CURRICULUM VITAE

Name	**V.S.K.V. Harish**
Designation	Assistant Professor, Electrical Engg., PDPU Gandhinagar (Sept 2018 – till now).
Experience	Post-Doctoral Fellow, TERI School of Advanced Studies (Aug 2016 – Sept 2018)
Education	Ph.D., IIT Roorkee, Feb 2017 M.E. (Power), Jadavpur University Kolkata, 2012 B.E. (EEE), MDU Rohtak, 2009
Awards/Recognitions	Nominated for the Young Energy Researcher Award (2018); DST - Travel Grant (2014 & 18); Travel and Fee Grants, SCRS (2017); PhD fellowship (2012 – 16); University Medal, Jadavpur University (2012); GATE Fellowship (2010 – 12); Scholarship (2001).
Teaching	Power Engineering Lab – I, II, III (JU, Kolkata); Applied Numerical Methods, Fundamentals of Electrical Engineering (TSAS, Delhi).
Research	Papers in Journals (International/National) – 8 Papers in Conferences (International/National) – 13 Citations: 357; h-index: 5; i10-index: 4 (Google Scholar).
Outreach	Guest faculty for Faculty Development programmes, workshops, short-term courses and Diploma courses; Reviewer for journals; Assisted in organizing national and international level events at IIT Roorkee.
Personal Details	DoB: Nov 27, 1987 at Kakinada, AP; Unmarried
Contact Details	20/174, DDA Flats, Dakshin Puri Extn., New Delhi – 110062, India. Mob +91-8979552840. Email: harishvskv.teri@gmail.com; Skype: harish.vskv

V.S.K.V. Harish, Ph.D.

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+91-8979552840 (M)

RESEARCH INTERESTS

- Building Energy systems
- Power Systems

EDUCATION

- **Ph.D., Indian Institute of Technology, Roorkee, 2016 (Submitted) | Feb 2017 (Awarded).**
  Title: Modeling and simulation of building energy systems using intelligent techniques
  Supervisor: Prof. Arun Kumar
- **M.E., Power Engineering, Jadavpur University, Kolkata, 2010 – 12**
  Title: Design and development of a protection panel for a pico Francis turbine driven hydro generator
  Percentage: 82.11 (GOLD MEDALIST)
- **B.E., Electrical and Electronics Engineering, Maharshi Dayanand University, Rohtak, 2005 – 09**
  Percentage: 64.37

RESEARCH EXPOSURE

Post-Doctoral Fellow, *TERI School of Advanced Studies, Aug 2016 – Aug 2018*

- Peer-to-Peer Energy Transaction and Distributed Energy Resource Control.
- Optimal energy management of energy sharing and trading among rural households.

Research Scholar, *Indian Institute of Technology, Roorkee, July 2012 – July 2016*

- Modelling and simulation of building energy systems using nonlinear time invariant constrained optimization
- Development of hybrid GA-PSO based BEC-CM strategy for smart energy and comfort management in buildings.

PG researcher, *Jadavpur University, 2011-12*

- Designed and fabricated a protection panel employing different relays to demonstrate the concepts and complicacies of generator protection in a laboratory environment.

Desk researcher, *CAR group of TIFAC (DST), Govt. of India, 2007*

- Intelligent transportation systems standards and architecture in India

TEACHING EXPOSURE

Title of course taught	PG or UG	Sole instructor or with others	Year	Organization
Power Engineering: Electrical Lab I	UG	Sole	II	Jadavpur University, Kolkata
Power Engineering: Electrical Lab II	UG	Sole	II	
Power Engineering: Electrical Lab III	UG	Sole	III	
Applied Numerical Methods	PG	Sole	I	TERI School of Advanced Studies, New Delhi
Fundamentals of Electrical Engineering	PG	Sole	I	
Electronic Devices and Circuits	UG	Sole	II	**PDPU Gandhinagar**
Advances in Power Systems	UG	Sole	III	
Advanced Power Electronics	PG	Sole	I	
Power Systems Operation and Control	UG	Joint	IV	
Smart Grids and Electric Vehicles	UG	Solo	IV	

INSTITUTE AND DEPARTMENT LEVEL RESPONSIBILITIES

Department Level

(i)	Laboratory In-charge	Electronics and Communication Engineering Lab	Pandit Deendayal Petroleum University Gandhinagar
(ii)	Laboratory In-charge	Modelling and Simulation Lab	
(iii)	Departmental coordination for research activities	Lead-Member	
(iv)	Training and Placement	Member	
(v)	Faculty-in Charge	Tinkering Lab	
(vi)	Coordinator	Newsletter	

INVITED GUEST LECTURES/FACULTY

1. IEEE Webinar on "Green buildings for sustainable livelihoods", **IEEE Sreyas Student Chapter**, IEEE Hyderabad Section, May 2020.

2. Guest Lecture on “Green Buildings”, Electrical and Electronics, **Amity University**, Noida, UP, 09th April’2020.
3. Keynote Speaker on “Green Buildings”, One Day Awareness Programme on Energy Conservation(APEC), Energy Center **Maulana Azad National Institute of Technology, Bhopal**, March 2020.
4. Guest Lecture on “*Small Hydro Power Planning and Management*”, Dept. of Mechanical Engineering, **Graphic Era Hill University, Dehradun**, Aug 2018.
5. Guest Lecture for “**Post graduate diploma course in Smart Grid Technologies**” by National Power Training Institute at NPTI, Faridabad, Mar 2018.
6. Guest Lecture for “National Workshop on Battery Energy Storage & Microgrids in India” by National Power Training Institute at NPTI, Faridabad, Mar 2018.
7. 2-day Guest Lectures for “**Entrepreneurship development program on Solar Energy based business models**"**,** sponsored by *National Science & Technology entrepreneurship development board, DST, GoI* at ABES, Ghaziabad, Feb 2018.
8. Speaker at Faculty Development Programme on "**Power Electronics & its Applications**” at ABES, Ghaziabad, March, 2017.
9. Guest faculty for UGC-Diploma in Renewable Energy at UGC Community College, Rani Durgavati University, Jabalpur. (M.P.), 2016.
10. Guest faculty (small hydro) for Advanced PG Diploma (Renewable Energy) at TERI University, Delhi, 2016.
11. Guest lecture on Solar Energy for NPTI-organized training programme on “Latest trends and Modern practices in Power sector” during 14-16 Nov. 2016 at ABES, Ghaziabad.
12. Short term training programme for NABARD engineers/officers on “Energy Efficient Buildings”, Nov 6 – 7, 2015 at AHEC, IIT Roorkee.

AWARDS & FELLOWSHIPS

- **Best Paper award** at the IEEE-2nd International Conference on "Power Energy, Environment and Intelligent Control”, October 2019.
- **Best Paper award** at the Springer International Conference on "Innovative Technologies in Mechanical Engineering (ITME -2019)”, October 2019.
- Nominated for the **Young Energy Researcher Award** 2018 and 2020 at World Sustainable Energy days, Austria
- **DST (SERB) – International Travel Grant**, 2014 & 2018.
- **Travel and Registration Fee Grants**, SocProS 2017, SCRS, India.
- Research scholar fellowship, MHRD, India, 2012 – 16.
- University Medal, Jadavpur University, Kolkata, 2012.
- PG Scholarship (GATE Fellowship), MHRD, India, 2010 – 12.
- Scholarship from Bharatiya Jeevandhaara Educational and Charitable Trust, 2001.

AFFILIATIONS

- Member, *Institute of Doctors Engineers and Scientists (IDES)*, India.
- Member, *American Society of Heating, Refrigerating and air-conditioning engineers (ASHRAE)*, U.S.A., #8380791.
- Student Member, Chartered Institution of Building Services Engineers (CIBSE), U.K.
- Member, *Institute of Electrical and Electronics Engineers (IEEE)*, U.S.A. (93918820), 2013-14.
- Member, *Soft Computing Research Society (SCRS)*, India.

INDUSTRIAL EXPOSURE

Project trainee, *UNIDO, 2014.*

- Regular monitoring of a ULH-MHP system performance installed at pilot level at the IRI campus, Bahadrabad.

Industrial trainee, *Siemens Ltd., New Delhi, 2008*.

- Signalling, telecommunication and power supply for Delhi – MRTS.

SITE VISITS

1. UJVNL developed Chilla Hydroelectric Project, 4 x 36 MW, Kaplan.
2. UJVNL developed Pathari Hydroelectric Project, 20.4 MW.
3. UJVNL developed Mohmadpur Hydroelectric Project, 9.3 MW.
4. Galogi Hydroelectric Project, 2 x 1.5 MW, Pelton turbine.

WORKSHOPS/SHORT TERM COURSES ATTENDED

1. GIAN course on Fundamentals and Applications of the Principles of Optimization to various disciplines – Engineering, Business, Life Sciences, Social Sciences and Physical Sciences, Indian Institute of Technology Indore, Indore, 17th -21st July, 2017.
2. UREDA organized "National Workshop on Energy Management - Policies & Initiatives", 28th Feb – 1st mar, 2013 at University of Petroleum and Energy Studies, Dehradun, India.
3. UNIDO organized training programme on Operation and Maintenance (O&M) of ULH-MHP system by Seabell International Co. Ltd., Japan at IRI Bahadrabad, Haridwar, India.
4. MNRE sponsored NATIONAL SHORT TERM TRAINING COURSE ON REGULATION IN ELECTRICITY SECTOR (with specific reference to Renewable Energy), Dec 02 – 06, 2013, at AHEC, IIT Roorkee.
5. Fleming Gulf, Smart Grid India – Energy efficiency optimization summit, Delhi, Feb 2013.

NATIONAL AND INTERNATIONAL COURSES/TRAINING PROGRAMME ASSISTED

1. International Training programme on Rural Electrification with Small Hydropower for African countries under India - Africa Forum Summit - II during May 20 - June 01, 2013 at AHEC, IIT Roorkee.

2. Short term training programme on Renewable Energy and Energy Efficient Projects during May 09-14, 2013 at AHEC, IIT Roorkee.
3. MNRE sponsored NATIONAL SHORT TERM TRAINING COURSE ON REGULATION IN ELECTRICITY SECTOR (with specific reference to Renewable Energy), Dec 02 – 06, 2013, at AHEC, IIT Roorkee.
4. TERI University, TERI and UNIDO jointly organized a "Sustainable Energy Leadership Programme", April 15th, 2015.
5. AHEC, IIT Roorkee and Government of Uttarakhand organized International conference on "Hydropower for Sustainable Development" at Dehradun, Feb 05 - 07, 2015.
6. AHEC –IRENA Joint Technical Training Programme on "Small Scale Hydropower Project Development for developing countries", Oct 14 – 25, 2014 at AHEC, IIT Roorkee.
7. IREDA sponsored Short Term Training programme on "Small Hydropower Development" for IREDA Officials scheduled on Sept 27 – 28, 2014 at AHEC, IIT Roorkee.
8. AHEC, IIT Roorkee invited visit of delegation from Govt. of uttarakhand regarding solar energy systems installation at IIT Roorkee on July 14, 2014.
9. Ministry of New and Renewable Energy, Govt. of India sponsored Short Term Training Course on "Small Hydro Development" Scheduled on May 25 – 29, 2015 at AHEC, IIT Roorkee.

REVIEWER

1. Renewable and Sustainable Energy Reviews, Elsevier.
2. Energy Economics, Elsevier.
3. Energy conversion and management, Elsevier.
4. Energy and buildings, Elsevier.
5. Applied Energy, Elsevier.
6. ISA Transactions

HIGHLIGHTS OF QUALIFICATIONS

1. Active member of the **organizing team,** AHEC, IIT Roorkee for **international conference** and **workshop** held at Dehradun and New Delhi, respectively.
2. Secured **IInd** position in **Moonwalk dance choreography** at Sanskriti 2012, Jadavpur University, Kolkata, 2012.
3. **Sports secretary** for Azad Bhawan, **IIT Roorkee** since 2013.
4. **Member** of the **P.G. Cricket team,** IIT Roorkee.
5. Awarded certificate of completion for "**Core Hardware**" by New Horizons.
6. Participated in **Elocution competition (Telugu)**, 2002.
7. Participated in **KVS Regional Level Science Exhibition**, 2003.
8. **Head Captain** of the school, AES School, 2003.

PERSONAL DETAILS

Fathers Name	:	Sh. V.P. Rao (Retired)
Mother's Name	:	Smt. Sesha Kumari (House wife)
Date of Birth	:	27/11/1987
Marital Status	:	Single
Nationality	:	Indian
Languages Known	:	English, Hindi, Telugu and Bangla
Current Location	:	New Delhi

REFERENCES

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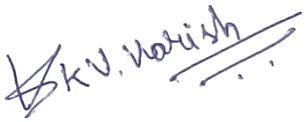
DECLARATION

I hereby declare that the information given above is true to the best of my knowledge and belief and can be supported with valuable documents when needed.

Place: New Delhi
Date: May 2020



(V.S.K.V. Harish)

PUBLICATIONS (V.S.K.V. Harish)

BOOKs/BOOK CHAPTERS (04)

1. Harish, V. S. K. V., Parab, Dipti, Doshi, Karan (2020). Building to Grid integration for smart grids. **In Green Innovation, Sustainable Development, and Circular Economy**, **Green Engineering and Technology: Concepts and Applications Series**, CRC Press, USA, ISBN 9780367441746, <LINK>, <In Press>.
2. Harish, V. S. K. V. & Kumar (2020). Building energy control with comfort optimization for energy efficient smart buildings. **In Green Innovation, Sustainable Development, and Circular Economy**, **Green Engineering and Technology: Concepts and Applications Series**, CRC Press, USA, ISBN 9780367441746, <LINK>, <In Press>.
3. Nagababu, G. & Harish, V. S. K. V. (2020). Offshore Wind Energy Technologies: Resource assessment. **In Alternative Energy Resources - The Way to a Sustainable Modern Society**, **Handbook of Environmental Chemistry**, Springer, Singapore, <In Press>.
4. Harish, V. S. K. V., Sant, Amit Vilas (2020). Grid Integration of Wind Energy Conversion Systems. **In Alternative Energy Resources - The Way to a Sustainable Modern Society**, **Handbook of Environmental Chemistry**, Springer, Singapore, < In Press>.

JOURNALS/MAGAZINES (SCI-4)

1. Harish, V. S. K. V., Anwer, N., & Kumar, A. (2019). Optimal Energy Sharing Within a Solar-Based DC Microgrid. **In Soft Computing for Problem Solving** (pp. 635-644), **Advances in Intelligent Systems and Computing**, Springer, Singapore, 10.1007/978-981-13-1595-4_50 <LINK>.
2. Harish, V. S. K. V., Anwer, N., & Kumar, A. (2018). Modelling of Peer to Peer Sharing of Power within Solar Based DC Microgrids. **Trends in Mechanical Engineering & Technology** (UGC-Approved), 8(3), 44-48.
3. Malhotra, Y., & Harish, V. S. K. V. (2018). Solar based Integrated Energy Systems for Green Building Applications. **Trends in Mechanical Engineering & Technology**, 8(3), 67-71 (UGC-approved).
4. HARISH, VSKV; KUMAR, Arun. *Development of a Generic and Simplified Mathematical Model of a Building Space in MATLAB/ Simulink*. **MR International Journal of Engineering & Technology**, [S.l.], v. 6, n. 1, p. 13-17, june 2018. ISSN 0975-4997.
5. Divyanshu Sood, Harish VSKV. *"An Investigation on Application of Passive Strategies to Improve Thermal Performance of Buildings*". **Journal of Thermal Engineering and Applications**. 2018; 5(1): 12–16p. <Link>
6. Harish, V S K V; Anwer, N; Kumar, A, "*Solving rural electrification problems through peer to peer sharing of energy*," 21st century energy renaissance through renewables: **REMag – 2017**, pp. 27 – 29, Sept 2017.
7. Harish, V.S.K.V.; Kumar, A; "*A review on modeling and simulation of building energy systems*," **Renewable and Sustainable Energy Reviews**, Vol. 56, pp. 1272-1292, ISSN 1364-0321, April 2016, **Impact Factor: 9.184, Citations: 186**. <Link>
8. Harish, V.S.K.V.; Kumar, A; "*Reduced order modeling and parameter identification of a building energy system model through an optimization routine*," **Applied Energy**, Vol.

162, pp. 1010-1023, ISSN 0306-2619, Jan 2016, **Impact Factor: 7.9, Citations: 36**. <Link>

9. Harish, V.S.K.V.; Kumar, A; "*A simplified mathematical approach to develop thermal model of building*", **International Journal of Research**, Vol 6 (1), pp. 40-45, ISSN: 0976-8211, Jan 2015. <Link>

10. Harish, V.S.K.V.; Kumar, A; "*Demand side management in India: Action plan, policies and regulations*," **Renewable and Sustainable Energy Reviews**, Vol. 33, pp. 613-624, ISSN 1364-0321, May 2014, **Impact Factor: 9.184, Citations: 23**. <Link>

CONFERENCES - Overseas (04)

1. Sood, D.; Harish, V S K V, "*An investigation on application of passive strategies to improve thermal performance of buildings*," **ASHRAE - 7th International Conference On Energy Research & Development (ICERD - 7)**, vol., no., pp., 19-21 Nov. 2019, Kuwait City, Kuwait.

2. Malik, Sweta; Harish, V.S.K.V.; "*Automated Demand Response Program and Energy Efficiency Integration*", **World Sustainable Energy Days (WSED) 2019, Young Energy Researchers Conference**, Wels/Austria, Feb 27 - Mar 1, 2019 <Link>.

3. Harish, V.S.K.V.; Kumar, A; "*Intelligent energy control and comfort management for energy efficient buildings*", **WSED -2018 Young Energy Researchers Conference**, Wels/Austria, Feb 28 - Mar 3, 2018 <Link>.

4. Harish, V S K V; Kumar, A, "*Development of an energy model of a building's conditioned space equipped with a heating, ventilation and air conditioning system*," ASHRAE – International Conference on **Energy in Buildings (EinB)**, 2014, pp.242-254, Nov. 2014, ISSN: 2241-9748, Athens, Hellas/Greece. <Link>

CONFERENCES - India (15)

1. Malik, Sweta; Harish, V S K V, "*Integration of automated Demand Response and Energy Efficiency to enable a smart grid infrastructure*", **IEEE 2nd International Conference on "Power Energy, Environment and Intelligent Control**", vol., no., 18 – 19 Oct 2019, G.L. Bajaj Institute of Technology & Management, Greater Noida, India.
2. Harish, V S K V; Kumar, A, "*Stability analysis of reduced order building energy models for optimal energy control*," **IEEE 2nd International Conference on "Power Energy, Environment and Intelligent Control"**, vol., no., 18 – 19 Oct 2019, G.L. Bajaj Institute of Technology & Management, Greater Noida, India.
3. Harish, V S K V; Kumar, A, "*Development of a building energy model based on state space analysis and determining the performance characteristics*," **Springer International Conference on "Innovative Technologies in Mechanical Engineering (ITME -2019)"**, vol., no., pp. 75, 18 – 19 Oct 2019, KIET Group of Institutions, Ghaziabad, Uttar Pradesh, India.
4. Harish, V S K V; Anwer, N; Kumar, A, "*Development of a Peer to peer electricity exchange model in micro grids for rural electrification*," **IEEE 2nd International Conference on "Power Energy, Environment and Intelligent Control"**, vol., no., 18 – 19 Oct 2019, G.L.

Bajaj Institute of Technology & Management, Greater Noida, India.

5. Harish, V S K V, "*Coordinated Energy management for grid integrated electric vehicles*," **Uttar Pradesh Electricity Regulatory Commission Conference 2019 *"Techno sphere of Electric Vehicles: Charging Infrastructure, Power Demand and Pricing"***, vol., no., pp., 7-13, Feb. 2019, Vidyut Niyamak Bhawan, Lucknow.
6. Harish, V S K V; Anwer, N; Kumar, A, "*Peer to peer electricity exchange among rural households*," **Uttar Pradesh Electricity Regulatory Commission Conference 2018 *"Creation of Eco System using Block Chain Technology for Renewable Energy Distributed Energy Generation & Supply"***, vol., no., pp., 10 Oct. 2018, Vidyut Niyamak Bhawan, Lucknow.
7. Harish, V S K V; Anwer, N; Kumar, A, "*Peer to peer electricity exchange within solar based DC microgrids*," **CIGRE, CBIP, SPE - National Conference on Renewable Energy technologies and its integration with grid"**, vol., no., pp. 95 - 106, Dec. 2018, Vadodara, Gujarat.
8. Harish, V S K V; Anwer, N; Kumar, A, "*Modelling of peer to peer sharing of power within solar based DC microgrids*," **International Conference on Advances in Business and Engineering for Sustainability (ABES-2018)** , vol., no., pp. 53, 27-28 Mar. 2018, ABES Engineering College, Ghaziabad.
9. Sood, D.; Harish, V S K V, "*An investigation on application of passive strategies to improve thermal performance of buildings*," **International Conference on Advances in Business and Engineering for Sustainability (ABES-2018)** , vol., no., pp. 50, 27-28 Mar. 2018, ABES Engineering College, Ghaziabad.
10. Malhotra, Y.; Harish, V S K V, "*Solar based integrated energy systems for Green Building applications*," **International Conference on Advances in Business and Engineering for Sustainability (ABES-2018)** , vol., no., pp., 27-28 Mar. 2018, ABES Engineering College, Ghaziabad.
11. Harish, V S K V; Anwer, N; Kumar, A, "*Optimal energy sharing within a solar based DC micro grid*," **7th International Conference Soft Computing for Problem Solving (SocProS 2017)** , vol., no., pp. 81,82, 23-24 Dec. 2017, Indian Institute of Technology Bhubaneswar.
12. Khan, M. A., Mishra, S., & Harish, V. S. K. V., "*Grid connected energy efficient building with roof top SPV*". **IEEE – International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE), 2017** (pp. 120-124), Oct. 2017, Amity University, Noida, India <Link>.
13. Harish, V S K V; Kumar, A, "*Smart energy control and comfort management in buildings*," **National Conference on Smart Cities-2016**, vol., no., pp., 25-26 Nov. 2016, PDPM-IIITDM Jabalpur. <Link>
14. Harish, V S K V; Kumar, A, "*Modeling and simulation of a simple building energy system*," **IEEE-International Conference on Microelectronics, Computing and Communication (MicroCom 2016)**, vol., no., pp., 23-25 Jan. 2016, NIT Durgapur. <Link>
15. Harish, V S K V; Kumar, A, "*Planning and implementation strategy of Demand Side Management in India*," **IEEE – International Conference on Automation, Control,**

Energy and Systems (ACES 2014), vol., no., pp.1,6, 1-2 Feb. 2014, AOT Hoogly, **Citations: 4**. <Link>

16. Harish, V S K V; Kumar, A, "*Techniques used to construct an energy model for attaining energy efficiency in building: A review*," **IEEE- International Conference on Control, Instrumentation, Energy and Communication (CIEC),** 2014 International Conference on , vol., no., pp.366,370, Jan. 31 2014-Feb. 2 2014, University of Calcutta, Kolkata, **Citations: 4**. <Link>
17. Harish, V S K V; Kumar, A, "*A nonlinear time invariant constrained optimization technique for parameter identification of a building energy model*," **Elsevier – International Conference on Electronics Engineering and Computer Science (IEMCON)**, vol., no., pp.339-343, 2014, IEM, Science City, Kolkata.
18. Harish, V S K V; Kumar, A, "*A simplified mathematical approach to develop a thermal model of building in MATLAB/Simulink*," **National conference on emerging trends in engineering science & technology (NCETEST)**, vol., no., pp.173, 29-30 March. 2014, COER Roorkee.
19. Harish, V S K V; Kumar, A, "*Managing electrical energy in buildings for energy conservation*," **DAV National congress on science and technology**, vol., no., pp.117, 30-31 May. 2013, DAV College Jalandhar.

COMMUNICATED (2)

1. Harish, V.S.K.V.; Kumar, A; "Modelling and simulation of Building energy systems: Model development and analysis," **Applied Energy**, APEN-S-R2-19-0413, Under review.
2. Harish, V.S.K.V.; Kumar, A; "A hybrid GA-PSO based intelligent building energy control and comfort management," **Applied Energy**, Manuscript ID: APEN-R2-19-08813, Under review.