

Short Bio of Professor Yali E. Woyessa



Professor Yali E. Woyessa is a Full Professor in the Department of Civil Engineering and currently serves as the Assistant Dean for Research, Innovation, and Engagement in the Faculty of Engineering, Built Environment and Information Technology (FEBIT) at the Central University of Technology, Free State (CUT). With more than 30 years in higher education, Professor Woyessa is an experienced scholar whose work continues to make a significant impact in the field of water resources management and sustainable development.

Professor Woyessa's academic journey began in Ethiopia, where he started his career as a graduate assistant at the then Alemaya University of Agriculture (currently known as Haramaya University) after completing his undergraduate studies. His academic promise earned him a French Government Scholarship to pursue his Master's degree in France, an experience that not only advanced his technical expertise but also shaped his global outlook on education and research. He later moved to South Africa to pursue a PhD at the University of the Free State (UFS), where he deepened his focus on hydrological systems and sustainable water management.

His commitment to lifelong learning is evident in his academic achievements. In addition to his technical qualifications, he holds two further postgraduate degrees, an MA in Higher Education Studies and an MBA, both from UFS. These additional qualifications reflect his belief in integrating educational leadership, research excellence, and management skills to build strong, forward-looking academic institutions.

Over the years, Professor Woyessa has played a central role in the academic and strategic development of CUT. He has served as Director of the School of Civil Engineering and Built Environment, Acting Dean of the Faculty, and Head of the Department of Civil Engineering. In his current position as Assistant Dean, he leads initiatives that strengthen the faculty's research output, promote innovation, and enhance engagement with industry, government, and communities. Furthermore, he is an Interim Director of the newly established Research Centre on Human – Technology Interaction (<https://www.cut.ac.za/research-centre-hti>). His leadership continues to support CUT's vision of being a centre of excellence in applied research and innovation.

Professor Woyessa's research focuses on climate change impacts, water security, hydrological modelling, and the interactions between land and water systems with over 100 publications. His interdisciplinary work contributes to finding sustainable solutions for communities affected by water scarcity and environmental change. He has successfully led and collaborated on several national and international projects, including his current research funded by the National Research Foundation (NRF) under the BRICS Multilateral Research Framework.

As an active member of the BRICS Network University Thematic Group on Water Resources and Pollution Treatment, Professor Woyessa has contributed significantly to international collaboration in this field. His involvement in the group has led to the publication of two books that address emerging challenges and innovations in water resources management across BRICS countries.

A registered Professional Engineering Technologist with the Engineering Council of South Africa (ECSA), Professor Woyessa is also a Fulbright Scholar. His Fulbright research at the University

of Minnesota in the United States examined climate change and water security and resulted in notable academic publications. Most recently, he served as a Visiting Professor at Yonsei University in South Korea, where he collaborated on projects in environmental and energy engineering.

Beyond his research and leadership roles, Professor Woyessa is deeply passionate about mentorship and academic capacity building. He has supervised numerous postgraduate students and continues to champion initiatives that inspire young scholars to pursue excellence in engineering education and research. His career reflects a lifelong commitment to innovation, collaboration and sustainability, values that resonate deeply with the mission and vision of CUT.

Recent publications:

1. **Woyessa, Y.E., Ayele, A.S. 2025.** Assessment of Future Water Supply and Demand in a River Basin Using Water Evaluation and Planning System (WEAP): A Case Study in South Africa. *Lecture Notes in Civil Engineering*, vol 425. Springer. https://doi.org/10.1007/978-981-96-3189-6_1
2. Mengistu, A.G, Tesfahuney, W.A., **Woyessa, Y.E.**, Ejigu, A.A., Melku D. Alemu, M.D., **2025.** Future Climate and Hydrological Extremes in Ethiopia: A CMIP6-Based Analysis. *Advances in Meteorology* (eISSN:1687-9317), Vol. 2025. <https://doi.org/10.1155/adme/5571487>.
3. Mengistu, A.G, Tesfahuney, W.A., **Woyessa, Y.E.**, Ejigu, A.A., Alemu, M.D. **2025.** Contrasting Hydro-climatic Trends and Drought Dynamics in Ethiopia and South Africa under Climate Change. *Climate Dynamics* 63:105. <https://doi.org/10.1007/s00382-025-07588-w>
4. **Woyessa, Y.E. 2024.** ‘Sustainable Management of Water Resources in a Semi-Arid River Basin Under Climate Change: A Case Study in South Africa’, in Y. Li, H. Chaudhuri, O.C.R. Filho, N. Gustave, F. Bux (eds.), *BRICS countries: Sustainable Water Resource Management and Pollution Control - Challenges and Opportunities*. Springer. ISBN 978-981-99-9580-6 ISBN 978-981-99-9581-3 (eBook) <https://doi.org/10.1007/978-981-99-9581-3>
5. **Woyessa, Y.E. 2024.** Assessment of climate change impact and comparison of downscaling approaches: a case study in a semi-arid river basin. *Proc. IAHS*, 385, 97–102, 2024 <https://doi.org/10.5194/piahs-385-97-2024>
6. Mengistu, A.G., **Woyessa, Y.E.**, Tesfahuney, W.A., Steyn, A.S., LEE, S.S. **2024.** Assessing the impact of climate change on future extreme temperature events in Major South African cities. *Theoretical and Applied Climatology*. doi: 10.1007/s00704-023-04712-w (Available online: <https://link.springer.com/article/10.1007/s00704-023-04712-w>
7. Senbeta, T.B., Napiorkowski, J.J., Karamuz, E., Kochanek, K., **Woyessa, Y.E. 2024.** Impacts of water regulation through a reservoir on drought dynamics and propagation in the Pilica River watershed. *Journal of Hydrology: Regional Studies* 53. <https://doi.org/10.1016/j.ejrh.2024.101812>
8. **Woyessa, Y.E. 2024.** Assessment of climate change impact and comparison of downscaling approaches: a case study in a semi-arid river basin. *Proc. IAHS*, 385, 97–102, 2024 <https://doi.org/10.5194/piahs-385-97-2024>
9. Gebremichael, A., Kebede A., and **Woyessa, Y.E. 2024.** Impact of climate change on water resource potential and sediment yield of the Gibe III watershed, Omo-Gibe Basin, Ethiopia. *Journal of Water and Climate Change*. Vol 15 No 3, 902 doi: 10.2166/wcc.2024.292