



## Lifecycle assessment tools for sustainability assessment of whole buildings



Climate change and rapid urbanization with growing population have prompted an emerging interest on construction industries to include more sustainable practices. To accomplish a net-zero carbon building stock in 2050, direct and indirect building CO<sub>2</sub> release needs to be assessed and quantified. Thus, the assessment of global warming potential of buildings, through life cycle assessment, taking into account both the processes and materials, to promote the use of more sustainable construction materials and processes is timely.

### Scope

Different techniques associated with sustainability assessment of built environments will be discussed through lectures and interactive activities. An introduction to the life cycle assessment of built environment will be given. Different life cycle assessment tools available to calculate the global warming potential of built environment will be shown with examples. The main challenges associated with the use of tools developed in other countries for such assessment will be highlighted. Finally, there will be a hands-on session to demonstrate the use of a locally developed tool to assess the Global Warming Potential of built environment.

### Speakers

#### Prof. Shiromi Karunaratne

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### Expected outcomes

The participants will be introduced to the building life cycle assessment. They will be using a whole building life cycle assessment tool (Building – SAT), developed by the resource persons applicable for the Sri Lankan as well as overseas building sectors.

### Objectives

- To identify the key objectives of the environmental life cycle of buildings.
- Apply Building-SAT tool to conduct a whole building life cycle assessment of a chosen building to quantify Global Warming Potential in kgCO<sub>2</sub> - eq / m<sup>2</sup> / year.
- Conduct a hot spot analysis to identify the areas to enhance building sustainability.

### Target audience

Practicing engineers, Architects, academics, undergraduate and post graduate students

40 Participants Only

Participation is FREE

WORKSHOP 4

8<sup>th</sup> International Multidisciplinary Engineering Research Conference

29<sup>th</sup>  
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1.30 pm -  
5.30 pm



Online  
WORKSHOP