CURRICULUM VITAE

MADAN KUMAR DAS

POST-DOCTORAL FELLOW (ENGINEERING)

INDIAN INSTITUTE OF TECHNOLOGY, DELHI

Google scholar link- https://scholar.google.co.in/citations?user=sRbONFIAAAAJ&hl=en

Web of Science ResearcherID

Vidwan-ID: *https://vidwan.inflibnet.ac.in/profile/201032*

Scopus Author ID https://www.scopus.com/authid/detail.uri?origin=resultslist&authorId=57192159406&zone=

publons link- *https://publons.com/researcher/L-7323-2018/*

ORCiD: L-7323-2018

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CONTACT INFORMATION

Present Address

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EDUCATION

- **Post-Doctoral Fellow [Electrical Engineering]** **(Fulltime & Working)**

Affiliated University		**Indian Institute of Technology, Delhi** (Govt. Autonomous)
Guide's Name	➢	Prof. Sukumar Mishra
Date of Joining	➢	Oct- 2020 (Institute PDF)

- **Ph.D. [Electrical Engineering]** **(Fulltime or Awarded)**

Affiliated University		**Indian Institute of Technology (Indian School of Mines), Dhanbad** (Govt. Autonomous)
Dissertation topic	➢	A Reduced Component Single-Phase Asymmetrical Multilevel Inverter for Grid Connected Photovoltaic system
Guide's Name	➢	Dr. Kartick Chandra Jana
Full time Ph.D	➢	2014 to 2019
Thesis Evaluation		Quacquarelli Symonds (QS) World Ranking University or Dept. within 200
Date of Awarded	➢	27th -Feb- 2020

- **B.Tech [Electrical and Electronics Engineering]** **(Fulltime or Awarded)**

Affiliated University		**Vinoba Bhave University (VBU), Hazaribagh, Jharkhand** (Govt. University)
Year of Passing	➢	2011
Marks obtained	➢	65.8 % (First Div.)
Dissertation topic	➢	Design a Cascaded Inverter using LSPWM based on Matlab/Simulink.

RESEARCH

Power Electronics

1. Developed A Novel 13-level Asymmetrical Photovoltaic Inverter with Reduce switches (Experimental)
2. Design and developed A Hybrid Novel Cascaded Asymmetrical 21-level Inverter with Reduced Switches
3. Experimental verification of the Design of Novel Asymmetrical 31-level Inverter Topology with reduced number of power electronics devices tested in RL load
4. Generalized Hybrid Symmetrical (7-level) and Asymmetrical (9-level) Reduced Multilevel Inverter Topology with RL load (Experimental)
5. Number of Switches Proposed an Asymmetrical Reduced Switch Multilevel Inverter based Grid-connected PV system (contributed to the work of other Project scientist.
6. To design of single phase inverters of 10 Kw (Experimental)
7. To design of single phase inverters 81-level inverter using less switches (Experimental)

TECHNICAL KNOWLEDGE

MATLAB/SIMULINK,		DSPACE (DS1103)	
PSIM		OPAL-RT,	
Typhoon HIL		Microcontroller,**(STM32F407VG,TI** F28335/F28379**)**	

EXPERIENCES

Post-Doctoral Fellow (*Research*)	:	Indian Institute of Technology, Delhi (Dept. of EEE) **(19 Oct-2020 - 28-04-2022)**
Assistant Professor (*Teaching*)	:	Ramgovind Group of Colleges, Koderma (Dept. of EEE) **(06 Dec2019 - 20-Oct-2020)**
GATE	:	2013 (Qualify)
Subjects Taught	:	Power electronics, BEE, Electrical Machine, NT etc.

PUBLICATIONS

Citations- 150+

- **International Journal Published (SCI/SCIE Indexed Journal)- 05**

1. **Madan Kumar Das**, Kartick Chandra Jana, Akanksha Sinha., "Performance Evaluation of an Asymmetrical Reduced Switched Multi-level Inverter for a Grid Connected PV System" **IET Renewable Power Generation,** h5-index 56, ISSN 1752-1424,(SCIE, IF:3.605) Volume: 12 , Issue: 2 , pp. 252 – 263, 2017.ISSN 1752-1416, (DOI: *10.1049/iet-rpg.2016.0895)*.
2. Akanksha Sinha, Kartick Chandra. Jana, **Madan Kumar Das**, "An inclusive review on different multi-level inverter topologies, their modulation and control strategies for a grid connected photo-voltaic system," **Solar Energy,(Elsevier)** h5-index 90, ISSN 0038-092X (SCIE, IF: 4.674), ISSN: 0038-092X, vol. 170, pp. 633-657, 2018, (*doi.org/10.1016/j.solener.2018.06.001)*.
3. Akanksha Sinha, **Madan Kumar Das**, Kartick Chandra. Jana, " Control of an Asymmetrical Cascaded Multi-level Inverter for a Grid-Connected Photo-voltaic System." . **IET Renewable Power Generation,** ISSN 1752-1424 **(SCIE, IF:3.605)**, h5-index 56, Volume 13, Issue 9, 08 July 2019, pp. 1456 – 1466, March 2019, (DOI: *10.1049/iet-rpg.2018.5230)*.
4. Akanksha Sinha, Kartick Chandra. Jana, **Madan Kumar Das,** "Control Strategy of PV-Fed, Grid-Interfaced, Seven-level T-Type Multilevel Inverter for Distributed Power Generation **IET Power**

Electronics (SCIE: 2.839), h5-index 44, Volume: 12 , Issue: 12 , pp. 3208 – 3219, 2019 , Print ISSN 1755-4535, Online ISSN 1755-4543,July 2019 (DOI: *10.1049/iet-pel.2019.0379)*.

5. **Madan Kumar Das**, Akanksha Sinha, Kartick Chandra Jana, "A Novel Asymmetrical Reduced Switch Nine-Level Inverter" **Journal of Circuits, Systems and Computers (*World Scientific*),** h5-index **26,** ISSN 1793-6454 **(SCIE, IF: 0.939)**, Vol. 29, Iss. 08. in August 2019. (DOI:*10.1142/S0218126620501170*).

Communicated Journal

1. Parusharamulu Buduma, Madan Kumar Das, R.T. Naayagi Sukumar Mishra, Gayadhar Panda "Seamless Operation of Master-Slave Organized AC Microgrid with Robust Control, Islanding Detection and Grid Synchronization" **IEEE-IAS ScholarOne Manuscripts (S1M) R3**
2. Madan Kumar Das, Sandeep Singh Chauhan, Parusharamulu Buduma, Sukumar Mishra, Kartick Chandra Jana "A Hybrid Novel Cascaded Asymmetrical 21-level Inverter with Reduced Switches" **IEEE-IAS ScholarOne Manuscripts (S1M)**

- **Patent**

1. **Madan Kumar Das**, Sukumar Mishra " Title : AN ASYMMETRICAL 31-LEVEL INVERTER SYSTEM" Indian Patent Application No.: 202211023058 dated April 19,2022 Request For Examination No. R20221014716 dated April 19,2022 in the name of : INDIAN INSTITUTE OF TECHNOLOGY DELHI

- **National journal: 01**

6. **Madan Kumar Das** Akanksha Sinha and Kartick Chandra Jana, A New Half-cascaded multilevel inverter topology to improve systems performance parameters" **Journal of Mines, Metals and Fuels (INSIO Scientific Books and Periodicals),**h5-index 02, **Volume** 64, **Year** 2016, **Pages** 267-270, ISSN 0022-2755, (SCI MAGO),Published.IF-0.07,H-Index- 11.

- **International conference:08**

7. **Madan Kumar Das**, Akanksha Sinha and Kartick Chandra Jana., A generalized hybrid multilevel inverter with reduced number of switches., **IEEE** ,4th International Conference on Recent Advances in Information Technology (RAIT) Organized by IIT(ISM), Dhanbad, H5-index 17 15th-17th march 2018, **ISBN:**978-1-5386-3040-2 DOI: 10.1109/RAIT.2018.8388996.
8. **Madan Kumar Das**, Akanksha Sinha and Kartick Chandra Jana., Hybrid Multilevel Inverter with Reduced Switches Topology. **IEEE** 5th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON) Organized by MMMUT, Gorakhpur, H5-index 10, **ISBN:**978-1-5386-5003-5 2nd–4th, Nov 2018. DOI: 10.1109/UPCON.2018.8596873.
9. **Madan Kumar Das** "Performance of hybrid cascaded asymmetrical 21- level inverter with reduced switches" H5-index 19, **IEEE** 3rd International Conference on Trends in Electronics and Informatics (ICOEI 2019) 23-25 April 2019, SCAD College of Engineering and Technology. (ACCEPTED).
10. Parusharamulu Buduma , **Madan Kumar Das**, Sumar Mishra and Gayadhar Panda "Robust Power Management and Control for Hybrid AC-DC Microgrid", 3rd IEEE International Conference on Energy, Power and Environment (ICEPE) 2020, , Department of Electrical Engineering, NIT Meghalaya, Shillong, India Technically co-sponsored by IEEE IAS (IEEE Kolkata Section), 05th-07th March 2021.
11. Parusharamulu Buduma, **Madan Kumar Das**, R.T. Naayagi Sukumar Mishra, Gayadhar Panda "Seamless Operation of Master-Slave Organized AC Microgrid with Robust Control and Islanding Detection", 3rd IEEE International Conference on Energy, Power and Environment (ICEPE) 2020, NIT Meghalaya ISBN:978-1-6654-3086-9 Department of Electrical Engineering, NIT Meghalaya, Shillong, India Technically co-sponsored by IEEE IAS (IEEE Kolkata Section), 05th-07th March 2021. ISBN:978-1-6654-3086-9
12. **Madan Kumar Das**, Kartick Chandra Jana Sukumar Mishra, Parusharamulu Buduma "Novel 13-level Asymmetrical Photovoltaic Inverter with Reduce switches" 3rd IEEE International Conference on Energy, Power and Environment (ICEPE) 2020, , Department of Electrical Engineering, NIT Meghalaya, Shillong, India Technically co-sponsored by IEEE IAS (IEEE Kolkata Section), 05th-07th March 2021. ISBN:978-1-6654-3086-9
13. **Madan Kumar Das**, Sandeep Singh Chauhan, Parusharamulu Buduma, Sukumar Mishra, Kartick Chandra Jana, "A Hybrid Novel Cascaded Asymmetrical 21-level Inverter with Reduced Switches"3rd IEEE International Conference on Energy, Power and Environment (ICEPE) 2020, Department of Electrical Engineering, NIT Meghalaya, Shillong, India Technically co-sponsored by IEEE IAS (IEEE Kolkata Section), 05th-07th March 2021. ISBN:978-1-6654-3086-9
14. **Madan Kumar Das**, Parusharamulu Buduma, Kartick Chandra Jana,Sukumar Mishra, , "An Asymmetrical Reduced Switch Multilevel Inverter based Grid-connected PV system" 3rd IEEE International Conference on Energy, Power and Environment (ICEPE) 2020, Department of Electrical Engineering, NIT Meghalaya,

Shillong, India Technically co-sponsored by IEEE IAS (IEEE Kolkata Section), 05th-07th March 2021. ISBN:978-1-6654-3086-9

- **National conference:01**

15. **Madan Kumar Das** Akanksha Sinha, Kartick Chandra Jana, - A Novel Reduced Switch, Symmetric, Generalized Hybrid Multilevel Inverter, Mining Equipment New Technologies Challenges Applications (**MENTCA** 2018), 09-10 Feb, 2018, Organized by *IIT(ISM) Dhanbad*.

- **Book Series :02**

16. Madan Kumar Das, Parusharamulu Buduma, Perwez Alam ,Sukumar Mishra "Chapter Title : Generalized Hybrid Symmetrical and Asymmetrical Multilevel Inverter Topology with Reduced Number of Switches. Book: Sustainable Energy and Technological Advancements, (Advances in Sustainability Science and Technology) (Springer Singapore), Print ISBN978-981-16-9032-7, Pages 81-94, ISSN 2662-6829, https://doi.org/10.1007/978-981-16-9033-4_7

17. Parusharamulu Buduma, Madan Kumar Das, Ashwani Kumar Sharma, Gayadhar Panda, Sukumar Mishra, "Automatic Generation Control for Hybrid Power System in Deregulated Environment" Book: Sustainable Energy and Technological Advancements, (Advances in Sustainability Science and Technology) (Springer Singapore), ISSN 2662-6829, Pages 381-394, Print ISBN978-981-16-9032-7, Published 25 March 2022, https://doi.org/10.1007/978-981-16-9033-4_29

TRAINING / WORKSHOP/CONFERENCE ATTENDED

1. Certificate Course on"**MATLAB Based Soft Computing Techniques" from 27/06/2014 to 2/07/2014,** Organized by Dept. of Electrical Engineering *Indian Institute of Technology (ISM)) Dhanbad.*
2. Certificate Course on **"Application of power electronics in renewable energy from 7/07/2014 to 11/07/2014,** Organized by Dept. of Electrical Engineering *Indian Institute of Technology (ISM)) Dhanbad.*

INTERNATIONAL WEBINAR / FACULTY DEVELOPMENT PROGRAM

1. Five Days Faculty Development Program on "Recent Trends in Electrical Engineering" 14/07/2020 to 18/07/2020, Organized by. Department of Electrical and Electronics Engineering, **Global Institute of Science and Technology, Haldia.**
2. Webinar title **"**International Symposium on Energy and Sustainable Development: A Gandhian Approach**"**, 7th August 2.30 PM to 5.30 PM, Department of Electrical and Electronics Engineering, **Indian Institute of Technology Patna.**
3. Five-day FDP on "Recent Trends in Electrical Engineering" from 09.08.2020 to 13.09.2020, organized by. Department of Electrical and Electronics Engineering, **Arasu Engineering College, Kumbakonam, Thanjavur, Tamilnadu, India.**
4. Webinar title "Interfacing Solar Power Plants with the Power Grid: Technological Challenges and Mitigation" on 14th August 2020, Department of Electrical Engineering **Gargi Memorial Institute of Technology Kolkata.**
5. Webinar title **"**Automotive Electronics Development Process**" on** 17th August 2020, Department of Electrical Engineering **Gargi Memorial Institute of Technology Kolkata.**
6. Webinar title **"**Challenges in Integration of Large-Scale Renewable in Indian Power System (A Sustainable Solution using Artificial Intelligence)", on 27th August 2020.organized by the Department of Electrical Engineering, **BIT Sindri, Dhanbad, Jharkhand.**

REFERENCES

Name Referees: -	**Address**
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Dr. Kartick Chandra Jana (Assot. Professor)	Department of Electrical Engineering. **Indian Institute of Technology (Indian School of Mines),** Dhanbad, India kartick_jana@yahoo.com
Dr. Arijit Baral (Assot. Professor)	Department of Electrical Engineering **Indian Institute of Technology (Indian School of Mines),** Dhanbad, Jharkhand-826004, India arijit@iitism.ac.in

I hereby declare that all the information given above is correct to the best of my knowledge.

Place: IIT Delhi

Signature