

**PRO-Media Coordinator's Office  
Jamia Millia Islamia**

**January 20, 2020**

**Press Release**

**JMI organises IEEE Distinguished Lecture on ‘Digital Control of Power Electronics’**

The Department of Electrical Engineering, Jamia Millia Islamia (JMI) organized IEEE Distinguished Lecture on “Digital Control of Power Electronics” by Prof. Paolo Mattevelli, Fellow –IEEE, University of Padova, Italy.

The lecture was jointly organized by IEEE-JMI Student branch, Power Electronics Society Student Chapter, IEEE PELS/IES, PES/IAS Delhi Chapter.

The lecture started with a welcome address by Prof. Munna Khan, Head, Department of Electrical Engineering, JMI who welcomed the main speaker and participants. Prof. Khan briefed about the history and academic achievements of the department. He also mentioned that research activities in the department are of very high quality.

Dr. Ahteshamul Haque- (senior member IEEE), Faculty Advisor of Power Electronics Society JMI Chapter and Branch counsellor IEEE-JMI was the Convener of the programme. He introduced the speaker and informed participants about the academic credentials of Prof. Paolo.

During an hour-long powerful lecture Prof. Paolo emphasised upon the importance of digital control of Power Electronics converters. Through a presentation he showed the issues in practical application and its solution in designing digital control for PE converters. He also talked about various steps like ADC, Sampling time decision, quantization etc in detail. Case study for digital control of grid connected power electronics converter was also shown with results.

The lecture was organized in both online and offline mode. The ICT Facility of the Faculty of Engineering & Technology, JMI was utilised for the first time in this event.

The lecture was attended by other HODs, faculty members and research scholars of JMI in large numbers.

**Ahmad Azeem**  
PRO-Media Coordinator

**P** Paolo Mattavelli is presenting



Distinguished Lecture on Digital Control in P...



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Paolo Mattavelli is presenting

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### Small-Signal Modeling of Pulse Width Modulators

These families of PWM modulators can be identified:

- Multiple sampled modulators
- Uniformly sampled (or single-sampled) modulators

Block diagram of a PWM modulator showing a reference signal  $v_r(t)$  and a carrier signal  $v_c(t)$  being compared to generate a pulse-width modulated signal  $v_w(t)$ . The carrier signal is a triangular wave with amplitude  $V_m$  and period  $T_s$ . The reference signal is a sinusoidal wave with amplitude  $V_r$  and frequency  $\omega_r$ . The resulting PWM signal  $v_w(t)$  is a series of pulses with width  $\delta$  and period  $T_s$ .

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suhail farooque  
and 26 more

09:43  
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Dr. Ahteshamul Haq...	Paolo Mattavelli	Alisamar Husain	Dr. Ahteshamul Haq...	Prof. Anwar Ahmad (...	Uvesh Sipai	Prof. Shabana Mehfu...	shamim ahmad khan	
MOHAMMAD MUDA...	Danyal	Rasik Firdous Haji -1...	Prabhakar Ramesh H...	Palash Kachroo	Minhaj Ahmad	safdar ali	Md Imran Ahmad	
Mursil Khan	Md Saquib Kamal 19...	Dr. Haroon Ashfaq (A...	YATI GUPTA	Suwalba Mateen	ALI AHMED 18-BEE-...	Asad Syed	Kashif Zuhair 19BEE...	
Monisa Manzoor 19...	Hifzah Haseeb Khan	Prof. Shabana Mehfu...	suhail farooque	Abhishek Gupta	MOHAMMAD AMIR	Sameh Sabah	Rubeel Husain Rizvi	
Alisamar Husain muted Prof. Shabana Mehfu... (D/o Electrical Engineering)	Syed Aboe Subhani	Minhaj Ahmad	Irtan Khan	Manal Amir	faique arif	JATIN JAIN	RASIKH ASAD -18BE...	Azra Malik



