

# Prof. (Dr.) Vinesh Agarwal

Professor & Dean

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Orchid Id: 0000-0003-1111-9202, Publon/WoS Id: ABE-7685-2020

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## 1. Professional Qualification

- ✓ **PhD (Feb, 2018)** in Electrical Engineering from Sangam University, Bhilwara
- ✓ **M. Tech (2010)** in Power Systems from Rajasthan Technical University with **78% (Gold Medal)**
- ✓ **B.E. (2002)** in Electrical Engineering from Rajasthan University with **69 %**

## 2. Area of Research

Renewable and Sustainable Energy, Power Electronics, Grid Integration of Renewable Energy Sources, Industrial Drives, Smart Grid, IOT and Power System

## 3. Experience

- ✓ **Currently working as Professor & Dean, School of Engineering & Technology, Sangam University, Bhilwara.**
- ✓ From September 2008 to October 2014 as **Asst. Prof. & Head**, Electrical Department at Institute of Technology & Management, Bhilwara
- ✓ From August 2007 to August 2008 as **Sr. Lecturer & Head**, Electrical Department at Sobhasariya Engineering College, Sikar
- ✓ From July 2003 to July 2007 as **Sr. Lecturer & Head**, Electrical Department at Institute of Technology & Management, Bhilwara
- ✓ From July 2002 to June 2003 as **Maintenance Engineer (Electrical)** at Priya Yarns Limited, Bhilwara

## 4. Awards/Distinctions/Recognitions

- ✓ **Appreciation Certificate (2010)** awarded by **Institution of Engineers (India)**, Udaipur local center for contribution in the technical field.
- ✓ **Best Paper Award (2010)** for the presented paper "Power electronics control in wind diesel hybrid PMSG system", All India Seminar on Intelligent motion control of Electrical Drives at CTAE, Udaipur 25th and 26th Dec. 2010.

- ✓ **Gold Medal Award (2011) in M.Tech (Power System)** along with **Certificate of Merit.**
- ✓ **Best Paper Award (2019)** for the presented paper “Selected harmonics elimination for photovoltaic based II level cascaded multilevel inverter using genetic algorithm”, International Conference on Engineering Optimization and Data Science at SKIT, Jaipur 11-12 October, 2019
- ✓ **Appreciation Certificate (2020)** awarded by Sangam University, for contribution in GATE Classes.
- ✓ **Best Paper Award (2021)** for the presented paper “Control strategies for maximum power point tracking techniques for PV system”, International Conference on ICAIR at Sangam University, Bhilwara 05-06 Feb , 2021

## 5. PUBLICATIONS

- ✓ International/National Referred Journals : 30
- ✓ International/National Conferences/Seminars : 20
- ✓ Books with International/National Publishers : 01

## 6. PATENT

- ✓ **Design Patent** on Inductive Angle Encoder Design No. 336979-001 on 30-12-2020 Awarded by Govt. of India Patent Office.
- ✓ **Design Patent** on Torque Transducer Design No. 337225-001 on 05-01-2021 Awarded by Govt. of India Patent Office.

## 7. RESEARCH PROJECTS COMPLETED

- ✓ Research project funded by Nitin Spinners, Bhilwara during the year 2020-21

## 8. RESEARCH GUIDED/SUPERVISED

- ✓ PhD Students : 4 Completed and 6 Under Supervision
- ✓ M.Tech Students : 25

## 9. Human Resources Development and Management

- ✓ Organized **National Conference** on REEES during 10-11 September, 2010 as Conference Convener at ITM Bhilwara.
- ✓ Organized **National Conference** on ETREEE during 25-26 February, 2012 as Conference Convener at ITM Bhilwara.
- ✓ Organized **National Conference** on RITET during 24-25 December, 2018 as Conference Convener at Sangam University, Bhilwara

- ✓ Organized **International Conference** on ICAIR during 05-06 February, 2021 as Organizing Secretary at Sangam University, Bhilwara

#### **10. Reviewer of Journals**

- ✓ Reviewer of IEEE Transactions on IET Electric Power Applications

#### **11. Membership of Professional bodies**

- ✓ Student member, IEEE
- ✓ Member, Institution of Engineer's(India)
- ✓ Member, ISTE

#### **12. Administrative Responsibilities**

- ✓ Chairman Board of Studies
- ✓ Member Academic Council
- ✓ Member, IQAC
- ✓ Convener, Admission Committee
- ✓ Member, Scholarship Committee

#### **13. Development of Laboratory**

- ✓ **IOT and Solar Hardware Laboratory:** Strengthened Electrical hardware laboratory and also developed detailed lab manual for better understanding the design concepts of the subject.
- ✓ **System Simulation Laboratory for PG Students:** Strengthened and developed System Simulation laboratory for PG students and developed lab manual for this.

#### **14. Attended Orientation / Faculty Development Program/STP**

- ✓ Short Term course on "Artificial Neural Network & Fuzzy Logic NITTTR, Chandigarh Nov. 2006
- ✓ Faculty Development Program SEC, Sikar Jan.2nd to Jan. 16th 2008 **(Two Week)**
- ✓ Workshop on PLC SCADA Sofcon India, Noida, 9th Nov. 2011 **(one day)**
- ✓ ISTE Workshop on Research Methodologies by IITB Sangam University, IITB, 25th Jun to 04th July. 2012 **(Two Week)**
- ✓ ISTE Workshop on AAKASH for Education by IITB Sangam University, IITB, 10th and 11th Nov. 2012 **(Two Day)**
- ✓ ISTE Workshop on Analog Electronics by IITKGP Sangam University, IITKGP, 04th to 14th June. 2013 **(Two Week)**

- ✓ Faculty Development Program on Power Electronics and their control for power system CTAE, MPUAT, Udaipur 10th to 22nd June. 2013 **(Two Week)**
- ✓ ISTE Workshop On Signal and system IIT, Karagpur, 30th Sept to 4th Oct. 2013 **(One Week)**
- ✓ ISTE Workshop On Signal and system Sangam University, Bhiwara, 2 to 12 Janauray,2014 **(Two Week)**
- ✓ ISTE Workshop On Control system Sangam University, Bhiwara, 2 to 12 December,2014 **(Two Week)**
- ✓ NPTEL Awareness Workshop Sangam University, Bhilwara 17 Oct,2019
- ✓ STP on Problem Based Learning NITTTR Kolkata 20-31 May 2019 **(Two Week)**
- ✓ Short Term Training Program on Optimization Techniques and their Application to Power systems at SKIT Jaipur from 02-07 March 2020. **(One Week)**
- ✓ Short Term Training Program on Power System optimization using GEMS at RIT-IEEE Bombay Section (Online) from 11-16 May 2020 **(One Week)**
- ✓ Short Term Training Program on Bio Energy technologies and transitions at Govt. Engg. College, Bikaner (Online) from 13-17 May 2020 **(One Week)**
- ✓ Faculty Development Program Sangam University, Bhilwara 20-24 December 2021. **(One Week)**

## 15. Techno-Commercial Activities

Development of Grid connected Matrix Converter Interfaced Permanent Magnet Synchronous Generator for Wind Energy Conversion System



**Matrix converter prototype**

## **16. Invited Lectures/Keynote Speaker/Session Chair**

- ✓ Session chair in many international & National Conferences/Webinar
- ✓ Taking many Guest Lecture at Electrical Department, CTAE, Udaipur
- ✓ Guest Lecture at Electrical Department, GWECA, Ajmer
- ✓ Expert Lecture at Electrical Department, SKIT, Jaipur
- ✓ Expert Lecture on Smart Grids at Electrical Department, Atharva College of Engineering, Mumbai 11 March 2020
- ✓ Expert Lecture in TEQIP III Sponsored FDP on Recent Trends in Electrical Engineering & Soft Computing Applications in Power Systems 25-29 August, 2020
- ✓ Expert Lecture in One Day Webinar on Effects of RF & microwave Radiations on Human Tissues, 15 Sept, 2020.
- ✓ Expert Lecture in TEQIP III Sponsored FDP on Autocad in Electrical Panel Design 26-30 December, 2020
- ✓ Expert Lecture in TEQIP III Sponsored FDP on Arduino and PLC based Automation 19-23 Jan, 2021
- ✓ Expert Lecture in TEQIP III Sponsored FDP on Research Opportunities in Emerging Areas of Electrical Engineering 08-12 Feb, 2021
- ✓ Expert Lecture in TEQIP III Sponsored FDP on Recent Advances in Industrial Power Electronics & Drives Design 22-26 Feb, 2021
- ✓ Expert Lecture in One Day Webinar on Power Plant operations: Electrical Aspects, 24-25 May, 2021
- ✓ Expert Lecture in One Day Webinar on Sustainability: Infrastructure & Environment, 05 June, 2021

## **17. Books Published**

1. Advanced Power Electronics, Vinesh Agarwal, R. R. Joshi, R. C. Bansal, V. Kumar, and A.K.Sharma, Vardhan Publisher and Distributors, Jaipur, 2010/2015, ISBN No. 978-93-80205-02-1

## 18. LIST OF PUBLICATIONS

### Refereed ARTICLES IN INTERNATIONAL JOURNALS

1. "Design of a Novel AGC Action for a Linked Hydro Governing System", Electric Power Component and System Journal, 2021.
2. "Studies on Frequency Regulation of Hydro System via New JAYA Optimized LQR Design", IEEE, (ICABCD) Durban, South Africa, pp. 1-4, 2021.
3. "Frequency Control Studies of Hydro System using AI Applications", IEEE, (ICABCD) Durban, South Africa, pp. 1-5, 2021.
4. "A Novel Design for an Interlinked Hydro Power System", Indonesian Journal of Electrical Engineering and Computer Science, Vol.99, No.1, Jan 2021, pp. 1~1x, ISSN: 2502-4752
5. "Performance Analysis of Buck-Boost Bi-Directional DC-DC Converter for Electrical Vehicle" Wesleyan Journal of Research, ISSN- 0975-1386, Vol. 13 No. 69, March 2021
6. "Comprehensive Review on Multi level Inverter Topologies" Wesleyan Journal of Research, ISSN- 0975-1386, Vol. 13 No. 68, March 2021
7. "Battery Charging Techniques for Electrical Vehicle" Wesleyan Journal of Research, ISSN- 0975-1386, Vol. 13 No. 67, March 2021
8. "Performance Analysis of Full Bridge DC-DC Converter for Electrical Vehicle Application" Elsevier, February 26, 2021
9. "Isolated Soft Switching Current Fed Series LC Resonant DC-DC Converter for Electrical Vehicle Application" Turkish Journal of Computer and Mathematics Education (TURCOMAT), ISSN- 1309-4653, Vol.12 No.3 (2021), 3359-3367
10. "A Review of Various Dc-Dc Converter Topologies for Electrical Vehicle" Test Engineering & Management, ISSN-0193-4120, May – June 2020, Page No. 26324 - 26344 26324
11. "Stability Enhancement of TLBO Tuned SMIB System," International Journal of Recent Technology and Engineering (IJRTE), ISSN: 2277-3878, vol.-8, no.6, pp. 1389-1399, March 2020.
12. "Application of TLBO Algorithm in Power System," International Research Journal of Modernization in Engineering Technology and Science, ISSN: 2582-5208, vol.2, no.8, August-2020.

13. "Design of SSSC Based Damping Controller Using TLBO Algorithm," ICTACT Journal of Microelectronics (IJME), vol.6, no.2, pp. 934-941, July 2020.
14. "Power System Stability Improvement of Multimachine System using TLBO Optimization Technique," Journal of Critical Review, ISSN: 2394-5125, vol.7, no.15, pp. 2950-2961, August 2020.
15. "Comparative Analysis of ANN-Based FL and Travelling Wave-Based FL for Location of Fault on Transmission Lines". Journal of the Institution of Engineers(India) Series B, Springer ISSN: 2250-2106, Volume 100 issue 3 February 2019, pp 267-276
16. "Solar Panel Highways have Embedded Led lights and Thermocouple Technology: A case Study". International Journal of the Research and Analytical review ISSN: 2348-1269, Volume 6 issue 1 February 2019, pp 101-105.
17. "Power System Stability Improvement by SSSC Tuned with Teaching Learning Optimization Technique." International Journal of Research and Analytical Reviews (IJRAR), ISSN: 2348-1269, vol.6, no.1, 2019.
18. "Stability Improvement of SMIB System using TLBO Technique." 2019 3rd International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE). IEEE, pp.323-328, Oct. 2019.
19. "Transmission Line Fault Classification using Artificial Neural Network based Fault Classifier". International Journal of Electrical Engineering & Technology ISSN: 0976-6545, Volume 9 issue 3 March 2018, pp 170-181
20. "Experimental Research of Space Vector PWM Based Matrix Converter for WECS". International Journal of Electronics, Electrical and Computational ISSN: 2348-117X, Volume 6 issue 9 September 2017, pp 599-608
21. "Modeling, Simulation and Performance Analysis of AC-DC-AC PWM Converters Based Wind Energy Conversion System". International Journal of Recent Technology and Engineering ISSN: 2277-3878, Volume-2, Issue-4, September 2017. Pp 01-09.
22. "Experimental Research of Space Vector PWM Based Matrix Converter for WECS". Journal of Emerging Technologies and Innovative Research ISSN: 2349-5162, Volume 4 issue 8 August 2017, pp 99-103
23. "Matrix Converter Interfaced PMSG Based Wind Energy Conversion System Controlled by Adaptive Fuzzy Control System". International Journal of Advance Engineering and Research Development ISSN: 2348-4470, Volume 4 issue 8 August 2017, pp 244-254.

24. "MATLAB Based Analysis of 3- $\phi$  Self-Excited Induction Generator with Nonlinear Load". IOSR Journal of Electrical and Electronics Engineering e-ISSN: 2278-1676, p-ISSN: 2320-3331, Volume 6, Issue 4 (Jul. - Aug. 2013), pp 21-29.
25. "A PFC Fed Asynchronous Generator For Advanced Wind Power Generation Excited By Voltage Source Inverter" IOSR Journal of Electrical and Electronics Engineering e-ISSN: 2278-1676, p-ISSN: 2320-3331, Volume 6, Issue 5 (Jul. - Aug. 2013), pp 30-37.
26. "Comparison Performance Analysis and Evaluation of Distance Protection Scheme using Advance Simulation Technique". IJSR International Journal of Science and Research ISSN No. 2277-8179 Volume 1 Issue 4 September 2012, pp 51-54.
27. "Behavior Study of DSTATCOM with Load Variation". International Journal of Latest Technology in Engineering, Management & Applied Science ISSN: 2278-2540, Volume 1 issue 7 October 2012, pp 80-84.
28. "Performance Analysis of Power Factor Correction for Converters using Hysteresis Current Mode Control". International Journal of Latest Technology in Engineering, Management & Applied Science ISSN: 2278-2540, Volume 1 issue 8 October 2012, pp 10-14.

#### **Refereed Articles In International/National Conferences/Seminars**

1. International Conference on Education India and Beyond at Pragati Maidan, New Delhi 9th Sept. 2006
2. National Seminar on Quality Education at SEC, Sikar 25th and 26th May. 2008
3. "Energy conservation and management in industrial and commercial utility", International Conference on Emerging trends in Energy and Environment at Sri Sai Ram Engg. College, Chennai 7th and 8th Jan. 2010
4. "Environmental Aspect of Bhilwara", National conference on Environmental Challenges at Maharana Pratap Sabhagar, Bhilwara 2nd April 2010
5. National Conference on Recent advances in EE and Energy Systems at ITM, Bhilwara 10th and 11th Sept. 2010
6. "Power electronics control in wind diesel hybrid PMSG system", All India Seminar on Intelligent motion control of Electrical Drives at CTAE, Udaipur 25th and 26th Dec. 2010 (**best paper**)



7. "Power Electronics application in distributed AC systems", National Conference on The Renewable Energy Sources at SITE, Nathdwara 25th and 26th June. 2011
8. "Modeling and Simulation of DFIG for conversion of wind energy", National Conference on Emerging Technologies in Renewable Energy and EE at ITM, Bhilwara, 25th and 26th Feb. 2012
9. "Investigation effects on D-Statcom of load variations at various situations", National conference on Emerging trends in Power System Engineering at Marudhar Engg. College, Bikaner 23rd April. 2012
10. "Comparison, performance, Analysis & Evaluation of Distance protection scheme", National Conference on ERECON, Techno NJR, Udaipur 23-24 Feb, 2013.
11. International Seminar on Sustainable and Renewable Energy Resources for Engine Technologies at Government Women Engineering College, Ajmer 24th Dec, 2015
12. International Conference on Science, Technology & Management at Academic Science of institution, Bengaluru , 24th Sept, 2017
13. "Bladeless wind Mill", AICTE sponsored Two day national Conference on Design Aspects, Operation and Control of Smart Grids at SKIT, Jaipur 27-28 October, 2017
14. "Blue energy with Smart Grid Technology", AICTE sponsored Two day national Conference on Design Aspects, Operation and Control of Smart Grids at SKIT, Jaipur 27-28 October, 2017
15. "Modeling and Simulation of PMSG Based for WECS", Annual International Conference/Coping Change Through Innovation and Value Creation for Society ,Sangam University,Bhilwara, 22-23 December 2017
16. International Conference on Multidisciplinary Challenges in Smart Nano Grid at GITS, Udaipur , 21-22 April, 2018
17. "Tuning of SSSS Controller using TLBO techniques", Two Day National Conference on Emerging Trend in Engineering at Sangam University, Bhilwara, 22-23 Sept, 2018
18. "Power System Stability improvement by SSSC tuned with TLBO Technique", National Conference on RITET at Sangam University, Bhilwara, 23-24 Dec, 2018

19. International Conference on recent Development in Engineering and Technology ,Anand International College, Jaipur, 14-15 Sept. 2019
20. "Selected harmonics elimination for photovoltaic based II level cascaded multilevel inverter using genetic algorithm", International Conference on Engineering Optimization and Data Science at SKIT, Jaipur 11-12 October, 2019. **(Best Paper)**
21. "Stability Improvement of SMIB Systems using AI Techniques", IEEE International Conference on Recent development in Control automation & power Engineering at Amity University, Noida 10-11 October, 2019
22. International Online Conference on Emerging Trends In Multi Disciplinary Research ETMDR-2020,,10-11,July 2020

### Personal Information

Date of Birth	13 March1978
Sex	Male
Marital Status	Married
Religion	Hindu

Declaration:

I hereby declare that the information furnished above is true up to best of my knowledge.

Date:

Place:

(Vinesh Agarwal)

## Profile Summary:



**Dr. Vinesh Agarwal (PhD, M.Tech, BE)** has more than 19 years of Teaching and Industrial Experience. Currently he is Professor and Dean, School of Engineering and Technology at the Sangam University, Bhilwara. He has diversified research interests in the areas of Renewable Energy and Conventional Power Systems which includes Wind, PV, Hybrid Power Systems, Distributed Generation, Grid Integration of Renewable Energy, FACTS, Power System, Power Electronics and Smart Grid. He was awarded Gold Medal in M.Tech Program from RTU. He is also a Member of IEEE Rajasthan Chapter. He has published over 45 Research Paper in International, National Journal and Conferences and attended around 15 Workshops and STP. He has also Supervised/Guided more than 30 Research Work. Under his supervision 4 PhD Degree has awarded and 6 are in under supervision. He has Two Design Patent awarded from Govt. of India Patent Office. He has Published One Book on Advance Power Electronics. He has also developed Matrix Converter Interfaced PMMSG for Wind Energy Conversion System as Techno Commercial Activity.