

## Dr. Roopali Garg

Professor, Department of IT,  
#304, Academic Block-1  
University Institute of Engg & Technology (UIET),  
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### Experience

Jan 2012- Jan 2015:	Coordinator- Department of IT, UIET, Panjab University, Chandigarh
Dec 2019- till date:	Professor, Deptt. of IT, UIET, Panjab University, Chandigarh
Dec 2016- Dec 2019:	Associate Professor, Deptt. of IT, UIET, Panjab University, Chandigarh
Aug 2003 – Dec 2016:	Assistant Professor, Deptt. of IT, UIET, Panjab University, Chandigarh
Jan 2003 - Aug 2003:	Lecturer, Department of Electronics & Electrical Communication, Punjab Engineering College (PEC University of Technology), Chandigarh

### Qualification

Doctorate:	PhD in Electronics and Communication Engineering
Post-Graduation:	M.E. (Master of Engineering) – Electronics Engineering Punjab Engineering College, Chandigarh
Graduation:	B.E.(Bachelor of Engineering) Electronics & Electrical Communication Punjab Engineering College, Chandigarh <i>Awarded University Gold Medal by Panjab University, Chandigarh for overall First Rank.</i>
Advance P.G Diploma:	Advance Postgraduate Diploma in VLSI Design Semiconductor Complex Limited (SCL), Mohali.

**Research Domain:** Wireless communication, Cognitive radios, Machine learning

**Subjects Taught:** Wireless Communication, Optical Communication, Object oriented Languages, Digital Electronics, Microprocessors and Assembly Language, Multimedia Systems

### Awards/Achievements

- ❖ Awarded with *Distinguished Researcher Award 2019* by Greenthinkerz for remarkable contribution in the field of *Wireless Communications*
- ❖ Awarded with Certificate of Appreciation by Centre for Industry Institute Partnership Programme (CIIPP), Panjab University for undertaking consultancy services in 2018.
- ❖ Awarded Administrator's Gold Medal for the period 1996-2000 by Chandigarh Administration.

### Patent

Patent Titled “Apparatus To Hold The Dielectric Sample For Its Consistent Measurement” granted vide Application no. 333721-001.

### Research Supervised

01 PhD awarded  
04 PhD ongoing  
19 M.Tech awarded  
03 M.Tech ongoing

### Research Projects/ Consultancy

1. Consultancy work titled *Enterprise Resource Planning Solutions* provided to M/s Dreamline Ventures Limited, HP. Cost: Rs. 13 Lacs approx. Duration: 2 years.
2. Consultancy work titled *Development and Maintenance of a Mobile App for social Meet-ups Embedded with curated Commerce* provided to M/s Boolean Ventura Private Limited, New Delhi. Cost: Rs. 11 lacs approx. Duration: 2 years.
3. Project titled *Pedestrian Detection using Thermal Imaging* (sub theme of Traffic sensing Information Technologies) under the Design Innovation Centre, an initiative of MHRD, Govt. of India. Cost Rs. 11 lacs approx. Duration: 3 years.

### Projects Submitted

1. IOTree-IOT based Air Pollution Monitoring and Control System submitted to Natural Resources Data Management System division of Department of Science and Technology of Government of India for approval. Cost: 50.76 lacs. Duration: 3 Years.
2. Modernization and Removal of Obsolescence (Modrobs) submitted to All India Council for Technical Education (AICTE) for approval. Cost: 10 lacs. Duration: 1 year.
3. Project *Unified Command and Control (UCC) for smart management of Electrical Energy and Water Supply* submitted to Ministry of Electronics and Information Technology, Government of India. Cost 91 lacs approx. Duration: 2 Years

### University/Institute Visits for Interaction

- Europe (France) at Institut Européen d'Administration des Affaires (INSEAD), Fontainebleau France, January-August 2014
- USA: University of California Berkeley, October 2016
- India: IIM Lucknow, ISB Mohali, IIT Delhi, CDoT Delhi

### Books

1. Programming with Assembly Language, Laxmi Book Publication, 2019, ISBN:978-0-359-81273-8.
2. Fundamental of Digital Electronics, Kips Learning Pvt. Ltd. Publication, 2019, ISBN:978-81-940471-5-5.

3. Aspects of Spectrum Sensing, Lambert Academic Publishing. OmniScriptum GmbH & Co. KG, Germany, 2019, ISBN- 978-613-9-98258-5.
4. Spectrum Sensing in Cognitive Radio using Genetic Algorithm, Lambert Academic Publishing. OmniScriptum GmbH & Co. KG, Germany, 2019, ISBN- 978-613-9-98158-8.
5. Polarization Mode Dispersion in Optical Fiber: Measurement and Mitigation Techniques, Lambert Academic Publishing, OmniScriptum GmbH & Co. KG, Germany, 2016, ISBN-13: 978-3-659-59999-6.

### **Extension Activities and Research Interaction**

- ❖ Session Chair 2<sup>nd</sup> International Conference on Aspects of Materials Science and Engineering ICAMSE 2021 held on 5th-6th March 2021.
- ❖ Software training programmes and awareness events for use of ICT based teaching and learning methodology in collaboration with Spoken Tutorial IIT Bombay.
- ❖ Conducted one day workshop on MOOCs: Swayam, Swayam Prabha, Nptel at Government College of Engineering and Technology, Jammu on 18 Nov 2019.
- ❖ Chaired sessions in various conferences like WCECS-2016, ICAN-2011, WECON-2015 etc.
- ❖ Invited talks at various institutes/ events like NITTTR Chandigarh, Netsolutions, Jaypee University, PEC University, Infosys, Ranbaxy, Chitkara University, Income Tax Office under Ministry of Finance Govt. of India etc.
- ❖ Reviewer for multiple International Journals and Conferences:
  - IEEE Access
  - Journal of Educational Studies, Taylor and Francis
  - Journal of Computer Science, Science Publication
  - Wireless personal communications
  - IGI Global
  - Bioinfo Publications
  - International Journal of Advanced Computer Science and Applications
  - IEEE International Conference Recent Advances in Engineering and Computational Sciences-2015
  - IEEE International Conference on Computational Intelligence and Communication Networks 2016.
  - International Journal on Advanced Science, Engineering and Information Technology.
  - International Journal of Wireless Networks and Broadband Technologies.
  - International Conference on Aspects of Materials Science and Engineering (ICAMSE 2020), India, 2020.
- ❖ Faculty incharge for activities under Institution Innovation Council, Ministry of Human Resource Development, Govt. of India.
- ❖ Editorial board of 5<sup>th</sup> International conference on Signal processing (CSIP 2018) as well as PCM member of AIRCC world-wide.
- ❖ Acted as Resource person to train the students of UIET under campus connect programme of Infosys from July 2006 - 2010.

- ❖ Acted as Resource Person for Short Term course at Deptt of Electronics & Comm. Engg., NITTTR, Sector 26, Chandigarh for training teachers of various Technical Institutes.
- ❖ Acted as Resource Person for training the new recruits of Ranbaxy at PU, Chandigarh

### **Seminars/Workshops Organized**

- Organized Webinar on Blockchain Technology on September 15, 2020 sponsored by Teqip-III in collaboration with GCET, Jammu.
- Organized Webinar on “Mobile Forensics and Cyber Crime: Recent Challenges” on August 14, 2020 sponsored by Teqip-III in collaboration with GCET, Jammu.
- Organized International Conference on Aspects of Materials Science and Engineering (ICAMSE 2020), Chandigarh, May 29-30, 2020.
- Organized workshop on Cognitive Skills Design and Critical Thinking under Institution Innovation Council on Nov 20, 2018 at Panjab University, Chandigarh.
- Organized oneM2M workshop in collaboration with TSDSI under India-EU Cooperation on ICT-Related Standardization, Policy and Legislation on Feb 19, 2018 at Panjab University, Chandigarh.
- Organized Engineering and Management Sciences Section of 12<sup>th</sup> Chandigarh Science Congress, Chascon 2018 held at Panjab University from Feb 12-14, 2018.
- Organized workshop on Swayam and Swayam Prabha on Jan 19, 2018 at UIET, Panjab University. Resource Person: Dr. Manpreet Singh Manna, Director AICTE.
- Organized Innovative Design Contest under Design Innovation Centre (DIC) on Sep 18-19, 2017 at UIET, Panjab University, Chandigarh.
- Organizing Secretary for Engineering Section for 11<sup>th</sup> Chandigarh Science Congress, Chascon 2017 held at Panjab University from March 9-11, 2017.
- Organized symposium “Emerging Trends in IT” on Nov 17-18, 2016 at Panjab University, Chandigarh.
- Organized Guest Lecture by Professors from Germany on Data Mining and Business Intelligence for BE IT Students from Nov 17-21, 2014.
- Organized symposium “Emerging Trends in Telecommunication & IT” on Nov 12-13, 2014 at Panjab University, Chandigarh.
- Organized symposium “Emerging Trends in Telecommunication & IT” on Oct 3-4, 2013 at Panjab University, Chandigarh.

### **Refresher/Orientation Course Attended (*in last five years*)**

- ❖ 4-weeks online course on “Introduction to the Internet of Things and Embedded Systems” by University of California, Irvine. Certified on April 14, 2020.
- ❖ One week online course on “Write professional Emails in English” by Georgia Institute of Technology. Certified on April 14, 2020.
- ❖ One week Short term course on Machine Learning for Engineering Application from 9-13 Dec 2019 at IIT Delhi.
- ❖ One week Short term course on “Use of Digital technologies in Teaching Learning” at NITTTR, Chandigarh from Feb 25, 2019 to March 1, 2019.

- ❖ Five days FDP on Machine Learning & deep Learning: Applications in NLP, Computer Vision and IoT organized by Deptt. of CSE, UIET, Panjab University from July 10-14, 2018.
- ❖ Six days TEQIP-II sponsored FDP “Teaching Pedagogies: Sharpen the Tools” organized by Dr. SSBUI CET, Panjab University, Chandigarh from 19th - 24th Sept 2016.
- ❖ Six days UGC sponsored Short Term Course “Harmonizing Self: Becoming and Being” organized by Human Resource Development Centre, Panjab University, Chandigarh from 11May 2016- 17 May 2016.

#### **Seminars/Workshop Attended *(in last five years)***

- ❖ Webinar on “Blockchain Technology” on September 15, 2020 in collaboration with GCET, Jammu.
- ❖ Webinar on “ Mobile Forensics and Cyber Crime: Recent Challenges” on August 14, 2020 sponsored by Teqip-III in collaboration with GCET, Jammu.
- ❖ Online National Seminar on “Wireless Communication and Commercialization of Technology” on April 30, 2020.
- ❖ 3 day FDP on “Student Evaluation” organized by NITTTR, Chandigarh at Chandigarh College of Architecture from July 30, 2018-Aug 1, 2018.
- ❖ Online course on “Advanced Excel Techniques” organized by E&ICT and conducted by IIT Kanpur. Certification on July 24, 2018. 10 hours module with certification exam.
- ❖ Workshop on 3D modeling and printing skill development (funded by MHRD, under Design innovation Centre) held at UIET, Panjab University, Chandigarh from Sept 21-23, 2017.
- ❖ Five-week online course on “Customer Analytics” by Wharton University of Pennsylvania offered through Coursera in Nov 2015.

#### **Administrative and Academic Responsibilities**

- Member selection committee for PURC, Kauni, Punjab.
- Faculty incharge for activities under Institution Innovation Council, Ministry of Human Resource Development, Govt. of India.
- Member of University level committee for framing PhD guidelines.
- Member Board of Studies for Information technology for the term 1.4.2017 to 31.3.2019.
- Member Board of Control, Panjab University, Chandigarh
- Member library Committee of UIET for the year 2018.
- Incharge Swachhta Ambassador Committee of University Institute of Engineering and Technology.
- Member for Degree Award Ceremony committee for year 2017, 2018, 2019
- Member of University Level Committee for E-governance project
- Member of University level Committees: Board of Control, Board of Studies, E-Governance committee, Equivalence Committee, 10<sup>th</sup> Managing Committee, Academic & Administrative Committee, Technical committee, Sports Committee, Magazine Committee.
- Scrutiny of CAS forms for regular posts of Assistant Prof in IT.
- Centre Supdt. of University Exams for BE/ME at Panjab University, Chandigarh

#### **Membership of Professional Bodies**

- ❖ IEEE Member vide Membership Number 93983072

- ❖ Life Member IAENG (International Association of Engineers ) vide Membership number 170956
- ❖ Life Member of Institution of Electronics and Telecommunication Engineers (IETE) vide M223460
- ❖ Life Member of Indian Society of Technical Education (ISTE) wef 2010 LM73518
- ❖ Life Associate Member of Institute of Engineers, India (IEI) vide AM 099028-3

#### **Scholarly Contributions**

- ❖ Total Number Publications: 98
- ❖ Peer-reviewed/Refereed Journal Publications: 56
- ❖ International/ National Conference: 42
- ❖ Books: 05
- ❖ Book Chapters: 09

**(ROOPALI GARG)**