Science Networker

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Launch of the Lesotho Academy of Science

Right Honourable Prime -Minister - Dr Moeketsi Majoro delivering speech during the official launch

The launch of the Lesotho Academy of Science (LAST) took place at the UNESCO hall on the 15th of March 2021. A record number of over 300 participants registered online to join the launch virtually. The launch was also live streamed on the Ministry of Communications, Science and Technology official Facebook fan page where multitudes of people witnessed this milestone unfold in real time.

Without the technical support and financial support of United Nations Technology Bank for Least Developed Countries (UNTBLDC) the launch of LAST could not be possible. UNTBLDC financed the consolidation stakeholder workshops for the constitution of LAST and the costs of registering LAST in accordance with Lesotho's legislation. Through UNTBLDC, Network of African Academies (NASAC) and Academies of Sciences of South Africa (ASSAf) also assisted Lesotho by providing technical support in launching of LAST. The launch was graced by the presences of the Right-Honorable Prime-Minister of Lesotho- Dr Moeketsi Majoro, Minister of Communications, Science and Technology- Honorable Mr. Keketso Sello and the Principal Secretary in the Ministry of Education and Training Dr John Oliphant who represented the Honorable Minister of Education and Training who was unable to attend the launch due to unavoidable circumstances. In giving his official opening remarks, the Principal Secretary in the Ministry of Communications, Science and Technology- Mr Tankiso Phapano acknowledged and commended inclusion of all key stakeholders for working tirelessly and harmoniously to make the launch a remarkable success.

A local TV programme on state owned television known as'Tsa Mahlale' loosely translated to English as 'Scientific Matters' covered the event and the episodes can be viewed by clicking on the links : Episode 64 - Lesotho Academy of Science and Technology Launch - YouTube and Episode 65 - Lesotho Academy of Science & Tech (Interviews) - YouTube .

A local radio station Ts'enolo FM covered the grand official launch of LAST and also invited the organizing committee to its radio programme 'Ithute le Ts'enolo' loosely translated as 'Learn along with Tsenolo' which the organizing committee members attended on the 11th March 2021. During the interview the members of the organizing committee outlined what an "Academy of Science is", people eligible for membership, roles of an academy and read the profiles of founding members of LAST.

Finally, it is our hope that LAST membership will increase and attract academics from Humanities, Social Sciences and Law. The founding members of LAST are mostly from the Natural Sciences. The government has promised to support and provide resources to make LAST a fully-fledged independent institution that will provide professional, independent evidence-based advice. The Department of Science and Technology (DST) commits to be proactive in advocacy to advise Government of Lesotho to pass a legislative act 'Academy of Science, Technology and Innovation Act' to promote common ground in scientific thinking across all disciplines. The act should also earmark funds to make LAST sustainable. Hopefully, LAST will play a crucial honorific function that recognizes and rewards those doing well in science and those with extensive supervision history. LAST will contribute in accelerating Lesotho's socio-development through Science, Technology and Innovation. DST will ensure LAST is integrated into the existing Nation System of Innovations.

From the President

An Academy of Science can be defined as the parliament of intellectuals, top scientists and experts at the highest level of skills in their fields, dedicated to the advancement of scientific knowledge and spreading of best know-hows within their institutions and on a global scale. It therefore follows that academies must pursue excellence in science and actions, and imbue independent merit-based processes and practices.

In spite of the many peculiarities related to organizational structure, budget, membership and the range of disciplines, a common feature of all the world's science academies is to **seek nationwide economic and social advancements through wise applications of STI in a merit-based manner**.

The academies are characterized by the freedom to think, the taste for discussion, and for intellectual debate. They cultivate the confrontation of ideas in the courtesy par excellence, in the elevation of their prestige, in the respect of their tradition, the force, the intelligence and the richness of their ideal. They adhere to real, lasting, and thought-out advances.

From the diversity of specialties, the multitude of fields of expertise, the variety of professional backgrounds from which fellows come, the academy draws its strength, and the society in whole obviously benefit.

The presence of doctors, chemists, biochemists, mathematicians, physicists, technologists, etc. is for the benefit of the whole company and country. Everyone at the Academy learns from the other and everyone comes out enriched. The decisions made in this context are therefore necessarily plural-aspect science-informed as the result of complex multi-disciplinary analysis.

The Academy, proud of its freedom and independence, is based on its own cardinal values carried by strong scientific culture, ethics, the quality of its people, the depth and relevance of the ideas and thoughts, towards which the fellows, driven by their ideal and their desire to serve, feel they have duties and respect.

To be useful, to act for the common good, according to deep convictions, but without giving in to any pressure, however friendly it may be, are the basis of our common moral heritage which guides us to give opinions and formulate right recommendations on various topics of general interest or related to the life of the city, to provide the best actions and science-informed advice to the community with a solid plural expertise, nourished by field practice, the systematic, patient, laborious use of documentary sources often unprecedented and valuable first-hand information, in short, a source of intellectual contributions that we know how to take advantage of better than anyone. Science academies in Africa are relatively young. The oldest academy in Africa is Madagascar's National Academy of Arts, Letters and Science (originally the National Malagasy Academy) which was created in 1902 when the country was under French colonial rule. Today about half of African countries have a merit-based science academy.

The advances in, and recognition of, STI play a pivotal role in improving the social and economic life of nations. Many of the national science academies worldwide share in the mission of ensuring a strong public voice in the promotion of scientific excellence and science-informed development. Science academies must demonstrate that a strong scientific community strengthens local communities by enabling citizens to address critical economic, environmental and social issues in systematic and effective ways. Therefore, the prime mission of the Lesotho Academy is to empower curiosity, discovery and innovation by stimulating interest in STI. The academy must also promote and support research, improve science education, disseminate scientific and technological knowledge's, recognize and publicize high achievement and ethics. These aspirations by the Lesotho Academy remain fully supported by NASAC.

NASAC is the umbrella organization for merit-based science academies in Africa. We are an Africa-wide organization based in Nairobi, Kenya with the mandate to facilitate the creation of science academies in countries where none exists, and to strengthen existing academies, so that they can fulfill their mandates. With regard to the first objective, we rely heavily on eminent scientists within a country to spur the interest towards creating science academies. In a continent with 54

countries, Africa only has 28 merit-based science academies. NASAC still has a lot of work ahead.

The Network is only as strong as its members. It is for this very reason that we engage scientists in different countries to create academies that will remain relevant to influence policy and engage government on pertinent issues within their countries. These academies must also promote scientific excellence (science for science) and translate research into practice (science for society). This value of science academies in the developmental landscape is mutually shared with the UN Technology Bank for LDCs, our partner in this Academy Development Initiative. The UN Technology Bank remains NASAC's formidable partner indeed.

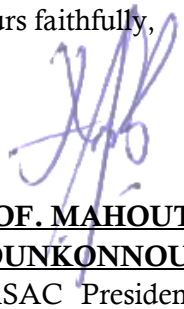
Through the Lesotho Academy, NASAC hopes to build confidence in the lives and inspirations of the eminent scientists, who have taken the path least followed – to pursue careers in science. It is our hope that through the journey of this academy, many young people – our leaders and entrepreneurs of the days ahead – will be encouraged to believe in these three things:

1. There is ***no 'instant' or 'quick-fix' solutions*** in overcoming the challenges Africa faces today. We reiterate that resilience and sustainability will build a strong foundation for science in Lesotho. In the words of Prof. Thomas Risley Odhiambo, founder of AAS and ICIPE, "*Science alone will not save Africa. But Africa without science cannot be saved*".

2. While financial fortune is highly regarded in our society today, it is not the panacea for all suffering in our world. Practicing ***science for greater good*** promises lasting satisfaction and fulfillment in academia. The Lesotho Academy must emphasize credibility and integrity in science as far more enriching virtues than financial fortune. May scientists in Lesotho always pursue science for greater good in addition to securing financial fortune.

3. As they say, where there is smoke there is always fire. NASAC will support the Lesotho Academy to become the spark that lights the scientific fires in Lesotho We look forward to welcoming the Lesotho Academy into NASAC membership once the establishment formalities are concluded. The unity of academies in Africa through the Network remains our strength, and that is our way of setting fires this side of the Sahara.

Yours faithfully,



PROF. MAHOUTON NORBERT HOUNKONNOU
NASAC President and Chair of the Board

Activities and Events

Botswana Academy of Science (BAS) Annual General Meeting

The Botswana Academy of Science (BAS) held its AGM for 2021 on Friday 9th April 2021. In line with COVID-19 precautionary measures, the meeting was mainly hosted online. The Board members and Fellows who were admitted on the day, were however, hosted by Botswana Innovation Hub (BIH) and the event was streamed live.

The Academy of Science of South Africa(ASSAF) Webinar

The Academy of Science of South Africa(ASSAF) in collaboration with the Democratic Republic of Congo (DRC) Academy of Sciences and Technology, and the United States National Academies of Sciences (US NAS) **organized** a webinar on "**Public Health and Social Measures for COVID-19 in the Democratic Republic of Congo and South Africa".**

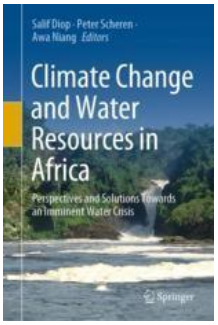
The webinar was held on the 15th of April 2021.

Uganda National Academy of Sciences (UNAS) Webinar

The Uganda National Academy of Sciences (UNAS) organized a webinar on "Science in malaria control and elimination implementations programs".

The webinar was held on the 23rd of March 2021.

Prof. Salif Diop new book



Prof. Salif Diop of Academie des Sciences et Techniques du **Senegal** (ANSTS) Academie des Sciences et Techniques du Senegal (ANSTS) has published a new book entitled "Climate change and water resources in Africa".

The focus of this book is on the key water-related vulnerabilities to climate change in Africa, particularly in its most vulnerable areas, exploring potential management responses to such vulnerabilities.

Nigeria Academy of Science (NAS) Webinar

The Nigeria Academy of Science (NAS) organized a webinar on "**COVID-19 Vaccines: Concerns, Challenges, and Nigeria plan".**

The webinar was held on the 24th of March 2021.

Announcements and Appointments

Botswana Academy of Science (BAS) new board members

Prof. Masesane

Dr. Mine

Dr. Koosaletse-Mswela

President:	Prof. Ishmael Masesane
Vice President:	Dr. Madisa Mine
Secretary General:	Dr. Pulane Koosaletse-Mswela
Deputy SG:	Dr. Dikabo Mogopodi
Treasurer:	Dr. Segomotso Bagwasi
Board members:	Dr. Budzanani Tacheba
	Prof. Utlwang Batlang
	Dr. Shima Batlokwa
	Prof. Motsoptse Modisi

Dr. Mogopodi

Dr. Bagwasi

Dr. Tacheba

Prof. Batlang

Dr. Batlokwa

Prof. Modisi

Botswana Academy of Science (BAS) new fellows

Prof. Demel Teketay Fanta. **PhD** in Forest Vegetation Ecology, Swedish University of Agricultural Sciences (Sweden), **MSc** in Plant Taxonomy, Reading University (UK). **BSc** in Agriculture (Plant Sciences), Addis Ababa University

Dr. Renameditswe Mapitse

PhD in Chemistry, University of Nottingham, 2001. **MSc** in Natural Products Chemistry, University of Botswana, 1996. **BSc** in Chemistry, University of Botswana, 1992.

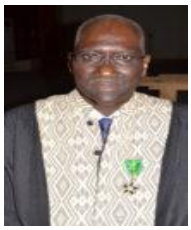
Prof. Julius Ramosweu Atlhopheng

PhD: oxygen isotopes in dating Australian regolith. School of Geosciences, University of Wollongong, Australia. **MSc**: Kings College London. University of London. **BSc** (Honours): School of Environmental Sciences. University of East Anglia. United Kingdom.

Appointments of members of Academie des Sciences et Techniques du Senegal (ANSTS)

Professor Oumar SOCK, Full Professor of Universities of exceptional class and Perpetual Secretary of ANSTS is appointed President of the "Commission for the evaluation of the decisions resulting from the Presidential Council on Higher Education and Research of August 14, 2013", during the Council of Ministers of November 18, 2020, by decision of the President of the Republic**.**

Dr. Rokhaya SENE, President of the Social and Human Section of ANSTS was elected as a Member of the General Assembly of the Senghor University of Alexandria-Egypt.



Professor Elhadji Salif DIOP, President of the Communication, Media and Publication Commission of ANSTS has been elected member of the Board of Directors and Vice-President of the African Academy of Sciences (AAS) for the West Africa Region.

Dr. Ousmane KANE has been appointed Member of the COMSTECH Scientific Advisory Council (COMSTECH-SAC).

Professor Souleymane MBOUP has just been honored by the laboratory of the Institut hospitalo-universitaire (IHU) of Marseille, directed by the eminent Pr Didier Raoult. Two new bacterial genera discovered by Raoult's team now bear the name of the eminent Senegalese microbiologists, Mboupella_Massilenssis and pseudo_Mboupella_Massile.

Professor Abba Gumel 2021 Einstein Lecture in Mathematics

Professor Abba Gumel, an African Academy of Science (AAS) and Nigeria Academy of Science (NAS) Fellow, gave 2021 Einstein Lecture in Mathematics. Abba Gumel is a Foundation Professor at the School of Mathematical and Statistical Sciences, Arizona State University. He received his undergraduate degree in mathematics from Bayero University, Kano, Nigeria and a PhD in mathematics from Brunel University London. He was a Full Professor in the Department of Mathematics, University of Manitoba, Canada, before becoming Foundation Professor of Mathematics at Arizona State University in 2014. His research work focuses on the qualitative theory of nonlinear dynamical systems, with emphasis on the transmission dynamics and control of emerging and re-emerging infectious diseases. He has held various administrative positions, including the Deputy Director of Mathematical and Computational Modeling Sciences Center, Arizona State University, Director, Institute of Industrial Mathematical Sciences and Secretary of the Canadian Applied and Industrial Mathematical Society.

On the spotlight

Planetary Immunity to COVID -19

By: DR MICHAEL ATCHIA

Herd immunity occurs when a large part of the population becomes immune to a virus, through vaccination or infection. If enough people are resistant to the cause of a disease, such as a virus or bacteria, it has nowhere to go. The infection rates drop and the disease peters out.

The key to herd immunity is that, even if a person becomes infected, there are too few susceptible hosts around to maintain transmission - those who have been vaccinated or have already had the infection cannot contract and spread the virus. This is what stopped the Zika virus outbreak in Brazil; two years after the outbreak began, 63% of the population had exposure to the virus, reaching the right level for herd immunity. Herd immunity is also what stopped polio in the United States and many other countries.

The way ahead is to reach planetary herd immunity by vaccinating at least 65% of the world population. To do so we need, within the next few weeks, 9 billion doses (2 doses to 4.5 billion people), spread evenly across all countries. If some countries like Israel today have vaccinated 85% of their population while Tanzania almost none, and this pattern of unevenness continues for the 194 states of the world, no planetary herd immunity will be reached. If vaccine roll-out is uneven the world would become divided into the *have been* and *have not been* (vaccinated) like the old haves and have nots relating to wealth. Foyers of Corona will still exist; inevitable movements of people and material will then continue to spread the disease.

In practice, an immediate first step is for the UN and its specialized agency WHO to set up a top level committee to coordinate action for attaining world herd immunity. And a Vaccine Minister as national focal point in each country. The Biden action of the US to vaccinate all its population is by itself excellent but unless Central and South America as well as Asia and Europe follow, general/herd immunity WILL NOT BE GARANTEED. Similarly, for the EU; it was very late in ordering sufficient number of doses; it was not able/willing to manufacture vaccines in numerous sites and even tried to restrain/prevent the export of vaccines to Africa and other countries. Such counterproductive measures do not contribute to attain this planetary immunity which the world needs so desperately.

Concerted world action is needed based on scientifically advanced countries (UK, USA, India, Belgium, Russia, China, Germany, France, Japan, Canada, Australia, South Korea, South Africa to mention but a few) to boost their vaccine production rate and /or immediately set up new vaccine production units. Also setting up a practical regional vaccine distribution network, for example vaccines manufactured in South Africa for Africa, Australia for the Pacific, USA for Central America, China and India for the rest of Asia, island states and Africa, and so on.

In the absence of data about the duration of coverage of the presently available vaccines, it is necessary to plan for the production of booster doses, by the end of 2021 or whenever they will be needed. Covid-19 can and will be eradicated, as we have achieved for small pox and polio in human populations and rinderpest in cattle.

Member Academy Feature

L'Académie Nationale des Sciences, des Arts et des Lettres du Burkina Faso

The National Academy of Sciences, Arts and Letters of Burkina Faso (ANSAL BF) is a scientific, apolitical, non-denominational and independent organization and was founded on the 8th of June 2013. ANSAL BF currently has 45 members composed of 27 founding members and 18 members elected in December 2020 who are high-level scientific personalities recognized by their peers and who are committed to providing the community with their expertise and skills in the Academy's areas of activity.

The goal of ANSAL-BF is to mobilize all the knowledge for the sustainable human development, through the production and the exploitation of the results of science for the betterment of the Burkinabe populations. As such, it pursues several objectives related to the promotion of scientific, artistic, literary and cultural excellence in the country from which stems one of its main missions which is to play a role of scientific advice on issues of importance to the country by issuing objective and independent opinions to assist in decision-making by the government or any other national authority on its referral or on its self-referral

ANSAL – BF Academicians

The following bodies have been set up to ensure efficient governance in the pursuit of its objectives:
- The General Assembly, the supreme decision-making body of ANSAL-BF, which gathers all its members twice a year and which makes sovereign decisions on all issues related to the life of the Academy. A solemn academic session is also planned to be held every year during which ANSAL-BF presents to the Head of State the results of its studies/reflections and recommendations on a theme that deals with an issue of importance for the country. It also submits an annual activity report to the President of Faso and the Speaker of Parliament.

- The five Committees are in charge of designing and executing the activities of the Academy as well as evaluating the relevance and the quality of the files submitted to their appreciation.

- The Board of the Academy is in charge of the management of ANSAL-BF. Composed of ten members, it includes a President, 5 Vice-Presidents who are the presidents of the colleges, a Permanent Secretary, a Deputy Permanent Secretary, a Treasurer and a Deputy Treasurer.

For its functioning, the Academy receives annually an endowment from the State to which are added the incomes of the movable and immovable goods constituting its patrimony, the products coming from its activities, the various and occasional receipts, the gifts and legacies which constitute its budget.

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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