

# FACULTY DEVELOPMENT PROGRAM

## EMERGING TRENDS AND ADVANCES IN COMPUTATIONAL INTELLIGENCE- 2022

### REPORT

#### FDP Scheme and Schedule



**BABU BANARASI DAS**  
INSTITUTE OF TECHNOLOGY AND MANAGEMENT  
(FORMERLY KNOWN AS BABU BANARASI DAS NATIONAL INSTITUTE OF TECHNOLOGY AND MANAGEMENT)

DEPARTMENT OF INFORMATION TECHNOLOGY  
ONE-WEEK FACULTY DEVELOPMENT PROGRAM  
ON  
EMERGING TRENDS AND ADVANCES IN  
COMPUTATIONAL INTELLIGENCE  
TCS (ETACi-2022) BBDITM acm

IN COLLABORATION WITH TCS & ACM  
28<sup>th</sup> Feb-05<sup>th</sup> Mar 2022



### REGISTRATION DETAILS

Last Date of Registration: 26 Feb  
Note: No Registration Fee  
Participation e-Certificate will  
be given to all participants

Please Scan for Apply



### RESOURCE PERSONS



Dr. Surya Prasad  
Professor  
General Chairman, Institute of Chemicals, IITM



Dr. Saikat Kumar  
Full Professor, IITM, Kharagpur, India  
Top 1% Scholarly (2018-2021)  
IITM, Kharagpur, India



Dr. Pratik Kumar  
Associate Professor  
Professor, Institute of Chemicals, IITM



Dr. Prabhat K. Rai  
Associate Professor, Institute of Chemicals, IITM  
IITM, Kharagpur, India



Dr. Sajal K. Prasad  
Professor  
Associate Professor, IITM, Kharagpur, India



Dr. C. Nishu Kumar Baidya  
Associate Professor  
IITM, Kharagpur, India



Dr. Collette Inoué  
Professor  
IITM, Kharagpur, India



Prof. Shekha Krishna  
IITM, Kharagpur, India



Dr. T. Sujata  
Associate Professor  
IITM, Kharagpur, India



Mr. Kiran Kumar  
IITM, Kharagpur, India



Dr. Ranjay S  
Associate Professor, IITM, Kharagpur, India

### CHIEF PATRON

Smt. Alka Das  
Hon'ble Chairperson, BBDEG, Lucknow  
Mr. Viraj Sagar Das  
Hon'ble President BBDEG, Lucknow  
Ms. Sonakshi Das  
Hon'ble Vice President, BBDEG, Lucknow

### PATRON

Prof.(Dr.) Shailendra Singh Chauhan  
Director, BBDITM, Lucknow

### CHIEF CONVENER

Dr. Manuj Darbari (Head-R&D)  
Dr. Anurag Tiwari (Head-IT)

### CO-ORDINATORS

Mr. Gyanendra Dixit Mr. Ankit Kumar  
Ms. Eram Fatima

### TECHNICAL COMMITTEE MEMBER

Mrs. Richa Sharma Mrs. Dalley Srivastava  
Mr. Ankur Srivastava Mr. Asit Gahalaut  
Mrs. Shailja Pandey Mrs. Nida Hasib  
Mr. Sandeep Mishra Mr. Hemant Kumar  
Mr. Girjesh Mishra Mr. Abhinav Singh

### STUDENT COMMITTEE MEMBERS

Diwaker Tripathi Anil Shukl  
Subhanga Kumar Swinit Agrahari  
Go to Settings to activate

## FDP Theme and Institution

### ABOUT THE INSTITUTE

Babu Banarasi Das Institute of Technology & Management, Lucknow established in the year 1998. Babu Banarasi Das Institute of Technology & Management, Lucknow (BBDITM) is one of the efforts to Cherish the memory of the great and noble soul Babu Banarasi Das Ji, Ex. Chief Minister, Govt. of Uttar Pradesh. The College is affiliated with Dr. A.P.J. Abdul Kalam Technical University, Lucknow. BBDITM offers education in various courses at UG and PG level. The cause of Education, based on the ideals of "Babu ji" is being nourished by various Educational Institutions, under the umbrella of Babu Banarasi Das Educational Group, that have come together to pool in their resources and intellectual capital, creating a Campus full of synergy and meaningful learning. The Institutions take full advantage of collective efforts and optimization of resources while still maintaining their distinct identities in a spirit of camaraderie and healthy competition. The students gain greater exposure through interaction with their counter parts from other streams, which leads to holistic learning. The institute was established with the purpose of providing quality education to the students in the field of Engineering. It aims at providing an open opportunity to the young generation for evolving their core competencies and builds their career as world class professionals with broad-based foundation, in-depth knowledge and versatile personality to meet the challenges of Global Economy.

### DEPARTMENT OF INFORMATION TECHNOLOGY

Department of Information Technology was established in 1999. The department emphasizes on proactive learning coupled with various organization to abreast the students with new Technology and the concepts in the market. Strong emphasis is also given to industrial training so as to make the students ready to face major challenges the fast placed technology. The department has qualified and experienced faculty and technically competent supporting staff on its rolls.

The department conducts bridge courses for the students during the regular working hours of the institution to keep the students abreast with technological developments. The department has an established capability to advice and carries out research projects in the areas of Software Engineering, Data warehousing, Storage Area Networks and Distributed Databases. The department also interacts with the industries on a regular basis to develop the capabilities in latest technologies.

### FDP THEME

Computational Intelligence is the theory, design, application and development of biologically and linguistically motivated computational paradigms. An Emerging Trends in Computational Intelligence present the latest issues surrounding related to the data implementation using AI systems used by management for Information Technology in organizations. This program provides the platform to the researchers, experts, students and private sector parties from all over the world to show not only the original research work performed by them but also give an excellent opportunity to share the ideas, latest trends, innovation, findings regarding this area.

This FDP will be provides knowledge related to the latest trends and challenges dealing with all aspects of Computational Intelligence & its application.

### HOW TO APPLY ?

The applicants can register through this link :  
<https://forms.gle/6DYNjpe481u3jWRA>

### VISION & MISSION

#### INSTITUTION VISION

To become a leading institute of providing professionally competent and socially responsive technocrats with high moral values

#### DEPARTMENTAL VISION

Vision of the department to transform the students to be skilled IT professionals, innovative leaders, and environmentally receptive citizens.

#### INSTITUTION MISSION

To create an eco-system for dissemination of technical knowledge, to achieve academic excellence.

To develop technocrats with creative skills and leadership qualities, to solve local and global challenges.

To impart human values and ethics in students, to make them socially and Eco-friendly responsible.

#### DEPARTMENTAL MISSION

To develop and deliver quality academic programs in emerging and innovative fields of engineering to empower the students to meet industry standards.

To provide students with the ethical and professional tools to become productive & become continuous Learners.

To inculcate professional behaviour, positive attitude, and communication skills.



BBD City, Faizabad Road, Lucknow Uttar Pradesh- 226028 India

Website: [www.bbditm.ac.in](http://www.bbditm.ac.in)

## Guest Speakers

Program Scheduler		
Inaugural Session 9:15 -9:20 AM 28 Feb,2020		
<b>28-Feb</b>	<p style="text-align: center;"><b>Session Start Time: 9:30 to 11:00 AM</b>  <b>Dr. Prashant R.Nair,</b>                      Vice-Chairman, Internal Quality Assurance Cell (IQAC),                      Associate Professor, Dept. of Computer Science &amp; Engg,                      Amrita School of Engineering, Amrita Vishwa Vidyapeetham                      Nodal Officer, University Grants Commission (UGC),</p>	<p style="text-align: center;"><b>Session Start Time: 02:00 PM to 03:30 PM</b>  <b>Dr C Kishor Kumar Reddy ,</b>                      Associate Professor at Stanley College of Engineering and                      Technology for Women Hyderabad, Telangana, India</p>
<b>01-Mar</b>	<p style="text-align: center;"><b>Session Start Time: 10:30 AM to 12:00 PM</b>  <b>Dr. Sudeep Tanwar</b>                      World's Top 2% Scientists (2020, 2021), Full Professor and PG                      Coordinator (CSE), Nirma University, Ahmedabad, India                        SMIEEE   Associate Editor of IJCS-Wiley, COMCOM-Elsevier, CSA-                      Elsevier, Frontiers in Blockchain</p>	<p style="text-align: center;"><b>Session Start Time: 02:00 PM to 03:30 PM</b>  <b>Dr. Sunil Kr Pandey</b>                      Professor &amp; Director (IT &amp; UG Campus)                      I.T.S, Mohan Nagar, Ghaziabad - 201007</p>
<b>02-Mar</b>	<p style="text-align: center;"><b>Session Start Time:9:30 to 11:00 AM</b>  <b>Dr.Praba Karan,</b>                      Associate Professor                      at Pontificia Universidad Javeriana Cali, Colombia.</p>	<p style="text-align: center;"><b>Session Start Time: 02:00 PM to 03:30 PM</b>  <b>Prof.Siva Rama Krishna ,</b>                      B. M. S. College of Engineering, Bangalore Urban,                      Karnataka, India Incharge, B S Narayan Centre For                      Advanced Learning and Software Development , BMSCE ,                      TechBharat Organizing Committee member (Government                      of India)</p>
<b>03-Mar</b>	<p style="text-align: center;"><b>Session Start Time:9:30 to 11:00 AM</b>  <b>Dr.Surya Prasath</b>                      Professor,                      Cincinnati Children's, University of Cincinnati, USA</p>	<p style="text-align: center;"><b>Session Start Time: 02:00 PM to 03:30 PM</b>  <b>Dr. Ramya Govindaraj</b>                      School of Information Technology and Engineering,                      Vellore Institute of Technology-Vellore campus                      Tamilnadu.</p>
<b>04-Mar</b>	<p style="text-align: center;"><b>Session Start Time: 10:30 AM to 12:00 PM</b>  <b>Mr. Kiran Kinnera Senior</b>                      Technical Officer 2 at CSIR-IICT   AI Researcher</p>	<p style="text-align: center;">Session Start Time: 02:00 PM to 03:30 PM  <b>Mr. Anshu Dixit</b>                      Tata Consultancy Services</p>
<b>05-Mar</b>	<p style="text-align: center;"><b>Session Start Time: 10:30 AM to 12:00 PM</b>  <b>Mr. Anshu Dixit</b>                      Tata Consultancy Services</p>	<p style="text-align: center;"><b>Session Start Time: 03:00 PM to 04:30 PM</b>  <b>Celestine Iwendi</b>                      Professor                      School of Creative Technologies                      University of Bolton, United Kingdom</p>

**FDP Objectives:-**

- The Faculty Development Programme (FDP) intends to provide financial assistance to facilitate up-gradation of knowledge, skill and intends to provide opportunities for induction training to teachers employed in disciplines Engineering & Technology, AI, Machine learning and the related technologies.
- A award Faculty Development Programme (FDP) to cover areas such as technical education policy, new concepts, methods and techniques, theory and skills development and up gradation of pedagogy educational technology, motivation, communication skills, management and other relevant issues to keep pace with the changing scenario in Technical Education.
- The scheme is designed to enhance the teaching and other skills of the faculty. And to make them aware about modern teaching tools and methodologies. It provide an opportunity to acquire knowledge about current technological developments in relevant fields. It will not only promote the professional practices relevant to technical education but also motivates the faculty to achieve competitive teaching and learning environment, thus channelizing development with respect to academic qualifications and personal matters.

**FDP Outcomes:-**

- After attending FDP, participants will get in depth understanding of research and its implications in decision making process.
- Gain better understanding on how to design a valid research project to answer specific research questions.
- Use descriptive and predictive statistical tools using robust analytical softwares.
- To make the participants familiar with univariate, bivariate and multivariate statistical Techniques.
- The participants able to clear their doubts and challenges they face in using emerging technologies.
- All the speakers have shared his deep experience in emerging computational paradigms and also discussed the challenges inside it.
- Speakers discussed the implementation of emerging AI based technologies and its applications. Speakers also interacted with various participants and cleared their doubts.

**Scope:-**

- The organized FDP has its academics and industrial scope. The FDP on emerging technology has scope in government sector also.

- The FDP on emerging computational trends can be used to conduct big projects of government to develop smart system.
- The FDP is significant in the development of smart algorithms for robotic devices.
- The FDP on emerging trends in computation paradigm takes a role in multi-disciplinary sector including electronics, mechanical, aeronautics, environment engineering etc.
- The FDP on ETACi2022 is significant in elevating faculty knowledge which can be used to minimize the gap between academic institutions and the academics.
- The FDP on ETACi2022 is significant of students to get good placement opportunities in various industries.

### **Topic and discussion by various guest speakers:-**

#### **Dr. Prashant R.Nair:-**

**Agile Software Development Methodology.** Dr. Prashant R.Nair discussed about digital transformation, Industry 4.0, remote work, javascript, python, micro services, kubernetes and the related emerging technologies. He discussed the design, development and the deployment of the various AI based software. He also discussed the various tools used in agile software development methodology.

#### **Dr. Sudeep Tanwar**

**Emerging trends on Block chain and its Applications.** Dr. Sudeep Tanwar has discussed that how the block chain technology is really sophisticated and emerging in the latest research based application. The significance of block chain technology is its decentralized structure and security. He also describe that the technology is interdependent on various host rather depending on a single host. In his presentation, he has described the various applications and security norms of the block chain technology.

#### **Dr. Sunil Kr Pandey**

**Machine Learning and its Applications.** Dr. Sunil Kr Pandey has discussed about machine learning and its various application. He has discussed the implementation of machine learning algorithms on various real time projects and innovations. In his presentation, he discussed various advantages of machine learning applications.

#### **Prof. Shiv Rama Krishna**

**Python and stock market.** Dr Praba Karan has discussed the various applications based on python programming language. He also discussed about stock market prediction using python and machine learning techniques. In his presentation, he presented the significance of python programming language over other tools.

### **Dr. Surya Prasath**

**AI, Image Processing and its Application in Biomedical sector.** Dr. Surya Prasath has discussed the use of AI technology in biomedical images. He discussed the relevance of image processing for the feature extraction from the biomedical radiographic images. He discussed about the identification and classification of diseases of human body from his/her radiographic images such as X-ray, CT scan etc using computational algorithms. He has also discussed the challenges in the recognition of diseases by neural network and other AI based technologies.

### **Mr. Anshu Dixit**

**Artificial Intelligence and Machine Learning.** Mr. Anshu Dixit discussed his working experience on AI in IT Industry. He has also discussed his worked on programming languages like C#, Java and on various tools like IBM Integrator, etc. He has discussed the various challenges coming in developing AI based product. He discussed supervised learning, unsupervised learning, deep learning, neural networks etc. In his presentation, he cumulate the design and the implementation of AI based model.

### **Dr. Celestine Iwendi :-**

**Next Generation Artificial Intelligence: Security Issues and Industry 5.0.** Dr. Celestine discussed various emerging artificial intelligence based technologies and discussed its challenges and application in industrial purpose. He discussed the design principles of AI based industry. He also reveals the AI 2.0 for sustainable future. In his presentation, he discussed the various best practices involved in industry 5.0.

## Few glimpses of the events

This screenshot shows a Zoom meeting in progress with 64 participants. The main window displays a grid of 20 video thumbnails. The top row includes Gauri, Harshita Virwani, Keerti Mishra (with a large 'K' icon), Mariyam Kidwai, and Prachi Raval. The bottom row includes Asit Gahalaut, Rk, Dr. Nupur Soni, Sana Afreen, and Dr. ADARSH N G... The interface includes a top bar with 'Recording LIVE on Facebook' and 'Speaker View', and a bottom toolbar with 'Mute', 'Start Video', 'Participants', 'Chat', 'Share Screen', 'Record', 'Reactions', and 'Leave'. A 'Participants (64)' sidebar on the right shows a search bar and a list of participants with their names and status icons. Below the list is a 'Zoom Group Chat' section with messages from various participants, including 'thank you sir' and 'Thank you sir'. The Windows taskbar at the bottom shows the search bar, system tray, and date/time (3:23 PM 3/2/2022).

This screenshot shows a Zoom meeting in progress with 63 participants. The main window displays a grid of 20 video thumbnails. The top row includes Prof. Girjesh M..., Ankit, Anurag Tiwari, srk, and Vineet Agarwal. The bottom row includes suraj srivastava, Dr.R.Selvaraj, Dr.Anshu srivast..., Ajeet Singh, and SAURABH BHUT... The interface includes a top bar with 'Recording LIVE on Facebook' and 'Speaker View', and a bottom toolbar with 'Mute', 'Start Video', 'Participants', 'Chat', 'Share Screen', 'Record', 'Reactions', and 'Leave'. A 'Participants (63)' sidebar on the right shows a search bar and a list of participants with their names and status icons. Below the list is a 'Zoom Group Chat' section with messages from various participants, including 'thank you sir' and 'Thank you sir'. The Windows taskbar at the bottom shows the search bar, system tray, and date/time (3:22 PM 3/2/2022).

Zoom Meeting

Recording LIVE on Facebook

Prof. Girjesh M...	Ankit	Anurag Tiwari	srk	Vineet Agarwal
Purna Ch Sethi	Manish Maurya	Kripa Shankar ...	Bhanoo Pratap...	Mr. Abhinav Pr...
Eram Fatima	SHOBHIT MANI...	SCSE surendra si...	VIDHYA S	Archana Dwivedi
MOHIT MISHRA	Dr. Vijay Prata...	IT_VIVEK KESHARI	Deepak Sahu	PRERNA GUPTA
suraj srivastava	Dr.R.Selvaraj	Dr.Anshu srivast...	Ajeet Singh	SAURABH BHUT...

Participants (63)

Find a participant

- Ankit (Me)
- Anurag Tiwari (Host)
- Ankur Srivastava IT 88... (Co-host)
- Mr. Abhinav Pratap Si... (Co-host)
- srk (Co-host)

Zoom Group Chat

From 92- Prachi Raval to Everyone: thank you sir

From Bhanoo Pratap Singh to Everyone: thanku sir

From Amit kumar Tewari to Everyone: thank u sir

From Prof. Girjesh Mishra to Everyone: Thank you sir

To: Everyone

Type Message here

Windows  
Go to Settings to activate Windows.

Type here to search

29°C Haze 3:22 PM 3/2/2022

Zoom Meeting

Recording LIVE on Facebook

Speaker View

Harshita Virwani	Keerti Mishra	Mariyam Kidwai	Prachi Raval	Syed Rashid An...
MAGESWARI K	ASHISH SRIVAS...	KIT SARANYA CSE	Gopi	SANDEEP SINGH
Chetana Prakash	RAJESH M	sangeeta sharma	Dr. C. Deepa	Dr. Mahesh Ku...
Sravanthi Laks...	Dr. Vipin Rai	vartika bhadana	Samson	Ankur Srivastav...
Asit Gahalaut	Rk	Dr. Nupur Soni	Sana Afreen	Dr ADARSH N G...

Participants (63)

Find a participant

- Ankit (Me)
- Anurag Tiwari (Host)
- srk (Co-host)
- Ankur Srivastava IT 88... (Co-host)
- Mr. Abhinav Pratap Si... (Co-host)

Zoom Group Chat

From 92- Prachi Raval to Everyone: thank you sir

From Bhanoo Pratap Singh to Everyone: thanku sir

From Amit kumar Tewari to Everyone: thank u sir

From Prof. Girjesh Mishra to Everyone: Thank you sir

To: Everyone

Type Message here

Windows  
Go to Settings to activate Windows.

Mute Stop Video Participants Chat Share Screen Record Reactions Leave

Type here to search

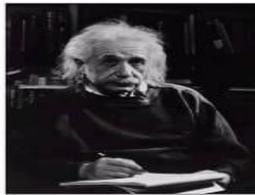
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REC LIVE



### Image Processing/Computer Vision

What we see



What a computer sees

0	5	2	5	4	7	6	9	9
3	0	1	2	3	4	5	6	7
2	1	0	3	2	5	4	7	9
5	2	3	0	1	2	3	4	5
4	3	2	1	0	3	2	5	4
7	4	5	2	3	0	1	2	3
6	5	4	3	2	1	0	3	2
9	0	7	4	5	2	3	0	1
8	7	6	5	4	3	2	1	0

Surya Prasath's screen



2:03 PM

46

LIVE



## OUR EMINENT SPEAKER



**C Kishor Kumar Reddy**

Associate Professor, Dept. of Computer Science and Engineering,  
Stanley College of Engineering and Technology for Women, Hyderabad.  
published more than 50+ research papers in National and International Conferences, Book  
Chapters, and journals indexed by Scopus and Web of Science

Ankit Kumar's screen



10:57 AM



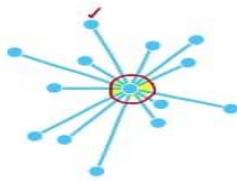
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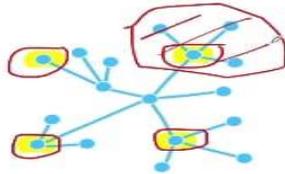
zpk-cvcq-vnd



### Centralized vs Decentralized vs Distributed



Complete reliance on single point  
(Cloud Computing)  
If CC fails then all nodes fail  
Not scalable



Multiple points of coordination  
(Blockchain)



Everyone collectively execute the job  
No central controller  
Intranets, Internet, WWW, email

Dr. Sudeep is presenting



Dr. Sudeep



Adarsh

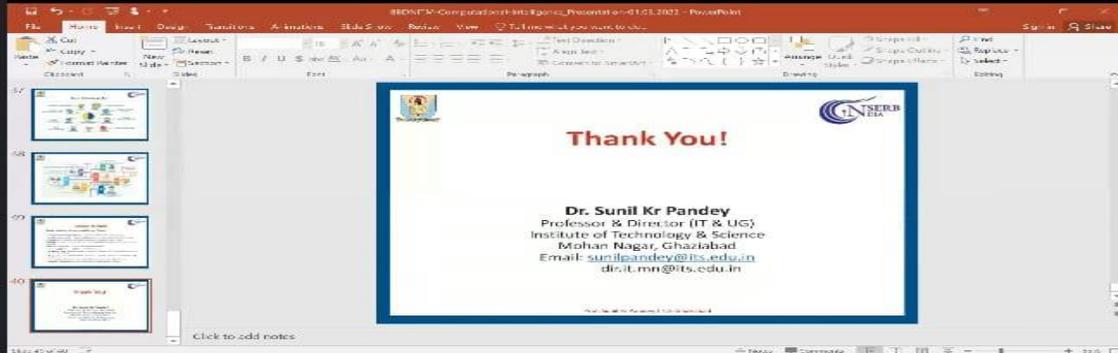


You

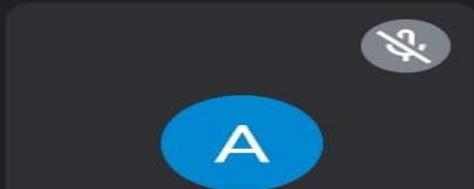
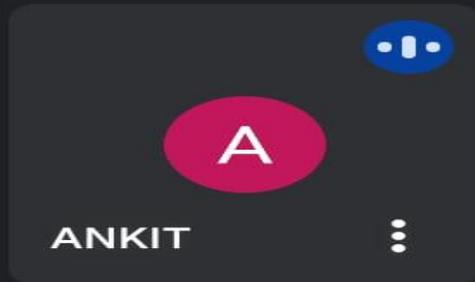


Eram 62 others

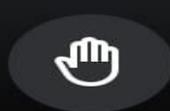




Sunil is presenting



Sunil Pandey joined



2:30 PM

VoWiFi 79

REC

LIVE

