



Ministry of Electronics & Information Technology



Government of India Initiative for Employability Enhancement

# Mentoring Academicians & Professionals for Future Generation



- Faculty Training
- Training and Consultancy
- Services for Industry
- Technical Incubation and Entrepreneurship
- Continuing Education for Students & Professionals



IIT Guwahati



IIITDM Jabalpur



MNIT Jaipur



IIT Kanpur



NIT Patna



IIT Roorkee



NIT Warangal



Programme brochure for 2021-22

India is fast emerging as a world power in Information, Communications Technology and Electronics (ICTE) sectors. To complement its growth and further development, there is an ever-increasing need for trained professionals with specialization in this space. This includes training of professionals not only in existing and changing technologies but also in the fields of R&D and electronics manufacturing. This will specifically be aimed at the ICTE sector to create a substantial resource pool of talent and generate ample opportunities for entrepreneurs. Ministry of Electronics & Information Technology (MeitY) has approved a scheme and setup Electronics and ICT Academies at 07 (seven) premier and leading institutions viz. IIT Guwahati, IIT Kanpur, NIT Warangal, NIT Patna and IIITDM Jabalpur (all five under Category-A); and IIT Roorkee, MNIT Jaipur (both under Category B). The Ministry had earlier setup two ICT Academies at Tamil Nadu and Kerala respectively. Subsequent to internal reviews in Ministry, revised cost and targets for the Electronics and ICT Academies in both the Categories for a period of seven years 4 months are as follows.

Category	Total Outlay	Internal Revenue	Grants-in-Aid from	Training Target Total
<b>Category-A &amp; B: 7- Academies</b>	Rs. 87.7 crore	Rs. 10.4 crore	Rs. 77.3 crore	92,800

These Academies are aimed at faculty/mentor development and upgradation to improve the employability of the graduates, diploma holders in various streams, through collaboration of States/Union Territories. Each Academy would be provided funding support upto financial year 2021-22, and is expected to generate revenue by charging fee and taking up other activities to meet the recurring cost in a gradual manner and become self-sustainable by March 2022. All these Academies will cater to the requirements of identified neighboring States and UTs also. Brief information about all the Academies is available at:

<https://meity.gov.in/esdm/scheme-financial-assistance-setting-electronics-and-ict-academies>

#### Activities of the Academies

- Faculty development for
  - Specialized training with hands-on on basic and advanced level topics for Engineering streams and
  - Domain based training on use of ICT tools and techniques for non-engineering streams
- Training and consultancy services for industry
- Curriculum development for industry
- Continuing Education programme for students / working professionals/ un-employed
- Design, Develop and Deliver specialized modules for specific research areas
- Providing advice and support for technical incubation and entrepreneurial activities

#### About Summer/Summer Courses

Online Training Programmes in core areas of Electronics and Information & Communication Technology (ICT) streams have been planned by academies for delivery during Summers & Autumn (i.e., Jun – Oct 2021). All these Summers & Autumn courses will be offered through **online live web-conferencing**, with instructor led talks delivered by eminent experts from IITs, NITs, IIITs and other premier institutes/industries, even from within our country and abroad. Participants would be able to join online to web-conferencing platform using video/audio. For registration participants need to **apply to any participating academy online through its website**, as mentioned in details of respective programme,

#### How to apply:

- \* For a particular programme, a participant is encouraged to apply to respective coordinator at any one of the seven Academies, participating in that programme.
- \* Government of India norms will be followed for SC/ST/EWS category participants.
- \* The application form is to be submitted in the online mode to the coordinator of the respective academy.

*Note: Refer, programme offering Academies websites for complete contact address and other details of Summer & Autumn courses.*

Following programmes are being offered online, this Summer/Autumn, Jun - Oct 2021, each of 10/12 days duration.

Names of courses in Spring 2021	Starting date	Completion date	Names of courses in Summers 2021	Starting date	Completion date
<b>Social Robotics &amp; AI</b>	28 Jun	5 Jul 2021	<b>Advanced Communication/Antennae</b>	22 Nov	03 Dec 2021
<b>Digital Tools for Writing, Authoring and reviewing manuscripts</b>	12 Jul	23 Jul 2021	<b>Blockchain Technology &amp; Applications</b>	22 Nov	03 Dec 2021
<b>Programming in Python</b>	26 Jul	6 Aug 2021	<b>Chip Design: from Devices to Circuits</b>	6 Dec	17 Dec 2021
<b>Quantum Computing</b>	09 Aug	20 Aug 2021	<b>Data Science for All</b>	6 Dec	17 Dec 2021
<b>Deep Learning &amp; Applications (Parallel Architectures)</b>	23 Aug	03 Sep 2021	<b>RISC-V VLSI Implementation Flow: RTL2GDS</b>	20 Dec	31 Dec 2021
<b>Advanced Optimization Techniques and Hands-on with MATLAB/SCILAB</b>	06 Sep	17 Sep 2021	<b>Machine Learning &amp; Computer Vision</b>	20 Dec	31 Dec 2021
<b>SuperX- Operating Systems- Linux</b>	20 Sep	01 Oct 2021	<b>Designing With FPGAs (Intel)</b>	03 Jan	14 Jan 2022
<b>MATLAB Programming for Additive Manufacturing and 3D Printing (MPAM)</b>	20 Sep	01 Oct 2021	<b>ICT Tools for Teaching, Learning process &amp; Institutes</b>	17 Jan	28 Jan 2022
<b>Numerical &amp; engineering computation, optimization for Physicists, Scientists &amp; Engineers using open-source- SCILAB</b>	04 Oct	15 Oct 2021	<b>Scientific Computation and GUI Development Using MATLAB</b>	31 Jan	01 Feb 2022
<b>OpenPower RISC architecture Design (enabled by IBM)</b>	18 Oct	29 Oct 2021	<b>Electric Vehicles &amp; mobility</b>	14 Feb	25 Feb 2022
			<b>Cognitive architectures, Algorithms &amp; applications- NLP &amp; EDA</b>	28 Feb	11 Mar 2022

Following are the programmes being offered as Self-Paced in this Summer, Jun - Oct 2021, by IIT Kanpur Academy.

<b>Introduction to Compilers</b>	<b>Computer System Security</b>	<b>Smart Grid Technology</b>	<a href="https://ict.iitk.ac.in">https://ict.iitk.ac.in</a>
----------------------------------	---------------------------------	------------------------------	---

#### Target Beneficiaries:

Interested Faculty/students of engineering/other institutions & professionals from our country as well as from outside India, are eligible to attend these Spring/Summer courses. Additionally, faculty of non-engineering background are also invited to attend FDP on ICT Tools and techniques for Teaching Learning Process & Institutes. Industry persons and student participants are also invited to attend the aforesaid programmes to upgrade their skills.

#### Availability of seats at each offering Academy:

Participants will be selected based on first-cum-first-serve basis by organizing academy. Selected participants will be communicated through e-mail / notified in E&ICT Academy websites. There is no limit on number of participants, however, only first 1000 participants would enjoy duplex both way video/audio. Rest of the participants would enjoy receiving video/audio but may not raise queries in real-time.

#### Course duration:

Each course is designed as 3 credit equivalent for 35-40 hours (Theory Lectures, Hands-on/Design orientation/Activity linked problems/Assignments Problem Solving/Case Studies sessions/Quiz Tests). The contact hours are to be spread over 10 days, implying NOT more than 3½ hours per day.

#### Accommodation & Travel

There is no provision as well as scope for Boarding and Lodging, as all the programmes are being offered ONLINE.

#### Registration Fee for each Summer Course:

No Registration fee is charged for attending these programmes. However, candidates from India/SAARC/African countries are required to pay a mandatory examination fee of Rs. 500/- (faculty/PhD-scholars/students) OR Rs. 1000/- (others), and US\$ 60 or £ 50 from other countries, if they desire a certificate of completion of programme. This Certificate for participation as well as for Satisfactory performance will be given to the participants subject to fulfillment of attending all sessions, submission of assignments and clearing the test(s) by all the paying participants.

#### Mode of Payment: Preferred mode is ONLINE payment at respective Academy site.

Academy Name	Link for payment
IIT Guwahati	Online registration at web site of Academy, IIT Guwahati- <a href="http://www.iitg.ernet.in/eictacad/">http://www.iitg.ernet.in/eictacad/</a>
IITDM Jabalpur	Online registration at web site of Academy, IITDM Jabalpur- <a href="http://ict.iitdmj.ac.in/">http://ict.iitdmj.ac.in/</a>
MNIT Jaipur	Online registration at web site of Academy, MNIT Jaipur- <a href="http://www.mnit.ac.in/eict">http://www.mnit.ac.in/eict</a>
IIT Kanpur	Online registration at web site of Academy, IIT Kanpur - <a href="https://ict.iitk.ac.in/">https://ict.iitk.ac.in/</a>
NIT Patna	Online registration at web site of Academy of NIT Patna- <a href="http://www.nitp.ac.in/ict">http://www.nitp.ac.in/ict</a>
IIT Roorkee	Online registration at web site of Academy of IIT Roorkee- <a href="http://eict.iitr.ac.in/">http://eict.iitr.ac.in/</a>
NIT Warangal	Online registration at web site of Academy NIT Warangal- <a href="http://nitw.ac.in/eict/">http://nitw.ac.in/eict/</a>

- Last Date for Submission of Applications is Monday of earlier week from the start date of respective programme.
- The intimation of Selection for participation will be posted on website on Wednesday of previous week.

The details of Online-Summer courses being offered during May - Aug 2021 is as follows.

1. Social Robotics & AI		28 Jun – 7 Jul 2021
EXPERTS/SPEAKERS- (i) Prof. Santanu Chaudhury, IIT Jodhpur, Prof. Domenico P., University of Siena, Italy, Prof. K. Kurien Issac, IIST Thiruvananthapuram; Prof. V.M. Gadre, IIT Bombay; Prof. A. Ojha, IIITDM Jabalpur; Prof V K Gupta, IIITDM Jabalpur		
<b>Principal Coordinator</b>	<b>Joint-Principal Coordinators</b>	
Prof. Vijay Kumar Gupta, IIITDM Jabalpur <a href="mailto:aojha@iiitdmj.ac.in">aojha@iiitdmj.ac.in</a> M: 9425163037	Dr. Bharat Gupta, NIT Patna, <a href="mailto:bharat@nitp.ac.in">bharat@nitp.ac.in</a> M: 93314 06964	Dr. Arka P. Mazumdar, MNIT Jaipur <a href="mailto:apmazumdar.cse@mnit.ac.in">apmazumdar.cse@mnit.ac.in</a> M: 954 9658 129
<b>Joint-Principal Coordinators</b>		
Dr Somaraju Suvvari, NIT Patna <a href="mailto:somaraju@nitp.ac.in">somaraju@nitp.ac.in</a> M: 9676430356	Dr. Deepak R. Nayak, MNIT Jaipur <a href="mailto:drnayak.cse@mnit.ac.in">drnayak.cse@mnit.ac.in</a> M:	
<b>MODULES TOPICS-</b>		
<ul style="list-style-type: none"> <li>• Introduction to Introduction to Robotics</li> <li>• Robot Kinematics</li> <li>• Wheeled Mobile Robots</li> </ul>	<ul style="list-style-type: none"> <li>• Artificial Intelligence and Machine Learning</li> <li>• Deep Learning for Computer Vision</li> <li>• Path and Trajectory Planning</li> </ul>	<ul style="list-style-type: none"> <li>• Reinforcement Learning</li> <li>• Robots in healthcare</li> <li>• Robot Control and Design</li> <li>• Rehabilitation Robotics</li> </ul>



## 2. Digital Tools for Writing, Authoring and reviewing manuscripts 12 – 23 July 2021

EXPERTS/SPEAKERS- (i) Dr. C. P. Ravikumar, Texas Instruments (ii) Prof. Binod Mishra, IIT Roorkee, (iii) Prof. Kannan Moudgalya, IIT Bombay (consent awaited) (iv) Prof. D. B. Phatak, IITB (consent awaited), (v) Mr. C. V. Radhakrishnan, TUG & River-Valley (vi) Prof. Yogananda C. S., Chairman TUG-group (consent awaited) (vii) Dr. Reema Sahni, IITD & team, (viii) Active Learning group, IITB & speakers from host institutes Dr. Gaurav Trivedi, Dr. M. Ravi Kumar, MNITJ, Dr. Arka P. Mazumdar, MNITJ, Dr. Amit M. Joshi, MNITJ Dr. E. S. Pilli MNITJ

<b>Principal Coordinator</b>		<b>Joint-Principal Coordinators</b>	
Dr. Gaurav Trivedi, IIT Guwahati, <a href="mailto:trivedi@iitg.ernet.in">trivedi@iitg.ernet.in</a> M: 8011000783		Dr. Bharat Gupta, NIT Patna, <a href="mailto:bharat@nitp.ac.in">bharat@nitp.ac.in</a> M:93314 06964	Dr. Ravi K. Maddila, MNIT Jaipur, <a href="mailto:rkmaddila.ece@mnit.ac.in">rkmaddila.ece@mnit.ac.in</a> M: 954 9654 238
<b>Joint-Principal Coordinators</b>			
Prof. Vijay Kumar Gupta, IIITDM Jabalpur <a href="mailto:aojha@iiitdmj.ac.in">aojha@iiitdmj.ac.in</a> M: 9425163037	Dr. Amey Karkare, IIT Kanpur, <a href="mailto:karkare@iitk.ac.in">karkare@iitk.ac.in</a> M: 953 268 9131	Prof. Sanjeev Manhas, IIT Roorkee <a href="mailto:eict@iitr.ac.in">eict@iitr.ac.in</a> M: +91 7078627392	Prof. Vineet Sahula, MNIT Jaipur, <a href="mailto:vsahula.ece@mnit.ac.in">vsahula.ece@mnit.ac.in</a> M: 954 9654 227

### MODULES TOPICS-

<ul style="list-style-type: none"> <li>Technical Writing and Research Methodology:</li> <li>Language support tools- Grammarly, Draft</li> <li>Introduction to Typesetting in Latex; Writing a technical report in Latex- outline &amp; Contents</li> <li>Mathematical style- Mathematics in Science and Technology</li> </ul>	<ul style="list-style-type: none"> <li>Writing manuscript in Latex- working with figures, tables</li> <li>Technical Reports, Manuscripts, Thesis</li> <li>Making presentation in Latex, Beamer</li> <li>Reviewing manuscripts; Responding to reviewer's comment</li> <li>Mastering Language – Spoken &amp; written; communication skills</li> </ul>	<ul style="list-style-type: none"> <li>Bibliography management, Mendeley, JabRef</li> <li>Publishing in print and for the Internet</li> <li>Online tools- CV, Sharelatex, OverLeaf, Author Kits</li> <li>Agile Classroom: Teaching, Learning</li> <li>Reviewing manuscripts, reports, projects</li> </ul>
---	---	---



### 3. Programming in Python

26 Jul - 6 Aug 2021

EXPERTS/SPEAKERS- Prof. Aparajita Ojha, IIITDMJ, Dr. Amey Karkare IIT Kanpur, Dr. Arka P. Mazumdar, MNITJ, Dr. Emmanuel S. Pilli, MNITJ

Principal Coordinator		Joint-Principal Coordinators	
Dr. Atul Gupta, IIITDM Jabalpur <a href="mailto:atul@iiitdmj.ac.in">atul@iiitdmj.ac.in</a> M: 9425152499	Dr. Amey Karkare, IIT Kanpur, <a href="mailto:karkare@iitk.ac.in">karkare@iitk.ac.in</a> M: 953 268 9131	Dr. Prabhat Kumar, NIT Patna <a href="mailto:prabhat@nitp.ac.in">prabhat@nitp.ac.in</a> M:8406001700	Dr. Aryabartta Sahu, IIT Guwahati <a href="mailto:asahu@iitg.ac.in">asahu@iitg.ac.in</a> M: 8011139091
Joint-Principal Coordinators			
Prof RBV Subramanyam NIT Warangal <a href="mailto:rbvs66@nitw.ac.in">rbvs66@nitw.ac.in</a> M-9491346969	Dr Sandeep Kumar, IIT Roorkee <a href="mailto:cict@iitr.ac.in">cict@iitr.ac.in</a> M: 7078627392	Dr. Yogesh Meena, MNIT Jaipur <a href="mailto:ymeena.cse@mnit.ac.in">ymeena.cse@mnit.ac.in</a> M: 954 9654 178	Dr. Dinesh Tyagi, MNIT Jaipur <a href="mailto:dktyagi.cse@mnit.ac.in">dktyagi.cse@mnit.ac.in</a> M: 954 965 8130

#### MODULES TOPICS-

<ul style="list-style-type: none"> <li><b>Introduction &amp; basics of Python Programming:</b> History of Python, Installing Python, Executing Python Programs, Internal Working of Python, Python Implementations. Python Character Set, Token, Python Core Data Type, print() function, Assigning Value to Variable, input() function, eval() function, Formatting Number and Strings, Operators and Expressions, Differential Evolution, Social Spider Optimization)</li> <li><b>Decision Statements; Loop Control Statements; Functions, Strings</b> Boolean Type, Boolean Operators, Using Number and Strings with Boolean Operators, Decision Making Statements and Conditional Expressions While loop, range() Function, For Loop, Nested Loops, Break Statement, Continue Statement; Syntax and Basics of a Function, Use of a function.</li> </ul>	<p>Parameters and Arguments, Local and Global Scope Scope of a Variable, return statement and Recursive Functions.; str class, Inbuilt functions for String, index[] operator, traversal of String, String operators, String Operations,</p> <ul style="list-style-type: none"> <li><b>Lists and Dictionaries; Tuples and Sets; File Handling; Pandas</b> Creating Lists, Basic list operators, Slicing, Inbuilt functions for Lists, List operator, List Methods, Splitting, Need of Dictionary, Creating a Dictionary , Adding and Replacing Values, Retrieving Values; Deleting Items and Traversing Dictionaries. Tuples and Sets: Creating Tuples; Tuple () Function, Inbuilt Functions for Tuples, Indexing and Slicing; Operations on Tuples; Traverse Tuples from a List, Set operators; Set class. Object-Oriented Programming: Classes and objects, methods,</li> </ul>	<ul style="list-style-type: none"> <li>Operator Overloading, Inheritance, super () and Method Overriding. File Handling: Need of File Handling, Reading/Writing Text and Numbers to/from a File; Directories on a disk. Pandas: Using Pandas, the python data analysis library and data frames</li> <li><b>Data Handling and Use Cases-</b> RE Pattern Matching, Parsing Data, Introduction to Regression , Types of Regression , Use Cases , Exploratory data analysis , Correlation Matrix , Visualization using Matplotlib and Implementing linear regression.</li> <li><b>Machine Learning-</b> Machine Learning - Algorithm, Algorithms - Random forest , Super vector Machine , Random Forest , Build your own model in python and Comparison between random forest and decision tree.</li> </ul>
---	---	---

## 4. Quantum Computing

9 - 20 Aug 2021

EXPERTS/SPEAKERS- Industry- Microsoft Inc. – experts from Microsoft Garage- Azure Quantum

Principal Coordinator	Joint-Principal Coordinators	
Dr. Pilli Emmanuel Shubhakar, MNIT Jaipur <a href="mailto:espilli.cse@mnit.ac.in">espilli.cse@mnit.ac.in</a> M: 954 965 8131	Dr. J P Singh, NIT Patna <a href="mailto:ips@nitp.ac.in">ips@nitp.ac.in</a> , M-8521159014	Dr. Gaurav Trivedi, IIT Guwahati <a href="mailto:trivedi@iitg.ac.in">trivedi@iitg.ac.in</a> M: 8011000783

Joint-Principal Coordinators		
Prof. Kusum Kumari Bharati , IIITDM Jabalpur <a href="mailto:academyiiitdmj@gmail.com">academyiiitdmj@gmail.com</a> M: 9406711298	Dr. M P Singh, NIT Patna <a href="mailto:mpps@nitp.ac.in">mpps@nitp.ac.in</a> M-9431200106	Prof. Kanupriya Sachdev, MNIT Jaipur <a href="mailto:ksachdev.phy@mnit.ac.in">ksachdev.phy@mnit.ac.in</a> M: 954 965 7337

### MODULES TOPICS-

<ul style="list-style-type: none"> <li>Quantum Measurements Density Matrices; Positive-Operator Valued Measure; Fragility of quantum information: Decoherence</li> </ul>	<ul style="list-style-type: none"> <li>Quantum Algorithms &amp; Circuits; Deutsch and Deutsch-Jozsa algorithms; Grover's Search Algorithm; Quantum Fourier Transform</li> </ul>	<ul style="list-style-type: none"> <li>Scalability in quantum computing; NMR Quantum Computing; Spintronics and QED approaches</li> </ul>
<ul style="list-style-type: none"> <li>Quantum Superposition and Entanglement; Quantum Gates and Circuits; No cloning theorem &amp; Quantum Teleportation; Bell's inequality and its implications</li> </ul>	<ul style="list-style-type: none"> <li>Shore's Factorization Algorithm; Quantum Error Correction: Fault tolerance; Quantum Cryptography; Implementing Quantum Computing: issues of fidelity</li> </ul>	<ul style="list-style-type: none"> <li>Linear Optical Approaches; Nonlinear Optical Approaches; Limits of the approaches; Future scope</li> </ul>

IIT Guwahati

IIITDM Jabalpur

MNIT Jaipur

IIT Kanpur

IIT Patna

IIT Roorkee

NIT Warangal



## 5. Deep Learning & Applications (Parallel Architectures)

23 Aug – 3 Sep 2021

EXPERTS/SPEAKERS- (i) Industry support from NVidia, MathWorks (MATLAB) (ii) Dr. Anupama Ray, IBM (iii) Dr. Ritu, Intel, (iv) Prof. R. Venkatesh Babu, IISc Bangalore (v) Dr. Biplab Banerjee IITB  
Experts from host institutes- (iii) Prof. R. Balasubramanian, IITR (iv) Prof. Aparajita Ojha, IIITDMJ (v) Dr. Partha Pratim Roy, IITR (vi) Dr. Santosh K. Vipparthi, MNITJ

<b>Principal Coordinator</b>		<b>Joint-Principal Coordinators</b>	
Prof. Aparajita Ojha, IIITDM Jabalpur <a href="mailto:aojha@iiitdmj.ac.in">aojha@iiitdmj.ac.in</a> M:94258 00334		Dr. Santosh K. Vipparthi MNIT Jaipur - <a href="mailto:skvipparthi@mnit.ac.in">skvipparthi@mnit.ac.in</a> M: 954 965 8135	Dr. Amey Karkare, IIT Kanpur, <a href="mailto:karkare@iitk.ac.in">karkare@iitk.ac.in</a> M: 953 268 9131
<b>Joint-Principal Coordinators</b>			
Dr. Prithwjit Guha, IIT Guwahati <a href="mailto:pguha@iitg.ac.in">pguha@iitg.ac.in</a> M: 9678229975	Dr. M P Singh, NIT Patna <a href="mailto:mps@nitp.ac.in">mps@nitp.ac.in</a> M-9431200106	Prof RBV Subramanyam NIT Warangal <a href="mailto:rbvs66@nitw.ac.in">rbvs66@nitw.ac.in</a> M-9491346969	Dr Raksha Sharma, IIT Roorkee <a href="mailto:eict@iitr.ac.in">eict@iitr.ac.in</a> M: 7078627392

### MODULES TOPICS-

<ul style="list-style-type: none"> <li><b>Artificial Neural Networks (ANNs)-</b> Introduction to Deep Learning and Motivation. Brief introduction of Artificial Neural Networks (ANN), Perceptrons, Multilayer perceptron (MLP), Back propagation training for MLP, Stochastic gradient descent. Applications to some practical classification problems. <hr/>Hands on: Demonstration and implementation of Shallow and Deep architecture, introduction to Python, Tensorflow and Keras.</li> <li><b>Regularization, Hyperparameter Tuning and Autoencoders</b> - Deep Feed forward Networks - Regularization - drop out, Minibatch gradient descent,</li> </ul>	<p>RMSProp and Adam optimization, <u>Autoencoders and Their Types</u> <hr/>Hands on: Hyper parameter tuning and regularization practice, Minibatch gradient descent, Autoencoders</p> <ul style="list-style-type: none"> <li><b>Convolutional Networks</b> - The Convolution Operation, Pooling, Basic architecture of a Convolution Neural Network, Variants of the Basic Convolution Model, Evolution of Convolution NN Architectures - AlexNet, ResNet and other architectures. <hr/>Hands on : Convolution neural network application using Tensorflow and Keras, Autoencoders using CNN, Building an application for classification and feature extraction.</li> </ul>	<ul style="list-style-type: none"> <li><b>Sequence Modeling-</b> Recurrent and Recursive Nets - Unfolding Computational Graphs, Recurrent Neural Networks, The Long Short-Term Memory and Other Gated RNNs. <hr/>Hands on : Language modeling and machine translation, Chatbots.</li> <li><b>Generative Adversarial Networks, Object Detection Algorithms-</b> GAN and their variants- R-CNN , YOLO and SSD <hr/>Hands on- Object detection, Realistic Image Generation and face recognition</li> </ul>
--	---	---



## 6. Advanced Optimization Techniques and Hands-on with MATLAB/SCILAB

6 – 17 Sep 2021

EXPERTS/SPEAKERS- 1) Prof. Ganapati Panda, Fellow INAE, Fellow NASI, Former Dy. Director and Prof. Emeritus, IIT Bhubaneswar, 2) Dr. Nithin V. George, Associate Professor, Dept. of Electrical Engineering, IIT Gandhinagar, 3) Dr. Pyari M. Pradhan, Assistant Professor, Dept. of Electronics and Communication Engg., IIT Roorkee 4) Dr. Sitanshu Sekhar Sahu, Assistant Professor, Dept. of Electronics and Communication Engg., Birla Institute of Technology Mesra 5) Dr. Jagdish Chand Bansal, Associate Professor, Dept. of Mathematics, South Asian University, New Delhi 6) Dr. Sripama Saha, Associate Professor, Dept. of Computer Science and Engineering, IIT Patna 7) Dr Prashant K. Jain, IIITDMJ 8) Prof. Rajesh Kumar, MNIT Jaipur 9) Dr. Satyasai Jagannath Nanda, MNIT Jaipur

Principal Coordinator	Joint- Principal Coordinators			
Dr. S J Nanda <a href="mailto:snanda.ece@mnit.ac.in">snanda.ece@mnit.ac.in</a> M: 954 9654 237 MNIT Jaipur	Dr. J P Singh, <a href="mailto:ips@nitp.ac.in">ips@nitp.ac.in</a> M: 8521159014 NIT Patna	Dr Prashant K. Jain IIITDM Jabalpur <a href="mailto:pkjain@iiitdmj.ac.in">pkjain@iiitdmj.ac.in</a> M: 9425800310		
Joint-Principal Coordinators				
Dr. Rakesh Ranjan, NIT Patna <a href="mailto:rr@nitp.ac.in">rr@nitp.ac.in</a> M: 9334385016	Dr. Ila Sharma MNIT Jaipur <a href="mailto:ila.ece@mnit.ac.in">ila.ece@mnit.ac.in</a> M: 75871 48908	Dr. Hanumant Singh Shekhawat, IIT Guwahati <a href="mailto:h.s.shekhawat@iitg.ac.in">h.s.shekhawat@iitg.ac.in</a> M: 9435413480		
MODULES TOPICS- To be Announced (IIT Guwahati)				
IIT Jaipur	IIT Kanpur	IIT Patna	IIT Roorkee	NIT Warangal
<ul style="list-style-type: none"> <li><b>Fundamental of Optimization</b> - Unconstrained and Constrained Optimization, Linear Programming, Graphical Method, Symmetric Dual Problems, Simplex Method, Derivative based Optimization, Newton's Method, Least Mean Square Method.</li> <li><b>Nature Inspired Optimization</b> - Multi-modal function Optimization, Evolutionary Computation (Genetic algorithm, Genetic Programming, Differential Evolution, Social Spider Optimization)</li> </ul>	Swarm Intelligence (Particle Swarm Optimization, Ant Colony Optimization, Cat Swarm Optimization, Cuckoo-search, Grey Wolf Optimization, Whale Optimization), Bio-Inspired Optimization (Artificial Immune System, Bacterial Foraging Optimization), Physical Algorithms (Simulated Annealing, Colliding Bodies Optimization, Gravitational Search Optimization).	<ul style="list-style-type: none"> <li><b>Multi-objective Optimization</b>, Non-dominated Solutions, Non-dominated Sorted Genetic Algorithm (NSGA-II),</li> </ul>	Multi objective Particle Swarm Optimization, Many-objective Optimization, NSGA-III.	<ul style="list-style-type: none"> <li><b>Applications</b>- Benchmark mathematical function optimization, Linear and Nonlinear System Identification, Dynamic System Identification, Communication Channel Equalization, Device Modeling, Forecasting/Prediction of time series, Data Classification and Clustering, Hybridization of optimization techniques with Neural Networks and Deep Neural Networks, genomic signal processing.</li> </ul>

## 7. SuperX- Operating Systems- Linux

20 Sep – 1 Oct 2021

EXPERTS/SPEAKERS- Speakers from Industry, IIT Guwahati, MNIT Jaipur and NIT Patna

Principal Coordinator	Joint- Principal Coordinators	
Dr. Gaurav Trivedi, IIT Guwahati, trivedi@iitg.ernet.in M: 8011000783	Dr. D. Gopalani, MNIT Jaipur <a href="mailto:dgopalani.cse@mnit.ac.in">dgopalani.cse@mnit.ac.in</a> M: 954 9654 392	Dr Neelam Dayal IIITDM Jabalpur <a href="mailto:academyiiitdmi@gmail.com">academyiiitdmi@gmail.com</a> M: 9473619501
Academy Level Coordinator		
Dr. M P Singh, NIT Patna <a href="mailto:mpps@nitp.ac.in">mpps@nitp.ac.in</a> M-9431200106	Dr. Suyel Namasudra, NIT Patna <a href="mailto:suyel.cs@nitp.ac.in">suyel.cs@nitp.ac.in</a> , M: 9707046535	Dr. Mahipal Jadeja <a href="mailto:mahipaljadeja.cse@mnit.ac.in">mahipaljadeja.cse@mnit.ac.in</a> 7376157421(M)
MODULES TOPICS-		
<ul style="list-style-type: none"> <li>SuperX is a Linux-based computer operating system originally developed in India. SuperX uses a tweaked version of KDE and is aimed towards beginners and casual users. It is India's indigenous OS developed in Assam with support from government agency.</li> </ul>	<ul style="list-style-type: none"> <li>SuperX stands for "Simple, User friendly, Powerful, Energetic and Robust eXperience"</li> <li>KDE as its Graphical User Interface; Linux kernel with Hardware Enablement (HWE) following Ubuntu LTS specifications</li> </ul>	<ul style="list-style-type: none"> <li>Latest release is SuperX 5.0 "Lamar"</li> <li>SuperX Appstore as well as any other APT-based package management tools</li> <li>Experts will cover essential topics like system administration, network administration &amp; kernel compilation</li> </ul>

IIT Guwahati

IIITDM Jabalpur

MNIT Jaipur

IIT Kanpur

NIT Patna

IIT Roorkee

NIT Warangal



## 8. MATLAB Programming for Additive Manufacturing and 3D Printing (MPAM)

20 Sep – 1 Oct 2021

EXPERTS/SPEAKERS- from IITs/NITs/IIITs and industry- CONSENT Awaited

Principal Coordinator	Joint-Principal Coordinators	
Dr Prashant K. Jain IIITDM Jabalpur <a href="mailto:pkjain@iiitdmj.ac.in">pkjain@iiitdmj.ac.in</a> M: 9425800310	Prof. G. S. Dangayach MNIT Jaipur <a href="mailto:gsdangayach.mech@mnit.ac.in">gsdangayach.mech@mnit.ac.in</a> M: 954 9654 493	Prof. Ratnajit Bhattacharjee, IIT Guwahati <a href="mailto:ratnajit@iitg.ac.in">ratnajit@iitg.ac.in</a> M: 9954498116
Joint-Principal Coordinators		
Dr. Amit Singh MNIT Jaipur <a href="mailto:asingh.mech@mnit.ac.in">asingh.mech@mnit.ac.in</a> M: 954 965 7317		

### MODULES TOPICS-

- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"><li>MATLAB User Interface, Basic Operations, Data Format, Handling Variables, Expressions and Matrices, Programming Basics for decision making, Conditional/logical Statement, Execution Control, Loops, 2D Plotting Visualization Using MATLAB, 3D Plots, Modifying plots using property editor, Automating Plots using Functions, Handling data in MS Excel and text file,</li><li>Debugging a program, Algorithm development and Problem formulation,</li></ul> | <ul style="list-style-type: none"><li>Building Graphical User Interface (GUI), Building GUIs with display of information, Developing GUI for Input/output functions, App development in MATLAB, Generating Executable Files and Stand-Alone Applications, Case Studies</li><li>Overview and basics of Rapid Prototyping/Additive Manufacturing/3D printing, Need, Basic Principles and Steps in RP/AM/3DP, Process chain, Classification of Additive manufacturing processes,</li></ul> | <ul style="list-style-type: none"><li>FDM and SLS Process, Applications and case studies, Data preparation, STL File Problems, STL File Manipulation and Repair Algorithms, STL file reading, repairing, slicing, contour generation, path planning, G&amp;M code generation, open source software for 3D printing, Machine Demonstration, Part printing, Recent research trends in RP/AM/3DP, interdisciplinary aspects in RP/AM/3DP, Bio Medical applications.</li></ul> |
|--|---|--|

## 9. Numerical & engineering computation, optimization for Physicists, Scientists & Engineers- open source SCILAB

4 – 15 Oct 2021

EXPERTS/SPEAKERS- From IITs/NITs/IIITs and industry, research organizations- (i) Prof. Kannan Moudgalya, IITB (consent awaited), (ii) Chaitanya Kancharla, ESI-SCILAB; (iii) Experts from INRIA/SCILAB (CONSENT Awaited)

Principal Coordinator	Joint-Principal Coordinators	
Dr. Bharat Gupta, NIT Patna, <a href="mailto:bharat@nitp.ac.in">bharat@nitp.ac.in</a> M:93314 06964	Dr. Menka Yadav, MNIT Jaipur <a href="mailto:menka.ece@mnit.ac.in">menka.ece@mnit.ac.in</a> M: 954 965 0791	Dr. Amey Karkare, IIT Kanpur, <a href="mailto:karkare@iitk.ac.in">karkare@iitk.ac.in</a> M: 953 268 9131
Joint-Principal Coordinators		
Dr Prashant K. Jain IIITDM Jabalpur <a href="mailto:pkjain@iiitdmj.ac.in">pkjain@iiitdmj.ac.in</a> M: 9425800310	Dr. Rakesh Ranjan, NIT Patna <a href="mailto:rr@nitp.ac.in">rr@nitp.ac.in</a> M: 9334385016	Dr. Kuldeep Singh, MNIT Jaipur <a href="mailto:kuldeep.ece@mnit.ac.in">kuldeep.ece@mnit.ac.in</a> M: 99101 01592
MODULES TOPICS-		
<ul style="list-style-type: none"> <li>• (i) <b>Solving set of equations-</b> Perform computations like matrix, vectors; Gaussian elimination &amp; iterative methods, ill-conditioned systems, iterative methods; non linear equations</li> <li>• (ii) <b>Large Matrix analysis and large Eigen value problem-</b> Eigenvalues &amp; eigen vectors- Gerschgorin theorem, iterative method, Sturm sequence, QR method, Singular value problems</li> <li>• <b>Random numbers</b> Simulation &amp; Applications</li> <li>• <b>Open source &amp; traditional technical computing</b></li> </ul>	<ul style="list-style-type: none"> <li>• Solving ordinary differential equations (ODE); plotting 2D and 3D plots; diagram creation</li> <li>• <b>Xcos-</b> Model based simulations using Xcos;</li> <li>• Introduction to Discrete Probabilities with Scilab</li> <li>• Introduction to constrained and unconstrained optimization; optimality conditions;</li> <li>• Writing functions in Scilab and scripting</li> <li>• Building an interactive GUI</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Linear algebraic equations, fast computation,</b> Pade &amp; rational approximation</li> <li>• <b>Numerical approximations</b> of functions - Taylor's polynomial, least square approximation, Chebyshev series/polynomial, splines,</li> <li>• Fourier coefficients, Fourier series, trigonometric interpolation, DFT, FFT; Compression</li> <li>• Application development; Industry real time Use Cases</li> </ul>

# 10. OpenPower RISC architecture Design (enabled by Industry IBM)

18 – 29 Oct 2021

EXPERTS/SPEAKERS- Experts from IBM

## Principal Coordinator

Dr. Gaurav Trivedi,  
IIT Guwahati  
[trivedi@iitg.ac.in](mailto:trivedi@iitg.ac.in)  
M: 8011000783

## Joint- Principal Coordinators

Dr. Sangeeta Singh,  
NIT Patna  
[sangeeta.singh@nitp.ac.in](mailto:sangeeta.singh@nitp.ac.in)  
M: 9479646111

Prof. Sanjeev Manhas,  
IIT Roorkee  
[eict@iitr.ac.in](mailto:eict@iitr.ac.in)  
M: +91 7078627392

## Joint- Principal Coordinators

Dr Manish Bajpai,  
IIITDM Jabalpur  
[academyiitdmj@gmail.com](mailto:academyiitdmj@gmail.com)  
M: 9425156289

Mr. Pankaj Kumar,  
NIT Patna  
[pankajjha@nitp.ac.in](mailto:pankajjha@nitp.ac.in)  
M:7004727085

Prof. Vineet Sahula,  
MNIT Jaipur  
[vsahula.ece@mnit.ac.in](mailto:vsahula.ece@mnit.ac.in)  
M: 954 9654 227

## MODULES TOPICS-

- Processor data path design
- Control design- Hardwired control
- Arithmetic circuit design
- Data path & control pipelining
- RISC superscalar architectures
- Parallelism and systolic arrays

- Simulations and Characterization for Libraries
- Design Basics: Circuit, Architecture and System Level
- Constraints and Synthesis : Input Output Constraints, Complex SoC Constraints; Input Output Files : Lib Files, General files needed in complete flow
- Layer and Power Planning

- Floorplanning
- Delay Calculations and System Implications
- Setup and Hold Discussion  
Placement Basics and Settings
- DRC LVS and Extraction
- Low Power Flow Basics
- Sign Off



Various courses from IIT Kanpur in Intelligent Self Paced Education (iSPED) mode are being offered in this pandemic period till September 2021. The courses are made available to faculty for free for a limited duration under FDP. Participants may please ignore the price mentioned on the URL for the courses, and join the courses of their choice.

## 11. Computer System Security (<https://ict.iitk.ac.in/product/computer-system-security/>)

### EXPERTS/SPEAKERS-

Prof. Sandeep Shukla (<https://www.cse.iitk.ac.in/users/sandeeps/>)

### Principal Coordinator

Prof. Amey Karkare, IIT Kanpur,

[karkare@iitk.ac.in](mailto:karkare@iitk.ac.in)

M: 953 268 9131

### MODULES TOPICS-

<ul style="list-style-type: none"> <li>Introduction, Interview with Prof.Sandeep Shukla; Learning objectives, Sample Attacks, The Marketplace for vulnerabilities, Error 404 Hacking digital India part 1 chase</li> <li>Control Hijacking, More Control Hijacking attacks integer overflow, More Control Hijacking attacks format string vulnerabilities, Defense against Control Hijacking</li> <li>Confidentiality Policies, Confinement Principle, Detour Unix user IDs process IDs and privileges</li> </ul>	<ul style="list-style-type: none"> <li>VM based isolation, Confinement principle, Software fault isolation, Rootkits, Intrusion Detection Systems</li> <li>Secure architecture principles isolation and leas, Access Control Concepts</li> <li>Web security landscape, Web security definitions goals and threat models, HTTP content rendering, Browser isolation, Security interface, Cookies frames and frame busting</li> </ul>	<ul style="list-style-type: none"> <li>Major web server threats, Cross site request forgery &amp; scripting, Finding vulnerabilities, Secure development</li> <li>Basic cryptography, Public key cryptography, RSA public key crypto, Digital signature Hash functions; Email security certificates, Transport Layer security TLS, IP security, DNS security</li> <li>Internet infrastructure, Summary of weaknesses of internet security, Link layer connectivity and TCP IP connectivity</li> </ul>
---	---	---

## 12. Introduction to Compilers

(<https://ict.iitk.ac.in/product/introduction-to-compilers/>)

### EXPERTS/SPEAKERS-

Dr. Amey Karkare, IIT Kanpur,

[karkare@iitk.ac.in](mailto:karkare@iitk.ac.in)

### Principal Coordinator

Dr. Amey Karkare,

IIT Kanpur,

[karkare@iitk.ac.in](mailto:karkare@iitk.ac.in)

M: 953 268 9131

### MODULES TOPICS-

<ul style="list-style-type: none"> <li>Introduction</li> </ul>	<ul style="list-style-type: none"> <li>Overview of Compiler Phases</li> </ul>	<ul style="list-style-type: none"> <li>Lexical Analysis</li> </ul>
<ul style="list-style-type: none"> <li>Syntax Analysis</li> </ul>	<ul style="list-style-type: none"> <li>Top-Down Parsing</li> </ul>	<ul style="list-style-type: none"> <li>Bottom-up Parsing</li> </ul>
<ul style="list-style-type: none"> <li>LR Parsers</li> </ul>	<ul style="list-style-type: none"> <li>Semantic Analysis</li> </ul>	<ul style="list-style-type: none"> <li>Attributes</li> </ul>
<ul style="list-style-type: none"> <li>Type Systems</li> </ul>	<ul style="list-style-type: none"> <li>Symbol Table</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate Representation</li> </ul>
<ul style="list-style-type: none"> <li>Runtime Systems</li> </ul>	<ul style="list-style-type: none"> <li>Code Generation</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>

## 13. Smart Grid Technology (<https://ict.iitk.ac.in/product/smart-grid-technology/>)

### EXPERTS/SPEAKERS-

Prof. Ankush Sharma, IIT Kanpur

[ansharma@iitk.ac.in](mailto:ansharma@iitk.ac.in)

### Principal Coordinator

Prof. Amey Karkare, IIT Kanpur,

[karkare@iitk.ac.in](mailto:karkare@iitk.ac.in)

M: 953 268 9131

### MODULES TOPICS-

#### Smart Grid Overview

- History of Smart Grid
- Conventional Grid Vs. Smart Grid
- Features of Smart Grid
- Key Characteristics of Smart Grid
- Smart Grid Elements
- Forces behind Smart Grid Evolution
- Smart Grid Stake Holders
- Smart Grid Building Blocks
- Smart Grid Resources

#### Smart Grid Architecture & Design

- Conventional Power System Architecture
- IT Layer
- Communication Layer
- Distributed Architecture Design

#### Smart Grid Measurement

- Synchrophasor Technology
- Smart Meters and Advanced Metering Infrastructure
- Wireless Sensor Network (WSN)
- GIS/Google mapping

#### Smart Grid Communication

- Wired Communication (e.g. PLCC, Ethernet, Optical Fibre)
- Wireless Communication (e.g. WiFi, Zigbee, GSM/GPRS, WAN)
- Machine to Machine Communication

#### Smart Grid Standards and Protocols

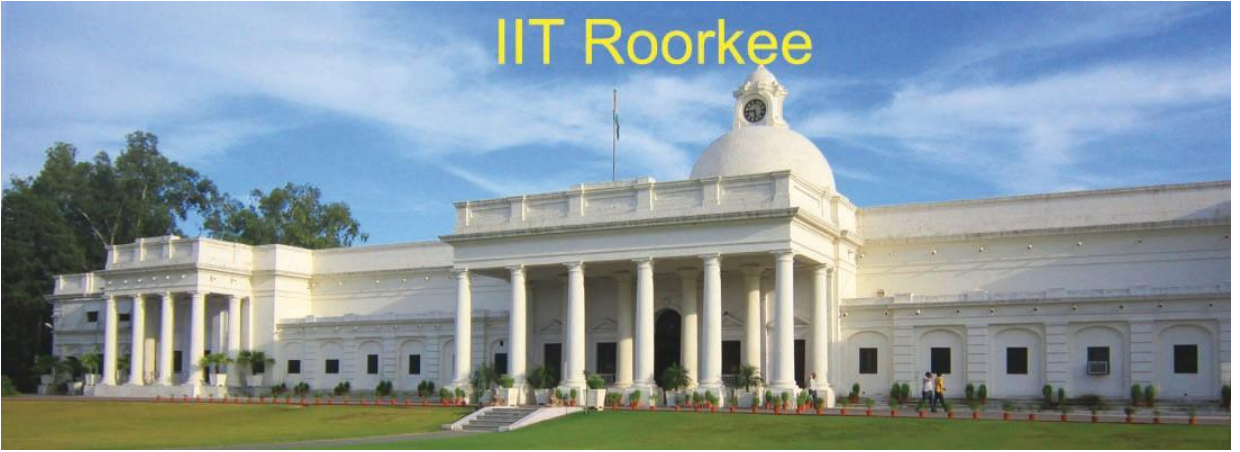
- IEC 61850
- IEC 60870
- IEEE C37.118
- IEEE 1588
- IEC 62351; IEC 61970/ 61968
- IEC 62056; DNP 3.0

#### Interoperability & Associated Standard

- Interoperability issues in Smart Grid and its solutions
- Common Information Model
- Multispeak
- Green Button
- SunSpec
- SEP 2.0



# IIT Roorkee



# IIT Guwahati



# NIT WARANGAL





# MNIT Jaipur



# NIT Patna

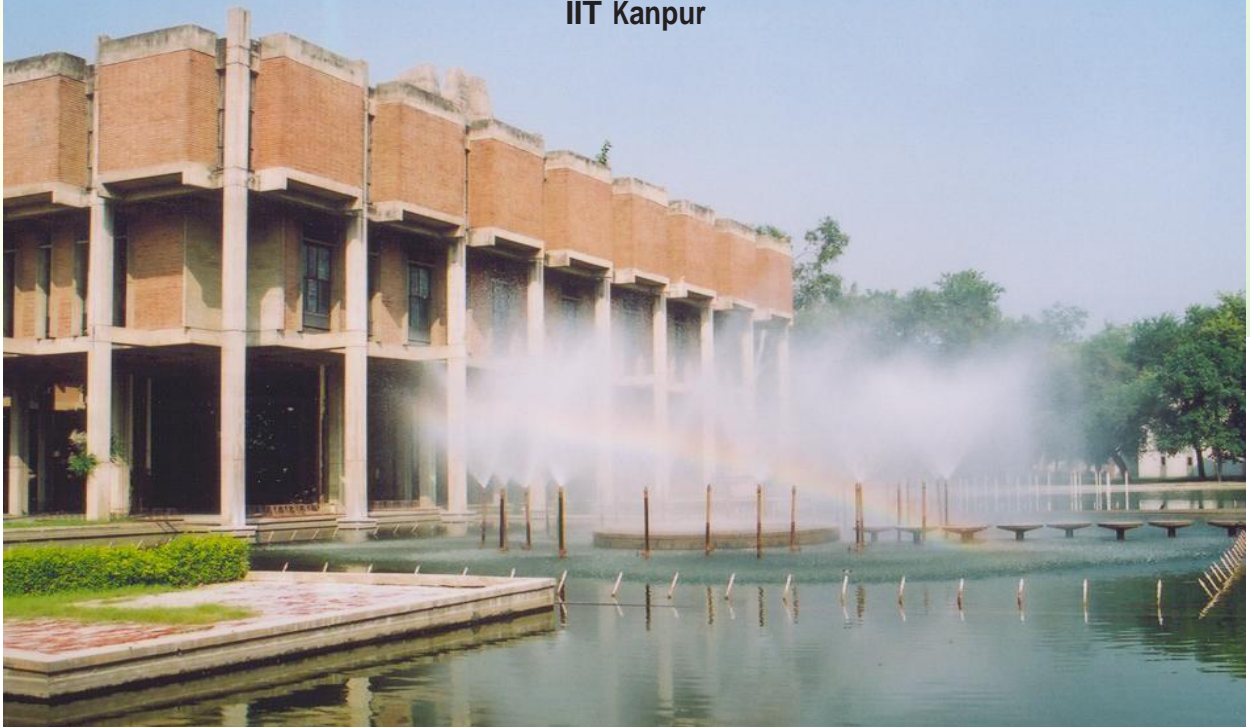




IIT Gandhinagar | IIIITDM Jabalpur | MNIT Jaipur | IIT Kanpur | NIT Patna | IIT Roorkee | NIT Warangal



## IIT Kanpur



### FARMING DATA

Vast farm data is stored on cloud, fed to advanced analytics engine, and used by agro-input companies to customize serving and farmers to make timely operating decisions to enhance yield and profitability.

### CONNECTED LIVESTOCK

Sensors monitor animal health and food intake; send alerts on health anomalies or reduction in food/water intake.

### SMART DRONES

Survey fields, map weeds, yield and soil variations; enable application of inputs and map productivity. Drones are also used for applying pesticide and herbicide.

### AUTONOMOUS TRACTOR

GPS-controlled autonomous tractor charts its route automatically, ploughs the land saving fuel, and reduces soil erosion and maintains soil quality.

### CROWD SOURCING

Establish agribusiness communities of practice to share insights or videos/pictures; also share information with other farmers in rural areas.

### FLEET OF AGRIBOTS

Agribots tend to crops, weeding, fertilization and harvesting; reduce fertilizer cost up to 90% and eliminate human labor.

### SOIL SENSORS

Provides information for ground-truthing irrigation decisions and fine-tuning irrigation practices; avoids under and over-irrigation saving crops from yield loss, water-related diseases, nutrient losses and leach-outs.

### WEATHER FORECAST

Enables decisions about when to plant, what area and crop variety to plant, when to apply fertilizers and when to harvest.

### Academy & States/UTs catered

### Advisory Board Chairman

### Chief Investigator

### Contact Details at Academy For all general queries

<b>Electronics &amp; ICT Academy at IIT Guwahati</b> Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Sikkim	<b>Prof. T. G. Sitharam</b> director@iitg.ac.in	<b>Prof. Ratnajit Bhattacharjee</b> <a href="mailto:ratnaiit@iitg.ac.in">ratnaiit@iitg.ac.in</a> M: 9954498116	Ms Feroza Haque (PM) Email: <a href="mailto:feroza.haque@iitg.ac.in">feroza.haque@iitg.ac.in</a> M: 789 6233 561 Website: <a href="http://www.iitg.ernet.in/eictacad/">www.iitg.ernet.in/eictacad/</a>
<b>Electronics &amp; ICT Academy at IIITDM Jabalpur</b> Madhya Pradesh, Chhattisgarh, Maharashtra	<b>Prof. Sanjeev Jain</b> director@iiitdmj.ac.in M:	<b>Prof. Aparajita Ojha</b> <a href="mailto:aojha@iiitdmj.ac.in">aojha@iiitdmj.ac.in</a> M: +91 9425800334	Email: <a href="mailto:academyiiitdmj@gmail.com">academyiiitdmj@gmail.com</a> , M: +91 9893443284 Website: <a href="http://ict.iiitdmj.ac.in/">http://ict.iiitdmj.ac.in/</a>
<b>Electronics &amp; ICT Academy at MNIT Jaipur</b> Rajasthan, Gujarat, Dadra & Nagar Haveli, Daman & Diu	<b>Prof. Udaykumar R. Y.</b> director@mnit.ac.in	<b>Prof. Vineet Sahula</b> <a href="mailto:ci.academy@mnit.ac.in">ci.academy@mnit.ac.in</a> M: 954 9654 227	Dr. Shailesh Sharma (PM) Email: <a href="mailto:academy@mnit.ac.in">academy@mnit.ac.in</a> L: 0141-2715084 M: +91 96724 72877 Website: <a href="http://www.mnit.ac.in/eict">http://www.mnit.ac.in/eict</a>
<b>Electronics &amp; ICT Academy at IIT Kanpur</b> UP, Punjab, Haryana, Delhi	<b>Prof. Abhay Karandikar</b> director@iitk.ac.in	<b>Prof. B. V. Phani</b> <a href="mailto:byphani@iitk.ac.in">byphani@iitk.ac.in</a> M: +91 9451423721	Email: <a href="mailto:ict@iitk.ac.in">ict@iitk.ac.in</a> M: 0512 679 7787 Website: <a href="https://ict.iitk.ac.in/">https://ict.iitk.ac.in/</a>
<b>Electronics &amp; ICT Academy at NIT Patna</b> Bihar, Jharkhand, Odisha, West Bengal	<b>Prof. Pradip Kumar Jain</b> director@nitp.ac.in	<b>Dr. Bharat Gupta</b> <a href="mailto:bharat@nitp.ac.in">bharat@nitp.ac.in</a> M: 9331406964	Email: <a href="mailto:eictaptna@nitp.ac.in">eictaptna@nitp.ac.in</a> M: + 0612 - 237 1715 Website: <a href="http://www.nitp.ac.in/ict">http://www.nitp.ac.in/ict</a>
<b>Electronics &amp; ICT Academy at IIT Roorkee</b> Jammu and Kashmir, Himachal Pradesh and Uttarakhand	<b>Prof. Ajit K. Chaturvedi</b> director@iitr.ac.in	<b>Dr. Sanjeev Manhas</b> <a href="mailto:eict@iitr.ac.in">eict@iitr.ac.in</a> M: +91 7078627392	Mr. Prateek Sharma (PM) Email: <a href="mailto:prateek2789@gmail.com">prateek2789@gmail.com</a> , M: +91 7078627392 Website: <a href="http://eict.iitr.ac.in/">http://eict.iitr.ac.in/</a>
<b>Electronics &amp; ICT Academy at NIT Warangal</b> Telangana, Andhra Pradesh, Karnataka, Puducherry, Andaman and Nicobar Islands, Goa	<b>Prof. N.V. Ramana Rao</b> director@nitw.ac.in	<b>Prof. R. B. V. Subramanyam</b> <a href="mailto:rbsv66@gmail.com">rbsv66@gmail.com</a> M: +91 949 134 6969	Email: <a href="mailto:eictnitw@gmail.com">eictnitw@gmail.com</a> M: 0912 101 6547 Website: <a href="http://nitw.ac.in/eict/">http://nitw.ac.in/eict/</a>