



THE NIGERIA ASSOCIATION OF
HYDROLOGICAL SCIENCES (NAHS)

IN COLLABORATION WITH

THE UNIVERSITY OF BENIN

BENIN CITY, EDO STATE

9th NAHS INTERNATIONAL Conference EDO 2018



THEME

WATER, ENERGY, FOOD AND
ENVIRONMENT (WEFE) LINKAGES

DATE: 9th - 12th Oct. 2018 **TIME:** 9:am Daily

VENUE:

New Senate Chambers Building, Ugbowo Campus,
University of Benin, Benin City, Edo State



THE NATIONAL ANTHEM

Arise, O compatriots, Nigeria's call obey
To serve our fatherland
With love and strength and faith
The labour of our heroes past
Shall never be in vain
To serve with heart and might
One nation bound in freedom,
Peace and unity.

THE NATIONAL PLEDGE

I pledge to Nigeria, my country
To be faithful, loyal and honest,
To serve Nigeria with all my strength,
To defend her unity and uphold
Her honor and glory.
So help me God



UNIBEN ANTHEM

1. All over the wide wide world
Our fruitful works unfurl;
What we sow'd with joy and pride
with good our common goal
One heart and voice for all,
we need the purple clarion call.

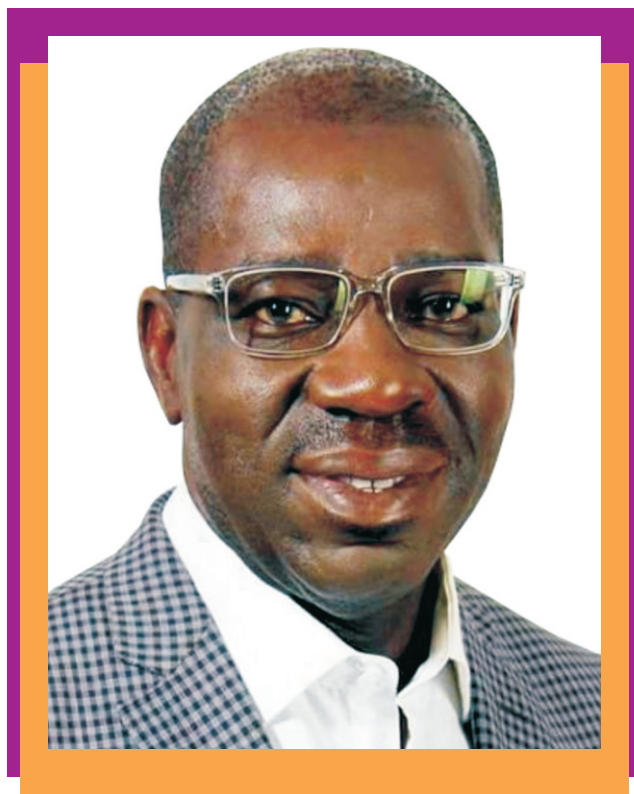
Refrain: Arise mighty **UNIBEN**

*Robed in your purple and gold
clad in your fertile green hem
Knowledge for service untold*

2. Between blue sky and red soil
Excellent hard work endure
We groom man and nation in
Spirits of Unibest pure
Come through our opened gate
Where fair play and merit dictate.

Refrain: Arise mighty **UNIBEN**

3. God bless this our noble school
As we bid peace to reign
May we have no cause to mourn
But rejoice in gains achieved
We hope for place man will
Bring brain and brawn to build self still.



His Excellency, Mr. Godwin Nogheghase Obaseki
The Executive Governor of Edo State



Engr. Suleiman Adamu FNSE
Honourable Minister of Water Resources
Federal Ministry of Water Resources



Alh. Ibrahim Usman Jibrin
Honourable Minister of State for Environment
Federal Ministry of Environment



Engr. Tonye David-West
MD/CEO Niger-Delta River Basin
Development Authority



Prof. Sani Abubakar Mashi
Director-General / CEO
Nigerian Meteorological Agency



Dr. Moses Beckley
Director General, Nigeria Hydrological
Services Agency (HIHSA), FCT, Abuja



Prof. Akeem Babatunde Rabi
Director, Centre for Atmospheric Research
National Space Research and Development Agency
Kogi State University, Anyigba,



Engr. Saliu O Ahmed
Managing Director, Benin-Owena River
Basin Dev. Authority (BORBDA)

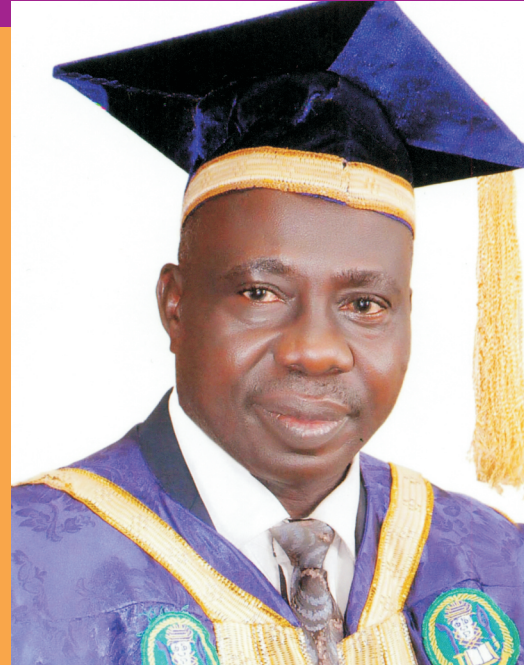


NAHS National President
Prof. Abel A. Adebayo FNAHS
Modibbo Adama University of Technology,
Yola, Nigeria

PRINCIPAL OFFICERS OF THE UNIVERSITY



HIS ROYAL HIGHNESS,
MUHAMMADU SANUSI – II
Chancellor, University Of Benin, Nigeria



Prof. F.F.O Orumwense FNSE
Vice Chancellor/ Chief Host



Prof. J.O Ehiorobo
Deputy Vice Chancellor (Admin.) /
NAHS _Edo 2018, Logistic Chair



Prof. Pius Iribhogbe MBBS, FWACS, FACS
Deputy Vice Chancellor (Acad.)



Prof. G.E. Eriyamremu
Deputy Vice Chancellor, Ekehuan Campus



Mrs. O.A. Oshodin (Mrs)
Registrar, University Of Benin



Dr. L. Obasuyi
University Librarian



Dr. Victor U. Imagbe
University Bursar

NIGERIA ASSOCIATION OF HYDROLOGICAL SCIENCES



NATIONAL EXECUTIVE COMMITTEE MEMBERS

- | | |
|-----------------------------------|---------------------|
| 1. Professor A.A. Adebayo | National President |
| 2. Professor O.D Jimoh | Vice President 1 |
| 3. Mrs. H.W Umaru | Vice President 2 |
| 4. Dr. S Odunuga | Secretary |
| 5. Mr. K Ogbu | Assistant Secretary |
| 6. Dr. G.T Amangabara | Publicity Secretary |
| 7. Mr. M Okechukwu | Financial Secretary |
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| 9. Professor C.C Mbajorgu | Editor-in-Chief |
| 10. Emeritus Prof. Lekan Oyebande | Ex-Officio I |
| 11. Professor S. Mustafa | Ex-Officio II |

ZONAL COORDINATORS

- | | |
|----------------------------------|------------------------------|
| 1. Alh. Ahmed Abubakar Jalingo | North East Zonal Coordinator |
| 2. Ima. S. Hogan | South-South Coordinator |
| 3. Engr. Dr. Luke O. Uzoigwe | South-East Coordinator |
| 4. Mal. Abdullahi Muhammed Tyabo | North-Central Coordinator |
| 5. Prof. Olasumbo Martins | South West Coordinator |
| 6. Prof. Abubakar Ismail | North west Coordinator |

NIGERIA ASSOCIATION OF HYDROLOGICAL SCIENCES



EDO 2018 LOC MEMBERS

- | | | |
|-----|---------------------------|---|
| 1. | Prof. J.O Ehiorobo | Chairman/Deputy Vice Chancellor
(Administration) University of Benin |
| 2. | Prof. O.C. Izinyon | Vice Chairman/Department of Civil Engineering |
| 3. | Prof. C. Ikhile | Sec. /Dept. of Geography and Regional Planning |
| 4. | Prof. Tito Aighewi | Member |
| 5. | Engr. A.I Agbonaye | Member/ Former Director of Works Uniben |
| 6. | Mr. Blessing E Omosefe | Member/ Department of Civil Engineering |
| 7. | Engr (Mrs) E.S Ebuwa | Member/ Department of Civil Engineering |
| 8. | Dr. R.I Ilaboya | Member/ Department of Civil Engineering |
| 9. | Dr N.I Ihimekpen | Member/ Department of Civil Engineering |
| 10. | Dr. H.A.P Audu | Member / Department of Civil Engineering |
| 11. | Engr. Oria-Usifo Ehi | Member/ Department of Civil Engineering |
| 12. | Dr. S.D Iyeke | Member/ Department of Civil Engineering |
| 13. | Engr. Prince Ogbeifun | Member/ Department of Civil Engineering |
| 14. | Engr. O. Osarenren | Member/Power specialist |
| 15. | Engr. Solomon E. Okonofua | Member/ Department of Civil Engineering |
| 16. | Miss Sarah Omosegho | Member |
| 17. | Uwadia N.O | Member /Energy Commission of Nigeria |
| 18. | Miss Juliet Akpejiori | Assistant Sec II/Department of Geomatics |
| 19. | Dr. C.N Emeribe | Assistant Sec I/ Energy Commission of Nigeria |

BRIEF ON LEAD PAPER PRESENTERS



Prof. J.O Aribisala *Res. Fell. (Aalborg), FNSE, FNICE, COREN R.*

Prof. James Olugbenga Aribisala obtained a Bachelor Degree in Civil Engineering, Second Class Upper Division in 1985 and a Master of Engineering Degree in Civil Engineering in 1989 from the prestigious University of Ilorin, Ilorin, Kwara State. He was a scholar at University of Aalborg, Denmark where he carried out his PhD literature review and laboratory work between 1991 and 1992. He obtained a Ph.D. in Civil Engineering at University of Benin in 2000 and Postgraduate Diploma in Irrigation Engineering at CINADCO, Tel Aviv, Israel in 2003. He is a recipient of several Awards, Honours and Distinctions, including, Federal Government of Nigeria Scholarship for M.Eng (1987-1988); University of Ilorin Postgraduate Scholarship for M.Eng (1988-1989); EEC Award utilized at University of Aalborg, Denmark (1991-1992); Award of excellence, Nigerian Society of Engineers (2001); MASHAV Scholarship, CINADCO Israel for PGD (2003); International Professional of the Year (International Biographical Centre, Cambridge, England) (2005); Highlands Fellowship, U.S.A. for purpose driven life (2007); Most Outstanding Lecturer, University of Benin (2008); Award of Commendation, Alumni Association, EKSU (2009); ICON 2010, University of Kent, United Kingdom (2010); Best Consultant of the Year, Nigerian Institute of Builders (2011); Award of Excellence in Public Service by First Baptist Church, Ado-Ekiti (2014); Award of Excellence by Junior Chamber International (JCI), EKSU Chapter (2014); Award for Selfless Service by Rotary Club of Ado-Ekiti (2014). Engr. Prof Aribisala excels not only in the Academic world but he has also left his footprints in the sands of time in the practice (field) of Civil Engineering. He is one of the founding Members of the Ado Ekiti Branch, Nigerian Society of Engineers and the Nigerian Institution of Water Engineers, a division of the Nigerian Society of Engineers. He is a Fellow of the Nigerian Society of Engineers, Fellow of Nigerian Institution of Civil Engineers, Fellow Institute of Public Administration, Fellow and pioneer National Chairman of Water Division of Nigerian Society of Engineers. He is COREN Registered. He has served in different capacities at the National level like Member, Presidential Committee on Iron and Steel, Member, Appointments, Promotion and Disciplinary Committee and Member, Technical Committee. Professor Aribisala is one of the notable Consultants in the Engineering profession in Nigeria. He was the Coordinating Consultant (Coordinating the activities of other Consultants) on road projects in Ekiti State between 2007 and 2010. He was a consultant to African Development Bank. He has been a consultant on many projects in Nigeria.



Dr. Martins Obada Edivie *FNAH, FNMGS, mIAH*

Dr. Martin Obada Edivie obtained his B.Sc in Geology in 1983, M.Sc in Hydrogeology in 1991 and a Ph.D from Ahmadu Bello University Zaria-Nigeria in 2004. He has also attended a short course in Sophia Antipolis, France on Water Resources Assessment Development and Management in 1988 and Asia Institute of Water Resources Management, Philippines for Project Management course in 2011. In 1983/84, he was the first recipient of the NMGS/Mobil award in first position in the field of geology and was awarded same in 1984 at NMGS Conference at Nsukka. He was also awarded a WHO certificate of recognition for a valuable contribution to the international competition "HEALTH FOR ALL-WEALTH FOR ALL" photo competition in April 1988. In 2010, he was appointed the Coordinator/Project Manager, Rural Water Supply and Sanitation Centre/JICA of the National Water Resources Institute, Kaduna. Presently, he is the Director/Head of Training Department of the NWRI, a Consultant Hydrogeologists to some Consultancy firms operating in Nigeria and organizations like DFID, ADB and in 2013-2015 EU Water Supply and Sanitation Sector Reform Programme (WSSSRP) Phase II as the National Hydrogeologist (drilling Programme) in Nigeria. He is a Fellow and former Editor-In-Chief of Nigerian Mining and Geosciences Society (NMGS), a Fellow and former Editor-In-Chief of the Nigerian Association of Hydrogeologist, a member of International Water Resources Association (IWRA) and Association of Geophysicists in Exploration and Research in Africa (AGERA). He is a member of International Association of Hydrogeologists (IAH) and a registered member of Council of Mining Engineers and Geoscientists (COMEG). He is a member of the Steering Committee of Africa Groundwater Network for capacity building (AGW-Net) 2009-Date, Network Manager of West African Network for capacity building (WA-Net) 2013-Date and a National member of IHP-UNESCO. He is also the Desk Officer for NEPAD Centre of Excellence on Water Resources, NWRI Kaduna Nigeria. He has over 50 publications in Journals, conference and seminar papers and a book to his credit and contributed to the EU Conflict Resolution and Community Involvement In: Water Resources and River Basin Management, a Joint Manual of European Commission and published by Joint Research Centre, Ispra, Italy and NEPAD Western Africa Centres of Excellence

NAHS NATIONAL CONFERENCE: EDO_2018

SPECIALS GUESTS OF HONOUR

His Excellency, Mr. Godwin Nogheghase Obaseki

The Executive Governor of Edo State

Engr. Suleiman. Adamu FNSE

Honourable Minister

Federal Ministry of Water Resources

Alh. Ibrahim Usman Jibrin

Honourable Minister of State for Environment

Federal Ministry of Environment

GUEST OF HONOUR

Mr. Yekini Idaiye

Honorable Commissioner,

Edo State Ministry of Energy and Water Resources

GUEST OF HONOUR

Prof. Sani Abubakar Mashi

Director-General / CEO

Nigerian Meteorological Agency

GUEST OF HONOUR

Dr, Moses Beckley

Director General,

Nigeria Hydrological Services Agency

GUEST OF HONOUR

Mr. Tonye David-West

Managing Director,

Niger-Delta River Basin Development Authority

GUEST OF HONOUR

Prof. Akeem Babatunde Rabi

Director,

Centre for Atmospheric Research

National Space Research and Development Agency

Kogi State University, Anyigba

GUEST OF HONOUR

Mr. Reuben A. Habu

Executive Director,

Nigeria Integrated Water Resources Management Commission

Federal Capital Territory, Abuja

CO-HOST

Engr. Saliu O Ahmed

Managing Director/CEO,

Benin-Owena River Basin Dev. Authority

CHIEF HOST

Prof. F.F.O Orumwense FNSE

Vice Chancellor,

University of Benin, Benin City

CO-HOST

Engr. Tonye David-West

Managing Director/CEO

Niger-Delta Basin Development Authority

Goodwill Message

from National President NAHS

I am highly elated to welcome you all to the 2018 National Conference of the Nigeria Association of Hydrological Sciences (NAHS) holding at the University of Benin, Benin City. We are grateful to the Almighty God for making this event a reality. This year's conference is unique in several ways. This is the first time the conference of this great association is held in the South - South zone of Nigeria. The choice of Edo State, the Heart Beat of the nation is also significant. Moreover, the conference theme Water, energy, food and environment linkages is very germane to sustainable water resources management. The nexus between water, energy and food has gained increasing attention globally and Nigeria cannot be left behind. This is why the association has taken this crucial subject as the theme of this year's conference. The water, energy and food nexus implies that these sectors are being inextricably linked such that actions in one area commonly have impacts on the others as well as on the ecosystem. Several well researched papers have been prepared for presentation and discussions on the various sub themes of the conference. I have no doubt that at the end; a very robust communiqué will emerge. I want to specially welcome our Special Guests of honour, the honourable Minister of Water Resources and the honourable Minister of Environment to this conference. We thank you for your support and presence. I equally welcome and appreciate the lead paper presenters, all our guests of honour and other special guests. I sincerely thank the Vice Chancellor of the University of Benin, Prof. F.F.O. Orumwense for hosting this conference with a very strong support. The Local Organising Committee (LOC) under the chairmanship of our indefatigable Deputy Vice Chancellor (Administration), Prof. Jacob Ehiorobo deserves commendation. They have put in so much efforts and sacrifices to organize this conference. I also appreciate the members of National Executive Committee of NAHS for their inputs and guidance to the LOC in the course of preparation for this conference. Finally I welcome all the invited guests, conference participants, members of the association, gentlemen of the press and the university of Benin community. Thank you and God bless.

PROF. ABEL A. ADEBAYO FNAHS
President, NAHS

Goodwill Message

from Vice Chancellor,
University of Benin

The University of Benin is indeed delighted to partner with the Nigeria Association of Hydrological Sciences (NAHS) on this important event of its 9th conference, Edo 2018. At a period when the world is undergoing tremendous challenges on all fronts, there can be no better time to bring together stakeholders from both academia and industry to brainstorm and provide scalable and sustainable solutions to the problems of climate change, food insecurity and energy crises. These solutions will of course start with intellectual engagement and creating synergy capable of addressing hydrologically and climatologically driven

environmental disasters at national and local scales. The 2012 flooding in Nigeria which is indirectly linked to climate change was unprecedented and unlike past flood events since forty years and Edo State was not spared. Moreover as global temperature continues to rise, more environmental problems are expected to occur primarily due to rapid urbanization, high poverty and youth unemployment levels, low National GDP, problem of solid waste and the fact that the geographical location of Nigeria, makes the country vulnerable to climatic change and variability. I am therefore proud and very delighted to be honoured with the hosting right especially as this is the first time South-South Zone of Nigeria is given such an opportunity. I am convinced that the choice of the University of Benin is a confirmation of the academic and research excellence on which our gains are built. Also University of Benin being one of the European Union – African Centres of Excellence in Water Science further add credence to her choice for hosting this event. This event on our campus is set to promote the culture of research and practice synergy that NAHS is known for in its last eight national conference editions. Your participation will enrich the diversity of perspectives and contents of papers to be presented and your practical experience, insights and contributions will add in no small way towards finding pragmatic solutions to our common problem. Again I welcome you all to Edo State, the “Heartbeat of The Nation” of Nigeria, its rich cultural heritage, and her beautiful serene ambience; welcome to Benin City, the home of one of the oldest sustained monarchies in the world. Welcome also to the University of Benin ---- KNOWLEDGE FOR SERVICE!

Prof. F.F.O Orumwense FNSE

Vice Chancellor, University of Benin, Benin City.

Goodwill Message

From MD, Benin-Owena River Basin Dev. Authority

On behalf of Management, Board of Directors and the entire Staff of the Benin-Owena River Basin Development Authority, I am delighted to welcome you to the Annual Conference of the Nigeria Association of Hydrological Sciences, Edo 2018 with the Theme “Water, energy, food and environment linkages” The Theme of this year's conference which mirrors the sensitivity and reality of the south-south region to hydrologically induced disasters, in particular flooding, water pollution and gully erosion problems is very germane to sustainable water resources management as well as attainments of the Millennium Development Goals 1, 2, 5, 6 and 7 of the United Nations. More so, the theme is in tandem with the strategic mandate of the Benin-Owena Basin Development Authority in promoting partnership and collaborative initiatives in Water resources development and Management. It therefore gladdens my heart knowing that this event is intended to create a platform for stakeholders from academia, industry, Ministries, Departments and Agency especially those with research and development mandates on climate change, river basin development and planning, erosion management etc., to come together and develop action plans aimed at realizing the three cardinal points of sustainability, namely the environment, society and economy, through collaborative and partnership initiatives. It is my hope and desire that papers presented at this conference will provide substantial inputs that will generate ideas with the potential of aiding inventions, growth, and development of human capital, industrial process optimization, energy conservation and collaborative research. Once again, welcome to a safe, secure, serene and beautiful environment in Benin City, Edo State, Nigeria.

Engr. Saliu O Ahmed

Managing Director/CEO,

Benin-Owena River Basin Dev. Authority



NIGER DELTA BASIN DEVELOPMENT AUTHORITY

21, Azikwe Road P.M.B 5676, Port Harcourt.

Ref:

Date: 3rd August, 2018

The Nigeria Association of Hydrological Sciences,
University of Benin,
Benin City.

GOODWILL MESSAGE FROM THE MANAGING DIRECTOR **NIGER DELTA BASIN DEVELOPMENT AUTHORITY**

On behalf of the Board of Directors, Management and the entire staff of the Niger Delta Basin Development Authority, I am very delighted to welcome you to the 9th National Conference of the Nigeria Association of Hydrological Sciences. (HAHS) holding for the first time in the Southern Nigeria, specifically at the great University of Benin – The Home of Academic Excellence and Creativity. This auspicious event with title Water, Energy, Food and Environmental (WEFE) linkages is a collaborative forum that seeks to explore innovative and emerging technologies that are key to nation building. More importantly, this year's conference seeks to go beyond the sparks of activities and forums that only provide transient answers to the questions of sustainable environmental development.

The conference theme is carefully and strategically designed to develop and promote new collaborative and pragmatic pathways for addressing the complex and baleful problems of climate change, energy and food shortage in the country. This has been cardinal focus of the Niger Delta Basin Development Authority. As a co-sponsor in this advocacy, awareness creation and stake holder's engagement, I can assure you that the Federal Ministry of Water Resources, other sister ministries and MDAs are working assiduously towards the attainment of the Millennium Development Goals of the United Nations particularly in the areas of poverty eradication, energy availability and food security in the country.

We therefore consider this forum very pertinent for developing the right and critical policies. Again, I welcome you to Edo State and wish you a fruitful deliberation.


Engr. Tonye David-West
Managing Director/CEO.

PROGRAMME OF EVENTS

DAY 1 Tuesday, 9th October, 2018

ARRIVAL,
COURTESY CALL ON HIS EXCELLENCY,
EXECUTIVE GOVERNOR OF EDO STATE
AND COCKTAIL PARTY

Registration Desk Opened at the Venue | 12:00pm

COCKTAIL PARTY

7:30PM AT THE BANQUET HALL
UNIVERSITY OF BENIN
UGBOWO CAMPUS, BENIN CITY

CONFERENCE DAY TWO - MORNING SESSION

Wednesday 10th October, 2018

Moderators: University PRO

DAY 2 Wednesday 10th October, 2018

9.00am-9:30am	Arrival and Registration of Participants
9:30am-9:45am	Arrival of Special Guests/Chief Host and co-host
9:45am-10:00am	Arrival of Guests of Honour
10:00am-10:10am	Opening Ceremony
10:10am-10:25am	Cultural Entertainment by Department of Theatre Arts
10:25am-10:30am	Opening Remarks by Prof. J.O Ehiorobo - LOC Chairman
10:30am-10:35am	Welcome Address by the Chief Host. Prof. F.F.O Orumwense - Vice Chancellor, University of Benin, Benin City
10:35am-10:45am	An Address by National President NAHS, Prof. Abel A. Adebayo FNAHS
10:45am – 10:55am	Address by, co-host, Engr. Saliu O Ahmed - Managing Director Benin-Owena River Basin Dev. Authority (BORBDA)
11:00 am – 11:10am	Address by, co-host, Engr. Tonye David-West - MD/CEO Niger-Delta Basin Development Authority
11:10am-11:30am	1st Lead Paper Presentation Prof. J.O Aribisala <i>Res. Fell. (Aalorg), FNSE, FNICE, COREN R</i> Topic: Water: An Ingredient for Energy, Food Security and Environmental Equilibrium
11:30am-11:50am	2nd Lead Paper Presentation Dr. Martins O. Eduvie <i>FNAH, FNMGS, mIAH</i> Head of Training Department National Water Resources Institute, Kaduna, Kaduna State Topic: Water, Energy, Food and Environment (WEFE) linkages: The Integrated Water Resources Management Approach
11:50am-12pm	Awards Presentation
12.00-12:05pm	Closing Remarks by Prof. Kess Obahiagbon Dean, Faculty of Engineering, University of Benin,
12:05pm-12:20pm	Address and Declaration of Conference open by The Honourable Minister of Water Resources, Engr. Suleiman. Adamu <i>FNSE</i>
12:20pm-12:30pm	Vote of Thanks, Deputy Vice Chancellor, (Academics) University of Benin, Prof. Pius Iribhogbe <i>MBBS, FWACS, FACS</i>
1:05pm-1:10pm	Group Photograph/Departure

CONFERENCE DAY TWO - AFTERNOON SESSION

Wednesday 10th October, 2018

1:15pm-2:00pm
2.00PM - 5:30pm

LUNCH

Parallel Sessions Paper Presentations

SESSION'S MODERATORS:

1. Prof. C.C Mbajiogu
2. Prof. O.D Jimoh
3. Prof. (Mrs.) M.N Ezemonye
4. Prof. Prof. Tito Aighew
5. Prof.(Mrs) C. Ikhile
6. Prof. N.N Idris
7. Dr. Prof. S. Mustafa

5:30pm

CLOSURE FOR DAY TWO

Papers Submitted For Presentation

Sub-Theme : Water and Food Security /Climate change Food and Drought		
S/N	Title of Article	Author's Information
1	Analysis of The Shortage of Ground Water in Gwantu Town Sanga Local Government Area, Kaduna State Nigeria	Philip Nyam Giwa, Bulus Elisha Gimba and Tanimu Musa gimbabulus@yahoo.com
2	Goodness of Fit of Five Probability Distribution Models For Precipitation Frequency Analysis of Some Stations in Nigeria Using L-Moment Approach.	*O.C.Izinyon, E. Otuario and J.O.Ehiorobo izinyon2006@yahoo.com, e.otuario@yahoo.com
3	Soil Surface Feature Responses to Rainfall in Obudu Local Government Area, Cross River State – Nigeria	*M. A. Abua; O. O. Ayiri and P. A Ojugbo ask4mossabua@yahoo.com
4	Evaluating The Performance Of Log -Normal Probability Distribution In Estimating The Amount Of Rainfall In Samaru Area, Zaria, Kaduna State	Aminu H.G and Aminu, Z aminuharunagattah@gmail.com, aminuzuni@yahoo.com
5	The Appraisal of the relationship between weather conditions and cassava production in Enugu state	Mba, Chinedu Lillian, Ezeh, Christopher Uche, Umerah, Chukwuma Toochukwu , chinedu.mba@unn.edu.ng, christopher- uche.ezeh@unn.edu.ng, noblechuma4@gmail.com,
6	Land Use Change And Rural Livelihood In Changing Climate In Semi-Arid Akko, Gombe, Nigeria	G. O. Abu, *R. D. Abu and L. A. Mbaya cial0522@yahoo.com
7	Climate Change in Nigeria: Implication for Food Security	ADE, Joshua and IKAPE Mercy Ogeyi adejosh663@gmail.com, ogeyimercy@gmail.com
8	An Analysis of River Water Quality and Health Challenges faced by Women in Southern Kaduna, Kaduna State, Nigeria	Adams Joyce and Bonoh Friday Joyceadams883@gmail.com
9	Analysis Of The Potentials Of Dadin-Kowa And Balanga Dam Sites For Sustainable Tourism Development In Gombe State, Nigeria	Ishaku D. , Emigilati A.M, Dan Y, Yason B. justdebbie27@gmail.com

10	Heavy Metal Levels in Soils at Solid Waste Dumpsites in Akure, Ondo State, Nigeria: Implication for groundwater Pollution	Ezemonye, M .N; Emeribe C .N and Egharegbemi, O.O ezemonyemary@yahoo.com
11	Trend Analysis Of Extreme Rainfall Events In North -West Nigeria	Ibrahim Ishiaku, Ojoye Samsideen, Safiyanu Garba Yauri, Badaru Yahaya Usman, shiaku.ibrahim@fubk.edu.ng
12	Adaptation Strategies of Rural Communities to Climate Change along the Gongola River in North Eastern Nigeria	Yakubu Dan and Idoma Kim Yakubudan720@gmail.com , kimidoma@gmail.com
13	Spatially Interpolation of Rainfall Data Using ArcGIS in South-east Nigeria: A Comparative Study	Okechukwu M.E, Mbajiorgu C.C. and Ugwu E.I michael.okechukwu@unn.edu.ng
14	Assessment Of Soil And Water Quality From Minjibir Irrigation Scheme For Sustainable Agriculture	Salisu Dan'azumi and Rabilu Abdulkadir Barau sdanazumi.civ@buk.edu.ng
15	Estimation Of Stream Discharge Data For Ungauged Basin Using SCS.CN Method	Izinyon O.C, Isagba E.S , Emeribe C.N ebuwa.isagba@uniben.edu,
Sub-Theme: Decision support system in Water Resources Management/ Cooperation and Partnership in Water Resources Management		
16	The Pollution Index of Groundwater from Boreholes around or closed to Refuse Dump in Benin City (Oredo L.G.A. as a Case Study)	Cole, N. O. and Oria-Usifo, E. E ehimailnett@yahoo.com , ekiado.oria-usifo@uniben.edu
17	Water Quality Assessment of Distribution Water Systems of some selected hospitality homes in Benin City, Edo state, Nigeria.	*Olisaka F.N , Odjadjare E.E.O and Ekhaize F.O folisaka@biu.edu.ng
18	Assessment of Vulnerability of Surface and Groundwater Sources from Agricultural Pollutants in the Sokoto River - Rima floodplain	Abdulqadir Abubakar Usman and Murtala Abubakar Gada abdulqadirabubakar8@gmail.com , gada.abubakar@udusok.edu.ng
19	Evaluation of Residual Chlorine Concentration in a Conventional Treatment Plant of a Municipal Water Distribution Network	Audu, H.A.P.and Ikhafia, O. P. henry.audu@uniben.edu ,
20	Modelling and prediction of Ground Concentration of Gaseous Pollutants from Utorogu Gas Plant and flow station, Niger Delta Area, Nigeria	Audu, H.A.P. and Okpoko, J. S. henry.audu@uniben.edu ,
21	Preliminary Investigation Of Groundwater Quality Within And Around Hospitals In Makurdi Metropolis, Nigeria	P.S. Anjembe, M. I. Ocheri² and M.A.Onah aonah@bsum.edu.ng,
22	Groundwater Quality Assessment Around Igbatoro Dump Yard Using Geospatial Technology	Okonofua E. Solomon, Uwadia Nicholas and Akpejiori I. Juliet ehizonomhen.okonofua@uniben.edu,
23	Assessment Of The Physicochemical Components of River Kaduna	Ali Ikpo Ali nannajoseph@yahoo.com
24	Impact of Climate Change on Socioeconomic status of Households in Rural Areas of Nasarawa State: An Autoregressive Distributed Lag Analysis	AJIDANI, Moses Sabo ajidanims@gmail.com
25	Assessment of Bank Erosion Potential of River Meme, Lokoja Metropolis, Nigeria: Using Bank Erosion Hazard Index	Kabir, A., and Musa, A, safanaaminukabir@gmail.com , abdul2kaka@gmail.com
26	Urbanization and Urban Drainage Challenges: Case Study of Dekina, Ankpa and Oguma towns of Kogi State	Daniel Simon and Alkali Daniels Emmanuel alkalyn4dan@yahoo.com
27	Geographical Review of Drainage Basin Morphometric (Fluvial) Parameters	Salau Wahab salawiy2000@gmail.com

28	An Appraisal of Factors Affecting Groundwater Formation and Recharge in Parts of Northern Kano State, Nigeria	Amir Abdulazeez* and Adamu G. K/Naisa abdulazeezamir@hotmail.com
29	Impact Of Land Use Change On Watershed Dynamics In Suleja, Niger State Nigeria	Emmanuel D, T, Mohammed M mentoryhu@gmail.com
30	Statistical approach to Infilling, Modelling and Analysis OF Hydrological Data	Ilaboya, I. R, Ihimekpen, N.I and Omosafe, E.B rudolph.ilaboya@uniben.edu
31	Application Of Critical Path Method To Small Town Water Supply Scheme. A Case Study Of Ugbakele Water Project Delta State	Agbonaye, A.I augustine.agbonaye@uniben.edu, works@uniben.edu
32	An Assessment of Waste-Water Quality For Domestic And Irrigational Uses At The Kamanzo-Stadium Bridge-Kudende Stream Section of River Kaduna, Kaduna State	MEJABI, Dele Joseph Jacksolomon HABILA, Sunday Kazahshii delejacksolomonmejabi@gmail.com, delejacksolomonmejabi@yahoo.com, skhabila@abu.edu.ng shabila962@gmail.com
33	Assessment Of River Tudun Amba Water Quality For Domestic Use In Lafia Local Government Area Of Nasarawa State, Nigeria	Ruth Benbella. M. . Chunwate B. T. Alkali . Ademu Samuel ,Alfa Y. Funmilayo M.N. Idris banki.chunwate@nsuk.edu.ng, madakiruth85@gmail.com, tellfunmi@yahoo.com, medugu@gmail.com
34	Groundwater Quality Assessment Using Water Quality Index And Map Generation Of Akoko -Edo Region	Izinyon O. C. and Iyalekhue, I izzy_osaz@yahoo.com
35	A Review: Performance of Sediment Detachment and Transport Functions for Overland Flow Conditions	Ogwo, V.*, Mbajiorgu, C.C., Ndulue, E.L., Onyekwelu, I. and Ogbu, K.N vintus.ogwo@unn.edu.ng
36	Investigation of Groundwater Challenge in Crystalline Basement Complex of Southwestern Nigeria: Case study of Iragbiji and Environs using Integrated Approach	Ojo A. Olabanji and Akinlabi J. Oluwafemi famolistic4u@yahoo.com
Sub-Theme: Ecosystems Services/Legal & Institutional Framework in the Water Sector /Gender Issues in Water / Water Efficiency/ Health and Gender Issues in Water		
37	Sulphuric Acid-Activated Millettia Thoningii Pods Carbon As An Inexpensive Adsorbent For The Removal Of Organic Dyes And Heavy Metals From Aqueous Solutions: A Preliminary Investigation	Jasper Enebi Estella,a James Yusuf and Ugboaja Chijioke Vincent enebijasper@yahoo.com,
38	Knowledge of The Forest Ecosystem Among Forest Guards in Southern Nigeria	Erhabor Igbinosa Norris, norris.erhabor@uniben.edu,
39	Food, Water And Gender In Nigeria: A Legal Assessment	Juliet A. Aimienrovbiye, Mrs, Irene Airen Aigbe juliet.aimienrovbiye@uniben.edu irene.aigbe@uniben.edu
40	Health And Gender Dimension Of Potable Water Supply In Lafia City: Implications For Community Development And Well Being	Muhammad K. DAHIRU and Emankhu, S. ETEMINI, dahirumk@gmail.com
41	Cassava Whey as a substrate for ethanol production using Saccharomyces cerevisiae	Cyprian E. Oshoma1*, Henrietta E. Obibi1and Andrew C. Otobo cyprian.oshoma@uniben.edu
42	Production of ethanol from ripe Plantain peels hydrolysate by Saccharomyces cerevisiae	Cyprian E. Oshoma1*, Ese Okojie and Marcel J. Ikenebomeh cyprian.oshoma@uniben.edu
43	Water Quality Assessment Of Reservoir And Roof Harvested Rainwater Systems for the Ubulu –Uku Area Of Delta State	Ogbeifun, Nowamagbe P. and Muhammad Tijjani Yusuf nowamagbe.ogbeifun@uniben.edu,

CONFERENCE DAY THREE

DAY 3

Thursday 11th October, 2018

9:00pm-11:00pm

Parallel Sessions Paper Presentations

SESSION'S MODERATORS

1. Prof. H.K Ayuba
2. Dr Raphael Irughe-Ehigiator
3. Dr (Mrs.) Ihimekpen

11.00PM - 11:30pm

LUNCH

11:35pm – 2:00pm

Parallel Sessions Paper Presentations

SESSION'S MODERATORS

1. Prof. Kess O Obahiagbon
2. Engr. D.A Amado
3. Dr. H.A.P Audu

3:0pm

CLOSURE FOR DAY THREE

4:30pm

AGM

DINNER/AGM

**7:30PM AT THE BANQUET HALL, UNIVERSITY OF BENIN
Ugbowo Campus, Benin City**

Papers Submitted For Presentation

Sub-Theme: Decision Support System in Water Resources Management / Water Use Efficiency		
44	Generation Of Rainfall Intensity Duration Frequency Curve For Benin City	Omosefe E.B., Izinyon O.C blessing.omosefe@uniben.edu eghosboy2002@yahoo.com
45	Water Quality For Effective Food Production In Zobe Dam Dutsinma Area, Katsina State, Nigeria	Tasi'u Yalwa Rilwanu tryalwa.geog@buk.edu.ng, trilwanuyalwa@gmail.com
46	Water Demand Assessment For Benin City	Ngozi Ihimekpen , Prince N. Ogbeifun Atikpo, E n.ihimekpen@uniben.edu
47	Water Demand Management (WDM) As A Water Use Efficiency Technique In Enugu Urban Area, Nigeria	E. E. Ezenwaji, M. E. Awuh and C. Onwuadiochi emmaezenwaji@gmail.com
48	Impact of Flood on Economic Activities along River Benue: A Study of Iggah District of Benue and Nasarawa States	AJIDANI, Moses Sabo ajidanims@gmail.com
49	An Assessment Of Water Quality Of River Obi In Obi Local Government Area Of Benue State	M. A. Onah and M, L. Odeh aonah@bsum.edu.ng
50	An Assessment Of Water Quality Status Of Woji River In Obio-Akpor Local Government Area Of River State, Nigeria	Abua, M. A., Igelle E.I and Oji, C.P ask4mossabua@yahoo.com
51	Comparative evaluation of the models used for the calculation of re-aeration coefficient of surface water bodies (a case of luubara creek and deezim creek)	O.C. Izinyon and B.M. Akatah akatahbarry@gmail.com
52	Utilization of dimensional analysis approach for modelling Re-aeration coefficient	O.C. Izinyon and B.M. Akatah akatahbarry@gmail.com
53	Validation of Satellite-Image Derived Reservoir Bed Profile	Abdulkadir. I. F. and Ojinnaka O.C. oliver.ojinnaka@unn.edu.ng, isahafuntua@yahoo.com

54	Assessing The Effectiveness Of Mechanical Technology For Wastewater Treatment In WUPA Sewage Treatment Plant Abuja, Nigeria	A.A Kadafa, M. F Ayeni, N.M Idris and O. Braimah dradatikadafa@nsuk.edu.ng
55	Assessing The Effectiveness Of Wastewater Treatment Process Of WUPA Sewage Treatment Plant Abuja, Nigeria	A.A Kadafa, M. F Ayeni, N.M Idris and O. Braimah dradatikadafa@nsuk.edu.ng
56	Groundwater quality and Supply in Bori-Ogoni, Rivers State, Nigeria	Anyanwu J.C., Markoro, S. C.,Ugwu, O.J., Onwuagba, C. G anyanwujonathan50@gmail.com
57	Impact of Sand Mining on Water Quality and Bank Morphology of Otamiri River in Owerri, Imo State	Okeke, P.N, Anyanwu, J.C and Edenta, V.I nduokeke100@yahoo.com
58	Surface Water Quality Evaluation And Health Implications At In - Stream Sand Mining Sub-Catchment Of Abak Local Government Area, Akwa Ibom State	Nyetiobong William netcecm@gmail.com
Sub-Theme: Climate Change, Food and Drought/Water and Food Security/ Health and Gender Issues in Water/ Water Use Efficiency		
59	Preliminary Investigation Of Some Selected Plants Seeds As Natural Coagulants For Water Treatment	J. Sani., M.A. Gada., I.T. Peni, A.D. Tambuwal., And M.N. Almustapha jamilu.sani@udusok.edu.ng
60	Water scarcity, a challenge to an attainment of food security in Nigeria	Mudi david enejoh mudide@yahoo.com
61	The negative external effects of climate change in Nigeria; a case study of sokoto state	Sirajoddeen Al-Ameen sirajoaminu@gmail.com
62	Assessment Of The Spatio-Temporal Variations Of Surface Water Areas (SWA) And Impacts Of A Man- Made Lake	ABDULKADIR, Isah Funtua and GIN, Nuhu Sambo isahafuntua@yahoo.com, nsgin67@gmail.com
63	Understanding the factors of flooding in Parts of Port Harcourt Metropolis (Parts of Obio/Akpor & Parts of Ikwerre LGAs) of Rivers State	Amangabara, G.T.†., Ogwu, C. M., Oguine, C. E., and Ojiah, J.E. gordon.amangabara@futo.edu.ng
64	Assessment of Small Holder Farmers' Rainwater Harvesting Techniques in Federal Capital Territory – Abuja, Nigeria	Alkali Mohammed*, A.T Ogah, Samaila Taiye Tehinse madaki@ymail.com
65	Water scarcity as Major Factor of Herdsmen-Farmers Conflicts in North Central Nigeria	Joel Efiong & Opaminola N. Digha joel_efiong@yahoo.com

ACCOMMODATION INFORMATION AND HOTEL RATES

Hotel	Price Range (₦)	Phone	Location
Precious Palm Royal Hotel	15,000-23,000	08033070535	Isihor
University of Benin Guest House	5,750-9,200	08066961043	University of Benin, Ugbowo Campus
University Palace Hotel	5,500-7,000	07032345844	FGC Road, Ugbowo
Duetschmann Hotel	5,500-9,000	08027467340	BDPA, Ugbowo
Osdly Gracious Hotel	5,500-9,000	08036450082	Benin-Lagos Rd Ugbowo
Clemstar	5,500-8,500	08059517798	Isihor off Benin-Lagos Road
Bronze Royal Hotel	4,000-13,000	07031141198	Oluku
Terminal Resort & Park	6,500-12,500	09025312309	Oluku