

List of Speakers:

1. Prof. Karm Veer Arya, IIITM , Gwalior,MP, India (**Keynote Speaker**)
2. Prof. Vineeta Khemchandani, JSSATE, Noida,UP, India
3. Dr. Shivendra Shivani, Thapar University Patiala, Punjab, India
4. Prof. Udai Shanker, MMMUT, Gorakhpur, UP, India
5. Prof. Vivek Singhal, JSSATE, Noida, UP, India
6. Dr. Shashwat Pathak, Electro Curiotech Private Limited, Patna, Bihar, India
7. Dr. Neelam Duhan, YMCA, Faridabad, Haryana, India

Detailed Outcome Report of the FDP day wise and Session wise

Day-1 Session-I

Dr. Karm Veer Arya is working as a Professor at ABV-Indian Institute of Information Technology and Management, Gwalior, India. He earned PhD degree in computer science and engineering from Indian Institute of Technology (IIT Kanpur), Kanpur, India. He has more than 25 years of experience to teach the undergraduate and postgraduate classes. He has published more than 75 journal and conference papers in the area of information security, image processing, biometrics, wireless ad hoc networks and soft computing.

Professor (Dr.) karm Veer Arya is world renowned Professor of Image Processing from ABV-Indian Institute of Information Technology and Management, Gwalior, India, elaborated following topics in details during the session:

- Fundamentals of biometric recognition and human individual distinctiveness
- Biometric systems and trustworthiness
- Testing, design, and deployment
- Social, cultural, and legal considerations

- Elements of a national research and Public Policy Agenda

Day-1 Session-II

Dr. Vineeta Khemchandani is working as a Associate Professor at Dept of Information Technology, JSS Academy of Technical Education, Noida, UP, India. A Doctorate (Ph.D) in Computer Science from Banasthali University Rajasthan. Post Graduate in Computer Applications from Kamla Nehru Institute of Technology, Sultanpur (UP). Holding Diploma in Banking Technology from Indian Institute of Banking and Finance, Mumbai. Overall experience of around 19+ years in the field of IT in various organizations. Her Teaching experience includes handling critical subjects like Design and Analysis of Algorithms, Cryptography, Big data, Modeling and Simulation and information security. Her research work over the past several years has been focused on different aspect of information security and algorithms. Brief areas of research include cryptography, Digital watermarking, visual cryptography, stenography, multi-dimensional data structures, and Information Security.

Dr. Vineeta Khemchandani is elaborated following topics in details during Day-1 Session-II:

- Mathematical techniques in digital image processing



- Key Stages in digital image processing image acquisition



Day 2 Session-I

She is elaborated following topics in details during Day-2 Session-I:

- Authentication using palm vein technology
- Authentication using voice signals

Day-2 Session-II

Dr. Shivendra Shivani is currently working in Thapar Institute of Engineering & Technology, Patiala as Asst. Professor. He has received his B.E. degree, in computer science and engineering from CSVTU in 2009, after that he has completed master degree from National Institute of Technology Allahabad, India in Information security in 2011. He has received Ph.D. degree from National Institute of Technology Allahabad, India with Visual Cryptography as an area of interest. He has more than 6 years of experience to teach the undergraduate and postgraduate classes. He has also received PDF degree from Trinity College Dublin, the University of Dublin, Ireland. His current research interest includes Digital watermarking, Pattern Recognition, Computer Vision, Algorithms, Compression, Biometrics, Visual Cryptography and Face recognition, Game design.



Dr. Shivendra Shivani is elaborated following topics in details during Day-2 Session-II:

- Image Fundamentals
- Spatial and Frequency domain filtering
- Image restoration and reconstruction
- Mathematical Morphology

Day-3 Session-I

Dr. Shivendra Shivani is elaborated following topics during Day-3 Session-I:

- Digital Image watermarking in details
- Visual Cryptography in details

Day-3-Session-II

Dr. Uday Shanker is presently Professor in the Department of Computer Sc. & Engineering of M. M. M. University of Technology, Gorakhpur-273010. For his imitation of the most modern of approaches and also for his exemplary devotion to the field of teaching, and sharing his profound knowledge with students to make better future citizen of India, he has been a role model for the new generation of academicians. Besides introduced radical and revolutionary changes that have positively impacted the database world and student community, he is a man well versed with all the intricacies of academics. He is credited with PhD from Indian Institute of Technology Roorkee and is recipient of awards from Institution of Engineers (India), Calcutta twice for his technical papers. He is authors of 80 research papers, which have been published in various National & International Journals/Conferences. He is reviewer of many International

Conferences/Journals and also Editorial Board Member of 9 International Journals. He is currently engaged in extensive research in the fields of Real Time Systems, Distributed Real Time Database Systems, Mobile Distributed Real Time Database Systems and Grid Databases.



Prof. Udai Shanker is elaborated following topics in details during Day-3 Session-II:

- Introduction to Spatial Databases
- Spatial Databases-GIS Case Studies

Day-4 Session-I

Dr. Vivek Singhal is working as Associate Professor at JSS Academy of Technical Education, Noida. He has done his Ph.D. from IIT Roorkee on the topic “ICT Based Road Vehicle-Train Collision Avoidance System at Unmanned Railway Level Crossing”. He has done his MTech. (C.E.) from Shobhit University, Meerut and B-Tech (C.S.) from College of Engineering Roorkee, Roorkee. He has vast teaching and research experience of around 11 years. He has received gold medal from Vaishya Samaj, Meerut for excellent performance in M.Tech. He has been a member of several academic and administrative bodies like CSI, IRC etc. He has published around 10 research papers in different referred journals. His area of research includes Wireless Networks, Congestion Control, Machine Learning, Intelligent Transportation systems, Rail-Road Safety and Geographical Information Systems.



Dr. Vivek Singhal is elaborated following topics in details during Day-4 Session-I:

- Hyperspectral image classification using machine learning
- Supervised learning
- Linear regression (regression)
- Logistic regression (regression)
- Decision Tree (Classification)
- SVM (Classification)
- Naive Bayes (Classification)
- KNN (Classification)
- Random Forest (Classification)
- Gradient Boost (Regression and Classification)
- Neural Network (Regression and Classification)
- Un supervised learning
- K-Means (Clustering)
- Dimensionality Reduction Algorithms (classification using LDA and PCA)

- Gradient Boosting algorithms (Supervised Learning)
- Python Code for Linear Regression
- Face Recognition

Day-4 Session-II

Dr. Neelam Duhan has a work experience of 15 years and currently working as an Assistant (Formerly YMCA University of Science & Technology, Faridabad). She has served as Associate Professor on lien for three years at YMCA University of Science & Technology, Faridabad. She received her B.Tech. in Computer Science and Engineering from Kurukhetra University, Kurukshetra and M.Tech. in Computer Engineering from Maharshi Dayanand University, Rohtak in 2002 and 2005, respectively. She completed her Ph.D. in Computer Engineering in 2011 from Maharshi Dayanand University, Rohtak. She has successfully guided one Ph.D and is guiding four Ph.D. scholars. She has guided more than 25 M.Tech. Dissertations. She has published more than 50 research papers in reputed journals and conferences and her areas of

interest are databases, information retrieval, image mining, and web mining. Currently she is handling additional charges of TEQIP Nodal Officer (Academics) and Nodal Officer Digital India at University level.

Dr. Neelam Duhan is elaborated following topics in details during Day-4 Session-II:

- Image Manipulation for Machine Learning in R
- Image Enhancements
- Applications of Image Manipulation & Processing in Machine Learning



Day-5 Session-I

Dr. Shashwat Pathak has earned PhD degree in the year 2017, in Wireless Communication from Department of Electronics and Communication Engg., Motilal Nehru National Institute of Technology Allahabad. He has worked in the field of Telemedicine and development of portable healthcare diagnostic devices. His invention from PhD work "An automated Cataract Detection and Grading System" has secured seed funding from Ministry of Electronics and IT (MeiTY), GoI. He has filed two Indian patents on diagnostic healthcare devices. He has 11 publications in reputed International Journals and Conferences and a book chapter published in Springer. He has set up a start-up named " Electro Curiotech Pvt. Ltd.", in the year 2018, and currently being incubated at Incubation Center IIT Patna. His company works in the domain of Telemedicine, Healthcare electronics and custom made IT solutions using AI and data analytics. His current

clients includes Tata Chemicals Limited, Kannan Devan Hills Plantation Company (former Tata Tea) and many small clients. They are working in the field of Telemedicine, Healthcare, Edutech, Digital Marketing, Big Data Analytics and specialized IT solutions.

Dr. Shashwat Pathak is elaborated following topics in details during Day-5 Session-I:

- Towards Accurate and Affordable Healthcare
- Telemedicine
- Fuzzy based Iris Localization
- Automated Measurement of Optic Nerve Sheath Diameter



Day 5 Session-II

Dr. Vivek Singhal is working as Associate Professor at JSS Academy of Technical Education, Noida. Dr. Singhal is elaborated following topics in details during Day-5 Session-II:

- Hand writing and image classification using deep learning techniques
- Activation functions
- Convolutional neural networks (cnns)
- Overfitting
- Recurrent neural networks (rnns)
- Application example: relation extraction from text
- Tensor flow

