



# Second Quarterly NISEB Newsletter

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## WELCOME AND WELL GO!

Welcome to another of the series of NISEB newsletters. As you are being welcomed to the new series we are gradually saying "well go" to the year 2018. It's a great year with great scientific and technological developments. Yes, new discoveries in biological sciences are being made. To ignite our latent potential for new findings, we bring to us in this edition how pasteurization process was developed. Also, we tell the story of how Archimedes found the law of floatation rather "accidentally". Was it accidental? Yes, and No. Yes, because it was not in the lab. No because everywhere should be a lab for a biologist. No because chance favours the prepared mind according to Pasteur. Information on TWAS findings are shared here together with the history of NISEB and membership certificate clarification. Taraba state University will be hosting the 2019 edition of NISEB conference at their University in Jalingo. Planning for the conference should start now with the sending of abstracts. Two of the National Executive officers of NISEB were given some responsibilities in their Universities indicating that they are all-rounders'. Kudos to them and more power to their elbows. Take a seat and enjoy this edition.



- From the President

The 2019 NISEB conference is now a reality! I am particularly delighted with the early preparations by the Taraba LOC. As life scientist with right mix of skills coming together to explore relevant issues geared towards practical advice that can inform public policies, with the aim to build on the strengths of each other in order to foster research and understanding of life science as well as determine our roles in the society now and in the future; we must remind ourselves that it is going to be a TEAM WORK.

I will like to illustrate the need for teaming up with a popular story about four people named: Everybody, Somebody, Anybody and Nobody. There was an important job to be done and Everybody was sure that Somebody would do it. Anybody would have done it, but Nobody did it. Somebody got angry about that, because it was Everybody's job. Everybody thought that Anybody could do it but Nobody realized that Everybody wouldn't do it. It ended up that Everybody blamed Somebody when Nobody did what Anybody could have done. In the light of the wisdom in the above popular story therefore; I solicit all NISEB members to resolve in this dispensation do that Everybody's job by:

- ›Paying your annual dues prior to conferences
  - ›Attend NISEB function (local, national or international) regularly and punctually
  - ›Come up with something new for NISEB every quarter in our quarterly bulletin.
- Let us all join hands to build a greater NISEB! Merry Christmas in Advance!

A. Taiga: [akpotaiga@yahoo.com](mailto:akpotaiga@yahoo.com), [taiga.a@ksu.edu.ng](mailto:taiga.a@ksu.edu.ng)



NISEB President at Bouba Ndjidda National Wildlife Park, Cameroon for a floral and fauna research with scientists from Taraba State University, Jalingo recently. From left to right are Lt. Col Usmanu (Chief Conservation Officer), Prof. Ja'afaru A. (Zoologist), Dr. Houmsou, R.S. (NISEB member), Prof. Taiga, A. (a Botanist / NISEB President), Prof. David, D.L. (Jalingo Charter President) and Prof. Egharevba, F. (a Chemist).



# ARCHIMEDES' PRINCIPLE WAS DISCOVERED IN THE BATHROOM

David O. Adetitun

Science students would be familiar with the "Archimedes' principle" today. That principle can be modified into the "law of floatation" or "law of buoyancy". How did the principle and law come about? Was it deliberate or accidental?

Archimedes lived in one of the most influential cities of the ancient world called Syracuse. Archimedes together with other scientists and researchers of his time were charged with proving that a new crown made for Hieron, the king of Syracuse, was not pure gold without doing any damage to the crown? Another version said he was to find out the principle or explanation that will support the floating of the "Syracusia", a massive ship that was to be constructed and presented as a gift to Egypt.

Archimedes was sitting in a bath house one day wondering how a heavy object can float. He was inspired that an object proportionally immersed in a fluid will displace an amount of water equal to its own weight. He forgot that he was naked in the bathroom and ran to the street en route to the Kings palace shouting "Eureka!", "Eureka!" ("I have it!" in Greek). This logic is critical in the construction of ships. Heavy steel materials are placed at the base of the ship which can displace a large volume of water. To the effect that whatever the other items used in constructing the ship it will not sink

still but float.

Applications of Archimedes' principle

When a glass is filled to capacity with water and ice cubes are then introduced to it, what happens? In like manner as the water over flowed the edge when Archimedes entered his bathtub, the water in the glass will spill over when ice cubes are added to it. If the water that spilled out were weighed, it would equal the upthrust on the object. From the upthrust or upward force, the volume or average density of the object can be determined.

Archimedes determined that the crown he was investigating at the time was impure gold because of the volume of the water displaced. This was arrived at because the volume was different due to the various densities of the metals. Additionally, this principle is utilized in a large variety of scientific research subjects including medical, engineering, entomology, engineering, and geology. Copious articles exist on the use of Archimedes' principle in bone volumes/densities, submarines, water-walking bugs and geology.

Archimedes' principle summary: upward force = weight of liquid displaced

MNEUMONIC = Up wold (wold = weight of liquid displaced)

## HISTORY OF NISEB

NISEB was formed (as Bioscience Study Group) at a meeting held on Monday, April 3, 1989, in the Department of Biochemistry, University of Ilorin. There were three founding members: Dr. C. O. Bewaji, Dr. O. B. Oloyede and Dr. M. A. Akanji. It was resolved at that meeting that there would be a monthly meeting of the group on the first Monday of every month. We met again on Monday, May 1, 1989 (an unusual day for a meeting, being a public holiday) and subsequently at two weeks' interval in order to beat the deadline we had set for the publication of Bioscience Research Communications by June 30, 1989. The group was expanded on June 5, 1989 when Dr. F. A. Oladele, Dr. T. S. Emudianughe and Dr. A. O. Olukoga joined. It was further expanded to 19 members at an extraordinary meeting held on December 12, 1994.

The metamorphosis to NISEB, like that of chordates (but in this case not iodothyronine-induced) took place on June 6, 2000, when the first step to make the society a truly national body was made. That was when Professor Clement Bewaji became the President by an interim type of arrangement which was later ratified at the first biennial meeting of the Society held at Kwara Hotel, Ilorin, in September 2000.

From the blueprint, NISEB has been designed to be a six-storey building, each floor representing 1,000 members. The technological development of a nation is in the hands of its

scientists and scientific societies. There is the Royal Society of Great Britain and there was a Linnean Society before it. There are several such societies on the scientific landscape of Great Britain. The United States of America also has its own American Society for the Advancement of Science (AAAS), Federation of American Societies for Experimental Biology (FASEB), the National Academy of Sciences, the New York Academy of Sciences, to mention just a few. There are also several societies on the Nigerian scientific landscape. The strength and commitment of these societies and its membership will determine how technologically strong Nigeria will be.

## MEMBERSHIP CERTIFICATE

Efforts are yet ongoing on the part of Prof. C. O. Bewaji and NEC to ensure that all members receive their membership certificates in due time. The certificates will now bear specific annual dates. The certificate usually spans one calendar year. This exact information from the date of payment is now being included on the certificates.



## TWAS GRANTS, FELLOWSHIPS AND SCIENTIFIC MEETINGS

- David O. Adetun

TWAS was previously referred to as the Third World Academy of Science (TWAS) but is now called the World Academy of Science (TWAS). Its headquarters is in Italy. It's a body that supports grants, fellowships and scientific meetings. It advertises open applications from time to time. Normally the visit supported by TWAS is from one developing country to another which is more scientifically superior. This is to support better scientific output by researchers. Its grants do not require travel and covers cost of equipment and others.

TWAS also sponsors hosting of workshops and conferences by scientific societies. Researchers can explore TWAS to seek for post-doctoral and pre doctoral positions abroad today. TWAS offers are usually competed for. TWAS website is [twas.org](http://twas.org). Good luck as you explore.

## HOW LOUIS PASTEUR DEVELOPED PASTEURIZATION

- David O. Adetun

The process of pasteurization was named after Louis Pasteur who discovered that spoilage organisms could be inactivated in wine by applying heat at temperatures below its boiling point. The process was later applied to milk and remains the most important operation in the processing of milk.

Louis Pasteur was a French chemist. France was a major producer of wine in his time. The problem was that France needed to export its wine to generate money for the country. The wine was in high demand outside of France. The problem was that the wine got spoilt in transit before it reached other countries as it had to travel by ship over a period of days, weeks, or months as the case may be.

Scientists in Pasteur's day were to solve the problem. Pasteur heated the wine to its boiling point and discovered that spoilage microorganisms were no longer in the wine but the wine also lost its taste. Pasteur then heated the wine to a temperature below its boiling point over a period of time and found that the wine did not spoil over time and did not also lose its taste. There are variations of Pasteurization process today.

## NISEB MEMBER BECOMES A PROFESSOR

A NISEB member who lectures at the Federal University, Wukari, Taraba State has been elevated to the prestigious rank of a Professor. He is Professor Otitoju Olawale. He recently got his full professorial chair. Prof Otitoju was NISEB Assistant Secretary from 2006 to 2008 and Branch Chairman for University of Uyo from 2008 to 2011. Congratulations and more successes Prof.



PROF. OTITOJU OLAWALE

## 2 NISEB EXECUTIVE OFFICERS TAKE UP UNIVERSITY ASSIGNMENT



Dr. J. O. Minari



Dr. Mrs. F. A. Sulaiman

The Vice President of NISEB, Dr. J. O. Minari has taken up the responsibility of Sub Dean of his Faculty (Science) at the University of Lagos. On the same note the General Secretary of NISEB, Dr. Mrs. F. A. Sulaiman has become the Deputy Director in charge of research at the Centre for Research, Development and in House Training (CREDIT) of the University of Ilorin. NISEB congratulates and wish them a successful time in their new and future appointments.

## ANTIBIOTICS RESISTANCE BREAKS UNIVERSAL WALLS

- Prof. Taiga A.

Universal use of antibiotics and pesticides is outside the planetary safe zone, risking widespread resistance to both, according to a recent study. In terms of antibiotics resistance, the international Living with Resistance project judges that the Gram negative category of bacteria—which includes microbes like *Escherichia coli*, *Salmonella typhi* and *Neisseria gonorrhoeae* (“the clap”)—has surpassed what it considers to be safe planetary boundaries. The diseases caused disproportionately affect urban areas in developing countries, which suffer from dense population levels and unsanitary conditions.

Seeking to take advantage of the “social dynamics of methods to handle resistance”, some researchers checked out resistance victimisation the planetary boundaries construct. The project lumps antibiotics and pesticides along underneath the term “biocides”, as a result of their effectiveness depending on organisms remaining at risk of them. The researchers found that many of these biocides kill both dangerous bacteria and benevolent ones that consume them, which undermines the resistance of natural ecosystems or the human immune system. Antibiotics resistance has to be tackled by higher management over however these medicines square measure prescribed, and by reducing antibiotics use in livestock farming. So far, antibiotics for Gram negative organisms have utterly surpassed planetary boundaries. But 2 different antibiotic categories and 3 chemical categories also are moving on the far side safe limits.

Another researcher from the Quadram Institute in Norwich, United Kingdom, says that this work “reminds us that resistance and susceptibility are two sides of the same coin”. She pointed out that it would be vital to manage each and to recognize that interactions between resistant and vulnerable organisms is complicated. The Living with Resistance is currently seeking to work out ways to bring antibiotics resistance back to the planetary safe area. In their study, the team promoted biocide-susceptible organisms which they said, has thus far been understudied.

Culled from [www.scidev.net](http://www.scidev.net)



# NISEB 2019 CONFERENCE IS FAST APPROACHING

Yes, the 2019 conference of the society for experimental biology of Nigeria is here.  
Start sending in your abstracts and preparing to attend. Spread the word. It's going to be great.

## GENERAL INSTRUCTION FOR ABSTRACT SUBMISSION

Abstract are invited from all aspects of experimental Biology for their oral or poster presentations (Clearly indicate the preferred type of presentation).

- All abstract submission must not be more than 450 words.
- Authors should indicate the NUMBER of the area of their papers in bracket as shown in SUB-THEMES, for example: Artificial intelligence in food, nutrition and dietetics (AIFND04)
- Abstract should have a concise title in **UPPERCASE** and centralized.
- This should be followed by Author (s) name, affiliation (Department and Institution), email address, phone number.
- The corresponding author's(s) address should be indicated with an asterisk (\*)
- Abstract should be written in English Language and Latin words in italics.
- Abstract should be submitted in Microsoft Word Document with the following formatings: double line-spaced at font size 12 using Times New Roman.
- Abstract must have maximum of 5 keywords, introduction, materials and methods, results and discussion, conclusion and recommendation.

## CONFERENCE REGISTRATION FEE AND NISEB MEMBERSHIP DUES

S/N	Category	Early Registration Deadline 7 <sup>th</sup> 2019 to February 28 <sup>th</sup> 2019	Normal Registration Deadline 7 <sup>th</sup> 2019 to April 1 <sup>st</sup> 2019
1	Registered Members (Annual Dues)	₦15,000 ₦5,000	₦17,000 ₦5,000
2	Non-members Government	₦17,500	₦20,000
3	Agencies/ Corporate Bodies	₦25,000	₦32,000
4	Farmers/ Agribusiness	₦17,000	₦20,000
5	Post Graduate Student (Non-Staff)	₦5,000	₦5,000
6	Under graduate Student (with ID)	₦2,000	₦2,000
7	Fellows of the Society	₦20,000	₦20,000

## GUIDE AND TIMELINE

- Abstract should be submitted electronically as an email attachment to: [nisebtsu2019@tsuniversity.edu.ng](mailto:nisebtsu2019@tsuniversity.edu.ng) before 12 midnight of February 7<sup>th</sup> 2019
  - Each submitted manuscript should be accompanied with evidence of payment (scanned Bank Teller) of a processing fee ₦2,000 only.
  - All conference charges, annual dues, endowments, exhibition and advert payments are payable at any branch of:
- Bank: FIRST BANK**  
**Account Name: ESTHER UMAHI**  
**Account Number: 3129949308**

## CONFERENCE PROGRAMME

**Sunday, April 7th, 2019**  
**Arrival /Registration**

**Monday, April 8th, 2019**  
**Opening Ceremony, Keynote Address and Plenary Lectures**

**Tuesday, April 9th, 2019**  
**Oral and Poster Presentation/ Annual General Meeting**

**Wednesday, April 10th, 2019**  
**Departure**

## HOST

**Prof. Vincent Ado Tenebe**  
*Vice-Chancellor, Taraba State University Jalingo*

## CO-HOST

**Prof. (Mrs.) Delphine Leila David**  
*Dean, Faculty of Science, Taraba State University, Jalingo*



**SOCIETY FOR EXPERIMENTAL BIOLOGY OF NIGERIA (NISEB TSU, 2019)**

**19<sup>th</sup> ANNUAL SCIENTIFIC CONFERENCE AND ANNUAL GENERAL MEETING**

**Date:**  
Sunday 7<sup>th</sup> - Wednesday 10<sup>th</sup> April 2019

**Theme:**  
Application of Artificial Intelligence in Experimental Biology for National Development and Sustainable Economy

**SPECIAL GUEST OF HONOUR:**  
His Excellency Arc. Darius Dickson Ishaku  
Executive Governor, Taraba State

**Venue:**  
Main Auditorium, Taraba State University  
Jalingo, Taraba State, Nigeria

## ACCOMMODATION AND HOTEL INFORMATION

Hotels/ Guest Houses in Jalingo metropolis, their rates and phone numbers on booking are captured below

### Star Exclusive Hotel: 07062356481

Opposite Taraba State University 4th Gate

- Single room - ₦5,500
- Studio room - ₦8,500
- Deluxe room - ₦10,500
- Master Suite - ₦18,500

### Mobile Links: 08067867844

Abuja Phase I Adjacent State Secretariat, Jalingo  
Single Rooms ₦4000  
Studio rooms ₦6,000

### De Bas Suites: 09038752887

Hammamawa Way Jalingo

- Standard room - ₦5,750
- VIP - ₦6,900
- Executive - ₦7,475
- Ex. VIP - ₦9,200
- Monarch - ₦10,350
- Royal - ₦11,500

### Mid Land Hotels Ltd: 08060520001

- Studio room - ₦4000
- Standard room - ₦5,000
- Suite - ₦6,000

### Heritage Hotel: 081400113523

Mallum Road, Opp. Taraba Vegetable Farm, AIC, Jalingo.  
Studio Room - ₦1,500-2000

### Additional Contact on Accommodation

Dr. Bako Ali - Chairman Logistics Committee (+2348032692652).

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### For further information or contact

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## ADVERTISEMENT AND PRODUCT EXHIBITION

Advertisement and Goodwill Messages are invited from friends, partners, individuals, other professional bodies/ Societies, companies and universities from the Book of Abstracts.

Companies/ Industries, research institutes, NGO's, Universities and Individuals, entrepreneurs, friends of the University and Government wishing to exhibit and possibly market their products, operations, talents or inventions shall apply to the LOC Secretary and copy the LOC Treasurer.

Space	Early Booking	Late Booking
Back Page (Full) / Back Cover (Full)	₦15,000	₦20,000
Inside Front Cover (Full) / Inner front Page	₦18,000	₦23,000
Inside Pages (Half) / Inner Pages (Half)	₦8,500	₦13,000
Goodwill Message	₦11,000 Per 50 words	₦16,000 Per 50 words

## INVITATION

The Local Organizing Committee (LOC) of NISEB Taraba State University, 2019 conference on behalf of the Nigeria Society for Experimental Biology invites members of NISEB and life scientists, researchers, agribusiness and entrepreneurs in the government, non-governmental, education, industrial, agricultural, private and public sectors to the 19<sup>th</sup> Annual Scientific Conference and General meeting of the Nigerian Society for Experimental Biology (NISEB) scheduled for 7<sup>th</sup> - 10<sup>th</sup> April, 2019 at the Main Auditorium, Taraba State University Jalingo, Taraba State (Nature's gift to the nation). The conference shall feature awards, exhibitions, Keynote speech, Plenary, poster and oral presentations in all aspects of experimental Biology and Book of Abstract made available for interested participants.

## SUB-THEMES

- The Role of Artificial Intelligence in Biodiversity Conservation and National Development - AIBND01.
- Artificial Intelligence in Ethnomedicine, Therapeutic Drugs and Toxicology - AIETT02
- The Role of Artificial Intelligence in Plant Protection and Control of Plant Diseases for Sustainable Economy- AIPCI03
- Artificial Intelligence in Food, Nutrition and Dietetics- AIFND04
- The Role of Artificial Intelligence in Bioremediation and Parasitic Diseases - AIBPD05
- The Role of Artificial Intelligence in Molecular Biology, Biochemistry and Biotechnology for National Development - AIMBN06.