

# PROGRAMME

## 17TH INTERNATIONAL RESEARCH CONFERENCE

6-7 December



## Spatial Dynamics: Envisioning Tomorrow's Design through Advanced Practices

6-7 December 2024  
Rubert Peiris Building

ORGANIZED BY



**FARU** FACULTY OF ARCHITECTURE  
RESEARCH UNIT  
UNIVERSITY OF MORATUWA, SRI LANKA

### Day 01 - 6th December 2024

- 2.30pm Arrival of Guests
- 3.00pm National Anthem  
Lighting of the Oil Lamp
- 3.10pm Welcom Address by  
**Prof. Yasangika Sandanayake**  
Conference Chair, FARU 2024  
Dean, Faculty of Architecture,  
University of Moratuwa
- 3.25pm Theme Address by  
**Dr. Menaha Thayaparan,**  
Director- FARU, Conference Co-Chair
- 3.35pm Address by the Chief Guest  
3.45pm Sponsor Video
- 3.50pm **Keynote Address**  
**Prof. Kaushal Keraminiyage**  
University of Salford  
United Kingdom
- 4.30pm Refreshments
- 5.00pm **Parallel Session A (A1, A2, A3)**
- 6.30pm Leaving to the Dinner  
7.00pm Conference Dinner

### Day 02 - 7th December 2024

- 8.30am Registrations
- 9.00am **Parallel Session B (B1, B2, B3)**
- 10.15am Refreshments
- 10.45am **Parallel Session C (C1, C2, C3)**
- 12noon Lunch
- 1.00pm **Parallel Session D (D1, D2, D3)**
- 2.30pm Refreshments
- 3.00pm **Closing Ceremony**  
3.00pm Rapporteurs' Report  
3.20pm Awarding of Certificates  
3.50pm Unveiling of FARU 2025 Conference Theme and  
Vote of Thanks

# 6th December 2024

5.00pm Auditorium – Rubert Peiris Building

## Session A1

### Sustainable Design

Session Chair : Dr. Sumanthri Samarawickrama

Session Coordinator : Mr. Praneeth Perera

FARU-C-2024-70 The impact of urban blue green space design on thermal comfort: with special reference to parks in Jaffna city centre  
*Harsana. S. & Jayaweera. N.*

FARU-C-2024-34 Explore the viability of utilizing jackfruit leaves (*artocarpus heterophyllus*) as a sustainable resource for the production of particleboard for interior applications  
*Welagedara.T & Mendis. M.*

FARU-C-2024-40 Enhancing mangrove restoration through innovative and sustainable design solution for Sri Lanka  
*Uresha E.D.T, Ranasinghe W.M.N.D.*

FARU-C-2024-36 Carbon neutral design process towards sustainable tourism architecture: a case study of tourist accommodations in Ella  
*Ranaweera. N.A. & Rajapaksha. I.G.P.*

FARU-C-2024-20 Investigate the potential of bamboo leaves for the development of particle boards for interior applications  
*Silva K.H.N.D.D. & Mendis M.*

5.00pm Class Room 01 Rubert Peiris Building

## Session A2

### Economic, Social and Environmental Livability

Session Chair : Prof. Kanchana Perera

Session Coordinator : Mr. Clarence Dissanayake

FARU-C-2024-35 Co-living with seasonal migrants: in respect of Chanpara  
*Chowdhury M.S.*

FARU-C-2024-72 The impact of railway station interiors on user usability case study of Colombo railway stations  
*Abeysekara W.A.V.S.*

FARU-C-2024-51 Living structures across urban hierarchies: a comparative study of five Sri Lankan cities  
*Selvaratnam.V, Bandara.N.S, Jayasinghe A.B. & Hasan M.A.F.*

FARU-C-2024-61 Mitigating measures for the escalation of building project costs amid Sri Lanka's economic crisis  
*Fonseka W.V.T., Withanage K.T. & Jayasuriya D.M.S.*

FARU-C-2024-50 Concept map technique to represent the building cost information  
*Uduwage-Don N.L.S. & Jayasena H.S.*

# 6th December 2024

5.00pm Virtual –Please Refer the Zoom Link in the last page

## Session A3

### Sustainable Urbanism (Online Session)

Session Chair : Dr. Harshini Mallawarachchi

Session Coordinator : Ms. Nadeera Maddakandage

FARU-C-2024-03 Envisioning river-based urbanism in Bangladesh a landscape-systems-informed approach for urban settlement pattern within a decolonized river terrain  
*Ahammad-Al-Muhamaymin, & Alia Shahed*

FARU-C-2024-06 Influence of soundmarks in creating the sense of place in urban landscape design of public spaces  
*Silva C.N.*

FARU-C-2024-42 Rejuvenating the disappearing urban spaces in Dhaka: An approach through placemaking around Hazaribagh canal area  
*Chanda.A.K, Sikder.M.P. & Sikder.S.P*

FARU-C-2024-46 Sustainable composite insulation panels: investigating diverse alternatives for insulating applications utilizing coconut husk and agro- industrial residue composites  
*Shamindi. A., Kudaligama. A. & Udawattha.C*

FARU-C-2024-68 Clean construction guidelines to mitigate air pollution at construction sites  
*Goel.A & Lahiri.S*

# 7th December 2024

9.00am Auditorium – Rubert Peiris Building

## Session B1

### Sustainable Practices in Construction

Session Chair : Prof. Anuradha Waidyasekara

Session Coordinator : Ms.Piyumi Tennakoon

FARU-C-2024-07 Impact of use of sustainable materials on road construction  
*Sayanthan T., Perera B.A.K.S. & Fernando S.M.H.*

FARU-C-2024-60 Limitations of traditional building materials for sustainable construction in Sri Lanka  
*Wickramanayake. N.D, Jayalath. J.A.C.D, Kulatunga. U & Siriwardhana. S.D.*

FARU-C-2024-80 Circular economy as a solution for construction demolition waste management in Sri Lanka  
*Welihinda R.H., Gunatilake S., Weerasooriya D. & Ilangakoon I.W.M.A.D.*

FARU-C-2024-13 Society 5.0 for lean-driven sustainable construction: a conceptual framework  
*Madhushani S.J.L., Ranadewa K.A.T.O. & Seneviratne L.D.I.P.*

FARU-C-2024-64 Can business models minimise lean implementation barriers in construction industry? A systematic literature review  
*Lawanga P.W.A.H., Sandanayake Y.G. & Ranadewa K.A.T.O.*

# 7th December 2024

9.00am Class Room 01 Rubert Peiris Building

## Session B2

### Culture and Social Spaces

Session Chair : Prof.Udayanagi Kulatunga

Session Coordinator : Mr. Hasith Victar

FARU-C-2024-30 Social impacts due to landscape disruption caused by the central expressway: with reference to Kadawatha – Mirigama section  
*Wijesinghe. W. A. M. O. & Gamage. W. O.*

FARU-C-2024-32 Destigmatizing mental health treatment centers through architectural interventions; insights from national institute of mental health, mulleriyawa, Sri Lanka.  
*Ranasinghe R.D.A. & Hettiarachchi A.A.*

FARU-C-2024-22 Circular e-food supply chain for achieving zero food waste goals: insights from Sri Lankan hotel industry  
*Dilshan K.D.S.I., Mallawaarachchi B.H. & Yatawatta Y.J.M.*

FARU-C-2024-67 Impact of energy cultures for adoption of electric vehicles  
*Pathirana I.U. & Soorige S.D.A.*

FARU-C-2024-63 Brain drain amidst economic crisis in sri lanka: an analysis on the migration of construction professionals  
*Wijerathna W.S.S., Sandanayake Y.G. & Bandaranayake D.M.L.N.*

9.00am Virtual –Please Refer the Zoom Link in the last page

## Session B3

### Health, Environment, and Sustainable Spaces (Online Session)

Session Chair : Dr. Pournima Sridarran

Session Coordinator : Ms. Sandumini Nimashi

FARU-C-2024-02 Analysis of PM 2.5 exposure impact in different atmospheric contexts: A detailed fem simulation analysis in a virtual loac device  
*Sami. M.G., Dola. M.Y., Roy.A. & Rahman.T.U.*

FARU-C-2024-01 Analying numerical simulation of ventilation system and filter membrane: the exposure of airborne nanoparticles in health interior space  
*Sami, M.G., Dola, M.Y. & Morshed, A.*

FARU-C-2024-10 Remote work: reshaping physical space in the post-pandemic  
*Sachithra. T.M., Thilakarathne. K., Vale.B. & Petrovic.E.K.*

FARU-C-2024-43 An investigation into the relationship between visual greenery of urban canal environment and emotional well-being of teenagers in low-income settlements  
*Hettiarachchi. T.C. & Hettiarachchi. A.A.*

FARU-C-2024-54 Human-landscape relationship for sustainability of a climate change affected mangrove settlement: a study of Kailashganj  
*Nandi, P.K.*

FARU-C-2024-59 Climate-resilient agriculture in coastal Khulna: unveiling the spatial dynamics of peri-urban growth centres  
*Podder.A.K, Shahidullah.F.B, Ahammad-Al-Muhaymin , Priota, R.N*

FARU-C-2024-76 Negotiating modernity on the periphery: Daniel C. Dunham's architectural legacy in Bangladesh  
*Tasnim S.T. & Podder A.K.*

# 7th December 2024

10.45am Auditorium - Rubert Peiris Building

## Session C1

### Workplace Safety

Session Chair : Prof. Nayanthara de Silva

Session Coordinator : Ms. Kavishka Jayakodi

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- FARU-C-2024-09 Exoskeleton for health and safety in construction workers: A literature review  
*Wijesinghe S.M.N.B., Wijerathna M.R.D.P., Ranadewa K.A.T.O. & Parameswaran A.*
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- FARU-C-2024-33 Thermal performance and behavioural diversities of workers at mixed - mode office buildings in Mannar: A field investigation  
*Kanistan. A.A. & Rajapaksha. I.G.P.*
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- FARU-C-2024-77 Investigating suitable shift patterns for improving work performance of construction workers in building projects in Sri Lanka  
*Gajanayaka. A.M.M.T., Waidyasekara. K.G.A.S. & Victar. H.C.*
- 
- FARU-C-2024-39 Key factors to consider when designing products to overcome the persistence of unsafe kerosene lamps among low-income households in Sri Lanka  
*Manawasinghe M.D.R.N., Ranasinghe W.M.N.D & Dissanayake M.K.*
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- FARU-C-2024-21 The impact of viewing vistas on psychological well-being a study on the service providers in selected government hospitals in the hill country, Sri Lanka  
*Rathnasinghe A.S. & Hettiarachchi A.A*
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- FARU-C-2024-79 Guideline to minimise and mitigate technical risks in road projects: contractor's perspective in Sri Lanka  
*Nivathsan. R., Lingasabesan. V. & Francis. M.*

10.45am Class Room 01 Rubert Peiris Building

## Session C2

### Urban Resilience and Sustainability

Session Chair : Prof. Jagath Munasinghe

Session Coordinator : Ms. Mathanky Sachithanatham

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- FARU-C-2024-69 Simulation of plausible hazard scenarios associated with dam failures: case study on Kantale dam, Sri Lanka  
*Rahubadda. R.V.A.D, Dassanayake. S.M, De-Silva. M.C.K., Thayaparan. M. & Kulathunga. U.*
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- FARU-C-2024-44 Climate-resilient cities: temporal analysis of urban land changes, and percapita green spaces from 1993 to 2023: case study of Colombo, Sri Lanka  
*Abeyasinghe. U.M., Hewawasam. H.U.C.P. & Saparamadu. S.*
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- FARU-C-2024-49 Enhancing building resilience: the role of future weather data in building design  
*Gupta. A., Thounaojam. A. & Vaidya. P.*
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- FARU-C-2024-47 Product innovation through solar decathlon India sustainable cooling solutions for retrofitting residential buildings  
*Suresh Hollannavar. P., Vaidya. P. & Thounaojam.A.*
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- FARU-C-2024-14 A study of smart enhancements in specialized AI applications comparing initial versions to upgraded models within sustainable urban planning integration  
*Hasan. F, Kaveesha. L, Sankalpa. S, Jayasinghe. A. & Sathsarana.S*
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- FARU-C-2024-28 A study of integrating real-time emotion and sentiment analysis in urban planning  
*Kaveesha.L, Sankalpa.S & Diwyanjali. G*

7th December 2024

10.45am Virtual – Please Refer the Zoom Link in the last page

Session C3

## Urban Space and Cultural Dynamics (Online Session)

Session Chair : Dr. Priyanwada Singhapathirana

Session Coordinator : Mr. Thisal Devin

FARU-C-2024-57 Evaluating publicness of public space and its transforming pattern: a case of the inner courtyard at Khulna new market

*Morshed. A., Sami. M.G., Islam. N. & Dola. M. Y.*

FARU-C-2024-53 Spatial inequities: child-friendly spaces and ethnic sensitivity in Balukhali Rohingya refugee camp, Cox's bazar, Bangladesh

*Hossain. S. M. A. & Podder. A. K.*

FARU-C-2024-12 A comparative analysis of the cognitive differences in wayfinding among local and internally migrant students in urban environments a trip from buet campus to Dhaka new market

*Nandi, D. & Kundu, G.*

FARU-C-2024-73 Bridging consumer preferences and cultural norms in sri lankan lingerie retail through visual merchandising strategies

*Wijenayake, M.H.K.A. & Rathnayake. R.*

FARU-C-2024-78 Kolkata cultural heritage: Past and present scenario case study: Khidderpore

*Lahiri. S.*

FARU-C-2024-55 Sustainable cooling approaches for a warming world: a literature review

*Konsam M., Vaidya P. & Thounaojam A.*

7th December 2024

1.00pm Auditorium – Rubert Peiris Building

Session D1

## Design for Well-Being Across Generations

Session Chair : Dr. Kamal Wasala

Session Coordinator : Ms. Malsha Manohari

FARU-C-2024-11 The impact of Sri Lankan traditional toy design on child development

*Kulathunga .W.D.D.*

FARU-C-2024-15 Effects on preschool furniture for physical comfort of children aged between 2-5 years in Colombo area

*Trimanne H.D.D..S. & Samarasinghe A.*

FARU-C-2024-18 Evaluation of user behavioral patterns responding to internal social spaces of elderly care resorts

*Chinthaka K.W.C.J., Senaarachchige W. & Mendis M.*

FARU-C-2024-25 A comprehensive study on the impact of the scale of learning spaces on happiness and well-being of preschool children with reference to two selected cases from Colombo, Sri Lanka

*Siriwardena. M.G.M.A.S.R & Hettiarachchi. A. A*

FARU-C-2024-27 Nature based therapeutic impact of borrowed landscape on the stress reduction of secondary school teachers

*Welange. W.I.M.A.R., Chandrasekara. D.P. & Dharmasena. J.*

# 7th December 2024

## 1.00pm Class Room 01 Rubert Peiris Building

### Session D2

## Technological advancements in the built environment

Session Chair : Dr. Chameera De Silva

Session Coordinator : Ms. Lavanya Baskaran

FARU-C-2024-08 Use of enabling technologies with industry 5.0 to align with sustainability in the construction industry  
*Kavirathna. A.S. & Perera. B.A.K.S.*

FARU-C-2024-56 Leveraging applications of 5D BIM technology for building construction: enhancing efficiency of cost management practices  
*Liyanaage G.H.M.D. & Kulatunga U.*

FARU-C-2024-65 Exploring land use dynamics and impact of planning scenarios with land use simulation models: a case study of the molusce land use model to Trincomalee, Sri Lanka  
*Jayarathne D.N., Athapattu W.A.M.P.D.A., Kavishka W.R., Jayani T.A.C., Sooriyaarachchi N.S. & De Silva C.K.*

FARU-C-2024-66 A role of digital drawing vs hand drawing in architectural design process  
*Liyanaage, W. & Hettithanthri, U.*

FARU-C-2024-74 Applicability of digital twin technology for quality management in the Sri Lankan construction industry  
*Madushika. H.M.I. & Thayaparan. M.*

FARU-C-2024-31 A game theory-based decision-making framework for sustainable urban planning: optimizing residential density with the aid of machine learning techniques  
*Weragama T., Jayasinghe, A. & Hasan, F.*

## 1.00pm Class Room 02 Rubert Peiris Building

### Session D3

## Sustainable Architecture and Built Environment

Session Chair : Prof. Narein Perera

Session Coordinator : Ms. Vithakshi Fernando

FARU-C-2024-23 Enhancing guest experience in guest rooms through sustainable strategies for indoor air quality improvement in Sri Lanka's luxury hotels  
*Chandani G.G.N. & Yatawatta Y.J.M.*

FARU-C-2024-38 Indoor Environmental Quality (Ieq) and its impact on job satisfaction in green buildings: a multi-factor analysis  
*Kariyawasam.T. & Samarasinghe A.M*

FARU-C-2024-26 Decision-supportive framework towards sustainable adaptive reuse of historic buildings in Sri Lankan context.  
*Jayakody.J.P.N.S. & Munasinghe J.M. & Hewawasam. C*

FARU-C-2024-52 Knowledge sharing strategies to improve buildability of construction projects in Sri Lanka  
*Wimalaratne. P.L.I. & Kulatunga. U.*



3.00pm Day 02 - 7th December 2024

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**Closing Ceremony**

3.00pm **Rapporteurs' Report**

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3.20pm **Awarding of Certificates**

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3.50pm Unveiling of FARU 2025 Conference Theme and  
Vote of Thanks

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17<sup>TH</sup> INTERNATIONAL RESEARCH CONFERENCE

**FARU 2024**

This Years Theme:

**Spatial Dynamics: Envisioning Tomorrow's  
Design through Advanced Practices**

Date: 6-7 December 2024

Venue: University of Moratuwa, Katubedda, Sri Lanka



## ZOOM LINKS FOR THE VIRTUAL SESSIONS

**DAY 1: 6<sup>th</sup> December 2024 5.00 pm to 6.15 pm**  
**Session A3 - Sustainable Urbanism (Virtual)**

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Zoom Link to [Session A3](#)

ID: 476 248 1055

Passcode: a3\_FARU24

**DAY 2: 7<sup>th</sup> December 2024 9.00 am to 10.15 am**  
**Session B3 - Health, Environment, and Sustainable Spaces (Virtual)**

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Zoom Link to [Session B3](#)

ID: 939 7324 1600

Passcode: b3\_FARU24

**DAY 2: 7<sup>th</sup> December 2024 10.45 am to 12.00 noon**  
**Session C3 - Urban Space and Cultural Dynamics (Virtual)**

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Zoom Link to [Session C3](#)

ID: 965 7800 1978

Passcode: c3\_FARU24