

A High-End Workshop
on
Demystifying Cell-Free Communication for 6G and Beyond Systems
05 to 11 June 2023

Technical Programs:

Date	Time	Speaker	Topic
05 th June 2023	09:00 am -10:00 am	Registration for the Participants	
	10:00 am -10:30 am	Inauguration Ceremony	
	10:30 am -10:45 am	Refreshments	
	10:45 am – 1:00 pm	Prof. Ajit K. Chaturvedi	Foundations of Wireless Communications
	Lunch Break		
	02:00 pm – 03:30 pm	Prof. Adarsh Patel	Introduction to multi-antenna systems
	03:45 pm – 05:15 pm	Prof. Adarsh Patel	The multi-user massive MIMO systems
06 th June 2023	10:00 am – 10:15 am	Prof. Ekant Sharma	IIITB COMET Foundation [Video]
	10:15 am – 11:15 am	Prof. Ekant Sharma	Introduction to Cell-Free Systems
	11:30 am – 12:45 pm	Prof. Ekant Sharma	Cell-Free vs Small Cell: System Model
	Lunch Break		
	02:00 pm – 03:30 pm	Prof. Adarsh Patel	Setting up a Scenario for Simulating a Cell-Free System
	03:45 pm – 05:15 pm	Prof. Adarsh Patel	Modelling transceiver on MATLAB
07 th June 2023	10:00 am – 11:15 am	Prof. Abhay Kumar Sah	Beam-forming and Beam-Combining Techniques for Cell-Free systems
	11:30 am – 12:45 pm		
	Lunch Break		
	02:00 pm – 03:30 pm	Prof. Luca Sanguinetti	User Centric Cell-Free Massive MIMO [Online]
	03:45 pm – 05:15 pm	Prof. Abhay Kumar Sah	Implementation of Beamforming Algorithm
08 th June 2023	10:00 am – 11:15 am	Prof. Hien Q Ngo	Virtually Full-Duplex Cell-Free Massive MIMO [Online]
	11:30 am – 12:45 pm	Prof. Abhay Kumar Sah	Pilot Assignment and Channel Estimation in Cell-Free Systems
	Lunch Break		
	02:00 pm – 03:30 pm	Prof. Sharique	Implementation of Random Pilot Assignment Algorithm
	03:45 pm – 05:15 pm	Prof. Sharique	Implementation of Greedy Pilot Assignment algorithm

09 th June 2023	08:00 am	Visit to Saharanpur Campus	
	10:00 am – 11:15 am	Dr. Satya K. Vankayala	Impact of Mobility on Cell-Free Communications and the Industry/Standard Perspective
	11:30 am – 12:45 pm	Prof. Meenakshi Rawat	SDR for Faster Prototyping
	Lunch Break		
	02:00 pm – 03:30 pm	Dr. Satya K. Vankayala	Patenting: The Art of Building and Owning an Idea
	03:45 pm – 05:15 pm	Prof. Sandeep Kumar	ML for 5G and beyond Wireless Systems
	05:30 pm	Return to IITR Campus	
10 th June 2023	10:00 am – 11:15 am	Prof. Abhay Kumar Sah	User Activity Detection: Grant-Based vs Grant-Free
	11:30 am – 12:45 pm	Prof. Anshul Jaiswal	Visible Light for Cell-Free Communication
	Lunch Break		
	02:00 pm – 03:30 pm 03:45 pm – 05:15 pm	Prof. Anshul Jaiswal	Hands on Visible Light for Cell-Free Communication
11 th June 2023	10:00 am – 11:15 am	Prof. A. Chockalingam	OTFS Modulation for Communication in High-Doppler Channels
	11:30 am – 12:45 pm		
	Lunch Break		
	02:00 pm – 03:30 pm 03:45 pm – 05:15 pm	Prof. Ekant Sharma	IRS-Aided Cell-Free Systems