

## **MEDIA RELEASE**

**EMBARGO: Immediately**

### **International Year of Basic Sciences for Sustainable Development**

Today – Friday, 8 July 2022 – marks the launch of the International Year of Basic Sciences for Sustainable Development. The Academy of Science of South Africa (ASSAf) takes great pride in coordinating South African participation on behalf of the Department of Science and Innovation (DSI) and National Research Foundation (NRF).

So far, 50+ science entities, higher education institutions and schools from South Africa have officially committed to host events and activities to demonstrate that - through a basic understanding of mathematics, biology, physics and chemistry - actions can be taken to solve the many challenges we face as identified through the 17 Sustainable Development Goals. It is only because of an understanding of the basic sciences that we can explore and apply science, such as in the medical field, engineering field, computational field and more. Applied science uses and applies information obtained through basic science.

This is evident in our everyday lives, for example:

- The WWW (World Wide Web, incl. the Internet) was invented at CERN from the need for global collaboration for experiments in fundamental physics and it has been developed thanks to powerful algorithms.
- Vaccination has been strengthened and developed through the identification of the viral origin of many diseases. A great example still fresh in our minds is COVID-19.
- GPS would not have been possible without Einstein's theory of General Relativity and Quantum Physics.
- Our mobile phones would not exist without material sciences that enabled the invention and miniaturisation of the transistor, and mathematics that are the basis of all software.
- HIV/AIDS treatments significantly extend the lives of people infected through an understanding of how retroviruses work.

Basic sciences will continue to play a major role in our everyday lives, for example:

- Artificial intelligence, which is based on theories and methods developed in mathematics, statistical physics and signal processing, will have an influence on all aspects of our societies.
- Progress in DNA sequencing, thanks to biomathematics, chemistry and physics, is now guiding medicine towards more effective individualised (precision) treatments, against cancer, for example.
- Renewable energy production and storage depend on advances in physics, chemistry and material sciences.

- Pollution reduction as well as sustainable and healthy nutrition all depend on green chemistry.
- The fight against non-communicable diseases, such as diabetes or obesity, which are spreading across the planet, will depend on knowledge from fundamental biology.

The International Year of Basic Sciences for Sustainable Development will mobilise stakeholders at all levels for a better integration of scientific results into public decision-making processes and for the inclusive development of basic sciences.

Basic sciences need the input of the Global South, especially Africa, where half of the world's people under 25 years of age will live by 2050. This year (January 2022 until 30 June 2023) will attempt to highlight the scientific achievements of scientists from the Global South, and the role of centers of excellence set up by international cooperation. It will also showcase successful initiatives in education, higher education and international cooperation, especially south-south cooperation.

The general South African public in its diversity is invited to get involved and support the many activities/events to be presented by science entities, schools, universities and more.

### **More information**

To get involved, please contact [iybssd@assaf.org.za](mailto:iybssd@assaf.org.za)

Visit <https://iybssd.africa/> for more information and updates on IYBSSD2022.

Follow the IYBSSD2022 launch at <https://www.iybssd2022.org> or

<http://webcast.unesco.org/events/2022-07-IYBSSD/> Access the programme at <https://www.iybssd2022.org/en/opening-ceremony-programme/>

### **ENDS**

### **Issued by the Academy of Science of South Africa**

ASSAf was inaugurated in May 1996. It was formed in response to the need for an Academy of Science consonant with the dawn of democracy in South Africa: activist in its mission of using science and scholarship for the benefit of society, with a mandate encompassing all scholarly disciplines that use an open-minded and evidence-based approach to build knowledge.

ASSAf thus adopted in its name the term 'science' in the singular as reflecting a common way of enquiring rather than an aggregation of different disciplines. Its Members are elected on the basis of a combination of two principal criteria, academic excellence and significant contributions to society.

The Parliament of South Africa passed the Academy of Science of South Africa Act (*Act 67 of 2001*), which came into force on 15 May 2002. This made ASSAf the only academy of science

in South Africa officially recognised by government and representing the country in the international community of science academies and elsewhere.

