

Preface

The inaugural UNAM International Engineering Conference on Sustainable Emerging Innovations and Technological Advancements 2024, held from 2nd to 4th December at the José Eduardo Dos Santos Campus of the University of Namibia, marked a significant milestone in advancing sustainable engineering across Africa. The conference brought together global and regional experts, researchers, and practitioners to explore cutting-edge solutions for sustainable development.

The contributions compiled herein reflect extensive peer review and span critical thematic areas: Wind Energy Generation, Smart Grid, Infrastructure Management, Hydrology, Water Resources Management, Water Supply, Wood, Wood Waste, Harvesting Machine, Ultrasonic Sensor, LiDAR, Machine Learning, Artificial Intelligence, Sign Language Translation.

The proceedings embody the collective intellect and commitment of our local and international community of scholars, practitioners, and students. We acknowledge the entire University of Namibia leadership for the unwavering support provided, enabling an environment for optimal productivity. We also acknowledge the dedicated efforts of the Conference Organizing Committee and the entire staff of the School of Engineering and the Built Environment in hosting this transformative event. We are equally indebted to our sponsors and partners, whose generous support made this vision possible.

The papers exemplify rigorous academic inquiry and practical innovation. These works are not only a testament to Namibia's growing research capacity but also contribute significantly to the global body of engineering knowledge.

Dr. Leokadia Ndjuluwa
Chair, UNAM-IEC-2024 Organizing Committee

Prof. Chinwuba Arum
Editor-in-Chief, UNAM-IEC-2024 Proceedings

Committee

Conference Organizing Committee - Technical

Dr. L. N. P. Ndjuluwa, Chair, Conference organising Committee, University of Namibia
Prof. C. N. Arum, Department of Civil and Mining Engineering
Prof. O. A. Lasode, Department of Mechanical and Metallurgical Engineering
Prof. C. N. Temaneh, Department of Electrical and Computer Engineering
Prof. O. T. Johnson, Department of Mechanical and Metallurgical Engineering
Prof. I. O. Ohijeagbon, Department of Mechanical and Metallurgical Engineering
Dr. V. Kavati, Department of Mechanical and Metallurgical Engineering
Dr. S. K. Saini, Department of Mechanical and Metallurgical Engineering
Dr. S. Hamukwaya, Department of Mechanical and Metallurgical Engineering
Dr. S. Hango , Department of Mechanical and Metallurgical Engineering
Dr. A. Shikongo, Department of Mechanical and Metallurgical Engineering
Dr. T. S. Alweendo, Department of Mechanical and Metallurgical Engineering
Dr. L. M. Matsebula, Department of Mechanical and Metallurgical Engineering
Dr. A. O. Busari, Department of Civil and Mining Engineering
Dr. V. Katte, Department of Civil and Mining Engineering
Dr. P. Arito, Department of Civil and Mining Engineering
Dr. E. Hamatwi, Department of Electrical and Computer Engineering
Dr. D. Chembe , Department of Electrical and Computer Engineering
Dr. G. Uahengo, Department of Electrical and Computer Engineering
Dr. S. Sesham, Department of Electrical and Computer Engineering
Dr. F. Shafuda, Department of Electrical and Computer Engineering
Mr. M. Abisai, Department of Electrical and Computer Engineering
Mr. K. Gideon, Department of Electrical and Computer Engineering

Conference Sponsors

- 1) National Commission on Research, Science and Technology (NCRST)
- 2) Namibian Ports Authority (Namport)
- 3) Namibia Civil Aviation Authority (NCAA)
- 4) Namibia National Commission for UNESCO (NATCOM)
- 5) Sinomine Tsumeb Smelter
- 6) Electricity Control Board (ECB)
- 7) University of Namibia: Research, Innovation and Development