

National Institute of Technology, Jamshedpur

The faculty profile

Name of the Faculty: Dr. Shiva Nand Singh

Designation: Professor

Qualification: Ph.D

Area of the Interest:

- VLSI design & Embedded Systems
- Power Electronics
- Soft computing
- Instrumentation & Industrial Control System
- Solar Technology
- Signal Processing
- Image Processing
- RF & Microwave Engineering
- Communication Systems Engineering



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CIRRICULUM VITAE

Name: Dr. Shiva Nand Singh
Father's Name: Late Janardan Singh
Present Position: Professor
Email snsingh.ece@nitjsr.ac.in
Date of Birth: 01-01-1957
Present Address: Dr. S. N. Singh, Professor,
Department of Electronics and Communication
Engg.
National Institute of Technology, Jamshedpur-
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Nationality: Indian



Educational Qualifications:

Degree	Board/University	Year	Class/CGPA/ Percentage
Ph.D	NIT Jamshedpur An Institute of National Importance Under MHRD Govt of India	2009	—
M.Tech.	RIT Jamshedpur (Ranchi University)	1991	8.34 (CGPA)
B.Tech	BIT Mesra (Deemed University)	1979	First (With Distinction)

Ph.D Thesis Topic: Development of PV Powered Intelligent Adaptive Power Inverter as Utility Interface for Use in AGRO & Based Applications

M.Tech Thesis Topic: Three phase implementation of a new modulation strategy for PWM Inverter using Intel 8086

Research Interests:

- VLSI design & Embedded Systems
- Soft Computing
- Instrumentation & Industrial Control System
- Solar Technology
- Signal Processing
- Power Electronics
- Image Processing
- RF & Microwave Engineering
- Communication Systems Engineering

Research Publications:

International SCI/SCOPUS Journals:

1. **Shiva Nand Singh**, and Snehlata Mishra. "FPGA implementation of DPWM utility/DG interfaced solar (PV) power converter for green home power supply." Archives of Control Sciences 21, no. 4 (2011): 461-469. (SCI Index) DOI: <https://doi.org/10.2478/v10170-011-0007-1>
2. Jha, Hare Ram, and **Shiva Nand Singh**. "A high-gain and high-bandwidth waveguide fed longitudinal slot doublets array antenna for X-band." AEU-International Journal of Electronics and Communications 70, no. 12 (2016): 1622-1629. (SCI Index) DOI: 10.1016/j.aeue.2016.09.017
3. **Singh S.N.**, Arun Kr. Singh. Solar (PV)-Grid/DG Green Power Supply for Rural India. JEE Journal of Electrical Engineering. 2010; 10:36-41. (SCOPUS Index)

National Conferences:

1. Snehlata, **Shiva Nand Singh**: Solar Energy and DPWM Power Converter Technology - *National Conference at JNCT, Bhopal* July 1-2-2011.
2. Rishi Jha, Snehlata Mishra, **Shiva Nand Singh** : An Optical Solar Cell - *National Seminar in Electrical, Power Engineering, Electronics and Computer (Tech Meet 2010) at pcmt* 12-13-Feb-2010.
3. **Shiva Nand Singh**, Hare Ram Jha : Technological changes in Energy Conversion efficiency and Sizing of Solar Cell with Nano Technology for Rural India - *A National Conference on advances in Engineering & Technology(NCAET-2013)*
4. **S.N.Singh**, Rishi Jha, & Snehlata Mishra, "An Optoelectronic Solar Cell", National Conference in Electrical, Power Engineering, Electronics, and Computer (Tech Meet) at PCMT, 12th to 13th Feb, 2010.

International Conferences:

1. **S.N.Singh**, Hirak Mazumdar, and Rakesh Kumar. "Solar Cell Powering with Integrated Global Positioning System for SWARM Robot System." International Journal of Computer Science and Network Security (IJCSNS) 15, no. 9 (2015): 28.
2. **S.N.Singh**, V S Prathiba, Raj Ranjan Singh, And SR Lenka. "A Roof Top Utility Interfaced Pv Power System For Rural India." Academic Fora Volume: 2 Issue: 1 Pages: 13-18
3. Jha, Hare Ram, and **Shiva Nand Singh**. "Study of scattering parameters and gain of two longitudinal slots of same or different electrical lengths milled on a single waveguide for series and shunt slot array antenna." In Microwave, Optical and Communication Engineering (ICMOCE), 2015 International Conference on, pp. 280-283. IEEE, 2015.
4. **S.N.Singh**, V. S. Prathiba, and Nikhil Katiki. "Smart Micro Grid Model for Rural India." Innovative Engineering Technologies (ICIET2015) August 7-8, 2015 Bangkok (Thailand). DOI <http://dx.doi.org/10.15242/IEE>.
5. Sur, Mriganka Sekhar, **S.N.Singh**, Anumeha and Puspa Kumari. "Simulation and generation of SPWM waveform using VHDL for FPGA interfaced H bridge power

- inverter." In Industrial Electronics, Control & Robotics (IECR), 2010 International Conference on, pp. 39-42. IEEE, 2010. DOI:10.1109/IECR.2010.5720152
6. Jha, Hare Ram, and **Shiva Nand Singh**. "Study of scattering parameters and gain of two longitudinal slots of same or different electrical lengths milled on either one or both face of broad wall of a waveguide for shunt slot array antenna." In Recent Advances in Information Technology (RAIT), 2016 3rd International Conference on, pp. 290-294. IEEE, 2016. DOI: 10.1109/RAIT.2016.7507918
 7. Mishra, Snehlata, Vandana Neha Tigga, and **S.N. Singh**. "The solar cellö A novel static transducer." In Students' Technology Symposium (TechSym), 2010 IEEE, pp. 120-124. IEEE, 2010. DOI: 10.1109/TECHSYM.2010.5469224
 8. **Dr. S.N. Singh**, J Kumar, R.P Singh and S.Kumar, öFPGA Based Autonomous Vehicle Locking System- A Smart Door Lockö International joint journal conference in computer electronics and electrical Vol 2, No. 8, November 2009.
 9. **S.N.Singh**, Rishi Jha, and Mahesh Kr Nandwana. "Optimal design of solar powered fuzzy control irrigation system for cultivation of green vegetable plants in Rural India." In Recent Advances in Information Technology (RAIT), 2012 1st International Conference on, pp. 877-882. IEEE, 2012. DOI: 10.1109/RAIT.2012.6194541
 10. R Das and **S.N. Singh**. öExtraction of Interesting Frequent and Rare Association Rule using Multi Objective Approachö IJCA Proceedings on International Conference on Microelectronics, Circuits and Systems MICRO(3):8-11, October 2014.
 11. Rao, U., **S.N.Singh** equipment in hospitals. In Industrial Electronics, Control & Robotics (IECR), 2010 International Conference on (pp. 34-38). IEEE. DOI: 10.1109/IECR.2010.5720150
 12. **S.N. Singh** and A.K. Singh, öSolar(PV) Home Green Power Pack for Rural Indiaö International Congress on Renewable Energy, ICORE 2009, 6th -7th October.
 13. Puspa Kumari, **S.N. Singh**, öDesign Consideration & Modeling for promotion and Utilization of Utility Integrated Sustainable Hybrid Solar Energy for Rural Indiaö International Congress on Renewable Energy, ICORE 2010, 1st -3rd December.
 14. **S.N.Singh**, N Kumari, Rishi Jha, A Kumar, öOptimal Design of Sustainable Adaptive Hybrid Solar Grid/DG Electricity in Rural Indiaö International Conference On Jawaharlal Nehru National Solar Mission Issues and Solution, 19th -21st April 2011.
 15. Uma Rao, Nisha Kumari and **S.N.Singh**, öHarmonicö effect on domestic power supply transformer generated by nonlinear home loadsö Integrated Circuits and systems-2011 NIT Rourkela
 16. Snehlata Mishra, V Neha Tigga and **S.N. Singh**, öSustainable Solar Power Generation in Indian Village and Empowerment of Rural Societyö Integrated Circuits and systems-2011 NIT Rourkela
 17. **S. N. Singh** and A K Singh, öFPGA-Based GRID Interactive PWM Solar Inverterö ICIIS-2008 IIT Kharagpur.
 18. J Kumar, Dr. **S.N. Singh**, S. Satapathy and Somu Gorai, öDevelopment of Software for Human Eye Controlled FPGA based Hand Free Mouseö International joint journal conference in computer electronics and electrical, Vol 2, No. 8, November 2009.
 19. **S. N. Singh**, J Kumar, R Rajan, and S Panigrahi, öHardware Image Compression with FPGAö International joint journal conference in computer electronics and electrical, Vol 2, No. 8, November 2009.
 20. J.R.P. Gupta, S.P. Singh, **S.N.Singh** and P. Nath, öSingle Phase regulated power supply from three phase induction generator for rural Indian villagesö, Proceedings of ICEM 92, held at Manchester U.K. from 15-17th Sept 1992, p 1097.

Research Projects /Consultancy Projects:

- Project Coordinator, Special Man Power Development Programme (SMDP-II) .DeiT, Ministry of IT, Govt. of India
- Chief Investigator VLSI- SMDP-C2SD). DeiT, Ministry of IT, Govt. of India.

Conference/ Workshop Organised:

- Course Coordinator, Programming and Data Structures, from Jan 2nd, 2007 to Jan 8th, 2007 organised at NIT Jamshedpur
- Coordinated in VESD09 National Workshop on VLSI & Embedded System Design March 6th-8th, 2009 NIT Jamshedpur

Ph.D Guidance:

- Ph.D : 04

Member of Editorial Board of the Journals:

- The International Journal of Electronics Communications and Electrical Engineering (*IJECCE*)
- The International Journal of Engineering and Management Research (*IJEMR*), Lucknow-226001, INDIA.
- International Journal of Scientific & Technology Research (*IJSTR*), New Delhi, India
- The International Journal of Electronics Communication and Computer Technology (*IJECCT*)
- The International Journal of Emerging Technology and Advanced Engineering (*IJETAE*), Bhopal, Madhya Pradesh, India.

Professional & Teaching Experience:

Position Held	Institution	From	To	Nature of Job
Scientist -C0	NML (CSIR - A unit of Govt. of India)	1988	1992	R&D
Assistant Professor	NIT Jamshedpur (An Institute of National Importance Under MHRD Govt of India)	1992	2009	Teaching
Professor		2009	Continuing	Teaching

Awards, Honours & Recognitions:

- Certificate of Merit for Excellence in Technical study awarded by Governor, Govt. of Jharkhand.
- **Patents:** A Device for Evaluating Contact Material Patent, DEL 763/90 ó CSIR Govt of India

Reviewer of International Journals and Books:

- Script Reviewer, Script on Digital Communication, Tata McGraw Hill New Delhi.
- Conference Paper Reviewer, in National Conference on Recent Advance in Electrical Power and Energy System Management, organised by MMM Engineering College Gorakhpur, on 25-26 March 2011.
- Conference Paper Reviewer, RAIT 6 2012, ISM Dhanbad.
- Paper Reviewer for Journal of the Institution of Engineers(India)
- Paper Reviewer, IJAET
- Guest Editor, for Volume 2 Issue 9 in IJECEE
- Chapter Review: power electronics circuits with MATLAB: from device to drives, Cambridge Organisation

Member of Professional Academic Bodies:

- Chartered Engineer
- Life membership Instrument Society of India , IISC ,Bangalore (India)
- SESI society - Govt of India
- Expert Member: DOEACC Society (National Institute of Electronics and Information Technology (NIELIT) - Govt. of India.

Invited Talks/Seminars Given:

- Invited lecture on April 27, 2016 in the subject Power Signal Processing of Utility Interface PV Micro-grid for Rural Industry as resource person in 1 week short term course on Modern Digital Signal Processing & its Applications (MDPSA-2016) at Cambridge Institute of Technology, Tatisilwai, Ranchi (India)
- Guest Lecture on Digital Hardware Design, 23/05/2011, B.A.College of Engg. Jamshedpur
- Guest Lecture on Topics in Embedded Systems, NIT Mizoram

ADDITIONAL INFORMATION:**Establishment of Department in the Institute**

- Department of Electronics Engineering (Industrially oriented) in the year 1988. (renamed as Electronics and Communication Engineering) (ECE)

New Laboratory Development: (ECE)

- VLSI Design & Embedded Systems
- Modelling & Simulation of VLSI based systems

Course Development: (ECE)

- M.Tech Course (VLSI Design & Embedded Systems)
- B.Tech Course (Electronics & Communication Engg.)

Administrative Responsibility and Experience

- Associate Dean (R&D) (2011 to 2013)
- Accreditation : Prof-In-Charge NBA, AICTE Govt. of India (2011 to 2013)
- Chairman : Recruitment Cell
- Chairman/Convenor of Institute and Departmental Purchase Committee
- Warden / Chief Warden
- TEQIP Coordinator/Coordinator

Academic Responsibility and Experience:

- Professor In Charge Examination (UG)
- Chairman/ Member: Board of study
- Chairman/ convener/Member of DSC /DAC
- Faculty In charge / Advisory Member : Training and Placement

Out reach Activity /Social Contribution

- Guest faculty/ Expert: RVS Engg. College/ BA College of Engg. / Govt. Polytechnic, Al Kabir Polytechnic/ NIT Mizoram/NIT Patna /IIT Kharagpur, NTTF ó Jamshedpur/ AICTE/ University ó Expert Member. Member of Selection board of CSIR/ Govt Institute / UPSC/Various University , Observer of National Level exam NIELIT, JEE,NEET, NIOS, Govt of India / B.Tech ,M.Tech and Ph.D Examiner of Various University and Professional bodies like IETE etc
- Technical Advisor for spreading Literacy among Potential youth , Jan Shikshan Sansthan, Jamshedpur (Sponsored by MHRD , Govt. of India)

Accounts/ Audit Experience

- 5th CPC Pay Review Committee ó Member

M.Tech Thesis Guided: 13**Book chapters published in the book published by reputed International publishers**

1. Mishra, Snehlata, Vandana Neha Tigga, and **S.N. Singh**. "Solar Cell-A Novel Process Control Transducer." Computer Networks and Information Technologies (2011): 1-8. DOI 10.1007/978-3-642-19542-6
2. Prabhakar, Navneet; Agarwal, Anish and **S.N.Singh**, "Feasibility Study of Photovoltaic Fuel Cell Integrated System using Logical Regression" Book Series: Advances in Education Research Volume: 11 Pages: 183-191 Published: 2013. Accession Number: WOS:000318317400031, ISSN: 2160-1070, ISBN: 978-1-61275-047-7
3. Duvvuru, Rajesh, P. Jagdeeswar Rao, Sunil Kumar Singh, Rajiv R. Suman, **Shiva Nand Singh**, and Pradeep Mahato. "Performance Analysis of Multi-class Steganographic Methods Based on Multi-Level Re-steganography." In ICT and Critical Infrastructure: Proceedings of the 48th Annual Convention of Computer Society of India-Vol II, pp. 535-542. Springer, Cham, 2014. DOI 10.1007/978-3-319-03095-1