

Yahaya Hassan Labaran

Civil Engineer | Researcher | Educator

Sustainable construction and building performance

www.yahaya.net



ACADEMIC & PROFESSIONAL PROFILE

I am a COREN-registered civil engineer and researcher in sustainable building systems. My work integrates building energy simulation, life-cycle carbon and cost assessment, sustainable construction materials and transparent decision-making for residential renovation. I also contribute to engineering education and academic communication.

DOCTORAL RESEARCH

Multi Criteria Optimization Based Sustainable Renovation Decision Framework for Residential Buildings: Integrating Life Cycle Energy, Carbon and Cost Performance.

Gaziantep University · Department of Civil Engineering · Research in progress

SCHOLARLY OUTPUTS

17	02	02	01
Journal articles	Published book chapters	Conference papers	Book chapter in press

Research areas: residential renovation; building performance; life-cycle energy, carbon and costs; concrete and low-impact materials; construction management; engineering education.

Research profiles: [Google Scholar](https://scholar.google.com/citations?user=...) · [ORCID](https://orcid.org/0000-0002-9166-0279) · [ResearchGate](https://www.researchgate.net/profile/...)

PUBLICATIONS / JOURNAL PAPERS

Journal articles / 01-09

Articles are listed in reverse chronological order. Linked publisher/DOI destinations are included where available.

01 Lightweight concrete in modern construction: advancing sustainability, efficiency, and innovation

Y. H. Labaran, N. Atmaca & A. A. Musa | Journal of Infrastructure Preservation and Resilience · Published online 29 September 2026 · [DOI: 10.1186/s43065-025-00131-5](https://doi.org/10.1186/s43065-025-00131-5)

02 Bottle-encapsulated sludge bricks (BESB): low-carbon masonry units with sewage-sludge cores and PET formwork

Y. H. Labaran, A. C. Lalngaihawma, P. Lalarliana Paihte et al. | Discover Civil Engineering · 2, article 107 · [DOI: 10.1007/s44290-025-00264-2](https://doi.org/10.1007/s44290-025-00264-2)

03 Exploring the carbon footprint of Nigeria's construction sector: a quantitative insight

Y. H. Labaran, V. S. Mathur, A. A. Musa & G. Saini | Environment, Development and Sustainability · Volume 28; first published online in 2024 · [DOI: 10.1007/s10668-024-05111-5](https://doi.org/10.1007/s10668-024-05111-5)

04 Nano-enhanced concrete: unveiling the impact of nano-silica on strength, durability, and cost efficiency

Y. H. Labaran, N. Atmaca, M. Tan et al. | Discover Civil Engineering · 1, article 116 · [DOI: 10.1007/s44290-024-00120-9](https://doi.org/10.1007/s44290-024-00120-9)

05 High-strength fiber-reinforced concrete: assessing the impact of polyvinyl alcohol, glass, and polypropylene fibers on structural integrity and cost efficiency

Y. H. Labaran, N. Atmaca, M. Tan et al. | Discover Civil Engineering · 1, article 37 · [DOI: 10.1007/s44290-024-00041-7](https://doi.org/10.1007/s44290-024-00041-7)

06 Towards net zero energy buildings: a review of barriers and facilitators to the adoption of building energy efficiency practices

Y. H. Labaran, H. Mato, G. Saini & A. A. Musa | Environmental Research and Technology · 7(1), 118–130 · [DOI: 10.35208/ert.1320207](https://doi.org/10.35208/ert.1320207)

07 Occupational health and safety in the construction industry: a comprehensive review with emphasis on Nigeria

Y. H. Labaran, A. Y. Günel & G. Saini | Turkish Journal of Engineering · 8(4), 695–711 · [DOI: 10.31127/tuje.1471660](https://doi.org/10.31127/tuje.1471660)

08 Cultivating holistic approaches to sustainable construction: insights from the real-world projects

U. M. Ibrahim & Y. H. Labaran | ArtGRID – Journal of Architecture Engineering and Fine Arts · 6(1), 121–150 · [DOI: 10.57165/artgrid.1382482](https://doi.org/10.57165/artgrid.1382482)

09 Achieving sustainability in Nigerian households: investigating factors impacting energy efficiency practices

H. Mato, Y. H. Labaran, D. Mukherjee et al. | Journal of Sustainable Construction Materials and Technologies · 8(3), 180–191 · [DOI: 10.47481/jscmt.1261384](https://doi.org/10.47481/jscmt.1261384)

PUBLICATIONS / JOURNAL PAPERS**Journal articles / 10-17**

Articles are listed in reverse chronological order. Linked publisher/DOI destinations are included where available.

10 Carbon footprint management: a review of construction industry

Y. H. Labaran, V. S. Mathur, S. U. Muhammad & A. A. Musa | Cleaner Engineering and Technology · 9, article 100531 · [DOI: 10.1016/j.clet.2022.100531](https://doi.org/10.1016/j.clet.2022.100531)

11 The carbon footprint of construction industry: a review of direct and indirect emission

Y. H. Labaran, V. S. Mathur & M. M. Farouq | Journal of Sustainable Construction Materials and Technologies · 6(3), 101–115 · [DOI: 10.29187/jscmt.2021.66](https://doi.org/10.29187/jscmt.2021.66)

12 Comparative performance analysis of fired clay bricks and quarry dust sandcrete bricks

Y. H. Labaran, N. M. Musa, A. A. Musa & L. Garba | International Research Journal of Engineering and Technology · 7(5), 1727–1733 · [Publication link](#)

13 Evaluation of factors responsible for variation order in civil engineering projects: a clients' perspective (Kano State, Nigeria)

A. M. Jibrin, N. Z. Muhammad & Y. H. Labaran | International Research Journal of Engineering and Technology · 7(5), 1373–1377 · [Publication link](#)

14 The impact of soil types on the mechanical properties of sustainable bottle bricks

H. Mato, U. E. Edike, Y. H. Labaran et al. | International Advanced Research Journal in Science, Engineering and Technology · 7(4), 177–186 · [Publication link](#)

15 Evaluation of potential use of charcoal as a filter material in water treatment

A. Musa, S. Saleh, K. Mohammed, Y. H. Labaran et al. | International Research Journal of Engineering and Technology · 7(5), 1930–1939 · [Publication link](#)

16 Parking fare modelling of an off-street parking facility

A. A. Musa, I. Z. Musa, Y. H. Labaran et al. | International Journal for Research in Applied Science & Engineering Technology · 8(V), 2026–2029 · [Publication link](#)

17 Design of pedestrian bridge using prestressed beams and decks at Kano University of Science and Technology, Wudil campus main gate

S. M. Modibbo, M. Abdullahi, Y. H. Labaran & I. A. Alhassan | International Research Journal of Engineering and Technology · 7(5), 5515–5521 · [Publication link](#)

PUBLICATIONS / BOOKS & CONFERENCES

Published book chapters

01 Low-cost wastewater treatment technologies suitable for irrigation

Y. H. Labaran, A. A. Musa, A. U. Khalil, N. Lawan & K. H. Ibrahim | Sustainable Use of Wastewater in Agriculture · Apple Academic Press · Book chapter · [DOI: 10.1201/9781003610694-5](https://doi.org/10.1201/9781003610694-5)

02 Sustainable utilization of construction and demolition wastes for asphalt binder, mortar, and concrete

A. A. Musa, A. M. Jibrin, U. U. Aliyu, L. Garba, Y. H. Labaran et al. | Sustainability Principles and Applications in Engineering Practice · Nova Science Publishers · Chapter 12 · [DOI: 10.52305/RTXV5502](https://doi.org/10.52305/RTXV5502)

Conference contributions

01 Impact of COVID-19 on construction projects in Nigeria

ICETSID 2021 · Conference paper

02 The carbon footprint of construction industry: a myth or reality

ICETSID 2021 · Conference paper

Forthcoming work

A chapter accepted/in press is listed separately from published work.

01 Leveraging AI, ML, ChatGPT and IoT for sustainable irrigation: enhancing water-use efficiency and resource allocation

Y. H. Labaran & N. Atmaca | Scope and Applications of IoT, AI, ChatGPT, ML in Irrigation · Apple Academic Press · Forthcoming book chapter · publication pending

RESEARCH & COLLABORATION

I welcome collaborations related to sustainable building renovation, environmental and construction materials research, data-informed engineering and technical education. For enquiries, please visit www.yahaya.net/contact.html or write to yahayakura@gmail.com.