

First National Congress on Science and Technology in the DRC



Prof. Kalulu Taba,
Permanent Secretary,
ACCOS

Under the high-level patronage of the Minister of Scientific Research and Technological Innovation, the Congolese Academy of Sciences (ACCOS) and the Congolese Association for the Advancement of Science, Technology and Industry (ACASTI) organized a hybrid congress on the theme "*Scientific, Technological and Industrial Research in DR Congo (1960-2020): Review and Prospects*". The Congress was held on the 11th to the 13th of August 2021.

The main objective of the congress was to bring together Congolese scientists to network and participate in the formulation and implementation of recommendations in the field of Scientific, Technological and Industrial Research (STIR). In doing so, the experts aspired to better respond to the needs of inclusive and sustainable development of the Democratic Republic of Congo (DRC).

DRC was, in its time, an emerging economy (1950-1960). It promoted strategic sectors such as agronomic research. It was self-sufficient in several fields, due to the scientific and industrial research that accompanied its development. The different governments that succeeded each other made efforts to maintain this momentum of research, but unfortunately this was not accompanied by firm and decisive resolutions that could lead to an implementation of the latter.

Research, science, technology and innovation remained marginalized due to the inadequacy between the necessary resources allocated to it and its effective application on the Congolese national territory. Moreover, few researchers are currently interested in applied research, given that training in universities in DR Congo is not conducive to development in the sphere of advanced technology and industry as a whole. Scientific, technological and industrial research is increasingly financed by foreign organizations that accompany it with specifications that do not meet local needs, leading inevitably to a climate of mistrust between researchers and the political power.

The Democratic Republic of Congo is a country with immense potential, with a sufficiently large land area, a climate that is conducive to agriculture and livestock farming, a soil and subsoil rich in minerals, a generous hydrography, a varied population density and a young workforce. The dissensions between the political power, the universities and the researchers are factors that affect DRC's development agenda. The Congolese state is able to propel scientific, technological and industrial research to lift the DRC to the rank of emerging countries if political goodwill and a national plan are in place to this effect.

The first day of the congress focused on various presentations of orientation. These focused on: the history of scientific research in the DRC since independence to the present day; the need for culture in scientific research; the role of biodiversity in improving the standard of living of the population; the role of energy especially renewable energy as a major factor in the economic and social growth of the country; the assessment of COVID-19 in the country since March 2020 until August 2021; and finally the Konzo disease resulting from the improper processing of cassava, staple food of most of the Congolese population.

The second day focused on the presentation of research results by senior and junior researchers from universities and research institutes.

The third day focused on the prospects for revitalizing scientific research, technology and innovation in the country. It was proposed for the State, the establishment of a national fund for research, the facilitation of free access to the Internet in universities and research centers, the increase of the budget allocated to scientific and technological research, the creation of a Center for Innovation and Employment Creation (CICE). Scientists were asked to revitalize professional and scientific associations to facilitate their networking.

The participants expressed the wish that the young Congolese Academy of Sciences in collaboration with the political authority to implement the resolutions of the congress.



Participants at the First National Congress in the Democratic Republic of Congo

From the President



NASAC supports the initiative of the Congolese Academy of Sciences (ACCOS) to hold joint national science congress together with the

Congolese Association for the Advancement of Science, Technology and Industry (ACASTI). The academies have the duty to promote scientific excellence (science for science), to demystify science, to translate into practice and make available to society the results of research for its development (science for society), and to provide science-informed advice to decision-makers (science for policy). Academies are therefore essential partners in achieving the sustainable development goals as prescribed in the UN Agenda 2030 and the African Union Agenda 2063.

We would like to express our warm congratulations for this initiative which testifies to the deep conviction that only science and its corollaries, technology and innovation, can guarantee to our countries and to the Democratic Republic of Congo a balanced, inclusive, solid and sustainable socio-economic development.

We share these values with the United Nations Bank of Technology for the Least Developed Countries (UNTBLCs), and we salute once again the unfailing partnership maintained by our two institutions for the creation and strengthening of the academies.

By organizing the congress on the relevant topic of scientific and Industrial Research, Congolese academics and scientists demonstrate that they intend to promote relevant local expertise in science, technology, innovation and industry to improve the quality of life and support socio-

economic development in the Democratic Republic of Congo. In doing so, they are fully playing their part by contributing to the resolution of major contemporary challenges facing the Congolese nation.

The remarkable presence of the ministerial authorities at the opening ceremony of the congress, should convince His Excellency the President of the Republic and his government of the need to support scientific research and technical education, inducers of technological progress that drives the development of the industrial sector in DRC.

NASAC is eager to welcome the Congolese Academy of Sciences as a full member according to its application procedure, to strengthen support for science, technology and industry for the harmonious and sustainable transformation of the Congolese society. That way, the academy will be at the service of the country, utilizing the already rich and diverse expertise of Congolese academics and scientists, but also welcome partnership with other academies who are members of the network and their partners.

The unity of the academies in Africa within NASAC remains our strength, that of Science in Africa, which is resolutely at the side of public authorities and actors of civil society for the sustainable global human development in the continent.

Yours faithfully,

PROF. MAHOUTON NORBERT HOUNKONNOU
President, NASAC

Activities and Events

Academy Development Initiative Webinar

NASAC together with United Nations Technology Bank for Least Developed Countries (UNTBLCs) held a webinar on academy development initiative on 29 July 2021.



The webinar provided an opportunity for both new and existing academies to network and identify areas of collaboration. It was also concluded that the meetings will be held quarterly to report on regional activities and quarterly plans for the academies. The meetings will be conducted virtually to share events and initiatives. The meetings will further enhance the role of lead academies by strengthening the level of support to the new academies better.

The Academy of Science of South Africa (ASSAf)/Uganda National Academy of Sciences (UNAS) Webinar

The Academy of Science of South Africa (ASSAf),
In collaboration with the
Uganda National Academy of Sciences (UNAS)
cordially invite you to a virtual Launch of the Consensus Study Report on:

The Root Causes of Low Vaccination Coverage and Under-Immunisation in Sub-Saharan Africa

Date: 29 July 2021
Time: 10:00 to 11:30 (SAST)
Venue: Zoom (link to be provided upon registration)
RSVP: [Click here to register](#)

Despite the global availability of proven efficacious and cost-effective vaccines for the past several decades, vaccine-preventable diseases kill more than half a million children under-five years of age every year in Africa – representing approximately 56% of global deaths (WHO, 2017). Sub-Saharan Africa (SSA) alone accounts for 40% of all global deaths, a phenomenon attributed to lack of access to available lifesaving vaccines (Wiyongsri, Uthman, Nduimbe, & Huseey, 2012). WHO estimates that in 2019 the African region accounted for approximately 43% of unimmunised and incomplete immunised infants in the world (i.e. 8.5 billion of the global 19.4 billion). Statistically, the region scores the lowest immunisation coverage, at 76% versus the global coverage of 86% (WHO, 2020a).

This is despite several documented efforts by different stakeholders to improve coverage in the region (Mhigo, Okelbunor, Anya, Mkwinda, & Zavaio, 2017). Many studies have been conducted on coverage and drivers for and bottlenecks against immunisation in SSA (Wiyongsri, Uthman, Nduimbe, & Huseey, 2012); (Wiyongsri, Young, Kredo, McCaul, & Volmink, 2015); (Mhigo, Okelbunor, Anya, Mkwinda, & Zavaio, 2017); (Kasali & Rees, 2018) (Bangura et al., 2020), all of which have observed that there is varied performance among the constituent countries, and also within countries over time, denoting some implicitly common underlying correlates threading through areas of higher performance; and the same is seen with the poorer performing areas.

This consensus study therefore seeks to categorise and make explicit these “root causes” and based on documented successes, to make recommendations to address the bottlenecks and harness the opportunities for reaching every child with all the recommended vaccines. The theory of change presentation style used in this report, categorising the root causes under four broad interlinked themes, can provide a common basis to rally like-minded partners around a thematic cause and thus develop multi-

The Academy of Science of South Africa (ASSAF) in collaboration with the Uganda National Academy of Sciences (UNAS) jointly held a webinar on the consensus study report on “*The root causes of low vaccination coverage and under immunization in Sub-Saharan Africa*”.

The webinar was held on 29 July 2021 and the aim of the webinar was to categorize and make explicit the root causes based on documented success.

Uganda National Academy of Sciences Webinar (UNAS)

Sciences For Prosperity
UGANDA NATIONAL ACADEMY OF SCIENCES

Invitation
You are cordially invited to a virtual Webinar Series on
THE FUTURE OF WORK
Please meet the panelists

MARCEL MBALLA-KABONNA
SUSTAINABLE INVESTMENT AND
DEVELOPMENT SPECIALIST

MRS. GLOBIA MATSIVU-KAWOORA
SENIOR LEGAL OFFICER,
TRAINING AND DEVELOPMENT BANK

This is an open invitation and you are welcome to disseminate it widely.

DATE: Tuesday, August 10, 2021
TIME: 14:30 to 16:30 EAT
MEETING ID: 812 3813 8431
PASSCODE: 456977

<https://unafsa.unas.ac/81238138431?pwd=81238138431&from=invite>

The Uganda National Academy of Sciences (UNAS) held a webinar on “*The future of Work*”. The webinar focused on how the Uganda government can reform the human development capital and also migration or movement of in-house talent to job positions where they can be most effective in an organization. The webinar was held on 10th August 2021.

Announcements and Appointments

NASAC Vice President shortlisted for the Win Global Honorary Award



NASAC Vice President Prof. Rajaâ cherkaoui has been shortlisted for the Women in Nuclear(WiN) Global Honorary Award .

The WiN Global Award was established to honour a person or organization who has demonstrated outstanding dedication to WiN Global development or other remarkable contributions.

We congratulate Prof. Rajaâ cherkaoui for this achievement and wish her all the best.

Gene Editing Technology Initiative

Africa Harvest (www.africaharvest.org), CropLife International (www.croplife.org) and NASAC (www.nasaonline.org) have been granted the approval to progress with implementation of phase 1 of the Gene Editing Technology Initiative. Additional members are being recruited with aim of expanding the scope of expertise and geographical representation of the Working Group. Africa Harvest, CropLife International and NASAC value technical qualification and independence of the participating experts as well as to the transparency of its selection process. Therefore, well-defined procedures have been developed to select the experts, promote scientific excellence and encourage independence of opinions.

Second Biennial ASSAf Report on the State of Climate Change Science and Technology in South Africa



The Academy of Science of South Africa (ASSAf) recently made a press release on a report on climate change that they had published. The study was undertaken by the Academy of Science of South Africa (ASSAf) and was commissioned by the Department of Science and Innovation (DSI). The report series aims to:

- Provide a critical assessment and comparative overview of climate change scientific research and related technological innovations;
- Identify any gaps or barriers in research and technology development value chains;
- Suggest ways to improve the current situation and maximise opportunities for South Africa.

opportunities for South Africa.

The report can be accessed [here](#) or on the website of the Academy of Science of South Africa (ASSAf).

Call for applications for the 2022 OWSD-Elsevier Foundation Awards for Early Career Women Scientists in the Developing World

The call for applications for the OWSD-Elsevier Foundation Awards for Early Career Women Scientists in the Developing World is now open. Deadline for submitting applications is **28 October, 2021**.

All applications must be submitted online. In order to help you prepare, you can see the application guidelines [here](#) for your reference.

The official language for the application is **English**.

If you are submitting any supporting documents (such as residency certificate, degree certificate, etc.) in a language which is not English, you must attach an (informal) translation into English. Documents in other languages with no accompanying English translation will not be considered.



International Symposium for the Promotion and Sharing of Good Practices in Scientific Advice to Governments



Academie des Sciences et Techniques du Senegal (ANSTS) in partnership with International Development Research Centre (IDRC) organized an international symposium for the Promotion and Sharing of Good Practices in Scientific Advice to Governments.

The aim of the Symposium was to respond to the urgent need to create a space for meetings and exchanges between public decision makers, producers of technical and scientific knowledge and national and sub-regional advisory bodies for decision support in West and Central Africa. The symposium focused on the mechanisms of solicitation and transmission of scientific knowledge produced through the mutualization of the capacities of the advisory institutions that are the Academies of Sciences and the Economic and Social Councils, taking into account their scientific advice to the Government.

The symposium was held on 5-6 July in Dakar, Senegal.

On the spotlight

United Nations Food Systems summit (UN FSS) 2021



The Pre-Summit saw more than 100 countries come together to discuss how they will transform their national food systems to drive progress against the Sustainable Development Goals by 2030!

500 in-person delegates and over 20,000 virtual delegates, from 190 countries, came together and joined the conversation, including civil society, food producers, Indigenous Peoples, and youth, who exchanged bold changes for more sustainable, equitable, resilient, and nutritious food systems.

The InterAcademy Partnership (IAP) organized a side event webinar on ['Regional perspectives on the role of science, technology, and innovation for transforming food systems'](#) at the science days for United Nations Food Systems summit (UN FSS) 2021.

The online IAP event brought together work by regional academy networks in Africa (NASAC), Asia (AASSA), the Americas (IANAS) and Europe (EASAC). Each network recently contributed a Brief to the UN FSS, drawing on issues from the previous IAP Food, Nutrition Security and Agriculture (FNSA) project.

Recognizing diversity within and between regions but also commonalities, contributors emphasized the importance of taking a transdisciplinary approach to finding solutions for food systems, and encompassing multiple steps from growing, through to transport, retail, consumption and recycling. Furthermore, in the transformation of food systems towards social, economic and environmental sustainability, it is also essential and urgent to take account of pressures on other natural resources such as soil and water and of the continuing objective to avoid further damage to biodiversity.

Among key points made in focusing on solutions were:

- **NASAC:** agricultural growth is a driver of broader development, relevant to multiple Sustainable Development Goals. Examples for using scientific advances include soil microbiomics, indigenous crops, food processing, enhancing nutrient bioavailability.
- **IANAS:** importance of developing circular bioeconomy (e.g. biofertilizers, biocontrols, genetically modified and genome edited crops), accompanying biotechnology with environmentally sustainable practices, adapted to local conditions, capacities and cultures, to produce more with less.
- **AASSA:** scientific definition of a healthy diet is still controversial and must recognise socio-cultural dimensions alongside further research on holistic properties of food, e.g. bioactive components in addition to nutrients.
- **EASAC:** need to clarify scientific basis of regenerative agriculture and to establish value of different production models for healthy diets and ecosystem services, including assessment of role of new plant breeding techniques

It was concluded that there is a wide range of scientific opportunities at the frontiers of nutrition and elsewhere for sustainable and healthy food systems that, when mapped onto the UN FSS Action Tracks, can stimulate innovation, guide practice and inform policy decisions. Capitalizing on these opportunities requires commitment to trans-regional and transdisciplinary research efforts, building and sharing scientific expertise and facilities, with initiatives for training the next generation, and promoting engagement at science-policy interfaces, integrated at national, regional and global levels.

Member Academy Feature

Botswana Academy of Science



BAS President, Prof. Ishmael Masesane

The Botswana Academy of Science (BAS) congratulates and celebrates its president, Professor Ishmael Masesane for confirmation as commonwealth chemistry board member. Professor Masesane is also a fellow of the Royal Society of Chemistry, having been admitted in 2019 as he has made major contributions to chemistry and interface disciplines such as biological chemistry. His research interests span both natural products chemistry and organic synthesis and his vision for Commonwealth Chemistry is *“For Commonwealth Chemistry to be a champion of science advocacy in the Commonwealth and beyond.”*

The Botswana Academy of Science (BAS) in partnership with OWSD-BW put together a Virtual Training Workshop on Science Communication for group of early career women scientists. The workshop was facilitated by Ms. Pfungwa Nyamukachi from Conversation Africa, whose mission is to mainstream the voices of scientists in the media and to support science engagement and science communication activities of scientists in Africa. The objective of the workshop was to assist women participate in science communication and become published in non-traditional platforms such as The Conversation Africa and hence increase their visibility. The workshops constituted 25 early career women scientists and PhD female students, 20 from Botswana, 5 from Mozambique.

The Deputy Secretary General, Dr Dikabo Mogopodi welcomed everyone to the workshop and acknowledged the generosity of The Conversation Africa for availing their time and resources. She indicated that the workshop was in line with the project “Advancing Women Participation in Science Communication” through which other virtual workshop had been conducted and attracted renowned women scientists and speakers. Dr Mogopodi highlighted that BAS will be happy to extend the training to other researchers across the country in order to bridge the communication gap between the policy makers and scientists. The Conversation Africa in retrospect indicated they would like to partner with BAS on such initiatives and help facilitate similar workshops. Participants were trained on how to unpack their research, develop an idea based on their research, make a pitch and on writing articles about their research for a general audience that are easy to understand.

BAS has also partnered with University of Oxford to gather data on Open Data practices in Botswana through an online survey. This is in recognition of the need to have an up-to-date information on data sharing practices which will help national councils to plan investment, educational initiatives and awareness raising in data sharing practices. The survey is currently running. <https://oxford.onlinesurveys.ac.uk/idrc-surveying-open-data-practices-in-botswana-2021>

The Botswana Academy of Science (BAS) participated during the launch of the month of science. The launch was directed by the BAS-SG Dr Pulane Koosaletse-Mswela and theme was ‘Fueling Socio-Economic Transformation through STEM Awareness and Innovation’. The official launch was done by Hon Dr Douglas Letsholathebe who is the Minister of Tertiary Education, Research, Science and Technology. Relevant local stakeholders discussed Research and Innovation beyond COVID-19 in a pivotal panel discussion.

About NASAC

The Network of African Science Academies (NASAC) was established on 13 December 2001 in Nairobi, Kenya and is currently the affiliate Network for InterAcademy Partnership (IAP) in Africa.

NASAC is a consortium of merit-based science academies in Africa that aspires to make the “voice of science” heard by policy and decision makers within and outside the continent. NASAC is dedicated to enhancing the capacity of existing national science academies and champions in the cause for creation of new academies where none exist

As at November 2019, NASAC comprised of the following twenty-eight members:

1. **African** Academy of Sciences (AAS)
2. **Algerian** Academy of Science and Technology (AAST)
3. Académie Nationale des Sciences, Arts et Lettres du **Bénin** (ANSALB)
4. **Botswana** Academy of Sciences (BAS)
5. Académie Nationale des Sciences du **Burkina** (ANSB)
6. **Burundi** Academy of Sciences and Technology (BAST)
7. **Cameroon** Academy of Sciences (CAS)
8. Académie Nationale des Sciences et Technologies du **Congo** (ANSTC)
9. Académie des sciences, des arts, des cultures d'Afrique et des diasporas africaines, **Cote d'Ivoire** (ASCAD)
10. Academy of Scientific Research and Technology, **Egypt** (ASRT) – *Provisional Member*
11. **Ethiopian** Academy of Science (EAS)
12. **Ghana** Academy of Arts and Sciences (GAAS)
13. **Kenya** National Academy of Sciences (KNAS)
14. **Madagascar's** National Academy of Arts Letters and Sciences
15. **Mauritius** Academy of Science and Technology (MAST)
16. Hassan II Academy of Science and Technology in **Morocco**
17. Academy of Sciences of **Mozambique** (ASM)
18. **Nigerian** Academy of Science (NAS)
19. **Rwanda** Academy of Sciences (RAS)
20. Académie des Sciences et Techniques du **Sénégal** (ANSTS)
21. Academy of **Science of South** Africa (ASSAf)
22. **Sudanese** National Academy of Science (SNAS)
23. **Tanzania** Academy of Sciences (TAS)
24. Académie Nationale Des Sciences, Arts Et Lettres Du **Togo** (ANSALT)
25. **Tunisia** Academy of Sciences Arts and Letters
26. **Uganda** National Academy of Sciences (UNAS)
27. **Zambia** Academy of Sciences (ZaAS)
28. **Zimbabwe** Academy of Sciences (ZAS)

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