

Interview with Dr. Peter McGrath, Coordinator of the InterAcademy Partnership (IAP) and Co-coordinator of the UNESCO-TWAS Science Policy/Science Diplomacy programme

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Dr. Peter McGrath obtained his BSc (honours) in Agricultural Zoology from the University of Glasgow, UK, and followed this with a PhD from the University of Leeds, UK, in 1989. His 10-year research career focused on the insect transmission of plant viruses and included postdoctoral positions at the Scottish Crop Research Institute (now the James Hutton Institute) as well as Purdue University and the University of Arizona in the USA. Returning to the UK in 1997, he established his own business as a freelance journalist focusing on agricultural, environmental and scientific issues. The experience he gained in communicating scientific issues to non-specialist audiences made him an ideal fit for his first position at The World Academy of Sciences (TWAS) – as writer/editor in the Public Information Office. During this time, he worked on the TWAS Newsletter, TWAS Annual Report, and edited seven volumes of the TWAS-UNDP case study series 'Sharing Innovative Experiences'. From 2006, Peter began overseeing the implementation of TWAS's core programmes, including South-South fellowships and other exchange schemes, research grants and various prizes, as well as the activities of the Organization for Women in Science for the Developing World (OWSD). During this time, he has helped expand these programmes as well as developing new partnerships and activities, including the EU-funded EuroAfrica-ICT project (2009-2012), and acting as the liaison person for TWAS's involvement in the Solar Radiation Management Governance Initiative (SRMGI).



Figure 1. Dr. Peter McGrath.

In 2013, he switched to become Coordinator of the InterAcademy Partnership, overseeing the Trieste office of the IAP secretariat and acting as liaison person for the IAP Science Education Programme and the IAP Biosecurity Working Group. He also retains his position as coordinator of the TWAS science and diplomacy initiative, including representing TWAS in the EU Horizon2020-funded S4D4C project.

According to your experience in science, technology, and environmental policies, why the scientific diplomacy can contribute positively to reinforce or improve the image or brand of a country? What is the general profile of a scientific diplomat (scientific disseminator) in order to communicating scientific issues to non-specialist scientific audiences? Currently, the world is suffering of a Covid-19 pandemic. Social networks are a powerful mass communication tool however, unfortunately they are plagued with fake news as well. What recommendations can you offer to our readers to differentiate authentic news from fake news?

Scientific methodologies, systems of verification and ways of deriving conclusions are the same in all countries. Science, therefore, can be said to be a universal language. It is also,

therefore, a relatively easy way for countries to collaborate and to participate in regional or international programmes. Participation in such activities can help build 'kudos' for a country. Indeed, this is part of the essence of science diplomacy. However, it is not always easy for the scientific and policy communities to speak to one-another. Having said that, there is a growing 'space' between the two communities where more and more people and organizations are operating, either as formal (linked to national governments) or informal science diplomats. There is not set job description for these positions, and people operating in this space may or may not have scientific backgrounds, or backgrounds in diplomacy or international relations. What they do have in common is the ability to build networks and develop soft skills such as negotiation as well as – as you suggest – the ability to communicate scientific concepts to non-technical audiences.

We have seen the value of such communication throughout the covid-19 pandemic – where government messaging based on references to scientific evidence communicated clearly to populations has been much more effective than garbled messages based on politically-motivated half-truths – or worse. Of course there are still many ways of interpreting even clear messages when the science is still developing, as it is during the current pandemic, which can lead to falsehoods and fake news being amplified on social media. How should we react as scientists? First, before sharing anything on social media – make sure it is accurate. Here national academies of science and medicine can be useful as sources of trusted information. IAP has collated academy advice here: <https://www.interacademies.org/project/academy-response-covid-19>. Other websites such as <https://shareverified.com/en/> can also be useful. We may also consider refuting fake news – but this must be done carefully, in a way that does not antagonize the original poster or his/her circle of social media contacts. We should seek to understand why they believe what they do, and then present facts – in a dialogue – to explain the evidence.



Figure 2. IAP offices are located on the campus of the International Centre for Theoretical Physics (ICTP) in Trieste, Italy.

According to Google Scholar and ResearchGate, you have an extensive list of scientific publications in topics like: science diplomacy, academies of science, technology and environmental policies, leadership training and scientific network program. In Panama, there are national scientific associations such as: Panamanian Association for the Advancement of Sciences, member of TWAS (APANAC), Science in Panama and the Panamanian Foundation for the Promotion of Mathematics (FUNDAPROMAT) and others. Could you indicate to us some strategies that we could perform as individuals or members of these associations to reinforce our activities of science diplomacy, scientific dissemination, popularization of science in order to achieve a more international visibility?

I always maintain that, unless you are perhaps a Nobel Laureate, as individual scientists it is difficult to make our voices heard. Instead, by joining together into scientific societies, unions or academies, then we have a collective voice and can gain more visibility. This can work both within the country and regionally or internationally.

Although Panama does not have a formal merit-based academy of science, for example, the Panamanian Association for the Advancement of Science is a member of the Inter-American Network of Academies of Science (IANAS, one of IAP's regional networks). By bringing the academies of the region together, IANAS has created a strong platform for action throughout the Americas, which also helps build the capacity and influence of the individual academy at the national level.

I'm not sure of the position on the ground in Panama, but I believe it would be beneficial for both the scientific community and the national government to establish an academy that can be called on to provide credible and independent scientific advice on local and regional issues.

Could you share some experiences that have been especially memorable in your scientific career?

Where to start? I can certainly say that I have enjoyed my career – whether it was in the lab, as a science journalist, or more recently as someone who has been responsible for administering international science programmes.

As a young scientist I was fortunate to have selected an area of study that allowed me to visit countries such as India, Malawi, Nigeria, Pakistan and Uganda. I believe these founding experiences helped build my understanding of how science is carried out in different circumstances; how it must operate under sometimes severe financial restrictions. I hope I was able to bring such experiences to bear when I moved to TWAS and

helped develop new programmes designed to build scientific capacity in the South.

But I have also witnessed the other side of the coin: how governments can engage; and how science can be inspiring. Here my thoughts go back to two TWAS conferences held in China. Both were attended by the President of China at the time who graciously handed out the TWAS Prizes for that year (2003 and 2013). The first of these two events was held in the Great

Hall of the People in Beijing's Tiananmen Square – so you can imagine the type of ceremony and celebration of science that took place.

Other than that, I have been fortunate enough to travel and to meet many inspiring people – from PhD students to Nobel Laureates – all of whom are working so that science can be brought to bear to improve the lives of millions.