



## **Dr. Sanjiv Kumar**

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### **Contact Information**

Fellow (F-501546) IETE, Ph.D. (IITR)  
Officer In-Charge SPS (e-Tendering)  
Ex-University Faculty In-Charge Placement  
Ex-Associate Dean, Academic Affairs  
Assistant Professor, Electrical Engineering Department,  
Harcourt Butler Technical University,  
Nawabganj, Kanpur-208002, U.P., INDIA  
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### **Employment**

Assistant Professor , Electrical Engineering Department, Harcourt Butler Technical University, Kanpur, India (From 12 February 2007 to till now)

Technical Executive, Indo-Canadian Consultancy Services, Noida, India (From 14 July 2006 to 05 February 2007)

Electrical Engineer, EMA India Ltd. (An Indo-German Collaboration), Kanpur, India (From 02 December 2002 to 24 July 2004)

Marketing Executive, Global Elec-Tech Ltd., New Delhi, India (From 01 March 2001 to 25 September 2002)

### **Education**

Doctor of Philosophy (Ph.D.), from Indian Institute of Technology, Roorkee, India, in 2016;  
Thesis Title: Performance Enhancement of Multilevel Inverter for Induction Motor Drive

M.Tech., Electrical Engineering with specialization in Power Apparatus and Electric Drives, from Indian Institute of Technology, Roorkee, India, in 2006 with 8.15 CGP  
Thesis Title: Simulation and Experimental Validation of Multi-Pulse AC/DC Converter for Medium Voltage ASD's

B.E., Electrical & Electronics, from M.J.P. Rohilkhand University, Bareilly, India, in 2000 with First Division.

### **Award /Certificate/ Achievements**

Best All Rounder of the Branch Electrical And Electronics during B.E.

Councilor of Govind Bhawan, Indian Institute of Technology, Roorkee, India during 2004-2005.

Secured 99.09 percentile in GATE 2003

## **Industrial Exposure**

Configuration of Siemens DCS system for captive power plant of 2x23 MW, looked Hydro project of 2x96 MW at Manaali, India.

Configuration of automation system with PLCs of different makes like *MITSHUBISHI, MESSUNG, ASIA AUTOMATION, ALLEN BRADLEY PLC*, Beijer *OP's* etc..

Configuration of SCADA (*WINCC*) system for various machine tools.

Commissioning and Configuration of Machine Controls with latest CNCs from *SIEMENS like 802D, 810D and FANUC 0TD, Oi-TA, Oi-TB Series* ranges.

Development of Software for Machine Controls using *SIMATIC S7, FLADDER, FEPTLADDER, MEDOC, GPPW, PCIN, E-Designer, V3.1 Programming Tool PLC802* etc..

Commissioning and trouble shooting of various *AC Variable Frequency & Servo Drives* of *SIEMENS, ALLEN BRADLEY and TELEMECHANIQUE* etc..

Commissioning, Servicing and Designing of Static type Medium Frequency Converters utilizing *High Power Rectifier, Inverters* utilizing state of the art *IGBTs* and *high speed Thyristors*.

Very much conversant with State of the art Power Devices and Control Electronics, various Feedback Devices like Encoders, Temperature Controllers, Sensors, Techo-generators, Signal Isolators etc..

Testing and Calibration of various Electronics PCBs used in Industry.

Preparation of Costing and BOM for New Projects.

## **Research Interest**

Multi-Level Inverters, Open-end Winding Induction Motor Drive, High Power Converters, Power Electronics, Industrial Electric Drives, Microprocessor Control Electric Drives, Active Power Filters

## **Teaching Interest**

**At Undergraduate Level:** Power Electronics, Microprocessors, Electric Drives, Element of power system, Basic Electrical Engineering, Network Analysis & Synthesis, Basic Electrical.

**At Postgraduate Level:** Power Semiconductor Controlled Electric Drives, Power Converters, Advanced Power Converters, Advanced Microprocessors and Microcontrollers.

## **Research Book**

Investigation In To The Performance Of Multi-Pulse AC-DC Converters, *A Practical Approach to Investigate The Converter Performance against IEEE-519 Standards*, Lambert Academic Publishing, AV Akademikerverlag GmbH & Co. KG, under ISBN 978-3-659-24895-5

Proceeding of Faculty Improvement Programme Approved by H.B.T.I. and TEQIP on "Electric Drive Simulation Using Simulink, A Matlab Tool"

Proceeding of Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on "Simulation Techniques of Power Electronics Converters (STPEC)"

### Research Publication in Journals

Sanjiv Kumar and Pramod Agarwal, "A Novel FLC Based Closed-Loop V/f Control of Five-Level Inverter Fed Open-End Winding Induction Motor Drive," *Journal of The Institution of Engineers (India): Series B, Springer*. DOI <https://doi.org/10.1007/s40031-019-00374-3>, Online ISSN 2250-2114, Print ISSN 2250-2106.

Sanjiv Kumar and Pramod Agarwal, "Performance Evaluation of Eighteen-Level Inverter Fed Open-end Winding IM Drive," *IETE, Taylor & Francis*, <https://doi.org/10.1080/03772063.2018.1532821>.

Sanjiv Kumar and Pramod Agarwal, "A Hybrid Nine-Level Inverter Topology for an Open-end Stator Winding Induction Motor," *Electric Power Components and Systems, Taylor & Francis*, Volume 44, Issue 16, pp. 1801-1814, September 2016.

Sanjiv Kumar and Pramod Agarwal, "A Nine-Level Inverter with Reduced Number of Components for Open-End Winding Induction Motor," *Arabian Journal for Science and Engineering, Springer*, Volume 40, Issue 3, pp. 883-892, March 2015.

Indra Prakash Mishra and Sanjiv Kumar, "Simulation of Multiple Transmission Line System with Interline Power Flow Controller" *VSRD International Journal VSRD-IJEECE (e-ISSN : 2231-3346 , p-ISSN : 2319-2232), Vol. 3 (09), pp. 405-414, September 2013.*

Indra Prakash Mishra and Sanjiv Kumar, "Control of Active And Reactive Power Flow in Multiple Lines through Interline Power Flow Controller (IPFC)" in *International Journal of Emerging Technology & Advanced Engineering (ISSN 2250-2459), Volume 2, Issue 11, pp. 86-93, November 2012.*

Ashish Gupta and Sanjiv Kumar, "Analysis of Three Phase Space Vector PWM Voltage Source Inverter for ASD's" in *International Journal of Emerging Technology & Advanced Engineering (ISSN 2250-2459), Volume 2, Issue 10, pp. 163-168, October 2012.*

Shweta Srivastava and Sanjiv Kumar, "Comparative Analysis of Improved Quality Three Phase AC/DC Boost Converters, using SIMULINK" in *International Journal of Emerging Technology & Advanced Engineering (ISSN 2250-2459), Volume 2, Issue 9, pp. 427-432, September 2012.*

Ankita Singh and Sanjiv kumar, "Performance Investigation of Active Power Line Conditioner using Simulink " *International Journal of Emerging Technology & Advanced Engineering (ISSN 2250-2459), Volume 2, Issue 10, pp. 91-97, October 2012.*

Ankita Singh and Sanjiv kumar, "Comparative Study of PLL Based Shunt Active Power Line Conditioning Using PI and PID and Fuzzy Logic Controller" *VSRD International Journal VSRD-IJEECE (e-ISSN : 2231-3346 , p-ISSN : 2319-2232), Vol. 2 (10), pp. 810-813, October 2012.*

Praveen Srivastava and Sanjiv Kumar, "Simulation Of Multi-Pulse AC/DC Converter for Medium Voltage ASD's" *VSRD International Journal VSRD-IJEECE (e-ISSN : 2231-3346 , p-ISSN : 2319-2232), Vol. 1 (10), pp. 542-554, 2011.*

Vaibhav Purwar and Sanjiv Kumar, "Simulation of Shunt Active Power Line Conditioner (APLC) for Three Phase AC/DC Converter" *VSRD International Journal VSRD-IJEECE (e-ISSN : 2231-3346 , p-ISSN : 2319-2232), Vol. 1 (9), pp. 504-513, 2011.*

### **International/National conferences**

1. Vinay Kumar and Sanjiv Kumar, "A Study on Probable Configurations of Cascaded H-Bridge Multilevel Converters for Slip Power Recovery Application in Sugar Industry" in International Conference On Electrical And Electronics Engineering (ICE3 2020), 14-15 Feb 2020, Organized by Madan Mohan Malaviya University of Technology, Gorakhpur (U.P) INDIA & North Dakota State University, Fargo, USA.
2. Umesh Kumar and Sanjiv Kumar, "Performance Evaluation of Shunt Active Power Filter for Aircraft System" in International Conference On Electrical And Electronics Engineering (ICE3 2020), 14-15 Feb 2020, Organized by Madan Mohan Malaviya University of Technology, Gorakhpur (U.P) INDIA & North Dakota State University, Fargo, USA.
3. Vinay Kumar and Sanjiv Kumar, "A 3-level Inverter based Induction Motor Drive for Cane Preparation in Sugar Industry" in 2nd IEEE International Conference on Power Energy, Environment & Intelligent Control (PEEIC 2019), pp. 1-6, Oct.18-19, 2019 at GL Bajaj Institute of Technology & Management, Greater Noida.
4. Rajat Sachan, Neelesh Kumar, Aditya Arvind, Ajay Kumar Arya and Sanjiv Kumar, "Reduced Switch Count 36 level Inverter for Open End Winding Induction Motor Drive" in 2nd IEEE International Conference on Power Energy, Environment & Intelligent Control (PEEIC 2019), pp. 1-6, Oct.18-19, 2019 at GL Bajaj Institute of Technology & Management, Greater Noida.
5. Anoop Kumar Kanaujia and Sanjiv Kumar, "A Reduced Switch Count Hybrid Fifteen-level Inverter for an Open-End Winding Induction Motor (OEWIM) Drive" in 8th IEEE India International Conference on Power Electronics (IICPE-2018), pp. 1-6, Dec.13-15, 2018 at Malaviya National Institute of Technology (MNIT), Jaipur.
6. Anoop Kumar Kanaujia and Sanjiv Kumar, "A Hybrid Twenty Five-level Inverter for an Open-End Winding Induction Motor (OEWIM) Drive" in 2nd IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES-2018), pp. 1072-1077, Oct. 22-24, 2018 at Delhi Technological University (DTU), Delhi.
7. Anoop Kumar Kanaujia, Sanjiv Kumar and D.Swain, "Multi-level Inverter based Topologies for Sugar Mill Drive Applications", in 76th STAI Annual Convention and International Sugar Expo 2018, pp. 1-12, Aug.20-22, 2018 at Brilliant Convention Centre, Indore.
8. Sanjiv Kumar and Pramod Agarwal, "Performance Evaluation of Multi-Level Inverter Fed Open-end Winding IM Drive Under Two Different Modulation Schemes," in 6th IEEE International Conference on Computer Application in Electrical Engineering- Recent Advances(CERA-17), 2017, pp. 303-308, October 05-07, 2017 at Indian Institute of Technology Roorkee, India.

9. Sanjiv Kumar and Pramod Agarwal, "Simulation of FLC Based Five-Level Inverter Fed Open-end Winding IM Drive," in IEEE International Conference on Recent Advances in Engineering and Computational Sciences (RAECS), 2015, pp. 1-6, December 21 - 22, 2015 at UIET Panjab University Chandigarh, India. (978-1-4673-82)
10. Sanjiv Kumar and Pramod Agarwal, "A Novel Eighteen-Level Inverter for an Open-end Winding Induction Motor," in 6th IEEE India International Conference on Power Electronics (IICPE), 2014, pp.1-6, Dec. 08-10, 2014 at National Institute of Technology Kurukshetra, India.
11. Sanjiv Kumar and Pramod Agarwal, "A Nine-Level Inverter For Open-end Induction Motor" in IEEE International Conference on Recent Advances in Engineering and Computational Sciences (RAECS), 2014, pp. 1-6, March 06 - 08, 2014 at UIET Panjab University Chandigarh, India.
12. Sanjiv Kumar and Pramod Agarwal, "A Novel Technique for Impedance Relay to Locate Fault in Long Transmission Line" in IEEE International Conference on Recent Advances in Engineering and Computational Sciences (RAECS), 2014, pp. 1-6, March 06 - 08, 2014 at UIET Panjab University Chandigarh, India.
13. Sanjiv Kumar, Kumar D., Saini V. and Kumar J., "Industrial Automation System" XXXII National Systems Conference (NSC-08), 17-19 Dec. 2008 at Indian Institute of Technology, Roorkee.
14. Sanjiv Kumar, Y.P. Singh, "Simulation and Experimental Validation of Multipulse AC/DC Converter" National Conference on Emerging Trends in Electrical, Electronics & Computer Technologies, 05-06 Sep. 2008 at Ajay Kumar Garg Engg. College, Ghaziabad.

## Review Service

Power Electronics Basic Electrical and Electronics book McGraw-Hill Education (India) Pvt. Ltd; International Conferences ICACCA-2016, RACES-2015; CERA-2017, IEEE Transactions on Power Electronics, IEEE Transactions on Industrial Informatics, Journals IETE Journal of Research, *Taylor & Francis, Springer, etc..*

## Departmental and Institutional Service

Associate Dean, Academic Affairs (17/07/2017-07/05/2018)  
 Officer In-Charge SPS (e-Tendering) (17/07/2017-till date)  
 University Faculty In-Charge Placement (11/01/2017-15/04/2019)  
 Dean of School Nominee in DPC of University Dean Academic Affairs Office (11/04/2017)  
 Member Secretary in DPC of University Security (11/04/2017)  
 Member Secretary in DPC of University Guest House (11/04/2017)  
 Subject Expert in Ph.D. interview committee (14/09/2017)  
 Hostel Warden LV-New (03/07/2017-06/09/2017)  
 Member of preparation committee of First Ordinance of the HBTU (29/08/2017)  
 Member, Preparation and Printing of Information Brochure Committee (06/03/2017)  
 Associate Dean, Continuing Education & Internal Quality Assurance (03/06/2017-16/07/2017)  
 Department Faculty In-Charge Placement Cell (11/01/2017-till date)  
 Member, Virtual Class Room Construction Committee (06/03/2017)  
 Convener Electrical Engineering Department No-dues Committee (06/11/2015)

Deputy Nodal Officer, GEC Kannauj (16/07/2015-22/04/2016)  
Faculty In-Charge MIS TEQIP-II (07/08/2015)  
Convener Cultural Sub-Council (01/08/2016-17/02/2018)  
Faculty In-Charge B.Tech. Project, EED  
Member of EED M.Tech. Admission Committee  
Member of BOS of EED  
Member of Selection Committee of Guest Faculty for HBTI and Bijnor Engg. College (03/08/2011)  
Member of Anti Ragging Committee  
Member of SEE Counselling Committee  
O.C. Simulation Lab  
O.C. Real Time (Opal-RT) Digital Simulation Lab  
Representative of EED in Institute Time-Table Committee  
Convener of AEE  
Faculty In-charge Industrial Training, EED  
Assistant Superintendent Exam-Cell

### **List of Ph.D. Supervised:**

1. Multilevel Inverter Fed Induction Motor Drive for Sugar Industry (Vinay Kumar; 170305001) on going.
2. Performance Investigations of Low Voltage High Current Power Supply (Jitendra Kumar Dwivedi; 180305001) on going.
3. Performance Enhancement of Multilevel Inverter For High Voltage Photovoltaic Power Generation (Rajat Sachan; 180305002) on going.

### **List of M.Tech. Dissertations Supervised:**

1. Simulation of Multipulse AC-DC Converter For Medium Voltage ASD's (Praveen Srivastava; 5504520001)
2. Simulation of Shunt Active Power Line Conditioner (ALPC) For Three Phase AC/DC Converter (Vaibhav Purwar; 5504520003)
3. Simulation of Three-Phase Space Vector Pulse Width Modulation Based VSI for ASD's (Ashish Gupta; 8804520002)
4. Comparative Analysis of Improved Quality Three Phase AC/DC Boost Converters, Using Simulink (Shweta Srivastava; 8804520007)
5. Simulation of Interline Power Flow Controller (Indra Prakash Mishra; 8904520002)
6. Performance Investigation of Active Power Line Conditioner Using Simulink (Ankita Singh; 8904520004)
7. Simulation of Fuzzy Logic Based Shunt Active Power Filter For Power Quality Improvement (Santosh Kumar Yadav; 6201520006)
8. Multi-level Hybrid Inverters for an Open-End Winding Induction Motor (OEWIM) Drive (Anoop Kumar Kanaujia: Roll No.- 6504520002) (2018)

### List of B.Tech. Projects Guided:

1. Design of An Automatic Star Delta Starter by Using DC Tachogenerator (Nutan Kumar Sharma, 2006-07)
2. Temperature Control Based On Microcontroller, (Khushboo Yadav, Geetanjali Bajpai, Renu, 2007-08)
3. Prototype Metro Train (Brijesh Goswami, Pradeep Kumar, Ravi Prakash, Sachin Kumar, 2007-08)
4. Speed Control Of Single Phase Induction Motor Using Microcontroller-16F72, (Mayank Guglani 476/04, Sumit Sharma 158/04, Suresh Maurya 164/04, Vivek Kumar Singh 163/04, 2007-08)
5. Simulation Of Power Flow Controller (UPFC), (Mayank Srivastava 152/05, Rakesh Nayak 143/05, Pankaj Tripathi 151/05, 2008-09)
6. Comparative Study Of Various AC/DC Converter Using MATLAB, (Devendra Kumar 170/05, Vikash Saini 141/05, Jitendra Singh 439/05, 2008-09)
7. Modeling And Simulation Of Matrix Converter, (Mohit Purwar 155/05, Ashutosh Gupta 72/05, Sandeep Kumar 161/05, 2008-09)
8. Simulation Of Improved Quality 12 Pulse Converter For Medium Voltage ASD's, (Nav Goel 140/07, Ashish Gupta 142/07, Vikas Singh 167/07, 2010-11)
9. Simulation Of Interline Power Flow Controller (IPFC), (Asha Sharma 517/08, Madhu Sharma 344/07, Priya Chaurasiya 519/08, 2010-11)
10. Simulation Of Three Phase Controlled Rectifier Fed DC Drives, (Ashutosh Kumar Srivastava 144/07, Ishita Dubey 338/07, 2010-11)
11. Simulation And Experimental Validation Of Generalised AC-DC Converter, (Alok Shukla 361/07, Manvendra Singh 150/07, Tilak Singh 165/07, 2010-11)
12. Implementation Of TCSC On Transmission Line Using MATLAB, (Chandrashekhar Yadav 1015/08, Rohit Kumar Singh 160/08, Shishir Bijalwan 559/08, 2011-12)
13. Comparative Analysis of 1- $\phi$  AC-DC Buck/Boost Improved Power Quality Converter Using Simulink, (Saurabh Patel 443/08, Surjeet Singh 519/09, Vinod Kumar Gupta 169/08, 2011-12)
14. Comparative Analysis of V/f Control Method And Stator Voltage Control Method of Speed Control of Three-Phase Induction Motor (Kartik Mathur 670/12, Nishant Singh 160/12, Shubhanshu Singh 169/12, 2015-16)

15. Performance Investigation of Active Power Filter For Grid Connected Photovoltaic System (Mukesh Kumar 157/12, Pranshul Kumar Srivastava 260/12, Shamsheer Alam Khan 168/12, 2015-16)
16. Open Switch Fault Detection in Grid Connected NPC Multilevel Inverter System (Aman Gupta 143/12, Himanshu Bhatt 152/12, Mukesh Goel 1009/12, 2015-16)
17. Performance Investigation of LCL Power Filter For Grid Connected Photovoltaic System (Arjun Kumar Chaurasia 143/13, Ashutosh Kumar Mishra 147/13, Prakhar Gupta 158/13, 2016-17)
18. Multilevel Inverter For Induction Motor Drive (Anshika Chandra 142/13, Manish Kumar Yadav 151/13, Nitin Dagaur 155/13, 2016-17)
19. Implementation of Control Circuit For AC-DC Converter , (Arpita 251/13, Vijay Pratap Singh 418/13, Vivek Gupta 477/13, 2016-17)
20. Simulation Study on Maximum Power Point Tracking Technique For PV Application (Ashwani Rana 150/14, Shweta Singh 169/14, Meghna Awasthi 460/14, 2017-18)
21. Investigation on Energy Management Strategies For Hybrid Electric Vehicle Using ADVISIOR, (Ayushi Chaudhary 151/14, Kripa Shankar 159/14, Sheetal mandal 167/14, 2017-18)
22. Simulation Study on Open End Winding I.M. Drive, (Neelesh Kumar 149/14, Aditya Arvind 143/15, Ajay Kr. Arya 144/15, 2018-19)
23. Simulation Study on Chopper Fed DC Motor Drive (Pratik Pandey 157/15, Sudhansu Upadhyay 536/16, Sourav Gupta 539/16, 2018-19)

#### **Short-term Courses/ Workshop/ Seminar Attended:**

1. Signal Processing And Filter Design, Department of Electronics Engg. H.B.T.I. Kanpur,TEQIP, 09/05/2007-11/05/2007.
2. Applications of Mathematics in Engineering and Technology”, Department of Mathematics, H.B.T.I. Kanpur,TEQIP, 08/09/2007.
3. Simulation Techniques of Power Electronics Controllers, Indian Institute of Technology, Roorkee, Q.I.P., 07/01/2008-11/01/2008 (**One Week**).
4. Design And Implementation Of VLSI Digital Signal Processing System, Department of Electronics Engg. H.B.T.I. Kanpur, AICTE Sponsored , From December 22, 2008 to Jan. 02, 2009 (**Two Weeks**).
5. Improved Quality AC/DC Converters, I.I.T.Roorkee, Q.I.P., 15/06/2009-19/06/2009 (**One Week**).
6. Workshop on “Virtual Labs” Electrical Engineering Department, Indian Institute of Technology, Roorkee, 16/03/2013.



7. High Voltage Direct Current Transmission: Past And Present, Indian Institute of Technology, Roorkee, Q.I.P., 08/07/2013-12/07/2013 (**One Week**).
8. Multilevel Inverters and Its Applications, Indian Institute of Technology, Roorkee, Q.I.P., 30 Dec, 2013 – 03 Jan, 2014 (**One Week**).
9. Workshop on “Novel Correlated Electronic Materials” Department of Physics, Indian Institute of Technology, Roorkee, Q.I.P., 08 March, 2014.
10. Power Electronics Applications in Large Pumped Storage Hydropower Plants, Indian Institute of Technology, Roorkee, Q.I.P., 14 July, 2014 – 18 July, 2014 (**One Week**).
11. Workshop on “Scopus And Mendeley” Mahatma Gandhi Central Libirary, Indian Institute of Technology, Roorkee, 10/03/2015.
12. Workshop on “Checking of Plagiarism in scientific writing using Turnitin Software” Mahatma Gandhi Central Libirary, Indian Institute of Technology, Roorkee, 17/04/2015.
13. Workshop on “Virtual Labs” Electrical Engineering Department, Indian Institute of Technology, Roorkee, 24-25/04/2015.
14. 12<sup>th</sup> Management Capacity Enhancement Program on Academic Leadership Program For TEQIP Institutions, IIM Kozhikode, 24<sup>th</sup> to 29<sup>th</sup> August, 2015 (**One Week**)
15. Management Capacity Enhancement Program on Administrative Heads of Higher Education Institutions, IIM Bangalore, from 18<sup>th</sup> to 22<sup>th</sup> January, 2016 (**One Week**)
16. Workshop on "Intellectual Property Rights (IPR) and Patenting" conducted by HBTU Kanpur in collaboration with ESCI, The Institution of Engineers (India), 27-29 August, 2016.
17. Workshop on "Modeling, Simulation and Implementation using MATLAB and Simulink" conducted by Indian Institute of Technology, Kanpur, 01-02 February, 2017.
18. Workshop on "Energy Conservation and Energy Audit in Academic Institutions" conducted by Chemical Engineering Department, HBTU Kanpur in collaboration with ESCI, The Institution of Engineers (India), 07-09 March, 2017.
19. Workshop on "Outcome Based Accreditation For Undergraduate Engineering Programs" jointly organized by Harcourt Butler Technical University Kanpur and Uttar Pradesh Textile Technology Institute Kanpur, 22-23 March, 2018.
20. Summer training Program on "Active Learning For Senior Faculty" organized by IIT Kanpur, June11-15, 2018 (**One Week**).
21. Faculty Development Programme on "Mathematical Modeling & Research Methodology" organized by Department of Mathematics, School of Basic and Applied Sciences, Harcourt Butler Technical University Kanpur, 08-12 October, 2018 (**One Week**).
22. Faculty Development Programme on "Methods And Techniques For Enhanced Teaching And Learning In Technical Education" organized by Chemical Engineering Department,

School of Engineering, Harcourt Butler Technical University Kanpur, 15-20 October, 2018 (**One Week**).

23. Two weeks TEQIP-III sponsored Short Term Course (STC) on Control and Machine Intelligence, organized by Department of Electrical Engineering, SoE, HBTU, Kanpur and Department of Electrical and Electronics Engineering( EEED), Thiagarajar College of Engineering (TCE), Maqdurai, Tamilnadu, From September 16, 2019 to September 28, 2019 (**Two Weeks**).
24. Artificial Intelligence and Fuzzy Systems: Theories, Concepts and its Application, Indian Institute of Technology, Kanpur, Q.I.P., 09/12/2019-13/12/2019 (**One Week**).

### **Invited Talk/ Expert Lecture:**

1. Delivered an expert lecture titled "AC/DC Rectifiers An-Overview" in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on "Simulation Techniques of Power Electronics Converters (STPEC)", HBTU, Kanpur, 27/02/2017.
2. Delivered an expert lecture titled "Simulation of AC-DC Rectifier Systems " in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on "Simulation Techniques of Power Electronics Converters (STPEC)", HBTU, Kanpur, 27/02/2017.
3. Delivered an expert lecture titled "Modeling and Simulation of DC-DC Converter Systems " in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on "Simulation Techniques of Power Electronics Converters (STPEC)", HBTU, Kanpur, 28/02/2017.
4. Delivered an expert lecture titled " Simulation of AC Regulator Using MATLAB Simulink" in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on "Simulation Techniques of Power Electronics Converters (STPEC)", HBTU, Kanpur, 28/02/2017.
5. Delivered an expert lecture titled "Simulation and Modeling of VSI" in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on "Simulation Techniques of Power Electronics Converters (STPEC)", HBTU, Kanpur, 02/03/2017.
6. Delivered an expert lecture titled "Simulation of Multi- Pulse AC/DC Converter" in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on "Simulation Techniques of Power Electronics Converters (STPEC)", HBTU, Kanpur, 02/03/2017.
7. Delivered an expert lecture titled "Multilevel Inverters and its Applications" in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on "Simulation Techniques of Power Electronics Converters (STPEC)", HBTU, Kanpur, 03/03/2017.
8. Delivered an expert lecture titled "Multilevel Inverters Modulations Techniques" in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on

“Simulation Techniques of Power Electronics Converters (STPEC)”, HBTU, Kanpur, 03/03/2017.

9. Delivered an expert lecture titled "Reduced Number of Devices Multilevel Inverters" in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on “Simulation Techniques of Power Electronics Converters (STPEC)”, HBTU, Kanpur, 04/03/2017.
10. Delivered an expert lecture titled "Modeling and Simulation of OWIM Drive" in Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on “Simulation Techniques of Power Electronics Converters (STPEC)”, HBTU, Kanpur, 04/03/2017.
11. Invited and delivered an expert talk on “Industrial Automation” in "IETE Students Day" organized by The Institutions of Electronics and Telecommunications Engineers, 07/02/2016.
12. Invited and delivered an expert talk in Faculty Improvement Programme organized by Department of Electrical & Electronics Engineering, Shri Ram Murti Smarak College of Engineering and Technology, Bareilly on Recent Trends in Power Electronics and Power Systems, 14/07/2017.
13. Invited and delivered an expert talk in Faculty Improvement Programme organized by Department of Electrical & Electronics Engineering, Allenhouse Institute of Technology, Kanpur on "MATLAB & Its Applications" 08/06/2018.
14. Delivered an expert talk at Department of Electrical & Electronics, Pranveer Singh Institute Of Technology, Kanpur on "Open End Winding Based Multilevel Inverter For Induction Motor Drive" 29/02/2020.

#### **Short-term Courses/Workshop Organized:**

1. A Faculty Improvement Programme Approved by H.B.T.I. Kanpur and TEQIP on “Electric Drive Simulation Using Simulink, A Matlab Tool” from January 12, 2009 to January 17, 2009, (**Course Coordinator**).
2. Two days workshop on “Robotics” held in EED H.B.T.I. Kanpur from 03<sup>rd</sup> March to 04<sup>th</sup> March 2011, (**Convener**).
3. Annual technical fest “Resonance-11” held in EED H.B.T.I. Kanpur from 10<sup>th</sup> March to 11<sup>th</sup> March 2011, (**Convener**).
4. A Faculty Improvement Programme under the aegis of World Bank TEQIP-II Project on “Simulation Techniques of Power Electronics Converters (STPEC)” from February 27<sup>th</sup>-March 04<sup>th</sup>, 2017, (**Course Coordinator**).
5. Three days workshop on “Effective Pedagogy for Engineering Faculties” conducted by Electrical Engineering Department, HBTU Kanpur in collaboration with ESCI, The Institution of Engineers (India) from 26<sup>th</sup> – 28<sup>th</sup> March, 2017, (**Workshop Coordinator**).
6. Three days workshop on "Management Capacity Enhancement Programme – Incompliance with NBA and NAAC Accreditation" conducted by Electrical Engineering

Department, HBTU Kanpur in collaboration with ESCI, The Institution of Engineers (India) from 29<sup>th</sup> – 31<sup>st</sup> March, 2017, (**Workshop Coordinator**).

7. A one week "Induction Programme For First Year B-Tech. Students" under TEQIP III, during January 15-21, 2018, (**Faculty Mentor**).

**Skills**

Computer Skills: MATLAB, OrCAD, Ms-Office, Ms-Visio, SMARTDRAW, Multi-Sim, E-Tap, Ps-Cad.

Language Skills: English (Fluent), Hindi (Native)