

# Ramesh Kumar



## CONTACT INFORMATION

Department of Instrumentation and Control Engineering,  
Dr. B.R Ambedkar National Institute of Technology,  
Jalandhar, Punjab-144011  
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## RESEARCH INTERESTS

Medical Imaging, Biomedical Instrumentation, Signal Processing and Image Processing

## EDUCATION

**Dr. B R Ambedkar National Institute of Technology (NIT Jalandhar)**, Jalandhar, Punjab.

Ph.D(*Engineering*), Thesis Submitted with 7.75 (CGPA),

- Thesis Title: *Optimization of Electrical Impedance Technique for Feto-Maternal Monitoring*
- Supervisors: Dr. Sharwan Kumar Pahuja, NIT Jalandhar, Punjab  
Prof. Amit Sengupta, Indian Institute of Technology (IIT), Delhi

**Dr. B R Ambedkar National Institute of Technology (NIT Jalandhar)**, Jalandhar, Punjab.

M.Tech, Control and Instrumentation, 2009 with 7.66 (CGPA)

- Thesis Topic: *Identification of an Object inside Close Pipe for Industrial Application*

**Arya College of Engineering & Information Technology**, Jaipur, Rajasthan

B.Tech, Electronic Instrumentation and Control Engineering, 2007 with 65.68%

## RESEARCH EXPERIENCE

**JRF and SRF** 4 August 2014 to 30 Dec. 2017  
Department of Instrumentation and Control Engineering,  
Dr. B R Ambedkar National Institute of Technology Jalandhar, Punjab  
Supervisor: Dr. S. K. Pahuja

## TEACHING EXPERIENCE

**Assistant Professor** 26 August 2013 to 11 August 2014  
Department of Electrical Engineering,  
Sobhasaria group of institutions, Sikar, Rajasthan

**Assistant Professor** 8th February 2010 to 11 June 2013  
Department of Electronics and Communication Engineering,  
Laxmi Devi Institute of Engineering & Technology, Alwar, Rajasthan

**Lecturer** 1st August 2009 to 5 Feb. 2010  
Department of Electronics and Communication Engineering,  
Sobhasaria Engineering collage, Sikar, Rajasthan

**Teaching Assistant** 16 August 2007 to 30 June. 2009  
Department of Instrumentation and Control Engineering,  
Dr. B R Ambedkar National Institute of Technology Jalandhar, Punjab

SUBJECT TAUGHT **Post Graduate Level**

Medical Instrumentation, Embedded system.

**Graduate Level**

Control System, Biomedical Instrumentation, Signals system, Electronics Measurement and Instrumentation, EEE.

TECHNICAL SKILL **Programming Language**

*MATLAB and LAB-VIEW,*

**Application Package**

*LaTeX, MS Office suites.*

Comfortable in working with all Windows Platforms (Windows 7,8,10 and 98,2000/XP/VISTA).  
Good knowledge of INTERNET & its applications

ACADEMIC  
ACTIVITIES

- IEEE Student Member (Membership No. 94251525)
- ISTE Life Member (Membership No. - LM 96657)
- IAENG life Member (Membership number is: 149638)
- Life Member of CSTA (Computer science Teacher Association)
- Organized National Symposium as an Organizing Member at SEC, Sikar
- Organized STC as an Organizing Member at NIT Jalandhar, Punjab.

FELLOWSHIPS &  
GRANTS

- Received a project grant form TEQIP-II (MHRD, Govt. of India) for project titled "Design and Implementation of Electrical Impedance Tomography Based hardware for Feto-metral Monitoring" under enhancement of R & D and Institutional Consultancy Activity. Reference No. NITJ/TEQIP-II/R&D/1825 Dated:24.11.2015
- Receiving MHRD Govt. of India Fellowship For Full Time Ph.D. Program (2014 - Present).
- Received MHRD Govt. of India Fellowship For Full Time M. Tech. Program (2007-2009).

ACHIEVEMENTS

- GATE Qualified in Instrumentation Engineering. (AIR 1407)
- First prize in volleyball at college level in 2008 and 2009.
- Handled the Position of M Tech coordinator at LIET Alwar.

ACADEMIC VISIT/  
STC &  
WORKSHOP  
ATTENDED

- Attended GIAN (MHRD) International Summer-Term Course (10 days) on **Medical Textiles and Tissue Engineering**, organized by Department of Textile Technology, *Dr. B R Ambedkar National Institute of Technology Jalandhar*, Punjab. From 20 July to 30 July 2016.
- Attended One-week Summer School on **Image Processing** (SSIP), organized by Department of Computer science, *National Institute of Technology Kurukshetra*, Haryana, from 8 June to 12 June 2015.
- Attended Short Term Course on **Recent Advances in Image and Natural language processing** by Department of Computer Science and Engineering, *Dr B R Ambedkar National Institute of Technology Jalandhar*, Punjab from May 30 to June 3, 2016.

- Attended Short Term Course on Recent Trends in **Software Engineering and Knowledge Mining** by Department of Computer Science and Engineering, *Dr B R Ambedkar National Institute of Technology Jalandhar*, Punjab from June 1 to June 5, 2015. 15.
- Attended Short Term Course on **Emerging Trends of Research in Electronics and Communication** by Department of Electronics and Communication Engineering, *Dr B R Ambedkar National Institute of Technology Jalandhar*, Punjab from Dec. 1 to Dec. 5, 2014.
- Attended Short Term Course on **Recent Trends in Instrumentation and Control Engineering** by Department of Instrumentation and Control Engineering, *Dr B R Ambedkar National Institute of Technology Jalandhar*, Punjab from Dec. 8 to Dec. 12, 2014.
- Attended One Day Workshop on **Filter Media Characterization & Technology Transfer Event** by Department of Textile Technology, *Dr B R Ambedkar National Institute of Technology Jalandhar*, Punjab from 15th December, 2014.
- Attended Short Term Course on **Electronics and Communication System Design Aspects** by Department of Electronics and Communication Engineering, *Dr B R Ambedkar National Institute of Technology Jalandhar*, Punjab from May. 25 to May 29, 2015. 14.
- Attended One Day Workshop on **syllabus Coverage and Lesson Planning** organized by *Sobhasaria group of Institutions, Sikar* (Rajasthan) held on 28 December 2013.
- Attended Five Day Workshop (Mission10x Workshop -5 Days) on **Faculty Development Program** conducted by *WIPRO*, at DAV CET, Mohindergarh, Haryana, from 17 January to 21 January 2011.
- Successfully completed a two days workshop on **High Impact Teaching Skills** Conducted by *Dale Carnegie Training*, Product & Trainer Development Quality system, ISO 9001 certification & *Associates. Inc. Trainer and Wipro* from 17 Jan. to 18 Jan. 2011.

PRACTICAL  
TRAINING  
PROGRAM  
ATTENDED

- Successfully completed a 15 days Training program on **Embedded system designing** Conducted by *Techienest, Jaipur*, from Dec. 19 Jan. to Jan. 02. 2017.
- Successfully completed a 15 days Industrial Project based Training program on **Embedded system and Robotics (Health Monitoring System)** Conducted by *Techienest Pvt. Ltd, Jaipur*, from Dec. 16 Jan. to Dec. 30, 2017.
- Successfully completed a 6 days Training program on **PLCs (Programmable Logic Controllers)** from *ISA. The Instrumentation, Systems & Automation Society, Pune.*
- Successfully completed of **B.E.IV Yr. Practical Training (45 Days)** at *CompuSoft in collaboration CETPA Roorkee* under the projects 16-bit Microprocessor in VHDL Language
- Successfully completed of **B. E. III year Practical Training (30 Days)** from *Instrumentation Ltd.KOTA.*

PUBLISHED BOOK  
CHAPTER AND  
BOOKS

1. **Kumar R**, Pahuja SK, Sengupta A, Abdullah B Q, **Electrical Impedance Tomography A Real Time Medical Imaging Technique**, Handbook of Research on Advanced Concepts in Real-Time Image and Video Processing, *IGI Global Publisher, Ch. 6. pp 130-152, August 2017.*
2. Aditya Pundir, **Ramesh Kumar**, **Digital watermark forensic On Multimedia Image**, *LAMBERT Academic Publishing (978-3-330-08127-7), June 2017.*
3. **Ramesh Kumar**, Manish Varma, Sabir sakhla., **Embedded system**, *Genius Publication, Jaipur, January 2010,*

CONFERENCE AND  
JOURNAL  
PUBLICATIONS

1. **R Kumar**, Sarwan Kumar, Amit Sengupta. *A Review: Electrical Impedance Tomography System and Its Application. Journal of Control & Instrumentation*, 2016; 7(2): 1422p.
2. **Kumar R**, Pahuja SK, Sengupta A. *Phantom based Analysis and Validation using Electrical Impedance Tomography. Journal of Instrumentation Technology and Innovation.*, 2015; 5(3): 1723p.

3. **R Kumar**, Agraj Gupta, and Mohd. Faisal, *Identification of An Object inside Close Pipe for Industrial Application* published in *Journal of Engineering, Science & Management Technology*, Vol. 1, No. 1, pp 1-6, Dec. 2011.
4. A K S Pundir, **R Kumar**, *Digital Watermark Forensic on Multimedia Image using DCT, Threshold and Correlation based Schemes* published in *Journal of Engineering, Science & Management Technology*, ISSN 2231-1521, Vol. 2, No. 1, pp- 29-34, June. 2012.
5. Digambar Singh, **R Kumar** and Dwarka Prasad, *Voltage Regulation Using Static Synchronous Series Compensator* published in *Journal of Engineering, Science & Management Technology (JESMT -2012)*, ISSN: 2231-1521, Vol. 2, No. 2, Dec. 2012.
6. **Kumar R**, Pahuja SK, Sengupta A. *An Experimental Study of Electrical Impedance Tomography Technique for Biomedical Application, International Conference, Humanizing Work and Work Environment (HWWE-2016)*, NIT Jalandhar, Dec. 2016.
7. Mhod. Sabir, **R Kumar** , Manish Varma, *Novel Approach for Impedance Plethysmography, International Conference on sensors and related networks (SENNET-09)*, vol 1, , pp 37-41, December 2009, VIT University, Tamil Nadu, India.
8. **Ramesh Kumar**, J P Sharma, P K Pandey and Aswani Garg, *The Operation of Virtual Keyboard An Application of Brain Computer Interface*, published In: *National Conference on Virtual and Intelligent Instrumentation*, November 2009, Birla Institute of Technology and Science, Pilani, India.
9. Hemang Bhavasar, **Ramesh Kumar**, *Blood Batteries*, published In: *National Conference on Revolutionary Advancements in Communication and Electronics (RACE-10)*, pp 153-158, November 2010, LIET, Alwar, India.
10. **Ramesh Kumar**, Manish Varma, *Image reconstruction algorithm for EIT*, published In: *National Symposium on Biodiversity Conservation & Envirmental Biotechnology*, pp13, November 2009, SEC Sikar Rajasthan India.
11. Divya Gupta, Deepak Gupta, **Ramesh Kumar**, *An Experimental Study for Bio Impedance Tomography Technique*, published In: *National Conference on Recent Technological Developments in Electronics and Electrical Engineering (RTDEEE-2016)*, August 2016, JECRC Jaipur India.
12. Mohd. Faisal, **Ramesh Kumar**, *Classification of Reusable Components of a Software Products*, published In: *National Conference on Web services computing and communication technology*, April 2011, YIT Jaipur, India.
13. Mohd. Faisal, **Ramesh Kumar**, *A simulation of an Achievry full frequency through STBC and OFDM*, published In: *National Conference on Recent trend in engineering & mathematical sciences*, Feb. 2011, ACME Palwal, India.

**SUPERVISING  
EXPERIENCE**

**B.Tech.**

- . Supervised more than 10 projects for (B. Tech) Bachelors students of Laxmi Devi Institute of Technology, Alwar Rajasthan.
- . Supervised 4 projects for B Tech students of SGI, Sikar Rajasthan.

**M.Tech.**

Sl No.	Name of Student	Title of The Thesis	Status	Supervisors
1.	Aditya Singh Pundir	Digital Watermark forensic on multimedia images using DCT, DWT and threshold based schemes	Completed (2009-2011)	Mr. Ramesh Kumar Meena
2.	Neeraj Sharma	Fully Differential OTA for Large Bandwidth	Completed (2009-2011)	Mr. Ramesh Kumar Meena
3.	Sandeep Kr. Shearwat	Simulation based watermarking for confidential data security of video signal	Completed (2010-2012)	Mr. Ramesh Kumar Meena
4.	Ashutosh Sharma	Designing Of Broadband Dual Frequency Micro Strip Antenna Useful In Commercial applications	Completed (2011-2013)	Mr. Ramesh Kumar Meena
5.	Ravindra Kr.	Power Saving In CMOS Using Half Swing Clock Scheme	Completed (2011-2013)	Mr. Ramesh Kumar Meena

SUBMITTED  
JOURNAL  
PUBLICATIONS

1. **Kumar R**, Pahuja SK, Sengupta A. *Electrical Impedance Based Data Acquisition System for Medical & Non-Medical Imaging Applications, Journal of circuits, System and Computers. World scientific* (Communicated)
2. **Kumar R**, Pahuja SK, Sengupta A. *Analysis and Validation of medical Application through Electrical Impedance based System, Journal of Engineering Science and Technology Review* (Communicated)
3. **Kumar R**, Pahuja SK, Sengupta A. *An Experimental perusal of Impedance Plethysmography for Biomedical Application,, MEC Press* (Communicated).

REFERENCES

- Dr S. K. Pahuja  
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- Prof. Amit Sengupta  
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indian Institute of Technology,  
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