

From Science to Society: from the International Year of Basic Sciences for Sustainable Development in 2022/2023, to the International Decade of (all) Sciences for Sustainable Development 2024 - 2033 under the auspices of UNESCO

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International Year of Basic Sciences
for Sustainable Development in 2022/2023 (IYBSSD)

<https://www.iybssd2022.org/en/home/>

International Year of Basic Sciences for Sustainable Development in 2022/2023, under the auspices of UNESCO

Proclaimed by the United Nations General Assembly on December 2nd, 2021

Resolution brought up by Honduras with the support of Armenia, Azerbaijan, Bahrain, Bolivia, Brasil, Burkina Faso, Chad, Chile, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Fiji, Georgia, Guatemala, India, Indonesia, Israel, Japan, Jordan, Kyrgyzstan, Malawi, Nicaragua, Panama, Paraguay, Peru, Philippines, Qatar, Russian Federation, Saudi Arabia, Serbia, Spain, South Africa, Thailand, Vietnam

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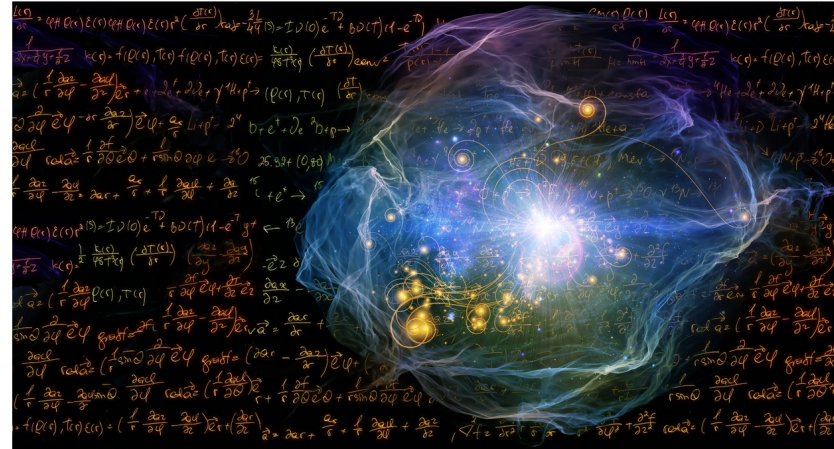
Rationale

- Curiosity-driven sciences construct the pool of knowledge which future generations will use for their development
- Basic sciences are not always and everywhere considered as they deserve, in the discussions concerning the **societal, environmental and economic development**
- Curiosity-driven sciences re-enchant our world and make it worth to be sustainable

Opening Ceremony

International Year of Basic Sciences for Sustainable Development

- Basic sciences explore the soul of the Universe!!



Examples

- 🌀 Vaccines and treatments against COVID-19 are full of basic biology (DNA, RNA, etc.)
- 🌀 The WEB was born at CERN from the needs of fundamental science
- 🌀 Google research engine comes from a brilliant mathematical idea
- 🌀 Artificial intelligence relies on statistical methods
- 🌀 Cellular phones are full of transistors, integrated circuits, WiFi, code, etc.
- 🌀 GPS relies on Einstein theory of Relativity and on quantum atomic clocks
- 🌀 The Genome Project has opened the way to gene therapies
- 🌀 PET scan and MRI are based on antimatter physics and fundamental atomic magnetism
- 🌀 Generation and storage of renewable energy depends on advances in physics, chemistry and materials science
- 🌀 Reduction in pollution and green chemistry rely on basic advances in chemistry
- 🌀 The second quantum revolution is having now applications!!
- 🌀 The science of plate tectonics has revolutionized the knowledge about our planet

Statement of the International Year!

- Basic sciences are curiosity and inquiry driven. They are the foundations of education and the sources of discoveries which turn into applications: they can then serve an inclusive sustainable development (improving global equity and well-being together with a healthy and lively planet). All together (education, discoveries, applications, and inclusive sustainable development) can boost collaborative and open Basic Sciences. This is the virtuous circle that we want to promote during the International Year of Basic Sciences for Sustainable Development and after.
- To achieve this goal, we shall need you, teachers, scientists, entrepreneurs and society at large to share this vision, and act accordingly. A decade of sciences for sustainability might be necessary.

International Decade of Sciences for Sustainable Development 2024 - 2033



Proclaimed by consensus the UN General Assembly on August 25th

-  Resolution brought up by Serbia with the supporting countries:
Argentina, Cuba, Equatorial Guinea, Guatemala, Honduras,
Hungary, Serbia, South Africa, Spain and Viet Nam.

Rationale and Goals

- 🌀 Basic sciences, although essential for sustainability are not enough. We need to embark all sciences (basic, applied, social and human) and all knowledge, including traditional).
- 🌀 Equitable and planet friendly circular economy fuelled by decarbonated energy could be the application target of Sustainability Sciences, with a lot of innovations and new practices needed.
- 🌀 Sciences for sustainability are rising but are very fragmented thematically, geographically, organizationally.
- 🌀 We need to mobilize, to interconnect, to structure in order to co-transform efficiently
- 🌀 We need to create the spirit for Sustainability Sciences which presided to the creation of the CERN International Organization after World War II

Global challenges

-  **Global challenges approaches (from components to system, from local to global, from short term to long-term, involving open science and the society at large) are a unique opportunity to cooperate and build a better world.**
-  **Following further the current international mobilization, laws and treaties should be enacted towards these goals, based on a dialog between all stakeholders, including scientists.**

Thank You

- **We count on you and YES WE CAN!**