ISSMGE FOUNDATION
REPORT ON CONFERENCE ATTENDANCE

Your Name:	***Your Organization:***	***Date of report:***
Benjamin Nguuma Igbadu	Nile University of Nigeria, Abuja.	18th May, 2026
Conference Title:	***Location of Conference:***	***Dates of Conference:***
INNOVATIONS AND BEST PRACTICES IN GEOTECHNICAL ENGINEERING FOR AFRICA'S DEVELOPMENT.	ENGINEERING RESOURCE CENTRE, UNIVERSITY OF LAGOS, NIGERIA.	26th April 2026 to 29th April 2026

What you learned: Attending the 10th African Young Geotechnical Engineers Conference provided a valuable synthesis of cutting-edge research, practical insights, and region-specific challenges shaping geotechnical engineering across Africa.

A central takeaway was the critical need to bridge theory and practice, as emphasized by Dr Marc Ballouz His presentation reinforced that sustainable and reliable geotechnical solutions depend not only on rigorous analytical models but also on informed engineering judgment grounded in field realities. This perspective was further strengthened by Dr.Chris Menkiti, whose Evert Hoek Lecture highlighted how lessons from real-world projects particularly in developing regions should continuously inform design approaches and policy frameworks.

Technical sessions expanded my understanding of both classical and emerging methodologies. Prof. Marawan Shahien provided deeper insight into earth pressure theories for supported excavations, clarifying their practical implications in complex subsurface conditions. Similarly, Chaido (Yui) Doulala-Rigby introduced advancements in polymer geogrid systems, demonstrating how innovative materials are transforming ground reinforcement and infrastructure resilience. The presentation by Prof. Samuel Ejezie was particularly relevant to local practice, emphasizing best practices for addressing ground instability in the Niger Delta and reinforcing the importance of adapting solutions to site-specific soil behaviour.

A recurring theme throughout the conference was the importance of integrated, multidisciplinary approaches combining geotechnical, hydrological, and geospatial analyses to effectively address Africa's infrastructure and environmental challenges. This was directly aligned with my own research presentations on earth dam siting in semi-arid regions and riverbank erosion susceptibility in Makurdi, where the feedback and technical discussions underscored the value of holistic assessment frameworks and data-driven decision-making.

Overall, the conference strengthened my appreciation for context-sensitive engineering, innovation in materials and methods, and the necessity of continuous knowledge exchange. It also reinforced my commitment to advancing practical, sustainable geotechnical solutions that are tailored to Africa's unique geological and environmental conditions.

People you met:

1. Dr. Marc Ballouz. President of the international Society for Soil Mechanics and Geotechnical Engineering.
2. Prof Marawan Shahien. Vice President (Africa) of the international Society for soil Mechanics and Geotechnical Engineering
3. Prof. Samuel Ejezie. Former Vice President (Africa) of the international Society for soil Mechanics and Geotechnical Engineering and ISSMGE lifetime achievement award winner.
4. Chaido [Yuli] Doulala-Rigby. Chair, British Geotechnical Association.
5. Dr. Chris Menkiti. Former chair, British Geotechnical Association.
6. Prof. Fatma Baligh. Former Vice President (Africa) of the international Society for soil Mechanics.
7. Soha Emad Said. Winner of the Bright Spark Lecture Award.
8. Michael Oluwadare. Winner of the Bright Spark Lecture Award.
9. Engr. Barry Esimone. Panelist at the conference.
10. Engr Tony Warmate. Panelist at the conference
11. Julien Koudoro. Young Geotechnical Engineer from Benin Republic.
12. Bridget Nana Ama-Lokoe. YMPG-ISSMGE. Young Geotechnical Engineer from Ghana.
13. Ethelbert Mezie. PhD student and Young Geotechnical Engineer.
14. Engr. Olaniyi Fadeyi. Chairman, Nigeria institution Of Geotechnical Engineers
15. Engr. Precious Osagie. Secretary, AYGEC 2026 Organising Committee.

Main features of conference:

1. The ISSMGE President's keynote Lecture on the Marriage between Theory and Practice in Geotechnical Engineering.
2. The Presentation of the ISSMGE Lifetime Achievement Award to Prof. Samuel Ejezie.
3. The Evert Hoek Lecture on Geotechnics for Development-lessons from Practice by Dr. Chris Menkiti.
4. Technical Sessions where I Presented two of my Research papers on the Geotechnical Assessment for siting and Design of small Earth Dams in Semi-Arid parts of the F.C.T Abuja and the Integrated Geotechnical-Hydrological-Geospatial Framework for Erosion Vulnerability Assessment in the Riverbank Area of Makurdi, Benue State, Nigeria.
5. Prof. Marawan Shahien's Keynote lecture on Apparent Earth Pressure for Supported Deep Excavations.
6. Chaido [Yuli] Doulala-Rigby's keynote session on Polymer Geogrid Geostructures Evolution.
7. Prof Samuel Ejezie's keynote lecture on Best Practices in Geotechnical Engineering.
8. Panel Discussion Session 1: Ground breaking Practices- Advancing Geotechnical Engineering Excellence.

9. Panel Discussion 2: Coast to Coast – Solving the Ground Beneath Nigeria's Coastal Highway
10. Technical Tour of the Eko Atlantic City Project.
11. Dinner and Presentation of Awards
12. Cocktail/Cultural Display and Dance
13. Lunch Sessions and Networking
14. Photograph Sessions.

Your comments on the conference:

The conference offered a rich blend of theory, practice and innovation in geotechnical engineering. Insightful presentations, practical case studies, and engaging discussions highlighted the importance of context-driven solutions for Africa's challenges, while fostering knowledge exchange, professional growth, and collaboration among emerging and experienced engineers across the continent. The conference strengthened my appreciation for sensitive engineering, innovation in materials and methods, and the necessity of continuous knowledge exchange. It also reinforced my commitment to advancing practical, sustainable geotechnical solutions that are tailored to Africa's unique geological and environmental conditions.

Please attach short report (maximum 400 words) suitable for publication in the ISSMGE Bulletin:

The 10th African Young Geotechnical Engineers Conference brought together early-career professionals, academics, and industry leaders to discuss the theme **Innovations & Best Practices in Geotechnical Engineering for Africa's Development.** The event provided a dynamic platform for knowledge exchange, capacity building, and the promotion of context-relevant engineering solutions across the continent.

The conference featured keynote lectures from distinguished experts, including the president of the International Society for soil Mechanics and Geotechnical Engineering Dr. Marc Ballouzz, who emphasized the essential synergy between theoretical frameworks and practical application in geotechnical engineering. The Evert Hoek Lecture, delivered by Dr. Chris Menkiti, highlighted lessons from practice and underscored the role of geotechnics in enabling sustainable infrastructure development. Prof. Marawan Shahien, provided valuable insights into apparent earth pressure for supported deep excavations, while Chaido [Yuli] Doulala-Rigby presented advancements in polymer geogrid geostructures. Additionally, Prof. Samuel Ejezie discussed best practices for addressing ground stability challenges in Africa, with particular reference to Niger Delta soils.

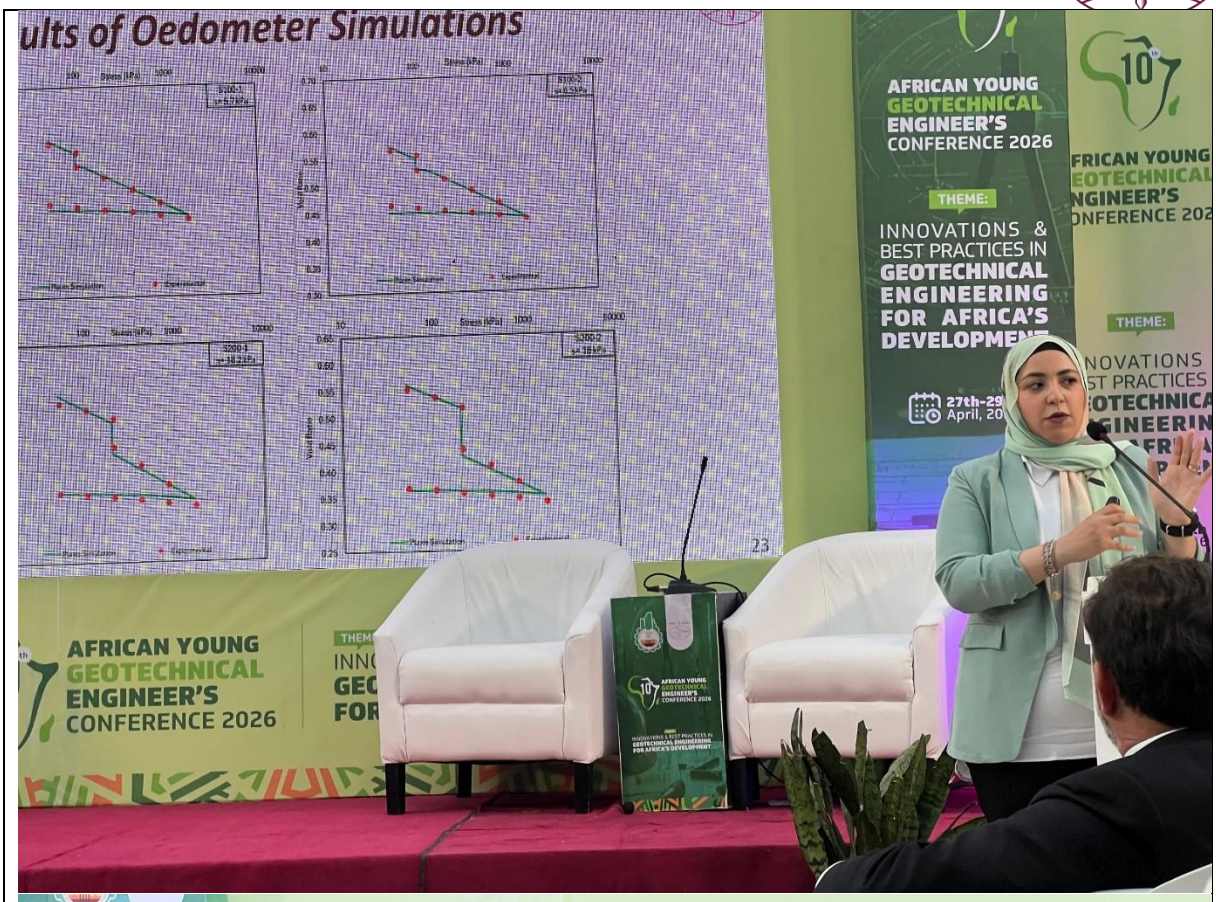
A key highlight of the conference was the emphasis on integrating geotechnical, hydrological, and geospatial approaches to address complex engineering problems. Technical sessions demonstrated how innovative materials, improved analytical methods, and field-based evidence can be combined to enhance infrastructure resilience and sustainability in diverse African environments.

The conference also provided an opportunity for young engineers to present their research and receive constructive feedback. Contributions included studies on geotechnical assessment for the siting and design of small earth dams in semi-arid regions of Abuja, and integrated investigations of riverbank erosion susceptibility in Makurdi, Benue State Benjamin Nguuma Igbadu. These presentations stimulated engaging discussions, fostering critical thinking and collaborative learning.

Overall, the conference reinforced the importance of adopting best practices, encouraging innovation, and tailoring engineering solutions to local geological conditions. It also strengthened professional networks among African geotechnical engineers and reaffirmed the commitment of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) to supporting the development of the next generation of engineers.

Photographs from Conference: Insert here or attach to email


Calculus
Law of Gravity
The Square Root of Minus One
Euler's Formula for Polyhedra
Normal Distribution
Wave Equation
Fourier Transform
Navier-Stokes Equation
Maxwell's Equations
Second Law of Thermodynamics
Relativity
Schrodinger's Equation
Information Theory
Chaos Theory
Black-Scholes Equation
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HS2 Piled RC bridge abutments: replacement design
with polymer geogrids reinforced soil walls
Reinforced Soil
Walls +3.7m
3.7m E+R
VS
Reinforced Concrete
Walls on piles
9 x 20m
RC piles
8 x 23m
RC piles
9 x 20m
RC piles
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Crane platform example:
Input parameters:
• Type of fill available
• Subgrade strength
• Platform area dimensions
• Crane loading dimensions & intensity
Construction Cost
Construction Time
Stabilized
£23.92/m²
Unstabilized
£37.10/m²
Environmental Cost
Additional Costs
Dump truck visits
Fuel required
Water required
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Equations That Changed our Life
Pythagoras's Theorem
Pythagoras ~500 BC
Logarithms
John Napier, 1610
Calculus
Newton, 1668
Law of Gravity
Newton, 1687
The Square Root of Minus One
Euler, 1750
Euler's Formula for Polyhedra
Euler, 1751
Normal Distribution
C.F. Gauss, 1810
Wave Equation
J. d'Alembert, 1746
Fourier Transform
J. Fourier, 1822
Navier-Stokes Equation
C. Navier, G. Stokes, 1845
Maxwell's Equations
J.C. Maxwell, 1865
Second Law of Thermodynamics
L. Boltzmann, 1874
Relativity
Einstein, 1905
Schrodinger's Equation
E. Schrodinger, 1927
Information Theory
C. Shannon, 1948
Chaos Theory
Robert May, 1975
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