



SHORT BIOGRAPHY

Dr. Bimrew Tamrat working as Associate Professor, Faculty of Mechanical and Industrial Engineering under Thermal Engineering Chair. He holds Bachelor degree in Mechanical Engineering at Jimma University, Jimma, Ethiopia and Mater of Thermal Engineering at Addis Ababa University, Addis Ababa. He completed Doctorate of Philosophy (PhD) in Thermal Engineering from Huazhong University of Science and Technology, China. He has teaching and research experience of more than 18 years. His area of research interest includes Thermal System, Energy System, Thermo-fluid, Renewable Energy Sources, Fluid system, etc. He published more than 41 research articles in International Journals and Conferences. Under his guidance as co-advisor 2 research scholar completed Doctorate degree and 8 candidates are continuing their PhD research (1 as main advisor and 7 as co-advisor), and 16 students completes Master Degree in Thermal Engineering and Sustainable Energy Engineering.

Seminar Presentation

Friday May 17, 2024 @ 2:30 PM

Venue: FMIE Seminar Room

Bahir Dar Institute of Technology
FMIE
Thermal Chair

Thermal Comfort and Energy Efficiency: Challenges, Barriers, and Step towards Sustainability

Abstract

With the increasing number of people living in cities, the demand for energy in office buildings and homes is constantly increasing; thus, smart buildings were created to provide users with better comfort conditions. However, using artificial systems becomes an unsustainable alternative for these environments. This seminar focused on studies that contained strategies to promote thermal comfort and energy efficiency in buildings, as well as the main challenges and barriers to sustainability. It is more difficult to assess thermal comfort and thermal sensation than energy efficiency. To promote a thermally comfortable environment, it is necessary to consider numerous aspects to reduce environmental impacts and energy consumption and to increase sustainability. Actual thermal conditions are influenced by factors such as energy levels, climate, set point types, building type, size and orientation, and economic factors, among others. New technologies found in smart buildings showed distinct performances according to the climates of each region, and their evaluations can cover thermal comfort, energy savings, and payback time.