THE NIGERIAN ACADEMY OF SCIENCE

Talking Science

Strengthening Effective Science Communication in Nigeria

Meeting Report

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Talking Science: Strengthening Effective Science Communication in Nigeria

Meeting Report (June 2021)

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ISBN: 978-978-790-605-7

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Disclaimer

The views and opinions expressed in this publication are those of the meeting speakers, and do not necessarily reflect the position of the Nigerian Academy of Science (NAS).

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About the Nigerian Academy of Science

The Nigerian Academy of Science (NAS) is the foremost independent scientific body in Nigeria which was established in 1977, and incorporated in 1986. NAS is uniquely positioned to bring scientific knowledge to bear on the policies/strategic direction of the country, and is also dedicated to the development and advancement of science, technology, and innovation (STI) in Nigeria. The aims and objectives of the Academy are to promote the growth, acquisition, and dissemination of scientific knowledge, and to facilitate its use in solving problems of national interest. The Academy strives to do this by:

- Providing advice on specific problems of scientific or technological nature presented to it by the government and its agencies, as well as private organizations
- Bringing to the attention of the government and its agencies problems of national interest that science and technology can help solve
- Establishing and maintaining the highest standards of scientific endeavours and achievements in Nigeria, through the publication of journals, organization of conferences, seminars, workshops, and symposia, as well as the recognition of outstanding contributions to science in Nigeria, and the development of a working relationship with other national and international scientific bodies and academies

As with national academies in other countries, NAS is a not-for-profit organization with total membership (since inception) comprising 278 Fellows, elected through a highly competitive process and who have distinguished themselves in their fields both locally and internationally. Some of her members have served as vice-chancellors of universities, directors-general of government parastatals, and ministers in federal ministries. The Academy, given its clout, also has the ability to attract other experts from around the country and internationally when needed. NAS is Nigeria's national representative on such bodies as the International Science Council (ISC) – the umbrella body for all science associations and unions, and the InterAcademy Partnership (IAP) – the umbrella body for all national science academies globally. NAS is also a member of the Network of African Science Academies (NASAC).

About the Meeting of Nigerian Science Associations

In 2011, NAS organized a meeting with national science associations in Nigeria to initiate a process of realignment and re-organization of the Nigerian scientific community. At this forum, it was agreed that NAS was best positioned to take the lead in this regard, and that the scientific community needs to meet regularly to assess progress, and articulate ways to ensure scientific development in the country. In May 2015, NAS, in collaboration with the Science Association of Nigeria (SAN), once again brought together scientists, representatives of national science-based associations, and relevant stakeholders in the Nigerian science and technology sector to the *National Science Summit*. The aim of the event was to discuss strategies for improving scientific research and innovation in Nigeria, strengthen and build the capacity of science associations in Nigeria, as well as foster collaboration among national science associations and other key stakeholders for national development. NAS held another meeting with science associations in August 2016, to discuss the outcomes of the 2015 Summit. One of the key recommendations from this meeting was that scientific information should be clearly communicated in order to effectively engage policymakers and society on scientific issues.

For the 2021 edition of this meeting, the NAS therefore deemed it necessary to reconvene representatives from various science associations in Nigeria to discuss strategies to improve science communication in Nigeria, around the theme: *Talking Science - Strengthening Effective Science Communication in Nigeria*. The specific objectives of this meeting were:

- To foster continued collaboration between NAS and the various science associations in Nigeria
- To highlight the peculiarities of science communication in the Nigerian context, and roles for the Nigerian scientific community
- To discuss the challenges and best practices of science communication in emergency situations
- To proffer recommendations on how the Nigerian scientific community may strengthen public understanding and engagement with science

Overview

The 2021 edition of the NAS Meeting of Nigerian Science Associations was themed "Talking Science - Strengthening Effective Science Communication in Nigeria". This meeting was held virtually on Thursday, 24th June, 2021.

The theme of the event was chosen to highlight the issues surrounding science communication in Nigeria. Science is a major part of our daily lives. Most societal issues – overpopulation, food insecurity, public health, environmental/climate change-related challenges – could be resolved through the application of scientific principles. However, the lack of effective science communication means that the general public does not, to a major extent, understand and appreciate the role science plays in society. This has led to a high level of misconception about science and scientific facts, resulting in the general public`s mistrust about science, and consequently, contributing to the slow progress in the development of science in the country. This science communication challenge has been especially highlighted by the coronavirus pandemic, where misinformation has led to poor compliance with directives from health organizations, and to vaccine hesitancy. The NAS therefore deemed it necessary to bring together representatives from various science associations in Nigeria to discuss strategies to improve science communication in Nigeria.

The meeting started with welcome remarks from the NAS Executive Secretary, Dr. Oladoyin Odubanjo, and an opening address by the NAS President, Professor Ekanem Braide FAS. In her opening, Professor Braide emphasized collaboration among all stakeholders as the key to solving national problems, influencing national policies, and promoting good governance. The President also discussed the need to strengthen science education at primary and secondary school levels.

Professor Isiaka Amoo (President, Science Association of Nigeria) delivered a goodwill message that emphasized the need for skilled manpower in science, technology, and innovation (STI) fields. He also assured the Academy of SAN's willingness to collaborate on projects that would further the development of science in the country.

Professor Gabriel Ogunmola FAS (Past President, NAS, and Chancellor, Lead City University, Ibadan) served as the meeting moderator. He introduced the speakers to give the main presentations and also moderated the discussions that followed. Professor Ogunmola also shared from his experience as a past President of NAS and also, from his involvement with the International Science Council (ISC).

Mr. Akin Jimoh (Executive Director, Development Communications Network & Chief Editor, Nature Africa), delivered the first presentation titled "Science Communication: What, Why,

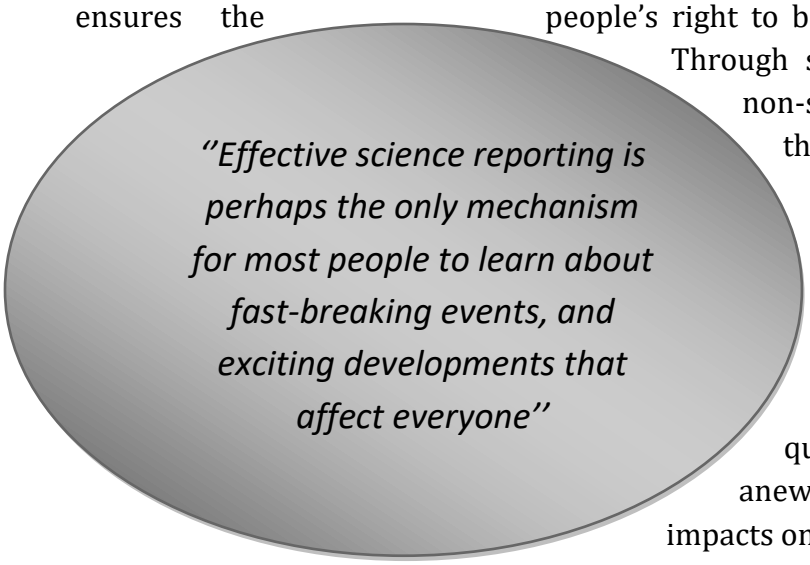
How?". He gave an overview of what science communication entails, the goals/benefits of science communication, and keys to effective science communication. Next, Dr. Mahmoud Bukar Maina (Founding Director, Science Communication Hub, Nigeria), discussed the roles for scientists in bridging the science-policy-society gap in Nigeria through communication. Finally, Mr. Adejuwon Soyinka (Regional Editor, West Africa, The Conversation Africa), spoke on "Truths, Half-truths, and Fake News: Science Communication in Emergencies". In his presentation, he addressed the effects and dangers of fake news, the drivers of misinformation, and recommendations for combatting misinformation. Dr. Oladoyin Odubanjo also presented plans for possibly producing a biennial "State of Science in Nigeria Report", to be done in collaboration with the various science unions in Nigeria.

Speakers' Presentations

Science Communication: What, Why, and How?

Mr. Akin Jimoh – Executive Director, Development Communications Network & Chief Editor, Nature Africa

Science communication includes communication between scientists and non-scientists, or communication between scientists from different fields. Science communication is important as it acts as a means of informing the broader public about issues related to science and technology. It strengthens the connection between science and society, and ensures the people's right to benefit from the advances of science. Through science communication, the general non-scientist audience gains knowledge of the world around, improving the ability to make informed decisions, and to use new applications derived from science. This contributes to the wellbeing and economic development of society. Shared knowledge also generates new questions, starting the research cycle anew. Science communication also impacts on policy-making and agenda setting.



Scientists/researchers have an obligation to communicate their work; and when this is done effectively, it increases the confidence of the public in the scientists, and in the scientific information they put out. Science communication also benefits scientists, as it makes scientific expertise publicly available to all, including other scientists, and informs scientists of societal perceptions and expectations. It also serves the interests of bodies that finance scientific research.

Avenues for communicating science include:

- Mass media
- Documentaries, TED Talks, town hall debates, interviews, etc.
- Scientific platforms such as journals, symposia, conferences, etc.
- Policy briefs, advisory roles
- Internet platforms such as Nature Africa, The Conversation, etc.

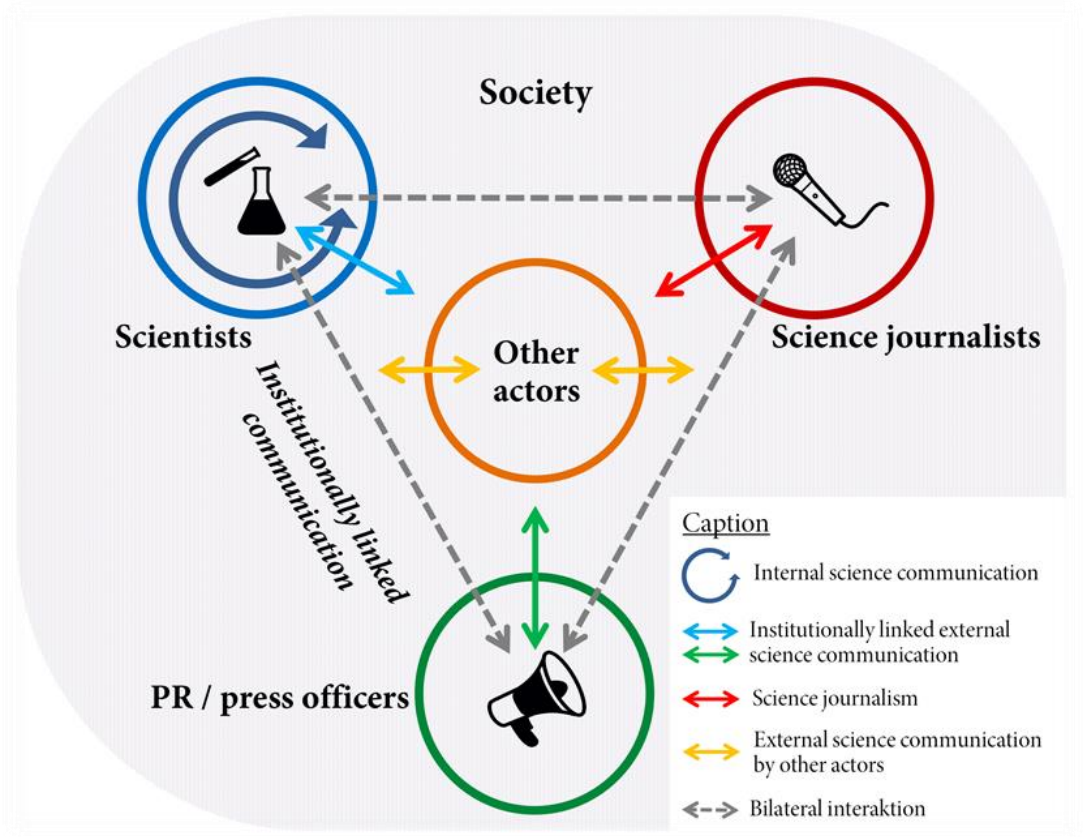


Figure 1: Schematic of science communication actors
Source:
https://en.wikipedia.org/wiki/Science_communication#/media/File:Science_Communication_%E2%80%93_schematic_overview.png

There are two main categories of science communicators:

1. The Science Communicator: Someone with an excellent command of language, smart enough to understand scientific concepts, explain them to a lay audience, and able to ask the right questions of the scientist. This is typically a media person.

2. The Scientist Communicator: This is the scientist, who wishes to communicate research findings to the public. The scientist offers a unique point of view and personal history that a science communicator cannot offer, as well as in-depth knowledge of the field that is unmatched by science communicators. This is important, because people want to hear about science from the scientists themselves.

On a final note, communication is only successful if the public trusts the scientist. Therefore, the scientists must tell the truth, respect the audience, and explain the science in simple terms.

Science Communicators: Roles for the Scientific Community

Dr. Mahmoud Bukar Maina - Founding Director, Science Communication Hub Nigeria

Knowledge dissemination is a major driver of research activities, including funding. Therefore, science communication ought to be an integral part of the scientific/research community in Nigeria. Reduced visibility of science role models, and misconceptions about scientific facts contribute to poor policymaking and governance in science fields. This in turn leads to slow progress of science in Nigeria. This challenge could be addressed by effective science communication.

> *"You are not doing anything if nobody knows about it!"*

Scientific societies and groups should have dedicated, identifiable communicators or communication channels that aggressively engage with the public, promote science awareness, and dispel science misconceptions. This is because most researchers are often too busy with research activities to dedicate the necessary time and effort towards communicating their research results with the public. Such channels include 'science media offices' which could be set up in research centres and higher institutions across the country, linking researchers to the larger community. These channels are critical for dissemination of scientific information from research, which may have important policy implications for the country. Another way of addressing the challenge of scientists' visibility is to establish databases of scientists from various fields (such as the Science Communication Hub Nigeria).

Scientists on these databases would be visible and accessible to journalists, who can easily reach them to ask questions about their research and other science issues.

Social media is another useful tool for scientists to communicate with the public. Social media provides access to both accurate and fake scientific information. Scientists therefore need to take advantage of social media to disseminate scientific research to the public, and help combat the spread of fake news. Social media is also useful to explore how people learn about and engage with science, inspire discussions that can lead to new or improved national science policies, showcase science role models, and inspire the next generation of scientists. Science blogs have more influence/credibility when driven by scientists or scientific groups. Therefore, scientists should not shy away from writing blogs, science articles, and granting media interviews on science issues.

There are many benefits of science communication. It enhances research impact, as well as the personal and institutional profile of the researcher. It provides networking opportunities, and a platform for new collaborations and partnerships. It also brings new research perspectives, enhances the communication skills of the researcher, and provides visibility that could attract more research funding opportunities. Therefore, science communication should be viewed as a career opportunity by scientists, rather than an inconvenience.

Finally, institutional policies should be put in place to incentivize, and promote science communication. Communication of research results to the public can be made an obligatory condition to award grants, and should be rewarded by research/scientific institutions.

Truths, Half-truths, and Fake News: Science Communication in Emergencies

Mr. Adejuwon Soyinka – Regional Editor, West Africa, The Conversation Africa

Half-truths, more commonly known as misinformation, is the unintentional release of inaccurate information. Fake news or disinformation, on the other hand, is the intentional release of an untruth. Drivers of fake news and misinformation are fear, cultural and religious beliefs, politics, and financial gain.

In emergency situations, misinformation and rumours spread easily through word of mouth, and social media. Unfounded rumours can lead to public hysteria, complicating government efforts to respond to the emergency. This puts people at risk, negatively impacts the efforts of emergency workers, and wastes emergency resources that could be better utilised.

Evidence-based journalism is the key to combatting fake news and misinformation. It gives a voice to the knowledgeable experts, empowers the public with the correct information, and helps them know who they can trust, or where to go for the real facts. The experts (scientists) also need to make themselves accessible to provide correct information to the public.

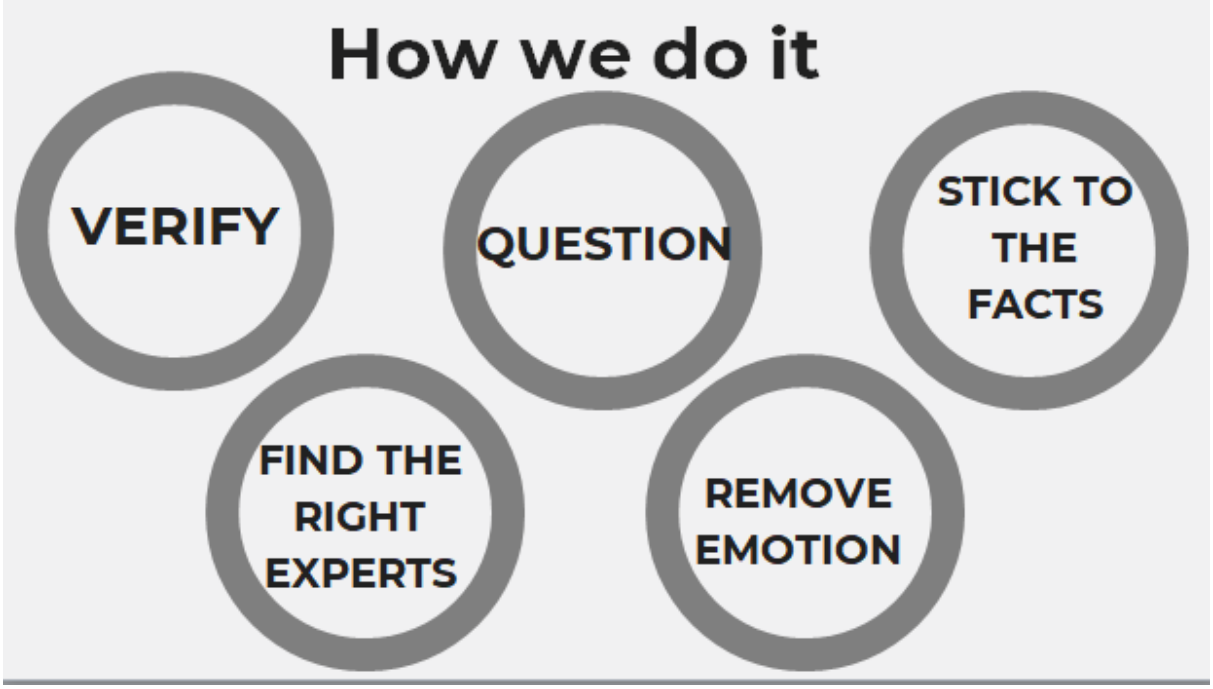


Figure 2: Recommendations for debunking myths
Source: Speaker's presentation

Recommendations for combatting half-truths and fake news:

- Check the source. Be sceptical of any information that does not come from a credible scientific source
- Ask yourself who is publishing this information and what their agenda might be
- Use the services of established fact-checkers
- Be alert to emotion. Evidence-based science might have significant implications, but in most instances, it won't seek to make people fearful
- Leave no room for an information vacuum. Scientists need to be more engaged in effective science communication, so people hear more from experts, as opposed to proponents of misinformation and disinformation.

Introducing the State of Science in Nigeria Report

Dr. Oladoyin Odubanjo - Executive Secretary, NAS

The *State of Science in Nigeria* report, one of NAS' statutory publications, is to serve as a policymaking reference document to the government of Nigeria. This report would highlight the state of science in Nigeria, focusing on successes, challenges, and strategic plans for the future. This publication would be instrumental to bridging the science-policy gap, bringing scientific knowledge to bear on the policy direction of the country.

The NAS is presently working on modalities to ensure regular production of this report, to be done in collaboration with the SAN and the various science unions in Nigeria. While this is ongoing, the NAS would appreciate inputs from the various science associations, and their cooperation towards producing the report.

Key Discussion Comments/Recommendations

- Journalists should be more receptive to invitations to attend scientific conferences, and report research findings discussed at these meetings to the public.

- The NAS should work on a reporting template, which would highlight the type of information needed from scientific associations, conferences, and other scientific events. This would be useful to summarise important points from these events, and then pass on to journalists. Also, universities/scientific organizations that organize inaugural lectures or other such events should have summaries of research findings/presentations sent to journalists, relevant ministries, departments, and agencies (MDAs), and communication platforms like TCA for dissemination to the public.

- Nigeria should strengthen manpower capacity for science journalism.

- All parties in science communication need appropriate training: the journalists - to understand how scientific knowledge is produced, and its limitations; and scientists - to become more aware of the possibilities and limitations of different media for communicating with different audiences.

- The NAS should collaborate with funding organizations like the Tertiary Education Trust Fund (TETFUND) to organize research dissemination events which would be open to the general public.

- Science organizations should update their contact information, so they can be contacted easily by journalists who need to get research information from them.

- Scientists' engagement with journalists should be an ongoing process to facilitate the flow of scientific information.

- Science festivals should be organized to disseminate simple scientific information to the public, and also serve as an entertaining way for the public to learn about science.

- NAS, in its science advisory role, should lead collaborative efforts with relevant MDAs to institutionalize science communication in Nigeria.

- Scientists need funding, and other motivation to promote science communication.

Appendix

i. Meeting Agenda

11:00 **Welcome Remarks/ Introducing the Nigerian Academy of Science (NAS) and the International Science Council (ISC)**
Dr. M. Oladoyin Odubanjo
Executive Secretary, NAS

11:05 **Opening Address**
Professor Ekanem Braide FAS
President, NAS

11:15 **Goodwill message from SAN**
Professor Isiaka Amoo
President, Science Association of Nigeria (SAN)

11:20 **Brief Introduction of Speakers**
Professor Gabriel Ogunmola FAS – Moderator
Chancellor, Lead City University, Ibadan

11:25 **Science Communication: What, Why, How?**
Mr. Akin Jimoh
Program Director, Development Communications Network & Chief Editor, Nature Africa

11:40 **Science Communicators: Roles for the Scientific Community**
Dr. Mahmoud Bukar Maina
Founding Director, Science Communication Hub Nigeria

11:55 **Truths, Half-truths, and Fake News: Science Communication in Emergencies**
Mr. Adejuwon Soyinka
Regional Editor, West Africa, The Conversation Africa

12:10 **Introducing the *State of Science in Nigeria Report***
Dr. Oladoyin Odubanjo

12:20 **Discussion Session**

Professor Gabriel Ogunmola FAS

12:55 **Closing Remarks/Vote of Thanks**
Professor Gabriel Ogunmola FAS

13:00 **Closing**

ii. Participants List

S/N	NAME	AFFILIATION
1	Prof. A. A. Adebayo	Nigerian Association of Hydrological Sciences
2	Prof. Abubakar Sambo FAS	NAS
3	Prof. Adamu Tanko	Association of Nigerian Geographers
4	Mr. Adejuwon Soyinka	The Conversation Africa
5	Mr. Akin Jimoh	Development Communications Network/Nature Africa
6	Mr. Akinwale Akinjiola	Society of Oncology and Cancer Research of Nigeria
7	Prof. Alphonsus Isara	Association of Public Health Physicians of Nigeria
8	Miss Angie Olanipekun	NAS
9	Prof. Augustine Odili	Nigeria Cardiac Society
10	Prof. Bashir Ali	The Nigerian Mathematical Society
11	Miss Blessing Onyema	NAS
12	Prof. Chinyelu Ekwunife	Parasitology and Public Health Society of Nigeria
13	Prof. Chinyere Ukaga	Parasitology and Public Health Society of Nigeria
14	Prof. Chris Aimakhu	Society of Gynaecology and Obstetrics of Nigeria
15	Dr. Edward Alikor	Paediatric Association of Nigeria

16	Prof. Ekanem Braide FAS	NAS
17	Prof. Elizabeth Nwasor	Nigerian Society of Anaesthetists
18	Miss Ethel Joseph	NAS
19	Prof. Gabriel Ogunmola FAS	NAS
20	Dr. Gordon Tami Amangabara	Nigerian Association of Hydrological Sciences
21	Prof. Hycienth Aboh	Nigerian Institute of Physics
22	Prof. Isiaka Amoo	SAN
23	Prof. James Ogbonna	Biotechnology Society of Nigeria
24	Dr. M. N. Ishaq	Agricultural Society of Nigeria
25	Prof. M. T. Yakubu FAS	Nigeria Society for Experimental Biology
26	Dr. Mahmoud Bukar Maina	Science Communication Hub Nigeria
27	Prof. Mohammed Bello Yerima	The Nigerian Society of Microbiology
28	Prof. Musbau Akanji FAS	NAS
29	Dr. Nkechi Okojie	Nigerian Society of Anaesthetists
30	Prof. Nuhu Mohammed Danjuma	Neuroscience Society of Nigeria
31	Dr. Obagbemiro Kolawole	Nigerian Dental Association
32	Mr. Okaima Okaisabor	The Nigerian Mining and Geosciences Society
33	Dr. Oladotun E. Fadipe	Nigerian Veterinary Medical Association
34	Dr. Oladoyin Odubanjo	NAS
35	Prof. Oluwole Familoni FAS	NAS
36	Mr. Onche Odeh	AfricaSTI
37	Mrs. Patricia Ochogbu	Nigerian Association of Petroleum Explorationists
38	Dr. Petronila Tabansi	Paediatrics Association of Nigeria

39	Mr. Raymond Obiajulu Isiadinso	Animal Science Association of Nigeria
40	Prof. Sunday Atawodi FAS	NAS
41	Dr. Tope Adeyemi	Nigerian Dental Association
42	Mr. Wasiu Afolabi	Nutrition Society of Nigeria

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