Public Relations Office
Jamia Millia Islamia

May 31, 2022

Press Release

**JMI organises one week GIAN course on "Cyber Security Control and Sensing Technology for future Smart Grids"**

The Department of Electrical Engineering, Jamia Millia Islamia(JMI) organized a one-week virtual (Global Initiative of Academic Network) GIAN course on "Cyber Security Control and Sensing Technology for future Smart Grids", from 23rd May 2022 to 27th May 2022. The course was sponsored by the Ministry of Education, Government of India. The foreign guest speaker for the course was Prof Jahangir Hossain, University of Technology, Sydney, Australia and the course coordinator was Prof Tarikul Islam, Dept of Electrical Engineering,JMI.

The inaugural function of the course was held on 23rd May 2022 in the presence of Chief Guest, Prof Naresh P Pady, Director, MNIT Jaipur, the special guest Prof Ahmed Lakhssaasi, University of Quebec, Canada, the guest of honour, Prof Mini S Thomas, (Ex director NIT Trichi), Prof Ibraheem, Dean F/O Engg. & Tech., HOD, Prof M Khan, Local GIAN coordinator, Prof Atqur Rahman. The function was presided over by JMI Vice-Chancellor Prof. Najma Akhtar.

In her address the Vice Chancellor highlighted the importance of the course in the present scenario where threat of cyber attacks is increasing and the requirements of trained professionals, entrepreneurs, and engineers to develop robust and secured future smart grids.

With the advancement of software-controlled digital IC technology, cyber security emerges as a growing threat across the globe. The cyber attack can be regarded as a software war disrupting the crucial establishment of any country including financial services, intelligent services, electricity supply chain, etc. In case of cyber-attacks on smart grid, the crucial grid's data received from various intelligent sensors, controllers, relays etc are manipulated by the hackers. The subsequent monitoring and control mechanism based on this manipulated data have catastrophic effects on grids affecting the electricity supply chain. Therefore, this is an important issue and we must be aware of such challenges to make our system fault-tolerant or the corrective measures must be taken before any failure happens.

In his inaugural address, the course coordinator Prof Tarikul Islam highlighted the importance and relevance of the course in various services including the smart grids. A brief introduction about the GIAN scheme, the introduction about the department and the introduction of F/O Engg. & Technology were given by the Local GIAN coordinator, HOD, Electrical Engg. Dept. and Dean F/O Engg & Technology respectively.

Prof. Ahmed Lakssasi highlighted the challenges of security issues and the possibility of collaborative research for providing solutions. Prof. Mini S Thomas gave an overview of cyber security issues in smart grids.

The chief guest illustrated the complexity of the Indian grids and the hurdles for integrating various green energy sources to the Indian grid system because of the geographical location of India. He then emphasized the urgent need for a solution to face the growing challenges of cyber-attacks and the advancement of sensing technology for future grids.

The function ended with a vote of thanks by Prof Shakeb A Khan.

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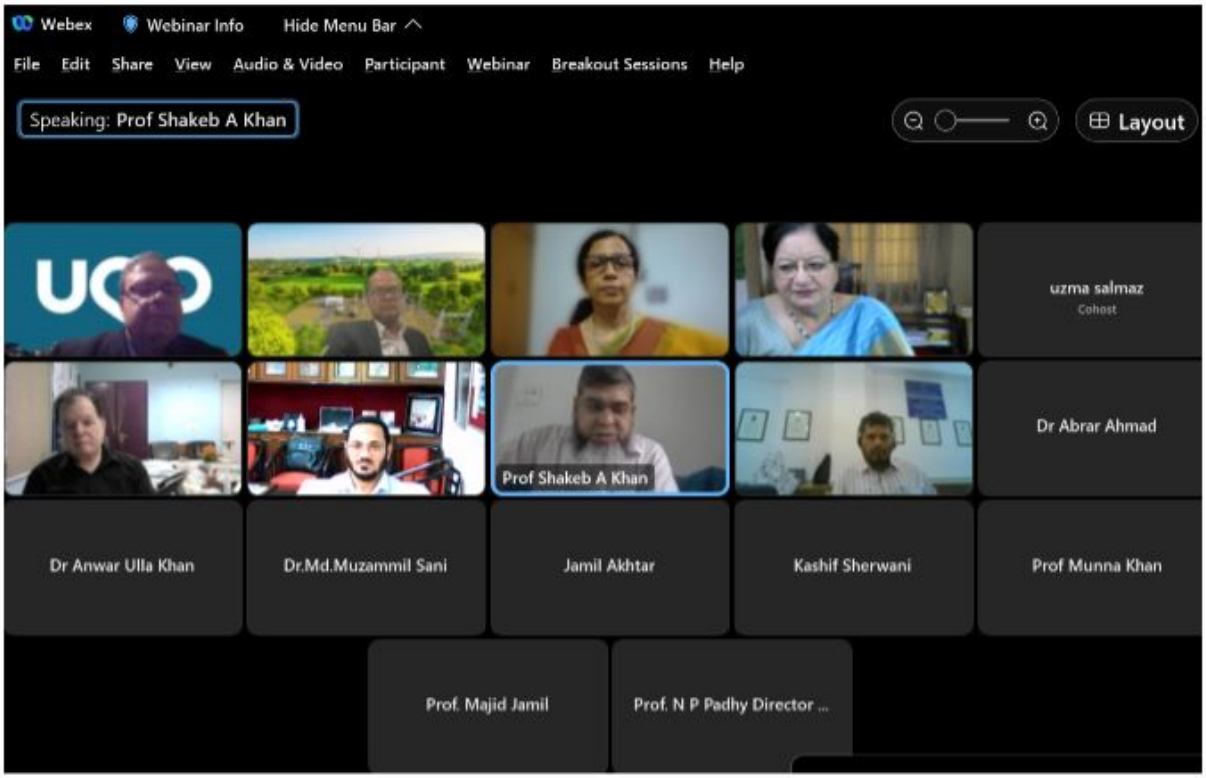
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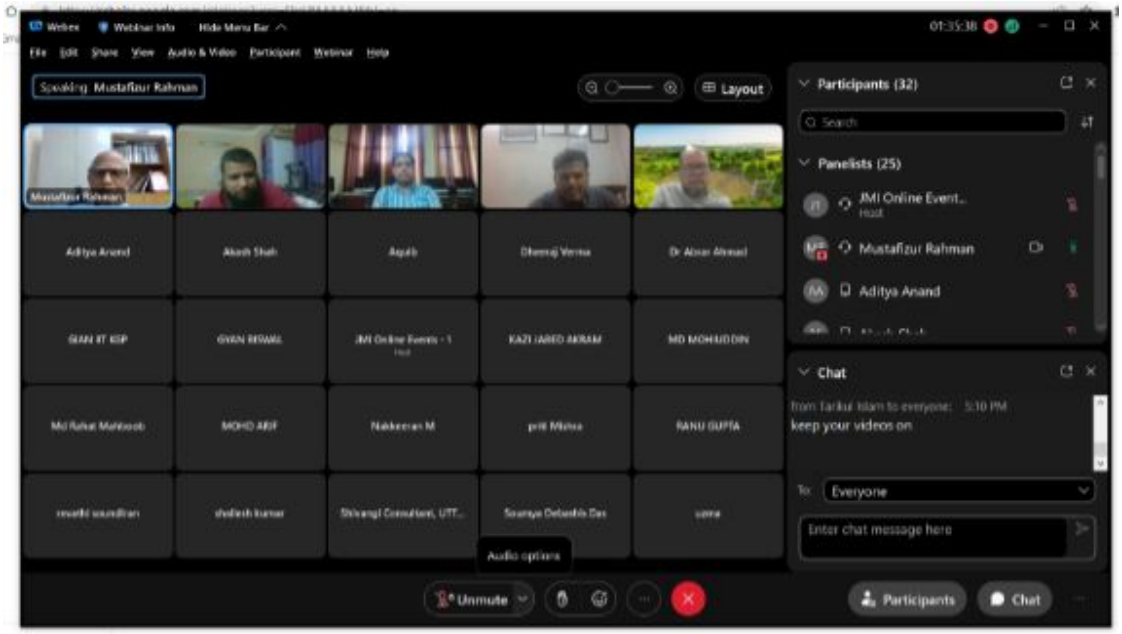
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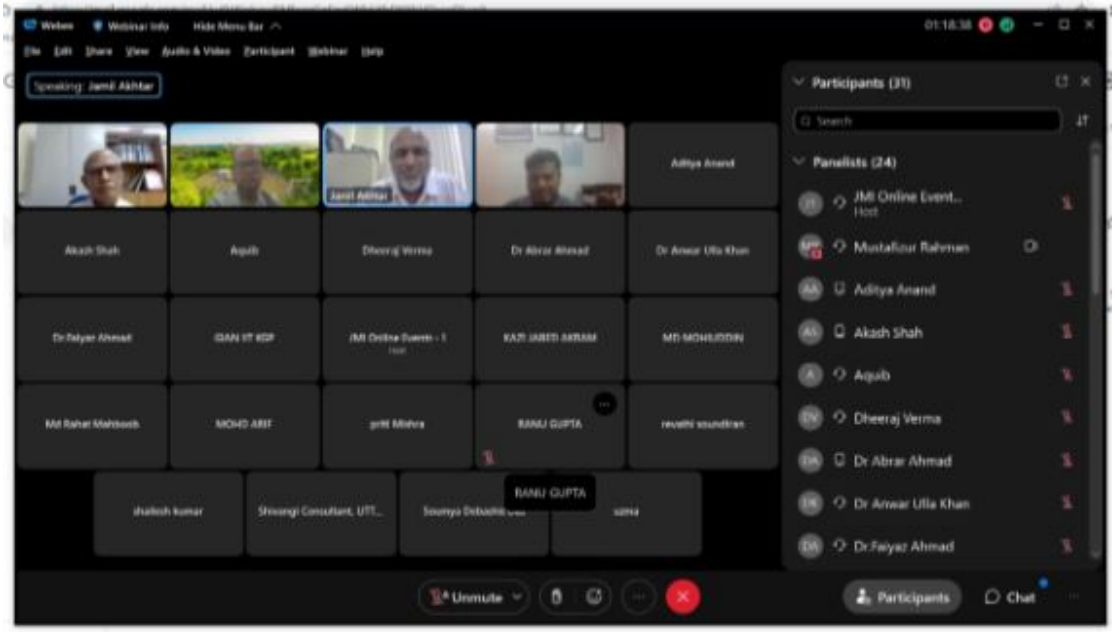
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GIAN
GLOBAL INITIATIVE OF ACADEMIC NETWORKS

Ministry of Education
Government of India

# Online Gian Course

On

## Cyber-security Control and Sensing Technology for Future Smart Grids

**May 23, 2022 to May 27, 2022**

Organized by

**Department of Electrical Engineering**

(NBA Accredited)

Faculty of Engineering & Technology, JMI

**Prof. Najma Akhtar**
Vice Chancellor
Jamia Millia Islamia

**Prof. Jahangir Hossain**
University of Technology,
Sydney, Australia

**Dr. N.P. Padhy**
Director
MNIT Jaipur

**Prof. Ahmed LAKHSSASSI**
Director of the Engineering Module
Université du Québec en Outaouais, Canada

**Prof. Mini S. Thomas**
JMI-Delhi
(Ex- Director NIT Trichy)

**Prof. Ibraheem**
Dean
Faculty of Engg. & Tech., JMI

**Prof. Munna Khan**
Head
Department of Electrical Engg., JMI

**Prof. Tarikul Islam**
Course Coordinator

**Prof. Shakeb Ahmad Khan**
Department of Electrical Engineering
Jamia Millia Islamia

**Prof. Atiqur Rahman**
Local Gian Coordinator

## GIAN COURSE SCHEDULE

**One Week Course on "Cyber-security Control and Sensing Technology for Future Smart Grids"23rd May 2022 to 27th May 2022**

**INAUGURAL CEREMONY:** May 23, 2022, Time: 9:30 AM to 11:00 AM, **VENUE:** All lectures will be conducted virtual mode

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| Lecture No. | Date | Time | Topics to be covered | Instructor |
|---|---|---|---|---|
| 1-2 | May 23 | 11:00AM – 01:00PM | Introduction to Smart Grids, Emerging Technologies and Cyber Issue: Security Requirements, Challenges of Upgradation of Existing Power System Controllers Including Security Issues and Detection Techniques. | JH |
| 3-4 | | 2:30 PM – 4:30 PM | Sensing Technology for Smart Grids: Sensors for condition monitoring of power system apparatus like T/F | TI |
| 5-6 | May 24 | 9:30 AM to 11:30 AM | Cyber-security and Power System Contingencies: Classification of Cyber-attacks in Power Systems, and their Analysis. Internet of Things (IOT) and Smart Grids: Architectures, Applications, Integrations of IoT in SG, Security Issues in IoT aided SG | JH |
| Hands-on Tutorial/Practical 1: | | | May 24, 11:30 PM to 12:30 PM | JH |
| 7-8 | May 24 | 2:30 PM to 4:30 PM | Sensing Technology for Smart Grids: Sensors for Density and Moisture Measurement in GIS | TI |
| 9-10 | May 25 | 9:15 AM to 11:15 AM | Detection of Cyber-attacks based on Power System Characteristics: Conventional Detection system and its Limitations, Intrusion detection systems in Computer Net., AI in Detecting Cyber-attacks and its limitations | JH |
| Hands-on Tutorial/practical 2: | | | 11:30 pm – 1:00pm | JH |
| 11-12 | MAY 26 | 9:30 AM – 11:30 AM | Cyber-secure Control: DC Microgrid-Modeling, Controller Design, Implementation and Validation, distributedConsensus- based Cybersecure Control Design, Implementations, Security principle for renewable generators andsmart meters | JH |
| 13 | | 11:30 AM to 12:30 AM | Smart Sensors and Internet of Things for Smart Grids | TI |
| Hands-on Tutorial/practical of sensor design and simulation | | | MAY 26, 2:30 PM to 4:30 PM | TI/AUK |
| 14-15 | MAY 27 | 9:30 AM to 11:30 AM | Testbeds and Education Platforms: Existing Platforms and Their Inadequacies, Low-cost testbeds for Cybersecurity Research in India. | JH |
| 16 | | 11:30 AM to 12:30 AM | Writing research article with ethical practices | TI |
| Exam and Evaluation of Participants | | | May 27, 2:00 PM to 3:00 PM | |

Course Link: https://jamiamilliaislamia.webex.com/jamiamilliaislamia/j.php?MTID=mf51e7119a6b12b3d7da56217fd91fb9b

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**Online Gian Course**
On
**Cyber-security Control and Sensing Technology for Future Smart Grids**
**27th May 2022**
Organized by
**Department of Electrical Engineering**
(NBA Accredited)
Faculty of Engineering & Technology, JMI

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Government of India

**Prof. Jamil Akhtar**
Director, SEEC

**Prof Mustafizur Rahman**
NUS, Singapore
Director, Mikrotool pvt. Ltd

**Prof. Jahangir Hossain**
University of Technology, Sydney, Australia

**Prof. Munna Khan**
Head
Department of Electrical Engg., JMI

**Prof. Atiqur Rahman**
Local Gian Coordinator

**Prof. Tarikul Islam**
Course Coordinator