

## ***SHWETA PANDIT***

*Ph.D (Electronics and Communication Engineering)*

### **Contact Information:**

Assistant Professor, Department of Electronics and Communication Engineering, Jaypee University of Information Technology, Wagnaghat, Solan-173 234, Himachal Pradesh, India. Ph. no. 01792-239216.

Email: [ershweta3@gmail.com](mailto:ershweta3@gmail.com), [shweta.pandit@juit.ac.in](mailto:shweta.pandit@juit.ac.in)

### **1. Objective**

To achieve personal and professional growth in Electronics and Communication Engineering, and do cutting edge research which could reveal my inner talent and satisfy my urge to learn more and more.

### **2. Education Qualification**

<b>Degree</b>	<b>University</b>	<b>Year</b>	<b>Subject</b>	<b>Percentage</b>
Ph. D.	Jaypee University of Information Technology, Solan	2015	Electronics and Communication Engineering; <b>Title-</b> “Medium Access Control Protocol for Spectrum Sharing in Cognitive Radio Communication System”. <a href="http://hdl.handle.net/10603/70525">http://hdl.handle.net/10603/70525</a>	
M. Tech.	Jaypee University of Information Technology, Solan	2012	Electronics and Communication Engineering	86
B. Tech. (Hons.)	Himachal Pradesh University (HPU)	2010	Electronics and Communication Engineering	76.15
10+2	H.P. Board	2006	Non-Medical	71.6
10 <sup>th</sup>	H.P. Board	2004	General	81

### **3. Employment Details**

<b>Name of the Employer</b>	<b>Date of Joining / Leaving</b>	<b>Designation</b>	<b>Nature of Duty / Work</b>
Jaypee University of Information Technology, Wagnaghat-173234.	01/01/2016 to Till Date	Assistant Professor (Sr. Grade)	Teaching, Course Design, Research & Development
Jaypee University of Information Technology, Wagnaghat-173234.	10/08/2015 to 31-12-2015	Assistant Professor (Grade-II)	Teaching, Course Design, Research & Development
Jaypee University of Information Technology, Wagnaghat-173234	16/07/2012 to 30/05/2015	Teaching Assistant and Research Scholar	Taking lab load.

#### 4. Research Interests

- Cognitive Radio
- Wireless Communication
- MIMO Technology
- NeXt generation communication system

#### 5. Funded Research/ Consultancy Projects

- **Completed Indian Space Research Organization (ISRO)** research project titled “Mathematical Modeling of Spectrum Sharing techniques in Cognitive Radio Network” of Rs. 11.10Lakh (Co-PI).

#### 6. Software Skills

- MATLAB.
- Xilinx.
- Labview.
- Orcad, Pspice, Maple, php, mysql, Scilab, Python.
- TINA software.

#### 7. Training/Certification

- Topper of the course and awarded Elite+Gold certificate for securing 96% marks in the NPTEL course “Principles of Modern CDMA MIMO OFDM Wireless Communications”, from IIT Kanpur, August-October 2019.
- Passed 8 week NPTEL course "Evolution of Air Interface Towards 5G" with 92% score from IIT Kharagpur, Feb-April 2020.
- Successfully completed workshop and online certification exam of php, mysql, python, and scilab organized by JUIT Waknaghat in collaboration with IIT Bombay by MHRD, Govt. of India.
- 4 Weeks training from BSNL exchange Sundernagar.
- 6 Weeks training from Doordarshan Kendra Shimla.

#### 8. PhD Students Supervised

- Alok Kumar (Enrolment no. 156001), June 2020.

**Thesis Title:** Optimal Threshold Selection of Energy Detection Based Cooperative Spectrum Sensing in Cognitive Radio Networks

- Prabhat Thakur (Enrolment number: 156002) Administrative Supervisor (Notice No. JUIT/WKG/REG/2018-19), August 2018

**Thesis Title:** Mathematical Modeling of Spectrum Sharing in Cognitive Radio Communication Systems

- Isha Malhotra (Enrolment number: 126002) Administrative Supervisor (Notice No. JUIT/WKG/REG/2017-18), September 2018

**Thesis Title:** Analysis, Design and Characterization of Small-gap Photoconductive Dipole Antenna for Terahertz Imaging Applications

#### 9. M.Tech. Students supervising/supervised

S. No.	Name and Roll. No. of student	Title of thesis	Year of completion	Co-guided
1.	Shivi Ticoo (152006)	Performance Analysis Of MIMO-OFDM Systems In Fading Channel Using Relaying	2017	No

		Techniques		
2.	Aman Sharma(161001)	QoS WDM Network Architecture Design and Simulation	2018	Yes

**10. B.Tech. Students supervising/supervised**

S. No.	Name and Roll. No. of student/s	Title of thesis	Year of completion	Co-guided
1.	Nimit Bhardwaj (131082), Aman Gupta (131097), Sudhanshu Singh (131098)	Dynamic Key Exchange Protocol For Security In Wireless Networks	2017	No
2.	Rohit Pathak(141057), Abhinav Goel (141068), Shubham Nanda (141080)	Design of Tunable FM Radio	2018	No
3.	Abhishek Rana (141053), Shagun Malhotra(141049)	Investigation of the Effect of Directional Antennas used in Cognitive Radio Ad-Hoc Networks (CRAHN)	2018	Yes
4.	Approv Upadhyay (151108), Anshuman Thakur (151094), Divesh Kumar (151029)	Alcohol Detection with Engine Locking	2019	No
5.	Mohit Kumar Gupta (151031), Rushil Bhatnagar (151056)	Smart Street Lighting System	2019	No
6.	Utkarsh Srivastava (171046), Abhishek Malik (171023)	Light Fidelity	2020	No
7.	Archita Gupta (171021), Shruti Sharma (171051)	Simultaneous Wireless and Information Power Transfer	2020	No
8.	Satyam Kumar (161009), Shivansh (161025), Yashvir Singh (161074)	Metal detector Robotic Vehicle	2020	No

9.	Ashish Kumar (161061), Mukul Gupta (161067), Bhavya Chadha (161075)	Wireless surveillance Robot	2020	No
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## 11. Citation Detail

### *On research gate*

[https://www.researchgate.net/profile/Shweta\\_Pandit](https://www.researchgate.net/profile/Shweta_Pandit)

### *On google scholar*

<http://scholar.google.co.in/citations?user=YWZP3y0AAAAJ&hl=en>

H-index: 14

i10-index: 16

### *On scopus*

<http://www.scopus.com/authid/detail.url?authorId=55786615000>

Orchid research Id: <https://orcid.org/0000-0002-6358-1549>

## 12. Organization/Participation of Seminars/Workshops/Schools

- **Coordinator** in the Workshop on “*Industrial revolution 4.0*” organized by the department of ECE, JUIT every Saturday from 3<sup>rd</sup> July 2021 to 4<sup>th</sup> September 2021.
- **Organized** one day workshop on “*Recent Research Trends using MATLAB*” on 12 Sept. 2018 at JUIT, Wagnaghat.
- **Organized** one day workshop on “*Advance Wireless Systems*” on 19 Sept. 2018 at JUIT, Wagnaghat.
- **Organized** one day workshop on “*Benchmark WiCOMM-T: Wireless Digital Communication Training System and Benchmark iCONSeT: An IoT Training System*” on 25 Feb. 2019 at JUIT, Wagnaghat.
- Successfully completed one week FDP on “*Machine Learning Application in Signal Processing and Communication Engineering*” jointly organized by Electronics and ICT Academies IIT Guwahati, NIT Patna, IIT Roorkee, MNIT Jaipur, IIIT Jabalpur, and NIT Warangal under the “Scheme of financial assistance for setting up of Electronics and ICT Academies” by the MeitY, Government of India, 03-08 January, 2022.
- Successfully completed Coursera course on “*Machine Learning*” offered by Standford.
- Successfully completed two weeks AICTE sponsored QIP short term course on “*Data Analytics and its Applications in Industries*” jointly organized by Department of Computer science and Engineering & Department of Electrical Engineering IIT (BHU) during 14-26 December, 2020.
- Attended a talk on “*Some IPRs in the Field of Computer Science*” organized by IPR Cell, Jaypee University of Information Technology, Wagnaghat, Solan, H.P. India, 6 Dec. 2021
- Attended one week workshop on “*Women Innovation and IPR*” organized by IPR Cell, Jaypee University of Information Technology, Wagnaghat, Solan, H.P. India, March 08-13, 2021.
- Attended a lecture on “*Opportunities in Online Education*” by Dr. Manpreet Singh Manna, Ex-Director, AICTE, New Delhi, organized by the Online Education Cell of Jaypee Universities (JUs), March 10, 2021.

- Attended a FDP on “Building Research Universities in India” by Prof. Pankaj Jalote, founding director, IIIT Delhi, organized by JUET Guna, 18 March, 2021.
- Participated in one week FDP on "Transforming Education with Industry 4.0" organized by the CSE & IT Department, JUIT, Wagnaghat, June 15-20, 2020.
- Attended Short Term Course on "Recent Advances in Computational Intelligence for Signal Processing (RACISP-2020)" organized by the department of Electronics and Communication Engineering, Jaypee University of Information Technology, Wagnaghat, 10-15 Aug. 2020.
- Participated in Webinar Session 1 "Entrepreneurship : An opportunity for Young Aspirants" organized by Technology Incubation and Entrepreneurship development Cell, JUIT, Aug. 14, 2020.
- Attended FDP on “R training” organised by Spoken Tutorial, IIT Bombay at JUIT, 28 April-2May, 2020.
- Attended FDP on GSuit at Jaypee University of Information Technology, Wagnaghat, 10-14Aug. 2020
- Participated in online FDP in Scilab under Pandit Madan Mohan Malviya National Mission for Teachers and Teaching, MHRD, organized by Jaypee University of Information Technology in association with Spoken Tutorial, IIT Bombay, 13-17 July, 2020.
- Successfully completed two week (equivalent to 3 credit 40 hours course) FDP on "Advanced Optimization Techniques and hands-on with MATLAB/SCILAB” jointly organized by Electronics and ICT Academies MNIT Jaipur, NIT Patna, and IIIT Jabalpur under the “Scheme of financial assistance for setting up of Electronics and ICT Academies” by the MeitY, Government of India, 13-24 July 2020. The programme is endorsed by AICTE / UGC / NBA.
- Attended one week workshop on “Emerging areas of research in Image Processing ERIP-2020”, organized by the ECE Department, JUIT, Wagnaghat, Jan 06-12, 2020.
- Participated in three days workshop on “*Perception towards IPR*” conducted at JUIT Wagnaghat, February 10-12, 2020.
- Attended Fifth IEEE International Conference on Signal Processing and Control (ISPPC 2k19), October 10-12, 2019 held at JUIT(India).
- Attended one day workshop on “*NPTEL awareness*” conducted by IIT Roorkee at JUIT Wagnaghat, June 15, 2019.
- Attended one week FDP on “*Recent Trends In Machine Learning For Signal Processing (RTMLS)*” organized by the ECE Department, JUIT, Wagnaghat, May 20-25, 2019.
- Attended one week STC on “*Recent Advances in Signal & Image Processing (RASIP 2019)*” organized by the ECE Department, JUIT, Wagnaghat, June 24-28, 2019.
- Attended Fifth International Conference on Parallel, Distributed and Grid Computing (PDGC-2018), December20-22, 2018, held at Jaypee University of Information Technology, Wagnaghat (India).
- Attended *Guest Lecture* by Mr. Mayank Sood (K&S Partners) on “Patents on Computers and Electronics”, organized by IPR cell at JUIT Wagnaghat, 22 February 2019.
- Attended a seminar by officials of Bhabha Atomic Research Centre (BARC) at JUIT, Wagnaghat, 27 Nov. 2018.
- Attended one day workshop on “Patent filing procedures and Geographical Indications of Himachal Pradesh”, jointly organized by IPR Cell of JUIT and HP Patent Information Center, held at JUIT Wagnaghat, 30 Nov. 2018.
- Attended two day workshop on “*Latest EDA tools for electronic circuit design: Xilinx Vivado, HSPICE*” organized by the ECE Department, JUIT , Wagnaghat, Oct 31- Nov. 1, 2018.
- Attended a Seminar on "Innovation, Renewable Energy & Entrepreneurship” jointly organized by CESTRD (Centre of Excellent in Sustainable Technologies for Rural Development of BT BI Dept.) & TIED Cell of JUIT, 29 Oct, 2018.

- Attended Workshop on Virtual Labs : IIT Delhi, February 28th, 2017, Jaypee University of Information Technology Himachal Pradesh, India in collaboration with IIT Delhi.
- Attended Workshop on Patent Filing & Geographical Indications, Feb 27, 2017, Jaypee University of Information Technology, Himachal Pradesh, India in collaboration with Himachal Pradesh Patent Information Centre, Shimla, H.P.(HPPIC).
- Attended Workshop on Innovation & Intellectual Property Rights, Dec 09, 2016, Jaypee University of Information Technology, Himachal Pradesh, India in collaboration with Himachal Pradesh Patent Information Centre, Shimla, H.P.(HPPIC)
- Attended Workshop on Data Acquisition and Analysis system, Dec 01, 2016, Jaypee University of Information Technology
- Attended Guest Lecture on “Biomedical Image Processing” of Dr. Jyotindra Singh Sahambi, Head of Electrical Engg Department, IIT Ropar, Jaypee University of Information Technology, Himachal Pradesh, India.
- Attended Statistica Workshop, April 21, 2017, Jaypee University of Information Technology, Himachal Pradesh, India.
- Attended Guest Lecture on “Laser In Homeland Security And Defence" of Mr Hari Babu, Director Lastec, DRDO, Delhi, Sept 27, 2016, Jaypee University of Information Technology, Himachal Pradesh, India.
- Attended Workshop on Virtual Labs, 28 th – 29 th April, 2017, Jaypee University of Information Technology, Himachal Pradesh, India in collaboration with IIT Delhi.
- Attended Lab VIEW Workshop, April 13, 2017, Department of Electronics and Communication Engineering, Jaypee University of Information Technology, Himachal Pradesh, India.
- Attended Short term course on Wireless and Mobile Communication through ICT, 30.10.2017 to 03.11.2017 (1 week), Jaypee University of Information Technology Himachal Pradesh, India in collaboration with AICTE.
- Attended National Symposium on Medical Image Acquisition, Processing & Analysis, 20-22 November 2017 held at Jaypee University of Information Technology, Himachal Pradesh.
- Attended Guest Lecturer on “*Medical Imaging – Acquisition Processing Analysis & Applications*” by Prof. (Dr.) H.K. SARDANA Chief Scientist, CSIO Chandigarh, 21 September 2017, Jaypee University of Information Technology, Himachal Pradesh, India.
- Attended Guest Lecture on “*Development of Advanced Image and Signal Processing Techniques for Disease Diagnostic Devices: Process and Examples*” by Prof. Dinesh Kant Kumar, (Biomedical Engineering), RMIT University, Melbourne, Australia, 22.09.2017, Jaypee University of Information Technology, Himachal Pradesh, India.
- Attended Guest Lecture on “*Sensors and Signals in Clinical Monitoring and Diagnosis of Disease*” by Prof. Panico sKyriacou, Professor of Biomedical Engineering City University London, Jaypee University of Information Technology, Himachal Pradesh, India.
- Attended Lecture Series on ‘*Issues Related to Environment*’ by Dr. Vandana Shiva, 23 September 2017, Jaypee University of Information Technology, Himachal Pradesh, India.
- Attended National workshop on Technical Manuscript preparation with LaTeX, 29Nov. 2015, Jaypee University of Information Technology, Himachal Pradesh, India.
- Attended one week Faculty Development program on Virtualization & Cloud Computing-Fundamentals & Practical Approach, December 24-30, 2015 held at JUIT, Wagnaghat
- Attended one week Faculty Development Program on Signal Processing and its Applications, January 13 – 18, 2016, held at JUIT, Wagnaghat.
- Successfully completed workshops of php, mysql, python, scilab organized by JUIT Wagnaghat in collaboration with IIT Bombay by MHRD, Govt. of India.
- Participated in the workshop titled “Amateur radio communications, software and computer networks in education” held at JUIT, Wagnaghat.

### **13. Technical Program Committees**

- Organizing committee member of IEEE International Conference on Signal Processing and Control (ISPPC 2019), October 10-12, 2019 held at JUIT, Wagnaghat.

- Organizing committee member of IEEE International Conference on Signal Processing and Control (ISPCC 2015), October 10-12, 2015 held at JUIT, Wagnaghat
- Organizing committee member of IEEE International Conference on Signal Processing and Control (ISPCC 2015), September 24-26, 2015 held at JUIT, Wagnaghat.
- Organizing committee member of IEEE International conference on Signal Processing, Computing and Control (ISPCC) 2017, September 21-23, 2017 held at JUIT, Wagnaghat.
- TPC member of the International Conference on Smart Communication and Imaging Systems (MEDCOM2020), March 20-21, 2020 to be held at G L Bajaj Institute of Technology, Greater Noida, India.
- TPC member of 6<sup>th</sup> International Conference on Advances in Computing, Communication and Informatics (ICACCI-17), September 13-1, 2017 held at Manipal University, Karnataka, India.
- TPC member of 4<sup>th</sup> International Conference On Signal Processing And Communication (ICSC-2018), March 21-23, 2018, held at Jaypee Institute of Information Technology, Noida (India).
- TPC member of 5<sup>th</sup> International Conference On Signal Processing And Communication (ICSC-2019), March 7-9, 2019, to be held at Jaypee Institute of Information Technology, Noida (India).
- TPC member of Fifth International Conference on Parallel, Distributed and Grid Computing (PDGC-2018), December 20-22, 2018, to be held at Jaypee University of Information Technology, Wagnaghat (India).

#### **14. Reviewer Work For Technical Journals And Publishers**

<https://publons.com/author/1519226/shweta-pandit#stats>

##### **Journal:**

- IEEE Transactions on Wireless Communications.
- IEEE Systems Journal.
- IET Networks.
- ETRI journal (Wiley).
- IJWI (Springer) journal reviewer.
- Perspectives in Science (Elsevier).
- SAIEE ARJ.
- IEEE Transaction on Vehicular Technology
- Physical Communication (Elsevier).
- Heliyon (Elsevier)
- EURASIP Journal on Wireless Communications and Networking (Springer)
- Journal of Computer Networks and Communications (Hindawi).
- IJCS: International Journal of Communication Systems (Wiley).
- Artificial Intelligence Review (Springer).
- IEEE Communication Letters.
- Journal of Supercomputing (Springer).

##### **Conferences:**

- ICSC-2016.
- IEEE ISPCC-2017.
- IEEE ICACCI-2017
- IEEE PDGC-2018

#### **15. Contribution To University and Department Activities**

- **Resource Person** from the Department of ECE for Exposure visit to JUIT by XI and XII students of Loreto Convent Tara Hall, 31st May, 2019.

- **Resource Person** from the Department of ECE for Exposure visit to JUIT by XI and XII students of Pine Grove School, 13th September, 2019.
- **Visiting Team Member of “Mid-Day Meal Evaluation Study-Govt. of H.P., Directorate of Elementary Education”** (May 2019, Notice No. *JUIT/WKG/REGR/2018-19/756*), conducted by Jaypee University of information Technology, Wagnaghat on behalf of Department of Elementary Education, Himachal Pradesh.
- **Faculty in-charge** of a group of 1<sup>st</sup> year Induction Program held at Jaypee University of information Technology, Wagnaghat.(July 2018).
- **Member of induction** a group of 1<sup>st</sup> year Induction Program held at Jaypee University of information Technology, Wagnaghat.(July 2019).
- **Member of Mess Supervision** committee (September 2021, Notice No. *JUIT/WKG/REGR/2021-22/103*, 1June 2019, Notice No. *JUIT/WKG/REGR/2018-19/791*, Dec. 2018, Notice No.*JUIT/WKG/REGR/2018-19*; Oct. 18, Notice No.*JUIT/WKG/REGR/2018-19/155*; June 2018, Notice No.*JUIT/WKG/REGR/2017-18/724*; April 2018, Notice No.*JUIT/WKG/REGR/2017-18/537*; Feb. 2018, Notice No.*JUIT/WKG/REGR/2016-17/448* ) at Jaypee University of Information Technology, Wagnaghat, Solan.
- **Member of Anti-Ragging Cell** committee for mess (July 20, 2017, Notice No.*JUIT/WKG/REG/2017-18/017*; July14, 2018, Notice No.*JUIT/WKG/REG/2018-19/008*, July 26, 2017, Notice No.*JUIT/WKG/REG/2017-18/034*, *JUIT/WKG/REG/2019-20/013*) at Jaypee University of Information Technology, Wagnaghat, Solan.
- **Member of Departmental BoS (Board of Studies)** committee (March 2018, Notice No.*JUIT/WKG/REGR/2017-18/480*) at Jaypee University of information Technology, Wagnaghat.
- **Member of Enquiry Committees** (Aug. 2017, Notice No.*JUIT/WKG/REGR/2017-18/106*; Oct. 2018, Notice No.*JUIT/WKG/REGR/2018-19/133*; March 2019, Notice No. *JUIT/WKG/REGR/2018-19/475*) at Jaypee University of Information Technology, Wagnaghat, Solan.
- **Member of a team for enforcing Covid safety norms in JUIT campus** (Feb. 2021, Notice No. *JUIT/WKG/REGR/2020-21/0812*).
- **Member of Program Curriculum** committee (Feb. 2018)at Jaypee University of information Technology, Wagnaghat.
- **Student Mentorship Program** member at Jaypee University of information Technology, Wagnaghat.
- **PhD interview panel member** from the department of Electronics and Communication Engineering, Jaypee University of information Technology, Wagnaghat, Jan 2021.
- **Member of departmental “Program Curriculum and Evaluation”** committee (September 2018, Notice No. *JUIT/WKG/ECE/2018-19/002*)at Jaypee University of information Technology, Wagnaghat.
- **Resource person for the Lab staff training** in the department of Electronics and Communication Engineering, Jaypee University of information Technology, Wagnaghat, Jan 2021.
- **Member of the departmental committee on “Modernization and Up Gradation of Laboratories”** (September 2018, Notice No. *JUIT/WKG/ECE/2018-19/003*)at Jaypee University of information Technology, Wagnaghat.
- **DPMC member** of students Navdeep Prashar, Enrolment no. 166005; Kirti, Enrolment no. 176006.
- **Department representative** for Swachta Abhiyan organized on 1<sup>st</sup> Oct. 2018 at JUIT.
- **Member of Registration committee** (July 2018, Notice No.*JUIT/WKG/REG/2018-19/007*, December2017, Notice No.*JUIT/WKG/REGR/2017-18/354*).
- **Faculty Coordinator of Registration and Hospitality committee of Jaypee Youth Club** (July 2019, Notice No. *JUIT/WKG/REG/2019-20/020*, Jan 2021, Notice No. *JUIT/WKG/REGR/2020-21/0771*)Aug. 2021.



- **Faculty member of Internal Review and Mentorship Committee for Academic Year, 2021-22, TIED Cell** at Jaypee University of information Technology, Wagnaghat.
- **Member of Communication Systems** research group.
- **Lab developed: 1**
  - Wireless Lab
- **Courses designed**
  - Software Defined Radio and Applications
  - Principles of Wireless Communication
  - Cognitive Radio Networks
  - OFDM and its Applications
  - Software Defined Radio Lab
  - Principles of Wireless Communication Lab
  - Advance Communication Lab
  - Wireless and Data Communication
  - NeXt Generation Communication System
  - Principles of Wireless Communication Lab
  - Network Security Protocols
  - Fundamentals of MIMO Systems
  - Network Security Protocols
  - Next generation telecom networks
  - Next generation telecom networks Lab
  - Software defined networking
  - Software defined networking Lab
  - Microprocessor, microcontrollers and interfacing
  - Microprocessor, microcontrollers and interfacing Lab
- **Member of Departmental Committees for** Moderanization and Upgradation of Laboratories (Aug. 2019, Notice No. *JUIT/WKG/ECE/2019-20/011*), Proficiency Courses (July 2019, Notice No. *JUIT/WKG/ECE/2019-20/001*), Department Consultative Committee (Aug. 2019, Notice No. *JUIT/WKG/ECE/2019-20/013*), Program Curriculum and Evaluation (Aug. 2019, Notice No. *JUIT/WKG/ECE/2019-20/010*), Website Maintenance Coordinator, Department Annual Report Coordinator, Course Curriculum Revision Committee.

#### **16. Consulting, Advisory, And Other External Appointments**

- **Paper setter** for Himachal Pradesh University Shimla for subject Electromagnetic Field Theory (B.Tech. IV Sem., Paper No. ECE-4005), PS. No. 432/2021/HPU (Secrecy), Aug. 2021.
- Appointment as **Expert Examiner** for the conduct of Online Practical Examinations at UIT, HPU, Shimla-5 of Basic Electronics Lab. Notice no. UIIT/Practical Exam/2018-dated 24/8/21.
- Appointment as **Expert Examiner** for the conduct of Online Practical Examinations at UIT, HPU, Shimla-5 of Digital comm. And System Lab Notice no. UIIT/Practical Exam/2018-dated 24/8/21.
- **Guest editor** of Special Issue for Recent Patents on Engineering: Design of Reliable, Secure and Intelligent Systems for Healthcare Applications, Bentham Science, (SCOPUS, Indexed Journal).
- **Paper setter** for Samrat Ashok Technological Institute, Vidisha (M.P.) for subject Advanced Wireless and Mobile Communication (MTECH-1122, Code No 16PG5/SP/222), October 2016.
- **Thesis (Master of Engineering) Evaluator** to Univerity of Johannesburg, June 2021 for the thesis *Lightweight Machine-to-Machine Device Network Management System*.
- **Thesis (M.Tech.) Evaluator** to Eternal University, Baru Sahib (H.P.), August 2018 for REF. No. EU/COE/M.Tech/208 dated 25/8/2018 to Ms. Gurwinder Kaur; [*BS16MTEC001; Design and Analysis of Low-Power CMOS Ring Oscillator*].

- *Served as a session chair* in 2021 IEEE 6<sup>th</sup> International Conference on Image Information Processing (ICIIP 2021), organized by Department of Computer Science and Engineering and Information Technology, Jaypee University of Information Technology, Wakanaghat, 26-28 November 2021.

### **17. Research Community Memberships**

International Association of Computer Science and Information Technology (IACSIT).

**Member ID:**80345649

International Association of Engineers (IAENG)

**Member ID:** 220344

### **18. Honors And Awards**

1. National Eligibility Test (UGC-NET) 2012 qualified for Lectureship.
2. Completed B. Tech with honors.
3. Got 68<sup>th</sup> position in 10<sup>th</sup> HP board exam.

### **19. Teaching**

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration Aug. 2015 – Dec. 2015 (Odd Semester)**

Course Code	COURSE	STREAM	SEMESTER
10B11EC301	Signal and Systems	B. Tech.	3rd
10B17EC572	Digital Signal Processing Lab	B. Tech.	5th
10B17EC371	Electrical Machines and Instruments Lab	B.Tech.	3rd
10B1WEC575	Theory and Application of Control Systems Lab	B.Tech.	5th
10B17EC307	Signal and Systems Lab	B.Tech.	3rd
10B17EC407	Digital Electronics Tutorial	B.Tech.	4th

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration Jan 2016 - July 2016 (Even Semester)**

Course Code	COURSE	STREAM	SEMESTER
10M11EC211	Advanced Wireless and Mobile Communication	B. Tech.	8th
10B17EC473	Analogue Communication Lab	B. Tech.	4th
15B11EC471	Basic Electronics Lab	B.Tech.	3rd
15B11EC411	Basic Electronics Tutorial	B.Tech.	3rd

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration July 2016 - Dec. 2016 (Odd Semester)**

Course Code	COURSE	STREAM	SEMESTER
14B1WEC733	Cognitive Radio Networks	B. Tech.	7th
10B11EC311	Electrical Machines and Instruments	B. Tech.	3rd
10B17EC371	Electrical Machines and Instruments Lab	B.Tech.	3rd

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration Jan 2017 - July 2017 (Even Semester)**

Course Code	COURSE	STREAM	SEMESTER
15B11EC411	Basic Electronics	B. Tech.	4 <sup>th</sup>
12M1WEC432	Fundamentals of MIMO Systems	M.Tech., B.Tech. (Dual Degree)	M.Tech. (4 <sup>th</sup> ) B.Tech. (10 <sup>th</sup> Sem.)
15B11EC471	Basic Electronics Lab	B. Tech	4 <sup>th</sup>

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration July 2017 - Dec. 2017 (Odd Semester)**

Course Code	COURSE	STREAM	SEMESTER
14B1WEC733	Cognitive Radio Networks	B. Tech.	7th
10B11EC311	Electrical Machines and Instruments	B. Tech.	3rd
10B17EC371	Electrical Machines and Instruments Lab	B.Tech.	3rd

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration Jan 2018 - June. 2018 (Even Semester)**

Course Code	COURSE	STREAM	SEMESTER
10B11CI401	Microprocessor and Controllers	B.Tech.	4th
10B17CI471	Microprocessor and Controllers Lab	B. Tech.	4th

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration July 2018 - Dec. 2018 (Odd Semester)**

Course Code	COURSE	STREAM	SEMESTER
10B11EC311	Electrical Machines and Instruments	B.Tech.	3rd
10B17EC371	Electrical Machines and Instruments Lab	B. Tech.	3rd

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration Jan 2019 - July 2019 (Even Semester)**

Course Code	COURSE	STREAM	SEMESTER
10B11CI401	Microprocessor and Controllers	B.Tech.	4th
10B17CI471	Microprocessor and Controllers Lab	B. Tech.	4th
14B1WEC733	Cognitive Radio Networks	B.Tech.	8th

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration July 2019 - Dec 2019 (Odd Semester)**

Course Code	COURSE	STREAM	SEMESTER
19B17CI171	Programming for Problem Solving Lab	B. Tech.	1 <sup>st</sup>
18B1WCI531	Information Theory and Coding	B.Tech.	4 <sup>th</sup>
18B1WCI571	Information Theory and Coding Lab	B. Tech.	4 <sup>th</sup>
10B1WEC731	Mobile Communication	B.Tech.	8 <sup>th</sup>

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration Jan 2020 - July 2020 (Even Semester)**

Course Code	COURSE	STREAM	SEMESTER
18B1WEC834	Fundamentals of Next generation Communication System	B. Tech.	8 <sup>th</sup>
15B1WCI831	Wireless Sensor Networks: Protocols and Applications	B.Tech.	8 <sup>th</sup>
18B1WCI571	Electrical Science Lab	B. Tech.	1 <sup>st</sup>

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration July 2020 - Dec 2020 (Odd Semester)**

Course Code	COURSE	STREAM	SEMESTER
18B11EC312	Digital Electronics & Logic Design	B. Tech.	3 <sup>rd</sup>
17B17EC771	Antenna Theory and Design Lab	B.Tech.	7 <sup>th</sup>

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration Jan 2021 - July 2021 (Even Semester)**

Course Code	COURSE	STREAM	SEMESTER
18B17CI271	Data Structure and Algorithms Lab	B. Tech.	2 <sup>nd</sup>
10M11EC111	Advanced Communication System	PhD	1 <sup>st</sup>

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration July 2021 - Dec 2021 (Odd Semester)**

Course Code	COURSE	STREAM	SEMESTER
18B11EC512	Microprocessor and Interfacing	B. Tech.	5th
21M1WEC131	Wireless Technologies for IoT	M.Tech./PhD	1st
18B17EC572	Microprocessor and Interfacing Lab	B.Tech.	5th
10B11CI401	Microprocessor and Controllers	B.Tech.	Backlog
17P1WGE101	Literature Survey	PhD	1st

**On - Campus course(s) taught at Jaypee University of Information Technology, Wakanaghat, Solan in the duration Jan 2022 - June 2022 (Even Semester)**

Course Code	COURSE	STREAM	SEMESTER
18B11EC211	Electrical Science	B. Tech.	2nd
18B1WEC633	Optical Communication Systems	B.Tech	6th
	Optical Communication Systems Lab	B.Tech.	6th
18B17EC673	Advanced Communication Lab	B.Tech.	6th
18B17CI474	Web Technology Lab	B.Tech.	4th

**20. Published Books/ Book Chapters/Papers**

**Books:**

1. **Shweta Pandit** and Ghanshyam Singh, "Spectrum Sharing in Cognitive Radio Networks: Medium Access Control Protocol Based Approach" USA: Springer International Publishing. eBook ISBN 978-3-319-53147-2, 2017.

**Journal Publications:**

1. **Shweta Pandit** and G Singh, "Backoff algorithm in cognitive radio MAC-protocol for throughput enhancement," IEEE Trans. on Vehicular Technology, vol. 64, no. 5, pp. 1991-2000, May 2015, <http://dx.doi.org/10.1109/TVT.2014.2334605>. (SCI, IF=5.978)
2. **Shweta Pandit** and G. Singh, "Channel capacity in fading environment with CSI and interference power constraints for cognitive radio communication system," Wireless Networks (Springer), vol. 21, no. 4, pp. 1275-1288, May 2015, <http://dx.doi.org/10.1007/s11276-014-0849-0>.(SCI, IF=2.659)
3. **Shweta Pandit** and G Singh, "Throughput maximization with reduced data loss rate in cognitive radio network," Telecommunication Systems (Springer), vol. 57, no. 2, pp. 209-215, Oct. 2014, <http://dx.doi.org/10.1007/s11235-013-9858-z>. (SCIE, IF=1.734)
4. **Shweta Pandit** and G. Singh, "An overview of spectrum sharing techniques in cognitive radio communication system," Wireless Networks, vol. 23, no. 2, pp. 497-518, Feb. 2017. <https://doi.org/10.1007/s11276-015-1171-1>.(SCI, IF=2.659)

5. Prabhat Thakur, Alok Kumar, **Shweta Pandit**, Ghanshyam Singh, and S. N. Satashia, "Advanced frame structures for hybrid spectrum access strategy in cognitive radio communication systems", IEEE Communications Letters, vol. 21, no. 2, pp. 410-413, Feb. 2017, <https://doi.org/10.1109/lcomm.2016.2622260>.(SCI, IF=3.436)
6. Prabhat Thakur, Alok Kumar, **Shweta Pandit**, Ghanshyam Singh, and S. N. Satashia, "Performance analysis of high-traffic cognitive radio communication system using hybrid spectrum access, prediction and monitoring techniques," Wireless Networks, vol. 24, no. 6, pp. 2005-2015, Aug. 2018. <http://dx.doi.org/10.1007/s11276-016-1440-7>.(SCI, IF=2.659)
7. P Thakur, A Kumar, **S Pandit**, G Singh, and S N Satashia, "Spectrum mobility in cognitive radio network using spectrum prediction and monitoring techniques," Physical Communication, vol. 24, pp. 1-8, Sep. 2017. <https://doi.org/10.1016/j.phycom.2017.04.005>.(SCI, IF=1.810)
8. P Thakur, A Kumar, **S Pandit**, G Singh, and S N Satashia, "Performance analysis of cognitive radio networks using channel-prediction-probabilities and improved frame structure," Digital Communications and Networks, vol. 4, no. 4, pp. 287-295, Nov. 2018. <https://doi.org/10.1016/j.dcan.2017.09.012> (SCIE, IF=6.797).
9. P Thakur, A Kumar, **S Pandit**, G Singh, and S N Satashia, "Performance analysis of cooperative spectrum monitoring in cognitive radio network" Wireless Networks, vol. 25, no.3, pp. 989-997, April 2019. <https://doi.org/10.1007/s11276-017-1644-5>.(SCI, IF=2.659)
10. I Verma, P Thakur, **S Pandit**, K R Jha, and G Singh, "Analytical framework of small-gap photoconductive dipole antenna using equivalent circuit mode," Optical and Quantum Electronics, vol. 49, no. 334, pp. 1-23, Sep. 2017, <https://doi.org/10.1007/s11082-017-1175-4>.(SCI, IF=1.842)
11. P Thakur, A Kumar, **S Pandit**, G Singh, and S N Satashia, "Spectrum Monitoring in Heterogeneous Cognitive Radio Network: How to Cooperate?," IET Communications, vol. 12, no. 17, pp. 2110 – 2118, Oct. 2018. <http://dx.doi.org/10.1049/iet-com.2018.5457>.(SCI, IF=1.664)
12. P Thakur, A Kumar, **S Pandit**, G Singh, and S N Satashia, "Analysis of High-Traffic Cognitive Radio Network with Imperfect Spectrum Monitoring Technique," Computer Networks, vol. 147, pp. 27-37, Dec. 2018. <https://doi.org/10.1016/j.comnet.2018.10.002>.(SCI, IF=4.474)
13. Shivi Tikko, **S Pandit**, and Pradeep Kumar, "Performance Analysis of MIMO–OFDM System with Relaying Techniques in Rayleigh Fading Channel," International Journal of Engineering and Technology, vol. 9, no. 4, 2017. <https://doi.org/10.21817/ijet/2017/v9i4/170904100>.(SCOPUS)
14. A Kumar, P Thakur, **S Pandit**, and G. Singh, "Analysis Of Optimal Threshold Selection for Spectrum Sensing in a Cognitive Radio Network: An Energy Detection Approach," Wireless Networks, vol. 25, no.7, pp. 3917-3931, Oct. 2019. <https://doi.org/10.1007/s11276-018-01927-y>.(SCI, IF=2.659)
15. A Kumar, P Thakur, **S Pandit**, and G. Singh, "Intelligent Threshold Selection in Fading Environment of Cognitive Radio Network: Advances in Throughput and Total Error Probability," International Journal of Communication Systems (Wiley), vol 33, no. 1, Jan 2020 <https://doi.org/10.1002/dac.4175>. (SCIE, IF=2.047).
16. A. Kumar, P. Thakur, **S. Pandit** and G. Singh, "Threshold selection and cooperation in fading environment of cognitive radio network: Consequences on spectrum sensing and throughput", AEU- International Journal of Electronics and Communications (Elsevier), vol. 117, Jan 2020 <https://doi.org/10.1016/j.aeu.2020.153101> (SCI, IF = 3.183).
17. A. Kumar, **S. Pandit** and G. Singh, "Threshold Selection Analysis of Spectrum Sensing for Cognitive Radio Network with Censoring based Imperfect Reporting Channels", Wireless Networks (Springer), vol. 27, pp. 961–980, Nov. 2020. <https://doi.org/10.1007/s11276-020-02488-9>. (SCI, IF =2.659).

18. A. Kumar, **S. Pandit** and G. Singh, "Optimization of censoring based cooperative spectrum sensing approach with multiple antennas and imperfect reporting channel scenarios for cognitive radio network " IET Communications, vol. 14, no. 16, pp. 2666-2676, Oct. 2020 <https://doi.org/10.1049/iet-com.2019.0970> (SCI, IF = 1.664)
19. P. Thakur, Alok Kumar, **Shweta Pandit**, G. Singh, and S. N. Satashia, "Frameworks of non-orthogonal multiple access techniques in cognitive radio communication systems," China Communications, vol. 16, no. 6, pp. 129-149, 2019. <https://doi.org/10.23919/jcc.2019.06.011> (SCI, IF=2.688)
20. A. Kumar, **S. Pandit**, Prabhat Thakur, and G. Singh, "Optimization of Fusion Center Parameters with Threshold Selection in Multiple Antenna and Censoring based Cognitive Radio Network," IEEE Sensors Journal, Jan 2022 <https://doi.org/10.1109/jsen.2022.3142197>(SCI, IF=3.301).
21. A. Kumar, Prabhat Thakur, **S. Pandit** and G. Singh, "HSA-SPC: Hybrid spectrum access with spectrum prediction and cooperation for performance enhancement of multiuser cognitive radio network," Computer Networks, Nov. 2021. <https://doi.org/10.1016/j.comnet.2021.108596>. (SCI, IF=4.474)

#### International conference publication

1. **Shweta Pandit** and G. Singh, "Self-scheduled MAC-layer protocol for spectrum sharing in cognitive radio communication," Proc. of 6<sup>th</sup> IEEE International Conference on Contemporary Computing (IC3), Aug. 8-10, 2013, India, pp. 250-255, <http://dx.doi.org/10.1109/IC3.2013.6612199>.
2. **Shweta Pandit** and G Singh, "Spectrum sharing in cognitive radio using game theory," Proc. of 3<sup>rd</sup> IEEE International Advance Computing Conference (IACC-2013), February 22-23, 2013, India, pp. 1503-1506, <http://dx.doi.org/10.1109/IAdCC.2013.6514449>.
3. **Shweta Pandit**, Ankush Kapoor, Harsh Magotra, Garima Bharti, and Nitin Rakesh "Implementing video data compression along with network coding in video multicast", Proc. International conference on Advanced Computing, Communication and Networks'11, 2011, India, pp. 641-644.
4. P Thakur, A Kumar, **S Pandit**, G Singh, and S N Satasia, "Frame structures for hybrid spectrum accessing strategy in cognitive radio communication system," Proc. 9<sup>th</sup> IEEE International Conference on Contemporary Computing (IC-3), Noida, Aug. 2016, pp. 1-6. <https://doi.org/10.1109/ic3.2016.7880206>.
5. P Thakur, A Kumar, **S Pandit**, G Singh, and S N Satashia, "Performance improvement of cognitive radio network using spectrum prediction and monitoring techniques for spectrum mobility," Proc. of 4<sup>th</sup> IEEE International Conference on Parallel, Distributed and Grid Computing, Solan, Dec. 2016, pp. 679-684. <https://doi.org/10.1109/pdgc.2016.7913208>.
6. P Thakur, A Kumar, **S Pandit**, G Singh, and S N Satashia, "Effect of imperfect spectrum monitoring on cognitive radio network performance," Proc. of IEEE Fourth International Conference on Image Information Processing (ICIIP -2017), Wagnaghat, India, Dec. 2017, pp. 1-5. <https://doi.org/10.1109/iciip.2017.8313716>.
7. A Kumar, P Thakur, **S Pandit**, and G Singh, "Fixed and dynamic threshold selection criterion in energy detection for cognitive radio communication systems," Proc. 10<sup>th</sup> IEEE International Conference on Contemporary Computing (IC-3), Noida, Aug. 2017, pp. 1-6. <https://doi.org/10.1109/ic3.2017.8284302>.
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9. A. Sharma, **S. Pandit**, and S. Talluri, "A Comparative Study to Classify and Predict the Throughput of Fifth Generation Wireless Technology Using Supervised Machine Learning Algorithms", Proc. of 6th International Conference on Image Information Processing, India, 26-28 Nov. 2021.

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**10. Shweta Pandit** and G. Singh, "Adaptive transmit power and data rate variation based on channel state information and sensing information," Proc. of UGC Sponsored National Seminar on Wireless Communication and Networks, March 2012, India, pp. 53-56.

**21. References**

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