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Pondicherry University

International Summer School
on
STEER - Spatial Technologies for Urban Resilience: Empowering India and Mongolia

(12 – 25 February 2024)

AIM:

The aim of the summer school is to provide participants with a comprehensive understanding of Urban Resilience and Spatial Technologies, equipping them with the knowledge and skills necessary for effective urban planning and management.

OBJECTIVES:

1. To introduce participants to the fundamental concepts of urban resilience and the role of spatial technologies in addressing urban challenges.
2. To familiarize participants with the methods and techniques of acquiring and pre-processing satellite data.
3. To provide hands-on experience in handling and managing GIS data for urban planning and analysis.
4. To enable participants to create accurate urban maps and monitor spatial changes using spatial technologies.
5. To instruct participants on spatial analysis methods for assessing and enhancing urban resilience.
6. To explore the integration of green and blue infrastructure in urban planning for sustainable development.
7. To enhance participants' skills in collecting and analyzing DGPS data through practical case studies.
8. To familiarize participants with the use of ecosystem services in decision-making processes.
9. To provide participants with real-world exposure to urban resilience and spatial technologies.

OUTCOME:

1. Participants will gain a foundational understanding of the key principles of urban resilience and spatial technologies.
2. Participants will acquire practical skills in satellite data handling, enhancing their ability to extract meaningful information for urban applications.
3. Participants will develop proficiency in GIS data manipulation and organization, essential for effective urban spatial analysis.
4. Participants will be able to apply mapping and monitoring techniques to address urban planning challenges.
5. Participants will gain the ability to conduct spatial analyses that contribute to urban resilience strategies.

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6. Participants will understand the importance of ecological planning and its impact on urban resilience.
7. Participants will be proficient in utilizing DGPS data for urban planning and resilience applications.
8. Participants will learn to integrate ecosystem services into urban planning decisions for sustainable outcomes.
9. Participants will apply theoretical knowledge in practical scenarios during the field trip, and group project reinforcing their understanding.

THEMES FOR SUMMER SCHOOL:

1. Introduction to Urban Resilience and Spatial Technologies
2. Satellite Data Acquisition and Pre-processing
3. GIS Data Handling and Management
4. Urban Mapping and Monitoring
5. Spatial Analysis for Urban Resilience
6. Green and Blue Infrastructure Planning
7. Case Studies: India's Learning from Building Urban Climate Actions
8. Workshop on Ecosystem Services Use for Decision-Making
9. Capacity Building on High-precision RTK GNSS data collection and processing
10. Group project

Program
Day - 1
12/02/2024 | Monday

Time	Program details
09:15	Registration
10:00	Inauguration of Summer School
11:15	Tea Break
Technical Session	
11:45	Application of Spatial Technologies in Urban Planning and Management - Prof. Utpal Sharma, Nirma University
13:00	Lunch Break
14:00	Heritage Conservation and Urban Renewal in Jaipur and Ahmedabad - Prof. Utpal Sharma, Nirma University
15:30	Tea Break
15:45	Building a resilient future: The power of Data and Knowledge and Sustainability - Dr. Anton Shkaruba, Estonian University of Life Sciences
17:00	End of Day - 1

Day - 2
13/02/2024 | Tuesday

Time	Program details
Technical Session	
10:00	Overview of Spatial Technologies: Remote Sensing and GIS - Prof. S. Jayakumar, Pondicherry University
11:15	Tea Break
11:45	Urban greening and tree equity: Opportunities and Challenges (Lecture and case demonstration for usage) Prof. Akhlaq Wani, SKUAST-Kashmir
13:00	Lunch Break
14:00	Workshop on Ecosystem Services Use for Decision Making - Dr. Arjan, MLU (Online)
15:30	Tea Break
15:45	Workshop on Ecosystem Services Use for Decision Making - Dr. Arjan, MLU (Online)
17:00	End of Day - 2

Day - 3
14/02/2024 | Wednesday

Time	Program details
Technical Session	
10:00	India's Learning from Building Urban Climate Actions - Dr. Debjani, National Institute of Urban Affairs
11:30	Tea Break
11:45	Application of Spatial Technology in meeting Sustainable Development Goals and Environmental Impact Assessment – Shri. Rakesh Kumar Patra, GIFT City
13:00	Lunch Break
14:00	Adaptation and Mitigation to Climate Change through Urban Design - Dr. Riccardo Privitera, University of Catania
15:30	Tea Break
15:45	Adaptation and Mitigation to Climate Change through Urban Design - Dr. Riccardo Privitera, University of Catania
17:00	End of Day - 3

Day - 4
15/02/2024 | Thursday

Time	Program details
Technical Session	
10:00	Assessment of urban water management: Mongolia and India - Prof. Altansukh Ochir, National University of Mongolia
11:30	Tea Break
11:45 –	Field Trip- Visit to Puducherry Town with a special emphasis on Green and Blue

17:00	infrastructure
17:00	End of Day - 4

Day - 5
16/02/2024 | Friday

Time	Program details
Technical Session	
10:00	High Resolution Urban Mapping: Techniques and Challenges - Prof. PK Joshi, Jawaharlal Nehru University
11:30	Tea Break
11:45	Urban Growth Modeling and Forecasting - Prof. PK Joshi, Jawaharlal Nehru University
13:00	Lunch Break
14:00	Case Study Presentation Work in Group
15:30	Tea Break
15:45	Presentation of Case Study proposal
17:00	End of Day - 5

Day - 6
17/02/2024 | Saturday

Time	Program details
Technical Session	
10:00	Independent Group Work
11:30	Tea Break
11:45	Independent Group Work
13:00	Lunch Break
14:00	Independent Group Work
15:30	Tea Break
15:45	Independent Group Work
17:00	End of Day - 6

Day - 7
18/02/2024 | Sunday

Time	Program details
Technical Session	
10:00	Independent Group Work
11:30	Tea Break
11:45	Independent Group Work
13:00	Lunch Break
14:00	Independent Group Work
15:30	Tea Break
15:45	Independent Group Work
17:00	End of Day - 7

Day - 8
19/02/2024 | Monday

Time	Program details
Technical Session	
10:00	Capacity Building - High-precision RTK GNSS for Urban Mapping – Shri. D. Ragavan, Indian Geoinformatics Centre
11:30	Tea Break
11:45	Capacity Building - High-precision RTK GNSS for Urban Mapping - Shri. D. Ragavan, Indian Geoinformatics Centre
13:00	Lunch Break
14:00	Field Training - High-precision RTK GNSS data collection and processing - Shri. D. Ragavan, Indian Geoinformatics Centre
15:30	Tea Break
15:45	Field Training - High-precision RTK GNSS data collection and processing - Shri. D. Ragavan, Indian Geoinformatics Centre
17:00	End of Day - 8

Day - 9
20/02/2024 | Tuesday

Time	Program details
Technical Session	
10:00	Independent Group Work
11:30	Tea Break
11:45	Independent Group Work
13:00	Lunch Break
14:00	Independent Group Work
15:30	Tea Break
15:45	Independent Group Work
17:00	End of Day - 9

Day - 10
21/02/2024 | Wednesday

Time	Program details
Technical Session	
10:00	Incorporating Nature Based Solutions in Urban Planning - Experiences and Experiments in Urban Agriculture - Dr. Swati Kothary, NIRMA University
11:30	Tea Break
11:45	Independent Group Work
13:00	Lunch Break
14:00	Independent Group Work
15:30	Tea Break
15:45	Independent Group Work
17:00	End of Day - 10

Day - 11
22/02/2024 | Thursday

Time	Program details
Technical Session	
10:00	Group Project - Definition of urban greening scenarios for climate regulation – Dr. Daniele La Rosa, University of Catania
11:30	Tea Break
11:45	Group Project - Definition of urban greening scenarios for climate regulation – Dr. Daniele La Rosa, University of Catania
13:00	Lunch Break
14:00	Independent Group Work
15:30	Tea Break
15:45	Independent Group Work
17:00	End of Day - 11

Day - 12
23/02/2024 | Friday

Time	Program details
Technical Session	
10:00	Presentation of Group Findings
11:30	Tea Break
11:45	Presentation of Group Findings
13:00	Lunch Break
14:00	Feedback from Participants
15:30	Tea Break
15:45	Graduation
17:00	End of Day - 12

Day - 13
24/02/2024 | Saturday

Time	Program details
10:00	Group and individual consultations for the students from URGENT project partner institutions
11:30	Tea Break
11:45	Group and individual consultations for the students from URGENT project partner institutions
13:00	Lunch Break
14:00	Group and individual consultations for the students from URGENT project partner institutions
15:30	Tea Break
15:45	Group and individual consultations for the students from URGENT project partner institutions
17:00	End of Day - 13

Day - 14
25/02/2024 | Sunday

Time	Program details
10:00	Group and individual consultations for the students from URGENT project partner institutions
11:30	Tea Break
11:45	Group and individual consultations for the students from URGENT project partner institutions
13:00	Lunch Break
14:00	Group and individual consultations for the students from URGENT project partner institutions
15:30	Tea Break
15:45	Group and individual consultations for the students from URGENT project partner institutions
17:00	End of Day - 14

Partner Institutes

University of Bremen (UHB); University of Catania (UCT); Estonian University of Life Sciences (EMU); Martin Luther University (MLU); National University of Mongolia (NUM); Khovd University (KHU); Mongolian University of Life Sciences (MULS); Jawaharlal Nehru University (JNU); Pondicherry University, Pondicherry (PU); SKUAST-K Kashmir (SKUAST-K); Nirma University, Ahmedabad (NU); National Institute of Urban Affairs (NIUA) New Delhi. Gift City, Ahmedabad (GIFT); Urban Planning and Research Institute (UPRI); National Garden Park of Ulaanbaattar Mongolia (NGP)