

Dr Sukesha Sharma

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Research Interests

Machine Learning
Artificial Intelligence
IOT
Embedded Systems
Automation and Control

Qualification

- Awarded PhD in Faculty of Engineering and Technology from Panjab University, Chandigarh in the year 2016.
- ME in Electronics and Communication Engineering from Panjab University in the year 2004.
- B-Tech in Electronics and Communication Engineering from Panjab Technical University in the year 2002.

Research Projects

- Completed one consultancy project “Armor Wire tester” worth 39 lakh with MNC Oceaneering Ltd.
- Completed one research project “Low Power Energy harvesting” funded by DIC, UIET.
- Completed one research project “Artificial Breathing Care Device” worth 50 Lakh with PGI, funded by DST. Prototype is ready for commercialization.

Awards/Recognition

- Best publication award (SCI) and cash reward of Rs 10000/- at UIET, Panjab University level in the year 2017.
- Best publication award (SCI) UIET, Panjab University level in the year 2016.
- Letter of appreciation by CIIPP, Panjab University for consultancy project with Oceaneering Ltd.

Publications (Journal)

- I. Sukesha Sharma, Preeti Singh and Odeen, Indoor light energy harvesting using infrared LED, International journal of environment and analytical chemistry, 2020. (Taylor & Francis, SCI indexed)
- II. Poonam Sood, Manu Sharma, Sukesha Sharma, A novel strategy for effectively implementing a typical AVC scheme using finite element model updating, Mechanics based design of structure and machines, 2019. (Taylor & Francis, SCI indexed)
- III. Gaurav Sapra, Manu Sharma, Renu Vig, Sukesha Sharma, Temperature-Robust Active Vibration Controller Using MWCNT/Epoxy Strain Sensor and PZT-5H Actuator, Journal of electronic materials, 2019. (Springer, SCI indexed)
- IV. Gaurav Sapra, Manu Sharma, Renu Vig, Sukesha Sharma, Multiwalled Carbon Nanotube Film Composite for Active Vibration Control of Cantilevered Beam, IEEE sensor journal, 2018. (Springer, SCI indexed)
- V. Akshpreet Kaur, Manu Sharma, Sukesha Sharma, Gaurav Sapra et al, Non-destructive Evaluation and Development of a New Wire Rope Tester Using Parallely Magnetized NdFeB Magnet Segments Journal of Non Destructive evaluation, 2018. (Springer, SCI indexed)
- VI. Sukesha Sharma, RenuVig and Navin Kumar, Protocols for wireless sensor networks: a survey, Journal of Telecommunications and Information Technology, 2015. (Scopus indexed)
- VII. Sukesha Sharma, RenuVig and Navin Kumar, Finite element modelling of smart piezo structure: considering dependence of piezoelectric coefficients on electric field, Mechanics Based Design of Structures and Machines, 2015. (Taylor & Francis, IF: 1.5, SCI indexed) DOI: 10.1080/15397734.2015.1076728
- VIII. Sukesha, RenuVig and Navin Kumar, Effect of electric field and temperature on dielectric constant and piezoelectric coefficient of piezoelectric materials: A review, Integrated Ferroelectrics, Vol 167, Dec 2015. (Taylor & Francis, IF: 0.36, SCIE indexed)
- IX. Sukesha, RenuVig and Navin Kumar, Active vibration control: considering effect of electric field on coefficients of PZT patches, Smart Structures and System, Vol 16, No. 1, Dec 2015. (Techno press, IF: 1.368, SCI indexed)
- X. Sukesha, RenuVig and Navin Kumar, Temperature compensation in a smart structure by application of DC bias on piezoelectric patches, Journal of Intelligent Materials Systems and Structures, 2016. (Sage publications IF-1.97, SCIE indexed) DOI: 10.1177/1045389X16633769
- XI. Sukesha, RenuVig and Navin Kumar, AVC experiments: considering variation of piezoelectric coefficient and permittivity of piezoactuator with electric field, Ferroelectrics. (Taylor & Francis IF-0.4, SCI indexed) DOI: 10.1080/00150193.2016.1235891

- XII. TanveerKahlon, Sukesha, "Comparison Study on AAMRP and IODMRP in MANETS", Published in International Journal of Computer Science and Information Security, vol 9, no. 7, pp 95-103, July, 2011
- XIII. Deepinder Kaur, Sukesha, "Wireless sensor networks: Reduced delay and energy efficient MAC protocol and their comparison ", Published in the Global Journal of Mechanical engineering and Computational science, pp 61-65, 2011
- XIV. Davinder Singh Sandhu, Sukesha Sharma, "Performance evaluation of BATMAN, DSR, OSLR routing protocols: A review", International journal of Emerging Technology and Advanced Engineering, vol 2, issue 1, Jan 2012.
- XV. Sandeep Kaur, Sukesha, "Comparative study of Queen MAC, TC-MAC, OD-MAC protocols in wireless sensor networks" International journal of web sciences, vol 1, issue 4, pp 63-66, 2013.

Publications (Conference)

- I. Deepti and Sukesha Sharma, Piezoelectric energy harvesting and management in WSN using MPPT algorithm (Conference paper), Proceedings of IEEE 2016 International Conference on Wireless Communications, IEEE, 23-25 March, 2016.
- II. Deepti and Sukesha Sharma, Energy harvesting using piezoelectric for Wireless Sensor Networks, Proceedings of IEEE 2016 1st IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems, 4th- 6th July 2016.
- III. M. Firoz Sadiqui and Sukesha Sharma, Face recognition using original and symmetrical face images, 1st International Conference on Next Generation Computing Technologies, 4th- 5th Sept 2015
- IV. Sukesha, RenuVig and Navin Kumar, Variation of piezoelectric coefficient and dielectric constant with electric field and temperature: A review, Proceedings of 2014 RAECS UIET Panjab University Chandigarh, 06-08 March, 2014.
- V. Sukesha, RenuVig and Navin Kumar, Active vibration control of cantilevered plate instrumented with piezoelectric patches: robust to variations in electric field, Proceedings of 2014 RAECS UIET Panjab University Chandigarh, 06-08 March, 2014.
- VI. Sukesha, RenuVig and Navin Kumar, Vibration control of smart structures, Proceedings of International conference on recent trends in computing, SRM University, Ghaziabad, 03-05 Oct, 2013.
- VII. Sukesha, H. kaur. "Comparative study of wireless home automation technologies: zigbee,Bluetooth LE, EnOcean, wavenis, Indteon and UWB", in International conference on recent trends in computing and communication technologies, MIT college of engineering Hamirpur, 2013, pp. 1-5

- VIII. Sukesha , C Anand. FPGA based remote monitoring system for food preservation, in International conference on advances in computer science and electronics engineering,2012, pp. 227-232
- IX. Sukesha and Harneet. Comparative study of wireless home automation technology, in 3rd national conference on recent advances in electronics and communication technologies, GNDEC Ludhiana,2013, pp. 1-5
- X. Hemraj, Sukesha. A review of sensor network technologies and applications, in International conference on Recent advances in computer science and engineering,2014, pp. 1-5
- XI. Manish kumar, Sukesha, Piezoelectric energy harvesting in wireless sensor networks: A review, in International Conference on Electrical, Electronics, Computer Science and Mathematics Physical Education & Management, (ICEECMPE),8th November 2014, New Delhi, India, ISBN: 978-93-84209-63-6
- XII. Manish kumar, Sukesha, Piezoelectric energy harvesting in wireless sensor networks, in International conference on Recent advances in computer science and engineering,2015, pp. 1-5
- XIII. Mohd Yusuf Firoz Siddiqui, Sukesha, Face recognition using original and symmetrical face images, in NGCT,2015
- XIV. Deepti and Sukesha Sharma, Piezoelectric Energy Harvesting and Management in WSN using MPPT Algorithm, IEEE international conference on wireless communication and signal processing, 25th march 2016.
- XV. TanveerKahlon, Sukesha, Review paper on comparison and performance measures of AAMRP and IODMRP in MANETS , Published in the proceedings of CHASCON-2011, Punjab University, Chandigarh, 25-27 February 2011
- XVI. TanveerKahlon, Sukesha, Review paper on comparison and performance measures of AAMRP and IODMRP in MANETS, Published in the proceedings of National conference, Baddi.
- XVII. Deepinder Kaur, Sukesha, A study of MAC Protocols for Wireless Sensor network, Published in the proceedings of CHASCON -2011, Punjab University Chandigarh, 25-27 February 2011.
- XVIII. ChandniAnand, Sukesha, A Review on Remote Monitoring for Industrial Applications, Published in the proceedings of Chascon-2011, Punjab University, Chandigarh, 25 January - 27 February 2011.
- XIX. Sukesha, Design and development of image acquisition System, WECON-2009, CHITKARA, Rajpura, Punjab.

XX. Sukesha, Recognition of two dimensional Shapes, WOC-2008, PEC, Chandigarh,2008.

Book Chapters

Comparative Analysis of Least Square, Minimum Mean Square Error and KALMAN Estimator Using DWT (Discrete Wavelet Transform)-Based MIMO-OFDM System	Springer, Singapore (Intelligent Communication, Control and Devices, scopus)	28 th August 2019
Lead-Free Piezoelectric Energy Harvester Design for Lower Order Random Vibrations	Springer (<u>Advances in Intelligent Systems and Computing</u>)	11 th April 2018
Characterization of LF & LMA defects, pp 1-6	International Journal of Advanced Research in Computer Science	May 2017
Various Feature Extraction and Classification Techniques (book chapter)	Springer (Lecture notes in electrical engineering)	31 st July 2018
Piezoelectric Energy Harvesting: A Developing Scope for Low-Power Applications (book chapter)	Springer (Lecture notes in electrical engineering)	31 st July 2018
Effect of location of piezoelectric sensor over smart structure (book chapter)	Lecture notes in Electrical Engineering, Springer	31 st July 2018
Comparative Analysis of KALMAN and Least Square for DWT Based MIMO-OFDM System (book chapter)	Springer (<u>Advanced Informatics for Computing Research</u>)	28 th November 2018
Selection of a Hall Sensor for Usage in a Wire Rope Tester (book chapter)	Springer (<u>Computational Signal Processing and Analysis</u>)	3 rd April 2018

Research Supervision

PhD Supervision – 02 (Ongoing)

ME Supervision – 16

ME Supervision – 01 (ongoing)

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