

Manoj Tripathy (Ph.D., IIT Roorkee)

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Indian Institute of Technology Roorkee, Roorkee-247667, U.K., India
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Professional Experiences:

Period	Post Held	Employer
April 2016 to till date	Associate Professor	Indian Institute of Technology Roorkee, U.K., India
April 2011 to April 2016	Assistant Professor	Indian Institute of Technology Roorkee, U.K., India
December 2007 to April 2011	Assistant Professor	Motilal Nehru National Institute of Technology, Allahabad, U.P., India
June 2007 to December 2007	Assistant Professor	Shobhit University, Meerut, U.P., India
September 2002 to July 2003	Lecturer	Shobhit Institute of Engineering & Technology, Meerut, U.P., India

Technical Skills:

1. Programming Skill in **MATLAB** and **PSCAD (Power System Computer Aided Designing)**, **RTDS (Real Time Digital Simulation)**, **RTP (Real Time Play-Back)**.
2. Familiarity with **C/C++**, and **FORTRAN**

Memberships of Professional Bodies

Life member, The Institution of Engineers (India)
Senior Member of IEEE Power & Energy Society
Senior Member of IEEE Industrial Electronics Society

Technical Reviews for International Journals / Conferences

IEEE Transactions on Power Delivery
IET Proceedings Generation, Transmission and Distribution
IET Electric Power Application's
IET Science, Measurement & Technology
Simulation Modeling Practice and Theory
Journal of The Institution of Engineers (India)
International Journal of Modeling, Identification and Control, Inter-science Publication

Project Works:

Ph. D. Topic : **APPLICATION OF NEURO-FUZZY TECHNIQUES FOR POWER TRANSFORMER DIFFERENTIAL PROTECTION**

M. Tech. Thesis : **Stability Analysis of Fuzzy Control System**
 A Fuzzy logic based Controller and Observer was designed for the control of a plant with specified non-linear dynamic model, using MATLAB, Simulink and Lyapunov's stability principle. A Tractor-Trailer system was taken as a test case and its stability was studied and verified through Simulink observation as well as Lyapunov's principle.

M. Tech. Seminar : **Use of Bio-Sensors in Bio-Instrumentation**

B. E. Project : **Protection of Sub-Station**
 A working Sub-Station model was designed. Different faults (LG, LL, LLG, and LLL) were applied on the model and subsequent fault sensing, clearance and protection schemes were studied.

B. E. Seminar : **Use of Auto-Re-Closure in Power System**

Personal Details -

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ACADEMIC RECORDS

Examination (Title of Degree)	Univ./Board	Year of awarded	Division/ Specialization
Post-doctoral Fellowship (BOYSCAST Fellowship)	University of Western Ontario, Canada	2009-10	<i>Title-</i> Power System Protection and Automation
Ph. D. (Doctor of Philosophy)	I.I.T.R	2008	<i>Thesis Title-</i> Application of Neuro-Fuzzy Techniques for Power Transformer Protection
M. Tech. (Master of Technology)	A. M. U. Aligarh	2002	<i>Specialization-</i> Instrumentation & Control
B.E. (Bachelor Engineering)	Nagpur University	1999	<i>Branch-</i> Electrical Engineering

Area of Research interest: Power System Protection, Automation, Cyber-security, Smart Grid protection, Microgrid Protection, Digital/Numerical Relays, Artificial Intelligence Based Relays, Relay Testing, Neuro-fuzzy Technique, Protection Scheme Development for a Line with FACTS devices,

Testing of Electrical Equipment, Calibration of Meters, Signal and Image Processing problems, Speech Signal Enhancement Techniques.

Other Achievements:

- (1) Early Faculty Induction Programme (**EFIP-2005**) Qualified (Result is available at: <http://www.efip.iisc.ernet.in/Result.html>)
- (2) Three courses attended under the Quality Improvement Programme at IITR, Roorkee.
- (3) Participated in workshop based on Business Models and Global Practices, Roorkee.
- (4) Participated in Dissemination workshop cum brainstorming, under the project of Nation mission and Education through Information & Communication Technology of Ministry of Human Resources Development, organized at IITR, Roorkee.

Invited Talk Delivered

1. At Department of Electrical Engineering, IET Lucknow on the topic of “**Some New Techniques in Power System Protection Specially Power Transformer and Transmission Line Protection**” at 6th November, 2008.
2. At Continuing Education Center, IIT Roorkee in the short term course on *Revenue Management and Loss Reduction* (Co-coordinator Dr. Ganesh Kumbhar, EED, IITR) on the topic of “**Metering Technology & AMR Application: An Overview**” at 9th September, 2013.
3. At Alternate Hydro-energy Center, IIT Roorkee in the short term course on Performance Testing of SHP (Co-coordinators Dr. R.P. Saini and Dr. M.P. Sarma, AHEC, IITR) on the topic of “**Tests on Protective Relays**” at 15th December, 2015.
4. At Continuing Education Center, IIT Roorkee in the Training Program on GIS Applications (Theme No. 3) (Co-coordinators Dr. R.D. Garg), sponsored by Power Finance Corporate Limited, India on the topic of “**Smart Metering for Loss Reduction**” at January 28-30, 2016.
5. At Electrical and Electronics Department of I.T.S. Engineering College, Greater Noida, on the topic of “**Metering Technology & AMR Application: An Overview,**” at 3rd May, 2016.
6. At Continuing Education Center, IIT Roorkee in the QIP Short Term Course on theme of “Protection and Monitoring of Power System network in Smart Grid/Micro-Grid Environment,” on the topic of “**Power Transformer: Protection and Condition Monitoring,**” (Co-coordinators Dr. Bhavesh R. Bhalja and Dr. B. Das), sponsored by AICTE, June 27-July 1, 2016.
7. At Motilal Nehru National Institute of Technology Allahabad in 4th International Conference on Power, Control & Embedded Systems (ICPCES-2017) on the topic of “**Innovative Pilot Relaying Schemes for Compensated Lines,**” sponsored by MNNIT Allahabad during 09-11 March 2017.

8. At Shri Ram Murti Smarak College of Engineering and Technology, Bareilly in Faculty Development Program on the topic of “**New Trends in Power System, Protection and Control Techniques,**” sponsored by Dr. A.P.J. Abdul Kalam Technical University, Lucknow during 11.07.2017 to 15.07.2017
9. At Babu Banarasi Das Northern India Institute of Technology, Lucknow in Five Day Workshop on Computational Intelligence (COIN-2018) the topic of “**Artificial Neural Network and its Application for Power Transformer Protection,**” sponsored by Dr. A.P.J. Abdul Kalam Technical University, Lucknow during 18.06.2018 to 22.06.2018.
10. At Shri Ram Murti Smarak College of Engineering and Technology, Bareilly in Faculty Development Program on the theme of “**Recent Advances in Power Electronics & Drive,**” and deliver expert lecturer the topic of “**Innovative Pilot Relaying Schemes for Compensated Line,**” sponsored by Dr. A.P.J. Abdul Kalam Technical University, Lucknow during 10.07.2018 to 14.07.2018.
11. At Motilal Nehru National Institute of Technology Allahabad in Faculty Development Program on the theme of “**Advances in Power Technologies (APT-2018),**” and deliver expert lecturer the topic of “**Smart Metering Technology and Automatic Meter Reading Application: An Overview,**” sponsored TEQIP-III by Department of Electrical Engineering, MNNIT Allahabad, & Department of Electrical Engineering, KNIT Sultanpur, Allahabad during 10th-14th September, 2018.
12. At M.M.M. University of Technology in Faculty Development Program on the theme of “**Emerging Trends in Smart Grid & Optimization Techniques,**” and deliver expert lecturer the topic of “**Smart Metering Technology and Automatic Meter Reading Application: An Overview,**” sponsored TEQIP-III by Department of Electrical Engineering, M.M.M. University of Technology, Gorakhpur during 11th-16th September, 2018.
13. At Department of Electrical Engineering in Women Institute of Technology, Uttarakhand Technical University, Dehradun on the theme of “**Modern Trends in Electrical Engineering and hands on workshop,**” and deliver expert lecturer the topic of “**Intelligent Techniques for Power Transformer Differential Protection,**” sponsored TEQIP-III by Department of Electrical Engineering in Women Institute of Technology, Uttarakhand Technical University, Dehradun on 29th October, 2018.
14. At Continuing Education Centre, IIT Roorkee on the theme of “**Microgrid Stability, Protection and Control,**” deliver expert lecturer the topic of “**Islanding detection Techniques: A Review,**” sponsored by AICTE and organized by Department of Electrical Engineering, IIT Roorkee during 27-31 May, 2019.
15. At Babu Banarasi Das Northern India Institute of Technology, Lucknow in One Week Faculty Development Program on Computational Intelligence (COIN-2019), the title of lecture “**Deep Neural Networks and its Application in Speech Denoising,**” sponsored by Dr. A.P.J. Abdul Kalam Technical University, Lucknow during 18.06.2018 to 22.06.2019.
16. At National Institute of Technology Jamshedpur, Jamshedpur in One Week Short Term Course on the theme of “**Recent Advancements in HVDC and FACTS (RAHF-2019),**” and deliver expert lecturer the topic of “**Pilot Relaying Schemes for Compensated Line and Islanding Detection Scheme for Microgrid,**” sponsored by

TEQIP-III at Department of Electrical Engineering, NIT Jamshedpur during 23rd-28th September, 2019.

17. At College of Engineering Roorkee (COER), in International Conference on Artificial Intelligence and Applications (ICAIA-2019) deliver expert lecturer the topic of “**Deep Neural Networks and Its Application in Speech Denoising,**” sponsored by COER, Roorkee at COER, Roorkee, during November 20-21, 2019, India.
18. Expert Lecture in AICTE sponsored six days online Short Term Training Programme (STTP) on “**Novel Design & Control Strategies and Innovative Technical Practices in LV/HV Modern Switch Gear**” on the topic of “**Protection Schemes in Microgrids and Smart Grids**” from 03.08.2020 to 08.08.2020 organized by Department of Electrical and Electronics Engineering, Saranathan College of Engineering, Venkateswara Nagar, Trichy-Madurai Main Road (NH 45 B), Edamalaipatti Pudhur(Post), Panjappur, Thiruchirappalli-620012.
19. Expert Lecture in TEQIP-III RTU (ATU) sponsored three days online Faculty Development Program at **Rajasthan Technical University, Kota, Shrinathji Institute of Technology & Engineering, Nathdwara** on “*Islanding detection Techniques: A Review*” on the topic of “**Advance Microgrids, Smart Renewable & Distributed Energy System**” on 24-26 September 2020 organized by Department of Electrical and Electronics Engineering, RTU, Kota, Rajasthan, India.
20. Chief Guest and Expert Lecture in 5-Day Short Term Course on “**Recent Trends in Microgrid-2020 (RTM-2020)**” on the topic of “*Cyber Physical System Perspective of Smart Grid and its Challenges,*” from 27-31 October 2020 sponsored and organized by Department of Electrical Engineering NIT Jamshedpur, Jharkhand, India.
21. Expert Lecture in AICTE Training and Learning (ATAL) Faculty Development Programme on “**Advances in Fuzzy Logic and Neural Networks in Artificial Intelligence** on the topic of “*Introduction to Neural Networks*” on 28th December 2020 to 1st January 2021 organized by Department of Electrical and Electronics Engineering, NIT Tiruchirappalli, India.
22. Expert Lecture at College of Engineering Roorkee (COER), in one Day Workshop on National Education Policy (with a Focus on Innovation and Entrepreneurship) deliver expert lecturer the topic of “**National Education Policy 2020**” sponsored by TEQIP-III at COER, Roorkee at COER, Roorkee, on 23 January 2021, India.
23. Expert Lecture in Short Term Training Program on **Power Electronics Interfaces for Green Energy Systems on the topic of “Renewable Energy Integration: Challenges and Impact on System Strength,**” being organized by the Department of Electrical and Electronics Engineering, NIT Delhi, on 01 February 2021, India.
24. Expert Lecture in AICTE Training and Learning (ATAL) Faculty Development Programme on “**Smart Grid and Electric Vehicles**” on the topic of “*Cyber Security and Its Need in Smart Grid*” on 04th-8th October 2021 organized by Srinivasa Ramanujan Centre (SRC) of SASTRA Deemed to be University at Kumbakonam, Tamil Nadu-612001, India.
25. Expert Lecture in Department of Electrical Engineering, National Institute of Technology Hamirpur is organizing a five-day online Workshop (e-Workshop) on “**Smart Cities and Intelligent Systems**” on the topic of “*Automatic Meter Reading Application: An Overview*” on during January 03-07, 2022.

Short Term Course Organized:

Title of the Course	Date of Programme	Organized By	Sponsored By	Course Coordinator (s)
New Trends in Power System, Protection and Control Techniques	13-17 February 2012	Department of Electrical Engineering & Continuing Education Center, IIT Roorkee	Self-Sponsored	Dr. Manoj Tripathy, Dr. Yogesh Vijay Hote and Dr. Ganesh Balu Kumbhar
Power Transformer: Trends in Design, Analysis, Protection and Condition Monitoring	4-8 June 2012	Department of Electrical Engineering, IIT Roorkee	AICTE Sponsored	Dr. Manoj Tripathy and Dr. Ganesh Balu Kumbhar
Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on <i>“Metering Technology & AMR Application”</i>	Jan. 21-23, 2013	AHEC, IITR & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on <i>“Metering Technology & AMR Application”</i>	July 23-25, 2013	AHEC, IITR & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on <i>“Metering Technology & AMR Application”</i>	August 28-30, 2013	AHEC, IITR & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on <i>“Metering Technology & AMR Application”</i>	September 11-13, 2013	AHEC, IITR & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on <i>“Metering Technology & AMR Application”</i>	January 27-29, 2014	AHEC, IITR & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on <i>“Metering Technology & AMR Application”</i>	February 24-26, 2014	AHEC, IITR & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
Restructured Accelerated Power	November 7 -			Dr. Dinesh Kumar

<p>Development and Reforms Programme (R-APDRP) Part-C Capacity Building Programme PTI – Indian Institute of Technology Roorkee</p> <p>A Course on “PFC Theme 14 – Post Go Live on Revenue Management”</p> <p>“Post Go Live on Revenue Management”</p>	9, 2014	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Dr. Navneet Aror Dr. R.D. Garg Dr. Manoj Tripathy
<p>Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Part-C Capacity Building Programme PTI – Indian Institute of Technology Roorkee</p> <p>A Course on “PFC Theme 14 – Post Go Live on Revenue Management”</p> <p>“Post Go Live on Revenue Management”</p>	November 20 - 22, 2014	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Dr. Dinesh Kumar Dr. R.D. Garg Dr. N.P. Padhy Dr. Manoj Tripathy
<p>Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Part-C Capacity Building Programme PTI – Indian Institute of Technology Roorkee</p> <p>A Course on “PFC Theme 14 – Post Go Live on Revenue Management”</p> <p>“Post Go Live on Revenue Management”</p>	December 13- 15, 2014	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Dr. Dinesh Kumar Dr. R.D. Garg Dr. N.P. Padhy Dr. Manoj Tripathy
<p>Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on “Metering Technology & AMR Application”</p>	December 10- 12, 2014	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
<p>Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on “Metering Technology & AMR Application”</p>	January 7 - 9, 2015	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
<p>Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on “Metering Technology & AMR Application”</p>	March 7 - 9, 2015	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy

New Trends in Power System, Protection and Control Techniques	July 6-10, 2015	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Sponsored by AICTE	Dr. Manoj Tripathy, and Dr. Yogesh Vijay Hote
Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on “Metering Technology & AMR Application”	January 12-14, 2016	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Training Course on “Metering Technology & AMR Application”	January 21-23, 2016	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Prof. Vinod Kumar and Dr. Manoj Tripathy
“Metering Technology & AMR Application”	September 26-28, 2017	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Dr. Manoj Tripathy
“Metering Technology & AMR Application”	October 27-29, 2017	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	Power Finance Corporation Limited (PFC), Ministry of Power, Govt. of India	Dr. Manoj Tripathy
HVDC Transmission and FACTS	December 17-21, 2018	IIT Roorkee Department of Electrical Engineering	MHRD, Govt. of India under Global Initiative of Academic Networks (GIAN) Programme	Dr. Manoj Tripathy & Dr. V. K. Sood, University of Ontario Institute of Technology (UOIT)
Power System Protection-Advanced	November 15-17, 2021	Department of Electrical Engineering & Continuing Education Centre, IIT Roorkee	National Hydroelectric Power Corporation Ltd., HRD (Training and Development), NHPC Office Complex, Sector 33, Faridabad (Haryana)-121 003	Dr. Manoj Tripathy

Sponsored Research/ Consultancy Project: As Co-Investigator

Sr. No.	Consultancy Activity	Sponsor	Status
1.	Performance Testing of Gurhan SHP Station in Mandi, Himachal Pradesh	M/s	Completed
2.	Performance Testing of Palor-I SHP Station in Lana Palor, Sirmour, Himachal Pradesh	M/s	Completed
3.	Performance Testing of Rakchand SHP Kinnaur, Himachal Pradesh	M/s Regent Energy Ltd., New Delhi	Completed
4.	Performance Testing of Brahl SHP Kangra, Himachal Pradesh	M/s Sodhi Brothers Hydro Power Pvt. Ltd., Kangra, Himachal Pradesh	Completed
5.	Performance Testing of Birahi Ganga SHP Chamoli, Uttrakhand	M/s Birahi Ganga Hydro Power Ltd., New Delhi	Completed
6.	Performance Testing of Dehar-II SHP Chamba, Himachal Pradesh	M/s Saini Techno Constructs (P), Ltd., Pathankot	Completed
7.	Performance Testing of Rukti SHP Kinnaur, Himachal Pradesh	M/s Door Sanchar Hydro Pvt., Ltd., Sangla, Kinnaur, Himachal Pradesh	Completed
8.	Performance Testing of Sona SHP Devanagaon, Bijapur, Karanataka	M/s Jasper Energy Pvt., Ltd., Hyderabad	Completed
9.	Performance Testing of Periyar -II SHP Theni, Tamilnadu	M/s Kirloskar Brothers Ltd., Pune	Completed
10.	Performance Testing of Veer SHP NLBC Hydro Electric Project, Purandar, Pine, Maharashtra	M/s Mahati Hydro Power Projects Pvt. Ltd, Pune	Completed
11.	Performance Testing of Charmadi SHP Karanataka	Project no. AHC-1020/2009-10	Completed
12.	Performance Testing of Keshari SHP, Sahakri navshakti Sanstha Ltd., Warananagar, Kolahapur	M/s Vishwaj Energy Pvt. Ltd. Pune	Completed
13.	Performance Testing of Kadavi SHP, Warananagar, Kolahapur	M/s Sahakri navshakti Sanstha Ltd., Pune	Completed
14.	Performance Testing of Dhom SHP, Satara, Maharastra	Project no. AHC-6028/2014-15	Completed
15.	Performance Testing of Gangani SHP in Uttrakhand	Project no. AHC-1085/2010-11	Completed
16.	Performance Testing of Hullahalla SHP Karnataka, Inda	Project no. AHC-1053/2011-12	Completed
17.	Performance Testing of Ranja-Ala Dunadi SHP Karnataka, Inda	Project no. AHC-1038/2013-14	Completed
18.	Testing of Electrical Equipment	M/s Manager Electrical (Section), Pay Jal Nigam, U.K., India	Completed
19.	Testing of Electrical Material	M/s Deputy Manager (Electrical), THDCIL, Rishikesh, U.K., India	Completed
20.	Performance Testing of Daman Ganga Stage-II SHP Valsad, Gujarat, India	Project no. AHC-6017/2015-16	Completed
21.	Testing of Platinum Resistance Thermometer Sensors	Project no. EED-6001/2016-17 M/s Alpha Instruments, Dehradun Road, Roorkee,U.K., India	Completed
22.	Performance Testing of Brahl Top SHP (5MW), District Kangra, Himachal Pradesh	Project no. AHC-6010/2017-18	Completed
23.	Performance Testing of Vanala SHP (2 x 7.5MW), District Nandprayag, Chamoli, Uttrakhand	Project no. AHC-6017/2017-18	Completed
24.	Efficiency Testing of Turbines of (one	Project no. AHC-6014/2017-18	Completed

	3MW & one 6MW) Unit, Shivasamundram Hydro Generating Unit		
25.	Turbine Efficiency Testing of Jogmai Khola SHP (2x3.8MW) at Phikkal Panchakanya, Naya Bazar, Dist.Illam, Nepal.	Project no. AHC-6022/2017-18	Completed
26.	Performance Testing of Meenvallom SHP (2x1500W) at Meenvallom in Plakkad Dist., Kerala	Project no. AHC-6016/2016-17	Completed
27.	Independent Third Party Evaluation of Hospital Building at Moradabad, Amroha and Bijnor, U.P.	U.P. Rajkiya Nirman Nigam Project no. CED-6161/2016-17	Completed Moradabad, Amroha and Bijnor Hospital
28.	Independent Third Party Evaluation of Women's Hospital Building at Badaun, U.P.	U.P. Rajkiya Nirman Nigam Project no. CED-6153/2016-17	Completed Badaun Hospital
29.	Independent Third Party Evaluation of Women's Hospital Building at Bulandshar, U.P.	U.P. Rajkiya Nirman Nigam Project no. CED-6207/2016-17	Completed Bulandshar Hospital
30.	Structural Strength Assessment of Govt. Medical College Badaun, U.P.	Project no. CED-6425/2017-18	Completed Badaun
31.	Performance testing of Gullu SHP (2x12MW) at Village Bene/Chatakpur Tahsil-Kunkun, District Jashpur, Chhattisgarh	Project No.: AHC-6013/2018-19	Completed October 2-9, 2018
32	Performance Testing of additional 3 MW Unit at existing (2x3 MW) Aniyur Mini Hydel Scheme in Belthangadi Taluk, Dakshina Kannad District, Karnataka	Project No.: AHC-6018/2018-19	Completed October 2-9, 2018
33.	Performance Testing of Kartaul SHP (2.40 MW) in District – Kullu, Himachal Pradesh	Project No.: AHC- 6027/2018-19	Completed October 17- 22, 2018
34.	Performance Testing of Upper Nanti (13.5MW) SHP in Himachal Pradesh	Project No.: AHC-6009/2018-19	Completed October 17- 22, 2018
35.	Performance Testing of Adyanpara Small Hydropower Station (2 x 1.5MW +1 x 0.5MW) District Malappuram, Kerala	Project No.: AHC-6010/2018-19	Completed July18-21, 2019
36.	Performance Testing of GosiKhurd Small Hydropower Station (2 x 12 MW) Village GosiKhurd, Tal-Pauni, District Bhandara, Maharashtra	Project No.: AHC-6029/2018-19	Completed August 08- 11, 2019
37.	Performance Testing of Temghar HEP (4 MW) at Temghar Dam, Taluka Mulshi, District Pune, Maharashtra	Project No.: ARD-6019/2019-20	Completed November 26-Dec. 02, 2019
38.	Performance Testing of Barvi SHEP (4.5 MW), Maharashtra	Project No.: AHC-6036/2017-18	Completed November 26-Dec. 02, 2019
39.	Field Efficiency Testing of Chathankottunada Stage II SHP in Kozhikode, Kerala	Project No.: HRD-6017/2021-22 PI-Prof. Arun Kumar	Completed

Sponsored Consultancy Project: As PI

Sr. No.	Consultancy Activity	Sponsor	Status
1.	Testing of Resistance Temperature Detector	Alpha Instruments, Roorkee, Haridwar, U.K. Project no. EED-6001/2016-17	Completed 2016
2.	Electrical drawing vetting of a building provided by DISCO	Super DISCO Ispat Pvt. Ltd, New Delhi Project no. EED-6002/2017-18	Completed 2017
3.	Testing of Electrical Material	THDC India Limited, Rishikesh, U.K. Project no. EED-6003/2015-16	Completed 2016
4.	Independent Third Party Inspection of Executed work at District Jail Bareilly, U.P.	U.P. Rajkiya Nirman Nigam Bareilly Project no. EED-6008/2017-18	Completed 2018
5.	Independent Third Party Inspection of M.L.B College, 500 Bedded Hospital, Jhansi, U.P.	U.P. Rajkiya Nirman Nigam Jhansi Project no. EED-6010/2017-18	Completed 2018
6.	Independent Third Party Inspection of Paramedical College Jhansi, U.P.	U.P. Rajkiya Nirman Nigam Jhansi Project no. EED-6007/2017-18	Completed 2018
7.	Independent Third Party Inspection of 500 Bedded and 300 Bedded Hospital Safai, Etawah, U.P.	U.P. Rajkiya Nirman Nigam Etawah Unit Project no. EED-6009/2017-18	Completed 2018
8.	Site Inspection of Tajganj Project at Tajganj Agra	U.P. Rajkiya Nirman Nigam, Agra Project no. EED-6008/2016-17	Completed 2016
9.	Assessment of Electrical System of U.P. Guest House Sector-13, Dwarka, New-Delhi	UPRNN Ltd., ESIC Medical College Unit, Basaidarapur, New Delhi. Dated:07/9/2018	Under Progress 2018
10.	Assessment of Executed Electrical for relocation and Re-installment of Electric Substation of Hospital Building Safai, Etawah, U.P	U.P. Rajkiya Nirman Nigam Etawah. Project no. EED-6005/2018-19 Dated 10-09-2018	Under Progress 2018
11.	Testing of Electrical Cables and Wires	M/s MEP Engineer KUNAL STRUCTURE (I) PVT. LTD. District Court,Purani Jail,Opp. Mandakhni Hotel,Haridwar Road, Dehradun(Uttarakhand) Dated: 16-12-2019	Completed 2019

Sponsored Research Project:

S. N.	Research Project	Sponsor	Status
1.	Development and Testing of AI based Differential Protection Techniques for Phase Shifting Transformer	Faculty initiation Grant from SRIC fund	Completed 31-01-2017
2.	Studies on Creep Behavior of AI and Copper Winding Joints of Distribution Transformers	International Copper Association, Mumbai SRIC/224/I-26(ICA)MID dated 06-07-2018 Project Grant no.: ICA-1220-MID	Under Progress
3.	Control and Protection of Upgradable and Reconfigurable Renewable Energy Based Microgrid for Rural Area.	Technical Education Quality Improvement Programme of Government of India (TEQIP), MHRD.	Completed Started 2018 & Closed 31 July 2021

4.	A Hybrid AC/DC Microgrid System With Various Renewable-Energy Resources	Southeast and South Asia and Taiwan Universities Presidents' Forum (SATU), National Cheng Kung University (NCKU), Taiwan	Completed Duration 7/1/2019-11/30/2019
6.	Integration of Different Renewable-Energy Resources with Energy-Storage Systems and Control Systems Using Various Microgrid Systems	Global Research Group (SDG), support by National Cheng Kung University (NCKU), Taiwan and Worldwide Universities Network (WUN)	Under Progress Started on-19/07/2021 End date 18/12/2023

Administrative/ Other Activities (At IIT Roorkee):

- (1) Performance studies of SHP Stations.
- (2) Warden of Azad Bhawan, IIT Roorkee from 1st April 2013 to 30 May 2015
- (3) Development of Standard and Calibration Laboratory in EED, IITR, 2013
- (4) Development of Dr. M. P. Varshney Smart Grid Laboratory in EED, IITR, 2019
- (5) Chairman Hindi Cell 14 October 2019 for 3 Years
- (6) Institute Human Ethics Committee, two years w.e.f 01.03.2021
- (7) I&SP Group Coordinator from 16th March 2021
- (8) Information Dissemination committee (IDC) w.e.f. 06.07.2021-05.07.2022- Member,

Grant Obtained/ Offered

- (1) Institute Fellowship sanctioned by Ministry of Human Resource and Development, India.
Amount: Indian Rupees (IRs). 10,000/ - per month plus Rs. 20,000 per year as contingency.
- (2) Selected for BOYSCAST Fellowship 2009-2010 by Department of Science & Technology, Government of India

Number of Ph.D. students guided: 06 (degree awarded) & 13 (in progress)

Sr. No.	Name of Student	Status (Full Time or Part Time)	Proposed Area of Research	Name of Supervisors	Date of Award/submission
1.	Mr. Navneet Kumar Singh	Full Time (MHRD Fellowship)	Electric Load Forecasting: An Artificial Neural Network Approach	Dr. A. K. Singh and Dr. Manoj Tripathy	Thesis Awarded 04 th April. 2016
2.	Mr. Sachin Singh	Full Time (MHRD Fellowship)	Design And Evaluation of Enhancement Techniques For Single-Channel Speech	Dr. Manoj Tripathy Aand Dr. R.S. Anand	Thesis Awarded 26 th Oct. 2015

3.	Mr. Ashok Manori	Full Time (MHRD Fellowship)	Development of Protection Algorithm for Compensated Transmission Line	Dr. Manoj Tripathy and Dr. H. O. Gupta	Thesis Awarded 06 th Sept. 2016
4.	Mr. Shailendra Kumar Bhasker	Full Time (MHRD Fellowship)	Algorithms for Differential Protection of Indirect Symmetrical Phase Shift Transformer	Dr. Manoj Tripathy and Dr. Vishal Kumar	Thesis Awarded 28 th August 2017
5.	Mr. OM Hari Gupta	Full Time (MHRD Fellowship)	Protection Aspects of Transmission Line and Micro Grid in the Presence of Switching Devices	Dr. Manoj Tripathy	Thesis Awarded 08 th March 2017
6.	Mr. Samba Raju Chiluveru	Full Time (MHRD Fellowship)	Development of Speech Enhancement Algorithms for Real Time Application	Dr. Manoj Tripathy	Thesis Submitted 10 th August 2021
7.	Mr. Saurabh Sharma	Full Time (MHRD Fellowship)	Protection of Hybrid AC/DC Microgrid	Dr. Manoj Tripathy	Under progress
8.	Mr. Shashank Gupta	Full Time SRF project Grant no. ICA-1220-MID	Failure Analysis of Winding Joints in Distribution Transformers	Dr. D.K. Dwivedi And Dr. Manoj Tripathy	Under progress
9.	Ms. Pooja Chauhan	Full Time (MHRD Fellowship)	Development of Protection schemes for Hybrid AC/DC Microgrid	Dr. C.P. Gupta And Dr. Manoj Tripathy	Under progress
10.	Mr. Chetan Shrivastava	Full Time (MHRD Fellowship)	Novel and Efficient Protection Schemes for Low Voltage DC Microgrid	Dr. Manoj Tripathy	Under progress
11.	Mr. Raj Kumar	Full Time (MHRD	Development of Techniques for Voice	Dr. R. S. Anand, Dr. Manoj	Under progress

		Fellowship)	Rehabilitation and Improvement in Speech Intelligibility	Tripathy and Dr. Niraj Kumar, Additional Prof. & Head, Neurology Department, AIIMS, Rishiksh	
12.	Mr. Rohit Nandi	Full Time (MHRD Fellowship)	Smart Grid protection and Control	Dr. Manoj Tripathy And Dr. C.P. Gupta	Under Progress
13.	Mr. Moglicharla Suresh	Full Time (MHRD Fellowship)	Development of Hardware-in-Loop Cyber Attack Monitoring tool (CAMT) for Grid-Edge DER System	Dr. Manoj Tripathy	Under Progress
14.	Ms. Nivedita Singh (19/PhD/Engg./006)	Full Time (MHRD Fellowship)	Power Quality Analysis of Smart Microgrid Integration using Transformers and AI techniques	Dr. M. N. Ansari, EED, GBU, Greater Noida and Dr. Manoj Tripathy	Under Progress
15.	Mr. Ravindra Kumar (Enr. No.: 20914011)	Part Time Sponsored (Power Grid, Ltd. India)	Design of Protection System for compensated and uncompensated Transmission Lines	Dr. Manoj Tripathy	Under Progress
16.	Mr. Rohit Rastogi	Full Time (MHRD Fellowship)	DC Microgrid Stability	Dr. Manoj Tripathy And Dr. C.P. Gupta	Under Progress

17.	Mr. Naveen Bhati	Full Time (MHRD Fellowship)	Renewable Energy	Dr. Manoj Tripathy	Under Progress
18.	Mr. Tarun Rathi (Enr. No.: 21914014)	Full Time (MHRD Fellowship)	Signal Processing	Dr. Manoj Tripathy	Under Progress
19.	Ms. Jetwadee Phanthanachai (Enr. No.: RE000935)	Full Time Sponsored by ASEAN Fellowship Govt. of India	Automation and SCADA	Dr. Manoj Tripathy	Under Progress

Number of M.Tech. Students Supervised: 29

Number of B.Tech. Students Supervised: 27

M. Tech. Thesis Completed Session 2007-08

1. Mr. V. N. Reddy C., on the Topic, “Comparative Study of ANNs for Transmission Line Protection” under the supervision of **Dr. Manoj Tripathy** and Dr. A. K. Singh.

M. Tech. Thesis Completed Session 2008-09

1. Mr. Suresh Ala, on the Topic, “Differential Protection of Power Transformer on the Basis of Space Vectors Technique” under the supervision of **Dr. Manoj Tripathy** and Dr. A. K. Singh.
2. Mr. Bhavnesh Kumar, on the Topic, “A Robust Fuzzy Logic Speed Controller for Indirect Vector Control Induction Motor Drive” under the supervision of **Dr. Manoj Tripathy** and Dr. A. K. Singh.

M. Tech. Thesis Completed Session 2009-10

1. Mr. Sonu Pratap Pandey, on the Topic, “Development of Protection Algorithm for Transmission Line Having UPFC (Unified Power Flow Controller)” under the supervision of **Dr. Manoj Tripathy**.

M. Tech. Thesis Completed Session 2010-11

1. Mr. Rahul Kumar, on the Topic, “Discrimination Between Internal Fault and Inrush Condition of Power Transformer using Recurrent Neural Network” under the supervision of **Dr. Manoj Tripathy**.

M. Tech. Thesis Completed Session 2011-12

1. Mr. Sibendu Samanta, on the Topic, “Content Based Image Retrieval using Local Feature Descriptors” under the supervision of **Dr. Manoj Tripathy** and Dr. R. P. Maheshwari.
2. Mr. Gavvala Rajasekhar, on the Topic, “Speech Compression using Best Wavelet Packet

Transform and SPIHT Algorithm” under the supervision of **Dr. Manoj Tripathy** and Dr. R. P. Maheshwari.

3. Mr. Raut Mayank, on the Topic, “Speech Encryption Based Digital Watermarking using Transform Domain Techniques” under the supervision of **Dr. Manoj Tripathy** and Dr. R. P. Maheshwari.
4. Mr. Mohd. Moid, on the Topic, “Fault Location in Power Transmission Line using Synchronized Sampling at Both Ends” under the supervision of **Dr. Manoj Tripathy**.

M. Tech. Thesis Completed Session 2012-13

1. Mr. Tarun Rathi, on the Topic, “Implementation of Transform Based Techniques in Digital Image Watermarking” under the supervision of **Dr. Manoj Tripathy** and Dr. R. P. Maheshwari.
2. Mr. Rajeev Chandel, on the Topic, “Fuzzy C-mean Technique for Image Segmentation” under the supervision of **Dr. Manoj Tripathy** and Dr. R. P. Maheshwari.
3. Mr. Swarna Ashok, on the Topic, “Transmission Line Protection using Wavelet Transform” under the supervision of **Dr. Manoj Tripathy** and Dr. R. P. Maheshwari.
4. Mr. Vipin Pratap, on the Topic, “Implementation of ANN Based Technique for Transformer Protection” under the supervision of **Dr. Manoj Tripathy** and Dr. R. P. Maheshwari.

M. Tech. Thesis completed Session 2013-14

1. Mr. Khalid Aziz, on the Topic, “Alternator Protection for Field Faults” under the supervision of Dr. Manoj Tripathy and Dr. R. P. Maheshwari.
2. Miss. Neha Nirala, on the Topic, “Development of Transformer Protection Algorithm using Wavelet and ANN” under the supervision of Dr. Manoj Tripathy and Dr. R. P. Maheshwari.
3. Miss. Nidhi Chauhan, on the Topic, “Performance Evaluation of Mho Relay on Transmission Lines with UPFC” under the supervision of Dr. Manoj Tripathy and Dr. R. P. Maheshwari.
4. Miss. Shashi Kumari, on the Topic, “Algorithm for Protection of Distribution system with Distributed Generation” under the supervision of Dr. Manoj Tripathy and Dr. R. P. Maheshwari.
5. Mr. Vajendra Kumar, on the Topic, “Development of Differential Protection Algorithm for Unsymmetrical Phase Shifting Transformers” under the supervision of Dr. Manoj Tripathy and Dr. R. P. Maheshwari.

6. Mr. Ravi Ranjan Kumar, on the Topic, “Elimination of exponentially Decaying DC component for Phasor Estimation” under the supervision of Dr. Manoj Tripathy and Dr. Dr. P. Sumati.

M. Tech. Thesis Completed Session 2014-15

1. Mr. Som Datt, on the Topic, “Bearing condition monitoring of an Induction Motor” under the supervision of Dr. Manoj Tripathy and Dr. R. P. Maheshwari.
2. Mr. Sanjay Ramraj Mehta, on the Topic, “Development and Real Time Simulation of Transformer Differential Protection Using RTDS” under the supervision of Dr. Manoj Tripathy.
3. Mr. Santhapuri Prasad, on the Topic, “SVD Based Optimization of Fidelity with New Genetic Algorithm”, under the supervision of Dr. Manoj Tripathy.
4. Mr. Udit Bangar, on the Topic, “Development of SVM Based Phase Shifting Transformer Differential Protection Algorithm” under the supervision of Dr. Manoj Tripathy.

M. Tech. Thesis Completed Session 2015-16

1. Miss. Navendu, on the Topic, “Condition Monitoring and Protection of Transmission Line by PMU”, under the supervision of Dr. Manoj Tripathy.
2. Mr. Ajit Singh Karnawal, on the Topic, “Implementation of AI Based Algorithms for Differential Protection of Power Transformer”, under the supervision of Dr. Manoj Tripathy.
3. Miss. Nidhi Naryan, on the Topic, “Busbar Protection Using Random Forest Technique”, under the supervision of Dr. Manoj Tripathy and Dr. Bhavesh Bhalja.
4. Miss. Astha Chawala, on the Topic, “Optimal Relay Coordination with Distributed Generation Using Artificial Intelligent Algorithm”, under the supervision of Dr. Manoj Tripathy and Dr. Bhavesh Bhalja.
5. Mr. Sanchay Adari, on the Topic, “Islanding Detection for Distributed Generation”, under the supervision of Dr. Manoj Tripathy and Dr. Bhavesh Bhalja.
6. Mr. Akash Gupta, on the Topic, “Performance Evaluation of Loss of Grid and Its Protection”, under the supervision of Dr. Manoj Tripathy.
5. Mr. Nithish Bharadwaj Gannu, “Development of Rotor Fault Detection Algorithm,” under the supervision of Dr. Manoj Tripathy. (Part Time)

M. Tech. Thesis Completed Session 2016-17

1. Mr. Subhash, on the Topic, “Land Slide Detection using Wireless System”, under the supervision of Dr. Manoj Tripathy and Dr. Ambalika Sharma.
2. Mr. Prince Parmahansa, on the Topic, “Vehicle Detection using Image Processing”,

under the supervision of Dr. Manoj Tripathy and Dr. R. S. Anand.

M. Tech. Thesis Completed Session 2017-18

1. Mr. Akash Kumar Noniya, “Protection of DC Micro-grid”, under the supervision of Dr. Manoj Tripathy and Dr. R. S. Anand.

M. Tech. Thesis Completed Session 2019-20

1. Mr. Sunil Kumar, “Respiratory Sinus Arrhythmia and Apnea Detection using Photo Plethysmography”, under the supervision of Dr. Manoj Tripathy and Dr. R. S. Anand.

M. Tech. Thesis Completed Session 2020-21

1. Mr. Bibhudutta Mohapatra, “Indian Spoken Language Identification System using DNN”, under the supervision of Dr. Manoj Tripathy.
2. Mr. Chunarkar Snehit Bhimrao, “Mixed Language Separation Using DNN”, under the supervision of Dr. Manoj Tripathy.
3. Mr. Raj Kumar, “Single Microphone Speech Noise Separation Using DNN”, under the supervision of Dr. Manoj Tripathy.

M. Tech. Thesis Completed Session 2021-22

1. Mr. Vijay Bhaskar Tiwari, “Implementation of DNN for Dysarthric Speech Recognition”, under the supervision of Dr. Manoj Tripathy.
2. Mr. Girraj Rajput, “Development of AI Based Algorithm for Speech Quality and Intelligibility Assessment under Noise Condition”, under the supervision of Dr. Manoj Tripathy.
3. Mr. Ramswarup Rewani, “Development of Protection Algorithm for Integrated Microgrid Systems”, under the supervision of Dr. Manoj Tripathy.
4. Mr. Samvirt Ji Kanwar, “Development of Real Time Condition Monitoring System for Distribution Transformer”, under the supervision of Dr. Manoj Tripathy.

List of Publications of Dr. Manoj Tripathy

A1. Papers in international journals:

- [1] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “Advances in Transform Protection: A Review,” *Electric Power Components and Systems, USA, vol. 33, no. 11, pp.1203-1209, 2005.*
- [2] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “Application of Probabilistic Neural Network for Differential Relaying of Power Transformer,” *in IEE Proceedings Generation, Transmission and Distribution, vol. 1, no.2, pp.218-222, March 2007.*

- [3] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “Probabilistic Neural Network Based Protection of Power Transformer,” *IET Electric Power Applications*, vol. 1, no. 5, pp.793-798, September 2007.
- [4] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “A Novel Neuro-Fuzzy Technique for Power Transformer Protection,” *Electric Power Components and Systems, USA*, vol. 36, no. 3, pp.299-316, 2008.
- [5] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “Radial Basis Probabilistic Neural Network for Differential Protection of Power Transformer,” *IET Proceedings Generation, Transmission and Distribution*, vol. 2, no.1, pp.43-52, 2008.
- [6] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “Power Transformer Differential Protection Based On Optimal Probabilistic Neural Network,” *IEEE Trans. Power Delivery*, vol. 25, no.1, pp.102-112, 2010.
- [7] **Manoj Tripathy**, “Power Transformer Differential Protection using Neural Network Principle Component Analysis and Radial Basis Function Neural Network,” *Simulation Modeling Practice and Theory*, vol. 18, no.5, pp.600-611, 2010.
- [8] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “Improved Transformer Protection Using Probabilistic Neural Network and Power Differential Method,” in *International Journal of Engineering, Science and Technology, Application of Computational Intelligence in Emerging Power Systems*, vol. 2, no.2, pp.29-44, May 2010.
- [9] **Manoj Tripathy**, K. V. Babu, A. K. Singh, “Recent Techniques Used in Transmission Line Protection: A Review,” in *International Journal of Engineering, Science and Technology, Application of Computational Intelligence in Emerging Power Systems*, vol. 3, no.2, pp.1-8, 2011.
- [10] **Manoj Tripathy**, Navneet K. Singh, A. K. Singh, “Selection of Hidden Layer Neurons and Best Training Method For FFNN in Application of Long Term Load Forecasting,” in *Journal of Electrical Engineering*, vol. 63, no. 3, pp.153–161, 2012.
- [11] **Manoj Tripathy**, “Power Transformer Differential Protection Based on Neural Network Principal Component Analysis, Symmetrical Components and Park’s Plots,” in *Advances in Artificial Intelligence*, vol. 2012, Article no. 930740, pp.1-9, 2012.
- [12] **Manoj Tripathy**, Ashok Maori, H O Gupta, “Advance Compensated Mho Relay Algorithm for a Transmission System with Shunt FACTS Device,” *Electric Power*

Components and Systems, USA, vol.42, no.16, pp., 2014.

- [13] **Manoj Tripathy**, OM Hari Gupta, “An Innovative Pilot Relaying Scheme for Shunt Compensated Line”, **IEEE Trans. Power Delivery**, vol.30, no.3, pp.1439-1448, 2015.
- [14] Sachin Singh, **Manoj Tripathy**, R. S. Anand, “Binary Mask Based Method for Enhancement of Mixed Noise Speech of Low SNR Input,” **International Journal of Speech Technology (Springer)**, vol.18, pp. 609–617, September 2015.
- [15] Ashok Maori, **Manoj Tripathy**, H. O. Gupta, “SVM Based Zonal Setting of Mho Relay for Shunt Compensated Transmission Line,” **International Journal of Electrical Power and Energy Systems**, vol. 78 , no.1 , pp.422-428, 2016.
- [16] OM Hari Gupta, **Manoj Tripathy**, “Superimposed Energy Based Fault Detection and Classification Scheme for Series Compensated Line”, **Electric Power Components and Systems, USA**, vol. , no. , pp., 2016 (Accepted).
- [17] Sachin Singh, **Manoj Tripathy**, R. S. Anand, “Suppression Of Combined Effect Of Late Reverberation And Masking Noise for Speech Enhancement using Channel Selection Method,” **International Journal of Signal and Imaging Systems Engineering**, pp. 118-125, vol. 9, no. 2, 2016.
- [18] Sachin Singh, **Manoj Tripathy**, R. S. Anand, “A Wavelet Based Method for Enhancement of Mixed Noise Speech of Low SNR Input,” **International Journal of Speech Technology (Springer)**, vol.18, no. 2 pp. 157-166, September 2015.
- [19] Ashok Maori, **Manoj Tripathy**, H. O. Gupta, “A Universal Fault Section Identification Algorithm for Mid-point Compensated Transmission Line,” **International Transactions on Electrical Energy Systems**, vol. 44, no.10, pp.1095-1110, 2016.
- [20] OM Hari Gupta, **Manoj Tripathy**, “ERF-Based Fault Detection Scheme for STATCOM-Compensated Line”, **International Transactions on Electrical Energy Systems**, vol. , no. , pp., 2016 (Accepted).
- [21] Sachin Singh, **Manoj Tripathy**, R. S. Anand, “A Wavelet Packet Based Approach For Speech Enhancement Using Modulation Channel Selection,” **International Journal of Wireless Personal Communications (Springer)**, vol., no. pp. 2017. (Accepted)
- [22] Shailendra Singh, **Manoj Tripathy**, Vishal Kumar, “Identification of Inrush and

- Internal Fault in Indirect Symmetrical Phase Shift Transformer Using Wavelet Transform,” **Journal of Electrical Engineering & Technology**, vol.12, no.5, pp. 1697-1708, 2017.
- [23] OM Hari Gupta, **Manoj Tripathy**, “An Improved Pilot Relaying Scheme for Shunt Compensated Transmission Line Protection Based on Superimposed Reactive Power Coefficients”, **Electric Power Components and Systems, USA**, vol. , no. , pp., 2017 (Published online <https://doi.org/10.1080/15325008.2017.1376361>).
- [24] OM Hari Gupta, **Manoj Tripathy**, “Universal Pilot Relaying Scheme for Series and Shunt-Compensated Lines”, **IET Proceedings Generation, Transmission and Distribution**, vol. , no., pp., 2017. (Accepted)
- [25] OM Hari Gupta, **Manoj Tripathy**, “EPE-based Pilot Relaying Scheme Immune to SIR Variations”, **IETE Journal of Research**, vol. , no. , pp., 2018 (Accepted).
- [26] Samba Raju Chiluveru, **Manoj Tripathy**, “Low SNR Speech Enhancement with DNN based Phase Estimation,” **International Journal of Speech Technology**, Springer Journal, vol.22, no. 1., pp.283-292, 2019. <https://doi.org/10.1007/s10772-019-09603-y>
- [27] OM Hari Gupta, **Manoj Tripathy**, Vijay K. Sood “Event Detection Scheme for Converter-Based DGs with Nearly Zero NDZ”, **IET Proceedings Generation, Transmission and Distribution**, vol.13, no.23, pp.5365-5374, 2019.
DOI: 10.1049/iet-gtd.2018.5168
- [28] Samba Raju Chiluveru, M. Tripathy, and B. Mohapatra, “Accuracy controlled iterative method for efficient sigmoid function approximation,” **IET Electronics Letters**, 2020 (Accepted).
- [29] Samba Raju Chiluveru, **M. Tripathy**, and B. Mohapatra, “Non-Linear Activation Function Approximation Using a REMEZ Algorithm,” **IET Circuits, Devices & Systems**. 2020 (Accepted). 4 September 2020.
- [30] Gyanendra, Samba Raju Chiluveru, Balasubramanian Raman, **M. Tripathy**, Brajesh Kumar Kaushik, “Memory Efficient Architecture for Lifting-based Discrete Wavelet Packet Transform,” **IEEE Transactions on Circuits and Systems II: Express Briefs**, vol. 28, no.4 pp.1373-1377, April 2021. Print ISSN: 1549-7747 Online ISSN: 1558-3791 DOI: 10.1109/TCSII.2020.3028092.
- [31] Li Wang, Shi-Ying Zeng, Wen-Kai Feng, Anton V. Prokhorov, Hazlie Mokhlis, Kein Huat Chua, **Manoj Tripathy**, “Damping of Subsynchronous Resonance in a Hybrid System with a Steam-Turbine Generator and an Offshore Wind Farm Using a Unified

- Power-Flow Controller,” **IEEE Transactions on Industry Applications**,” **IEEE Transactions on Industry Applications**, vol.57, no.1, pp.110-120, 2021. Print ISSN: 0093-9994 Online ISSN: 1939-9367 Digital Object Identifier: 10.1109/TIA.2020.3032934.
- [32] Gyanendra, Samba Raju Chiluveru, Balasubramanian Raman, **M. Tripathy**, Brajesh Kumar Kaushik, “Novel Architecture for Lifting Discrete Wavelet Packet Transform with Arbitrary Tree Structure,” **IEEE Transactions on Very Large Scale Integration (VLSI) Systems**, 2021.
- [33] Jai Prakash Sharma, Om Hari Gupta, **Manoj Tripathy**, “A New Sequence Current-Based Adaptive Pilot Relaying Scheme for Modern HVAC Transmission Lines”, **Electric Power Components and Systems, USA**, vol.37, no.3, pp.1502-1512, June 2022. DOI: 10.1080/15325008.2021.1937394
- [35] Jai Prakash Sharma, Om Hari Gupta, Om P. Malik, Saurabh Sharma, **Manoj Tripathy**, “Voltage-Assisted Sequence Current-Based Pilot Relaying for Lines with/without TCSC”, **IEEE Trans. Power Delivery**, vol., no., pp., 2021 (Accepted).
- [36] Chetan Srivastava, **Manoj Tripathy**, “DC Microgrid Protection Issues and Schemes: A Critical Review”, **Renewable and Sustainable Energy Reviews**, vol., no., pp., 2021. (Accepted, 26 Jul 2021)
- [37] Pooja Chauhan, C.P. Gupta, **Manoj Tripathy**, “A Novel Adaptive Protection Technique Based on Rate-of-Rise of Fault Current in DC Microgrid”, **Electric Power Systems Research**, vol.207, no., pp., 2022.
- [39] Saurabh Sharma, **Manoj Tripathy**, Li Wang, “Transient Power Polarity Based Fault Detection in DC Microgrid with Localized Backup,” **Electric Power Systems Research**, vol.207, no., pp., 2022. (Article reference EPSR_108008)
- [40] Saurabh Sharma, **Manoj Tripathy**, Li Wang, “A Novel Fault Detection and Classification Scheme for DC Microgrid Based on Transient Reactor Voltage with Localized Back-up Scheme,” **International Journal of Electrical Power and Energy Systems**, vol., no., pp., 2022. (Manuscript Number: IJEPES-D-22-00147R1)
- [41] Shailendra Kumar Bhasker, **Manoj Tripathy**, Anubhav Agrawal, Atul Mishra, “Differential Protection of ISPST using Chebyshev Neural Network,” **Journal of Operation and Automation in Power Engineering**, (Accepted, JOAPE-2112-

Book:

1. O.H. Gupta, **M. Tripathy**, and V. K. Sood, “Protection Challenges in Meeting Increasing Electric Power Demand,” in, **Springer**, *Under Publication Process*, 2020.
2. A.K. Singh and **M. Tripathy**, “Control Applications in Modern Power System-Select Proceedings of EPREC 2020” Lecture Notes in Electrical Engineering, **Springer**, 2020. [DOI: 10.1007/978-981-15-8815-0, Hardcover ISBN: 978-981-15-8814-3, eBook ISBN: 978-981-15-8815-0, <https://www.springer.com/gp/book/9789811588143>]

Book Chapter:

1. Sachin Singh, **Manoj Tripathy**, R. S. Anand, “Single Channel Speech Enhancement for Mixed Non-Stationary Noise Environments,” **Advances in Signal Processing and Intelligent Recognition Systems, (LNCS Series) Springer Cham**, vol. 264, pp 545-555, 2014. [Editors: Sabu M. Thampi, Alexander Gelbukh, Jayanta Mukhopadhyay; https://doi.org/10.1007/978-3-319-04960-1_47]
2. O.H. Gupta, **M. Tripathy**, and V.K. Sood, “Hybrid Event Classification Scheme for Converter-Based DG with Improved Power Quality,” in **Microgrid: Operation, Control, Monitoring and Protection**, Lecture Notes in Electrical Engineering, vol 625, pp. 207-238, Springer, Singapore, 2020. [Editors: Papia Ray, Monalisa Biswal; DOI: <https://doi.org/10.1007/978-981-15-1781-5>, Print ISBN978-981-15-1780-8].
3. Raj Kumar, **Manoj Tripathy**, R. S. Anand, “Iterative Thresholding-Based Spectral Subtraction Algorithm for Speech Enhancement” **Advances in VLSI, Signal Processing, Power Electronics, IoT, Communication and Embedded Systems**, (Book Subtitle: Select Proceedings of VSPICE 2020), pp. 221-232, Springer, 2021. [Editors: Shubhakar KalyaMuralidhar KulkarniK. S. Shivaprakasha; link: <https://link.springer.com/book/10.1007/978-981-16-0443-0>; ISBN 978-981-16-0442-3].

Patent:

1. Indian Patent No.: 202111005769, titled as “Protective Relay for The Cable Fault in Microgrid” Dr. Ashok Manori, Dr. Ashutosh Trivedi, Dr. Peeyush Kala, Dr. Alaknanda Ashok, **Dr. Manoj Tripathy**, Mr. Amit Goriyan, Mr. Ashutosh Bhatt. Published on 26/02/2021.

A2. Papers in National journals:

- [1] **Manoj Tripathy**, Sachin Singh, R. S. Anand, “Subjective and Objective Analysis of Speech Enhancement Algorithms for Single Channel Speech Patterns of Indian

- and English Languages,” **IETE Technical Review**, vol. 31, no. 1, pp 34-46, 2014.
- [2] Samba Raju Chiluveru, **M. Tripathy**, and Snehit Chunarkar, “A Controlled Accuracy based Recursive Algorithm for Approximation of Sigmoid Activation,” **National Academy Science Letters**. 2020 (Accepted). 11 December 2020. Q2
- A3. Papers in international conference proceedings:**
- [1] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “RBFNN Algorithm for Power Transformer Protection,” *International Conference on Computer Applications in Electrical Engineering Recent Advances I.I.T. Roorkee*, pp.589-592, Sept. 29th to 1 Oct. 2005.
- [2] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “PSO Based Probabilistic Neural Network for Power Transformer Protection”, *Proceedings of IEEE International Conference on Industrial Technology*, pp.70-71, 15-17 December, 2006, Mumbai, India.
- [3] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “H.M.M. Based Technique for Power Transformer Operating Condition Detection”, *published in CIGRE International Conference on Large Power Transformers-Modern Trends in Application, Installation, Operation and Maintenance*, pp.21-34, 12-13, October2006, New Delhi, India.
- [4] **Manoj Tripathy**, Suresh Ala, “Optimal Radial Basis Function Neural Network Transformer Differential Protection,” *Proceedings of IEEE International Conference on Innovative Ideas towards the Electrical Grids of the Futures, Bucharest PowerTech2009, 28June-2July2009 Bucharest, Romania*.
- [5] **Manoj Tripathy**, “Neural Network Principal Component Analysis Based Power Transformer Differential Protection,” *Proceedings of IEEE International Conference on Power Systems, 27-29December2009, IIT Kharagpur, India*.
- [6] **Manoj Tripathy**, Suresh Ala, A. K. Singh, “Identification of Internal Faults in Power Transformer Using Symmetrical Components and Park’s Plots,” *Proceedings of IEEE International Conference on Power Systems, 27-29December2009, IIT Kharagpur, India*.
- [7] **Manoj Tripathy**, Sonu Pratap Pandey, “Impact of UPFC on Distance Relay: A Case Study” *Proceedings of IEEE International Conference on Power, Control and Embedded Systems, 28-November to 1-December to 2010, MNNIT Allahabad, India*.
- [8] **Manoj Tripathy**, Navneet K. Singh, Rakesh K. Arya, “Medium and Long Term

- Load Forecasting using Optimized ANN Architecture with Modified Input Selection Method,” *Proceedings of International Conference on Electrical Power and Energy Systems (ICEPES)*, 26-28 August, pp.522-528, 2010, MANIT Bhopal, India.
- [9] **Manoj Tripathy**, Navneet K. Singh, A. K. Singh, “A Radial Basis Function Neural Network Approach for Multi-Hour Short Term Load-Price Forecasting with Type of Day Parameter,” *IEEE Proceedings of International Conference on Electrical Power and Energy Systems (ICEPES)*, 26-28 August, 2011, Shri Lanka.
- [10] **Manoj Tripathy**, R. P. Maheshwari, Sibendu Samanta, “Directional Line Edge Binary Pattern for Texture Image Retrieval,” *International Conference on Advances Computer and Communication Informatics (ICACCI-2012)*, pp.745-750, 3-5 August 2012, Chennai, India.
- [11] **Manoj Tripathy**, Sachin Singh, R. S. Anand, “Performance Analysis of Speech Enhancement Techniques on Single Channel Speech Patterns of Hindi Language,” *International Conference on Soft Computing, Artificial Intelligence, Pattern Recognition, Biomedical Engineering and Associated Technologies (SAP-BEATS-2013)*, pp.52-57, 23-24 February 2013, Department of Electrical Engineering, M.B.M Engineering College, J.N.V. University, Jodpur, Rajasthan, India.
- [12] **Manoj Tripathy**, Sachin Singh, R. S. Anand, “Noise Removal in Single Channel Hindi Speech Patterns by Using Binary Mask Thresholding Function in Various Mother Wavelets,” *IEEE International Conference on Signal Processing, Computing and Control (ISPCC)*, 26- 28 September, 2013, Jaypee University of Information Technology, Waknaghat, Shimla, H.P., India.
- [13] **Manoj Tripathy**, Sachin Singh, R. S. Anand, “A Fuzzy Mask Based on Wavelet Packet for Improving Speech Quality and Intelligibility,” *IEEE International Conference on Signal Processing & Integrated Networks (SPIN-2014)*, 20- 21 February, 2014, Amity University, Noida, U.P., India.
- [14] **Manoj Tripathy**, Shailendra Singh, Vishal Kumar, “Wavelet Transform Based Discrimination Between Inrush and Internal Fault of Indirect Symmetrical Phase shifting Transformer,” *IEEE PES-GM- 2014*, Washington DC, U.S.A., July 27-31, 2014.
- [15] **Manoj Tripathy**, R. P. Maheshwari, Neha Nirala, “Wavelet Transform Based Discrimination Between Inrush and Internal Fault of Indirect Symmetrical Phase shifting Transformer,” *International Journal of Electronic and Electrical Engineering*, vol.7, no.7, pp.685-695, 2014. (ISSN 0974-2174)
- [16] **Manoj Tripathy**, R. P. Maheshwari, Neha Nirala, “Transformer Differential

- Protection Based on Wavelet and Neural Network,” *International Journal of Electronic and Electrical Engineering*, vol.7, no.7, pp.685-695, 2014. (ISSN 0974-2174)
- [17] **Manoj Tripathy**, R. P. Maheshwari, Khalid Aziz, “Loss of Field Protection of Synchronous Generator Using SVM,” *International Journal of Electronic and Electrical Engineering*, vol.7, no.7, pp.649-656, 2014. (ISSN 0974-2174)
- [18] **Manoj Tripathy**, R. P. Maheshwari, Khalid Aziz, “Performance Evaluation of Mho and Quadrilateral Characteristic Relays on UPFC Incorporated Transmission Line,” *International Journal of Electronic and Electrical Engineering*, vol.7, no.8, pp.827-835, 2014. (ISSN 0974-2174)
- [19] **Manoj Tripathy**, Princy Sharma, Sachin Singh, R.S. Anand, “Comparative Evaluation Single Channel Speech Enhancement Algorithms with and without Phase Spectrum Compensation,” *International Journal of Information & Computation Technology*, vol.4, no.17, pp.1791-1797, 2014. (ISSN 0974-2239).
- [20] **Manoj Tripathy**, Ashok Maori, H O Gupta, “SVM Based Zonal Setting of Mho Relay for Transmission Line Having TCSC,” 6th IEEE *POWER INDIA Internal Conference*, 5th December-7th December 2014. Delhi Technological Engineering, New Delhi.
- [21] **Manoj Tripathy**, Navneet K. Singh, A. K. Singh, “Short Term Load Forecasting using Genetically Optimized Radial Basis Function Neural Network,” *IEEE Proceedings of International Conference of Australasian University Power Engineering Conference (AUPEC) on Smart Power for Everyone Curtin University, Perth, Australia, 28th September-1st October 2014.*
- [22] **Manoj Tripathy**, Sachin Singh, R. S. Anand, “Evaluation of Noise Estimation Techniques for Single-Channel Speech in Low SNR Noise Environment,” *IEEE International Conference on Recent Advances and Innovations in Engineering (ICRAIE-2014)*, pp.1-5, May 09-11, 2014, Jaipur India.
- [23] **Manoj Tripathy**, Ashok Maori, H O Gupta, “An Advance Compensated Mho Relay for Protection of TCSC Transmission Line,” *IEEE International Conference on Recent challenges in power system operation and control. (PIICON-2014)*, Dec. 05-07, 2014, Le-Meridian, Connaught Place, New Delhi, India.
- [24] **Manoj Tripathy**, OM Hari Gupta, “Impact of Degraded Power Quality on Distance Relaying for EHV Transmission Lines: A Case Study”, *International Conference on Capacitors (CAPACIT2014)*, Organized by IEEMA, 20-21 November, New Delhi 2014.

- [25] **Manoj Tripathy**, OM Hari Gupta, “An Integrated Impedance Based Pilot Protection Scheme for SVC Compensated Transmission Line”, *International Conference on Power, Control and Embedded System (ICPCES-2014)*, December 26-28, MNNIT, Allahabad, India, 2014.
- [26] **Manoj Tripathy**, Navneet K. Singh, A. K. Singh, “A Comparative Study of BPNN, RBFNN and ELMAN Neural Network for Short-Term Electric Load Forecasting: A Case Study of Delhi Region,” *9th IEEE International Conference on Industrial and Information Systems (ICIIS2014)*, 15-17 December 2014 at Atal Bihari Vajpayee Indian Institute of Information Technology and Management Gwalior, India.
- [27] **Manoj Tripathy**, Ashok Maori, H. O. Gupta, “SVC Based Zonal Setting to MHO Relay for Transmission Line Having TCSC,” *IEEE International Conference on Recent challenges in power system operation and control. (PIICON-2014)*, Dec. 05-07, 2014, Le-Meridian, Connaught Place, New Delhi, India.
- [28] **Manoj Tripathy**, Navneet K. Singh, A. K. Singh, “Short-Term Load/Price Forecasting in Deregulated Electric Environment using ELMAN Neural Network,” *IEEE Proceedings of First IEEE Uttar Pradesh International Conference On Energy Economics and Environment (UPCON-ICEEE2015)*, 27-28 March, 2015, Greater Noida, India.
- [29] **Manoj Tripathy**, OM Hari Gupta, “Directional Relaying Scheme for TCSC Compensated Line”, *IEEE Electrical Power & Energy International Conference (EPEC2015) on Smarter Resilient Power Systems, London, Ontario, Canada, October 26th to 28th, 2015, London Convention Center, University of Western Ontario, Canada 2015.*
- [30] **Manoj Tripathy**, Ashok Maori, H. O. Gupta, “Investigation of an Advanced Compensated Mho Relay on Double Circuit Series Compensated Transmission Line,” *IEEE International Conference (TENCON15), IEEE International Conference (TENCON15)*, 1-4 Nov 2015, Holiday Inn, Macau, China, 2015.
- [31] **Manoj Tripathy**, Shailendra Singh, Vishal Kumar, “Differential Protection of Indirect Symmetrical Phase Shift Transformer and Internal Faults Classification using Wavelet and ANN,” *IEEE International Conference (TENCON15)*, 1-4 Nov 2015, Holiday Inn, Macau, China, 2015.
- [32] **Manoj Tripathy**, Neha Nirala, “Power Transformer Differential Protection Algorithm Based on Dead Angle of Wavelet Energy Waveform,” *IEEE International Conference (TENCON15)*, 1-4 Nov 2015, Holiday Inn, Macau, China, 2015.

- [33] **Manoj Tripathy**, Shailendra Singh, Vishal Kumar, “Differential Protection of Indirect Symmetrical Phase Shift Transformer Using Wavelet Transform,” *12th IEEE India International Conference on Electronics, Energy, Environment, Communication, Computer, Control (E³-C³), 2015 (INDICON 2015), 17-20 December 2015, Department of Electrical Engineering, Jamia Millia Islamia, New Delhi, India, 2015.*
- [34] OM Hari Gupta, **Manoj Tripathy**, “Relaying Scheme for STATCOM Compensated Transmission Line”, *6th IEEE International Conference on Power Systems (ICPS 2016) Indian Institute of Technology Delhi and India Habitat Centre, 4th-6th March 2016, New Delhi, India, 2016.*
- [35] Sachin Singh, **Manoj Tripathy**, R. S. Anand, “Wavelet Packet based Multiple Noise Suppression in Single Channel Speech using Binary Mask Threshold,” *IEEE International Conference on Signal Propagation and computer technology (ICSPCT), pp.1-5, July 12-13, 2014, Ajmer India.*
- [36] Shailendra Singh, **Manoj Tripathy**, Vishal Kumar, “Identification of type of internal fault in indirect symmetrical phase shift transformer based on PRN,” *7th Power India International Conference (PIICON-2016), Government Engineering College Bikaner, Rajasthan during 25-27 November 2016.*
- [37] OM Hari Gupta, **Manoj Tripathy**, “EC-Based Relaying Scheme for the Protection of Shunt-Compensated Transmission Line”, *4th International Conference on Power, Control & Embedded Systems (ICPCES-2017) to be held at Motilal Nehru National Institute of Technology, Allahabad during 09-11 March 2017.*
- [38] OM Hari Gupta, **Manoj Tripathy**, “Real-Time Validation of ERF-Based Scheme for Shunt-Compensated/Uncompensated Line”, *3rd International Conference on Power Generation Systems and Renewable Energy Technologies (PGSRET 2017) at Universiti Teknologi Malaysia (UTM), Johor, Malaysia during 4-6 April 2017.*
- [39] **Manoj Tripathy**, “A Novel Scheme for Condition Monitoring of Indirect Unsymmetrical Phase Shift Transformer”, *6th International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA-2017), at Department of Electrical Engineering of IIT Roorkee, Roorkee-247667, U.K., India, during 5-7 Oct. 2017.*
- [40] OM Hari Gupta, **Manoj Tripathy**, Vijay K. Sood, “Digital Relaying Scheme for Protection of Shunt-Compensated Transmission Lines”, *IEEE Electrical Power and Energy Conference (EPEC 2017) on Advanced Technologies for Renewable Energy Systems and Smart Grids, at Saskatoon, SK , Canada, pp-288-293, Canada, 22-25*

October 2017.

- [41] Sachin Singh, A. M. Mutawa, Monika Gupta, **Manoj Tripathy**, R. S. Anand, “Phase Based Single-Channel Speech Enhancement Using Phase Ratio,” *6th International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA-2017)*, at Department of Electrical Engineering of IIT Roorkee, Roorkee-247667, U.K., India, during 5-7 Oct. 2017.
- [42] Tarun Rathi, R. P. Maheshwari, **Manoj Tripathy**, Vikas Chaudhary, Mesfin Jariso, “PSNR and Robustness comparison between DCT and SVD based Digital Image Watermarking against Different Noise and Attacks,” *6th European Alliance for Innovation (EAI) International Conference on Advancements of Science and Technology, Bahir Dar, Ethiopia, October 5-7, 2018*.
- [43] Tarun Rathi, R. P. Maheshwari, **Manoj Tripathy**, Rahul Saraswat, Mesfin Jariso, “A Comparative Analysis of Watermarked and Watermark Images using DCT and SVD based Multiple Image Watermarking,” *6th European Alliance for Innovation (EAI) International Conference on Advancements of Science and Technology, Bahir Dar, Ethiopia, October 5-7, 2018*.
- [44] Shailendra Singh, **Manoj Tripathy**, “Turn-to-Turn Fault Detection in Indirect Symmetrical PST Based on Negative Sequence Current Components,” *5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON-2018)*, organized by Madan Mohan Malaviya University of Technology, Gorakhpur (UP) India, & University of the Ryukyus, Okinawa, Japan, November 2-4, 2018.
- [45] Ashok Manori, **Manoj Tripathy**, “Protection of TCSC Transmission Line by Wavelet Based Advance Mho Relay,” *5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON-2018)*, organized by Madan Mohan Malaviya University of Technology, Gorakhpur (UP) India, & University of the Ryukyus, Okinawa, Japan, November 2-4, 2018.
- [46] SambaRaju Chiluveru, Anil Surisetty, **Manoj Tripathy**, “Comparison of Recurrent Architectures for Speech Enhancement”, *International Conference on Artificial Intelligence and Applications (ICAIA-2019)*, organized by College of Engineering Roorkee (COER), Roorkee, November 20-21, 2019, India.
- [47] SambaRaju Chiluveru, A.M.C. Nagesh, **Manoj Tripathy**, “Speech Separation using Variational Convolutional Neural Networks”, *International Conference on Artificial Intelligence and Applications (ICAIA-2019)*, organized by College of Engineering Roorkee (COER), Roorkee, November 20-21, 2019, India.

- [48] Samba Raju Chiluveru, **Manoj Tripathy**, “Speech Intelligibility Improvement Using Variable Level Decomposition DWT”, *22nd International Conference on Acoustics, Speech and Signal Processing (ICASSP-2020)* Amsterdam, Netherlands 20-21 January 2020.
- [49] Salauddin Ansari, Om Hari Gupta, **Manoj Tripathy**, “An Islanding Detection Methodology for SOFC-based Static DG using DWT”, *Electric Power and Renewable Energy Conference-2020 (EPREC-2020)*, National Institute of Technology Jamshedpur, India, 29-30 May, 2020.
- [50] Samba Raju Chiluveru, **Manoj Tripathy**, “Nonstationary Noise Reduction in Low SNR Speech Signals with Wavelet Coefficient Feature,” *The 3rd IEEE International Conference on Smart Systems and Inventive Technology (ICSSIT 2020)* Francis Xavier Engineering College at Tirunelveli during 20-22 August, 2020.
- [51] Saurabh Sharma, **Manoj Tripathy**, Dharmendra Kumar Dheer, “Study and Improvement of AC Microgrid Stability Using GSA”, *IEEE PES International Conference on Power System Technology (POWERCON 2020)*, ISC Bangalore, India, 14-16 September 2020.
- [52] Raj Kumar, **Manoj Tripathy**, R. S. Anand, “Iterative Thresholding Based Spectral Subtraction Algorithm for Speech Enhancement”, *2nd International Conference on VLSI, Signal Processing, Power Electronics, IoT Communication and Embedded Systems (VSPICE-2020)*, Department of Electronics and Communication Engineering, N.M.A.M. Institute of Technology, Nitte, Udupi, Karkala, Karnataka, India, 22-23 December 2020.
- [53] Chetan Srivastava, **Manoj Tripathy**, “Protection of Islanded PMSG based Wind Turbine Feeding through a Bipolar DC Link”, *IEEE International Conference on Advances in Electrical, Computing, Communications and Sustainable Technologies (ICAECT 2021)*, Shri Shankaracharya Technical Campus (SSTC), Bhilai, Chhattisgarh, India, 19–20, February 2021.
- [54] Pooja Chauhan, C.P Gupta, **Manoj Tripathy** “A new protection algorithm based on superimposed load current in DC microgrid”, *IEEE International Conference on Computing, Power and Communication Technologies 2021 Kuala Lumpur, Malaysia, 24th- 26th Sept. 2021*.
- [55] Li Wang, Ching-Chuan Tseng, Anton V. Prokhorov, Hazlie Mokhlis, Kein Huat Chua, **Manoj Tripathy**, “Stability Improvement of a Series-Capacitor Compensated Power System Using Thyristor-Controlled Series-Capacitor (TCSC) H_{∞} Damping Controllers”, *IEEE Industry Applications Society Annual Meeting, Vancouver, BC, Canada, October 10-14, 2021 (Accepted, paper ID#10)*

- [56] Li Wang, Thi Ha Nguyen, Ching-Chuan Tseng, Anton V. Prokhorov, Hazlie Mokhlis, Kein Huat Chua, **Manoj Tripathy**, “Damping Improvement of a Large-scale Offshore Wind Farm Fed to a Multimachine Power System Using a Generalized Unified Power-Flow Controller”, *IEEE Industry Applications Society Annual Meeting, Vancouver, BC, Canada, October 10-14, 2021 (paper ID#46)*
- [57] Li Wang, Che-Hao Chang, Ching-Chuan Tseng, Anton V. Prokhorov, Hazlie Mokhlis, Kein Huat Chua, **Manoj Tripathy**, “Small-Signal Stability Analysis of a Grid-Connected Wind-Turbine Generator Based on Dynamic-Slip Induction Generator”, *IEEE Industry Applications Society Annual Meeting, Vancouver, BC, Canada, October 10-14, 2021.*
- [58] Li Wang, Hou-Yu Gao, Ching-Wen Tzeng, Zhi-Hong Huang, Min-Fang Lee, Yu-Shun Lin, Hong-Sheng Huang, Anton V. Prokhorov, Hazlie Bin Mokhlis, Kein Huat Chua, **Manoj Tripathy**, “Small-Signal Stability Analysis of a Vanadium Redox Flow Battery”, *5th IEEE International Future Energy Electronics Conference (IFEEEC 2021), Taipei, Taiwan, November 16-19, 2021. (Accepted # Paper No: 220047).*
- [59] Li Wang, Hong-Sheng Huang, Min-Fang Lee, Yu-Shun Lin, Zhi-Hong Huang, Hou-Yu Gao, Ching-Wen Tzeng, Anton V. Prokhorov, Hazlie Bin Mokhlis, Kein Huat Chua, **Manoj Tripathy**, “Stability Improvement of a DC Microgrid Fed to a Multimachine Power System Using a STATCOM”, *5th IEEE International Future Energy Electronics Conference (IFEEEC 2021), Taipei, Taiwan, November 16-19, 2021. (Accepted # Paper No: 220048).*
- [60] Samba Raju Chiluveru, **Manoj Tripathy**, “Speech Enhancement Using Hybrid Model with Cochleagram Speech Feature”, *2nd IEEE Second International Conference on Technology, Engineering, and Management for Societal impact using Marketing, Entrepreneurship and Talent (TEMSMET), Symbiosis Institute of Computer Studies and Research, Atur Centre, Gokhale Cross Road, Model Colony, Shivajinagar, Pune, Maharashtra, India, December 2-3, 2021. (Accepted # Paper No: 165).*
- [61] Li Wang, Kuo-Hua Liu, Ching-Chuan Tseng, Anton V. Prokhorov, Hazlie Mokhlis, Chua Kein Huat, **Manoj Tripathy**, “Evaluation of Summation Results of Injected Third-Order Harmonic Currents Produced by Micro Hydro Generators with Power-Electronics Converters Using a Probabilistic Approach,” *IEEE Industry Applications Society Annual Meeting, Vancouver, BC, Canada, October 10-14, 2021. (DOI: 10.1109/IAS48185.2021.9677190)*

- [62] Pooja Chauhan, C.P Gupta, **Manoj Tripathy** “A Current Difference Based Protection Technique for Low Voltage DC Microgrid”, *IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE2022)*, Jan 2-5, 2022. (Accepted # Paper No: 192).
- [63] Saurabh Sharma, **Manoj Tripathy**, Li Wang, “A Novel Protection Scheme for Low Voltage DC Microgrid Based on Localized Measurement of Transient Reactor Voltage”, *IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE2022)*, Jan 2-5, 2022. (Accepted # Paper No: 167).
- [64] Snehit Chunarkar, Samba Raju Chiluveru, **Manoj Tripathy**, “Mixed Language Separation Using Deep Neural Network,” *Fifth International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECCOT)*, 10-11 December 2021, Mysuru, Karnataka, India.
- [65] Chetan Srivastava, **Manoj Tripathy**, Li Wang, “Fault Detection and Classification of DC Microgrid Utilizing Differential Protection Scheme”, *IEEE IAS Global Conference on Emerging Technologies (GlobConET)*, through virtual mode with 100 % Financial Sponsorship of IEEE Industry Applications Society USA, May 20-21, 2022. (Paper Id: 180).

A4. Papers in national conference proceedings/National Seminar:

- [1] **Manoj Tripathy**, R.P. Maheshwari, Dinesh Birla, and Bhavesh Bhalj, “Advances in Lines and Transformer Protective Schemes,” *National Conference on Emerging Computational Techniques and Their Applications, Jodhpur, pp. Oct. 22 – 23, 2005.*
- [2] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “Power Transformer Protection Based on H.M.M. and ANN Technique”, *Published in National Conference on Technical Challenges in Power Systems, KNIT, Sultanpur, pp.157-162, 24-25 March 2006.*
- [3] **Manoj Tripathy**, R. P. Maheshwari, H. K. Verma, “Application of BPNN for Power Transformer Protection”, *Proceedings of 14th National Power Systems Conference, December 27 - 29, pp.40, Indian Institute of Technology Roorkee, 2006.*
- [4] **Manoj Tripathy**, K. V. Babu, A. K. Singh, “PMU Based Fault Location Techniques for Transmission Line-A Review,” *Proceedings of All India Seminar on Recent Technological Developments in Energy Efficiency and Energy Conservation, 25-26*

February, pp.95-99, *The Institution of Engineers, Chennai 2011.*

- [5] **Manoj Tripathy**, K. V. Babu, A. K. Singh, “Recent Techniques used in Transmission Line Protection-A Review,” *Proceedings of National Conference on Recent Advances in Electrical Power and Energy System Management (RAEPESM-2011)*, 25-26 March, 2011, pp.31, Department of Electrical Engineering, Madan Mohan Malaviya Engineering College Gorakhpur-273010, Gorakhpur 2011.
- [6] **Manoj Tripathy**, Navneet K. Singh, A. K. Singh, “Application of RBFNN for Short Term Load and Price Forecasting,” *National Conference on Emerging Trend in Electrical and Electronics Engineering*, 26-27 Nov. 2011, KNIT Sultanpur, U.P., India, 2011.
- [7] **Manoj Tripathy**, “Advanced Power System Protection”, *TEQIP sponsored conclave on “Academic Enhancements in Electrical Engineering” (Power Systems and Power Electronics Streams)*, November 8-10, Department of Electrical and Electronics Engineering, National Institute of Technology Trichy, Tamil Nadu-620015, 2013.
- [8] **Manoj Tripathy**, Shailendra Singh, Vishal Kumar, “Indirect Symmetrical PST Protection Based on Phase Angle Shift and Optimal Radial Basis Function Neural Network,” *18th National Power Systems Conference (NPSC 2014)*, December 18-20, 2014, IIT Guwahati, Assam, INDIA.
- [9] **Manoj Tripathy**, OM Hari Gupta, “Energy Based Relaying Scheme for Series Compensated Line”, *39th National Systems Conference (NSC) on Emerging Technologies for Engineering Complex Systems*, December 14-16, Shiv Nadar University, Dadri, Gautam Budh Nagar, Uttar Pradesh-201314, India, 2015.
- [10] OM Hari Gupta, **Manoj Tripathy**, “Positive Sequence Phasor Estimation Based Pilot Relaying Scheme for Shunt Compensated Line”, *19th National Power Systems Conference (NPSC16) on Towards reliable, safe and secure Smart-grid infrastructure*, December 19-21, School of Electrical Sciences, IIT Bhubaneswar, Bhubaneswar- 751013, India, 2016.

A5. Participated in national conference /National Seminar:

- [1] **Manoj Tripathy**, participated in the National Seminar on “Managing Inclusive Growth in India: A Re-look into the Socio-Economic Perspectives,” organized by Department of Humanities and Social Sciences, Motilal Nehru National Institute of Technology Allahabad, India, February 12-13, 2010.
- [2] **Manoj Tripathy**, participated in the National Seminar under IEEE Joint Chapter of

- Industrial Electronics, Power Electronics and control System Societies under U.P. Section on the topic of “The Simplest Mamdani PID Controllers: Modeling, Analysis & Synthesis” by Dr. B. M. Mohan, IIT Kharagpur, organized by Electrical Engineering Department, Motilal Nehru National Institute of Technology Allahabad, India, March 26, 2010.*
- [3] **Manoj Tripathy**, *Participated in the Course “Metering Technology & AMR Application” under Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Part-C Capacity Building Training Programme, organized by Ministry of Power, Government of India in association with FITT, IIT Delhi, at IIT Delhi, India, October 4, 2012.*
- [4] **Manoj Tripathy**, OM Hari Gupta, “A High Speed Directional Relaying for Series Compensated Line and RTDS Validation”, National Workshop on Advance Applications of real Time Digital Simulator in Power Engineering Research and Controller validation, November 20-21, PBCEC Seminar Room, Visitors Hostel, IIT Kanpur Uttar Pradesh-201314, India, 2015.
- [5] **Manoj Tripathy**, *Participated in the National Workshop on “Hydro-Power Development And Management-Thinking Ahead,” organized by Indian Water Resources Society (IWRS) and Department of Water Resources Development & Management, Indian Institute of Technology Roorkee, India, April 16, 2017.*
- [6] **Manoj Tripathy**, *Participated in the National Workshop on “Comprehensive Roof Top Solar Energy Utilization,” organized by Alternate Hydro Energy Centre, Indian Institute of Technology Roorkee, India, August 18, 2017.*

Date: 28-05-2022

Place: Roorkee

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