

## **2022 – International Year of Basic Sciences for Development**

### **Concept**

Science and technology are essential elements of modern society, providing the means necessary to address critical challenges such as energy, health, communications, and climate change. While applications of technology are relatively easy to recognize, the crucial role that fundamental or basic sciences play in the process is often only poorly appreciated, if at all. To address this shortcoming, bridges need to be established between politicians, scientists, diplomats, international organizations, entrepreneurs and policy makers in order to provide an accurate understanding of the ways in which science, technology, and society are connected within a healthy, innovative eco-system. Especially in the basic sciences, which not only underlie major advances in technology driving innovation, but which are also key to the education and training of future professionals, as well as an informed citizenry capable of participating in decisions affecting the future.

At the end of 2015 the United Nations adopted the 2030 Agenda for Sustainable Development, an ambitious program for the next 15 years aimed at ensuring a balanced, sustainable and generalized development of the planet. From our perspective, the basic sciences have a central role to play in the implementation of the agenda in many different ways. Basic Sciences are a key tool to provide a multi-cultural dialogue, with “scientific diplomacy” being a known and demonstrated means to contribute to a more peaceful world. Basic sciences can provide the required education and know-how that enables the application of critical innovations that countries need to concretely move from the definition of objectives to the implementation of effective actions. Basic sciences can help identifying mechanisms to correctly operate knowledge and technology transfer. Finally, thanks to operational networking models developed by the world of basic sciences, they can help ensure the effective implementation at the national level, in particular in developing countries, of the objectives and targets defined at the global level by Agenda 2030.

For the reasons mentioned above, 2022 – International Year of Basic Sciences for Development was proposed by the representative of IUPAP (International Union for Pure and Applied Physics) at the 10<sup>th</sup> Scientific Board of the International Basic Sciences Programme (IBSP) of UNESCO on January 2017, 24<sup>th</sup>. The proposal was very well received by the Board and received the support of representatives of ICSU (International Council for Science), IUPAC (International Union for Pure and Applied Chemistry), ICTP (Abdus Salam International Center for Theoretical Physics), EPS (European Physical Society) and CERN (European Organization for Particle Physics). Soon after, the proposal was presented to the French and Swiss Ambassadors to UNESCO and also received their firm support. It was also discussed with UNESCO’s director of Science Policy and Capacity Building, Executive Secretary of IBSP, who was also very supportive of the initiative.

The choice of the year 2022 for celebration of The International Year for Basic Sciences for Development is motivated by IUPAP’s centenary and the centenary of the Nobel Prize award to Niels Bohr. This would be one of the many events, planned to be held in Geneva, providing in particular a nice opportunity to showcase the International Year themes to a UN audience.

### **Programme**

The International Year for Basic Sciences for Development would consist of many initiatives and events worldwide covering many aspects: Basic Sciences and Peace, Basic Sciences and

multicultural dialogue, Basic Sciences and Education, Basic Sciences and Economy (Source of Rupture Innovations, Model of Organization, etc.), Basic Sciences and Health, Basic Sciences and Climate, and, more generally Basic Sciences and Global Challenges, Basic Sciences and Sustainable Development, etc. It would follow the model of previous successful UNESCO-led international years such as the International Year of Chemistry, the International Year of Astronomy, the International Year of Crystallography and the International Year of Light. There will be centralized global initiatives (the roles of the unions will be important) and many national initiatives.

### **Governance and Organization:**

The governance and Organization would consist of:

- a Steering Committee to deal with organizational matters, overview and steer the global event, with representatives of International Unions (Learned Societies and Academies), International Governmental Organizations, Non Governmental International Organizations, Inter Parliamentary Unions, etc. A restricted subset of the steering committee will play the role of the executive steering committee.
- An International Advisory Committee, with representatives of countries, worldwide, will be solicited for comments about the program
- An International Scientific Committee consisting of high level recognized scientists will be asked to provide input and ideas for the program, and validate the scientific content
- A network of national nodes will be formed in different countries to implement IYBSD 2022 activities, taking into account the needs and characteristics of different regions around the world.
- A global secretariat would be implemented, like for the IYL 215, at the Abdus Salam International Center for Theoretical Physics (ICTP) in Trieste, Italy.
- Sponsors will be solicited actively and will be made very visible.
- Media partners will be selected to promote the dialogue between science and society, to strengthen the public understanding of science and scientific education

We aim for a balanced approach across the basic sciences (disciplinary and interdisciplinary), for diversity and gender balance, for fair geographical distribution, and finally for a sensible combination of scientific, economic and policy approaches to highlight the role of science in evidence based policy making.

These committees will start to be formed as soon as we receive recommendations from UNESCO (IBSP), and from a subset of national representatives in UNESCO. Hopefully, this could happen before the end of 2017.

### **Schedule**

A tentative forward schedule might be:

- 2017 Formal recommendation of IBSP for 2022 – International Year for Basic Sciences for development
- 2018 General Preparation (Governance, communications); Approval by the UNESCO Executive Committee (April or November)
- 2019 Formal approval by the General Conference of UNESCO (November)
- 2020 Approval by the UN General Assembly (December)
- 2021 Detailed Preparation of Regional and International events
- 2022 International Year of Basic Sciences for Development

