 February 2013.

The 7th IAP Conference, 'Grand Challenges and Innovations: Science for Poverty Eradication and Sustainable Development', was hosted by the Brazilian Academy of Sciences (BAS) in Rio de Janeiro from 24-26 February 2013.

At the meeting, academy leaders urged their organizations to work together and to coordinate their strategies with United Nations agencies in a common effort to solve key challenges in areas including health, food, water, energy, disaster management and education. By doing so, the world's science academies can exert a powerful influence on efforts to eradicate poverty and stimulate economic growth. Academy leaders also called for engaging with engineering and other specialized academies, as well as with the private sector.

Letter from Rio

To further advance these ideas, the conference, which hosted 160 representatives from 51 countries, concluded with the 'Letter from Rio-2013 on the Role of Science Academies in Grand Challenges and Integrated Innovations for Sustainable Development and Poverty Eradication'. This IAP strategic document contains five specific actions that science academies should put in place to shape a better future for all: addressing grand challenges; opting for integrated innovation; taking leadership; mobilizing the best minds worldwide; and affirming the academies' responsibility to society.

As noted in the document, addressing key grand challenges in sustainability, health and education is the first step. Science becomes an incisive tool to shape this process, especially when it is coupled to integrated innovation, that is, the capacity to coordinate the application of scientific, technological, social and business innovation.

"Academies may – indeed should – advocate their leadership in the often slow-motion process that identifies solutions to complex challenges," said Mohamed Hassan, IAP co-chair. "Such leadership is not theoretical," he added, "because science academies are in the position to mobilize the best brains, creating groups of experts with diverse competences and from different countries who represent added value when it comes to identifying and solving problems of common interest."

The voice of academies must also remain independent with respect to governments in order for them to maintain their credibility. The support of academies for less-represented groups, such as young scientists and women scientists, also has to be straightforward and assertive. For these reasons, the Letter from Rio-2013 states, it is important that academies coordinate their actions, operating at both international and local levels.

Commission on poverty

The IAP conference was also the ideal setting to present new health and education initiatives, such as 'Grand Challenge Brazil: Prevention and Management of Premature Birth'. This programme aims at addressing an important public health problem in Brazil, where about 10% of births are premature.

According to an announcement made at the IAP conference, the funding allocated for this purpose will amount to

US$8 million to cover basic research, innovative medical products and public education campaigns. At least 20 high-impact research programmes will be funded, the outcomes of which should help decrease the risk and number of premature births, as well as related complications that drive neo-natal and early childhood mortality.

Another grand challenge– sustainable energy production – was debated during one of the six 'Challenge Labs', dynamic group discussion formats where participants identified scientific or technological innovations to remove critical barriers and help solve important problems. Egyptian representative Sherien Elagroudy, an assistant professor at Ain Shams University in Cairo, said that Egypt would soon establish a Solid Waste Management Centre of Excellence in a public-private partnership. The centre, said Elagrouy, will have three major objectives: increasing innovative waste-to-energy technologies; educating people in the field; and creating public awareness on the importance of waste.

Other Challenge Labs – a new format for IAP conferences – focused on improving science literacy, promoting global food security, improving global health, enhancing access to safe water and sanitation, and coping with climate change.

"Science, technology and innovation are certainly also one of Brazil's priorities," observed Marco Antonio Raupp, Brazilian Minister of Science, Technology and Innovation, in his welcome address. "But we are also aware that reducing poverty is a prerequisite for development." In the last ten years, 40 million Brazilians – 20% of the population – crossed the poverty line and became middle class. "But we can do better," said Raupp. He said he intends to ask the international scientific community and the UN to join forces to create an international scientific commission for poverty eradication.

Looking ahead

IAP's General Assembly, on 27 February, marked the conclusion of the three-day conference. Key events were the election of Hassan and ter Meulen as IAP co-chairs (see box, page 10) and the members of the IAP Executive Committee (see box, page 13). Of prominent importance was the presentation and approval of IAP's third Strategic Plan (SPIII, 2013-2015), containing priorities for the three years to come. In addition, two major follow-up actions were formulated.

Tracey Elliott, on behalf of the Programmes and Strategic Planning Committee, summarized the key points of the Strategic Plan, which advocates the positioning of IAP and its members as independent providers of high-quality global science advice. "Not only must science academies champion science education," she said, "they shall also promote outreach activities and strengthen or establish new partnerships with other academies."

An important process that began during the previous three years was the decentralization of some IAP activities at the regional level by establishing a web of affiliated regional networks. This process will be further implemented to ensure support to local issues that need a local approach.

Science literacy, another follow-up action on the agenda, is an ambitious grand challenge that IAP wants to tackle, exploiting its existing Science Education Programme and its links with the private sector.

Martyn Poliakoff, Foreign Secretary, the Royal Society, and Maggie Koerth Baker, columnist for the New York Times Magazine and science editor at BoingBoing.net during the Challenge Lab 'Towards a sustainable energy future'.

Panel on 'The Role of Science in Coping with the Grand Challenges Facing Humanity', with Jorge Chediek, United Nations Development Program (UNDP); Philip Campbell, Nature Publishing Group; Linxiu Zhang, Chinese Academy of Sciences; and Marie-Anne Van Sluys, University of Sao Paulo. Panel moderated by Eduardo Moacyr Krieger, Brazilian Academy of Sciences.

Concluding the meetings, Jacob Palis, president of the Brazilian Academy of Sciences, announced that the Brazilian academy, through IAP – and in response to Minister Raupp's proposal – would establish an ad hoc committee to examine how science academies could help eradicate poverty and promote sustainable development. In doing so, science academies will help shape and implement the Sustainable Development Goals that will be put in place once the Millennium Development Goals expire in 2015.

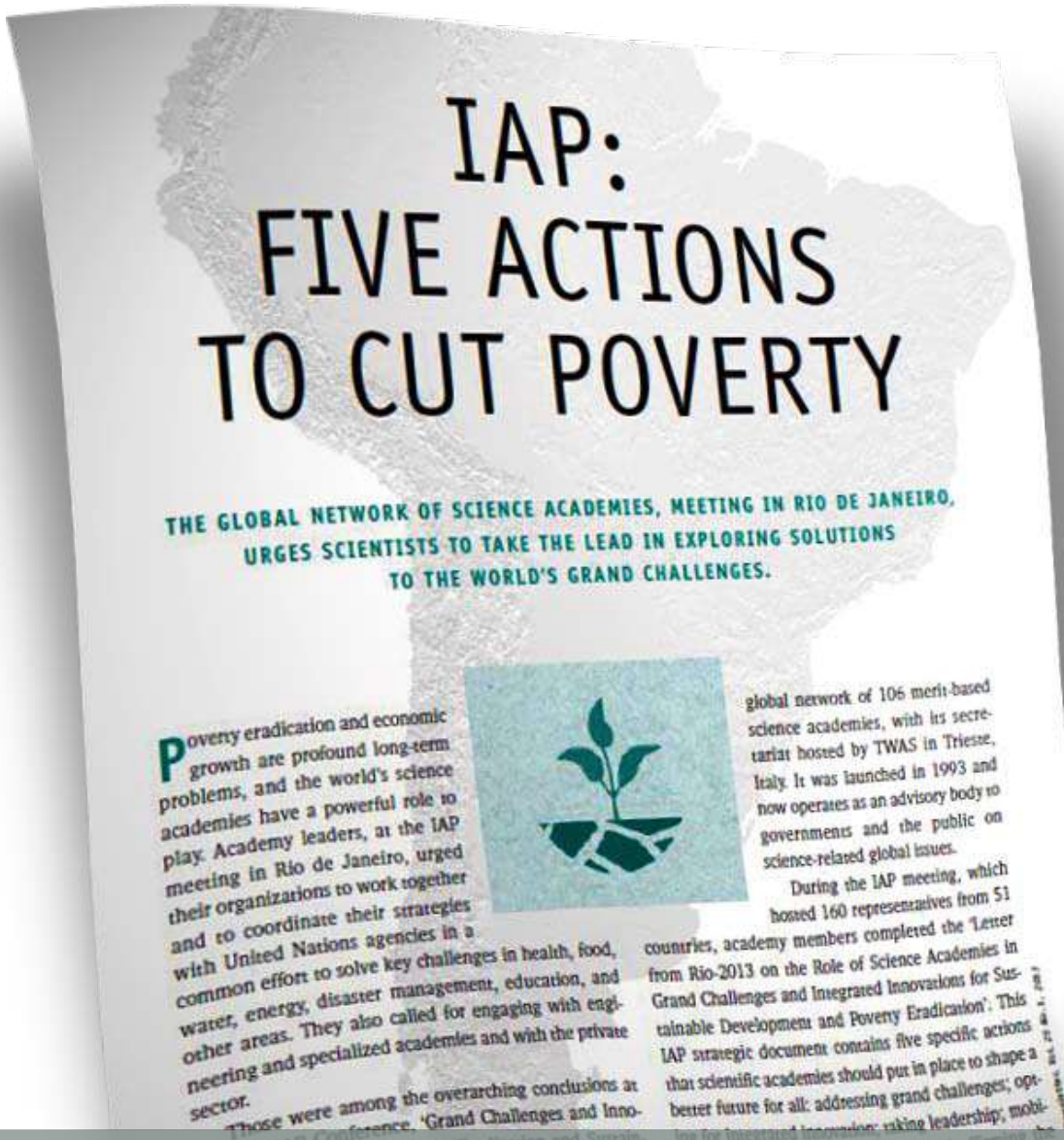
The Letter from Rio-2013 and a post-conference statement signed by the two IAP co-chairs, Mohamed H.A. Hassan and Volker ter Meulen, can be found at:

http://www.interacademies.net/File.aspx?id=21458.

This article has been adapted from one authored by Cristina Serra that appeared in the *TWAS Newsletter*, vol. 25, no. 1, 2013.

Marc Antonio Raupp, Minister of Science, Technology and Innovation, Brazil, delivering the keynote address on 'Science for Poverty Eradication and Sustainable Development' at the opening ceremony of the IAP conference.

Rio de Janeiro, venue of the IAP conference in Brazil.



IAP:
FIVE ACTIONS
TO CUT POVERTY

THE GLOBAL NETWORK OF SCIENCE ACADEMIES, MEETING IN RIO DE JANEIRO, URGES SCIENTISTS TO TAKE THE LEAD IN EXPLORING SOLUTIONS TO THE WORLD'S GRAND CHALLENGES.

Poverty eradication and economic growth are profound long-term problems, and the world's science academies have a powerful role to play. Academy leaders, at the IAP meeting in Rio de Janeiro, urged their organizations to work together and to coordinate their strategies with United Nations agencies in a common effort to solve key challenges in health, food, water, energy, disaster management, education, and other areas. They also called for engaging with engineering and specialized academies and with the private sector.

Those were among the overarching conclusions at

global network of 106 merit-based science academies, with its secretariat hosted by TWAS in Trieste, Italy. It was launched in 1993 and now operates as an advisory body to governments and the public on science-related global issues.

During the IAP meeting, which hosted 160 representatives from 51 countries, academy members completed the 'Letter from Rio-2013 on the Role of Science Academies in Grand Challenges and Integrated Innovations for Sustainable Development and Poverty Eradication'. This IAP strategic document contains five specific actions that scientific academies should put in place to shape a better future for all: addressing grand challenges; opt-

IAP Executive Committee 2013-2015

Co-Chairs

- Mohamed H.A. Hassan: Sudan
  Past President, African Academy of Sciences
- Volker ter Meulen: Germany
  Past-President, German National Academy of Sciences Leopoldina

Members (and academy representative)

- Brazilian Academy of Sciences (Jacob Palis, President)
- Royal Society of Canada (Jeremy McNeil, Foreign Secretary)
- Chinese Academy of Sciences (CAS) (Jinghai Li, Vice President)
- Cuban Academy of Sciences (Ismael Clark Arxer, President)
- *Académie des Sciences*, France (Daniel Ricquier, Vice President and Foreign Secretary)
- Indian National Science Academy (INSA) (Raghavendra Gadagkar, President)
- *Accademia Nazionale dei Lincei*, Italy (Antonio Sgamellotti, Member)
- Science Council of Japan (SCJ) (Takashi Onishi, President)
- *Academia Mexicana de Ciencias* (Jose Franco, President)
- Academy of Science of South Africa (ASSAf) (Daya Reddy, President)
- US National Academy of Sciences (NAS) (Mike Clegg/John Hildebrand, Foreign Secretary)

Affiliated Regional Networks

For the sake of efficiency, to maximize scarce resources (both financial and human), and to ensure greater regional relevance, the IAP Executive Committee decided that a major portion of IAP's programmatic work should be carried out through appointed Affiliated Regional Networks in Africa, Asia and the Pacific, the Americas and Europe. Reports on the activities of these four networks follow.

ACTIVITIES

Association of Academies and Societies of Sciences in Asia (AASSA)

Launched in January 2012 following a merger between the former Federation of Asian Scientific Academies and Societies (FASAS) and the Association of Academies of Science in Asia (AASA), the Association of Academies and Societies of Science in Asia (AASSA) provides a forum for the exchange of ideas and policies of its member academies and a tool for rapid communication of scientific and technological information. Since its establishment, AASSA has been hosted by the Korean Academy of Science and Technology (KAST), and, with the support of IAP, has accomplished many important achievements that have not only enhanced AASSA's standing as a world-class scientific community, but also significantly advanced the goal of cooperation among the academies and the scientists from different countries across Asia.

Scientific meetings

In 2013, AASSA organized four regional workshops and an international symposium.

The first event was held in Sydney, Australia, on 25-27 March, on 'Linking Science with Literacy'. The workshop was jointly organized by the former FASAS and AASA, the newly formed AASSA, and the Australian Academy of Science.

The second workshop was on 'Sustainable Development of Asian Countries: Water Resources and Biodiversity under Climate Change' held in Barnaul, Russia, on 19-22 August, and was jointly organized and sponsored by AASSA, IAP, the Presidium of the Siberian Branch of the Russian Academy of Sciences (SB RAS), and the Institute for Water and Environmental Problems (IWEP) of SB RAS.

The third workshop, on 'Women in Science, Education and Research', was held jointly with the Indian National Science Academy (INSA) in New Delhi, India, on 24 September. During this workshop, it was agreed that academies should do more to foster and support the engagement and integration of women in science and to recognize their achievements. Proposed activities included the holding of dedicated workshops for women in science, the establishment of mentoring programmes, and the establishment of databases of women scientists. Finally, to move these proposals forward, AASSA established a Special Committee on Women in Science and Engineering.

The 'International Symposium on Emerging Technologies for a Greener Earth', organized in collaboration with the National Academy of Science and Technology, Philippines (NAST), was held in Manila, the Philippines, on 22 October.

Finally, the fourth workshop organized and hosted by the Israel Academy of Sciences and Humanities (IASH) provided training on the theme 'Entrepreneurship: Sharing the Start-up Experience', and took place in Jerusalem, Israel, on 25-28 November.

Collectively, the workshops and the symposium drew over 170 participants from 31 countries.

Outreach and communication

AASSA designed a new logo and website in 2013. The logo, chosen by the Executive Board of AASSA, represents a graphic merger of the logos of AASSA's predecessors, AASA and FASAS. The design selected by the board includes a map of Asia in green and blue, surrounded by the name of the organization. The 34 rays of light emanating from the circular logo represent the 34 founding member academies of AASSA. The new AASSA website was developed in August 2013 and presented to the Executive Board at its meeting in Manila, the Philippines, on 23 October. The website presents a wealth of news and information about AASSA and its member academies, as well as links to the IAP site. The constitution and bylaws of AASSA, a detailed history of AASSA, AASA and FASAS, a message board listing upcoming events, and the contact information of the AASSA secretariat at KAST are among the many features of the new website.

AASSA board meeting, Manila, Philippines, October 2013.

AASSA also published a 13-page brochure for 2013-2014. This contains a brief summary of AASSA's objectives, a detailed history of AASA, FASAS, and the merger of the two into AASSA, a map detailing the 34 member academies and societies from 30 countries in Asia and Australasia, an introduction to the current Executive Board of AASSA, a list of eight regional meetings supported by AASSA in 2012 and 2013, a list of AASSA's projects and a summary of their goals, and a brief description of the IAP regional network to which AASSA is affiliated.

The designing of a new logo and website, along with the publication of the new brochure, have helped to raise the status of AASSA, while also solidifying a new common unity between the academies and societies that had previously been members of either AASA or FASAS.

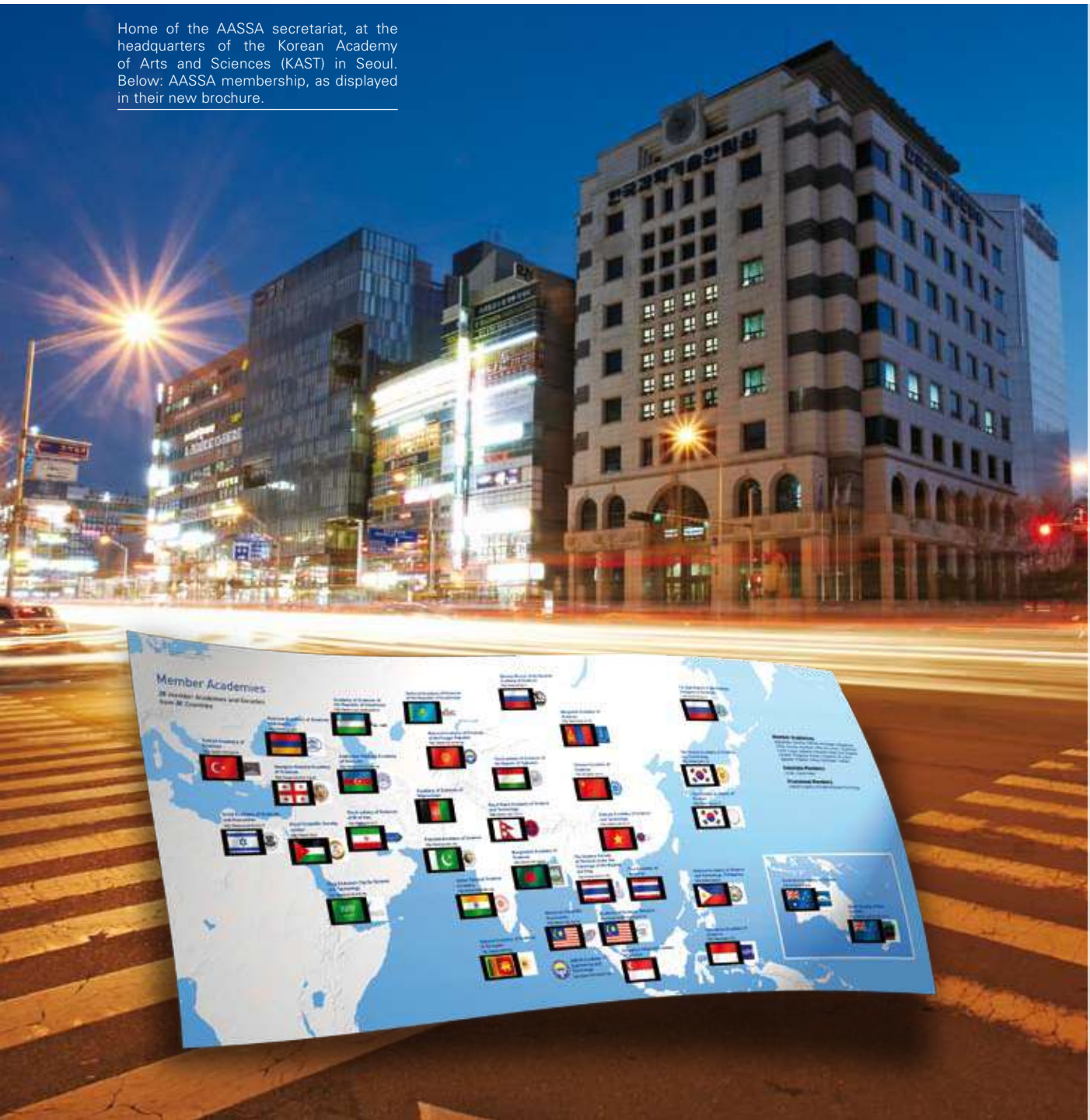
Sustainable Development of Asia (SDA) project

One recurrent idea arising from the 2013 workshops was that AASSA should publish official reports every five years on the Sustainable Development of Asia (SDA), using information presented at its workshops and generated by the collaborative research supported by AASSA. AASA, the predecessor of AASSA, used this approach to produce five reports, which will serve as models for AASSA's future publications. Furthermore, it was agreed that member academies have an obligation to nominate their leading scientists as editors of relevant topics and to provide the editors with detailed research results.

Recommendations for future activities

The regional workshops organized by AASSA in 2013 covered issues such as water resources, biodiversity, green technologies for sustainable development and entrepreneurship that, by necessity, must be addressed in a trans-border context. Therefore, in many of the communiqués produced at the conclusion of each workshop, the need for greater cooperation, the sharing of information and experiences, and the launching of joint research projects among various academies in different countries was emphasized. For example, at the end of the workshop in Barnaul, Russia, it was proposed that member academies establish an information network, under the auspices of AASSA, for the integrated management of water and biological resources. Likewise, after the international symposium in Manila, there was a call for collaborative research projects among Asian researchers in the area of green technologies for sustainable growth. Overall, it was agreed that greater cooperation and coordination among member academies, as well as among the wider scientific community in Asia, is needed.

For additional information about AASSA, visit: www.aassa.asia



Home of the AASSA secretariat, at the headquarters of the Korean Academy of Arts and Sciences (KAST) in Seoul. Below: AASSA membership, as displayed in their new brochure.

European Academies' Science Advisory Council (EASAC)

The European Academies' Science Advisory Council (EASAC), founded in 2001, is currently made up of 28 national science academies of European Union Member States. Its secretariat is hosted by the German National Academy of Sciences Leopoldina. Through their collaborations, member academies are able to provide a collective voice of European science and provide independent advice to European policy-makers.

EASAC core meetings

EASAC holds two Council (general assembly) meetings each year. In 2013, the the first was on 6-7 June at the German National Academy of Sciences Leopoldina and focused on current projects in EASAC's three main programmatic areas: Energy, Environment and Biosciences. Representatives from EASAC's member academies also approved a new working group on 'Space Exploration'. Anne Glover, the Chief Scientific Adviser (CSA) to the President of the European Commission, took part in the meeting and presented the Commission's strategy for an improved inclusion of scientific expertise and knowledge into policy-making. The second EASAC Council meeting took place on 5-6 December at the *Accademia Nazionale dei Lincei* in Rome, Italy, where the result of the electronically held election of EASAC vice presidents was announced. The newly elected officers were Loucas G. Christophorou (Greece), Thierry Courvoisier (Switzerland), József Pálinkás (Hungary) and Martin Poliakoff (UK).

The EASAC Bureau (comprising the president and vice presidents) and core team met in Vienna, Austria, on 14-15 March and in Athens, Greece, on 11-13 September, to discuss operational decisions required between meetings of the Council and also to reflect on longer-term strategic considerations.

Also in 2013, the EASAC Environment Steering Panel met in Brussels, Belgium, on 8 March and 25 October; the Biosciences Steering Panel met in Brussels on 28 June; while the Energy Steering Panel met in Amsterdam, the Netherlands, on 17 April and in Brussels on 6 November.

EASAC reports and statements

EASAC produced four policy reports and statements in 2013. These were launched at dedicated events in Brussels that included presentations of the findings by EASAC working group members as well as panel discussions.

On 24 April, EASAC launched its policy report on 'The Current Status of Biofuels in the European Union: Their environmental impacts and future prospects'. The publication of the report preceded the revision process of the relevant EU legislation and argued that European biofuel production, with a clear focus on first-generation biofuels, provides little or no greenhouse gas reduction once all impacts of biomass cultivation are taken into account.

The EASAC policy report on 'Carbon capture and storage in Europe' was launched on 22 May, with a panel discussion moderated by Anne Glover, the Chief Scientific Adviser (CSA) to the EU Commission President José Manuel Barroso. The report focuses on the scientifically-based assessment of the possible contribution of carbon capture and storage technologies to the reduction of global carbon dioxide emissions.

The report on 'Planting the Future: Opportunities and challenges for using crop genetic improvement technologies for sustainable agriculture' was launched on 27 June. The report highlights the current situation in research, legislation and use of crop improvement technologies in several countries outside of the EU as well as the impact of EU policy on countries in Africa. The report was produced with support from IAP.

Finally, on 2 December 2013, EASAC launched its policy report on 'Trends in Extreme Weather Events in Europe: Implications for national and European Union adaptation strategies', which highlighted the effects of climate change on weather events in Europe. This report was based on extensive work that had been conducted under the leadership of the Norwegian Academy of Science and Letters and the Norwegian Meteorological Institute.

EASAC expert groups working on other topics – in particular on questions of marine sustainability, plant health, space exploration, and breakthrough technologies for a low carbon future – also held meetings in 2013, preparing for the publication of their scientific analyses and recommendations in 2014.

Meetings with EU representatives and institutions

On 12 February 2013, a small EASAC group met with Anne Glover, CSA to the EU Commission President, to discuss the details of collaboration between her and the national academies of the EU Member States belonging to EASAC. The group consisted of EASAC president Sir Brian Heap, president-elect Jos van der Meer, past president Volker ter Meulen and executive director Christiane Diehl. The discussion focused on how the scientific expertise of the academies could be best fed into the policy-making processes of the EU. Glover also updated the EASAC group on an initiative to establish a network of national science advisors to the governments of EU Member States.

On 5 and 6 May 2013, EASAC president Sir Brian Heap and executive director Christiane Diehl had separate meetings with EU Commissioners, Robert Madelin (DG Communications Networks, Content and Technology) and Andris Piebalgs (DG Development) to discuss further how best to link the expertise of the EU's science academies with policy-making processes in the EU.

Collaborations

EASAC now has a formal collaboration with Anne Glover, CSA to the President of the EU Commission, and since the beginning of the year has acted in an advisory role to the CSA.

On 18-19 February 2013, EASAC organised a workshop together with the European Commission's Joint Research Centre (JRC) on 'The Nuclear Fuel Cycle: The management of spent nuclear fuel and its waste'. Approximately 50 people participated in the event, the outcome of which provided the basis of ongoing work on the issue (with publication of a report due in 2014).

EASAC continued collaborating with the Malaysian Commonwealth Studies Centre (MCSC), a charitable body based at Cambridge, UK, on the 'Village-level Energy' project, a study of the provision of energy in rural communities in developing countries. Its focus is on energy as a catalyst for development, enabling education and local business opportunities, thus improving health and welfare and enhancing democratic engagement. A joint workshop on 'Village-level Energy' was held on 9 May 2013 in Cambridge.

In October 2013, EASAC was offered a 'framework contract' by STOA, the science service of the European Parliament. Through this arrangement, the European network of science academies is able to apply for STOA funding when producing science-based advice on topics of interest to both sides.

For additional information about EASAC, visit: www.easac.eu

Launch of EASAC report 'Planting the Future: Opportunities and challenges for using crop genetic improvement technologies for sustainable agriculture'.

EASAC Council meeting on the premises of the German National Academy of Sciences Leopoldina in Halle (Saale), Germany, June 2013.

Inter-American Network of Academies of Sciences (IANAS)

The InterAmerican Network of Academies of Science (IANAS) was established in 2004 and is currently hosted by the Mexican Academy of Sciences. IANAS' mission is to strengthen science communities and to provide an independent source of policy advice to governments on key scientific, technological and health challenges in the Americas. IANAS views strong science academies and vibrant science and technology communities as essential to sustainable development. The 2013 calendar year was marked by a number of activities that focused on the key areas of academy capacity building and human and natural resource challenges.

General meetings

The IANAS general assembly and general conference were held at Punta Cana in the Dominican Republic in July 2013 and attended by representatives from academies from throughout the Americas. During the event, the Spanish version of a booklet on climate change that outlines the evidence, consequences and options available to policymakers was released. The Dominican Republic setting was particularly appropriate for the release of this report as sea-level rise threatens many Caribbean island nations. The IANAS co-chairs, together with the president of the Academy of the Dominican Republic, Milcíades Mejía, met with the Minister of Education, Josefina Pimentel, of the Dominican Republic to make a personal presentation of the booklet. The general conference also featured a number of talks on climate change by distinguished scientists from throughout the Americas. The general assembly itself saw the election of a new Executive Committee and co-chairs (Juan Asenjo, Chilean Academy of Sciences, and Michael Clegg, US National Academy of Sciences) for the network. Of special significance in the context of capacity building was the election of three new academies to IANAS membership (fom Ecuador, Honduras and Uruguay). The Science Association of Panama (APANAC) was also welcomed as a new member of IANAS, and the National Academy of Sciences of Cordoba, Argentina, as an observer.

Women for science

A major IANAS activity focused on the full inclusion and empowerment of women in science and technology from the top decision-making levels all the way down to the grass roots. The IANAS Women for Science (WfS) programme includes a focal point (FP) representative from each IANAS member academy in order to advance these goals. In 2013, a major output from the programme was a book of short biographies of outstanding women scientists from 16 academies of the Americas. The book, 'Women Scientists in the Americas: Their Inspiring Stories', was released in all IANAS countries on World Women's Day, 8 March 2013. In several countries the release was accompanied by special events designed to honour women scientists. Also in 2013, a meeting of the WfS FPs was held in Santiago, Chile, where the FPs mapped out the future directions of the programme.

Science education

The major objective of the IANAS Science Education Programme (SEP) is to improve science literacy in the Americas. The programme includes focal points from 18 academies of science in the Americas. In 2013, a meeting of SEP FPs was held in Chile where there were discussions concerning best practices among countries to ensure the effective implementation of novel science literacy programmes.

In December 2013, focal points of the IANAS Water Programme met with the Minister of Sciences and Technology of Peru in Lima.

Two major initiatives of the programme are: Professional development courses that aim to 'train the trainers', such as 'Science in your School', where academies work to raise the level of teachers' knowledge in science through workshops on Inquiry-Based Science Education (IBSE) or similar methodologies. There is also the use of IndagaLA, a web portal (see *www.indagala.org*) that brings together information and tools for teaching science and mathematics, launched by the Colombian Academy of Exact, Physical and Natural Sciences and subsequently passed on to the Mexican Academy of Sciences.

Natural resources

The IANAS Energy Programme continues to advance the insights and recommendations of the 2007 InterAcademy Council report, 'Lighting the Way: Toward a Sustainable Energy Future', within the region. The programme has identified the report's highest priorities for the Americas, then shared information on these priorities among academies, scientific organizations and outside experts through annual workshops, as well as by drafting action plans and beginning to work on their implementation. A focal point meeting was held at the Beckman Center of the US National Academy of Sciences in September 2013 to lay out plans for a book that assesses energy challenges in the Americas and presents policy options. The meeting also included a visit to an experimental solar energy plant in the California high desert.

The IANAS Water Programme produced a comprehensive analysis of water issues in the Americas in 2012 and there have been 200,000 downloads of the document 'Water Diagnosis in the Americas' from the IANAS website. In 2013, an English translation of the book was completed by the Mexican Academy of Sciences so both the English and Spanish versions are now available.

Capacity building is also an important component of the IANAS Water Programme. Through the volunteer work of the programme's appointed national focal points, training courses for high-level water managers were organized in several countries, benefiting more than 500 professionals from across the Americas. These courses have assembled water managers from major public and private companies in Latin America, as well as water authorities from the different levels of government. A meeting of the focal points of the Water Programme was held in Lima, Peru, in December 2013, where plans for the production of a second book, on 'Urban Water Challenges in the Americas' were set out. The meeting also featured visits to several innovative water facilities in Lima.

For additional information about IANAS, visit: www.ianas.org

In September, during a IANAS Energy Group meeting held at the NAS-Beckman Center, Irvine, California, USA, participants visited a solar facility operating in the Mohave Desert.

Network of African Science Academies (NASAC)

Founded in 2001, with an initial membership of nine academies, the Network of African Academies of Sciences (NASAC) is now made up of one continent-wide and 18 national academies. Among the key thematic areas NASAC deals with are climate change, water issues, science education and women in science.

Climate change adaptation

A NASAC-Leopoldina 'Climate Change Adaptation' (CCA) workshop was held in Yaounde, hosted by the Cameroon Academy of Sciences, on 11-12 October 2013.

The workshop brought together some 40 experts from Germany and the 18 African countries that form the NASAC academy membership. It is clear that the measures required to adapt will depend on the degree of change, such that adaptations to cope with a world that is, on average, two degrees warmer will be very different to those required if the increase is four degrees. The keynote address by Hippolyte Fofack, senior economist at the World Bank, spurred deliberations on the economic implications of climate change adaptation for Africa. Another highlight was a presentation on 'Turn Down the Heat: Why a 4°C warmer world must be avoided', a report on climate change commissioned for the World Bank. This was given by Olivia Serdeczny, a co-author of the report from the Potsdam Institute for Climate Impact Research in Germany. A CCA booklet for policymakers is now being drafted to be used by NASAC member academies to target policy-makers in the African Union and African governments.

External evaluation

In April 2013, two external reviewers were appointed to undertake the end-of-term evaluation of the the NASAC project funded by the Dutch Ministry of Foreign Affairs. The review was a 'formative' one, with full participation of the project staff, the NASAC board and the Expert Group, together with other stakeholders. Among the main findings were that NASAC had not only been successful in expanding both the number of science academies in its network during the project (from its initial nine members) but also in strengthening direct inter-academy relationships and those of the NASAC secretariat with individual academies. The majority of new NASAC members were existing academies that were invited to join the network, rather than newly established academies. The review also noted that the 'mentorship concept' introduced by NASAC in 2008 as part of a regional approach to the creation of science academies in Africa had worked out well, with a few lead academies actively involved in supporting less advanced science academies. Another finding highlighted in the review report was that NASAC had gained extensive recognition within the networks of science academies,

Participants of the Expert Group meeting, May 2013, Nairobi, Kenya.

in particular from IAP, The World Academy of Sciences (TWAS), the US National Academy of Sciences, the Royal Society (UK), the Royal Netherlands Academy of Arts and Sciences (KNAW) and the German National Academy of Sciences Leopoldina. The full evaluation report is available on request from the NASAC secretariat.

Expert Group meeting

An Expert Group, established to provide input into NASAC processes, met in Nairobi, Kenya, on 9-10 May. Besides reviewing and endorsing the organization's operational guidelines, the group also evaluated the capacity building grant applications received from NASAC members for 2013. Five projects were selected and received between US$10,000 and US$15,000. In addition, remaining funds were used to purchase office equipment for the Sudanese and Zimbabwean academies, which have both been established in the past five years.

Governance

NASAC held both its board and general assembly meetings in Addis Ababa, Ethiopia, on 15 November 2013, graciously hosted by the Ethiopian Academy of Sciences. The meetings were held back-to-back with the 9th Annual Meeting of the African Science Academies (AMASA-9) conference on biotechnology, a project managed by the US National Academy of Sciences with funding from the Bill and Melinda Gates Foundation.

During the general assembly, NASAC members elected the following board:

- Mostapha Bousmina, chair – Hassan II Academy of Science and Technology of Morocco;
- Ahmadou Lamine Ndiaye, vice chair for Resource Mobilization and Fundraising – National Academy of Sciences and Technology of Senegal;
- Yousuf Maudarbocus, vice chair for Administration and Policy Review – Mauritius Academy of Sciences;
- Nelson Sewankambo, vice chair for Public Relations and Outreach – Uganda National Academy of Sciences;
- Barney Pityana, secretary – Academy of Science of South Africa;
- Bernard Aduda, treasurer – Kenya National Academy of Sciences;
- Oyewale Tomori, member for scientific matters – Nigerian Academy of Sciences;
- Robin Crewe, immediate past chair – Academy of Science of South Africa; and
- Mohamed Hassan, past president – African Academy of Sciences.

These board members will serve a three-year term (till November 2016). Their profiles can be found on the NASAC website.

For additional information about NASAC, visit: www.nasaconline.org

Newly elected NASAC board members (2013-2016) with the NASAC secretariat.

Affiliated Thematic/Functional Network reports

The InterAcademy Medical Panel (IAMP) – IAP's thematic network for health issues – and the InterAcademy Council – IAP's functional network for policy studies – were also allocated funding to run projects in 2013. Reports on the activities of these two networks follow.

ACTIVITIES

InterAcademy Medical Panel

the interacademy medical panel

Hosted by TWAS – The World Academy of Sciences for the advancement of science in developing countries – at its headquarters in Trieste, Italy, the InterAcademy Medical Panel (IAMP) is a network of 73 of the world's medical academies and medical sections of academies of science and engineering. IAMP is committed to improving health worldwide, with a special focus on low- and middle-income countries.

General assembly

The IAMP general assembly took place in Johannesburg, South Africa, on 16 August 2013, kindly hosted by the Academy of Science of South Africa (ASSAf). Among the main outcomes of the meeting was the election of a new executive committee that will guide IAMP activities for the next three years. The co-chair representing low and middle income countries, Lai-Meng Looi from Malaysia, was elected for her second three-year term, while Detlev Ganten from Germany was newly elected to represent high-income member countries.

Linked to the general assembly, IAMP and ASSAf organized the IAMP scientific conference on 'Changing Patterns of Non-Communicable Diseases', in Johannesburg on 13-16 August. The conference was attended by 148 participants from 38 countries, including 10 representatives from national senior and young African academies, 36 representatives of IAMP member academies, young scientists and experts in non-communicable diseases from South Africa, other ASSAf stakeholders, and the media. Among the 35 speakers were Malebona Precious Matsoso, director-general of the South African Department of Health, who gave a keynote address; Steven van de Vijver of the African Population and Health Research Centre (APHRC), Kenya, who spoke on 'Monitoring non-communicable diseases in urban slums'; and Gary Sacks, Deakin University, Australia, whose talk focused on 'Evidence for regulatory strategies for obesity prevention'.

Indeed, non-communicable diseases have been a topic of continuing interest in IAMP. As a follow-up to the Political Declaration of the High-level Meeting of the United Nations General Assembly on the 'Prevention and Control of Non-Communicable Diseases' (20-21 September 2011, New York, United States), IAMP member academies have been organizing activities and workshops in their countries and regions aimed at furthering our understanding of the impact and control of non-communicable diseases. For example, a regional workshop on 'Non-Communicable Diseases: Prevention and Control of Cardiovascular Diseases and Cancer' was organized by IAMP, the Brazilian Academy of Sciences, the National Academy of Medicine (ANM), the Latin American Association of Academies of Medicine (ALANAM) and the Inter-American Network of Academies of Sciences (IANAS) in Rio de Janeiro, Brazil, on 3-5 May 2012. The workshop report was published by the Brazilian Academy of Sciences in 2013.

One Health

Among its activities in 2013, IAMP collaborated with the Federation of European Academies of Medicine (FEAM) to organize a workshop on 'Integrated Education in One Health'. (One Health is defined as "the collaborative effort of multiple disciplines – working locally, nationally, and globally – to attain optimal health for people, animals and the environment"). The event took place in Budapest, hosted by the Hungarian Academy of Sciences, within the framework of the Italo-Hungarian International Year of Culture and Science on 5 June to celebrate World Environment Day 2013.

World Health Summit

IAMP is also a founding member of the M8 Alliance of Academic Health Centres, Universities and National Academies (the M8 Alliance), a collaboration of academic institutions of educational and research excellence which organizes the World Health Summit (WHS) every year in Berlin, Germany. The 2013 WHS took place at the Federal Foreign Office, Berlin, from 20-22 October. As well as the 1,000 participants, the event was followed by some 1,200 others from almost 90 countries via digital live-stream video on the WHS website and social networks. During the event, IAMP organized a symposium on 'Research Capacity Strengthening in Low and Middle Income Countries', which featured Vincent Titanji (University of Buea, Cameroon), Tikki Pang (Lee Kuan Yew School of Public Policy, Singapore), Danny Edwards (Council on Health Research for Development, COHRED), Volker ter Meulen (IAP co-chair) and Jo Boufford (New York Academy of Medicine).

The symposium was a follow-up to the IAMP Statement on 'A Call for Action to Strengthen Health Research Capacity in Low and Middle Income Countries', which was released in May 2013 after endorsement by the majority of the IAMP membership. Among the conclusions of the symposium were that, despite a health revolution in the 20th Century that added an average of over 30 years to people's life expectancy, there are new health challenges for the 21st Century that are shared by all countries whatever their stage of development. These challenges include emerging and drug-resistant infections; climate change and its effects on health; challenges linked to ageing populations; and an increase in non-communicable diseases. Just as all of these health risks are shared by poor and rich countries alike, so the process of research into new prevention and treatment strategies must be shared by all nations – with the implication that the research and development capacity of the poorest nations must be enhanced so that they can collaborate equally in tackling these global challenges.

Young Physician Leaders

Since October 2011, and in conjunction with the WHS, IAMP has organized the annual Young Physician Leaders (YPL) programme which aims at "fostering a new generation

Participants at the IAMP Conference on 'Changing Patterns of Non-Communicable Diseases' and 4th General Assembly, hosted by the Academy of Science of South Africa (ASSAf) in Johannesburg in August 2013.

of leaders in global health for the 21st Century". The programme offers dedicated and personalized leadership training and the opportunity to attend the WHS. Selected YPLs are therefore provided with excellent networking and visibility during this high-profile event. The ultimate objective of the YPL programme is to involve a critical mass of young physician leaders in a worldwide learning and action network and to challenge member academies to support young physicians in their countries and to strengthen their leadership skills. The 2013 edition of the IAMP YPL workshop took place on 19 October at the *Berlin-Brandenburgische Akademie der Wissenschaften* (BBAW), Berlin, and included 20 participants from 17 countries who were selected following a competitive application process. In addition to their leadership training, the YPLs also organized their own WHS side event that discussed the major leadership challenges they face in their careers and how current health and medical sector leaders could be more helpful towards the next generation of leaders.

The IAMP YPL programme also held a regional event in conjunction with the regional WHS in Singapore on 5 April 2013, bringing together 10 outstanding physicians under the age of 40 from Asia. For the first time, awardees from developing nations in Asia such as Vietnam, Laos and Myanmar had the opportunity to participate in this IAMP programme. IAMP is now working on creating an alumni network for the more than 70 young physicians who have so far benefited from participating in the YPL programme.

Statements

As well as the statement on 'Research Capacity Strengthening in Low and Middle Income Countries' released in May 2013 and discussed at the WHS in a dedicated symposium (see above), in November 2013, IAMP joined with IAP to issue a Joint Statement on 'Antimicrobial Resistance: A call for action', which was also endorsed by a majority of IAMP and IAP member academies. The report received added visibility through the concurrent release of a 'Commentary' published in *The Lancet*, and through its presentation to the executive board of the World Health Organization (WHO), thus bringing the concerns of the world's academies of science and medicine to the attention of global health leaders.

For additional information about IAMP, visit: www.iamp-online.org

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InterAcademy Council

The InterAcademy Council (IAC) saw a number of important developments during 2013. Perhaps most importantly from a long-term perspective, discussions aimed at better integrating IAC with its partner inter-academy organizations progressed well. IAC also continued work on several projects during 2013. In addition, a new IAC board was elected and changes were made in the IAC secretariat.

Projects

Work continued on the 'Scientific Responsibility and Research Integrity' project. The project has been undertaken in two phases. Phase 1 was jointly sponsored with IAP and 'Responsible Conduct in the Global Research Enterprise: A Policy Report' was released in 2012. The report focuses on the responsibilities of various stakeholders in the global research enterprise for ensuring research integrity. When the report was released, the co-chairs of the authoring committee – Indira Nath and Ernst-Ludwig Winnacker – published an editorial in *Science*. The report was subsequently presented at the World Conference on Research Integrity in Montreal, Canada, in May 2013, and was a key background document for the Global Research Council's research integrity effort and 2013 annual meeting, also in May.

Phase 2 will end in 2014 with the release of 'Responsible Conduct in the Global Research Enterprise: An Educational Guide', which is currently under preparation. This guide will cover much of the same subject matter as the policy report, but does so in a more engaging style. While the main target audiences are students and young investigators, it is expected that other audiences will benefit as well. Given the growing recognition of the need for education about responsible conduct in research around the world, demand for the guide is expected to be strong.

In late 2013, IAC embarked on a review of the African Science Academy Development Initiative (ASADI), a 10-year, US$20 million effort sponsored by the Bill and Melinda Gates Foundation and undertaken by the US National Academy of Sciences/Institute of Medicine. The evaluation committee is chaired by Turner T. Isoun, former Minister of Science and Technology, Nigeria. The review will involve several committee meetings and site visits, and is expected to be completed by November 2014.

As in 2012, the Science Council of Japan's 2013 International Conference for Sustainability was organized collaboratively with IAC. The conference was held on 9-10 October 2013 in Tokyo on the theme of 'Colossal Multiple Disaster (Earthquake, Tsunami, and Nuclear Plant Accident): Repercussions, Countermeasures and Future Policy Choices'. The conference included talks by Koichi Kitazawa, chair of the Independent Investigation Commission of the Fukushima Nuclear Accident, IAC co-chair Robbert Dijkgraaf, and Y.T. Lee, president of the International Council for Science (ICSU). Sessions examined impacts of the disasters on agricultural lands and coastal ecosystems, including fisheries; health management and radiation protection for residents and workers; investigation and analysis of the nuclear power plant accident and radioactive pollution; and abolition/decommission of nuclear reactors and the future utilization of nuclear energy.

Administrative updates

At the IAC board meeting in June 2013, Robbert Dijkgraaf (director of the Institute for Advanced Study, USA) and Daya Reddy (president of the Academy of Science of South Africa) were elected as co-chairs of the board for 2013-2017. The board also includes:

- *Académie des Sciences*, France;
- Australian Academy of Sciences;
- Brazilian Academy of Sciences;
- Chinese Academy of Sciences;
- German National Academy of Sciences Leopoldina;
- Hassan II Academy of Science and Technology, Morocco;
- Indian National Science Academy;
- Mexican Academy of Sciences;
- National Academy of Sciences, Republic of Korea;
- National Academy of Sciences, USA;
- Nigerian Academy of Sciences;
- Pakistan Academy of Sciences;
- the Royal Society, UK;
- Science Council of Japan; and
- TWAS – The World Academy of Sciences.

The following IAC board member organizations have representatives serving in a voting ex-officio capacity:

- IAP – the global network of science academies;
- InterAcademy Medical Panel; and
- International Council of Academies of Engineering and Technological Sciences (CAETS).

The following organizations are IAC board observers:

- International Council for Science (ICSU); and
- the Royal Netherlands Academy of Arts and Sciences (KNAW – IAC's host academy).

In October 2013, John Campbell retired as IAC executive director and was succeeded by Thomas Arrison.

For additional information about IAC, visit: www.interacademycouncil.net

Science Council of Japan's International Conference for Sustainability, organized collaboratively with IAC, from 9-10 October 2013, in the auditorium of the Science Council of Japan, on the theme 'Colossal Multiple Disaster (Earthquake, Tsunami, and Nuclear Plant Accident) – Repercussions, Countermeasures, and Future Policy Choices'.

Project reports

Through a competitive call for proposals, IAP awards funding to member academies to run projects on aspects of IAP's key focus areas. Priority is given to projects that envisage small networks of academies working together, especially if a component of the project assists with building the capacity of small or new member academies or those from low-income countries. Reports on the activities of the eight projects supported in 2013 follow.

ACTIVITIES

International Conference on 'Entrepreneurship for Young Women and Using of New Technologies: Issues and Challenges'

Lead academy: Network of Academies of Science in OIC Countries (NASIC)

Under the auspices IAP, the Network of Academies of Sciences in Countries of the Organization of Islamic Cooperation (NASIC), with the collaboration of the Pakistan Academy of Sciences (PAS) and Fatima Jinnah Women University (FJWU), organized an international conference on 'Entrepreneurship for Young Women and Using of New Technologies: Issues and Challenges' on 26-27 November 2013 at FJWU in Rawalpindi, Pakistan.

The purpose of the conference was to share and exchange experiences, and to identify and discuss prospects and options where national academies both within and outside NASIC member countries could enhance their role in encouraging young women to take up self-employment and become entrepreneurs in the application of science and technology.

The inaugural session of the conference was chaired by NASIC president, Atta-ur-Rahman, while Samina Amin Qadir, vice chancellor, FJWU, gave the welcome address. The inaugural session also featured interventions by Khalid Mahmood Khan, NASIC secretary general, and Paul Edward Mugambi, president, Uganda National Academy of Sciences, who, as an IAP Executive Council member, represented the IAP co-chairs. The guest of honour, Imtiaz Hussain Gilani, chair of the Pakistan Higher Education Commission (HEC), and Atta-ur-Rahman also gave some opening remarks.

The conference was attended by more than 250 women scientists, engineers, entrepreneurs and students from FJWU. Delegates from Bangladesh, Egypt, Iran, Malaysia, Senegal, Sri Lanka and the United Kingdom also participated.

Two technical sessions were held on 26 November. In each session, four papers were presented and at the end of every session there were interactive discussions.

The following papers were presented:

Session: Global and Regional Trends in Women's Entrepreneurship

- Issues of new technology using in young rural women entrepreneurship in Sri Lanka, by E. A. D. Anusha Edirisinghe, Sri Lanka;
- The young woman entrepreneurship scenario in Bangladesh and challenges they are facing, by Z. N. Tahmida Begum, Bangladesh;
- Entrepreneurship for young women in Uganda: the case of science and education, by Paul Edward Mugambi, Uganda; and
- Women's entrepreneurship in Malaysia: Roles, prospects and challenges, by Roslina Mohamad Shafi, Malaysia.

Session: Issues and Challenges of Women's Entrepreneurship: Pakistani Perspective

- Employment and entrepreneurship: Challenges for women in Pakistan, by Saeeda Shah, United Kingdom;
- Young, intelligent, assertive: What's holding them back?, by Amber Gul Rasheed, Pakistan; and
- Future of women's education, empowerment and entrepreneurship in Pakistan, by Seema Arif, Pakistan.

The second day of the conference started with the following two technical sessions – each concluded by a discussion where participants posed questions to the speakers as well as to other delegates. These discussions were very focused and added considerable value to the overall sessions.

The following papers were presented:

Session: Critical Perspectives on Women's Entrepreneurship

- Women in higher education, by Samina Amin Qadir, Pakistan;
- Does micro finance empower women of socially excluded community through micro entrepreneurship, by Atizaz Khurshid, Pakistan;
- Entrepreneurship for young women and use of new technologies, by Naima Ansari, Pakistan;
- Promoting women's entrepreneurship through innovation in agribusiness, by Yaye Kene Gassama, Senegal.

Session: Quest for Success

- Technology: Tool or opportunity?, by May ElBatran, Egypt;
- Need to develop international young women's entrepreneurship standards for new technologies, by Mehdi Sohrabi, Iran;
- Successful women entrepreneurs of Pakistan, by Hina Tayyabah, Pakistan; and
- Fatmians as young and talented entrepreneurs: From overcoming challenges to building success stories, by Humaria Ahmad and Farzana Akhtar, Pakistan.

The concluding session was chaired by Mukhtar Ahmad, executive director, HEC, followed by addresses from Samina Amin Qadir and Khalid Mahmood Khan, well as Ahmad.

Achievements and output

The conference was a great success in terms of attracting a large audience, mainly female students of business administration from various institutions. Experiences and success stories from different countries were presented which inspired the younger women to consider establishing their own small businesses rather than directly seeking jobs. The feedback from the business students was that this conference provided them with suitable guidance towards becoming entrepreneurs.

Speakers at the inaugural session.

Paul Edward Mugambi, president, Uganda National Academy of Sciences, represented IAP at the event organized by NASIC.

Participants in the international conference on 'Entrepreneurship for Young Women and Using of New Technologies: Issues and Challenges' at Fatima Jinnah Women University, Rawalpindi, Pakistan, 26-27 November 2013.

Global Young Academy 3rd International Conference and General Assembly

Lead academy: Global Young Academy (GYA)

The Global Young Academy (GYA) was officially founded in February 2010 with the support of IAP. As a "voice of young scientists around the world", the GYA aims to empower and mobilize young scientists to address issues of particular importance to early career scientists. Current working groups focus on improving early scientific careers, science-society dialogue, science education, and interdisciplinary research.

General assembly

The GYA held a successful and highly productive general assembly in Halle (Saale), Germany, on 15-18 May 2013. The packed four-day programme included keynote addresses by Cornelia Quennet-Thielen, State Secretary of the German Federal Ministry of Education and Research (BMBF), Thomas Sattelberger, former chief human resources officer of Deutsche Telekom, and Lee Berger of the University of Witwatersrand, South Africa. The meeting brought together 78 GYA members from 37 countries, distinguished members of the GYA advisory board, and senior science ambassadors from around the world, including IAP co-chair Volker ter Meulen and IAP immediate past co-chair Howard Alper. The theme of the meeting was 'Demography and Global Research', which encompassed issues such as large multi-investigator research groups, international science networks, and global mobility. Many of the scheduled events and working group activities addressed opportunities and challenges that these issues present for the next generation of scientists.

The general assembly also saw the launch of several new working groups to extend the existing range of GYA activities. Among the new projects are 'Measuring Excellence in Science Engagement', which seeks to develop quantitative assessments of outreach activities, and 'Think Tank', which will bring together representatives from academic, business and public sectors to examine risk from a multidisciplinary perspective. The last day of the meeting was devoted to internal affairs and election of new leadership, including the co-chairs Sameh Soror of Egypt and Rees Kassen from Canada, who was re-elected. The meeting also laid the foundations for most of the activities of the GYA in the following year. Direct products of the general assembly were a 'Statement on Global Research Culture' and the 'General Assembly Report'.

Inter-academy cooperation

Upon invitation from the IAP, (past) GYA co-chairs Gregory Weiss (USA), Rees Kassen (Canada) and Bernard Slippers (South Africa) helped organize the IAP general assembly, scientific conference and meeting in Brazil in February 2013, taking the lead in various aspects of the meeting and making important contributions to the format and content of the scientific aspects of the meeting, from suggesting possible topics and speakers to adapting the World Economic Forum's 'Idea Lab' format to fit the conference.

Co-chair Sameh Soror from Egypt also represented the GYA at the IAP Executive Committee meeting in Canberra in October-November 2013 to discuss cooperation between IAP and the GYA and future plans. Many attendees were interested in the 'Global State of Young Scientists' (GloSYS) project report and the GYA magazine, *GYA Connections*, and asked to receive copies.

The GYA also supported the activities of the IAP-IAC Committee on Scientific Responsibility, endorsed statements of the IAMP and translated the joint IAP-IAMP 'Statement on Antimicrobial Resistance: A Call for Action' into Arabic. Bernard Slippers participated in the IAMP general assembly in South Africa and Heidi Wedel, GYA director, in the IAMP Executive Committee meeting in Berlin. The GYA also cooperated with the Israel Academy of Sciences and Humanities and the Association of Academies and Societies of Sciences in Asia (AASSA) in organizing an entrepreneurship training workshop for young scientists and engineers in November 2013 (see page 16).

At the Ninth Annual Meeting of African Science Academies (AMASA 9) and the Network of African Science Academies (NASAC) general assembly in November 2013 in Addis Ababa, Ethiopia (see page 22), GYA co-chair Sameh Soror, Egypt, and member Peter Ngure, Kenya, presented on the GYA, its plans for the First Regional Africa Young Academies Conference and the GYA GloSYS project.

Networking with young scientists

Co-chair Soror also attended the first international workshop of the Sri Lankan Academy of Young Scientists, on 'Driving Research Towards Economy: Opportunities and Challenges' on 5 July. In his addess, he spoke about the GYA, the national young academies movement and the role of the GYA in international collaborations.

On 28-30 August, GYA members Jorge Huete-Perez from Nicaragua and Tatiana Duque Martins from Brazil represented the GYA in the second meeting of the Brazilian Academy of Sciences affiliates in Brazil. During the three

Participants of the GYA 3rd International Young Scientists' Conference and General Assembly, held in Halle (Saale), Germany, 15-18 May 2013.

days, they presented the GYA's aims and goals to 80 of the most outstanding young minds in Brazil, with the objective of spreading the GYA spirit throughout South America.

In December, Italian nationals Arianna Betti, based in the Netherlands, and Federico Rosei, based in Canada, went to Rome to meet the president of the *Accademia Nazionale dei Lincei* and to discuss the establishment of a national young academy in Italy. They agreed on the goal of launching the Italian young academy, the *Accademia dei Giovani Lincei*, during the Italian presidency of the European Union (July-December 2014).

In addition to the above, the GYA was invited to other national young academy meetings where the travel was funded by the hosts, including in Belgium, Malaysia, Scotland and Zimbabwe. Throughout 2013, the GYA and its members were also involved in the development of new national young academies, in particular finalizing the launch of the Kenyan National Young Academy, scheduled for early 2014.

Other organizations

Throughout 2013, the GYA was invited to give presentations and introduce the GYA at all regional meetings of the Global Research Council (GRC). These were held between October and December 2013 in Canada (for the Americas), France (for Europe), South Africa (for sub-Sahara Africa), South Korea (for the Asia-Pacific region), and Qatar (for the Middle East-North Africa region). This increased the GYA's visibility among senior organizations of scientists.

GYA co-chair Rees Kassen also attended the Canadian Science Policy Conference in Toronto, Canada, on 20-22 November 2013, and was involved in three panel discussions – on science communication, science diplomacy, and blogging – providing input from the GYA perspective. There was much interest in the GYA in general, and especially the preliminary results of the GloSYS study. He also used the occasion to strengthen GYA partnerships with various Canadian science organizations.

Global State of Young Scientists project (GloSYS)

2013 witnessed the development of the first major GYA project, a precursor study on the 'Global State of Young Scientists' (GloSYS), funded by the German Ministry of Education and Research. The GloSYS results (scheduled for publication in January 2014) are expected to contribute to a better understanding of the situation of young scholars in both the developed and the developing world. By conducting the first systematic, global study with qualitative interviews and an online survey on the challenges and opportunities that young scholars face in today's science system, the GYA has enhanced the current knowledge about young scholars' career paths and prospects in different parts of the world.

Supporting the IAP Global Science Education Programme

Lead academy: *Académie des Sciences*, France

The IAP Science Education Programme (SEP) aims, in part, to promote the diffusion of Inquiry-based Science Education (IBSE) in primary schools around the world. In 2013, funding received from IAP was used to support a meeting of the SEP Global Council in Kuala Lumpur, Malaysia.

On 23 May, the *Akademi Sains Malaysia* hosted a meeting of the IAP SEP Global Council, kindly covering local expenses for all participants. The meeting was attended by: Derek Bell (UK), Hubert Dyasi (USA), Guillermo Fernandez (Mexico), Jenny Graves (Australia), Pierre Léna (chair, France), Odile Macchi (France), Norma Nudelman (Argentina), Elly Sabiti (Uganda), Petra Skiebe-Corrette (Germany), Ahmadou Wague (Senegal), and Zhou Jiangzhong (China, representing He Zhu). Other invited participants included Dato Lee Yee Cheong (Malaysia, chair, International Science, Technology and Innovation Centre for South-South Cooperation (ISTIC)), and Yves Quéré, (France, former IAP co-chair).

Regional reviews

Science education programmes in Latin America (with IANAS), Europe (with the federation of All European Academies, ALLEA), Africa (with NASAC), and the Asia-Pacific region (with AASSA) were discussed and reviewed. A new chair is leading the Asia-Pacific region (Jenny Graves, Australian Academy of Science) and this programme will develop in the direction of the Economic Cooperation Organization (ECO group of Islamic Republics in Central Asia) with an IBSE conference planned for 2014 or 2015. The African programme now has both an anglophone (led by Elly Sabiiti, Uganda National Academy of Sciences) and a francophone component (led by Ahmadou Wague, *Académie Nationale des Sciences et Techniques du Sénégal*). The Europe programme is also moving ahead with a Europe-Africa conference planned at the *Accademia Nazionale dei Lincei* (Italy) in May 2014 that will involve academies linked through the African-European-Mediterranean Academies for Science Education (AEMASE) network. Meanwhile, the Latin America programme keeps implementing IBSE on the continent, having initiated many successful pilot projects during the past decade.

Assessing IBSE

An 'IBSE Assessment Guide', an output of the 2012 IBSE conference held in Helsinki, Finland, has been published online (see *www.interacademies.net/News/22653.aspx*). Translations (also available on the IAP website) are available in French, Serbian and Spanish. The document provides a fundamental resource for future roll-outs of IBSE.

2014 SEP biennial conference

Preparations are under way for the October 2014 SEP conference in Beijing, China, at the invitation of the Chinese Academy of Sciences (CAS) and the China Association for Science and Technology (CAST). The conference will focus on 'Grand Challenges for IBSE', with subtopics likely to include the assessment and progression of IBSE, as well as its scaling-up and sustainability, and interdisciplinary links with mathematics, technology, engineering and other disciplines.

New chair

Finally, Pierre Léna completed his term of office as chair of the IAP SEP. Dato Lee Yee Cheong (*Akademi Sains Malaysia* and ISTIC) was unanimously selected to replace him – a selection subsequently endorsed by the IAP co-chairs. Lee Cheong, who attended part of the meeting, stressed the importance of collaborating with the United Nations Educational, Cultural and Scientific Organization (UNESCO), noting that UNESCO is in a permanent dialogue with ministries of education, and thus could provide the link for expanding the number of countries and the number of schools implementing IBSE.

At the October-November 2013 IAP Executive Committee meeting in Australia, it was also decided that the IAP SEP should expand its remit to take into account the more holistic theme of science literacy.

Two prominent promoters of science education, Manzoor Samroo (left), a scientist from Pakistan instrumental in IBSE implementation, and Guillermo Fernandez de la Garza (right), founder of Innovec, an institution which has brought IBSE to millions of children in Mexico, met during the meeting of the IAP Science Education Programme in Kuala Lumpur, Malaysia, in May 2013.

Scenes from the Global Council meeting of the IAP Science Education Programme, hosted by the *Akademi Sains Malaysia* in Kuala Lumpur.

Improving Science Education in Sudan and Ethiopia through a Model-based Approach

Lead academy: Sudanese National Academy of Sciences (SNAS)

Elected as a member in 2007, the Sudanese National Academy of Sciences (SNAS) is one of the youngest academies in the IAP network. Among its major activities is the promotion of Inquiry-based Science Education (IBSE) in the country.

Inaugural workshop

On 16-17 April 2013, the Future University in Khartoum, the Sudanese National Academy of Sciences (SNAS), and the International Centre for South-South Cooperation in Science, Technology and Innovation (ISTIC) organized a regional training workshop and a roundtable on science education focusing on IBSE. More than 150 scholars, school teachers and educational experts attended. In addition to scholars from Sudan and Ethiopia, there were participants from several other Arab and African countries. Two major objectives of the project were thus fulfilled, namely the participation of leading experts in IBSE as well as training of the trainers.

Among the conclusions of the workshop/roundtable were:

- Science education is critical to the uptake of science, technology and innovation in the developing countries;
- Science education should begin as early as possible in the education system;
- IBSE is recommended as one of the most successful methods for the promotion of science education; and
- The utilization of information and communication technologies can facilitate the process of learning and should be promoted.

During the workshop, Romain Murenzi, TWAS executive director, together with Muntaser Ibrahim, who leads the project, met with Souad Abdelrazzak, the Sudanese Federal Minister of Education. The minister informed Murenzi and Ibrahim of her ministry's plans to launch a project to promote the use of science kits in secondary schools based on UNESCO guidelines. It was agreed that SNAS would act in an advisory capacity.

The Future University, together with SNAS, convened a follow-up meeting in partnership with the Khartoum State Ministry of Education, also attended by the minister. Consequently, it was recommended that a SNAS project in Gedaref State in the east of the country becomes part of training activities on IBSE coordinated by the Future University.

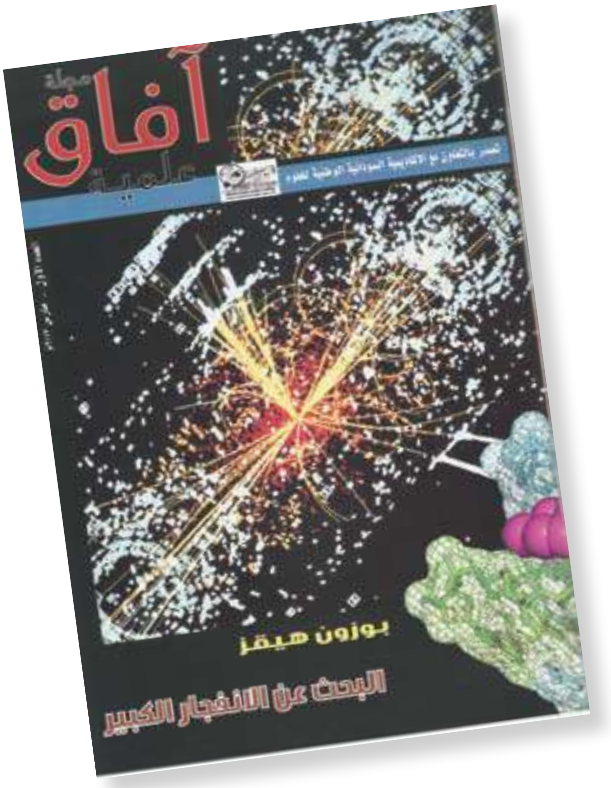
It was also agreed that SNAS will supervise IBSE distance learning activities through its website. Within this partnership, SNAS, Mustafa El Tayeb, president of Future University, and Abdel Salam Majali, president of the Islamic World Academy of Sciences, signed a memorandum of understanding to foster IBSE and the popularization of science in Africa and the Arab world.

Field activities

A team comprising senior SNAS members plus two members of the Sudanese Academy of Young Scientists visited one primary and one secondary school in the town of Doka in Gedaref State during June 2013. During the visits, the focus group team held discussions with both teachers and students, with the results summarized in a report and a short video. Following the tour, one tablet loaded with bilingual science teaching materials and one pocket data projector were purchased and sent to each of the participating schools.

Based on student responses to questions posed by members of the team and students' enthusiasm for the subject of mathematics, the focus group came away with the impression that the students in these rural schools exhibited a level of knowledge about science comparable to their peers in some of the best schools in major cities, including Khartoum.

Other deliverables from 2013 included the publication of the *SNAS Newsletter*, as well as the first popular science magazine in Arabic, *Afag*, or *Science Horizons*. The latter is expected to contribute in a major way to help achieve the project goals and disseminate IBSE modalities, thereby improving general science literacy throughout the region.



Cover of the inaugural issue of *Afag*, a popular science magazine published by SNAS in Arabic.

In June, a team of senior SNAS members and two members of the Sudanese Academy of Young Scientists visited Gedaref State in the east of Sudan to review the situation of the school system and teaching of science.

Creation of Regional Networks of Scientific Communication Centres in African Countries

Lead academies: *Académie Nationale de Médecine*, France, and the Hassan II Academy of Science and Technology, Morocco

This project is aimed at helping scientists from French-speaking African countries write manuscripts in good English. Although the research itself may be valid, papers are often rejected for publication in prominent journals because the quality of English fails to meet the required standards and/or does not allow peer reviewers to easily evaluate the work.

This project was launched to upgrade scientists' writing skills so that:

- they can improve their ranking in the Science Citation Index by increasing the number of manuscripts accepted in international journals; and
- they are better able to compete for support from international donors, including foundations, when requesting finances for their laboratories and research institutions.

Indeed, the project follows up on a series of workshops previously sponsored by the InterAcademy Medical Panel (IAMP) with the collaboration of the French *Académie Nationale de Médecine* (ANM) that taught scientific writing to biologists and clinicians. Four such workshops were organized between 2006 and 2010, in Nairobi, Kenya, in Pretoria, South Africa, and twice in Dakar, Senegal. They were successful as several attendees subsequently had their papers accepted for publication in international peer-reviewed journals.

In 2013, a second phase of the project was initiated, consisting of selecting and training some African trainers so they could become qualified to teach 'scientific communication'. The 'training-the-trainers' workshops focused on preparation, revision and editing of manuscripts, oral communication skills, responding to calls for proposals, and the submission of research projects.

During 2013, two 5-day regional workshops were organized:

- 4-8 February – in Franceville, Gabon, with 14 participants; and
- 3-7 June – in Rabat, Morocco, with 25 participants.

A final workshop was scheduled for 6-10 January 2014 in Dakar, Senegal, with 11 participants expected.

Each workshop was preceeded by a 1-2-day planning meeting, held either in Paris, France, or Rabat, Morocco, to determine the format of the workshop. Typically, a team of trainers from high income countries was assembled to provide the training to the future trainers. This was important as it helped to establish a network aimed at disseminating the practice of scientific communication to African universities and to sensitize their young scientific colleagues about the importance of publishing papers in prominent journals.

In future, the plan is to establish a series of regional communication centres in Africa equipped with modern and e-learning communication systems. Additional sources of finance are being explored to achieve these goals.

In 2013, as well as the two lead academies (the *Académie Nationale de Médecine*, France, and the Hassan II Academy of Science and Technology, Morocco), the project saw the strong participation of the *Académie Nationale des Sciences et Techniques du Sénégal* and the *École Doctorale Regionale*, based in Franceville, Gabon, with additional financial support from the *Fondation Merieux*, Lyon, France.

Participants at a workshop held in Rabat, Morocco, hosted by the Hassan II Academy of Science and Technology.

Raising Awareness on Dual-use Issues

Lead academy: Polish Academy of Sciences

Dual-use research or dual-use technology is defined in both politics and diplomacy as that which can be used for either peaceful or military purposes. There is thus a great deal of international interest in monitoring which countries and/or laboratories are involved in dual-use research and its implications for non-peaceful purposes. Since 2011, when the Polish Academy of Sciences (PAS) was awarded a grant from IAP on 'Education in Biosecurity: Raising Awareness on Dual-use Issues', PAS has been taking the lead in these activities within the inter-academy network. In 2013, PAS received a second grant from IAP.

International consultation

On 26-28 February 2013, a delegation from PAS attended the World Health Organization (WHO) 'Informal Consultation on Dual-Use Research of Concern' in Geneva, Switzerland.

The objective of this meeting was to share perspectives on key issues related to dual-use research of concern (DURC), identify existing approaches and safeguards for managing DURC, and to consider critical gaps and actions to initiate. Andrzej Górski, vice president of PAS and coordinator of the programme on biosecurity, took part in the consultation and served as the rapporteur for a working group on education and outreach that was part of the consultation.

This was followed by a second meeting, also held in Geneva, from 12-16 August 2013, relating to the Convention on the Prohibition of the Development, Production and Stockpiling of the Bacteriological (Biological) and Toxin Weapons and on their Destruction.

The Polish delegation comprised six individuals, including Ryszard Słomski, who acted as a delegate and a non-governmental organization representative on behalf of IAP and PAS.

The main issues considered at this Meeting of Experts encompassed (i) strengthening of cooperation and help on the basis of Article X of the Convention; (ii) a review of achievements in science and technologies connected with the Convention; (iii) how to strengthen cooperation between countries; and (iv) how to increase participation in the so-called 'confidence-building measures'. Słomski presented the viewpoint of the Biosecurity Working Group (BWG) of IAP, as well as presenting a lecture on 'Advances in Technologies for Detection of Infectious Diseases'.

A Polish delegation comprising five representatives, again including Słomski, also attended the Meeting of State Parties in Geneva on 9-13 December 2013. During this meeting, a special session was dedicated to 'Consolidating Biosecurity Education'. Session participants used the opportunity to update the outputs of the workshop, 'Promoting Education on Dual Use Issues in the Life Sciences', hosted by PAS in Warsaw, Poland, in 2009 with the collaboration of IAP and other international bodies.

Outreach

As well as providing input into international agreements and debates, the working group hosted two information events during 2013.

The first of these was a working session of the IAP BWG held in Warsaw on 5 December 2013.

Every time a new experiment is to be carried out, a risk assessment must be performed and documented by the researcher, in consultation with the supervisor. To provide training in these processes, a half-day workshop was organized on 'Biological Risk Assessment' for microbiologists, epidemiologists and public health experts working in the Military Institute of Hygiene and Epidemiology. Ali Mohammadi, president of Global Health and Security Consultants, gave a detailed presentation on the objectives and processes of risk assessments. During the workshop, participants worked on three public health risk case studies and at the end, group coordinators presented their evaluations of the cases, which were followed by discussions involving all the participants.

The following day, 6 December, also in Warsaw, the working group held a seminar on the subject 'Natural or Deliberate Outbreak: How to prevent or detect and trace its origin – biosecurity, surveillance, forensics'. The main goal was to promote cooperation between the public health sector, law enforcement officers and other authorities responsible for security issues. The framework for the seminar was prevention, rapid identification of the source of an outbreak, and the tracing of its origin. It was an excellent opportunity to exchange opinions and experiences among the experts present about epidemic surveillance and microbial forensics, as well as about educational programmes on biosafety and biosecurity concerns.

Ryszard Słomski, member of the Polish delegation to the UN in Geneva, Switzerland, presented the views of the IAP Biosecurity Working Group, and gave a paper entitled 'Advances in Technologies for Detection of Infectious Diseases'.

Participants at the Meeting of the State Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of the Bacteriological (Biological) and Toxin Weapons and on Their Destruction - Meeting of Experts; Geneva, Switzerland; August 2013.

Science Education through Communication

Lead academy: Nepal Academy of Science and Technology (NAST)

Science and technology (S&T) are significant tools for the overall development of a country. Since its establishment in 1982, the Nepal Academy of Science and Technology (NAST) has been constantly working towards the development of S&T in Nepal through workshops, training events and science fairs for school and college-level science teachers.

In 2013, NAST launched the IAP-funded training programme on 'Empowering Secondary Level Science Teachers for Demonstrative Teaching Practices in Nepal' in several districts of the country.

Objectives

The objective of the project was to provide science teaching training to secondary level science teachers in Nepal so that they could effectively disseminate knowledge on the basic principles of science to their students. This was to be achieved by:

- Helping them to understand basic scientific principles, technological applications and some social implications of science; and
- Showing how the integration of informal, entertaining and lively pedagogical methods in their teaching of science will make learning more effective.

Additional objectives are to:

- develop the skills of secondary level science teachers to design and build low-cost science equipment using locally-sourced materials for effective teaching;
- promote interactions among the participants and resource persons to learn about problems related to science teaching;
- create a forum and develop a multiplier effect for transfer of knowledge; and
- build scientific capability in school children by developing their enthusiasm towards science through informal science education.

Preparations

Preliminary steps included the formation of a Project Management Committee (PMC) with six NAST personnel. Additionally, an Implementation Committee (IC) was set up to coordinate and conduct the programme effectively, prepare the project report, and to disseminate the project's findings more widely to other schools.

Two districts were identified by the committees as the sites for the project. The first, Nuwakot, is one of the largest districts in Nepal and comprises large, deprived and superstitious communities. Such communities need to be made aware of how science is integral to everyday life. Empowering science teachers is seen as a significant mechanism towards achieving this. The second district, Kaski, has great variations in socio-economic status and ethnic diversity.

Once selected, brief visits were made to both sites to better assess local conditions and to meet with various stakeholders of the programme, including district education officers, school principals and science teachers.

Based on advice received during these meetings, the New Orchid Academy in Battar, Nuwakot, and Gauri Shankar School in Hemja, Kaski, were selected as the training sites. In addition, participating science teachers were identified, a tentative agenda was drafted and dates for the workshops agreed. At the same time, a local coordinator and contact person was identified for both training workshop sites.

Implementation

The training programme involved some 300 students and teachers at each site, and not only helped to promote science in general but also to inform local communities and students about the programme through public outreach activities that included competitive science exhibitions and quiz contests for secondary school pupils. There was also an oratory skill programme, in which students were asked to speak on the topic of 'Science and Technology for a Prosperous Nepal'. The workshops took place at the New Orchid Academy on 30 August-3 September 2013, and at Gauri Shankar Higher Secondary School on 13-15 December 2013.

In total, 52 science teachers from twelve districts of Nepal participated in the training programme. At both schools, the training of science teachers was divided into two parts: how to develop equipment for teaching science, and techniques for teaching science.

Materials designed and fabricated during the workshop (for example, an electric bell, or equipment to test Faraday's Law of induction, or to demonstrate the conversion of energy) were kept for display throughout the day and then handed over to needy schools during the closing ceremonies.

Both workshops closed with a science fair, which included the exhibition of models built by students using local materials and depicting basic scientific principles.

In addition, press conferences were organized during the training programmes, which resulted in extensive coverage by various papers as well as an airing on local FM radio.

Impact and outputs

The training programme was able to develop the skills of the secondary level science teachers to design and fabricate low-cost science teaching equipment. It also helped to develop new thinking skills in interactive and participatory teaching methods. The workshops also helped build the science teaching capabilities and confidence of the participants. Moreover, they provided a strong platform to bring Nepalese science teachers together to share their ideas and experiences as well as to build a viable network. NAST is now seeking to develop the multiplier effect with participants and anticipates that the knowledge acquired from the training will be transferred to the maximum number of other science teachers.

Indeed, after participating in the training workshop, participants in Battar founded an association, the Technological Innovation Science Teachers Association (TISTA). Teachers from this network are still in contact

with NAST and the formalities of registering TISTA with the Nepalese government are in progress.

Following their workshop, participants at Gauri Shankar Secondary High School in Hemja jointly wrote a resolution that addressed the steps necessary in order to enhance science teacher training, including the organisation of annual science fairs and better networking opportunities for science teachers.

Considering the effectiveness of the training programme and the response of the participants, NAST is now exploring the possibility of establishing a Science Education Centre at its premises.

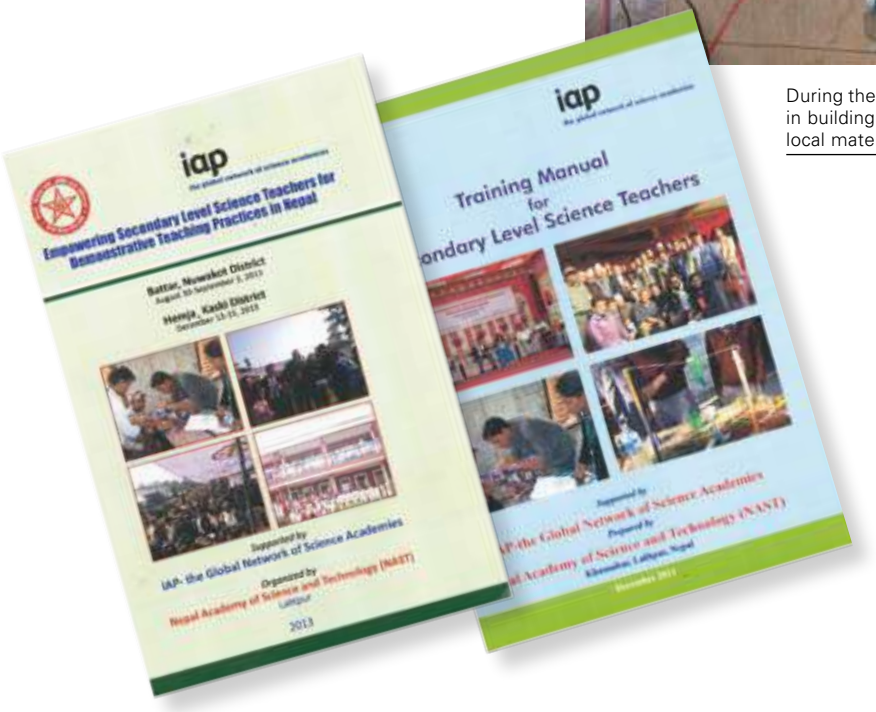
Finally, a 'Training Manual for Secondary Level Science Teachers' that features demonstrations and equipment building exercises was compiled based on workshop materials and, since December 2013, has been distributed to teachers and other stakeholders. A demonstrative teaching manual has also been prepared that includes chapters on topics such as 'power supply and its output', 'the electric bell', 'laws of reflection of light', 'air' and 'object disappearing'. Both manuals have been widely distributed in Nepal and have been well received.

Presenting an award to a student for his success in a science quiz.

Science fairs, including theatre shows, were used to highlight the proceedings of the workshops to a wider local audience.

Demonstrating a simple experiment on the flow of fluids.

During the workshops, teachers were trained in building low-cost science equipment from local materials.



Survey and Awareness of Dual-use Education in Pakistan

Lead academy: Pakistan Academy of Sciences

The Government of Pakistan places a high priority on science and technology and actively supports research. As a result, Pakistani scientists are publishing five times as many research articles in 2011 than they did ten years earlier (> 3,800 papers, compared to just 511 in 2001: ISI Web of Knowledge). A major portion of this increase comes from the life sciences, including biotechnology.

For several years, recognizing this rapid increase in output – as well as the rising number of practicing researchers – the Department of Biotechnology, Quaid-i-Azam University (QAU) in Islamabad, Pakistan, has been actively highlighting issues such as the dual-use concerns of biotechnology, biosafety and biosecurity. Through IAP funding to the Pakistan Academy of Sciences (PAS), the department has initiated numerous activities to raise the knowledge among life science students and researchers about bioethics and the responsible conduct of research.

Survey

A baseline survey revealed that Pakistan has 133 universities and other degree-awarding institutes, 59 of which offer courses in the life sciences across 230 departments. However, only 22 of these departments offer any course covering bioethics.

From September to December 2013, MPhil and PhD students, young researchers and faculty members from different universities in Pakistan were interviewed to determine their knowledge about bioethics, biosafety, biosecurity and responsible conduct in science. Structured questionnaires were prepared which were distributed among participants under the condition of anonymity. In addition, faculty advisors were also interviewed and their comments recorded. It was found that faculty members possessed a basic understanding of bioethics-related issues, but that greater and more integrated efforts are required in order to improve the basic level of understanding. The results were published in a booklet that was presented at an international conference held under the auspices of the United Nations on the dual-use issue held in Geneva, Switzerland.

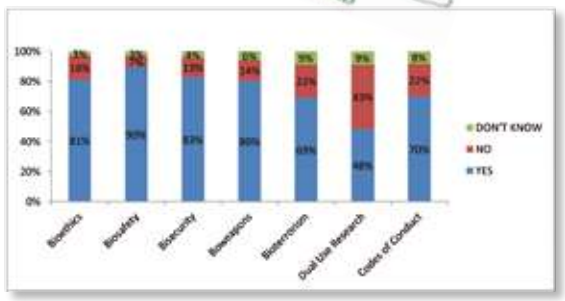
A large proportion of comments from survey participants related to student development and the revision of the curriculum to ensure it would cover a broader spectrum of issues like biosafety and biosecurity. Earlier, on 16 May 2013, the Department of Biotechnology, QAU, also participated in a joint online session with a representative from the University of Bradford, United Kingdom. More than 50 students from Department of Biotechnology attended and discussed the quality and relevance of the current curriculum, emphasizing the need for it to be revised and updated.

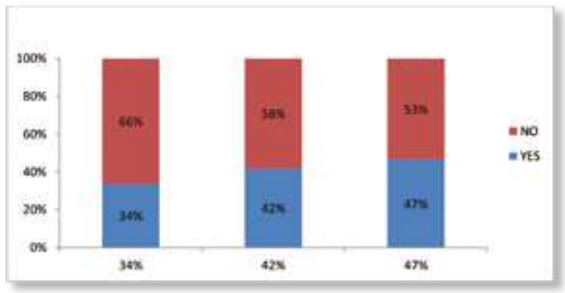
Preparations under way for the international workshop on 'Raising Awareness on Dual Use Concerns in Biotechnology'.

As a result of these studies, it was identified that there is a need for further work with teachers, including both surveying their understanding regarding dual-use research and technologies, and to organize interactive workshops to increase their awareness of the issue.

Workshops

Two awareness-raising workshops are planned for 2014: one at QAU in Islamabad, and the other in the Valley of Chitral in northeast Pakistan that will reach out to bioscience students studying in remote towns such as Chitral, Dir and Swat.



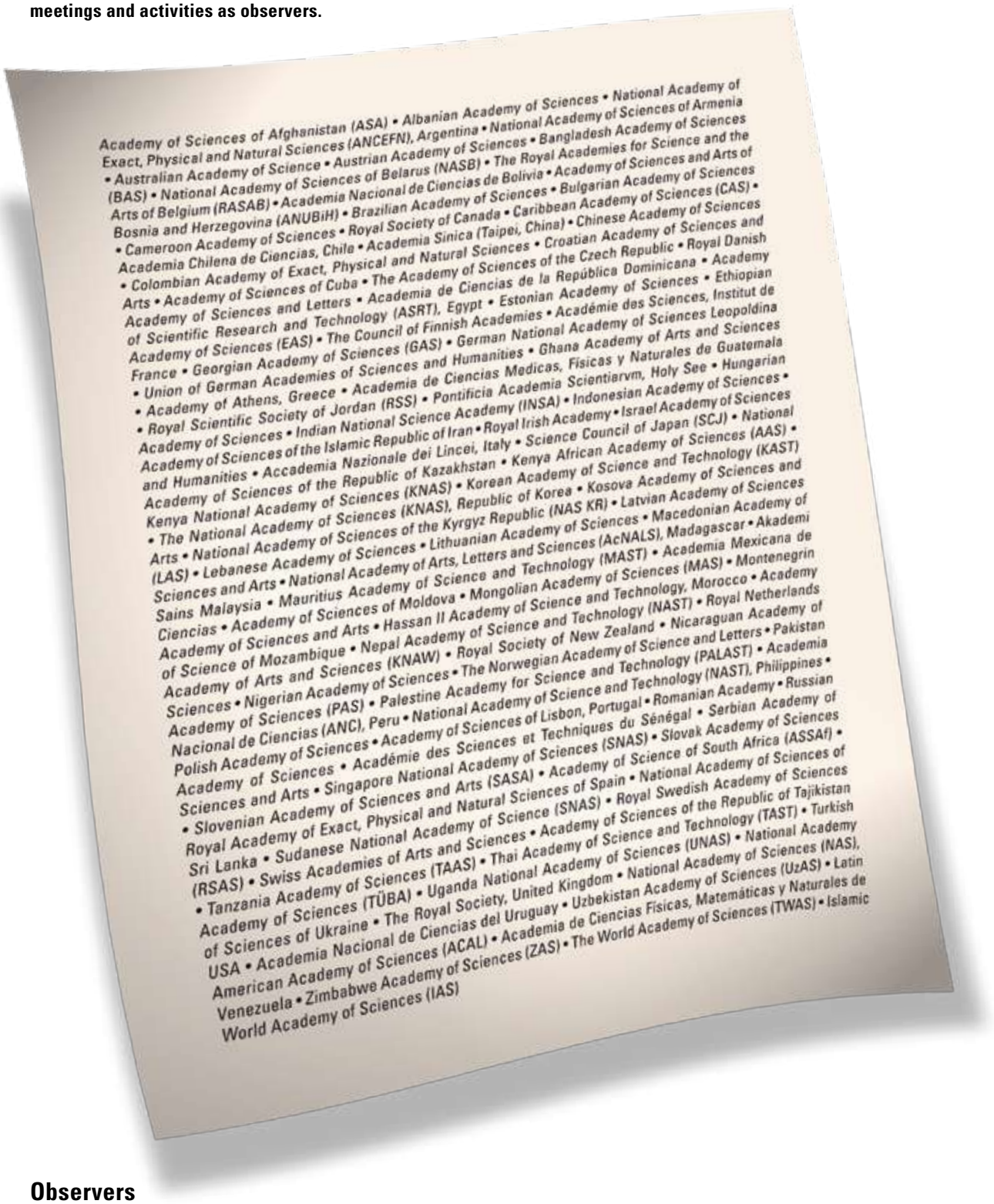


Results of the survey on 'Awareness about Biosecurity and Dual Use Related Concepts among Educators of Graduate Life Sciences in Pakistan'.

APPENDICES

Membership

IAP currently has a membership of 106 scientific academies from around the world; these include both national academies/ institutions as well as regional/global groupings of scientists. A number of other scientific organizations participate in IAP meetings and activities as observers.



Observers

The Caribbean Scientific Union (CCC) • International Council for Science (ICSU) • European Academies' Science Advisory Council (EASAC) • ALLEA - ALL European Academies • Global Young Academy (GYA) • Euro-Mediterranean Academic Network (EMAN) • InterAcademy Medical Panel (IAMP) • Organization for Women in Science for the Developing World (OWSD) • Network of African Science Academies (NASAC) • Association of Academies and Societies of Sciences in Asia (AASSA) • InterAmerican Network of Academies of Sciences (IANAS) • InterAcademy Council (IAC) • Network of Academies of Science in Countries of the Organisation of Islamic Conference (NASIC)

Financial Summary

The total amount of funds received for activities in 2013 was USD1,285,463. The main contribution was from the Italian Ministry of Foreign Affairs (USD,1,051,559), while additional contributions were received from the *Academie Hassan II des Sciences et Techniques*, Morocco, and the Academy of Athens, Greece, as the first member academies to submit voluntary membership contributions to support IAP activities.

In addition, it is estimated that member academies and regional affiliated networks contributed some USD300,000 in in-kind support through the organization of conferences and workshops, the publication of reports, as well as the provision of staff time. In 2103, special mention should be made the Brazilian Academy of Sciences for their generous support of the IAP General Assembly and conference held in February (see pages 11-13) and the Australian Academy of Science, which hosted the Executive Committee meeting later in the year (see pages 8-9).

Contributions were also made to the InterAcademy Medical Panel (IAMP) to support its secretariat and core activities, as well as to a newly established Reserve Fund, approved by members of the UNESCO/TWAS Steering Committee in February 2013, that is designed to absorb the impact of year-to-year variations in income/expenditure as well as to cover the end of service entitlements of IAP and IAMP staff.

IAP Financial Report for 2012, 2013 and 2014 (in USD)

INCOME[1]	2012	2013	2014 (Expected)
Balance	898,436	538,608	746,394
1) Ministry of Foreign Affairs, Italy	1,026,488	1,051,559	1,050,000
2) Academie Hassan II des Sciences et Techniques, Morocco		5,000	
3) The Academy of Athens, Greece		1,377	
4) Prior year adjustment	7,891	4,919	5,000
5) Transfer to IAMP	(125,000)	(116,000)	(95,000)
6) Transfer to Reserve Fund		(200,000)	
	1,807,815	1,285,463	1,706,394

[1]All contributions are expressed in US dollars and have been converted using the UN official rate of exchange in effect at the time the contributions were received.

Expenditure	2012	2013		2014
	Spent	Budget	Spent	Proposed Budget
1) Scientific Projects				
1.1) New Projects[1]	193,970	300,000	(30,561)	406,000
1.2) Regional Network Programmes[2]	499,999	500,000	209,558	620,500
1.3) Policy collaboration with IAC	50,000	50,000		70,000
Sub-Total for (1)	743,969	850,000	178,997	1,096,500
2) Meetings and Conferences				
2.1) Conference for Young Scientists	7,260	15,000	(1,308)	10,000
2.2) Executive Committee Meetings/GA Conference/Travels	97,323	60,000	53,745	60,000
2.3) Development Advisory Committee/Meetings	47,797	40,000	(51,497)	30,000
2.4) Global Young Academy/Conference	40,000			
2.5) Regional Implementation Workshops	(5,298)			
2.6) Travel support Co-chairs	(5,252)			
Sub-Total for (2)	181,829	115,000	940	100,000
3) Publications (Website/Brochure)				
3.1) Website	16,365	40,000	23,835	40,000
3.2) Other publications	(166)	5,000		10,000
3.3) International PR support	13,058		112	
Sub-Total for (3)	29,257	45,000	23,947	50,000
4) Operational Expenses				
4.1) Staff and Consultant Costs	272,144	400,000	276,008	400,000
4.2) Communications	6,156	5,000	3,160	5,000
4.3) Office and Other Supplies	10,925	5,000	4,913	10,000
4.4) ICTP services	24,927	25,000	51,104	40,000
Sub-Total for (4)	314,152	435,000	335,185	455,000
Total	1,269,207	1,445,000	539,069	1,701,500
Excess (Shortfall) of income over expenditure	**538,608**		**746,394**	**4,894**
Reserve Fund[2]				
Amount available at the beginning of period				**200,000**
End of service entitlements			200,0003	
Reserve Fund balance end of period			**200,000**	**200,000**
Reserve and Regular Fund balances, end of period	**538,608**		**946,394**	**204,894**

[1] Contracts under 2013 budget lines 1.1 and 1.2 were finalized in January 2014, therefore these expenses will be reflected in 2014 report.

[2] The purpose of the Reserve Fund is to cover the end of service entitlements of IAP/IAMP staff.

[3] Following approval for the establishment of the IAP Reserve Fund by the Steering Committee in 2013, USD 200,000 was transferred in 2013.

Organizing Committee for the 7th IAP Conference, 'Grand Challenges and Innovations: Science for Poverty Eradication and Sustainable Development'

Co-chairs

- Marcello Andre Barcinski, member of the Brazilian Academy of Science and the National Academy of Medicine, Brazil
- Peter A. Singer, Chief Executive Officer, Grand Challenges Canada

Members

- Howard Alper, IAP Co-chair
- Maged Al Sherbiny, President, Academy of Scientific Research and Technology (ASRT), Egypt
- Mohamed Hassan, IAP Co-chair
- Rees Kassen, Co-chair of the Global Young Academy, and Associate Professor and University Research Chair in Experimental Evolution, University of Ottawa, Canada
- Fumiko Kasuga, Vice President, Science Council of Japan (SCJ)
- Juan Pedro Laclette, Co-chair IANAS, and Coordinator General of the Mexican Scientific and Technological Consultative Forum
- Bernard Slippers, Co-chair of the Global Young Academy, and Associate Professor in Genetics, University of Pretoria, South Africa
- Gregory A. Weiss, former Co-chair of the Global Young Academy, Professor of Chemistry, Molecular Biology and Biochemistry, University of California, Irvine, USA
- Ahmad Zaidee Laidin, Council member, *Akademi Sains Malaysia*

Standing Committees

The IAP Executive Committee (EC) has adopted the following rules on membership and election of IAP Standing Committees (Committee).

- A Committee shall have six to eight members and it shall be chaired by a member of the IAP EC. Membership of a Committee shall be in a personal capacity.
- The Chair and the other members of a Committee shall be elected by the EC from among both EC members and other members of IAP, ensuring a reasonable geographical balance and good cross-representation from industrialized and developing countries.
- Membership of a Committee shall run until the first EC meeting following each IAP General Assembly.
- At that meeting, the EC shall (re-)elect the Chair and the other members of a Committee.
- In these elections the EC shall consider any interest expressed by an IAP member in serving on a Committee.
- Normally, the Chair and a member shall not serve more than two consecutive terms on a committee.
- If the Chair of the Committee should wish to stand down during the term of office, the EC shall elect a new Chair from among the members of the Committee.
- If any other member of the Committee should wish to stand down during the term of office or is elected Chair, the EC shall elect another IAP member to the Committee.

- **Membership Committee**
- **Programmes and Strategic Planning Committee**
- **Publications and Communication Committee**
- **Monitoring and Evaluation Committee**
- **Finance Committee**
- **Science for Poverty Eradication Committee**
- **Science Education Programme Committee**

Membership Committee

- **Sergio Pastrana** *(Chair)*
  Cuban Academy of Sciences
- **Taner Demirer**
  Turkish Academy of Sciences (TUBA)
- **Andrew Holmes**
  Australian Academy of Science
- **Frederick Ian Bantubano Kayanja**
  Uganda National Science Academy
- **Michael Peter Kennedy**
  Royal Irish Academy

Programmes and Strategic Planning Committee

- **Daya Reddy** *(Chair)*
  Academy of Science of South Africa (ASSAf)
- **David Rios**
  Royal Spanish Academy of Science
- **Jose Franco**
  Mexican Academy of Sciences
- **Alfred Puhler**
  Union der deutschen Akademien der Wissenschaften
- **Dinakar M Salunke**
  Indian National Science Academy (INSA)
- **Martyn Poliakoff**
  Royal Society, UK
- **Shaw Chen Liu**
  Academia Sinica, Taiwan, China
- **Gabriel Ogunmola**
  Nigerian Academy of Science

Publications and Communication Committee

- **Jeremy McNeil** *(Chair)*
  Royal Society of Canada
- **Diery Seck**
  Académie Nationale des S&T du Sénégal (ANSTS)
- **Juan Asenjo**
  Chilean Academy of Sciences
- **Doe Sun Na**
  Korean Academy of Science and Technology (KAST)
- **Moneef R. Zou'bi**
  Islamic World Academy of Sciences (IAS)

Monitoring and Evaluation Committee

- **Krishan Lal** *(Chair)*
  Indian National Science Academy (INSA)
- **Jung Yul Yoo**
  Korean Academy of Science and Technology (KAST)
- **Daniel Ricquier**
  Académie de Sciences, France
- **Michael Ugrumov**
  Russian Academy of Sciences
- **Baerbel Friedrich**
  German Academy of Sciences Leopoldina

Finance Committee

- **Antonio Sgamellotti** *(Chair)*
  Accademia Nazionale dei Lincei, Italy
- **Mike Clegg**
  US National Academy of Sciences
- **Jinghai Li**
  Chinese Academy of Sciences

Science for Poverty Eradication Committee

- **Jacob Palis** *(Chair)*
  Brazilian Academy of Sciences
- **Takashi Onishi**
  Science Council of Japan
- **M. Ramon Llamas**
  Royal Spanish Academy of Science
- **Anwar Nasim**
  Pakistan Academy of Sciences
- **Hassan Zohoor**
  Academy of Sciences of IR Iran
- **Asma Ismail**
  Akademi Sains Malaysia
- **Ajaga Nji**
  Cameroon Academy of Sciences
- **Tara Dasgupta**
  Caribbean Academy of Sciences

Science Education Programme Committee (SEP Global Council)

- **Dato Lee Yee Cheong** *(Chair)*
  Malaysia
- **Derek Bell**
  UK
- **Hubert Dyasi**
  United States
- **Guillermo Fernandez de la Garza**
  Mexico
- **He Zhu**
  China
- **Petra Skiebe-Corrette**
  Germany
- **Mustafa El Tayeb**
  Sudan
- **Calestous Juma**
  Kenya
- **Mansoor Soomro**
  Pakistan
- **Park Won-Hoon**
  Korea
- **John Boright**
  USA

Regional activities supported by IAP in 2013

January

- Frankfurt, Germany, EASAC Working Group meeting: 'Planting the Future', 25 January 2013

February

- Franceville, Gabon, first workshop for IAP project on the 'Creation of Regional Networks of Scientific Communication Centres in African Countries', 4-8 February 2013
- Brussels, Belgium, EASAC & Joint Research Centre (JRC) joint workshop on 'The nuclear fuel cycle: the management of spent nuclear fuel and its waste', 18-19 February 2013
- Rio de Janeiro, Brazil, IAP Conference and General Assembly, 'Grand Challenges and Integrated Innovations: Science for Poverty Eradication and Sustainable Development', 24-26 February 2013

March

- Brussels, Belgium, EASAC Environment Steering Panel meeting, 8 March 2013
- Vienna, Austria, EASAC bureau meeting, 14-15 March 2013
- Sydney, Australia, AASSA regional workshop on 'Linking Science with Literacy', 25-27 March 2013

April

- Singapore, IAMP Young Physician Leaders (YPL) programme regional event, in conjunction with the regional World Health Summit, 5 April 2013
- Frankfurt, Germany, EASAC-JRC Scoping Group meeting, 'Marine Sustainability', 5 April 2013
- Greifswald, Germany, EASAC Working Group meeting, 'Breakthroughs in low carbon energy, supply and consumption by 2050/ Nuclear by 2050', 8-9 April 2013
- Khartoum, Sudan, Sudan National Academy of Sciences, Inquiry-Based Science Education (IBSE) Roundtable and Forum, 16-17 April 2013
- Amsterdam, Netherlands, EASAC Energy Steering Panel meeting, 17 April 2013
- Brussels, Belgium, EASAC launch event of Policy Report 19: 'The current status of biofuels in the European Union, their environmental impacts and future prospects', 24 April 2013

May

- Cambridge, UK, First joint workshop and EASAC working group meeting on 'Village-level Energy', 9 May 2013
- Nairobi, Kenya, NASAC Expert Group meeting, 9-10 May 2013
- Halle (Saale), Germany, GYA 2nd International Conference of Young Scientists and General Assembly, 15-18 May 2013
- Brussels, Belgium, EASAC-CSA launch event of Policy Report 20: 'Carbon Capture and Storage in Europe', 22 May 2013
- Kuala Lumpur, Malaysia, IAP Science Education Programme (SEP) Global Council meeting, 23 May 2013

June

- Rabat, Morocco, second workshop for IAP project on the 'Creation of Regional Networks of Scientific Communication Centres in African Countries', 3-7 June 2013
- Budapest, Hungary, IAMP & FEAM workshop on 'Integrated Education in One Health', 5 June 2013
- Halle (Saale), Germany, EASAC Council meeting, 6-7 June 2013
- Brussels, Belgium, EASAC launch event of Policy Report 21: 'Planting the Future: Opportunities and Challenges for using Crop Genetic Improvement Technologies for sustainable Agriculture', 27 June 2013
- Brussels, Belgium, EASAC Biosciences Steering Panel meeting & Working Group meeting, 'Emerging Plant Diseases', 28 June 2013

July

- Trieste, Italy, IAMP planning workshop on health diplomacy, 4-5 July 2013
- Colombo, Sri Lanka, first international workshop of the Sri Lankan Academy of Young Scientists, 'Driving Research Towards Economy', 5 July 2013
- Punta Cana, Dominican Republic, IANAS General Assembly and Scientific Meeting on 'Climate Change: Evidence, Impacts and Choices', 16-20 July 2013

August

- Johannesburg, South Africa, IAMP General Assembly and conference on 'Changing Patterns of Non-Communicable Diseases', 13-16 August 2013
- Barnaul, Russia, AASSA regional workshop on 'Sustainable Development of Asian Countries, Water Resources and Biodiversity under Climate Change', 19-22 August 2013
- Rio de Janeiro, Brazil, 2nd Meeting of the Brazilian Academy of Sciences Affiliates, GYA presentation, 28-30 August 2013

September

- Irvine, USA, IANAS energy programme meeting, 3-6 September 2013
- Athens, Greece, EASAC Bureau and Strategy Meeting, 10-13 September 2013
- Dalian, China, IAP Young Scientists Conference – in conjunction with the Annual Meeting of the New Champions – Summer Davos – World Economic Forum (WEF), 11-13 September 2013
- Stockholm, Sweden, EASAC Working Group meeting, 'Breakthrough Technologies', 19-20 September 2013
- Cali, Colombia, IANAS water report editorial group meeting, 23-26 September 2013
- Santiago de Chile, Chile, IANAS Science Education Programme meeting, 24 September 2013
- New Delhi, India, 6th AASSA regional workshop on 'Women in Science, Education and Research', 24 September 2013

October

- Kyoto, Japan, Science Council of Japan's 2013 International Conference for Sustainability (co-organized with IAC), 9-10 October 2013
- Yaounde, Cameroon, NASAC-Leopoldina workshop on 'Climate Change Adaptation', 11-12 October 2013
- Berlin, Germany, IAMP Young Physician Leaders (YPL) workshop, IAMP executive committee meeting and World Health Summit, 18-23 October 2013
- Manila, Philippines, AASSA international symposium on 'Emerging Technologies for a Greener Earth', and AASSA executive board meeting, 22-24 October 2013
- Santiago de Chile, Chile, meeting of the IANAS Women for Science programme focal points, 24-25 October 2013
- Brussels, Belgium, EASAC Environment Steering Panel meeting, 25 October 2013
- Paris, France, Global Research Council (GRC) Regional Meeting Europe, GYA presentation, 30 October 2013
- Canberra, Australia, IAP Executive Committee meeting, 31 October-1 November 2013

November

- Brussels, Belgium, EASAC Energy Steering Panel meeting, 6 November 2013
- Addis Ababa, Ethiopia, 9th Annual Meeting of African Science Academies (AMASA-9) and NASAC board and general assembly meetings, 10-14 November 2013
- Jeju, South Korea, Global Research Council (GRC) Regional Meeting Asia-Pacific, GYA presentation, 18-19 November 2013
- Toronto, Canada, Canadian Science Policy Conference, GYA presentation, 20-22 November 2013
- Jerusalem, Israel, Israel Academy of Sciences and Humanities, 'Sharing the Start-up Experience - Entrepreneurship Training Workshop for Young Scientists and Engineers', 25-28 November 2013
- Rawalpindi, Pakistan, NASIC/IAP international conference on 'Entrepreneurship for Young Women and Using of New Technologies: Issues and Challenges', 26-27 November 2013

December

- Brussels, Belgium, EASAC launch event, Policy Report 22: 'Trends in Extreme Weather Events in Europe: Implications for national and European Union adaptation strategies', 2 December 2013
- Stockholm, Sweden, EASAC working group meeting 'Breakthrough Technologies', 4 December 2013
- Warsaw, Poland, Polish Academy of Sciences, 'Raising awareness on dual use issues' working session and seminar, 'Natural or Deliberate Outbreak – How to prevent or detect and trace its origin: Biosecurity, surveillance, forensics', 5-6 December 2013
- Rome, Italy, EASAC bureau and council meetings, 5-6 December 2013
- Lima, Peru, meeting of the IANAS water programme focal points, 1-6 December 2013
- Doha, Qatar, Global Research Council (GRC) Regional Meeting MENA, GYA presentation, 9 December 2013
- Rome, Italy, meeting between GYA representatives and *Accademia Nazionale dei Lincei*, 13 December 2013

Publications supported by IAP in 2013

- **IAP Statement: Response to the Report of the High Level Panel of Eminent Persons on the post-2015 development agenda**
  Published by: IAP, the global network of science academies
  URL: www.interacademies.net/10878/22347.aspx

- **Joint IAP/IAMP Statement - Antimicrobial Resistance: A call for action**
  Published by: IAP, the global network of science academies, and IAMP - InterAcademy Medical Panel
  URL: www.interacademies.net/10878/call_for_action.aspx

- **Communiqué: Implementing a New Global Partnership for Post-2015 United Nations Goals**
  Published by: IAP, IAC and IAMP
  URL: www.interacademies.net/News/21976.aspx

- **Assessment & Inquiry-Based Science Education: Issues in policy and practice (English version)**
  Published by: IAP Science Education Programme
  URL: www.interacademies.net/Publications/24998.aspx

- ***Evaluación y Educación en Ciencias Basada en la Indagación: Aspectos de la política y la práctica* (in Spanish)**
  Published by: IAP Science Education Programme
  URL: www.interacademies.net/Publications/25001.aspx

- ***Évaluation et pédagogie d'investigation dans l'enseignement scientifique: De la politique à la pratique* (in French)**
  Published by: IAP Science Education Programme
  URL: www.interacademies.net/File.aspx?id=22668

- **Assessment & Inquiry-Based Science Education: Issues in policy and practice (Serbian version)**
  Published by: IAP Science Education Programme
  URL: www.interacademies.net/Publications/25376.aspx

- **The Association of Academies and Societies of Sciences in Asia (brochure)**
  Published by: AASSA - Association of Academies and Societies of Sciences in Asia
  URL: www.interacademies.net/File.aspx?id=23467

- **The Current Status of Biofuels in the European Union: Their environmental impacts and future prospects**
  Published by: EASAC - European Academies Science Advisory Council
  URL: www.easac.eu/fileadmin/PDF_s/reports_statements/Easac_12_Biofuels_Complete.pdf

- **Carbon Capture and Storage in Europe**
  Published by: EASAC - European Academies Science Advisory Council
  URL: www.easac.eu/fileadmin/Reports/Easac_13_CCS_Web_Complete.pdf

- **Planting the Future: Opportunities and challenges for using crop genetic improvement technologies for sustainable agriculture**
  Published by: EASAC - European Academies Science Advisory Council
  URL: www.easac.eu/home/reports-and-statements/detail-view/article/planting-the.html

- **Trends in Extreme Weather Events in Europe: Implications for national and European Union adaptation strategies**
  Published by: EASAC - European Academies Science Advisory Council
  URL: www.easac.eu/home/reports-and-statements/detail-view/article/extreme-weat.html

- **Diagnosis of Water in the Americas**
  Published by: IANAS - InterAmerican Network of Academies of Sciences
  URL: www.ianas.org/index.php/programs/water?id=484

- ***Cambio Climático: Evidencia, impactos e opciones - Respuestas a preguntas comunes sobre la ciencia del cambio climático***

  Published by: IANAS - InterAmerican Network of Academies of Sciences (Spanish translation of US National Science Academies 2012 publication)
  URL: www.ianas.org/books/CAMBIO_CLIMATICO_WEB.pdf

- **Women Scientists of the Americas: Their Inspiring Stories**

  Published by: IANAS - InterAmerican Network of the Academies of Science
  URL: www.ianas.org/books_women.html

- **IAMP Statement: A Call for Action to Strengthen Health Research Capacity in Low and Middle Income Countries**

  Published by: IAMP - InterAcademy Medical Panel
  URL: www.iamp-online.org/call-action-strengthen-health-research-capacity-low-and-middle-income-countries

- **Non-communicable Diseases: Prevention and control of cardiovascular diseases and cancer (Regional workshop report)**

  Published by: Brazilian Academy of Sciences
  URL: www.iamp-online.org/sites/iamp-online.org/files/Non-Communicable%20Diseases%20Report%20%28BAS%26NAM, Brazil%29.pdf

- **A Renewal of Science Education in Europe: Views and Actions of National Academies**

  Published by: ALLEA - the federation of All European Academies /IAP
  URL: www.interacademies.net/File.aspx?id=21281

- **Report of the International Conference on 'Entrepreneurship for Young Women and Using New Technologies: Issues and Challenges'**

  Published by: NASIC - Network of Academies of Sciences in Islamic Countries
  URL: www.interacademies.net/Activities/Projects/19932.aspx

- **Governance of Research on Solar Geoengineering: African perspectives**

  Published by: African Academy of Sciences
  URL: www.aasciences.org/attachments/article/239/Governance-of-SRM-%20African-Perspectives.pdf

- **Empowering Secondary Level Science Teachers for Demonstrative Teaching Practices in Nepal**

  Published by: Nepal Academy of Science and Technology

- **GYA Position Statement on Global Research**

  Published by: GYA - Global Young Academy
  URL: www.interacademies.net/File.aspx?id=22729

- **Global Young Academy (GYA) General Assembly 2013 Report**

  Published by: GYA - Global Young Academy
  URL: www.globalyoungacademy.net/news_archive/report-on-the-third-general-assembly-2013-of-the-global-young-academy

- **Opportunities for Young Scientists in Academies (flyer)**

  Published by: GYA (lead) together with IAP/IAMP, TWAS and OWSD
  URL: www.interacademies.net/File.aspx?id=23680

- **Driving Sustainable Development: the Role of science, technology and innovation**

  Published by: G8 + 5 science academies
  URL: www.leopoldina.org/uploads/tx_leopublication/2013_G8_Statement_Driving_Sustainable_Development.pdf

- **Drug Resistance in Infectious Agents: A global threat to humanity**

  Published by: G8 + 5 science academies
  URL: royalsociety.org/~/media/policy/Publications/2013/drug-resistance/2013-g8-statement-drug-resistance-to-infectious-agents.pdf

For a complete list of IAP and related publications, please visit: www.interacademies.net/Publications.aspx

Secretariat

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Strada Costiera 11
34151 Trieste
Italy

IAP Coordinator
Lucilla Spini (until 31 October 2013)
Peter McGrath (from 1 November 2013)

IAP Senior Project Assistant
Joanna Lacey

IAP Project Assistant
Muthoni Kareithi

Off site support provided by Anna Maria Gramatte (Leopoldina)

IAP also runs an annual internship programme. Every year the IAP secretariat selects talented young individuals to contribute to the workings of the global network of science academies. The programme is open to students and young nationals of any country, fluent in English, aged between 18 and 25, and it offers the opportunity to gain international experience in a multicultural environment. In 2013, Massimiliano Vascotto, from Trieste, assisted the secretariat.

The IAP secretariat is hosted by The World Academy of Sciences (TWAS) – for the advancement of science in developing countries – on the campus of the Abdus Salam International Centre for Theoretical Physics (ICTP) in Trieste, Italy, and is supported financially by the Government of Italy. Additional administrative support is therefore provided by TWAS, especially Antonino Coppola, Alessandra Piani, Patricia Presiren and Ezio Vuck.

TWAS is a 'programme unit' of the United Nations Educational, Scientific and Cultural Organization (UNESCO), headquartered in Paris, France.

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