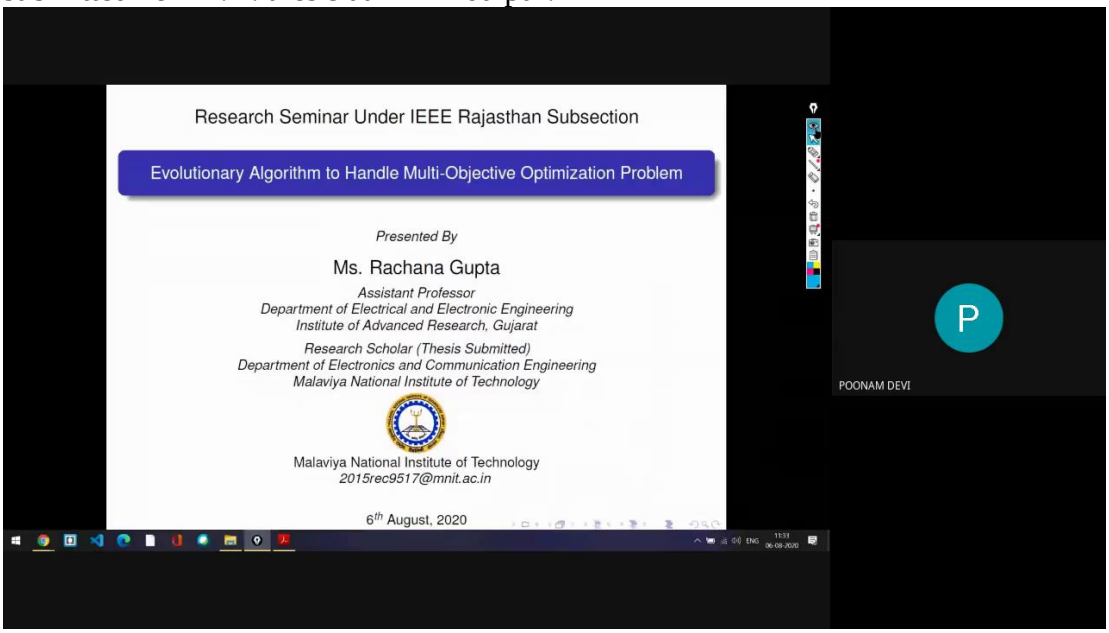
Research Seminar Series

TEQIP III at MNIT Jaipur, in association with IEEE Rajasthan Sub Section and IEEE student branch MNIT Jaipur, has initiated a series of "Research Seminars". Ten seminars are already completed. The aim of these seminars is to develop an outreach platform for research scholars of MNIT Jaipur. Interested scholars are invited to deliver webinars in their research domains, in an area of interest relevant to IEEE. These are streamed online to viewers across India, affiliated to TEQIP funded colleges, IEEE members and industry participants.
The research seminars are an opportunity to showcase your research to interested industry professionals, prospective employers, scientists, and policy makers, and would help to develop your outreach profile at the national level.

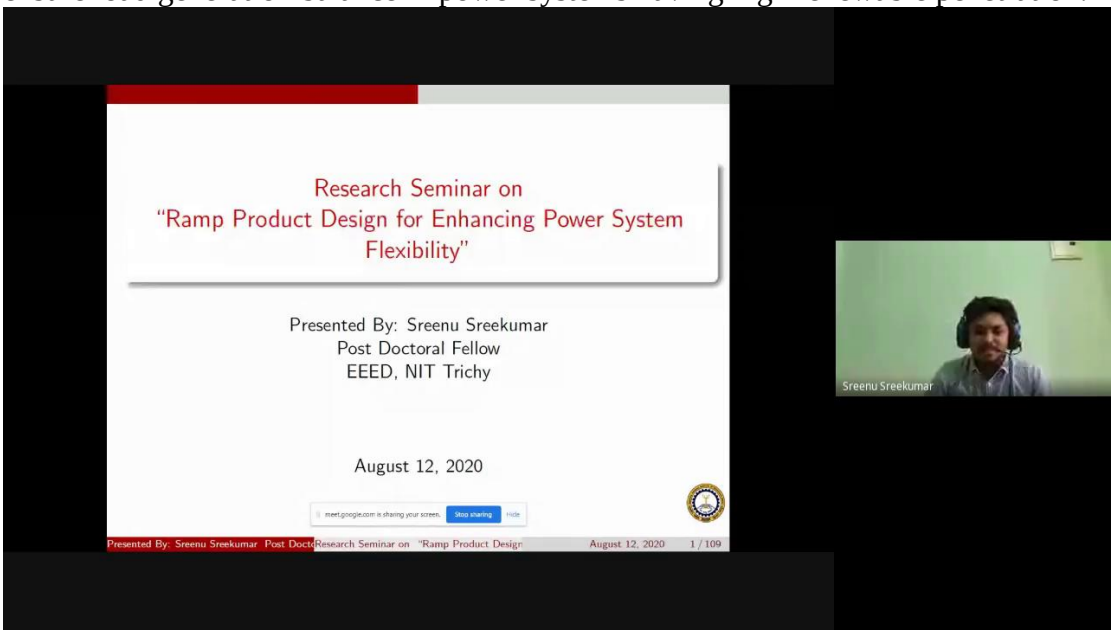
1. **Evolutionary algorithm to handle multi-objective optimization problem:**

The very first seminar of the 'Research Seminar Series' focussed on development of clustering algorithm based on multi-objective social spider optimization approach to detect clouds in satellite images. It was organised on 6th August 2020. It was headed by Rachana Gupta, Assistant Professor, Institute of Advanced Research, Gujarat. Rachana Gupta has also worked as a research member at the Charotar University of Science and Technology on an ISRO (Indian Space Research Organisation) project and has submitted her Ph.D. thesis at MNIT Jaipur.



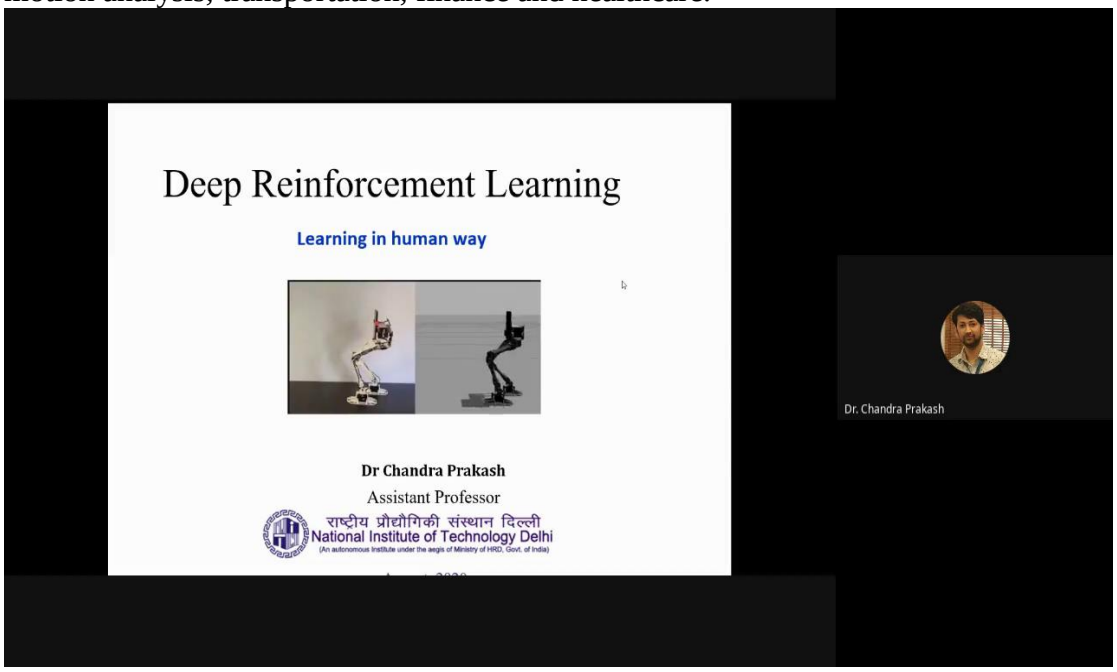
2. Ramp product design for enhancing power system flexibility:

The second seminar of the series was organised on 12th August, 2020 on the topic 'Ramp product design for enhancing power system flexibility'. The speaker of the seminar was Dr. Sreenu Shreekumar. He is currently a Post-Doctoral Fellow at National Institute of Technology (Tiruchirappalli), having done B.Tech. in ECE from Mahatma Gandhi University (Kerala) and is having MTech. and Ph.D. degree from MNIT Jaipur, India. The talk introduced market based flexible ramp products, which are used to ensure load generation balance in power systems having high renewable penetration.



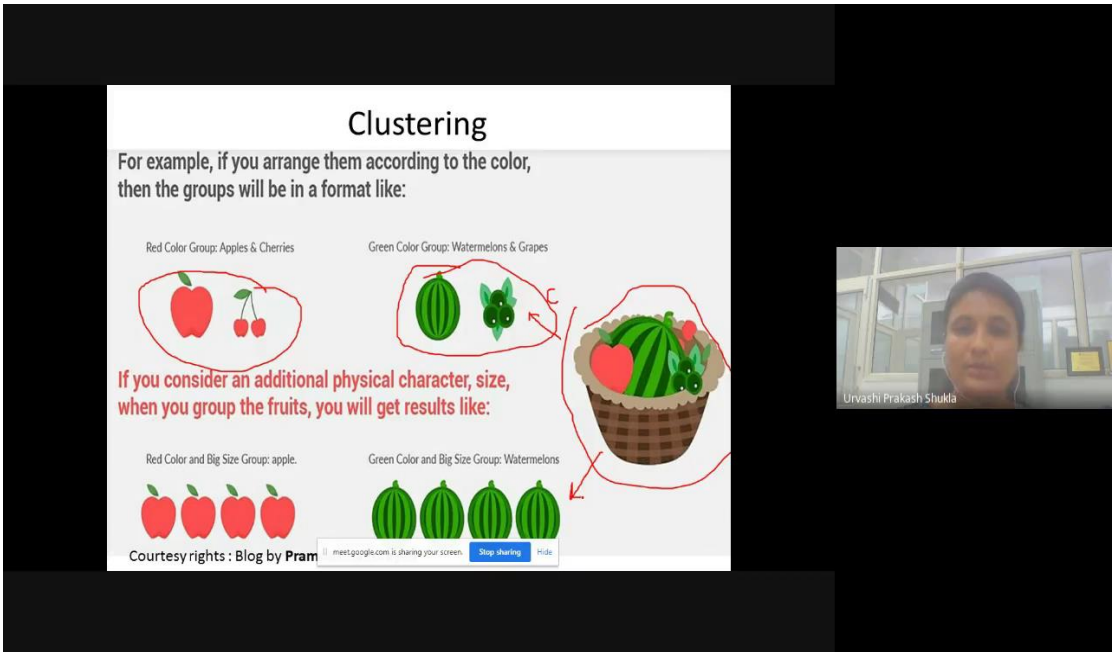
3. Deep Reinforcement Learning: Learning in human way:

The third seminar came after successful completion of previous two seminars of the 'Research Seminar Series' on the topic 'Deep Reinforcement Learning: Learning in human way'. It was held on 22nd August, 2020 with speaker for the event- Dr. Chandra Prakash, Assistant Professor, CSE, National Institute of Technology (Delhi). Dr. Chandra Prakash talked how Deep Reinforcement Learning (DRL) uses deep learning and reinforcement learning principles to create efficient algorithms which can be applied on areas like robotics, video games, NLP (computer science), computer vision, motion analysis, transportation, finance and healthcare.

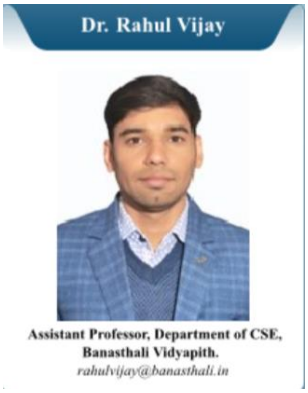


4. Modified Metaheuristic Algorithm for Unsupervised Learning:

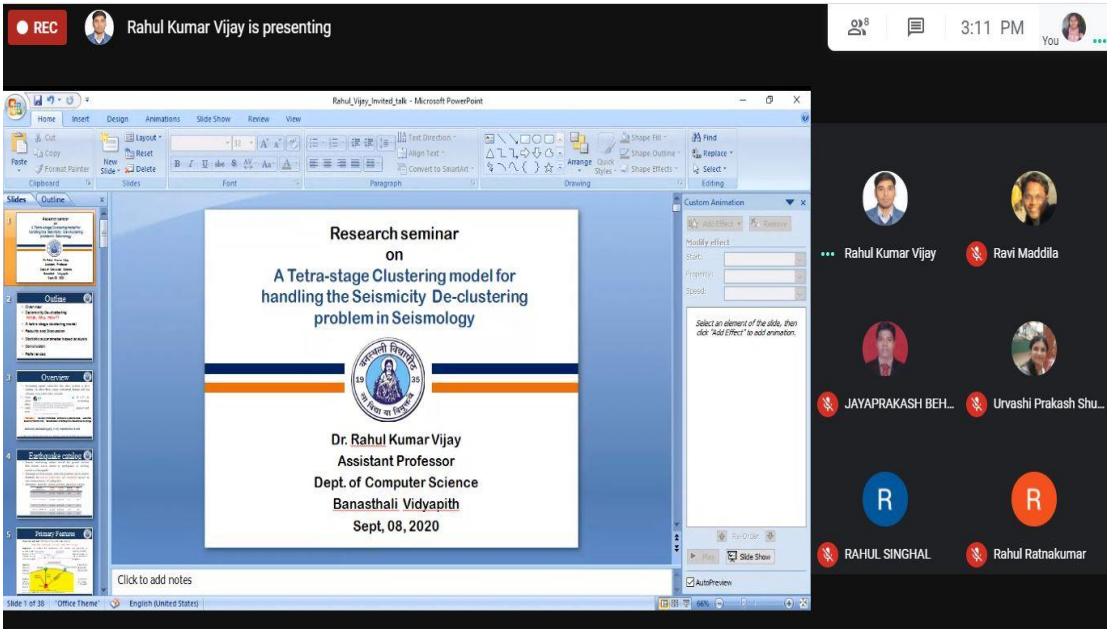
The fourth seminar of the series was held on 29th August, 2020 on the topic 'Modified Metaheuristic Algorithm for Unsupervised Learning'. It was hosted by Dr. Urvashi Prakash Shukla, Co-founder of Care4u Pvt. Ltd. Dr, Urvashi is a graduate from Sarvajanik College of Engineering and Technology, Surat and Ph.D. from MNIT Jaipur, India. Along with this she is author of 7 sci journal publication, reviewer of Springer, IEEE Access and was a recipient of 2 best paper awards. Dr. Urvashi talked about a metaheuristic approach for automated segmentation of satellite images.



5. A tetra-stage clustering model for dealing the Seismicity de-clustering problem in seismology:



'A tetra-stage clustering model for dealing the Seismicity de-clustering problem in seismology' was the fifth seminar of the series organised on 8th September, 2020. It was headed by Dr. Rahul Vijay, Assistant Professor in the Department of Computer Science, Banasthali Vidyapith. Dr. Rahul is an alumnus of MNIT Jaipur, India, holding a Ph.D. from ECE department. He introduced the role of unsupervised machine learning technique for analysing the behavior of earthquake patterns in highly active seismic regions. And, discussed about the de-clustering models of earthquake in space-time magnitude framework along with statistical analysis of the seismicity.



6. Circularly Polarized Antenna Designs-Recent Trends and Developments:

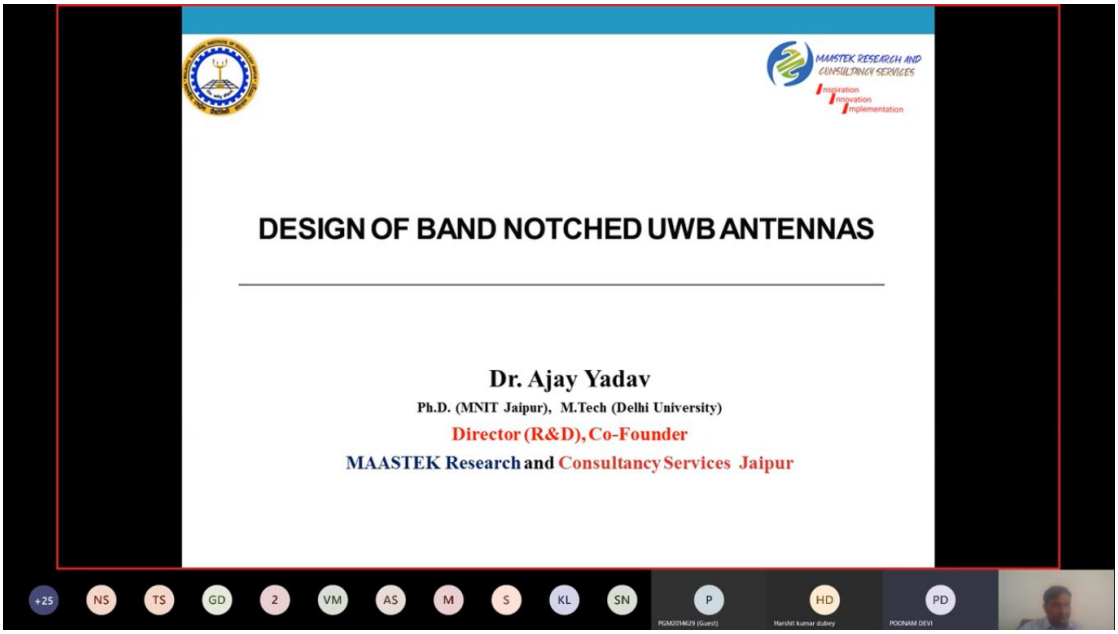
The next seminar in the series on the number sixth was on the topic 'Circularly Polarized Antenna Designs-Recent Trends and Developments' organised on 15th September, 2020. Mr. Jaiverdhan, Assistant Professor, Department of ECE, Jaipur Engineering College and Research Centre Jaipur was the speaker of the event. Mr. Jaiverdhan has submitted his Ph.D. in ECE department at MNIT Jaipur, India. Apart from this he is a member of IEEE and OSA society. Mr. Jaiverdhan talked about development and trends of various types of circularly polarized antennas for the current wireless communication scenario in the seminar.

7. Challenges for Frequency Response Adequacy in Low Inertia Systems:

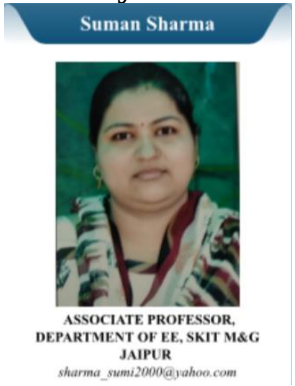
The seventh seminar in the 'Research Seminar Series' was on the topic 'Challenges for Frequency Response Adequacy in Low Inertia Systems' organised on 22nd September, 2020. It was hosted by Dr. Vivek Praksh, Assistant Professor, School of Automation (Electrical Engineering) Banasthali Vidyapith, Tonk, Rajasthan. Dr. Vivek is serving as Joint Secretary IEEE Rajasthan sub-section from 2019 and with research inclined towards multiple areas of Power systems and electric vehicles. He briefed the audience about the large integration of Renewable Energy Resources with the grid that will displace conventional generation at fast rate and presented system operational challenges for frequency response adequacy with high penetration of renewable and emerging technical solutions to mitigate the same.

8. Design of Band Notched UWB Antennas:

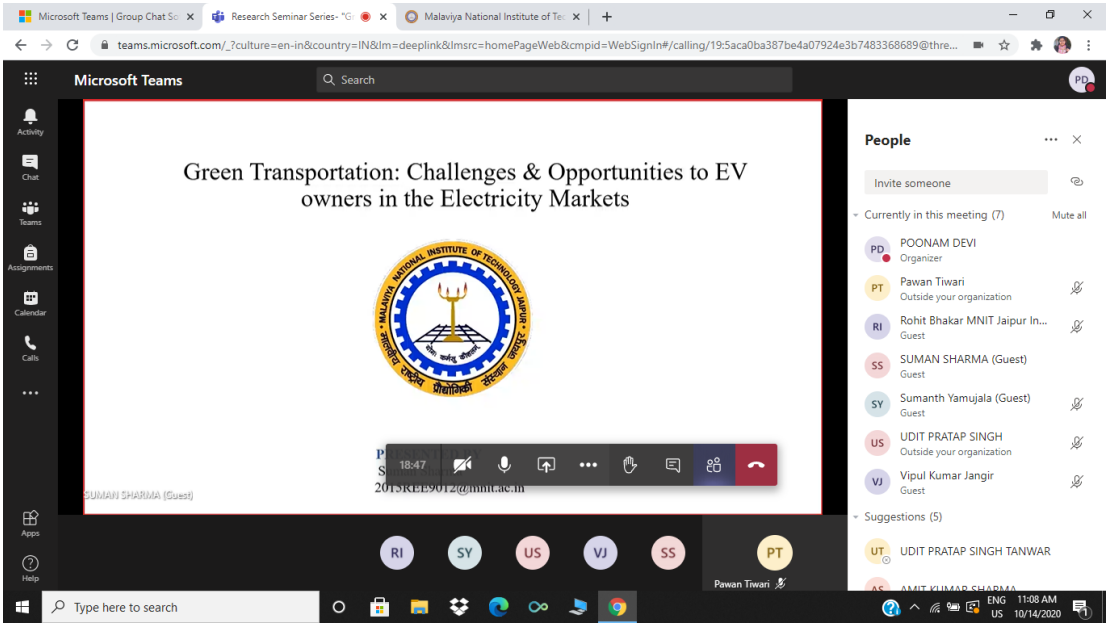
'Design of Band Notched UWB Antennas' was the topic of eight seminar in the series. It was organised on 3rd October, 2020. The speaker of the event was- Dr. Ajay Yadav, R&D Director (co-founder) at MAASTEK Research and Consultancy Services. Dr. Ajay is also an alumnus of MNIT Jaipur with a Ph.D. degree in ECE. He gave an introduction about the designs of band notched UWB antennas and their optimization techniques to supress the EMI (electromagnetic interference).



9. Green Transportation: Challenges and Opportunities to Electric Vehicles Owners in the Electricity Markets:



The ninth seminar in the series was on the topic 'Green Transportation: Challenges and Opportunities to Electric Vehicles Owners in the Electricity Markets', organised on 14th October, 2020. Miss. Suman Sharma, Associate professor (EE department), SKIT M&G Jaipur headed the event. She is also a part time researcher at MNIT Jaipur, under the supervision of Dr, Prerna Jain. Miss. Suman talked about electric vehicles, their roles and market influencing future power systems impacting distribution networks. Also, she briefed about the techno-economic issues of grid integrated EVs into electricity markets to efficiently realise the large-scale development of electric vehicles in future power systems policy drivers.



10. An introduction of support vector machine algorithm as a classifier:

The topic for the tenth seminar of the 'Research Seminar Series' was 'An introduction of support vector machine algorithm as a classifier' which was organised on 23rd October, 2020. It was headed by Dr. Rachana Gupta, Assistant Professor, Institute of Advanced Research, Gujarat. Rachana Gupta has also worked as a research member at the Charotar University of Science and Technology on an ISRO (Indian Space Research Organisation) project and has submitted her Ph.D. thesis at MNIT Jaipur. In this she

talked about supervised learning algorithms and data sciences. Furthermore, discussed support vector machine algorithm which analyses data in order to model as a classifier.