May 28, 2023

**Event within the International Year of Basic Sciences for Sustainable Development at the United Nations Headquarters in New York,**

**on May 24, 2023**

**1. International Year of Basic Sciences for Sustainable Development**

Following the initiative of the Union for Pure and Applied Physics (IUPAP), the General Conference of the United Nations Educational. Scientific and Cultural Organization (UNESCO) proposed on November 25, 2019 to the United Nations General Assembly (UN GA) to proclaim the year 2022 as *the International Year of Basic Sciences for Sustainable Development* (IYBSSD). The proposal was based on the facts that since 2005 six international years of basic sciences had been organized and that on September 25, 2015 the UN GA had endorsed the resolution *Transforming Our World: The 2030 Agenda for Sustainable Development*, including 17 Sustainable Development Goals (SDGs), most of which clearly connected to basic sciences. On December 2, 2021, the UN GA approved the proposal by consensus. The total number of organizations that participate in the organization of this series of events is 50. In addition, 112 science academies, learned societies, and scientific associations support the organization of IYBSSD.

The aims of IYBSSD are:

* Mobilization of national, regional, and global scientific institutions to clearly show to the public and especially to politicians and business people worldwide how basic research contributes to inclusive, balanced, and sustainable development of the planet
* Connecting national, regional, and global scientific institutions with the aim to intensify their communication and cooperation
* Directing national scientific institutions to jointly make proposals of strategies of basic research and the corresponding investment plans to governments of their countries

The themes for discussion in the events within IYBSSD are:

* Science as a global public good
* Innovation and economic development
* Education and human development
* Reinforcing the links in the chain of research and development
* Intensifying the presence and visibility of women in research and development
* Strengthening basic research in less developed countries
* Basic sciences as sources of international dialogue and peace
* Global challenges, SDGs, and basic research

A few hundred national, regional, and global events have been and will be held within IYBSSD, which has been extended in 2023. *The Opening Ceremony of IYBSSD* was held on July 8, 2022 at the UNESCO Headquarters, in Paris. The flagship events within IYBSSD have been and will be:

* *Conference on Science, Ethics and Human Development*, on September 13–15, 2022 in Quy Nhon, Vietnam
* *World Conference on Basic Sciences and Sustainable Development*, on September 19–22, 2022 in Belgrade, Serbia
* *Event on the Role of Sciences in Crisis Management and Sustainability Transformation*, on May 24, 2023 at the United Nations Headquarters (UN HQ) in New York
* *Conference on Basic Sciences for Transformation*, in June 13–15, 2023 in Kigali, Rwanda
* *Conference on Open Science*, in September 2023 in Honduras

*The Closing Ceremony of IYBSSD* will take place at the European Organization for Nuclear Research (CERN), in Geneva, on December 15, 2023.

**2. World Conference on Basic Sciences and Sustainable Development**

The proposal to organize *the World Conference on Basic Sciences and Sustainable Development* was given by the World Academy of Art and Science and it was accepted by the Steering Committee of IYBSSD. The other organizations that participated in the organization of the event were: UNESCO, the World Academy, the Serbian Academy of Sciences and Arts, The Club of Rome, the Ministry of Education, Science and Technological Development of Serbia, the World University Consortium, the Vinča Institute of Nuclear Sciences, Belgrade, and the Serbian Association of Economists. The Co-Chairs of the Program Committee of the event were Dr. Nebojša Nešković, Secretary General of the World Academy, Prof. Vladimir Kostić, President of the Serbian Academy, and Mr. Carlos Álvarez Pereira, Vice-President of The Club of Rome while the Co-Chairs of its Organizing Committee were Dr. Marijana Dukić Mijatović, State Secretarty in the Ministry of Education, Science and Technological Development, and Mr. Aleksandar Vlahović, President of the Association of Economists.

The agenda of *the Conference* contained a special session, eight oral sections, and a poster section. The special session was devoted to the latest report to The Club of Rome, *Limits and Beyond*. The oral section were related to: importance of basic sciences for sustainable development; advanced basic research in mathematics and physics; advanced basic research in chemistry and biology; advanced multiple disciplinary basic research; connections of basic sciences with other sciences, innovation, and engineering; contributions of basic sciences to medicine, healthcare, and water and food security; connections of basic sciences with energy technologies, climate action, and protection of the environment; contributions of basic research to advanced education. The number of talks in all the sections was 67. The poster section was devoted to women in science and included the contributions of nine young scientists awarded within the *For Women in Science* National Program in Serbia, established by the company L’Oréal Balkan, the Commission of Serbia for Cooperation with UNESCO, and the Ministry of Education, Science and Technological Development of Serbia. Besides, two exhibitions were going on during *the Conference*, prepared by Matica Srpska, the oldest Serbian cultural and scientific institution – on its past and present activities, and by L’Oréal Balkan, on the Sustainable Development Program of L’Oréal Group, the world’s largest cosmetics company. In addition, a concert was held in the National Museum in Belgrade within the event.

The main messages of *the Conference* were:

* Basic research represents the initial link in the chain of research and development, which can only as a whole help us to achieve the SDGs, *i.e*., to attain sustainability of nature and society as well as human security. It should be financed by the resources above 1% and toward 3% of the country’s gross domestic product.
* Practicing basic research should be made possible to all who want and can do that, independently of their gender, origin, and social position, and in each country of the world.
* Results of basic research, including these obtained within the Big Science projects, should be made available to all who are interested in them around the world.
* Education in basic sciences at all levels develops curiosity, courage, creativity, and persistence among pupils, and thus considerably contributes to a proper development of their personalities and their forming as independent and responsible citizens.

After *the Conference*, the Steering Committee of IYBSSD launched the idea of organizing *the International Decade of Sciences for Sustainability*. Within the preparations for *the Event on the Role of Sciences in Crisis Management and Sustainability Transformation* they offered to the Government of Serbia in May 2023 that Serbia play an active role in it and propose to the UN GA to proclaim the endeavor. In April 2023, the Government of Serbia decided to accept the proposal. In connection to that, it formed the task force for the preparation of the participation of Serbia in *the Event*, which included Dr. Jelena Begović, Minister of Science, Technological Development and Innovation of Serbia. Mr. Milan Milanović, Assistant Minister for Multicultural Cooperation in the Ministry of Foreign Affairs of Serbia, Dr. Nebojša Nešković, Vice President of the World Academy of Art and Sciences, Prof. Goran Milašinović, President of the Commission of Serbia for Cooperation with UNESCO, and Prof. Dragan Đuričin, Fellow of the World Academy.

One of the results of the preparation of the active participation of Serbia in *the Event* was a statement of the Government of Serbia that the Permanent Mission of Serbia to the UN in New York sent before it to the Permanent Missions of Argentina, Belgium, China, Cuba, Honduras, India, Italy, Lithuania, Hungary, South Africa, Switzerland, and Vietnam. It was estimated that those countries would be in favor of the proclamation of *the International Decade*. The document contained the following basic arguments for the endeavor:

* Humanity is exposed today to the complex challenges including the environmental, biodiversity, climate, economic, financial, and geopolitical ones. The aim to realize sustainability of nature and society in the foreseeable future can be attained only if a solid foundation comprising basic and applied sciences, responsible for the breakthroughs, and social and humanistic sciences, creating the context, is established and properly and continually nurtured. This foundation must also include multidisciplinary, interdisciplinary, and transdisciplinary research.
* In establishing the scientific foundation of sustainability, special care should be taken about its utilization for development of innovation, technology, and education for all.
* In carrying out the SDGs under the flag of sciences for sustainability and human security, special attention should be paid to the ones focused on healthcare, water and food security, reduced inequalities and gender equality, economic growth, sustainable communities, climate action, protection of the environment, and peace and justice; in this endeavor, the contributions of arts to sustainability and human security should be recognized and truly supported.
* The scientific foundation of sustainability should include Big Science too, to enable a direct strong connection of basic sciences, from particle physics via materials science to radiation biology, with engineering and high technologies, and to provide very much needed intercultural bridges and thus contribute to mutual understanding and peace in numerous conflict regions worldwide.
* In research for sustainability, special efforts should be made to support multiple disciplinary research originating in biology such as investigations in biomedicine, biotechnology, bioinformatics, and biodiversity. Biomedicine is based on the application of the principles of natural sciences in clinical practice, biotechnology on the use of living organisms and their derivatives to develop or make useful products and processes, bioinformatics on the application of the computational tools and analyses in capturing and interpreting biological data, and biodiversity on the study of the variety of life on the Earth at all its levels, from genes through organisms to ecosystems.
* From the mid-20th century, the dominant scientific approach in medicine has been to follow and imitate the technological progress, including miniaturization: in case of a damage or dysfunction, a machine with the necessary functional capabilities replaces the damaged organ or tissue in a human organism. In the next decade, a sustainable direction should be adopted: a much stronger concentration on stem cells and bioengineering instead on machines. In the case of machines, we take the resources from nature, manufacture them, and finally return the garbage to it. In the case of stem cells, we establish the principle of resource reciprocity and produce no garbage. This principle could be easily translated into other sciences, including economics. Hence, the next decade should be a decade of reciprocal sciences.
* The new paradigm in economics is based on the revision of the belief that human well-being implies egoism as well as on the declining role of marker fundamentalism and the increasing awareness that the SDGs should be carried out using industrial policies and impact investments. The new economic rules to be introduced to provide inclusive and sustainable growth should include the circular model of growth, to design production with minimum waste and pollution, keep materials and products in permanent use, and regenerate natural systems. All these changes require a great leap in financing. So, the new channels of monetary transmission like green digital money, bonds, and credits, *etc*. as well as the new fiscal tools like carbon tax, green subsidies, *etc*. are required.
* In anthropology for sustainability, one of the foci should be put on the problem of the planet seen as a world of corporate capitalism, *i.e*., of commodities and monetary values, from which people are completely marginalized if not actually excluded. This false concept and practice should be changed to a vision of the Earth as a living whole that is always emerging out of the manifold of biophysical, human, and spiritual elements and relations that make it up, and to a persistent and continuous application of this vision.

**3. Event on the Role of Sciences in Crisis Management and**

**Sustainability Transformation**

The main objectives of *the Event on the Role of Sciences in Crisis Management and Sustainability Transformation* were determined to be:

* to discuss how basic sciences can contribute in anticipation, mitigation, and resilience of extrema crisis events and their impacts on society;
* to consider how basic sciences can help in making development of society sustainable with the foci on the conclusions on:
* what they lack in playing their societal role (*e.g*., evidence, data, models, and applications) and
* what they need in carrying out their tasks (*e.g*., decisions, strategy, roadmap, funding, and cooperation);
* to prepare the ground for the decision of the UN GA to proclaim *the International Decade*.

The other tasks set to be realized during *the Event* were:

* demonstration of the importance of basic sciences for sustainable development – through a few clear examples related, *e.g*., to health and the environment;
* showing the links of basic research with applied research and technology development – within the chain of research and development;
* stressing the necessity to keep international cooperation in basic research open and protected from political influence – since it produces knowledge, which is a global public good;
* explaining the necessity of increased funding of basic research from public sources, of supporting education in science, technology, engineering, and mathematics (STEM), and of involving politicians in the action to strengthen international cooperation;
* asking the Members States of the United Nations (UN) to improve their funding of basic research and STEM education as well as international initiatives in these fields.

*The Event* was held on March 24, 2023 from 10:00 to 11:30 am at the UN HQ. Its participants were the representatives of the UN Member States and Observers, the UN system, the non-governmental organizations accredited at the UN Economic and Social Council (UN ECOSOC), and other organizations. The delegation of Serbia included: Ambassador Dušan Vujačić, First Counsellor in the Permanent Mission of Serbia to the UN in New York, Ms. Jelena Delić, Second Secretary in the Mission, and Dr. Nešković. The moderator of the meeting was Dr. Maurizio Bona, Former Senior Adviser at CERN and Vice Chair of the IYBSSD Steering Committee. The opening address was delivered by H.E. Csaba Kőrösi, the UN GA President. It was followed by a panel discussion that included the following experts:

* Karen Hallberg, Professor at the Balseiro Institute of the University of Cuyo and Principal Researcher at the Bariloche Atomic Centre, Bariloche, Argentina
* Rolf Heuer, Former Director-General of CERN and President of the Council of the Synchrotron Light for Experimental Science and Applications in the Middle East (SESAME), Alan, Jordan
* Mamphela Ramphele, Co-Founder of ReimagineSA, Chair of the Tutu IP Trust, and Co-President of the Club of Rome

After the panel discussion, an open discussion among the participants was organized. It included the contributions of the representatives of UNESCO, South Africa, Serbia, Honduras, Bahrain, Ecuador, Romania, the Russian Federation, Paraguay, Spain, Argentina, Armenia, Guatemala, and the Inter-Parliamentary Union. The representative of South Africa talked on behalf of the Group of Friends on Science for Action, formed within the UN in April 2023.

In his intervention, Ambassador Vujačić proposed on behalf of Serbia that the UN GA proclaim the period of 2024–2033 as *the International Decade*. In addition, he informed the participants that Serbia would prepare by the mid-June 2023 the corresponding draft resolution to be submitted and approved by the UN GA, and invited other countries to join it in the action. Immediately upon the presentation of the proposal, H.E. Kőrösi expressed his full support to it. In their interventions after that, the representatives of Honduras, the Russian Federation, and Spain backed the proposal of Serbia. The representative of Argentina mentioned in her talk the expected support to the proclamation of *the International Decade* by the Group of 77, which is a coalition of 134 developing countries, designed to promote its members’ collective economic interests and create an enhanced joint negotiating capacity at the UN. Besides, the Permanent Mission of Hungary to the UN in New York informed the Permanent Mission of Serbia before the meeting about the support of Hungary to the proposal of Serbia.

The concluding remarks on *the Event* were given by Dr. Michel Spiro, President of IUPAP and Chair of the IYBSSD Steering Committee. He described the program of IYBSSD as rich and dense, stressing that basic sciences are sources of discoveries that can result in useful applications for the good of society, and that they represent the foundation of other sciences and education. He also mentioned that they increase the pool of knowledge that future generations will use to solve the problems they will be faced with, and that they can alert humanity on the crises to come and provide directions and ways to manage them. Besides, the evidence-based methodologies and the models of operation and collaboration basic scientists use were mentioned as the assisting tools offered to policy-makers in finding the proper responses to the present and future complex societal and environmental crises as well as in strengthening the intercultural dialogue and peaceful cooperation among countries. He said that one of the main conclusions in the discussion was that although the contributions of basic sciences are essential for reaching sustainability of nature and society, they are not sufficient – the realization of these aims requires coordinated involvement of all sciences and productive connection between scientists and policy-makers. In addition, he mentioned the necessity to overcome the existing thematic, organizational, and geographic fragmentations of sciences. His final remark was that in order to be in line with *the 2030 Agenda for Sustainable Development*, it is necessary that the UN GA go beyond IYBSSD and proclaim *the International Decade*. In accordance with that, he expressed his hope that other UN Member States would join Serbia in the preparation and adoption of the corresponding UN resolution, and in its effective carrying out afterwards.

***Dr. Nebojša Nešković, Vice President of the World Academy of Art and Sciences; member of the Delegation of Republic of Serbia***