

**SAJSET, 2025
VOLUME 03
ISSUE 05**

SAJSET



Savannah Journal of Science and Engineering Technology
Is licensed under a Creative Commons Attribution-Non-Commercial 4.0
International License
INDEX BY: Google Scholar;

**SAVANNAH JOURNAL OF SCIENCE AND
ENGINEERING TECHNOLOGY
2025**

SAVANNAH JOURNAL OF SCIENCE AND ENGINEERING TECHNOLOGY, 03 (05)



Editorial Board Members

Editor in Chief

Engr. Prof. Abdulkabir Raji

Department of Mechanical Engineering, Faculty of Engineering, Modibbo Adama University, Yola, Nigeria:

Specialisation: Metallurgical and materials engineering. **Publications:** [Google Scholar](#); [Scopus](#).

Email: a.raji@mau.edu.ng; editorial@sajsetjournal.com.ng

Associate and Managing Editor

Engr. Dr. Abdullahi Mohammed Usman

Senior Lecturer at Department of Mechanical Engineering, Faculty of Engineering, Modibbo Adama University Yola,

*Nigeria: **Specialisation:** Sustainable energy and engineering materials, building and industrial energy efficiency, industrial carbon footprint and greenhouse gas assessment and analysis, indigenous technology. **Publications:** [Google Scholar](#); [Scopus](#). **Email:** amusman@mau.edu.ng; editor.sajset@gmail.com*

Editorial Advisors

- **Engr. Prof. A. A. Kareem:** *Department of Chemical Engineering, Faculty of Engineering, Modibbo Adama University, Yola, Nigeria.*
- **Engr. Prof. B. Aliyu:** *Department of Agriculture and Environmental Engineering, Faculty of Engineering, Modibbo Adama University, Yola, Nigeria.*
- **Prof. A. M. Sadiq:** *Department of Soil Science, Faculty of Agriculture, Modibbo Adama University, Yola, Nigeria.*
- **Prof. Adamu Bakari Girei:** *Faculty of Medicine, Modibbo Adama University, Yola, Nigeria.*
- **Prof. M. A. Hassan:** *Department of Mechanical Engineering, Faculty of Engineering, Modibbo Adama University, Yola, Nigeria.*

Editorial Board Members

- **Assoc. Prof. Dr. Mohammad Kamil Abdullah:** *Associate Professor at Faculty of Mechanical and Manufacturing Engineering, University Tun Hussein Onn Malaysia, Johor, Malaysia: **Specialisations:** Energy management, efficiency and policy, renewable energy, building sustainability, thermo- fluid applications **Publications:** [Google Scholar](#); [Scopus](#). **Email:** mkamil@uthm.edu.my*
- **Engr. Prof. Dahiru Yahaya Dasin:** *Professor at Department of Mechanical Engineering, Faculty of Engineering, Modibbo Adama University, Yola, Nigeria: **Specialisations:** Renewable energy engineering, **Publications:** [Google Scholar](#); [Scopus](#). **Email:** dahirudasin@mau.edu.ng*
- **Engr. Dr. Timothy Musa Chiroma:** *Associate professor at department of Chemical Engineering Faculty of Engineering, Modibbo Adama University, Yola, Nigeria: **Specialisation:** Process and Environmental Engineering **Publications:** [Google Scholar](#); [Scopus](#). **Email:** timothymusachiroma@gmail.com*
- **Dr. Abdulazeez Umar Raji:** *Associate Professor at Department of Architecture, Faculty of Earth and Environmental Science, Bayero University Kano, Nigeria: **Specialisations:** Sustainable housing delivery, building energy efficiency, carbon foot print, design-build, construction management, **Publications:** [Google Scholar](#); [Scopus](#). **Email:** auraji.esm@buk.edu.ng*

- **Engr. Dr. Ahmadu Umaru Babayi:** Associate Professor at Department of Agricultural and Environmental Engineering, Faculty of Engineering, Modibbo Adama University, Yola, Nigeria: **Specialisations:** Soil and water engineering, **Publications:** Google Scholar; Scopus. **Email:** aubabayi@mau.edu.ng; ababayi234@yahoo.com
- **Dr. Mansur Abdulrasheed:** Senior Lecturer at Department of Microbiology, Faculty of Science, Gombe State University, Gombe State, Nigeria: **Specialisations:** Environmental biotechnology, microbiology, bioremediation ecotoxicology, biomonitoring and molecular biology. **Publications:** [Google Scholar](#); [Scopus](#). **Email:** a.mansur@gsu.edu.ng
- **Ts. Dr. Djamal Hissein Didane:** Senior Lecturer at Faculty of Mechanical and Manufacturing Engineering, University Tun Hussein Onn Malaysia, Johor, Malaysia: **Specialisations:** Renewable energy, renewable energy technologies, techno-economic assessments of renewable energy resources, wind energy and solar energy. **Publications:** [Google Scholar](#); [Scopus](#). **Email:** djamal@uthm.edu.my
- **Engr. Dr. Nura Usman:** Lecturer at Department of Civil Engineering, Hassan Usman Katsina Polytechnic, Katsina, Katsina State, Nigeria: **Specialisations:** Civil engineering, highway and transportation. **Publication:** [Google Scholar](#); [Scopus](#). **Email:** nuragafai@gmail.com, nura.usman@hukpoly.edu.ng
- **Dr. Mohammed Kabir Aliyu:** Lecturer at Faculty of Civil Engineering and Built Environment, University Tun Hussein Onn Malaysia, Johor, Malaysia: **Specialisations:** Geo-environmental, environmental engineering, water resources management, solid waste management, soil and water engineering, wastewater treatment, Remediation of contaminated sediments/soil, Air pollution and control. **Publications:** [Google Scholar](#); [Scopus](#). **Email:** kabir@uthm.edu.my
- **Dr. Abdulkadir Hassan Disina:** Senior Lecturer at Department of Cyber Security, Faculty of Computing, Nigerian Army University Biu, Borno State Nigeria: **Specialisations:** information technology, cyber security, and cryptography, **Publications:** [Google Scholar](#); [Scopus](#). **Email:** Disina.hassan@naub.edu.ng
- **Dr. Awwal Hussain Nuhu:** Senior Lecturer at Department of Chemistry, Faculty of Science, Bauchi State University Gadau, Bauchi State, Nigeria: **Specialisations:** analytical chemistry, environmental and chemistry, material science metallurgy, **Publications:** [Google Scholar](#); [Scopus](#). **Email:** awwalhussain@basug.edu.ng.
- **Dr. Zaharaddeen Abubakar Pindar:** Senior Lecturer at Department of Cyber Security, Faculty of Computing, Nigerian Army University Biu, Borno State Nigeria; Jaiz Bank, Garki Area 3 Abuja, Nigeria **Specialisations:** Information security, cryptography, and internet of things **Publication:** [Google Scholar](#); [Scopus](#). **Email:** deenpindar@gmail.com.
- **Dr. Abdulhameed Umar Abubakar:** Senior Lecturer at Department of Civil Engineering, Faculty of Engineering, Modibbo Adama University, Yola, Adamawa State, Nigeria: **Specialisations:** Materials & Structures, **Publications:** [Google Scholar](#); [Scopus](#). **Email:** abdulhameed.umar@mau.edu.ng
- **Dr. Ibrahim Anka Salihu:** Senior Lecturer at Department of Software Engineering, Faculty of Natural and Applied Sciences, Nile University of Nigeria, Abuja FCT, Nigeria: **Specialisations:** Software engineering (software quality & testing, software development methods, cloud computing, internet of things, **Publications:** [Google Scholar](#); [Scopus](#). **Email:** Ibrahim.salihu@nileuniversity.edu.ng;
- **Dr. Shuaibu Babaji Sunusi:** Lecturer I, Department of Microbiology, Faculty of Science, Kaduna State University Kaduna, Kaduna State, Nigeria: **Specialisations:** Microbiology (Medical Microbiology), **Publications:** [Google Scholar](#); [Scopus](#). **Email:** sanusishuaibu@gmail.com
- **Engr. Dr. Yahya Ismail Akolawole:** Lecturer, Department of Civil Engineering, Faculty of Engineering, Modibbo Adama University, Yola, Adamawa State, Nigeria: **Specialisations:** Structures, **Publications:** Google Scholar; Scopus. **Email:** ismakola2012@gmail.com

Table of Content

S/No.	Articles	Page
1	Geotechnical and environmental assessment of some gully erosion sites in Girei and environs, Adamawa State, North-Eastern Nigeria Inuwa, I. M., Hussaini, A., Bajau, M. A., Jibirilla, H. and Umar, M. S.	338 – 345
2	Prediction of cutting forces of SPTTs produced from scrapped mating rings of face seals Oshuoha, I. C., Williams, O. A. and Odiakaose, C.	346 – 352
3	Cytotoxicity of Moringa leaf powder extracts on mammalian LTK and HEK293 cell lines Aliyu, Z. D., Abdullahi, T. B. and Bamanga, R.A.	353 – 360
4	Maximum power point tracking of photovoltaic under partial shading condition with dual-sepic converter considering dynamic load Elijah, Y., Abubakar, A. S., Shehu, G. S. and Yusuf, S. S.	361 – 373
5	Temporal evolution of extreme rainfall in Maiduguri (1980–2001 vs. 2002–2023): A GEV–GPD return level and climate shift analysis Genesis, K., Ibrahim, U. A., Musa, M. A., Alkali A. N. and Sanyaolu B. O.	374 – 381
6	Assessment of seasonal water quality variation in River Yobe, Gashua, Northeastern Nigeria Mohammed, Y. and Mukhtar, A. A.	382 – 388