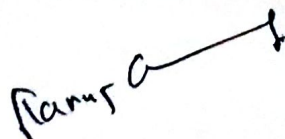


**Department of Electronics & Communication Engineering**  
**Faculty of Engineering & Technology, GKV Haridwar**  
**Annual Progress Report 2020-21**

1. Publication work/Research work
  - A. Number of Research Paper Published: **07(Annexure-1)**
  - B. Number of Book Published: **02(Annexure-2)**
  - C. Number Project Completed/Ongoing: **NIL**
2. Paper presented in Seminars/Conference/Webinar/Workshop: **NIL**
3. Invited lectures/Lectures/Radio-TV talks/debates: **05(Annexure-3)**
4. Awards from Society or Government: **NIL**
5. No. of Seminars/Conferences/Webinar/Workshop organized: **01(Annexure-4)**
6. Foreign academic visits/Lectures of foreigner eminent Professors/Scientists: **NIL**
7. MoU with other Universities/Industries/Others: **NIL**
8. Any other Important Information's: **(Annexure-5)**
  1. List of patent published/ Granted by the department :-11
  2. FDP/STC/Refresher course attended by the faculty: 34



Head

Department of ECE

Faculty of Engineering & Technology

Head  
Dept. of Electronics & Communication Engineering  
Faculty of Engineering & Technology  
Gurukul Kangri (Deemed to be University)  
Haridwar-249404

# Annexure-1

## Details of Research Publications

1. **Vivek Arya , Tanuj Garg**, "Leaky Wave Antenna: A Historical Development", Microwave Review Journal of IEEE, 2021, ISSN number: 2406-1050. <https://www.scopus.com/sourceid/28139>
2. **Atul Varshney, Vipul Sharma**, "A Comparative Study of Microwave Rectangular Waveguide-to-Microstrip Line Transition for Millimeter wave, Wireless Communications and Radar Applications" , Microwave Review Journal of IEEE,2021, ISSN number: 2406-1050. <https://www.scopus.com/sourceid/28139>
3. **Anuj kumar Sharma, Vipul Sharma** "Historical Development of Spatial Modulation and Massive MIMO communication System with Implementation Challenges: A Review" Bentham Science Publishers, 2021, ISSN number: 2210-3287, <https://www.scopus.com/sourceid/21100817136>
4. **Vipul Sharma**, "Peano–Gosper, Koch and Minkowski fractal curves-based novel hybrid antenna using modified partial ground plane for multi-standard wireless applications" , Journal of Electromagnetic Waves and Applications,2021, ISSN number: 0920-5071. <https://www.scopus.com/sourceid/28139>
5. **Vipul Sharma**, "Electromagnetic bandgap structure and split ring slot-based monopole antenna for ultra-wideband applications with dual band notch characteristics" , Engineering Reports ,2020, ISSN number: 2577-8196. <https://onlinelibrary.wiley.com/journal/25778196>
6. **Atul Varshney , Vipul Sharma**, "Low Cost ELC-UWB Fan shsped antenna using parasitic SRR triplet for ISM band and PCS applications" , International Journal of Electronic Letters,2021, ISSN number: 2168-1732. <https://www.scopus.com/sourceid/21100854223>
7. **Ashisha Nainwal, Gorav mailk, Amrish** "Convolution Neural Network Based COVID-19 Screening Model" , Advances in system science and applications,2021, ISSN number: 1078-6236. <https://www.scopus.com/sourceid/19700175755>

# Annexure-2

## Number of Book Published

1. **Mr. Vivek kumar** published an International book entitled "Current and Breakdown Voltage in 3C-SiC Lateral Power MOSFET", 2020, Publisher:

Lambert Academic Publishing, Germany ( INTERNATIONAL PUBLISHER ),  
ISBN: 978-620-2-800891.

2. **Mr. Vivek arya** published a book Chapter with entitled "Introduction to microstrip antenna" in Advances in Computing Communications and Informatics (Volume 2) Smart Antennas: Recent Trends in Design and Applications, 2021, Publisher : Bentham Science Publisher Ltd. 2021

## Annexure-3

### Invited lectures/Lectures/Radio-TV talks/debates

#### 1. Mr. Vivek arya

S. No.	Topic of Talk/Lecture	Organizing University/Organization	Date
1.	IPRs & IP Management for Startup	RIT, Roorkee, India	21-08-2021
2	Filing a Patent applications and its Types, Patent Prosecution	5 Days National FDP on Effective Business & Research Decision jointly organized by RIT & UCOST Uttarakhand	30-07-2021
3.	Legal Framework of Patent, International Patentability and Not Patentable Inventions	5 Days National FDP on Effective Business & Research Decision jointly organized by RIT & UCOST Uttarakhand	29-07-2021
4.	NDLI User Awareness Session	FET, GurukulKangri Deemed To Be University Haridwar, India	28-07-2021
5.	DIP & Its Emerging Applications	Korean Egyptian Faculty for Industry and Energy Technology Bani-Swief Technological University, Egypt	24-07-2021 to 25-07-2021

## **Annexure-4**

**No. of Seminars/Conferences/Webinar/Workshop organized.**

1. Department of Electronics & Communication Engineering organized a **ATAL FDP** on " **Smart city technologies**" , from 20/09/21- 24/09/21

## **Annexure-5**

**1. List of patent published/Granted by the department:**

1. **Mr. Atul varshney, Dr. Vipul Sharma** published an Indian patent **No 202111019468** "A Novel Simplified Equivalent Modeling Method for Microstrip Line Interconnects" , **2020-21.**
2. **Mr. Atul varshney, Dr. Vipul Sharma , Mr. Vivek arya** published( granted) a Australian patent **No 2021101898** "Tri-Blade Tablefan Shaped Ultra-Wide band Microstrip Antenna Using Parasitic SRR Triplet" , **2020-21.**
3. **Mr. Atul varshney, Dr. Vipul Sharma** published( granted) a Australian patent **No 2021103794** "Tri-Blade Tablefan Shaped Ultra-Wide band Microstrip Antenna Using Parasitic SRR Triplet" , **2020-21.**
4. **Mr. Atul varshney, Dr. Vipul Sharma** published an Indian patent **No 2021104449** "NATURE INSPIRED CLAW-SHAPED ULTRA WIDEBAND FRACTAL ANTENNA LOADED WITH SRR FOR SUB-6 GHZ AND ITU-8 GHZ BANDS APPLICATIONS" , **2020-21**
5. **Mr. Anuj kumar sharma, Mr. Prateek agarwal** published( granted) a Australian patent **No 2021102038** "IOT based intelligent device more than one parking available notification using RFID" , **2020-21.**
6. **Mr. Anuj kumar sharma ,Mr. Prateek agarwal** published an Indian patent **No 202111014696** "Method for Physical Intelligent VLSI Chip Design and Develop Technology" , **2020-21.**

7. **Mr. Prateek agarwal** published published( granted) a Australian patent No **2021100065** "Method for Physical Intelligent VLSI Chip Design and Develop Technology" , **2020-21**.
8. **Dr. Vipul sharma** published an Indian patent No **202111012472A** "Eye Directive Wheelchair" , **2020-21**.
9. **Dr. Vipul sharma** published( granted) a Australian patent No **202111032794** "A system for skin cancer detection using a convolutional neural network module with Alexnet Architecture" , **2020-21**.
10. **Gorav kr. malik, Ashish nainwal, Amrish**, published( granted) a Australian patent No: **20211102698** " Cloud native server-less warranty synchronisation, paperless and ease of management for common house appliances Vs Laser etched QR/BAR/Data Matrix" **2020-21**
11. **Gorav malik**, published ( granted) a Australian patent No : **2021103609** "An apparatus and a method for wirelessly charging multiple electronic devices" **2020-21**.

## 2.FDP/STC/Referesh course attended by the faculty:

S.No	Name of teacher who attended	Title of the program	Duration (from – to) (DD-MM-YYYY)
1	Dr. Tanuj Grag	one week FDP on Leadership & Excellence Online	14-09-2020 to 18-09-2020
2	Mr. shiv kumar singh	One Week Online Faculty Development Programme on Recent trends in Signal Processing : Theory and Application	26-08-2020 to 30-08-2020
3	Mr. shiv kumar singh	Two Week Online Faculty Development Programme on Recent trends in communication, networking and computing paradigms	7-09-2020 to 18-09-2020
4	Mr. shiv kumar singh	One Week Online Faculty Development Programme on Tools and scientific communications for research article and proposal writing	19-09-2020 to 23-09-2020
5	Mr. shiv kumar singh	One Week short Term course on Exploratory Applications of Control and Instrumentation	26th to 30th Sept. 2020
6	Mr. shiv kumar singh	One Week online FDP on "Technology as a Bridge in Different Domains of Life During Covid-19"	19th to 23th October

			2020
7	Mr. shiv kumar singh	One Week online FDP on, Materials for Semiconductor Devices	8th to 13th March 2021
8	Mr. shiv kumar singh	AICTE-ATAL Online FDP on Artificial Intelligence	02th to 06th November 2021
9	Mr. shiv kumar singh	AICTE-ATAL Online FDP on Internet of Things	24th to 28th November 2021
10	Mr. Anuj kuamr sharma	ONE Week Online Faculty Development Programme on Recent trends in Signal Processing : Theory and Application	26th-30th August 2020
11	Mr. Anuj kuamr sharma	Two Week Online Faculty Development Programme on Recent trends in communication, networking and computing paradigms	7th to 18th Sept. 2020
12	Mr. Anuj kuamr sharma	Two month Summer Faculty Research Program "Massive MIMO Communication , Covert Communication"	15/06/2020-14/08/2020
13	Mr. Anuj kuamr sharma	One Week Online Faculty Development Programme on Recent trends in Signal Processing : Theory and Application	26th-30th August 2020
14	Mr. Anuj kuamr sharma	One Week online FDP on "Technology as a Bridge in Different Domains of Life During Covid-19"	19th to 23th October 2020.
15	Dr. vipul sharma	One week short term course on Next generation solar cells:fundamentals to fabrication	13th -18th july,2020
16	Mr. ashish nainwal	one week FDP Leadership & Excellence	14-09-2020 to 18-09-2020
17	Mr. Asish nainwal	One week FDP on Artificial Intellengence and Deep Learning	17-05-2021 to 21-05-2021
18	Mr. ashish nainwal	ONE WEEK FDP on Research Writing in High Quality International Journal/Conferences	10-08-2020 to 14-08-2020
19	Mr. Vivek arya	one week FDP on Leadership & Excellence Online	14-09-2020 to 18-09-2020
20	Mr. Gourav malik	one week Leadership & Excellence Online	14-09-2020 to 18-09-2020
21	Mr. Vivek Arya	one week FDP on National Education Policy-A Way Forward	11-09-2020 to 16-09-2020
22	Mr. Vivek arya	one week FDP on MILLIMETER (mm) WAVE AND MASSIVE MIMO APPLICATIONS FOR 5G WIRELESS NETWORKS USING AI	16-11-2020 to 21-11-2020

23	Mr. Vivek arya	one week FDP on ICT Tool for Teaching	14-12-2020 to 18-12- 2020
24	Mr. prateek agarwal	Two Week Online Faculty Development Programme on Recent trends in communication, networking and computing paradigms	7-09-2020 to 18-09- 2020
25	Mr. Prateek agarwal	One Week Online Faculty Development Programme on Tools and scientific communications for research article and proposal writing	19-09-2020 to 23-09- 2020
26	Mr. ashish nainwal	one week FDP on Artificial intelligence and Deep Learning	17-05-2021 to 21-05- 2021
27	Mr. Vivek kumar	one week FDP on Nanoelectronic Devices and circuits	4-01-2021 to 9-01- 2021
28	Mr. Vivek kumar	one week FDP on Alternate Fuels	21-09-2021 to 25-09- 2021
29	Mr. Vivek kumar	ONE Week Online Faculty Development Programme on Recent trends in Signal Processing : Theory and Application	26-08-2020 30-08-2020
30	Mr. Vivek kumar	one week FDP on Recent trends in communication, networking and computing paradigms	7-09-2020 to 18-09- 2020
31	Mr. Vivek Arya	one week FDP on AICTE Sponsored One Week Online Faculty Development Program(Phase-II) on "Research Areas in Biomedical Signal Processing"	16-09-2020 to 21-09- 2020
32	Mr. Vivek Arya	one week FDP on Inculcating Universal Human Values in Technical Education	1-02-2021 to 5-02- 2021
33	Mr. Amrish	one week FDP on Leadership & Excellence Online	14-09-2020 to 18-09- 2020
34	Mr. Amrish	two week online FDP on Digital tool for writing, Authoring and reviewing manuscripts	12-07-2021- 23-07-2021