

NESTEC 2022 REPORT

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BACKGROUND

2022 NESTEC was special as it was held virtually. The event took place on Saturday 3th June 2023 against the proposed 14th November 2022. The security and logistics challenges prompted the delay and shift to virtual event.

Historically, the idea for the National Engineering Science and Technology Essay Competition, NESTEC was conceived in 2018 International Conference on Exhibition Power and Telecommunication, ICEPT held in Port Harcourt, Rivers State where students who participated in the technical competition were poorly rewarded. To address the reward system and make the competition robust, it was necessary to take off the burden of organizing such an event from NIEEE and rather partner with it.

Today NESTEC is one of the flagship events of Blue Apple Educational Foundation with the objectives;

1. To unlock the untapped potentials among youths in the field of engineering science
2. Promote research and scholarship among engineering students
3. Encourage and develop capacity for technical paper and essay writing
4. Introduce the students into mainstream trending and advances in engineering science and technology
5. Create local and global opportunities for students and young graduate engineering personnel to showcase their talents.

STRUCTURE OF THE COMPETITION

The competition is structured to allow for participation, engagement, and transparency in outcome. Participation is nationwide and is made to cover all the institutions of higher learning, both public and private universities, polytechnic and monotechnic.

The participants whose papers passed the screening and met the requirements are published on the blog. This enables interactivity between the authors and public. The assessors were also noting responses and could ask questions along with the public. Authors were advised to respond appropriately to questions asked by anyone. The assessors were not known to the authors and even among the assessors their identities were not known till the award day. This was to allow for independent assessment and transparency.

To improve the quality of paper submission, participants were advised to work with a lecturer to guide and mentor such a student in technical paper presentation.

ASSESSMENT CRITERIA

The assessment/grading criteria were based on the following;

1. Originality in idea – 20%
Means paper submitted has fresh, new insight, approach and solution to existing national problem and need

2. Paper meeting the need of the Nigerian society – 20%
Means solutions proffer have the capacity to solve the nation's problem and or meeting her needs

3. Clarity and neatness in presentation – 20%
Means the presentation is clear both in typing and language. The organization is well structure and arrange in a format for easy understanding. Diagrams, charts, histograms, photos etc are used where necessary

4. Technical evaluation of work - 30%
Means technical and or engineering solution is offered

5. Public Interactivity: comments, questions and answers on Engineers' Forum blog – 10%

Means the public is engaged with the subject matter and it elicits much interest and comments albeit positively. The author is active in responding to questions and showing clear understanding to his/her work.

MOVEMENT OF PAPER TO THE LIBRARY

Papers were moved to the LIBRARY

(<https://engineersforum.com.ng/category/library/>) from the main page of the blog after 48 hours of visibility for continuous interaction. Assessors were provided forms to compute their scores and submit to the Technical Committee for final collation and grading.

Submission of score sheet was to info@engineersforum.com.ng on 8th of May 2023. However, final score sheet was submitted on the 24th May, 2022. The Technical Committee completed collation less than 24 hours to the event day.

Winners were declared on 3rd June 2023.

PAPERS SUBMITTED

A total of 143 abstracts were received and 100 papers were submitted. Only 12 papers were published thus automatically qualifying authors to the final. This implies that 131 papers were screened out for not meeting the required standards.

Our projections were to received 500 papers and accept 50% for publishing. This would have required engaging more assessors. More publicity still needed.

ACCEPTED PAPER TITLES, AUTHORS AND VIEWS ON BLOG

SN	AUTHOR	PAPER TITLE	VIEW ON BLOG
1	Emmanuel Nnagozie Eke	Design And Implementation Of Unmanned Aerial Vehicle For Monitoring The 2023 General Election In Nigeria.	174
2	Tikili Wisdom Yenimi	Incorporating Artificial Intelligence And Power Electronic Devices To Revitalize The Nigerian Power Sector	97
3	Abdullahi Aliyu	Design Of An IoT-Based Smart Voting System	200
4	Rosabeth Twarmi Balla	Applications Of Mechatronics In Agriculture: A Case Study Of Cocoa Nursery Farming In Nigeria.	666
5	Abubakar Muhammad	Environmental Impact Of Energy Generation And Consumption In The Society	351
6	Muutasim Abdulhadi	Bi-Directional Visitors Counter With Gate Control And Automatic Room Light Controller (On/Off)	502
7	Adeleke Wasiu Ademola	IoT-Based Extension Socket For Power Outage Management	379
8	Osadebe, Chijioke Akaolisa	How Artificial Intelligence Could Transform the Nigerian Agricultural Sector	78
9	Dogban Makanjuola	Digital Agriculture; Utilizing Internet Of Things In Monitoring Farming Processes	236
10	Okpako Oghenechuko	Application Of Non-Destructive Testing (NDT) In Oil And Gas Industries And Recent Technology Advances	595
11	Hassan Sunusi Kani	Smart Solar-Powered Irrigation System For Promoting Agriculture In Nigeria	814
12	Odu Sunday Banacha	Carbon Sequestration: A Dependable Ally In The Fight Against Climate Change	483

PAPERS SUBMITTED PER FIELD OF ENGINEERING

SN	PAPER FROM FIELD OF ENGINEERING	NUMBER
1	Electrical & Electronics	7
2	Mechanical Engineering	2
3	Mechatronics and Systems Engineering	1
4	ICT	1
5	Computer Science	1

SCHOOLS WITH ACCEPTED PAPERS

SN	SCHOOLS THAT GOT TO FINALS	NUMBER OF PARTICIPANTS
1	Aliko Dangote University of Science and Technology	2
2	Usmanu Danfodiyo University, Sokoto	2
3	University of Nigeria, Nsukka	2
4	Abubakar Tafawa Balewa University, Bauchi	1
5	Yaba College of Technology	1
6	University of Abuja	1
7	University of Benin	1
8	Federal University Oye-Ekiti	1
9	Federal University Of Port Harcourt	1

PARTICIPATION PER GEOPOLITICAL REGION

SN	REGION	NUMBER
1	North West	4
2	North East	1
3	North Central	1
4	South West	2
5	South East	2
6	South South	2

MEDIA CAMPAIGN/PUBLICITY

This was done through the following media

1. Online media blog www.engineersforum.com.ng
2. Social Media such as Face book, Instagram and WhatsApp
3. Awareness interview in print media
4. Short video on social media

ASSESSORS

The assessors were chosen from both academic and industry sectors for efficient assessment results. The following persons were nominated as assessors;

SN	ASSESSOR	DESIGNATION
1	Dr James Agajo	Associate Professor with a PhD in the field of Telecommunication and Computer Engineering
2	IDRIS, Aji Dauda	Lecturer II in the Department of Computer Engineering at the Federal University of Technology, Minna
3	Nuhu Bello Kontagora	Lecturer in the Department of Computer Engineering at the Federal University of Technology Minna

WINNERS

Winners were given prize money and certificates

1. Adeleke Wasiu Ademola N500,000
2. Emmanuel Nnagozie Eke N300,000
3. Dogban Makanjuola N200,000

All finalists and winners were given Certificate of Participation and consolation prizes of N50,000 (Fifty Thousand Naira) was given to each of the seven participants.

PARTNERS

The following organizations partnered with Blue Apple Educational Foundation for the event.

1. Institution of Electrical & Electronic Nigerian Section (IEEE)
2. Engr Wuraola Atinuke Owolabi Capacity Building Initiative (waaocbi)
3. Standards Organisation of Nigeria (IEC-YP)

SPONSORS

There was no sponsor. The event was bankrolled by Blue Apple Educational Foundation.

FINANCE

Available on request

OBSERVATIONS

The event needs more awareness for more participation.

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CONCLUSION

The event was well attended with a better prospect for 2023. With the successful hosting of the third edition, for sustainability, the Foundation is seeking for corporate partners for sponsorship.

This, we hope will help to sustain the event at long run and also realize its objectives.

Guests in Attendance

The following guests were in attendance;

1. Prof Mohammed Ndaliman, MD SEDI, Minna
2. Engr Felix Olu, Atg. President NIEEE
3. Prof Tolulope Akinbulire, Chairman, Technical Committee
4. Engr Adeleke Karunwi
5. Engr Chidinma Dim-Nwobi
6. Dr. Emmanuel Eronu, UniAbuja
7. Engr. Ime Essien, Director of Works, AKS
8. Engr Binta Usman, ABU
9. Engr. Dr. Joy Eneh, UNN
10. Dr James Agajo, Chairman, Editorial Board, STEI Journal

PHOTOS

Blue Apple

Blue Apple Educational Foundation (BAEF)
PRESENTS

NATIONAL ENGINEERING SCIENCE & TECHNOLOGY ESSAY COMPETITION
NESTEC 2022
AWARDS CEREMONY

WINNERS

Engr. Akan... IEEE
President, ... ation

Chair... sion
Ed Ndaliman, FIMechE

Special Guest of Honor
Sony S. T...
Secretary, ...

Blue Apple

Blue Apple

Blue Apple

Blue Apple Educational Foundation
1ST PRIZE WINNER Date: Jul 2022
Pay **Adeleke Wakalu Ademola** **N500,000.00**
The Sum of Five Hundred Thousand
Naira Only

Blue Apple Educational Foundation
2ND PRIZE WINNER Date: Jul 2022
Pay **Emmanuel Nnagozie Eke** **N300,000.00**
The Sum of Three Hundred Thousand
Naira Only

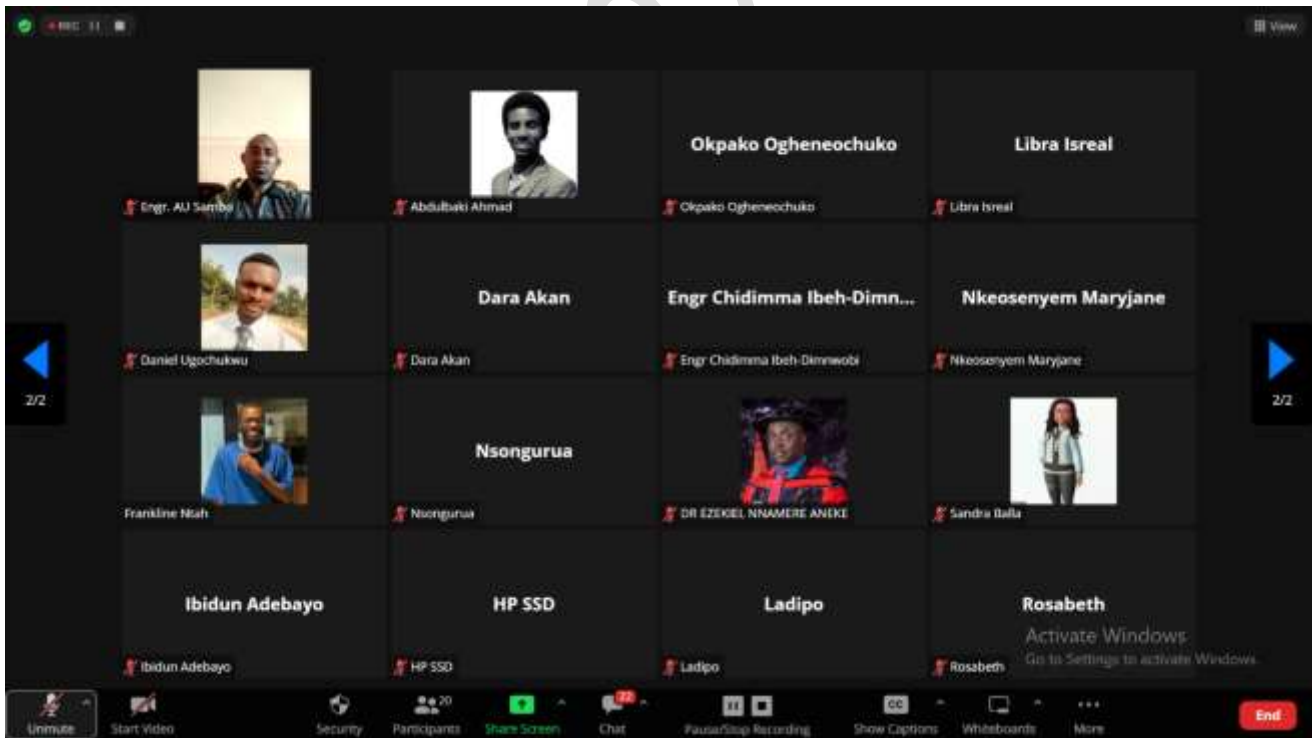
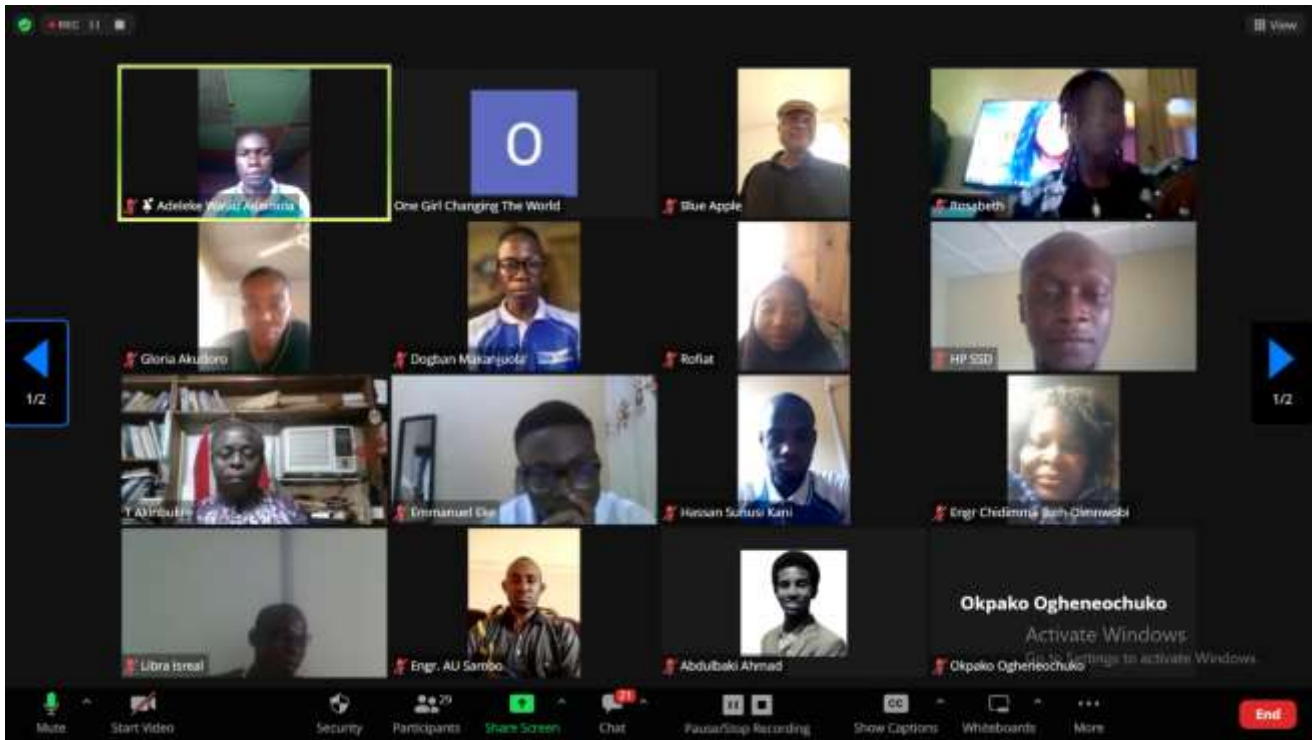
Blue Apple Educational Foundation
3RD PRIZE WINNER Date: Jul 2022
Pay **Dogban Atakanjuola** **N200,000.00**
The Sum of Two Hundred Thousand
Naira Only

1st Prize Winner of The National Engineering Science & Technology Essay Competition (NESTEC) 2022

2nd Prize Winner of The National Engineering Science & Technology Essay Competition (NESTEC) 2022

3rd Prize Winner of The National Engineering Science & Technology Essay Competition (NESTEC) 2022

NESTEC



PIC 2: Event Participant





MEU





PIC 3 FINALITS WITH SUPERVISORS AND SCHOOLMATES



NESTEC 2022 FINALISTS



Adullahi Aliyu
Usmanu Danfodiyo University, Sokoto
Matric No. 1711402001



Odu Sunday Banacha
University of Abuja
Matric Number: 182831004



Hassan Sunusi Kani
Aliko Dangote University of
Science and Technology Wudil
Metric Number: UG20/ELEE/1002



Okpako Ogheneochuko
University of Benin
Matric Number: ENG1704330



Dogban Makanjuola Houstrouvi
Yaba College Of Technology
Matric Number: F/HD/21/3420025



Abubakar Muhammad
Usmanu Danfodiyo University Sokoto
Matric Number: 1911404027



Adeleke Wasilu Ademola
School: Federal University Oye-Ekiti
Matric Number: EEE/2017/1008



Emmanuel Nnagozie Eke
University of Nigeria Nsukka
Matric Number: 2017/247400



Muatasim Abdulhadil
Kano University of Science and
Technology, wudil
Matric No: UG16/ELEE/1135



Osadebe Chijioke Akaolisa
University of Nigeria, Nsukka
Matric Number: 2018/242683



Tikili Wisdom Yenimi
University of Port Harcourt
Matric No: U2018/3025038



Rosabeth Twarmi Balla
Abubakar Tafawa Balewa University
Matric No: 17/47326U/2



Paper Supervisors



Engr. Shereefdeen Oladapo Sanni
Dept: Electrical and Electronics Engineering
School: Federal University Oye-Ekiti
Supervised Candidate: Adesoke Wasu



Mrs. Ufuoma Unueroh
Dept: Mechanical Engineering
School: University of Benin
Supervised Candidate: Okpako Ogheneochuko



Engr. Usman Aliyu Magaji
Dept: Electrical Engineering
School: Alko Dangole University of
Science and Technology Wudil
Supervised Candidate: Hassan Sunusi Kani



Mr. Mohd Ahmad Babale, B.Eng, M.Sc
Dept: Computer Engineering
School: Kano Polytechnic SOT
Supervised Candidate: Muftasim Abdulhadi



Engr. Sambo Aliyu Umar
Dept: Mechatronics and Systems Engineering
School: Abubakar Tafawa Balewa University, Bauchi
Supervised Candidate: Rosabeth Balla



Engr. Ladipo, Oluwabusayo
Dept: Electrical/Electronic Engineering
School: Yaba College of Technology, Lagos
Supervised Candidate: Dogtan Makenyola



Engr. Assoc. Prof. Coamas U. Ogbuka
Dept: Electrical Engineering
School: University of Nigeria Nsukka
Supervised Candidate: Emmanuel Nnagozie Eke



Dr. Hashim Bisallah
Dept: Computer Science
School: University of Abuja
Supervised Candidate: Odu Sunday



Engr. AbdulBasid Ismail
Dept: Electrical and Electronics Engineering
School: Usmanu Danfodiyo University Sokoto
Supervised Candidate: Abdullahi Aliyu