

# Notices

OF THE NIGERIAN MATHEMATICAL SOCIETY

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## Hexagons in Nature.

The most common example of nature using hexagons is in a bee hive.

**EDITOR - PROFESSOR SAMUEL SEGUN OKOYA**

# NOTICES OF THE NIGERIAN MATHEMATICAL SOCIETY

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The editor welcomes letters on mathematics from the community.

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**HIS EXCELLENCY**

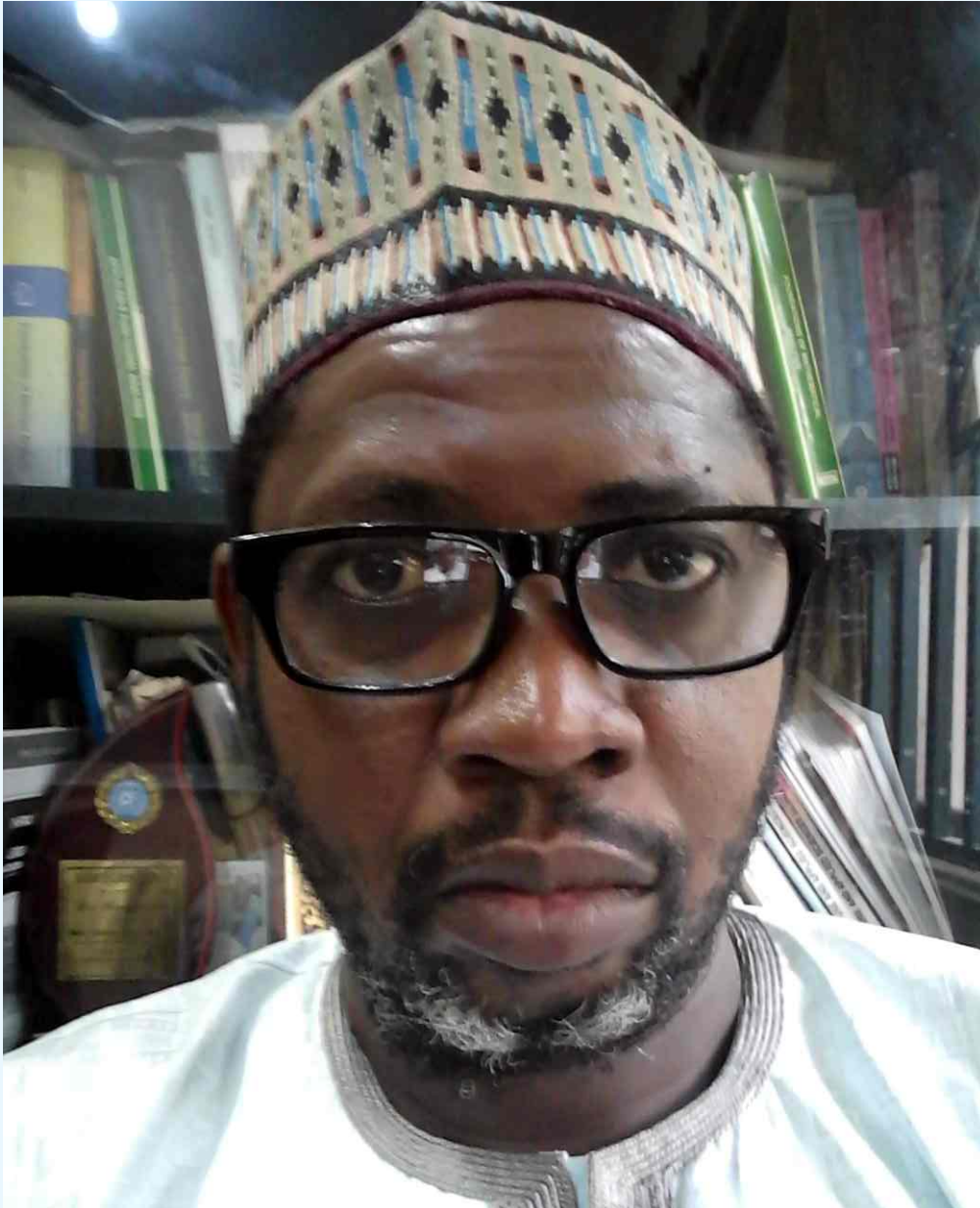
**MUHAMMADU BUHARI** *GCFR*

PRESIDENT, COMMANDER-IN-CHIEF OF THE ARMED FORCES  
FEDERAL REPUBLIC OF NIGERIA





**HIS EXCELLENCY**  
**PROF. YEMI OSINBAJO SAN**  
VICE PRESIDENT  
FEDERAL REPUBLIC OF NIGERIA



**PROF. BASHIR ALI**  
THE PRESIDENT OF THE  
NIGERIAN MATHEMATICAL SOCIETY (NMS)

## COUNCIL MEMBERS (2019-2021)

THE NIGERIAN MATHEMATICAL SOCIETY

	NAME	POST	INSTITUTION
1.	Prof. Bashir Ali	President	Bayero University, Kano (BUK)
2.	Prof. G. C. E. Mbah	Vice President	University of Nigeria, Nsukka
3.	Prof. O. J. Adeniran	Secretary	Federal University of Agriculture, Abeokuta
4.	Dr. T. T. Ashezua	Asst. Secretary	Federal University of Agriculture, Makurdi
5.	Dr. Sirajo Abdulrahman	Business Manager	Federal University, Birnin-Kebbi
6.	Prof. S. S. Okoya	Editor-in-Chief	Obafemi Awolowo University, Ile-Ife
7.	Prof. H. O. Adagba	Treasurer	Ebonyi State University, Abakaliki
8.	Dr. Tertseggha Tivde	Ex-Officio	Federal University of Agriculture, Makurdi
9.	Dr. O Fadipe-Joseph	Ex-Officio	University of Ilorin, Ilorin
10.	Prof. N. I. Akinwande	Immediate Past President	Federal University of Technology, Minna
11.	Dr (Mrs) D. O. Makinde	Member	Obafemi Awolowo University, Ile-Ife
12.	Prof. E. S. Onah	Member	National Mathematical Centre, Abuja



Prof. Bashir Ali



Prof. G. C. E. Mbah



Prof. O. J. Adeniran



Dr. T. T. Ashezua



Dr. Sirajo Abdulrahman



Prof. S. S. Okoya *FNMS, FMAN*



Prof. H. O. Adagba



Dr. Tertseggha Tivde



Dr. O. Fadipe-Joseph



Prof. N. I. Akinwande *FNMS*



Dr (Mrs) D. O. Makinde



Prof. E. S. Onah

## LIST OF FELLOWS OF THE NMS

In retrospect, the NMS has made awards of fellow to a number of mathematicians at home and abroad for their meritorious service towards the advancement of mathematics in Nigeria and abroad.

### 2015 RECIPIENTS

- |  |   |
|--|---|
| 1. Professor Iya ABUBAKAR ( <i>FNMS</i> )          | 7. Professor John Chukwuemeka AMAZIGO ( <i>FNMS</i> )   |
| 2. Pastor Enoch Adejare ADEBOYE ( <i>FNMS</i> )    | 8. Professor Sunday Osarumwense IYAHEN ( <i>FNMS</i> )  |
| 3. Professor James Nwoye ADICHIE ( <i>FNMS</i> )   | 9. Professor Monsur Akangbe KENKU ( <i>FNMS</i> )       |
| 4. Professor Eben Akin AKINRELERE ( <i>FNMS</i> )  | 10. Professor Aderemi Oluyomi KUKU ( <i>FNMS</i> )      |
| 5. Professor Samuel Akindiji ILORI ( <i>FNMS</i> ) | 11. Professor Emmanuel Oguntokun OSHOBI ( <i>FNMS</i> ) |
| 6. Professor Olusola AKINYELE ( <i>FNMS</i> )      | 12. Professor Kevin Ejere OSONDU ( <i>FNMS</i> )        |

### 2016 RECIPIENTS

- |   |  |
|---|--|
| 13. Professor Kayode Rufus ADEBOYE ( <i>FNMS</i> )        | 22. Professor Frank Ikechukwu OCHOR ( <i>FNMS</i> )        |
| 14. Professor Anthony Uyi AFUWAPE ( <i>FNMS</i> )         | 23. Chief Ajibola OGUNSOLA ( <i>FNMS</i> )                 |
| 15. Professor Michael Olusanya AJETUNMOBI ( <i>FNMS</i> ) | 24. Professor James Adedayo OGUNTUASE ( <i>FNMS</i> )      |
| 16. Professor Ninuola Ifeoluwa AKINWANDE ( <i>FNMS</i> )  | 25. Professor Samuel Segun OKOYA ( <i>FNMS</i> )           |
| 17. Professor Udot Isaac ASIBONG ( <i>FNMS</i> )          | 26. Professor Peter ONUMANYI ( <i>FNMS</i> )               |
| 18. Professor Charles Ejikeme CHIDUME ( <i>FNMS</i> )     | 27. Professor Micah Okwuchukwu OSILIKE ( <i>FNMS</i> )     |
| 19. Professor Godwin O. Samuel EKHAGUERE ( <i>FNMS</i> )  | 28. Professor Babangida SANI ( <i>FNMS</i> )               |
| 20. Professor Jacob Abiodun GBADEYAN ( <i>FNMS</i> )      | 29. Professor Adewale Roland Tunde SOLARIN ( <i>FNMS</i> ) |
| 21. Professor Oyewusi IBIDAPO-OBE ( <i>FNMS</i> )         | 30. Professor Abba Ali TIJJANI ( <i>FNMS</i> )             |

### 2017 RECIPIENTS

- |  |
|--|
| 31. Professor Jerome Ajayi ADEPOJU ( <i>FNMS</i> )           |
| 32. Professor Alexander O. E. ANIMALU ( <i>FNMS</i> )        |
| 33. Professor Iheanyichukwu Sylvester IWUEZE ( <i>FNMS</i> ) |
| 34. Professor Francis Kofi Ampenyin ALLOTEY ( <i>FNMS</i> )  |

### 2018 RECIPIENTS

- |  |
|--|
| 35. Professor Muhammad Yahuza BELLO ( <i>FNMS</i> )          |
| 36. Professor Anthony Monday ETTE ( <i>FNMS</i> )            |
| 37. Professor Emmanuel Joseph Daniyang GARBA ( <i>FNMS</i> ) |
| 38. Professor Moses Oludotun OYESANYA ( <i>FNMS</i> )        |
| 39. Professor Olabisi Oreofe UGBEBOR ( <i>FNMS</i> )         |



## PRESIDENT'S REMARKS

### PROFESSOR BASHIR ALI

President, NMS (2019 - Till Date)

It is with great deal of pleasure I am writing this piece as a remark in this edition of the 2020 Nigerian Mathematical Society's Notices. This notices is supposed to have appeared months ago, but due to the Covid-19 pandemic it was delayed.

The society's conference is an annual event since inception. It is nowadays attracting large number of participants. There were a number of requests for hosting right from some private universities. The council approved the 39th annual conference to be hosted by Redeemer's University Ede, which is a private university. This is the first time the NMS conference is going to be hosted by a 100% private university. The conference was scheduled for 7th-10th July, 2020 which was postponed until further notice due to the Covid-19 pandemic. We are not sure if the conference will hold this year (2020). If it fails to hold then it will be the first time in more than two decades.

On behalf of the NMS I wish to extend our heartfelt condolence to all who lost some of their relatives and loved ones during the COVID-19 pandemic. I would like to invite scholars in Mathematical sciences in Nigeria and abroad to actively participate in all the activities of the society. Members are also urged to regularly renew their membership registration by paying their annual dues.

In the next available membership registration /membership renewal exercise, we plan to issue/assign unique registration number to each registered member. In addition to this, we are also making efforts to provide means of online registration, in which one can register (or renew his/her registration) and get his/her certi\_cate also online.



The website of the Society is very active and we are determined to improve it day by day. I wish to urge members to frequently visit the website for various updates and news within and outside the country. We also welcome observations and suggestions for improvements.

As we all know, the Journal of the Nigerian Mathematical Society is one of the best, if not the best in the country, thanks to the efforts of our Editor-in-Chief, Associate Editors and reviewers whose efforts we greatly appreciate.

We are still working towards strengthening the journal in terms of quality and global participations.

The National Mathematical Center (NMC) Abuja is our great partner in the development of mathematics in Nigeria. The center under the leadership of the current Director Professor E.S. Onah has been playing a vital role in the payment of the Nigeria's dues for the membership of International Mathematical Union (IMU). Currently he is coordinating for the payment of the

2020 dues, which is yet to be settled. In recent years the center also is supporting the local organizing committees of some of our conferences. I wish to, on behalf of the NMS appreciate this gesture from the center. It is our believe that the center under the leadership of the current director, started aking a good shape. We pray for more improvements.



# GOVERNANCE

## 2019-2021 COUNCIL OF THE NMS (KNOW YOUR ELECTED COUNCIL MEMBERS)

### PRESIDENT

## PROF. BASHIR ALI

Bashir Ali, is a Professor of Mathematics with Mathematical Sciences Department of Bayero University Kano, he hails from Dala Local Government of Kano state Nigeria. He obtained BSc and MSc degrees in Mathematics from Bayero University, Kano in 1996 and 1999 respectively. He then obtained a PhD degree in Mathematics (with specialization in Functional Analysis) from University of Nigeria Nsukka in 2007. He became a full Professor in October 2016, served as Head of department of Mathematical Sciences Bayero University, Kano from 2014 to 2018. He also served as a member in many university committees. He served and still serving as chair/member of a number of some community (nongovernmental) organizations.

Professor Ali's main area of research is in Nonlinear Operator Theory, specifically, Fixed Points Iterative Procedures (47H10, 47J25), Contractive-type Mappings, Monotone Operators and their generalizations (47H05, 47H09) Optimizations and Variational Techniques (65K10).

Currently, he is working with some of his collaborators and PhD students on the following problems;

- Studying fixed point problems in the setting of asymmetric Banach spaces. The asymmetric space has found special application in the measurement of complexity of algorithms in computer science.
- Introduction and study of a monotone operator more general than the  $\alpha$ -inverse strongly monotone.
- Introduction and study of Pseudocontractive mappings in the setting of a convex metric space.

He successfully supervised over twenty (20) MSc and two (2) PhD students and is currently supervising three (3) MSc and eight (8) PhD students.



### VICE PRESIDENT

## PROFESSOR GODWIN C. E. MBAH

Professor GCE Mbah joined the Nigeria Mathematical Society in the year 1990 during the NMS national conference held at the Federal University of Technology, Owerri. Ever since then, he has remained an astute member of NMS.

Professor Mbah joined the Executive of the NMS in the year 1998 when he was elected the National Business Manager of the Society during the NMS conference held at the University of Port-Harcourt. Subsequently, he has since remained a national executive member having served the society in the capacities of National Treasurer, General Secretary and just in the last National conference of the Society held at the University of Nigeria in the year 2019, he was further elected as the National Vice-President of the Society.

Professor Mbah is an Applied Mathematician specializing in Biomathematics (Epidemiology, Ecology, Non-epidemiological Diseases and Gene Regulatory network) and Cardiovascular Flow Dynamics. He

researches in the areas of Biomathematics, Fluid Dynamics, Bio-fluid dynamics, Financial Mathematics, Operations Research and Mathematical Modelling in general.

He has produced 20 Ph.D students, over 80 M.Sc students and published well over 85 journal articles in reputable journals. He is currently very active in research as he has well over 30 Ph.D students still working with him.

Professor Mbah GCE is an Inaugural Lecturer having presented his inaugural lecture at the University of Nigeria, Nsukka on October 24<sup>th</sup>, 2019. He headed his department twice (2008/2009 and 2016 – 2019) and was the just immediate past Associate Dean of the Faculty of Physical Sciences, UNN. He is happily married with Children.



## SECRETARY

**PROF. O. J. ADENIRAN**

Professor Olusola Adeniran attended Ibadan Boy's High School, Ibadan, Nigeria. Thereafter, he attended the Obafemi Awolowo University from where he obtained his Bachelor and Master's Degrees in Mathematics in 1993 and 1997 respectively. He later completed his Doctoral Degree in 2002 at the University of Agriculture, Abeokuta. He started his academic career at the Obafemi Awolowo University in 1995 as a Graduate Assistant. He has since risen through the Academic ladder to the grade of Professor of Mathematics in 2011. In the course of his Academic career he has been able to successfully mentored 6 PhD and 13 Master's Degree Candidates apart from teaching several Mathematics courses at both undergraduate and postgraduate levels. He has served the Mathematics Community in Many Capacities including Head of Department (2006-2009), Coordinator of Mathematics Programme and Technical Adviser at the National Mathematical Centre (2013-2016). He has served as External Examiner up to Doctoral levels to many Universities (within and outside the country). He has also served as a member of Accreditation Panels to Mathematics Degree Programmes in the Nigerian

University System. He has been invited to many Universities outside Nigeria as Visiting Lecturer/Professor in Mathematics. He was an Associate of the Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy (2001-2006). He was honoured as a Fellow of the Papua New Guinea Mathematical Society in December, 2014 for his Scientific Contribution to the field of Mathematics in Papua New Guinea. He is currently serving as a Subject Expert and Chairman of Mathematics Panel for the Namibian National Council on Higher Education. He has published more than sixty journal articles his area in in Algebra (AMS Subject Classification 20 – Group Theory and Generalizations).

Professor Adeniran has served as the Business Manager of the NMS (2015-2019) and he is currently the Secretary of the Nigerian Mathematical Society.

## ASSISTANT SECRETARY

**DR. TIMOTHY TERFA ASHEZUA**

Dr. Timothy Terfa Ashezua was born on the 18th January, 1979, to the family of Chief Emmanuel Ashezua (WO II retired) and Mrs Dorcas Ashezua both devout Catholics and farmers. He hails from Mbaiov-Mbayom, in Gwer-East LGA of Benue State.

Dr. Ashezua did his primary school education at the Army Children's School, New Contonment 'C', Kawo, near the Nigerian Defence Academy in Kaduna State from 1985-1990 and obtained his first school leaving certificate. He had his junior secondary education at Government Secondary School, Ikpayongo, from 1992-1994. He briefly started his senior secondary education in the same school before moving to the prestigious special science senior secondary school, North-Bank, Makurdi from 1996-1998 where he obtained his SSCE. He did his first and master's degrees at the Federal University of Agriculture, Makurdi, Nigeria. He participated on a one year compulsory national service under the National Youth Service Corps (NYSC) Scheme to Ede, Osun State. While in Osun State, he did his primary assignment at the Agboran School of Science, Ede-South, LGA of Osun

State. During his service year, he equally served as a Statistics lecturer, at the Osun State College of Education, Ila-Orangun, Osun State. Dr Ashezua bagged his Philosophy of Doctorate (PhD) degree in

Applied Mathematics at the Federal University of Technology, Minna (FUT, MINNA), Nigeria.

Dr. Ashezua is currently a lecturer in the Department of Mathematics/Statistics/Computer Science, Federal University of Agriculture, Makurdi, Nigeria. He enjoys reading and travelling as a hobby. He is a member/Assistant Secretary of the Nigerian Mathematical Society (NMS) and Nigerian Society for Mathematical Biology (NSMB). His research interest is in modelling the transmission dynamics, prevention and control of infectious diseases. He is happily married to Mrs Nadoo Vanessa Ashezua and the union is blessed with two children.

**BUSINESS MANAGER****PROF. SIRAJO ABDULRAHMAN**

Prof. Sirajo Abdulrahman was born on 24<sup>th</sup> September, 1968 to the Royal family of Enagi (Bima), Niger State of Nigeria. He began his academic pursuit in 1973 at Demonstration I Primary School, Sokoto and obtained his Certificate of Primary Education at Enagi Primary School in 1979. He attended GSS Rijau, Niger State between 1979 and 1984 where he obtained his WAEC (GCE).

Prof. Sirajo proceeded to Niger State College of Education and obtained Diploma in Mathematics Education in 1988. He obtained BSc (Ed) Mathematics from Usmanu Danfodiyo University, Sokoto (UDUS), Nigeria in 1991. Sirajo then went to Federal University of Technology (FUT), Minna, Nigeria where he obtained his PGD Computer Science in 1997, MTech Mathematics in 2006 and PhD Applied Mathematics in 2014. Prof. Sirajo started his academic career as a teacher at FGGC, Bakori, Kastina State and FGGC, Bida, Niger State between 1993 and 1996. He later joined Federal Polytechnic, Bida, Nigeria as Lecturer III in August, 1996. In 2008 with the ambition of becoming a Professor he joined FUT, Minna as Lecturer II. He rose to the rank of Professor in 2019 at Federal University Birnin Kebbi,

Nigeria.

He has published more than 60 scientific papers in learned journals. His research interest is in the area of mathematical epidemiology as well as population dynamics. He has successfully supervised many postgraduate students and is still counting. Sirajo has been external examiner at both undergraduate and postgraduate levels to many Universities including Bayero University Kano, UDUS and Ibrahim Badamasi Babangida University, Lapai. Prof. Sirajo was the Nigerian Mathematical Society (NMS) Assistant Secretary from 2015 to 2019 and presently the Society Business Manager. He is the Secretary of the Nigerian Society for Mathematical Biology since its inception in 2018 to date and a member of Mathematical Association of Nigeria).

He is sincerely grateful to his mentor Prof. Ninuola Ifeoluwa Akinwande the Immediate Past President of NMS.

**TREASURER****PROF. HENRY ODEY ADAGBA**

Henry Adagba is a professor of Mathematics in the Department of Industrial Mathematics and Applied Statistics at Ebonyi State University, Abakaliki, Ebonyi State, Nigeria. He is currently the Head of Department of Industrial Mathematics and Applied Statistics of the above institution. He received his B.Sc Hons degree in Mathematics from the Anambra State University of Science and Technology, Enugu Nigeria (ASUTECH), M.Sc Applied Mathematics from Nnamdi Azikiwe University Awka and Ph.D in Applied Mathematics from the University of Nigeria Nsukka.

His research area in Mathematics is particularly Effect of Noise in the Cochlea, Cardiovascular and flow dynamic, Biomathematics but in general, Mathematical Modelling.

Professor Adagba's Administrative experience/services to the Public and University Community is such that can be summarized, he held and served on various sensitive positions and committees which includes

- Commissioner of Youth and Sports in Ebonyi State
- Special Assistant to Hon. Minister of Education, Federal Ministry of Education

- The Liaison Officer of Ebonyi State University, Abuja
- Head of Department Industrial Mathematics and Applied Statistics Ebonyi State University
- Member TETFU Fund Committee EBSU
- Member Admission committee

Professor H.O Adagba is the Treasurer of Nigeria Mathematical Society (NMS) and member Mathematical Association of Nigeria (MAN). His publication includes

- Primary Decomposition of Modules Over Commutative Unitary Rings (M.Sc Thesis NAU Awka)
- Mathematical Model Describing the Effect of Noise in the Cochlea (Ph.D Thesis) University of Nigeria Nsukka
- Over 32 contributions in Books/Learned Journals

Professor Adagba has excellent human relations and organization skills.





EX-OFFICIO

**DR. TERTSEGHA TIVDE**

Dr. Tertseggha Tivde, is the first born of seven in the family of Rev. (Dr) & Atese Igbughul (JP) of Konshisha Local Government, Benue State Nigeria and he is happily married with three (3) children. Dr. Tivde holds B.Sc (Hons), (BSU) Mathematics, M.Sc, Ph.D (Nigeria) Mathematics with bias in Mathematical Modelling (Nigeria). He holds Dip. Computer Science, Dip. in Desktop Publishing, three (3) Foundation Postgraduate Course Certificates in Iso-Mathematics, Genomathematics, Computational Science and Python (VPython, Matplotlib).

Dr. Tivde is a lecturer in the Department of Mathematics/Statistics/Computer Science, Federal

University of Agriculture, Makurdi. He programs in Python, Matlab, Maple, R etc and Uses SPSS, XLSTAT and Spread Sheet efficiently in data analysis. A member of NMS (Ex-Officio), MAN

**Research Focus:** Mathematical Modelling (Epidemiology, Biofluid dynamics/Mathematical Biology). You can contact him via [tivdeter@gmail.com](mailto:tivdeter@gmail.com)



EX-OFFICIO

**DR. O.A. FADIPE-JOSEPH**

Dr. Olubunmi A. Fadipe-Joseph is an Associate Professor of Mathematics in the University of Ilorin, Nigeria. She contributes in teaching and supervision of both undergraduate and postgraduate students. She had B.Sc. Mathematics with First Class Honours in 1995 from the University of Ibadan, Nigeria and obtained Ph.D. Mathematics in 2005 from the University of Ilorin, Nigeria. Her University teaching experience across State, Private and Federal Universities in Nigeria started with Ladoke Akintola University of Technology, Ogbomoso, Nigeria in 1997. From there she crossed to the University of Ilorin, Nigeria in 2001. She was on one-year sabbatical placement at the Landmark University, Omu Aran, Nigeria in 2014.

Olubunmi researches in Functions of a Complex Variable. She has attended many conferences and workshops in and outside Nigeria. She was a visiting research fellow at the African Institute for Mathematical Sciences, South Africa; Institute for Mathematical Sciences, National University of Singapore, Singapore; an Associate of the Abdus Salam International Centre for Theoretical Physics (ICTP), Italy; visiting lecturer at the Institut De Mathematiques Et De Sciences

Physiques, Universite D'Abomey-Calavi, Republic of Benin. Fadipe-Joseph won grants at the National and International levels to conduct research and to attend conferences/workshops.

Fadipe-Joseph is the Deputy Director (Academic), Centre for Open and Distance Learning, University of Ilorin; Assistant Secretary, Nigeria Women in Mathematics (NWM) and a Member of Council of the Nigerian Mathematical Society (NMS). She is a Commissioner, African Mathematical Union (AMU) Commission for Women in Mathematics and an Ambassador, International Mathematical Union (IMU), Committee for Women in Mathematics. She is a member of many academic societies and has publications in reputable journals. She is a reviewer for some journals and she gives endowment fund: Fadipe-Joseph Prize in Mathematics for the best Junior Secondary School three (JSS 3) female students in two secondary schools in Nigeria.



# FIRST GEOGRAPHICAL BASED ASSOCIATE EDITORS OF THE NOTICES OF THE NMS

## KNOW YOUR ASSOCIATE EDITORS



### DR. MOHAMMED ABDULHAMEED

Dr. Mohammed Abdulhameed holds a Doctor of Philosophy in Applied Mathematics from Universiti Tun Hussain Onn Malaysia (UTHM) in 2015. He has continuous teaching and research experience in both University and Polytechnic: As a Senior Lecturer visiting in Federal University Lafia and Abubakar Tafawa Balewa University Bauchi for more than Three (3) years, and tenure Lecturer in Federal Polytechnic Bauchi for more than Fourteen (14) years.

He is a registered member with three professional societies: The Nigerian Mathematical Society (NMS), Mathematical Association of Nigeria (MAN) and Society for Industrial and Applied Mathematics (SIAM). He is currently a Principal Lecturer in the Department of Mathematics and Statistics, Federal Polytechnic Bauchi with 14 years working experience. He has graduated Three (3) M.Sc. students. Currently, Four (4) M.Sc student and Three (3) PhD students under his co-supervision with the Universiti Tun Hussein Onn Malaysia and ATBU.

He has published in top tier, peer-reviewed journals total of 23 articles and 20 conference papers. He won two Gold awards: (i) Gold Price in Seoul International Invention Fair Korea 2015, Awards 2015 for research project "An Existence of Steady Terms from an Unsteady Mathematical Problems: Does it Exists in Our Life?" Korea Invention Promotion Association in Seoul, Korea. (ii) Gold Medal in Malaysia Technology Expo 2015, Invention & Innovation Awards 2015 and one Bronze Medal in Research and Innovation Festival 2014 (R&I Fest) Universiti Tun Hussein Onn Malaysia. He was the best graduating student in Mathematics in the year 2003 at Abubakar Tafawa Balewa University Bauchi, Nigeria.

His present research interests include Mathematical modeling and simulations; Biofluid mechanics, Nanofluid mechanics, analytical and numerical techniques for partial differential equations for fluid flow and thermal transport problems. He is experienced in direct numerical simulation with COMSOL multi physics, Matlab, Maple, Mathematica and Mathcad software.



### MS. AUGUSTINA IFEOMA CHINAKA

Augustina Ifeoma, Chinaka is a PhD research student born in Enugu and from Umunakanu ama, Ehime Mbano in Imo State, Nigeria.

She received her education at the University of Lagos with Masters in Mathematics and a Doctorate degree in Mathematics still in view at the Federal University of Agriculture, Abeokuta Ogun State. She also holds a Bachelor's degree in Mathematics/Statistics and Post Graduate Diploma in Education (PGDE) from the University of Calabar, Cross River State.

Augustina, is an intelligent and a vibrant Lecturer at Alvan Ikoku Federal College of Education Owerri. She is also an avid researcher and her work has been published in both national and international journals with her research focus on Quasigroup and Loop theory (Algebra).

She had attended many conferences and is a member of academic organisations like, Nigeria Mathematical Society (NMS), Mathematical Association of Nigeria (MAN), Nigeria Association of Mathematical Physics (NAMP), Teachers Registration Council of Nigeria (TRCN) to mention but a few.

Also, knowledgeable in the use of some Mathematical softwares like Latex, Sage and MATLAB. She is committed to learning and self development, able to work in a team work environment and good in conceptual and analytical skills.



## DR. LEWIS NYITOR IKPAKYEGB

Dr. Lewis Nyitor Ikpakyegh was born on the 18 August, 1984 in Aliade, Benue State to the family of Mr. and Mrs. Vincent Ikpakyegh. He had his elementary education at RCM primary School Aliade between 1989-1995. He proceeds to the prestigious Mt. St. Michael's Secondary School Aliade to obtain his secondary education between (1995-2001). he studied Mathematics at the Benue State University Makurdi between (2002-2007) and did his mandatory one-year National Youth Service between 2008-2009 at Kubwa, FCT, Abuja. He proceeded for his post graduate studies at the Federal University of Technology Minna and obtained his master's degree (M. Tech.) in Mathematics between (2011-2013) and between (2015-2019), he obtained his Ph.D. degree under the supervision of Late Prof. G. T. Okedayo.

In 2014, he took appointment with the Federal University of Agriculture, Makurdi, where he currently lectures in the department of Mathematics/Statistics/Computer Science.

His research interest includes fluid flow with special interest in blood flow, differential equations, modelling and numerical computing. He has Authored and co-authored several conference papers and scientific publications in reputable journals as well reviewed in them. He is a member of several societies and at the moment Editor North central, Notices of the Nigerian Mathematical Society.

Dr. Ikpakyegh is happily married with three children.



## DR. ABEDNEGO OROBOSA ISERE

*It is the inequality of opportunities that enhances the opportunity of those with less opportunities.*

Dr. Abednego Orobosa Isere obtained first and second degrees in Mathematics from the University of Benin, Benin City, Nigeria in 1999 and 2004 respectively. He holds a Ph.D in Mathematics (2014) from the Federal University of Agriculture, Abeokuta, Nigeria. He joined Ambrose Alli University, Ekpoma, Nigeria in December, 2006 as an Assistant Lecturer and rose to the post of a Senior Lecturer in 2016 and has been assessed for Associate Professor. He has just concluded his tenures as the Head of Department in August 31, 2020.

### Research Focus

Dr. A. O. Isere started his research in ergodic theory where he published a few papers in 2006 and 2007. Then between 2008 and 2014, he published some articles on the outbreaks and control of cholera in Nigeria. However, he specializes in loop theory, precisely in Osborn loops and has published various articles on finite Osborn loops and applications. In 2015, he picked interest in rottrix algebra and has published several articles on classical rottrix. In 2018, he introduced even-dimensional rottrix. His research projects also include quandles and their applications to cryptography.





## DR. MA'ARUF SHEHU MINJIBIR

Ma'aruf Shehu Minjibir was born in Minjibir town of Minjibir Local Government, Kano State. He got his primary education from Amsharo Special Primary School in Minjibir and obtained his Senior Secondary Certificate of Education (SSSCE) from Government Secondary School Danbatta of Kano State. He then proceeded to the prestigious Bayero University, Kano (BUK) where he bagged a 2:1 BSc Mathematics degree. Ma'aruf got his Master's degree, MSc Mathematics, from the same university, BUK. In 2010, Ma'aruf got admitted into the PhD Mathematics programme of the African University of Science and Technology (AUST), Abuja.

He did his doctoral studies in Functional Analysis (Nonlinear Operator Theory) under the supervision of the distinguished professor, Professor Charles Chidume, and graduated in 2013. Dr. Ma'aruf Minjibir started his academic career as a Graduate Assistant in the Department of Mathematical Sciences, BUK. He is currently a Senior Lecturer in the same department. He is happily married to a fellow mathematician and they have three children.



## PROF. ERIC UWADIEGWU OFOEDU

He hails from Uruekwo village, Enugwu-ukwu, Njikoka L.G. A., Anambra State, Nigeria. He obtained his B. Sc. and M. Sc. from Nnamdi Azikiwe University (NAU), Awka, Anambra State, Nigeria in 1997 and 2001 respectively; He successfully participated in 2001/2002 Diploma Programme of the Abdul Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy. He is a Mori Fellow and was once a visiting scientist at ICTP. He obtained his Ph.D. (under the supervision of Professor Charles Ejikeme Chidume) from University of Nigeria,

Nsukka in 2007. He won several academic awards such as National Universities Commission (NUC) 2007 Best Doctoral Thesis Award in Physical Sciences, Nigerian Mathematical Society (NMS) 2008 Best Doctoral Thesis Award in Analysis.

He gained employment at NAU in 1999 as a Graduate Assistant and rose to the position of full Professor of Mathematics in the same institution in 2014. He has served the University in different capacities such as Head, Department of Mathematics (2012 -2014); He is presently the Director Quality Assurance of the University. He has in different capacities served in Editorial Boards of several Journals of high repute.

**RESEARCH:** His research centers on Nonlinear Functional Analysis, with main focus on existence of fixed points and zeros of different classes of operators on Banach spaces; and iterative approximation of solutions of nonlinear operator equations.



## DR. (MRS.) PATIENT ADAMU



## DR. (MRS.) O.K. OLUMUREWA

Dr. (Mrs.) Oludolapo Kehinde OLUMUREWA was born on the 3<sup>rd</sup> day of April 1973 at Ilesa in Osun State. She had her basic and secondary education at Ilesa and was given admission into Obafemi Awolowo University, Ile - Ife where she bagged a B.Sc. (Ed.) degree in Mathematics in the year 1996. She proceeded to the Federal University of Technology Akure for her postgraduate study and was awarded M.Tech. degree in Industrial Mathematics (Numerical Analysis option) in 2008.

Dr. (Mrs.) O.K. Olumurewa got her Ph.D degree in Mathematics (Numerical Analysis option) at Ekiti State University in 2015.

She worked at Wesley University of Science and Technology, Ondo (WUSTO) between 2012 and 2016. She is a pioneer staff of Kings University Odeomu where she works till date since 2016. She is currently a Senior Lecturer and the Ag. Dean of the Faculty of Science at Kings University. She is happily married to Prof. (Engr.) J.A. V. Olumurewa and she is blessed with three children.

### RESEARCH FOCUS

Her area of research interest is in developing Multiderivative Numerical Methods capable of solving Differential Equations. She currently has fourteen (14) publications in reputable national and international Journals.

## COMMUNICATION

### INAUGURAL SPEECH OF NEWLY ELECTED NMS PRESIDENT

*Speech of Professor Bashir Ali after his election as president of  
Nigerian Mathematical Society at UNN on 20<sup>th</sup> June, 2019*

*As Reported by Prof. Eric Ofoedu, Awka, S/E*

All the outgoing council members of the Nigerian Mathematical Society (NMS), the incoming elected members of Council of NMS, other members of the Nigerian Mathematical Society, good evening.

I would like to start, on behalf of all elected incoming council members of NMS, by expressing our propound gratitude to all of you here present for having confidence in us and entrusting us with the responsibility of running the affairs of the society as council members for the next two years.

It is not because we are the best that we are elected into the positions this evening no, it is because some set of members need to take the baton at a given

period and deliver it to the next set and it happened to be us this time.

We shall need your support and cooperation to be able to do well. Therefore, On behalf of the new elected officers this evening, I would like to seek for your support and cooperation.

I would like to say that at present, we do not deserve to be congratulated for being elected, rather it is the outgoing leaders that deserve to be congratulated for completing their tenure successfully. We may be congratulated only if we do well and our tenure also ended well. Thank you very much, thank you all.

## NEWS FROM NMS COVERAGE OF 2019 ANNUAL GENERAL MEETING OF NMS AT UNN 2019

*As Reported by Prof. Eric Ofoedu, Awka, S/E*

Nigerian Mathematical Society (NMS) held her 2019 Annual Conference at University of Nigeria, Nsukka (UNN) from Tuesday 18<sup>th</sup> June to Friday 21<sup>st</sup> June, 2019. The opening ceremony for the conference held at Princess Alexandria Auditorium, UNN; while the parallel sessions took place at Professor J. O.C. Ezeilo building, popularly known as Abuja building, UNN.

On Thursday 20<sup>th</sup> June, 2019, the Society had her Annual General Meeting (AGM) at Princess Alexandria Auditorium, UNN. The meeting started around 7.30pm. In the meeting were all executive members and 480 other members of NMS. Annual reports of several arms of NMS Council were read, inputs and reactions from congress were taken and responses were given by appropriate individuals/offices.

At the end of interactive session of the AGM, the President of NMS, Prof. N. I. Akinwande, FNMS, reminded members that 2019 is election year, that new officers to pilot the affairs of the society for the next two years would be elected into offices. On that note, the president explained that Electoral Committee should be constituted immediately to oversee the election process. Members of Electoral Committee were proposed by the President; and the following were to serve as members:

- (1) Prof. J. A. Oguntuase of FUNAB – Chairman;
- (2) Dr.(Mrs.) Chinwendu Madubueze of Benue State University, Markurdi – Member;
- (3) Dr. Sampson Marshal of Akwa-Ibom State University – Member.

The proposal of the President was approved/ratified by AGM. After approval/ratification of the

President's proposed members of the Electoral Committee by AGM, the President, Prof. Akinwande announced that the positions to be contested are

- (1) President
- (2) Vice President
- (3) Secretary
- (4) Assistant Secretary
- (5) Treasurer
- (6) Business Manager
- (7) Two Ex-officio members.

Before dissolving the executive and handing over to the Electoral Committee, the President made known to the AGM the following proposal from Council:

- (a) that the present treasurer, Prof. Adagba, has served for only one term of 2 years and thus, the AGM may wish to allow him to continue for another term as provided for in the constitution of NMS since the position is sensitive and for the fact that he (the treasurer) has performed credibly well;
- (b) that all other positions should be contested.

After acceptance of the council's proposal, the executive was dissolved by the outgoing President, Prof. Akinwande, who called on the Chairman of the constituted Electoral Committee, Prof. Oguntuase, and other members of the Committee to close the gap and conduct election.

A free and fair election of some members into various offices declared vacant was conducted. The following table shows the list and contact of members of NMS who were elected into various offices on 20<sup>th</sup> June, 2019:

### LIST OF NEW COUNCIL MEMBERS OF THE NMS

S/N	NAME	STATUS	INSTITUTION	PHONE NO.	EMAIL ADDRESS
1	Prof. Bashir Ali	President	BUK	08033732245	bashiralik@yahoo.com
2	Prof. G.C.E. Mbah	Vice-President	UNN	08034198454	godwin.mbah@unn.edu.ng
3	Prof. O. J. Adeniran	Secretary	FUNAAB	08033194406	adeniranoj@funaab.edu.ng
4	Dr. T. T. Ashezua	Asst. Secretary	FUAM	07032230542	ttashezua@gmail.com
5	Dr. SirajoAbdulahman	Business Manager	Fed.Uni. BirninKebbi	08036896961	siraja_enagi@yahoo.com
6	Prof. S.S. Okoya	Editor-In-Chief	OAU, Ile -Ife	08035622581	ssokoya@gmail.com
7	Prof. H.O. Adagba	Treasurer	EBSU	08036258406	henela2012@gmail.com
8	Dr. Tertsegha Tivde	Ex-Officio	FUAM	07032603420	tivdeter@gmail.com
9	Dr. Olubunmi Fadipe-Joseph	Ex-Officio	UNILORIN	08033972496	famelov@gmail.com
10	Prof. N. I. Akinwande	Immediate past President	FUT, Minna	08035980262	aninuola@gmail.com
11	Dr. Deborah Makinde	Representative NWM	OAU, Il e-Ife	08060392066	domakinde.comp@gmail.com
12	Prof. E. S. Onah	Member	Abuja	08036929704	ajusonah2001@yahoo.com



## COMMUNICATION

### INTERVIEW OF THE NEWLY ELECTED PRESIDENT OF THE NMS AT UNN 2019

*Conducted by Prof. Eric Ofoedu, Awka, S/E*



At the end of the AGM, Notices of Nigerian Mathematical Society (NNMS) interviewed the newly elected president of NMS, Prof. Bashir Ali. The interview went as follows:

**NNMS:** May we know you Sir?

**Prof. Ali:** My name is Bashir Ali, a Professor of Mathematics, Bayero University, Kano.

**NNMS:** This evening, you were elected the President of Nigerian Mathematical Society; correct?

**Prof. Ali:** Yes.

**NNMS:** How do you feel concerning this new position?

**Prof. Ali:** I feel it is a huge one; a very big responsibility bestowed on me. I hope that I will do my best to continue the good work of the past executive and fashion out other means to move the Society forward.

**NNMS:** How do you intend to pilot the affairs of the Society?

**Prof. Ali:** I happen to be the Vice President of the Society for four years. I have been with the Council and I know the number of issues that are needed to be dealt with seriously. My intention is to find ways of dealing with those issues. If we are able to handle them, then we have contributed our quota towards upliftment of NMS.

**NNMS:** Did you say there are number of issues?

**Prof. Ali:** Yes, there are a lot of problems facing our Society, which by the grace of God, this new executive shall device means of tackling them one after the other. It is my intention to, for instance, put in place mechanisms that will enable the Society (NMS) play her role in making sure that Mathematics and Mathematical sciences survive in this country.

**NNMS:** What are your plans towards enhancement of research, teaching and learning as regards the subject Mathematics?

**Prof. Ali:** I think that the best thing for now is for the

new EXCO to first of all settle down for work. As things unfold, we shall marshal out goals to be achieved, and set out plans that will enable us achieve those goals. Our plans shall be made public in due course, and when this happens, you will see that your question on enhancement of research, teaching and learning of Mathematics will be completely taken care of.

**NNMS:** What is your opinion concerning motivating colleagues in other mathematical fields like Statistics, Computer Science, Physics, etc, to start participating fully in NMS affairs?

**Prof. Ali:** The issue you have just raised is a serious one. To convince people in such areas you mentioned is not all that easy because of the mind set most people have formed. But one thing is very important - there is no way people in such fields will scientifically and academically survive without deep knowledge of Mathematics. As part of issues to be addressed by the new EXCO, we shall do our best to create mechanisms through which we shall attract the attention of such people towards the importance of partnering with NMS.

**NNMS:** In a nutshell, what is your message to the members of NMS for their support in making sure that your elevation today was a reality?

**Prof. Ali:** I must say that I appreciate every member immensely. I remain thankful to all of them for finding us worthy to pilot the affairs of this noble Society for the next two years. It is my promise that we shall not disappoint them.

**NNMS:** Thank you so much for granting us this audience to talk with you. NNMS team wishes you a successful tenure in office.

**Prof. Ali:** Thank you and God bless.

**Teaching and  
learning of  
Mathematics  
will be completely  
taken care of.**

## COMMUNICATION

## SNAPSHOT OF

# Mathematics Institute in the African University of Science and Technology (AUST)

Abuja, Nigeria

The Mathematics Institute of the African University of Science and Technology (AUST), a pan-African institution founded at the instigation of Nelson Mandela, was established in 2009 at the request of Professor C. E. Chidume, who joined AUST from the International Centre for Theoretical Physics (ICTP), Trieste in May 2009. Professor Chidume joined AUST as the Chief Academic Officer and Provost, and the Head of the Department of Pure and Applied Mathematics. He is also the Director of the Mathematics Institute.

The research emphasis of Mathematics at AUST is in the general area of functional analysis and applications. This includes: Nonlinear Operator Theory; Differential Equations (ODE, PDE); Evolution Equations; Optimization; Numerical Analysis; Variational Analysis; Hammerstein Integral Equations; Numerical Algorithms; Mathematical Methods in Medical Physics, Oncology and Biology; Applications of Numerical Algorithms to Image Restoration and Signal Processing.

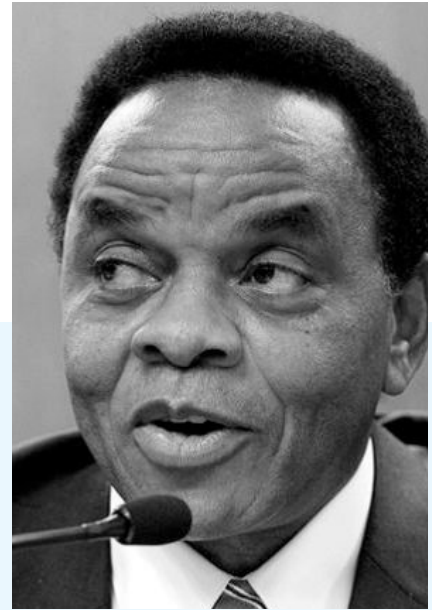
The MSc degree programme in Mathematics at AUST is an 18-month programme and is very rigorous. It consists of 6 foundation courses, 6 core courses and an MSc thesis. Each course consists of 45 hours of lecture (two lectures of 1 1/2 hours each day), followed by two tutorials (of 2 hours each per day). Furthermore, daily homework is given, graded and recorded, and the scores form part of the final evaluations in the course. Only one

course is taught for three weeks at the end of which a 3-hour written examination is given. The students relax for one week before another course starts. It is worth mentioning that since AUST started academic programme in 2007, every cohort admitted for the MSc degree in Mathematics completed the programme within the specified 18 months.

The PhD programme in Mathematics is also very rigorous and emphasizes high level research. It consists of 4 (four) advanced courses and written 3-hour exam in course, a written qualifying examination, and publication of at least 2 (two) papers that must be indexed in SCOPUS. All students admitted to the PhD Mathematics programme of AUST have successfully completed the requirements and obtained their doctorate degrees within 3 (three) years.

The quality of our education is recognized worldwide. Many of our MSc graduates have gone to the USA and Europe with generous scholarships in overseas institutions, and obtained their PhD degrees in record time. Some others, we have been able to retain, with scholarships to pursue their PhD degrees at AUST have also obtained their doctorate degrees within 3 (three) years. On the whole, we have over 90% employment of our graduates in good paying jobs.

Our female MSc graduates/students have been excellent. In 2018, 3 (three) AUST female students won the prestigious Mwalimu Nyerere



African Union Scholarship. Two of the three were students of the Department of Pure and Applied Mathematics. They are Ms. Lois Okereke and Ms. Zulaihat Hassan. Lois Okereke is registered in the PhD degree programme in Mathematics under the supervision of Professor C. E. Chidume. Her doctoral research work is on models and algorithms for approximating the solutions of inverse problems arising in radiotherapy planning during cancer treatment. This topic requires good knowledge of several areas of Mathematics. Because of her work, Ms. Okereke has been able to secure the financial support needed to acquire the necessary background knowledge to complete her doctoral research. In late 2018, she received the International Centre for Pure and Applied Mathematics (CIMPA) grant that enabled her to participate in the CIMPA research school on Stochastic Analysis and Applications, held in early 2019, in Saida, Algeria. In the summer of 2019, she presented some important results in her research at the 43rd Summer Symposium in Real Analysis XLIII, sponsored by the National Science Foundation (NSF) of the United States, and held at Trinity University in San Antonio Texas, USA, as an invited speaker. In

that same year, she received the 2019 African-German Network of Excellence in Science (AGNES) Programme Advocating Women in Science (PAWS) AGNES-PAWS Mobility Grant, ranking first in the selection process. This grant is generously funded by the Alexander von Humboldt Foundation (AvH) and the German Ministry of Education and Research (BMBF). More recently, Ms. Okereke is collaborating with some top researchers at the University of Liverpool and Clatterbridge Cancer Centre, all in the United Kingdom, to practically facilitate the implementation of the research results in local clinical setting.

The European Mathematical Society (EMS) has centres worldwide they award the label of ERCE (Emerging Regional Centres of Excellence). Centres who earn this label are supported by the EMS for 4 (four) years and this support is renewable subject to performance. At the beginning of 2020, there were 5 (five) institutes worldwide that had this label, one in each of the following countries; Pakistan, India, Malaysia, Iran and Mexico. When the 2020 competition was announced, we submitted application for the Mathematics Institute to be considered for this prestigious award. It is my pleasure to take this opportunity to announce that the

Mathematics Institute of AUST won the

2020 competition and has now earned the label of ERCE of the European Mathematical Society for four years (2020 to 2024). In the framework of this award, the Mathematics Institute of AUST will organized a 2- month West African Training School (WATS) for PhD students from the West African Sub-region. Fellowships will be available to a few motivated serious students. The following four areas will be covered:

- (a) Nonlinear operator theory with applications to Optimization, Image Restoration, Equilibrium Problems, and Signal Processing.
- (b) Applications of Mathematics to Medical Physics, Oncology and Biology
- (c) Differential Equations (ODE and PDE)
- (d) Statistics, Probability and Stochastic analysis

The necessary background needed to follow these courses is a good knowledge, at the MSc level of Functional Analysis, Real Analysis, and Differential Equations. Short courses will be given to provide this background knowledge to interested persons. More information regarding this proposed WATS can be obtained from the AUST web- site or [www](http://www.aust.edu.ng)

AUST is a post-graduate university awarding MSc and PhD degrees only. We have no undergraduate programme yet. The model is that professors/lecturers who teach at AUST are selected on a very competitive basis from applications worldwide. To qualify to teach at AUST, the applicant must have published at least one paper in a journal that is indexed in SCOPUS within 12 months in which the applicant wants to teach. Each course is taught for 3 weeks and during this period, no other course will be taught. The professor/ lecturer gives two lectures of  $1\frac{1}{2}$  hours duration each, every morning, Monday Friday. For each  $1\frac{1}{2}$  hour lecture, there is a 2-hour tutorial to be conducted by another professor/lecturer in the afternoon. Then, the students are given homework problems to be handed in, graded and recorded. The recorded scores obtained in these homeworks must be submitted with the final grade.

Each department in AUST has two resident faculty. The resident faculty in Mathematics are currently Professor C.E. Chidume and Dr. Abdulmalik Usman. It is hoped that as the university develops, each department may have up to five research-oriented faculty.

More information about AUST and the Mathematics Institute of the University, including admission requirements, short programs, scholarships, fees can be found on AUST website or by contacting Amaka Udigwe (Admin.)

#### **Professor Charles E.**

**Chidume, FAS, FTWAS, FNMS**

*Acting President;*

*African University of Science & Technology (AUST), Abuja, Nigeria*



Professor C. E. Chidume, some faculty members and students at the Chike Obi Hall, Mathematics Institute



## INTERVIEW WITH THE IMMEDIATE PAST PRESIDENT OF NMS PROF. N.I. AKINWANDE AT THE UNN 2019

CONDUCTED BY DR. (MRS.) OLUDOLAPO K. OLUMUREWA  
Ode-Omu, S/W



Olumurewa: *As a very calm and easy – going person, how did you manage to lead a crowd of this number?*

Akinwande: It was by God's special grace as well as cooperation of all. I have very good and very supportive members, even when we argued and our argument was tough, at the end of the day we laughed. God gave me the grace to be carrying everyone along even up to the moment of this election. I give God the glory.

Olumurewa: *How stressful and how enjoyable was your tenure in office?*

Akinwande: I have passion for Mathematics, so, leading Mathematicians was not stressful. I led a group that is rational and who are pragmatic. It was much easier to lead them than to lead a community of heterogeneous nature. Every member is a Mathematician and therefore our one plus one is two.

Olumurewa: *Was the office financially rewarding or was it just a humanitarian service?*

Akinwande: Financially rewarding? No, not at all. It was a lot of sacrifices and call to service. As you are aware, each member pays #5,000 which makes our purse lean. In fact, most times we travelled, what we got was transportation reimbursement, we were not given up to what we spent so it was not about the money but about love to serve and passion for Mathematics and also, the cooperation we got from members gave us impetus to move on.

Olumurewa: *How were you able to combine the office effectively with research?*

Akinwande: Well, by the time I got to this stage in academics, I was so fortunate to have a lot of active students around me. I have raised a lot of students who have always been there for me and who move around with me since 2007. Even when I have PhD students, my students who are already PhD holders oversee their works and we come together and discuss. At this stage of course, one is not looking for promotion, so it was not difficult to combine research with the office.

Olumurewa: *What were your major challenges in office?*

Akinwande: It was money essentially, for instance, TETFUND gave us an award of #5 Million but they only paid #2.5 Million. All efforts to get the balance has not yielded.

Another one is the security challenge in Nigeria. There are sections of the country that wanted to host the annual conference but we could not go because of the security challenges.

Our Journal was listed on Elsevier, NUC and PDP together awarded for us to be on Elsevier, they paid for one year, a new government came and said there was no money and they asked us to pay \$32,000 but we couldn't raise it. It was a very difficult task to get out of that and find alternative in keeping the platform with Elsevier and to be sincere, we have not got it right up till now.

Olumurewa: *Now that you are out of office, what is your feeling?*

Cont'd on page 21

## COMMUNICATION

# MATHEMATICAL MODELLING AND THE REVEALING OF ORDER IN NATURE

Excerpt from the  
inaugural lecture delivered  
by Prof. G. C. E. Mbah

*As Reported by Prof. S.S. Okoya OAU, S/W*

## Introduction

One would want to ask “What is Mathematical Modelling or the concern of Mathematics in the revealing of order in nature”. From our point of view in Mathematics, all about nature is ordered and all our struggle in scientific research is to reveal this order. In trying to reveal this order, people usually do not know the power of mathematics. This stems from the fact that mere mention of mathematics irritates and send shudders down the spines of many people. Many people have phobia and hatred for mathematics but I want to let you know that mathematics is the language of science and the pivot on which revolves



every other subject be it Arts courses, Social Sciences or Management Sciences. In the study of nature, be it in Biology, Technology, Social Sciences or even Environmental Sciences, Mathematics play pivotal roles in the description and interpretation of the result of the research. These roles played by mathematics forms the basis of the title of this inaugural lecture which I hereby try to showcase my attempts in academic research to use mathematics as a tool for the study of nature. Mathematical Modelling is simply the use of mathematical expressions to describe the behavior of various systems in nature. To do this, we study the system to understand the mechanism and behavior of the system theoretically, interpret these behaviours mathematically and eventually express this using mathematical equations and expressions in the form of equations. It takes a lot of rational thinking to come about a model representing the behavior of a given system. Mathematical modelling has many specialized areas such as **Cardiovascular flow dynamics, Biomathematics, Financial Mathematics, Computational Mathematics, environmental Control models and other areas that deal with human sensory organs.** For ease of understanding of my presentation and research work, I grouped my works under some subheadings comprising of related research works which at the end of each subsection, I listed some of our research publications.

## Recommendations and our Current Research Works

We are currently concentrating most of our research works on Ecological problems, Climate change and Green house effect by human activities and then epidemiology. We had studied epidemiological diseases such as in Malaria, Cholera and even typhoid fever by application of biological control which destabilizes the ecosystem. Therefore, our attempt now is to see how the ecological environment is disturbed which results in the depletion of certain animal and plant populations and thus ecological imbalance. Equally, climate change and greenhouse effect due to human activities is of interest to us because most of these human activities that trigger off these environmental changes are mostly inevitable. If this therefore is the case, our focus of research on climate change will not be on how to limit these agents that causes it such as  $\text{CO}_2$ ,  $\text{H}_2\text{S}$ ,  $\text{CO}$ , Ammonia but on how to consume the excess agents that are produced. From our research so far, all these agents have sinking points and so we need to increase their sinking

*Cont'd on page 21*

**Interview with the Immediate Past President of NMS Prof. N.I. Akinwande (Cont'd From Page 19)**

Akinwande: I feel great I feel very accomplished. There is no human who doesn't make mistake, no man is perfect but generally speaking, we can all see that people were very satisfied with my leadership. I enjoyed that cooperation to the last moment of my office. You can see the way election went, although a lot of things went behind the scene, for everyone to listen to me made me feel great. I am very satisfied. I always tell people that money is not everything, I am an academician, I am a professor of Mathematics, I have led the greatest Mathematical Society in Nigeria for four years with all my colleagues submitting to my leadership and authority, I feel accomplished.

Olumurewa: *What is your advice for the new EXCO especially the new National President of NMS?*

Akinwande: We deliberately wanted to move the President to the North to have a wider attention, to boost connection and to be able to penetrate the government. MAN for instance has landed properties, guest house, good mansion and official camp which NMS doesn't have. MAN covers from primary to secondary to tertiary institutions while NMS is majorly for research. For this reasons, the number one goal of the new President is to get things running for us.

Olumurewa: *What are your expectations for NMS in your capacity as immediate past President?*

Akinwande: NMS must make effort to ensure that we maintain annual conference at all cost and also ensure we move on in unity of purpose.

**Mathematical Modelling and The Revealing Of Order In Nature (cont'd From Page 20)**

points so that their production will not be a problem. Our research attention has also been drawn to how we can repopulate some of the animal species that are going to extinction by studying their habitation, feeding habit, co-existing organisms or predators that entirely deplete these populations.

Our most recent introduction in our research methodology is the use of Fractional differential equations instead of ordinary differential equations because research have shown that fractional differential equations present better result than ordinary differential equations. The Fractional differential equations detect diseases and even other points of research interests at the minutest level. Already, we have applied this in Ulcer Wound healings, Anyanwu (M.Sc, 2018), detection of earthquake signals, Isife (Ph.D, 2019), control of *Aedes Aegypti* mosquito population in the case of Zika Virus disease using Wolbachia, Anyanwu (Ph.D, 2019).

Finally, Fractional Calculus have been shown to be very good in the study and interpretation of results most especially in system that suffer structural damages. I recommend that researchers may apply this to see its beauty and better results.

**I Sincerely thank some of our colleagues at the Nigerian Mathematical Society (NMS) for being there. Special thanks to Professors S. S. Okoya and M. O. Oyesanya whose presence served as morale booster to me. I really thank you all and to our societies, the Nigerian Mathematical Society and the Nigerian Society for Mathematical Biology, I quite appreciate your supports.**



Prof. G. C. E. Mbah with the wife (Mrs Caroline Ogechi Mbah) during the reception ceremony in October 2019.





The Inaugural lecturer and Head of Department (Prof. G.C. E. Mbah) with the staff of the Department of Mathematics, UNN who processed in October 2019.



The Inaugural lecturer (Prof. G. C. E. Mbah) with his M.Sc. and Ph.D. graduants and students in October 2019





R - L: Prof. S. S. Okoya (FNMS), Prof. M. O. Oyesanya (FNMS), Prof. A. O. E. Animalu (FNMS) and the supervisor of the Inaugural lecturer, Prof. J. C. Amazigo (FNMS) present at the Inaugural lecture of Prof. G. C. E. Mbah in October 2019.



Group photograph of the previous council members 2017 - 2019 at UNN 2019





Some Nigerian Women in Mathematics (NWM) Executive members at the NWM 2nd Biennial Conference, held at University of Nigeria, Nsukka, 17th - 18th June 2019.



The HOD, Prof. G.C.E. Mbah welcomes the council to his office on arrival for the UNN 2019 Conference.



Participants at a parallel section in the Mathematics Department Computer laboratory during the UNN 2019 Conference.



L-R: President elect, Prof. Bashir Ali and the Vice President elect, Prof. G.C.E. Mbah with smiles all the way after the Annual General Meeting at the UNN 2019.




Group photograph of the newly appointed council members for 2019 - 2021 after the UNN 2019 Annual General Meeting.





Group photograph of some Associate Editors of the Notices of the NMS at the UNN 2019 Annual General Meeting.




DEPARTMENT OF MATHEMATICS,  
UNIVERSITY OF IBADAN,  
IBADAN, NIGERIA.

Announces an

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FROM SERVICE**

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PROFESSOR  
**Olabisi O. Ugbebor**  
B.Sc. (Ibadan), Ph.D. (London),  
FMAN, FNMS





theme


## Mathematics:

FRONTIERS, PERSPECTIVES AND  
APPLICATIONS



 **28th, 29th  
JANUARY 2021**

 Dr. M.E. Egwe:  
[egwemurphy@aol.com](mailto:egwemurphy@aol.com)  
080336792310

 Dr. H. P. Adeyemo  
[praise.adeyemo13@gmail.com](mailto:praise.adeyemo13@gmail.com)



## FROM THE ARCHIVE



Cross section of the Nigerian Women in Mathematics (NWM) members and Executive at the 2014 inauguration.



Prof. G. C. E. Mbah presenting kola to the Vice Chancellor of UNN, Prof. Charles Igwe in the presence of the President of NMS, Prof. N. I. Akinwande at an occasion.



Representatives of the Nigerian Women in Mathematics at the 1st West African Women in Mathematics held at AIMS, Senegal, July 8th - 9th, 2016.



## 2019 AMMSI-PHILLIP GRIFFITHS PRIZE WINNER

The AMMSI-Phillip Griffiths Prize for 2019 is awarded to Charles E. Chidume of the African University of Science and Technology in Abuja, Nigeria. Professor Chidume's work encompasses several fields, including Nonlinear Functional Analysis, Nonlinear Operator Theory and Differential Equations; in particular, his research focuses on the area of fixed point theory where his contributions have become indispensable. He is noted for his proof that the Mann sequence for non-expansive maps is uniformly asymptotically regular in any real normed space provided the domain of the map is bounded, hence resolving a problem which had been open since 1978. In another brief, elegant paper, he produced an example to show that the Mann iteration sequence will not always converge strongly to a fixed point of a Lipschitz pseudo-contractive map, thereby resolving an open problem in the field for several decades. He authored or co-authored over 183 research papers and his works have been extensively cited. Professor Chidume has received multiple prestigious awards, including the British Council Fellowship in Mathematics (1986), the Third World Academy of Sciences (1988), the Honor Certificate by the



Romanian Mathematical Society (2018).

Professor Chidume has played a key role in discovering and developing young mathematicians in Africa through supervision of many postgraduate students at the International Center for Theoretical Physics (ICTP) in Trieste, Italy, and at the University of Nigeria, Nsukka. He has served as an Associate Editor of numerous scientific journals and is a Fellow of The World Academy of Sciences (FTWAS), among others.



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### THANK YOU TO

The Special Committee with the following membership:

1. Dr. Saheed Ojo Akindeinde, Department of Mathematics, Obafemi Awolowo University, Ile-Ife – *Chairman*
2. Dr. Ugochukwu Rich Ndubuisi, Department of Mathematics, Federal University of Technology, Owerri – *Secretary*
3. Mr. Jamilu Yahaya, Department of Mathematics, Ahmadu Bello University, Zaria – *Member*

constituted by the Editor-in-Chief (Prof. S. S. Okoya) on behalf of the Editorial Board and the Associate Editors of the Journal of the Nigerian Mathematical Society.

The committee's recommendations will project the image of the Journal as we celebrate 40 years of the Journal and the Society next year.

**Professor S. S. Okoya** *FNMS FMAN*

*Editor-in-Chief, Journal of the NMS (2011 - date)*

*Editor, Notices of the NMS (2016 - date)*



## MEETINGS &amp; CONFERENCES

## THE 38TH ANNUAL CONFERENCE THE NIGERIAN MATHEMATICAL SOCIETY CONFERENCE 2019

The 38<sup>th</sup> Annual conference of the Nigerian Mathematical Society (NMS) was held at the Department of Mathematics, University of Nigeria Nsukka from 18<sup>th</sup> to 21<sup>st</sup> June 2019. The event witnessed participants from various states in Nigeria and some West African countries. There were over five hundred participants. The local organizing committee and the entire staff of the Department of Mathematics worked tirelessly to make the event a huge success.

The event was supported by different bodies and individuals. The Nigerian Mathematical center (NMC) Abuja supported the event financially. The LOC wishes to appreciate to the Director of the center for his kind gesture. The administration of the University of Nigeria supported the conference by providing hotel accommodation for all council members and guest speakers in addition to providing busses to convey council members and participants to and from their hotel accommodation. The Pastor E A Adeboye professorial chair in the Department of Mathematics also contributed to the success of the event by releasing some of its facilities to enhance presentations at the parallel sessions.

The Theme of the conference was “Mathematics: Bedrock for Scientific and Technological Advancement”. The opening ceremony of the conference was held on Wednesday, 19<sup>th</sup> June 2019 at the Princess Alexandria Auditorium UNN. The Vice Chancellor of the University of Nigeria in the person of Professor C. A. Igwe who was the chief host of the conference was the Chairman of the opening ceremony. Though he was unavoidably absent; he was ably represented by the DVC academics Professor James Ogbonna. Also present at the opening ceremony was the Dean of the faculty of Physical Sciences, Professor U.C. Okoro. The President of the Nigerian Mathematical society gave an opening remark while Vice Chancellor ably represented by the Deputy Vice Chancellor (Academics) declared the conference open. The key note address was delivered by Professor Samuel S. Okoya (FNMS, FMAN) of the Department of Mathematics, Obafemi Awolowo University Ile-Ife Nigeria.

The opening ceremony was concluded with two plenary lectures. Professor O. D. Makinde (MFR FAAS, FIAPS) gave a plenary lecture titled: “Mathematical treatment of Fluid Flows and Heat Transfer in Engineering and Biological Systems”. The second plenary lecture titled “Are we rational? From Economy to Differential Geometry through Partial Differential Equations” was

taken by Professor Ngalla Djitte who is currently Head of the Department of Applied Mathematics at Gaston Berger University, Saint Louis, Senegal.

After the opening ceremony, the participants went for lunch and a short break. The conference continued at about 4.00pm that same day with parallel sessions. The parallel sessions were held at the JOC Ezeilo (aka Abuja) building. There were about ten parallel sessions with paper presenters from various aspects of Mathematics, Mathematics Education, Statistics and Computer Science. The parallel sessions were stopped at about 6 pm for participants to take their Dinner which was provided by the LOC.

The conference continued the following Thursday, 20<sup>th</sup> June 2019 at about 7 am with breakfast for participants. After breakfast, the participants continued with the parallel sessions as on the previous day. All Parallel sessions ended before lunch and break at about 2pm. The conference continued on this day by 4pm at the Princess Alexandria auditorium for the Annual General Meeting (AGM) of the Nigerian Mathematical Society.

During the AGM the existing council was dissolved and new executives were elected into various vacant positions in the NMS council. Election was conducted and Prof Ali Bashiru of Bayero University, Kano emerged as the new President of the NMS. The Vice president elect was Prof GCE Mbah of the Department of mathematics UNN while Prof Adesola Adeniran of Federal University of Agriculture Abeokuta emerged as secretary.

Also during the AGM the hosting of the 39<sup>th</sup> Annual conference of the NMS was officially given to Redeemer University Ede. Redeemer University Ede is the first private University to host the Nigeria Mathematical Society conference. Most of the participants departed to their various destinations on Friday, 21<sup>st</sup> June 2019.

After the AGM the conference ended with a special dinner for participants at the Princess Alexandria auditorium. Certificates of presentation and participation were distributed to participants as the concluding event of the conference.

The Department of Mathematics, the LOC and the University of Nigeria appreciate the council of the Nigeria Mathematical Society for the right to host and the successful hosting of the conference. We look forward to another opportunity to host such an important event in future.

Thank you.

**Prof. G. C. E. Mbah**

*Chairman LOC*

*Head, Department of Mathematics UNN*

**Dr. D. F. Agbebaku**

*Secretary LOC*

*Department of Mathematics, UNN*

## MEETINGS &amp; CONFERENCES

# THE NIGERIAN SOCIETY FOR MATHEMATICAL BIOLOGY

The Nigerian Society for Mathematical Biology (NSMB) in conjunction with the Department of Mathematics, University of Nigeria Nsukka had her 4<sup>th</sup> International workshops on Mathematical modeling and simulation (IWWMAS) from 8<sup>th</sup> - 11<sup>th</sup> September, 2019 and her 2<sup>nd</sup> Annual Conference from 11<sup>th</sup> - 14<sup>th</sup> September, 2019. The one-week event took place in the Department of Mathematics, J.O.C. Ezeilo Building (aka Abuja), University of Nigeria, Nsukka.

The workshop began on Monday 9<sup>th</sup> September 2019 with a brief opening ceremony. The opening ceremony for the workshop was chaired by the President of the Society with some of the workshop lecturers as guest on the high-table. The workshop began the same day immediately after the opening ceremony. The areas covered in the workshop include, but not limited to

- Bio-mathematics/Epidemiological model
- Non-Epidemiological models (Cardiovascular flows)
- Analysis of models constructed
- Fluid dynamics and their models
- Basic tools and software for Graphical Analysis of models (MATLAB, MAPLE, MATIMATICA, etc)

The resource persons that featured in the 2019 workshop include:

Prof. N.I. Akinwande (FUTMINNA), Prof. G.C.E. Mbah (UNN), Dr. D. Okunghae (UNIBEN), Prof. V. Asor (MOUAU), Dr. A. Sirajo (FUTMINNA). Practical sessions which include practical training on how to use MATLAB, MAPLE, and other softwares needed for the analysis of models were handled by Dr. T. Tivde(FUAM), Dr D. Sarki and Dr. D. Agbebaku (UNN).

The workshop ended on Wednesday 11<sup>th</sup> September 2019 and certificates of participation at the workshop were given to participants after a brief closing ceremony. Wednesday 11<sup>th</sup> September was the arrival of the conference participants. Workshop participants were given express permission to participate and present papers at the conference. So many of them remained to participate in the conference which kicked off the following day 12<sup>th</sup> September 2019.

**Prof. G. C. E. Mbah**  
*Chairman LOC*  
*Head, Department of Mathematics UNN*

The conference witnessed participants from various part of the Nation. There were close to a hundred participants at the conference. The conference was a success. The University administration having supported the NMS conference in June did not relent in supporting the NSMB conference at this time also. In fact, the University supported the conference by providing accommodation and lodging to some NSMB council members while the local organizing committee provided accommodation for the rest. The conference was essentially a self-sponsored conference.

The Theme of the conference was “Sustaining health and bio-medical reforms in Nigeria through Mathematics”. The Vice Chancellor of the University of Nigeria in the person of Professor C. A. Igwe was the chief host of the conference. The opening ceremony took place at the Prof JOC Ezeilo building, UNN and was chaired by the Dean of the Faculty of Physical Sciences in the person of Prof U. C. Okoro who also doubled as the representative of the Vice Chancellor of the University of Nigeria, Nsukka.

The key note address speaker was Professor N. Akinwande while the plenary speakers were Prof. Daniel Okunghae from University of Benin, Benin City, Nigeria and Prof. G. C. E Mbah from University of Nigeria, Nsukka, Nigeria.

After the opening ceremony, the participant went for lunch and break. They returned again for the parallel session which started at about 3pm. The parallel sessions had presenters from different fields of Mathematics, Statistics and Computer Science. The parallel sessions continued till about 6pm and resumed again on Friday 13<sup>th</sup> September 2019.

After the parallel session which ended at about 2pm on Friday the conference had her annual general meeting at the JOC Ezeilo building at about 3pm. During the AGM issues pertaining the growth and progress of the NSMB were raised, discussed and conclusive decisions were taking.

Thank you.

**Dr. D. F. Agbebaku**  
*Secretary LOC*  
*Department of Mathematics, UNN*

## REPORT OF THE 2ND BIENNIAL CONFERENCE

The 2<sup>nd</sup> Biennial Conference of the Nigeria Women in Mathematics tagged '**Mathematical Sciences & Security Challenges for Women & Children**' took place at the University of Nigeria, Nsuka from 17<sup>th</sup> - 18<sup>th</sup> June 2019 in conjunction with Nigerian Mathematical Society's 38<sup>th</sup> Conference which held between, 18<sup>th</sup> and 21<sup>st</sup> of June. The plenary lecture was given by Professor Ngozi J. Anyaegbunam, from the Department of Science Education, Faculty of Education, University of Nigeria, Nsuka with 41 participants. Four research presentations were given during the conference and in conclusion there was a panel discussion where the modality for Nigeria chapter of the celebration of the Women in Mathematics day, which comes up May 12, every year, was discussed. It was agreed that for the coming year we gather the faces of women in Mathematics in Nigeria with their voice note, introducing themselves and area of research in their local languages. Also, four research groups were formed at the panel discussion with the mandate to achieve published journal articles in each group which will be reported at the next Biennial Conference in 2021. The groups formed are as follows:

1. Numerical Analysis
2. Fluid, Solid, Bio-Mathematics
3. Operation Research
4. Analysis and Algebra

Each group is to have a whatsapp platform where they will discuss on their research group. The Council of the NMS under the Presidency of Professor N.I. Akinwande, paid the accommodation expenses of the NWM Executive members throughout the 2<sup>nd</sup> NWM biennial and the 38<sup>th</sup> NMS Conferences, at the University of Nigeria, Nsukka, 17<sup>th</sup> to 21<sup>st</sup> of June, 2019. We are very grateful to the President and all the Council members.


## BRIEF HISTORY OF THE NIGERIAN WOMEN IN MATHEMATICS

The Establishment of the Association began in 2010, it was initiated by Dr. Deborah Olufunmilayo Makinde, of the Department of Mathematics, Obafemi Awolowo University, Ile-Ife, Nigeria; Her vision to bring Women in Mathematics together as a group to foster their ability and capability, to increase their success story and interest of young girls in taking up careers in Mathematics/Mathematical sciences, came to limelight in collaboration with Professor O.O. Ugbebor at the 2010 Pan African Congress of Mathematicians (PACOM), held at the National Mathematical Centre, Abuja in 2010, where she got the contacts of all the females in attendance. That time, funding was the major impediment for the Inauguration; this eventually came up on the 8th July, 2014 through the sponsoring of Pastor E.A. Adeboye. Professor Chair, occupied by Professor O.O. Ugbebor; nine (9) officers elected by the Members association, being seven (7) executive officer and two (2) Conference Officers.

The Association had two successful biennial Conferences 1st being between 8th to 9th, 2017 at the University of Agriculture, Makurdi, Nigeria, while the 2nd was between 17th and 18th, 2019 at the University of Nigeria, Nsukka. Also, one international Conference being the 2nd West African Women in Mathematics conference, 25th to 27th, June 2018, sponsored by International Mathematics Union – Commission for Developing Countries (IMU-CDC); National Mathematical Centre, Kwali, Abuja (under the Chairmanship of the Professor E. S. Onah); Nigerian Mathematical Society (under the Presidency of Professor N.I. Akinwande); The Vice-Chancellor (Professor Abel Idowu Olayinka), University of Ibadan, Ibadan and Pastor E.A Adeboye.

The Association is registered under the Corporate Affairs Commission of Nigeria.






**THE NIGERIAN MATHEMATICAL SOCIETY**  
wishes to announce her


**1<sup>st</sup> Eminent Virtual Lecture**

**Research and Publication in Mathematical Science: The Best Practices**


**Date: Saturday October 24, 2020**  
**Time: 4:15pm - 6:00 pm**  
**Venue: Redeemer's University, Ede**




**Prof. Abba Gumel**  
Arizona State University, U.S.A  
Speaker




**Prof. O.J. Adeniran**  
Moderator



**Prof. Micha Osilike**  
Discussant



**Prof. James Oguntuase**  
Discussant



**Prof. A. E Akinlo**  
Vice Chancellor RUN  
Host

*Dear Reader,*



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<https://ojs.ictp.it/jnms/>

*On behalf of the Editorial board and the Associate editors of the Journal of NMS, we appreciate Dr. Clement Onime of the International Centre for Theoretical Physics, Italy and the IT support team for the recent upgrade of the Journal of the NMS.*

*Thank you, reader for patronizing the Journal of the NMS.*

*Professor Samuel S. Okoya* JNMS JNMTN  
Editor-in-Chief, JNMS

## C O M M U N I C A T I O N



## A BRIEF BIOGRAPHY OF LATE PROFESSOR ALAGBE WASIU GBOLAGADE

(02/02/1958 - 22/09/2019)

Prince Alagbe Wasiu GBOLAGADE was born into a royal family at Iwo, Osun State on 2<sup>nd</sup> February, 1958. He was a Professor of Mathematics who obtained a Bachelor of Science (B. Sc) Degree in Mathematics with Second Class Honour (Upper Division) from the University of Ilorin, Ilorin in 1986 and Masters of Science (M. Sc) Degree in Mathematics from Obafemi Awolowo University, Ile-Ife in 1990. He obtained a Postgraduate Diploma in Computer Science from Ladoke Akintola University of Technology, Ogbomosho in 1994 and Doctor of Philosophy (Ph.D) Degree in Mathematics from University of Ilorin, Ilorin, Kwara State in 1997. His area of specialization was Fluid/Solid Mechanics and Computational Mathematics. Late Professor Gbolagade received several academic scholarship and fellowship awards including Gani Fawehinmi Scholarship award (1986), Federal Government of Nigeria Postgraduate Scholarship (1988); Obafemi Awolowo University Fellowship award (1989); Leadership Trust Foundation award (1999), UNU-IIST Visiting Fellowship at the University of Calgary, Canada (2005).

Late Professor Alagbe W. Gbolagade worked at the College of Education Ila-Orangun (01/11/1988 to 1995), University of Ibadan (1995-1996), Olabisi Onabanjo University (formerly Ogun State University), Ago-Iwoye from November 1, 1996 to 2009 after which he joined the services of Osun State University, Osogbo Nigeria. He was a visiting Professor to University of the North, South Africa (2006), Kano State University, Wudill, Kano (January 2006), Babcock University, Ilesha, (August 2006), Fountain University, Osogbo, While in Osun State University, he served as External Examiner to several Nigerian Universities including Federal University of Technology, Minna, Niger State, Ladoke Akintola University of Technology Ogbomosho and so on. He supervised undergraduate and postgraduate research students and also served in several administrative capacities within the University system. These include membership and chairmanship of several Academic Committees and as Pioneer Head of the Department of Mathematical and Physical Sciences (2009-2010); He was the Director of Foundation Degree

Programme (2010-2011). Late Professor Gbolagade served as Provost of the College of Science, Engineering and Technology and also as Provost of Postgraduate College. He also served as Senate Representative on the Governing Council of Osun State University. He singlehandedly resolved lingering crisis between the former Principal Officers of the University and the Governing Council of Osun State University. On 15<sup>th</sup> February, 2012, my late Professor delivered an inaugural lecture series 006 titled "Applied Mathematics as a Panacea to all round Development: Trends and Prospects". He also served as Leader of the National University Commission (NUC) Accreditation visitation team to some Universities. He was an active member of the Nigerian Mathematical Society (NMS), Nigerian Association of Mathematical Physics (NAMP) and many others.

On Wednesday 19<sup>th</sup> July, 2017, the immediate past Osun State Governor, Ogbeni Abdulrauf Adesoji Aregbesola, approved the appointment of Professor Alagbe Wasiu Gbolagade as the Statistician-General of the State. According to the former Governor, Professor Gbolagade as the Statistician-General of the state, was a thoroughly bred academic who filled the post nicely and proceeded to compile an economic and social database with full indices on all parameters for the state. He was able to bring fact and truth from data in a non-controversial manner. He was on this position when he received a call to glory and departed from us on the 22<sup>nd</sup> of September 2019. Professor Gbolagade, a freedom fighter, a teacher of Mathematical Sciences and native intelligence, lived a meritorious life for the people and for the continuous benefit of humanity. He was survived by wives and well educated biological and academic children. May his soul continue to find peace with his creator.

Adieu my Professor, a role model and a mentor.

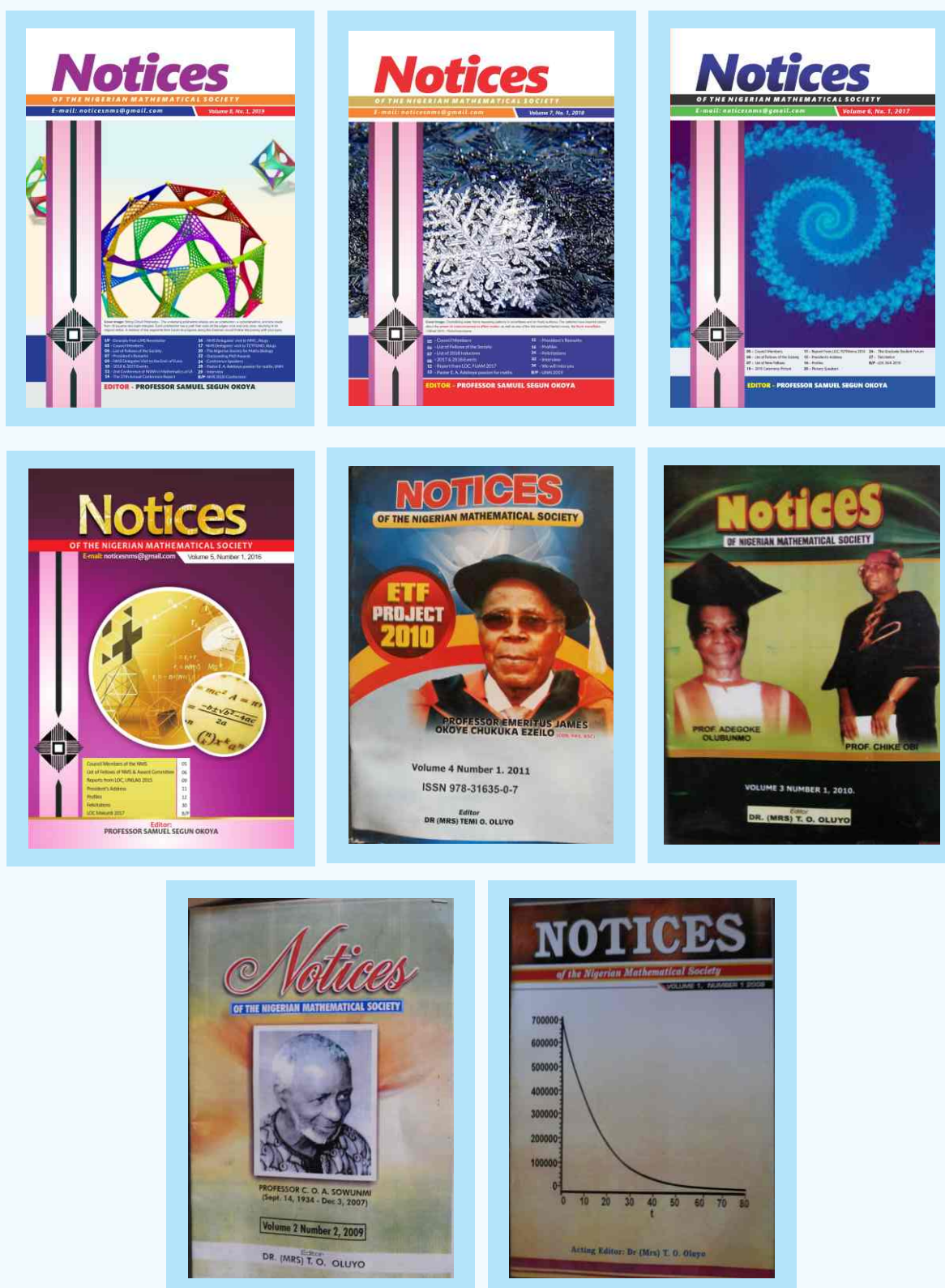
  
Amos O. Popoola (PhD)

Professor of Mathematics and Director,  
Office of Research, Innovation and Management,  
Senate Representative on the Governing Council of Osun State University,  
Provost-elect, College of Science, Engineering and Technology, Osogbo Campus  
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**NIGERIAN MATHEMATICAL SOCIETY**  
**PRESENTS**



# 39<sup>TH</sup> ANNUAL CONFERENCE

Holding at Redeemer's University, Ede

**THEME:**

SUSTAINABLE DEVELOPMENT GOALS:  
**THE MATHEMATICAL PERSPECTIVE**

DATE: 5TH – 7TH JULY, 2020.

PRE-CONFERENCE WORKSHOP ON  
NON-LINEAR DYNAMICS.

VENUE: ICT LABORATORY, REDEEMER'S  
UNIVERSITY, EDE, OSUN STATE, NIGERIA.

Workshop Registration Fee: ₦15, 000.00

DATE: 7TH – 10TH JULY, 2020.

VENUE: DEPARTMENT OF MATHEMATICAL  
SCIENCES, FACULTY OF NATURAL SCIENCES  
BUILDING, REDEEMER'S UNIVERSITY, EDE,  
OSUN STATE, NIGERIA.

Annual Dues: ₦5,000:00

Conference Registration Fees:

Member: ₦10, 000.00

Student: ₦5, 000.00

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THE VISITOR, REDEEMER'S  
UNIVERSITY & GENERAL OVERSEER  
REDEEMED CHRISTIAN CHURCH  
OF GOD

## LEAD PAPER

PROF. M. O. OSILIKE (FNMS)  
FIRST OCCUPIER OF  
PASTOR E.A ADEBOYE CHAIR,  
UNIVERSITY OF NIGERIA,  
NSUKKA.

## LEAD PAPER

PROF. S. S. MOTSA,  
UNIVERSITY OF SWAZILAND,  
SWAZILAND.

## KEYNOTE SPEAKER

PROF. STEPHEN E. ONAH (FMAN, FIA)  
DIRECTOR / CHIEF EXECUTIVE,  
NATIONAL MATHEMATICAL  
CENTRE, ABUJA, NIGERIA.

## CALL FOR ABSTRACTS

PLEASE SEND YOUR ABSTRACTS TO [NMS.RUN2020@RUN.EDU.NG](mailto:NMS.RUN2020@RUN.EDU.NG) OR VISIT THE CONFERENCE [nmsconference2020.run.edu.ng](http://nmsconference2020.run.edu.ng)  
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