



Smart Villages Program
Faculty of Architecture, Building and Planning
SmartVillageslab.msd.unimelb.edu.au

The 6th International Conference on Smart Villages and Rural Development (COSVARD 2023)

Online Mode
04-05 December 2023

University of Melbourne

Organising committee:

A/Prof Hemanta Doloi (Chair)
A/Prof Robert Crawford
Dr Hannah Robertson
Dr Gao Shang

Assam Engineering College

Organising Committee:

Prof Atul Bora (Co-Chair)
Prof Jayanta Pathak, A/Prof Bipul Talukdar,
Dr Sasanka Borah, Dr Pradip Baishya,
Prof S. K. Deb, Dr Plabon Kakoti,
Dr Manjuri Hazarika, Dr Purobi Patowary

Key Affiliating Partners

Indian Institute of Technology, Guwahati
Smart Cities Research Institute (SCRI) -
Swinburne University of Technology,
Australia
Indian Institute of Technology, Delhi
Indian Institute of Technology, Tirupati
Indian Institute of Technology, Madras



Topic: **COSVARD 2023**

Time: Dec 04, 2023 02:30 PM Canberra,
Melbourne, Sydney
9:00am (Indian Standard Time, IST)

Registration Link:

https://unimelb.zoom.us/webinar/register/WN_YIXRWkUJR52QKBtly6r1nA

(Or Scan the QR to visit the link)

After registering, you will receive a confirmation email containing information about joining the webinar.

Webinar ID: **852 3790 1572**

Password: **cosvard23** (if prompted)



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With over 40% of the world's population now living in rural areas, there is global interest in research associated with the creation of "Smart Villages" to address the ever growing urban-rural divide. Smart Village research being undertaken in the Faculty of Architecture, Building and Planning at the University of Melbourne is exploring rural community development, practices and relevant policies with a focus on community-centric planning of affordable housing, infrastructure, sustainable development and growth, community empowerment and other issues related to the creation of Smart Villages.

About the conference

This will be a peer-reviewed conference with a scientific committee comprising global leaders and experts. Full papers will be subject to a double-blind review before acceptance.

Themes

Conference themes include, but are not limited to:

Rural Housing

Housing affordability, low-cost housing, materials selection, energy and water solutions, sanitation, reusability and recycling of waste, skill development, environmental design, disaster resilience and other relevant topics.

Rural Infrastructure

Construction and maintenance of roads and other forms of infrastructure, access to education and health care, provision of services, including energy, potable water, waste and sewage management, creation of public spaces, ICT applications and operations, and other related topics.

Rural Economy

Building social capital, micro and community-led finance, income generation, farming support, crop selection and improvement, market access, pricing, various forms of tourism and other related topics.

Sustainability

Environmental, Social, and Economic sustainability.

Smart Governance

ICT and data-driven solutions, machine learning applications, alternative forms of governance and other relevant topics.

Location

The Conference will be held as Webinar on 04 - 05, 2023 starting on the 04th at 02:30 PM Canberra, Melbourne, Sydney, 9:00am (Indian Standard Time, IST). For registration visit https://unimelb.zoom.us/webinar/register/WN_YIXRWkUJR52QKBtly6r1nA

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Keynote Speakers

1. **Professor Mohan M Kumaraswamy**, *Editor-in-Chief (Emerald Journal of the Built Environment Project and Asset Management – BEPAM)*
Theme: “Potential for Public Private People Partnerships in developing Smart Villages and Rural Infrastructure”
2. **Professor George Ofori**, *Sustainability Lead for LSBU Group, London South Bank University, London, UK*
Theme: “The Body of Knowledge in Project Management for Developing Countries: Context shapes content”
3. **Prof Hemanta Hazarika** (*Kyushu University, Japan*)
Theme: “Sustainable Early Warning System against Landslide Disasters”
4. **Prof V.K. Vijay**, *National Coordinator, IREDA Chair Professor, Country-Head (Unnat Bharat Abhiyan) (IIT Delhi)*
Theme: “Connecting Higher Educational institutes with villages for Rural Development and Livelihoods”
5. **Prof Chandan Ghosh**, *National Institute of Disaster Management, Ministry of Home Affairs, India*
Theme: “Bioengineering for the rural livelihood regenerations”
6. **Prof Mark Burry**, *AO, Director (Smart Cities Research Institute), Swinburne University of Technology, Victoria, Australia*
Theme: “New materials and construction methods for remote indigenous communities”
7. **Dr Samir Baruah**, *Ex-Banker, Mentor & Advisor, Laghu Udyug Bharti, North East India, Social Entrepreneurs, India*
Theme: “Inclusive Growth: an attempt in reshaping the Pyramid shaped economy of India”
8. **Prof Piyush Chaunsali**, *IIT Madras, India*
Theme: “Mapping and Utilization of Indian Biomass Ash in Structural Materials”
9. **A/Prof Hemanta Doloi**, *The University of Melbourne, Australia*
Theme: “Alternative development models for rural community and contribution to Global Sustainability Initiative (GSI)”

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Scientific committee

- Professor Craig Langston, Bond University, Australia
- Professor Mark Burry, Swinburne University of Technology, Australia
- Professor Anthony Mills, Deakin University, Australia
- Professor Bishwajit Bhattacharjee, Indian Institute of Technology, Delhi, India
- Dr Yoshiki Higuchi, Nippon Institute of Technology, Japan
- Dr Siddhartha Singha, Indian Institute of Technology, Guwahati, India
- Professor Shaila Bantanur, BMS School of Architecture, Bangalore, India
- A/Professor Masa Noguchi, The University of Melbourne, Australia
- Assistant Professor Sajal Chowdhury, Chittagong University of Engineering and Technology, Bangladesh
- Dr James Helal, University of Melbourne, Australia
- Professor Anu Gokhale, Illinois State University, U.S.
- Professor Reeta Sarmah, Jorhat Engineering College, India
- Professor Benny Raphael, Indian Institute of Technology, Madras, India
- Dr Dominique Hes, University of Melbourne, Australia
- A/Prof Peter Raisbeck, University of Melbourne, Australia
- Professor Koshy Varghese, Indian Institute of Technology, Madras, India
- A/ Professor Arup Bhattachajee, Jorhat Engineering College, Assam, India
- Dr Mehdi Amirkhani, University of Melbourne, Australia
- A/Professor Manjuri Hazarika, Assam Engineering College, India
- Geoff Kimm, Swinburne University of Technology, Australia
- Dr Citra Ongkowijoyo, Deakin University, Australia
- Professor Boeing Singh, Indian Institute of Technology Guwahati, India
- A/ Professor Nithyadharan Mokkaian, Indian Institute of Technology Tirupati, India
- Dr Salman Shoostarian, RMIT University, Australia
- A/ Professor Essam Almahmoud, Qassim University, Saudi Arabia
- Dr Mohammad Arif Rohman, Sepuluh Nopember Institute of Technology, Indonesia
- Velyne Katharpi, University of Melbourne, Australia
- A/Prof Sean Jin, Western Sydney University, Australia
- Dr Sasanka Borah, Assam Engineering College, India
- A/Professor Pradip Baishya
- Professor Bipul Talukdar, Assam Engineering College, India
- Dr Medalsong Ronghang, Bineswar Brahma Engineering College, India
- Dr Kiran Shinde, La Trobe University, Australia
- Dr Hannah Robertson, The University of Melbourne
- Dr Alessandro Liuti, The University of Melbourne
- Dr Rakhee Das, National Institute of Technology, Rourkela, Odisha, India
- Dr Sally Donovan, Research Fellow, The University of Melbourne
- Dr Arif Rohman, Institut Teknologi Sepuluh Nopember (ITS), Indonesia
- Dr B. Mahesh, IIT Madras, Chennai, India
- Ms Dwijomala Hanjabam, Mizoram University, India
- Mr Abdullatif Abdallah (Smart Villages Lab), The University of Melbourne

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Agenda for Opening Ceremony and Inauguration Day 1 – Monday 04 December 2023

2:30pm (AEDT*) – 3:30pm (AEDT) : 9:00am (IST*) – 10:00am (IST)

*Australian Eastern Daylight-Saving Time (AEDT), *Indian Standard Time (IST)

Anchored by: Mr Murali SwayambuNathan (Melbourne, Australia)

| | |
|--|--|
| 2:30pm (AEDT) 9:00am (IST) | Notionally, official opening of COSVARD 2023, Lighting of Lamp and Felicitation of Guests |
| 2:40pm (AEDT) 9:10am (IST) | Opening COSVARD 2023, Welcome and Introduction A/Prof Hemanta Doloi (Chairman) |
| 2:55 pm (AEDT) 9:25am (IST) | Prof Chandan Ghosh, National Institute of Disaster Management, Ministry of Home Affairs, Govt of India |
| 3:05 pm (AEDT) 9:35am(IST) | Dr Hannah Robertson, The University of Melbourne |
| 3:15 pm (AEDT) 9:55am(IST) | Dr Samir Baruah, Ex- Banker, Mentor & Advisor, Laghu Udyog Bharti, NE |
| 3:25m (AEDT) 9:55am (IST) | Prof Robert Crawford, The University of Melbourne |
| 3:35m (AEDT) 10:05am (IST) | Dr Pranjal Kumar Phukan, Brand Ambassador, Mentor & Advisor <i>Author of the book- Limits to Infinity</i> |
| 3:45pm (AEDT) 10:15am (IST) | Mr Sanjib Sabhapandit, Entrepreneur and Film Director, India |
| 3:55pm (AEDT) 10:25am (IST) | Dr Gao Shang, The University of Melbourne |
| 4:00 pm (AEDT) 10:30am (IST) | Vote of Thanks [A/Prof Hemanta Doloi] |
| Technical Session starts at 4:30pm (AEDT) 11:00am (IST) | |

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Technical Session Day 1 - Monday 04 December 2023

| | | |
|--------------------------------|--|---|
| 4:30pm (AEDT) 11:00am (IST) | Keynote 1: Professor Mohan M Kumaraswamy <i>Editor-in-Chief (Emerald Journal of the Built Environment Project and Asset Management – BEPAM)</i> <i>Honorary Professor, The University of Hong Kong, Hong Kong Honorary Professor, University of Moratuwa, Sri Lanka</i> Topic: Potential for Public Private People Partnerships in developing Smart Villages and Rural Infrastructure Chair: A/Prof Hemanta Doloi | |
| 6:00pm (AEDT) 12:30pm (IST) | Session 1: Sustainability and Resilience Chair: Prof Robert Crawford [UoM] | |
| Paper 20 (15 mins) | Exploring traditional timber houses of Bangladesh through the perspective of rural culture and environmental experience | Rezuana Islam Islam <i>Chittagong University of Engineering & Technology, Bangladesh</i> |
| Paper 22 (15 mins) | Policy analysis and way forward for a sustainable rural community | Dwijomala Hanjabam <i>Mizoram University, India</i> |
| Paper 21 (15 mins) | Analysis of Willingness to Pay for Sea Transportation Services in Indonesia | Hengki Purwoto <i>Universitas Gadjah Mada, Indonesia</i> |
| Paper 10 (15 mins) | The use of digital layers in post-growth communities - an exploratory study | Åsa Isacson, Marco Adelfio, <i>Chalmers University of Technology, Sweden</i> |
| 7:00pm (AEDT) 1:30pm (IST) | Break | |
| 7:15pm (AEDT) 1:45pm (IST) | Session 2: Rural Housing Chair: Dr Gao Shang [UoM] | |
| Paper 6 (15 mins) | Inner rural areas entrepreneurship Italian community cooperatives & smart proposal for Sicilian Mountain Madonie District | Luisa LOMBARDO <i>University of Palermo, Italy</i> |
| Paper 17 (15 mins) | Sustainable Energy Management and Microgrids in Smart Villages | Tanmay Saikia <i>Assam Engineering College, India</i> |
| Paper 9 (15 mins) | Salinity's shadow: sustainable modular resilience for the Munda Community, Satkhira | Shajib Paul <i>Chittagong University of Engineering & Technology (CUET), Bangladesh</i> |
| 8:30 pm (AEDT) 3:00pm (IST) | Break | |

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Technical Session Day 1 - Monday 04 December 2023

| | | |
|-------------------------------|---|--|
| 8.45pm (AEDT) 3:15pm (IST) | Keynote 2: Prof V.K. Vijay <i>National Coordinator, IREDA Chair Professor, Country-Head (Unnat Bharat Abhiyan) (IIT Delhi)</i> Topic: Unnat Bharat Abhiyan - a program of ministry of education, government of India for development of villages through higher educational institutes Chair: A/Prof Hemanta Doloi | |
| 9.45pm(AEDT) 4:15pm (IST) | Session 3: Infrastructure-I | |
| | Chair: Sajal Chowdhury, Bangladesh | Authors |
| Paper 12 (15 mins) | AI AND AQUAPONICS for sustainable farming: Challenges faced by farming in coastal regions of Bangladesh | Israt Jahan <i>Brac University Bangladesh</i> |
| Paper 14 (15 mins) | Smart irrigation for sustainable rural development: a study of Nalbari Irrigation Circle | Rajat Kamal Kakati <i>Assam Engineering College, India</i> |
| Poster 1 (15 mins) | Envisioning Smart Villages: A Path to Progress with the Local Marketplace | Madhuryya Kumar Bhattacharyya <i>Assam Engineering College, India</i> |
| 10:30pm(AEDT) 5:00pm (IST) | Break | |
| 10.45pm(AEDT) 5:15pm (IST) | Keynote 3: Professor George Ofori <i>Sustainability Lead for LSBU Group, London South Bank University, London, UK</i> Topic: The Body of Knowledge in Project Management for Developing Countries: Context shapes content Chair: A/Prof Hemanta Doloi | |
| 11.45pm(AEDT) 6:15pm (IST) | End of Day 1 | |

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Technical Session Day 2 - Tuesday 05 December 2023

| | | |
|--------------------------------|--|---|
| 2:30pm (AEDT) 9:00am (IST) | Keynote 4: Prof Hemanta Hazarika (Kyushu University, Japan) Topic: Sustainable Early Warning System against Landslide Disasters Chair: A/Prof Hemanta Doloi | |
| 3.30pm (AEDT) 10:00am (IST) | Session 4: Infrastructure-II | |
| | Chair: Dr Sally Donovan Melbourne, Australia | Authors |
| Paper 23 (15 mins) | Dynamics of local and foreign contractors in developing countries: The case of Tanzania | Abdullatif Abdallah Smart Villages Lab (SVL) The University of Melbourne, Australia |
| Paper 8 (15 mins) | Rural housing module to improve survival amidst cyclones | Syeda Tahmina Tasnim Chittagong University of Engineering & Technology, Bangladesh |
| Paper 13 (15 mins) | Barriers to implementation of sustainable construction in India | Nayanika Bora The University of Melbourne, Australia |
| Paper 4 (15 mins) | Studies on the use of locally available (Coxs Bazar and Saint Martin) renewable seaweed wastes as compost organic fertilizer resources | Durlave Roy Bangladesh Open University, Bangladesh |
| | Chair: Prof Jayanta Pathak (AEC, Guwahati) | |
| 4.45pm(AEDT) 11:15am (IST) | Keynote 5: Prof Mark Burry, AO Director (Smart Cities Research Institute) Swinburne University of Technology, Victoria, Australia Topic: New materials and construction methods for remote indigenous communities | |
| | Chair: Mr Abdullatif Abdallah (University of Melbourne) | |
| 5:30pm(AEDT) 12:00pm (IST) | Keynote 6: A/Prof Hemanta Doloi Smart Villages Lab (SVL), The University of Melbourne Topic: Alternative development models for rural community and contribution to Global Sustainability Initiative (GSI) | |

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| | |
|-------------------------------|---|
| | Chair: Prof Shyamanta M. Hazarika (IIT Guwahati) |
| 6:30pm(AEDT) 1:00pm (IST) | Keynote 7: Dr Samir Baruah <i>Ex-Banker, Mentor & Advisor, Laghu Udyug Bharti, North East India, Social Entrepreneurs, India</i> Topic: Inclusive Growth: an attempt in reshaping the Pyramid shaped economy of India |
| | Chair: A/Prof Hemanta Doloi (The University of Melbourne) |
| 7:15pm(AEDT) 1:45pm (IST) | Keynote 8: Prof Chandan Ghosh <i>Professor and Head Resilient Infrastructure Division National Institute of Disaster Management, Ministry of Home Affairs, Govt of India</i> Topic: Bioengineering for the rural livelihood regenerations |
| | Chair: Prof Bipul Talukdar (AEC, Guwahati) |
| 8:00pm(AEDT) 2:30pm (IST) | Keynote 9: Prof Piyush Chaunsali (IIT Madras) Topic: Mapping and Utilization of Indian Biomass Ash in Structural Materials |
| 8:45pm (AEDT) 3:15pm (IST) | Awards announcements A/Prof Hemanta Doloi |
| 9:00pm (AEDT) 3:30pm (IST) | <i>Closing remarks</i> A/Prof Hemanta Doloi |
| End of Conference | |

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