Peter McGrath: The International Science Ecosystem – presentation

The presentation on the International Science System aims at giving a picture of the international science system from the point of view of a scientist. The presentation aims to help scientists (especially young scientists) and non-scientists (e.g. those working in government/policy) in understanding the global science system. It progresses by following how the research and career of an individual scientist contributes to education and training, career development of job opportunities of students and mentees, knowledge production and communication, and the implications of scientific research for policymaking and diplomacy.. As such, the presentation should be especially useful to policy makers and diplomats who may be unfamiliar with their national and the international science systems.

The presentation proceeds through five main sections:

1) *What is the landscape the scientist works in? Who are the main actors?*

   The international science system is complex and non-homogenous. Universities, research centres, national academies, scientific organizations as well as the private sector co-exist, collaborate and compete in the scientific arena.

2) *How does a scientist share her/his results with other scientists?*
   - Publications (beware of the "impact factor" of the research depends on where the work is being published, therefore best journals have a higher impact)
   - Patents
   - Scientific Conferences

3) *How does a scientist make her/his research results known to the public?*
   - Open access journals
   - Press releases / traditional news media
   - Blogs
   - Social Media
   - Open days (Science in the City)

4) *How can these results influence policy making?*

   Individual scientists can make their voices heard especially by joining scientific societies, unions, etc. (open membership) or being elected into science academies (typically most eminent scientists only). By speaking collectively, it is more likely that the voice of science will be heard.

   However, science can provide information, recommendations and advice, but scientists should be aware that policymaking is based on many other considerations, ranging from financial to public opinion.

5) *Science Diplomacy:*

The presentation concludes with examples of how scientists (and science) contribute to science diplomacy, including though the UN system (using in particular examples of the SDGs and Agenda 2030 and the IPCC climate change reports).