CURRICULUM VITAE

1. **Name in full** : DR. VINAY KUMAR
2. **Father's Name** : Mr. Ram Prit Tripathi
3. **Date of Birth** : 01-02-1981
4. **Nationality** : Indian

5. **Address for Communication:** : Dr. Vinay Kumar, Department of Electronics & Communication Engineering, MNNIT Allahabad, Prayagraj, Uttar Pradesh- 211 004 India
6. **Email address** : vinay.k@mnnit.ac.in, vinayrel01@gmail.com
7. **Contact No.** : +91-8830156094, 9930156094
8. **Post.** : Assistant Professor Grade-I

9. **International Collaboration** : Thailand (International Project division DST) and Russia (Research papers).

10   Educational qualifications:

Examination Passed	Board/University	Year	Percentage of Marks obtained & Division	Subjects/Specialization
B. Tech. (Electronics and Communication Engg.)	Uttar Pradesh Technical University Lucknow	2006	71.18 with First Division	Electronics and Communication Engg.
M. Tech. (Digital System)	Motilal Nehru National Institute of Technology Allahabad	2010	8.44 CGPA with First Division	Communication Engg.
Ph.D. (Electronics & Communication Engg.)	Motilal Nehru National Institute of Technology Allahabad	2015	--	Electronics & Communication Engg.

11. **Teaching/Area of Specialization** :
- Signals & Systems
- Analog Communication
- Non-Conventional Wireless Communication
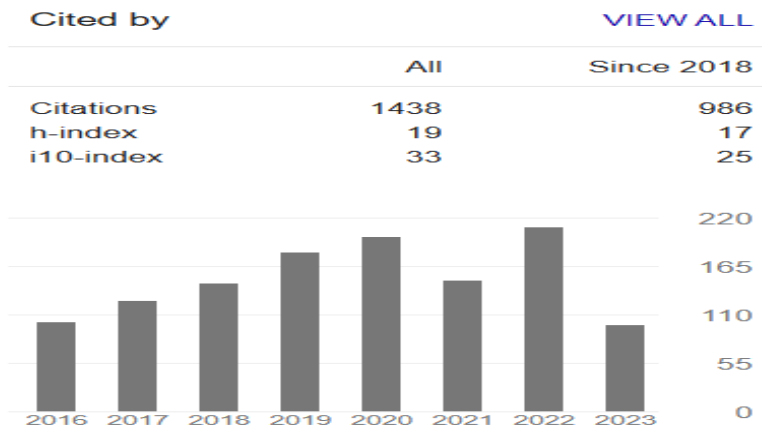- Non- Conventional media Sensor Networks

12. **List of all Employments:**

S.No.	Position held	Pay Scale	Experience		
			From	To	**Nature of Work performed in Academic/Industry**
(i)	Assistant Professor-Grade-I (Motilal Nehru National Institute of Technology, Allahabad)	Basic Pay Rs. 101500 (as per 7th CPC) Level 12	16th July 2019	Till date	Teaching, Research and Administrative
(ii)	Assistant Professor-Grade II (Visvesvaraya National Institute of Technology, Nagpur)	Basic Pay Rs. 66,000 (as per 7th CPC)	29th March 2012	15th July 2019	Teaching, Research and Administrative

13. Summary of Research work and Publications matrix

Sponsored Projects	Completed	Ongoing	Under Review
	02	02	03
Ph. D. Guided	Completed	Submitted	In Progress
	02	01	05
International Journals	SCI/SCIE • *IEEE Transaction on Instrumentation and Measurement* • *IEEE System Journal* • *IEEE Sensor Journal* • *IEEE Access* • *AEU, Elsevier* • *Biomedical Signal Processing and Control*	Scopus	Total

	• *PIERs Journals* • *WPC springer* • *Taylor and Francis*		
	28	04	32
Patent Filed	05 (Indian Patent), First Examination Report Submitted		
Academic Editor	Journal of computer networks and Communication, Hindawi (Impact Factor:02)		
Book Chapters	03		
Conferences	International	National	Total
	30	01	31
Workshop	03		
International Conference Organized	02		
Outreach Activities	Expert Talk	Session Chair	
	10	07	
M. Tech. Guidance	16		
B. Tech. Guidance	18		

Publications matrix :(As per google scholar)

Cited by		VIEW ALL
	All	Since 2018
Citations	1438	986
h-index	19	17
i10-index	33	25

14. Externally Sponsored R&D Project[s] as PI/Co-PI

Sl. No.	Title of Project	Period	Sponsoring Organisation	Amount [in lakhs]	Co-Investigator[s], if any	Role
1.	Design and Development of Underwater Sensor Networks using Magnetic Induction based Communications	March – 2017 to March - 2021	SERB, Govt. of India	24.42	….	PI
2.	To develop a testbed based on Magnetic Induction (MI) communications for Agricultural soil condition monitoring (water concentration, minerals, and toxic chemicals)	Jan 2017 to March-2020	MEITY, Govt. of India	40.68	Dr. Rajeev Tripathi and Joydeep sengupta	PI
3	Wireless Body area Networks: A magnetic Induction Communication Perspective	May 2019-March 2022	International Project Between Govt of India and Govt. of Thailand	9.30	S.B.Dhok and P.S.Dhule	PI
4	Design and Development of Dielectric Resonator Antenna for Smart City Applications	March 2021 to March 2023	CST-UP	7.28	Dr. Anand Sharma	Co-PI
5	Design of wideband wearable antenna for medical internet of things and 5G used in remote health care applications	Aug 2022 to March 2025	CST-UP	11.92	Prof. V. S. Tripathi	Co-PI

15. Submitted Externally Sponsored R&D Project[s] as PI:

SN	Project Name	Submitted date	Cost of Project	Submitted to
1	Non-Invasive Underground Gas Pipeline Leakage monitoring through hybrid MI-RF Communication Architecture based WSNs	28/02/2023	Rs.29,17,200	GAIL INDIA

2	Wireless EEG Data Acquisition System based on NFMI Communication to support Diagnosis and Management of Autism Spectrum Disorder	15/05/2023	Rs.33,66,265	SERB, Govt. of India
3	Spectrally Efficient Antenna Design for 5G and 6G using Reconfigurable Intelligent Surface	25-04-2023	Rs.15,36,000	UP-CST

16. Awards/ Fellowship/Membership

- MNNIT Allahabad Institute Fellowship for Ph.D.
- Member in different Professional bodies: Senior Member IEEE
- Early Career Research Award by SERB Govt. of India
- Invited to deliver the Expert Talk on underwater wireless Communication techniques in various Institutes

17. Patent[s]

Sl. No.	Name of Patent	Registration No.	Date of Award/ Application	Awarding Country	Co-Awardee[s], if any
1.	Energy dissipation Model based on Magnetic Induction Communication for Nonconventional media	201721016878	14 May 2017 **(First Examination Report submitted)**	INDIA	Sudhir Kumar, S.B. Dhok, Rajeev Tripathi, Sudarshan Tiwari
2.	Superconductor based Magneto-Inductive modeling for Wireless Non-Conventional Media Communication	201821021911	12 June 2018 **(First Examination Report submitted)**	INDIA	Sanjay Dhok and Akshay Kulkarni
3.	Optical Filter Enabled Continuous disinfection of operation theatre using multisensory feedback aided light source	201721042383	27/11/2017 **(First Examination Report submitted)**	INDIA	Sanjay Dhok and Akshay Kulkarni
4.	3D-Imaging based Artificial Intelligence (AI) System for Screening of Thyroidism	201821031886	25 Aug. 2018 **(First Examination**	INDIA	Sanjay Dhok and Pankaj Dhule

			Report submitted)		
5.	Design and Implementation of Wireless Optical Communication Transmitter and Receiver Modules for Indoor Environment	201621020527	16 Jun 2016 **(First Examination Report submitted)**	INDIA	Sirra Ajith Prakash, Saugata Sinha, Joydeep Sengupta

18. Details of Ph.D. Thesis supervised (awarded / thesis submitted) as Sole Supervisor / 1st Supervisor / Co-supervisor

Sl. No.	Title of Ph.D. Thesis	Institute	Name of student[s]	Co-Supervisor[s], if any	Year	Status [Awarded/ Submitted]
1	Energy Efficient Design of underwater wireless sensor networks: A communication Techniques perspective	VNIT Nagpur	Mr. Sadanand Yadav	No	2019	Awarded
2	Performance Enhancement of Magnetic Induction Communication System Using Multilayer Coil Antenna	VNIT Nagpur	Mr. D. N. Sandeep	Yes	2023	Awarded
3	Efficient Recognition of Imagined Words for Patient-Friendly Communication from EEG Signals	VNIT Nagpur	Mr. Ashwin Kamble	Yes	2023	Awarded
4	Performance enhancement of underwater wireless communication system using Magnetic Induction	MNNIT ALLAHABAD	Mr. Sushil Kumar	Yes	--	In Progress
5	Efficient MIMO antenna Design for 5G cognitive radio applications	MNNIT ALLAHABAD	Mr. Akhilesh Kumar	No	--	In Progress

6	Performance analysis of mixed FSO-RF communication system	MNNIT ALLAHABAD	Mr. Ravindra Kumar	Yes	---	In Progress
7	Efficient MIMO antenna Design for 5G applications	MNNIT ALLAHABAD	Mr. Ashish Kumar	Yes	----	In Progress
8	Design and Development of Dielectric Resonator Antenna with Metamaterial Inspired Structures for RCS Reduction	MNNIT ALLAHABAD	Mrs Meenakshi Tripathi	Yes	----	In Progress

19. International Journal Publications in SCI/SCIE:

1	Ashwin Kamble, Pradnya Ghare, **Vinay Kumar**, A. Kothari and A. G. Keskar " Spectral Analysis of EEG Signals for Automatic Imagined Speech Recognition," in **IEEE Transactions on Instrumentation and Measurement**, Accepted for publication, 2023 **(Impact Factor 5.6)**
2	Ashwin Kamble, Pradnya Ghare, **Vinay Kumar** "Deep-Learning-Based BCI for Automatic Imagined Speech Recognition Using SPWVD," in **IEEE Transactions on Instrumentation and Measurement**, vol. 72, pp. 1-10, 2023, Art no. 4001110, doi: 10.1109/TIM.2022.3216673 **(Impact Factor 5.6)**
3	Ashwin Kamble, Pradnya Ghare, **Vinay Kumar** "Optimized Rational Dilation Wavelet Transform for Automatic Imagined Speech Recognition," in **IEEE Transactions on Instrumentation and Measurement**, vol. 72, pp. 1-10, 2023, Art no. 4002210, doi: 10.1109/TIM.2023.3241973. **(Impact Factor 5.6)**
4	Sadanand Yadav and **Vinay Kumar** "SVD Compression and Energy Harvesting Based Energy Efficient 3D-MI-UWSNs" **Accepted in Journal in Progress In Electromagnetics, 2023.**
5	Sandeep N. Dandu **Vinay Kumar** Joydeep Sengupta "Design and Analysis of Multi-Layer Coils to Enhance Performance of Spread Resonance Based MI Waveguide System," **Progress In Electromagnetics Research** C, Vol. 128, 113-127, 2023. doi:10.2528/PIERC22110909
6	Ashish Pandey, Akhilendra Pratap Singh and **Vinay Kumar** "Design and Optimization of Circularly Polarized Dielectric Resonator-based MIMO Antenna using Machine Learning for 5G Sub-6 GHz" https://doi.org/10.1016/j.aeue.2023.154558, **International Journal of Electronics and Communication (Impact factor:3.2)**

7	Ashwin Kamble, Pradnya Ghare, **Vinay Kumar** "Machine-learning-enabled adaptive signal decomposition for a brain-computer interface using EEG", **Biomedical Signal Processing and Control, Elsevier**, Volume 74, 2022. **(Impact Factor 5.1)**
8	**Vinay Kumar**, Yadav, S., Sharma, A. et al. "3D-multilayer magneto-inductive transceiver coil structure and optimal placement of relays for non-conventional media" **Wireless Networks**" Springer 28, 2115–2129 (2022). https://doi.org/10.1007/s11276-022-02949-3 **(Impact Factor 3.0)**
9	Mishra, S., Maurya, S., Das, Y., **Vinay Kumar**, Ranjan, P., Gupta, H., Pandey, A., &Sharma, A. (2022). "Dual port ring cylindrical dielectric resonator antenna optimization using ML algorithm" **Waves in Random and Complex Media, Taylor and Francis**, 1-12 **(Impact Factor 4.051)**
10	Maurya, M. K., Dwivedi, A. K., Narayaswamy, N. K., Pandey, A., **Kumar, V.,** & Sharma, A. (2022). Mutual coupling and RCS reduction of MIMO dielectric resonator antenna for S-band applications. **Waves in Random and Complex Media**, 1-16. **(Impact Factor 4.051)**
11	Sandeep N. Dandu, **Vinay Kumar**, Joydeep Sengupta and Neeraj D. Bokde "Performance analysis of multilayer coil based mi waveguide communication system," *Computers, Materials & Continua*, vol. 72, no.3, pp. 5287–5300, 2022. . **(Impact Factor 3.80)**
12	Kulkarni, A., **Vinay Kumar**, Yadav, S. et al. 3D Modelling of Superconductor Enabled Magnetic Induction Transmitter and Relay Coil for Non-conventional Media Communication. **Wireless Personal Communication**, 111, 2577–2603 (2020). https://doi.org/10.1007/s11277-019-07004-7 **(Impact Factor 2.2)**
13	Sadanand Yadav and **Vinay Kumar** "Energy Efficient Design of 3D-UWSNs Leveraging Compressive Sensing and Principal Component Analysis: A Communication Techniques Perspective" **International Journal of Communication System, Wiley**, In press 2019 **(Impact Factor: 2.1)**
14	Sadanand Yadav, **Vinay Kumar**, S. B. Dhok and Nalin Jaykody "Energy-Efficient Design of MI Communication-Based 3-D Non-Conventional WSNs" **IEEE Systems Journal**, Published Online, 2019 **(Impact Factor: 4.463)**
15	Laxmi Prasanna, **Vinay Kumar** and S.B.Dhok "Cooperative Communication and Energy-Harvesting-Enabled Energy-Efficient Design of MI-Based Clustered Nonconventional WSNs" **IEEE Systems Journal**, Published Online, 2019 **(Impact Factor: 4.463)**.
16	Sadanand Yadav and **Vinay Kumar** "Hybrid Compressive Sensing Enabled Energy Efficient Transmission of Multi-Hop Clustered UWSNs" **AEU, International Journal of Electronics and Communication Engineering** (Elsevier), Published Online, 2019. **(Impact Factor: 3.2)**.
17	**Vinay Kumar**, Rutuja Bhusari, Sanjay B Dhok, Arun Prakash, Rajeev Tripathi, Sudarshan Tiwari "Design of Magnetic Induction Based Energy-Efficient WSNs for Nonconventional Media Using Multilayer Transmitter-Enabled Novel Energy Model" **IEEE SYSTEM JOURNAL**, Vol. 99, PP.1932 – 8184, 2018.**(Impact Factor: 4.463)**

18	S.Tambe, **Vinay Kumar** and R. Bhushari "Magnetic Induction based Cluster Optimization in Non-conventional WSNs: A Cross Layer Approach" **International Journal of Electronics and Communication Engineering (Elsevier)**, Vol. 98, PP.53-62, 2018 **(Impact Factor: 3.2)**
19	Vishal Kumar, **Vinay Kumar**, DN Sandeep, S Yadav, RK Barik, R Tripathi, S Tiwari "Multi-hop Communication based Optimal Clustering in Hexagon and Voronoi Cell Structured WSNs" **International Journal of Electronics and Communication Engineering (Elsevier)**, Vol. 93, PP. 305-316, 2018. **(Impact Factor: 3.2)**
20	P. K. Pedapolu, P. Saraf, P. Kumar, V. Harish, S. Venturi, S. K.Bharti, **Vinay Kumar**, and S. Kumar "Regression Based Mobility Estimation Method Using Received Signal Strength" **Wireless Personal Communication, Springer**, Vol. 101, PP. 359-374, 2018.**(Impact Factor: 2.2)**
21	A. Kumar, S. Yadav, S. Dandu, **Vinay Kumar**, J.Sengupta, S.B. Dhok and S. Kumar "Magnetic Induction-Based Non- Conventional Media Communications: A Review" **IEEE Sensor Journal**, Vol. 17, Issue 4, PP. 926 – 940, 2017. **(Impact Factor: 4.3)**
22	Sadanand Yadav and **Vinay Kumar** "Optimal Clustering in Underwater Wireless Sensor Networks: Acoustic, EM and FSO Communication Compliant Technique" **IEEE Access**, 5, 2169-353, 2017 **(Impact Factor: 3.9)**
23	D. N. Sandeep and **Vinay Kumar** "Review on Clustering, Coverage and Connectivity in Underwater Wireless Sensor Networks: A Communication Techniques Perspective **IEEE Access**, 5, 11176-111999, 2017. **(Impact Factor: 3.9)**
24	S. Rao, **Vinay Kumar**, S.Kumar, S. Yadav, V. K. Ancha and R. Tripathi "Power Efficient and Coordinated eICIC-CPC- ABS Method for Downlink in LTE Advanced Heterogeneous Networks" **Physical Communication (Elsevier)**, 24, 1874-4907, 71–82, 2017.**(Impact Factor: 2.2)**
25	**Vinay Kumar**, S.B.Dhok, R.Tripathi and S. Tiwari "Cluster Size Optimization with Tunable Elfes Sensing model for Single and Multihop WSNs" **International Journal of Electronics, Taylor and Francis** USA. 104, Issue 21, 312-327, 2017 **(Impact Factor: 1.457)**
26	R. Chatterjee and **Vinay Kumar** "Energy Efficient Routing Protocol Via Chain Formation in Gaussian Distributed Wireless Sensor Networks" **International Journal of Electronics letter, Taylor and Francis USA**, 5, Issue 4, 449-462, 2017.**(Impact Factor: 1.457)**
27	Sriram Naik and **Vinay Kumar** "Modulation Aware Cluster Size Optimization in Wireless Sensor Networks International Journal of Electronics, Taylor and Francis USA" 104, Issue 7, 1161-1177, 2017. **(Impact Factor: 1.457)**
28	N. Kothapalli, P. Sharma and **Vinay Kumar** "Performance of a Bi-Directional Relaying System with One Full Duplex Relay" International Journal of Electronics and communication Engineering (Elsevier).70, Issue 10, 1426 - 1432, 2016. **(Impact Factor: 3.2)**

20. Papers published/accepted in Scopus Indexed Journals

1	**Vinay Kumar** and S. Tiwari "Routing in IPv6 over Low-Power Wireless Personal Area Networks (6LoWPAN): A Survey" Journal of Computer Networks and Communications, Hindawi Publication, USA (Under charge free scheme of Hindawi), 2012
2	**Vinay Kumar,** S. B. Dhok, R. Tripathi and S. Tiwari **"**Cluster Size Optimization in Gaussian Distributed Wireless Sensor Networks" International Journal of Engineering and Technology (IJET), 6, Issue 3, 2014.
3	Akshay Kulkarni**,** **Vinay Kumar,** Pankaj Dhule, Sanjay Kumar Mishra, Anvita Tripathi and Rabindra Barik **"**Optical Filter Enabled Continuous Disinfection of Hospital Rooms using MultiSensor Feedback Aided Light Source" Procedia Computer Science, Elsevier, 125, 2018.
4	Rabindra Barik, Amaresh Chandra Dubey, T Pratik, Rakesh Kumar Lenka, Harishchandra Dubey, Kunal Mankodiya and **Vinay Kumar "**MistData: Leveraging Mist Computing for Secure and Scalable Architecture for Smart and Connected Health" Procedia Computer Science, Elsevier, 125, 2018.

21. Papers published/accepted in Conference Proceedings indexed in Scopus:

1	P. Kumar, V. Kumar and R. K. Barik, "A Reconfigurable Two-Port Cognitive MIMO Antenna for 5G Application," *2023 First International Conference on Microwave, Antenna and Communication (MAC)*, Prayagraj, India, 2023, pp. 1-5, doi: 10.1109/MAC58191.2023.10177107.
2	S. R. Mallick, V. Goswami, R. K. Lenka, T. R. Sahoo, V. Kumar and R. K. Barik, "Blockchain-based IoMT for an intelligent healthcare system using a drop-offs queue," *2023 First International Conference on Microwave, Antenna and Communication (MAC)*, Prayagraj, India, 2023, pp. 1-6, doi: 10.1109/MAC58191.2023.10176337**.**
3	S. R. Mallick, V. Goswami, R. K. Lenka, S. Patra, V. Kumar and R. K. Barik, "Performance evaluation of priority Queueing assisted IoST-Fog-Blockchain framework in Geospatial Cloud Environment," *2023 International Conference on Microwave, Optical, and Communication Engineering (ICMOCE)*, Bhubaneswar, India, 2023, pp. 1-4, doi: 10.1109/ICMOCE57812.2023.10167317.
4	Sharma, U. *et al.* (2023). Abnormality Detection in Heart Using Combination of CNN, RNN and U-Net. In: Nagaria, R.K., Tripathi, V.S., Zamarreno, C.R., Prajapati, Y.K. (eds) VLSI, Communication and Signal Processing. VCAS 2022. Lecture Notes in Electrical Engineering, vol 1024. Springer, Singapore. https://doi.org/10.1007/978-981-99-0973-5_10
5	S. Pandey, A. Pandey, N. R. Pradhan, A. P. Singh and V. Kumar, "Addressing Scheme for Three-Dimensional Central Triangular Matrices in Linear Arrays," *2022 IEEE IAS Global Conference on Emerging Technologies (GlobConET)*, Arad, Romania, 2022, pp. 182-186, doi: 10.1109/GlobConET53749.2022.9872468.

6	Palekar, S., Yadav, S., Kumar, V., Kothari, A. (2022). Sensing Range Analysis in Non-Conventional WSNs: MI Communication. In: Dhawan, A., Tripathi, V.S., Arya, K.V., Naik, K. (eds) Recent Trends in Electronics and Communication. Lecture Notes in Electrical Engineering, vol 777. Springer, Singapore. https://doi.org/10.1007/978-981-16-2761-3_30
7	Pradhan, N.R., Singh, A.P., Kumar, V. (2021). Blockchain-Enabled Traceable, Transparent Transportation System for Blood Bank. In: Harvey, D., Kar, H., Verma, S., Bhadauria, V. (eds) Advances in VLSI, Communication, and Signal Processing. Lecture Notes in Electrical Engineering, vol 683. Springer, Singapore. https://doi.org/10.1007/978-981-15-6840-4_25
8	A. Vensiyani, S. Vadalia, T. Kamble, V. Kumar and S. Yadav, "Hardware Design of Multi-Layer Coil For Magnetic Induction Communication in Non-Conventional Media," *2020 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, New Delhi, India, 2020, pp. 1-6, doi: 10.1109/ANTS50601.2020.9342771.
9	Prasanna, A.L., Kumar, V. (2020). Modified Cluster Head Election Scheme Based on LEACH Protocol for MI-Driven UGWSNs. In: Dutta, D., Kar, H., Kumar, C., Bhadauria, V. (eds) Advances in VLSI, Communication, and Signal Processing. Lecture Notes in Electrical Engineering, vol 587. Springer, Singapore. https://doi.org/10.1007/978-981-32-9775-3_14
10	Tripathi, Y., Kumar, V., Prakash, A. (2020). A Robust Energy-Efficient Cluster-Based Routing Protocol for Mobile Wireless Sensor Network. In: Dutta, D., Kar, H., Kumar, C., Bhadauria, V. (eds) Advances in VLSI, Communication, and Signal Processing. Lecture Notes in Electrical Engineering, vol 587. Springer, Singapore. https://doi.org/10.1007/978-981-32-9775-3_6
11	Shukla, D., Kumar, V., Prakash, A. (2020). Performance Evaluation of IEEE 802.11p Physical Layer for Efficient Vehicular Communication. In: Dutta, D., Kar, H., Kumar, C., Bhadauria, V. (eds) Advances in VLSI, Communication, and Signal Processing. Lecture Notes in Electrical Engineering, vol 587. Springer, Singapore. https://doi.org/10.1007/978-981-32-9775-3_5
12	Yadav, S., Kumar, V., Dhok, S.B., Srivastava, G., Singh, A.P., Gupta, M.K. (2020). BER Performance Evaluation of Different Modulation Techniques for Underwater FSO Communication System. In: Dutta, D., Kar, H., Kumar, C., Bhadauria, V. (eds) Advances in VLSI, Communication, and Signal Processing. Lecture Notes in Electrical Engineering, vol 587. Springer, Singapore. https://doi.org/10.1007/978-981-32-9775-3_1
13	Kumar, V. *et al.* (2020). Optimal Cluster Count and Coverage Analysis in a Gaussian Distributed WSNs Using TESM. In: Satapathy, S., Bhateja, V., Nguyen, B., Nguyen, N., Le, DN. (eds) Frontiers in Intelligent Computing: Theory and Applications. Advances in Intelligent Systems and Computing, vol 1014. Springer, Singapore. https://doi.org/10.1007/978-981-13-9920-6_35
14	A. Laxmi Prasanna *et al.*, "Link Energy Minimization in Magnetic Induction based Non-Conventional WSNs," *2019 16th International Conference on Electrical*

	Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), Pattaya, Thailand, 2019, pp. 657-660, doi: 10.1109/ECTI-CON47248.2019.8955213.q
15	C. S. Shinde and V. Kumar, "Energy Efficient Design of Cooperative Communication Enabled Magnetic Induction Based Non-Conventional Wireless Sensor Networks," *2019 TEQIP III Sponsored International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW)*, Tiruchirappalli, India, 2019, pp. 365-369, doi: 10.1109/IMICPW.2019.8933198.
16	Kumar, V., Yadav, S., Sandeep, D.N., Dhok, S.B., Barik, R.K., Dubey, H. (2019). 5G Cellular: Concept, Research Work and Enabling Technologies. In: Kolhe, M., Trivedi, M., Tiwari, S., Singh, V. (eds) Advances in Data and Information Sciences . Lecture Notes in Networks and Systems, vol 39. Springer, Singapore. https://doi.org/10.1007/978-981-13-0277-0_27
17	A. Dhok, I. Sagote, V. Kumar and S. Thote, "Design of Efficient M2I Coil Structure for Underground Sensor Networks," *2018 15th IEEE India Council International Conference (INDICON)*, Coimbatore, India, 2018, pp. 1-6, doi: 10.1109/INDICON45594.2018.8987136.
18	V. Pathak, V. Kumar and R. K. Barik, "Magnetic Induction Communication Based Transceiver Coil and Waveguide Structure Modeling for Non-Conventional WSNs," *2018 9th International Conference on Computing, Communication and Networking Technologies (ICCCNT)*, Bengaluru, India, 2018, pp. 1-7, doi: 10.1109/ICCCNT.2018.8494094.
19	A. Kulkarni, V. Kumar and S. B. Dhok, "Enabling Technologies for Range Enhancement of MI Based Wireless Non-Conventional Media Communication," *2018 9th International Conference on Computing, Communication and Networking Technologies (ICCCNT)*, Bengaluru, India, 2018, pp. 1-7, doi: 10.1109/ICCCNT.2018.8493896.
20	Barik, R.K., Priyadarshini, R., Dubey, H., Kumar, V., Yadav, S. (2018). Leveraging Machine Learning in Mist Computing Telemonitoring System for Diabetes Prediction. In: Kolhe, M., Trivedi, M., Tiwari, S., Singh, V. (eds) Advances in Data and Information Sciences. Lecture Notes in Networks and Systems, vol 38. Springer, Singapore. https://doi.org/10.1007/978-981-10-8360-0_9
21	Kumar, V., Yadav, S., Kumar, V., Sengupta, J., Tripathi, R., Tiwari, S. (2018). Optimal Clustering in Weibull Distributed WSNs Based on Realistic Energy Dissipation Model. In: Pattnaik, P., Rautaray, S., Das, H., Nayak, J. (eds) Progress in Computing, Analytics and Networking. Advances in Intelligent Systems and Computing, vol 710. Springer, Singapore. https://doi.org/10.1007/978-981-10-7871-2_7
23	Barik, R.K. *et al.* (2018). *MistGIS*: Optimizing Geospatial Data Analysis Using Mist Computing. In: Pattnaik, P., Rautaray, S., Das, H., Nayak, J. (eds) Progress in Computing, Analytics and Networking. Advances in Intelligent Systems and Computing, vol 710. Springer, Singapore. https://doi.org/10.1007/978-981-10-7871-2_70

24	R. K. Barik *et al.*, "FogGrid: Leveraging Fog Computing for Enhanced Smart Grid Network," *2017 14th IEEE India Council International Conference (INDICON)*, Roorkee, India, 2017, pp. 1-6, doi: 10.1109/INDICON.2017.8487997.
25	V. Pathak, V. Kumar, D. N. Sandeep and R. K. Barik, "Tunable Multilevel Probabilistic Sensing Model based Intrusion Detection in Gaussian Distributed WSNs," *2017 14th IEEE India Council International Conference (INDICON)*, Roorkee, India, 2017, pp. 1-6, doi: 10.1109/INDICON.2017.8487663.
26	V. Kumar *et al.*, "TMSM-based optimal clustering in a Gaussian distributed wireless sensor network," *TENCON 2017 - 2017 IEEE Region 10 Conference*, Penang, Malaysia, 2017, pp. 2813-2818, doi: 10.1109/TENCON.2017.8228340
27	M. Tarun, V. Kumar, S. Kumar, M. U. Jajoo, S. Ur Rahman and J. Sengupta, "GPS and GSM based rail signaling and tracking system," *2017 4th International Conference on Control, Decision and Information Technologies (CoDIT)*, Barcelona, Spain, 2017, pp. 0500-0504, doi: 10.1109/CoDIT.2017.8102642.
28	V. D. Mundhe, J. Sengupta and V. Kumar, "Design of a via-less, compact CPW-fed ZOR antenna for WLAN Applications," *2017 Twenty-third National Conference on Communications (NCC)*, Chennai, India, 2017, pp. 1-4, doi: 10.1109/NCC.2017.8077111.
29	Kushwaha, S., Kumar, V., Jain, S. (2011). Node Architectures and Its Deployment in Wireless Sensor Networks: A Survey. In: Mantri, A., Nandi, S., Kumar, G., Kumar, S. (eds) High Performance Architecture and Grid Computing. HPAGC 2011. Communications in Computer and Information Science, vol 169. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-22577-2_70
30	V. Kumar and S. Tiwari, "Performance of Routing Protocols for Beacon-Enabled IEEE 802.15.4 WSNs with Different Duty Cycle," *2011 International Conference on Devices and Communications (ICDeCom)*, Mesra, India, 2011, pp. 1-5, doi: 10.1109/ICDECOM.2011.5738549.
31	V. Kumar, A. S. Raghuvansi and S. Tiwari, "Performance study of beacon-enabled IEEE 802.15.4 standard in WSNs with clustering," *2010 International Conference on Power, Control and Embedded Systems*, Allahabad, India, 2010, pp. 1-5, doi: 10.1109/ICPCES.2010.5698637.

22. Institute level responsibilities

Designation	Number of Years of Experience	Details
In charge of Telephone and Maintenance (VNIT Nagpur)	01 Years	Telephone Maintenance
Warden (Boys Hostel) (VNIT Nagpur)	05 Years	Hostel Administration of the Institute
CCMT Counselling (MNNIT Allahabad)	01 Years	M. Tech. Counselling
Convocation MNNIT Allahabad	02 Years	Convocations

23. Department level responsibilities

Sl. No.	Activity	Period	
		From	To
1.	Departmental Examination Controller (VNIT Nagpur)	01 Jul 2012	30 Jun 2014
2.	PG NBA SAR preparations (VNIT Nagpur)	09 Feb 2016	9 March 2017
3	UG NBA SAR preparations (MNNIT ALLAHABAD)	1 July 2022	1 July 2023
4.	PG Faculty advisor, admission, project allotment, project exam etc., (VNIT Nagpur)	09 Jun 2015	10 Jun 2017
5.	UG Project coordinator (VNIT Nagpur)	09 Jun 2012	09 Jul 2014
6.	Compilation of students' feedback data (VNIT Nagpur)	11 Dec 2014	10 Dec 2015
7.	Lab in charge of DSP (VNIT Nagpur)	01 Jul 2014	Till Date
8.	Load allocation and Time table in charge (VNIT Nagpur)	01 Jul 2015	01 Jul 2017
9.	Class committee meeting and weak student identification reporting (VNIT Nagpur)	09 Jun 2015	09 Jul 2016

24. Workshop/FDP/Short term courses of min 05 working Days duration offered as coordinator or convener

Sl. No.	In the Capacity of	Title	Period		Organised at	Sponsored by
			From	To		
1.	Co-ordinator	Analog Electronics	04 Jun 2013	14 Jun 2013	VNIT NAGPUR	MHRD
2.	Co-ordinator	Digital signal processing workshop	05 May 2014	09 May 2014	VNIT NAGPUR	Self-Financed
3.	Co-ordinator	Role of Mathematics in Engineering	26 Sep 2016	30 Sep 2016	VNIT NAGPUR	TEQIP-III

25. Establishment of New Lab(s)

Sl. No.	Name of Lab	Year of Establishment	Department/Institute
1.	Signals and Systems analysis Lab	2015	Department of ECE, VNIT Nagpur
2.	Wireless Sensor Networks Lab	2017	Department of ECE, VNIT Nagpur

26. PG Dissertation Guided

Sl. No.	Title of Dissertation/Project	Name of student[s]	Year
1.	Estimation of Optimal Number of Clusters in Wireless Sensor Networks	Sriram Naik	2014
2.	Enhancement of Network Lifetime in Wireless Sensor Network	Gayatri Devi	2015
3.	Development of Test Bed Based On Magnetic Induction (Mi) Communication for Non-Conventional Media Application	Ashish Kumar Sharma	2016
4.	Performance Analysis of Bi-Directional Relay System In Rayleigh Fading	Nagendra Banu	2016
5.	Power Efficient and Coordinated Eicic-CPCABS Method for Downlink in LTE-Advanced Heterogeneous Networks	Srinivasa Rao	2016

6.	Lifetime Enhancement Using Multi-Hop Communication in Hexagon and Voronoi Clustered Wireless Sensor Networks	Vishal Kumar	2017
7.	Super-conductor-based Magneto-Inductive Modelling of Transmitter Coil and Waveguide Structure for Non-Conventional Media	Akshay Kulkarni	2018
8	Magnetic Induction Communication based Transceiver Coil and Waveguide Structure Modelling for Non-Conventional WSNs	Vivek Pathak	2018
9	Platform Debug Utility for x86 Platforms Across all the Segments	Annapurna Varada	2018
10	Efficient Communication System Design for Magnetic Induction ba Wireless Body Area Network	Pradeep Mishra	2021
11	Modelling And Analysis of MI Communication In Wireless Body Ar Network	Ashish Kumar	2021
12	Design of Efficient Dielectric Resonator based MIMO Antenna for Applications.	Aakash Sehgal	2022
13	Design and Analysis of MIMO antenna with enhanced Isolation	Sumit	2022
14	Design and Development of Circularly Polarized DR based MIMO antenna	Manoj Kumar Maurya	2022
15	ML Assisted Reconfigurable MIMO Antenna for 5G Application	Praveen Kumar	2023
16	Band-pass Filter Decoupling Technique for 5G MIMO Antenna	Narendra Mishrsa	2023

27. UG Projects Guided

Sl. No.	Title of Dissertation/Project	Year
1.	LEACH clustering protocol	2014
2.	Link Energy Minimization in WSNs	2014
3.	Pipeline Leakage Detection Using Pressure sensors	2014
4.	Smart Zone Based Vehicle Speed Control Using RF and obstacle Detection to prevent Accidents.	2015
5.	Automation in Railway using GPS & GSM	2016

6.	Light Fidelity (Li-Fi) Implementation using LED and LASER	2017
7.	Hardware implementation of Magnetic induction based communication in Non-Conventional Media	2018
8.	Magnetic Induction based Cluster Optimization in Non-Conventional WSNs: A Cross-Layer Approach	2018
9.	Efficient practical design of Metamaterial-based Magnetic induction communication in Non-conventional media	2018
10	Drowsiness Detection Using Facial Feature Extraction	2021
11	Image Compression Using Principal Component Analysis	2021
12	IOT Wearable Sensor and deep learning: An Integrated approach for personalized Human Activity Recognition in a smart home environment	2021
13	Double Ring Cylindrical Dielectric Resonator Antenna Optimization using ML Algorithm	2022
14	ML Algorithm based optimization of cylindrical Dielectric Resonator Antenna	2022
15	Adjacent Co-axial Line feed DRA antenna optimization using ML Algorithms	2022
16	EEG based BCI using LSTM-CNN for imagined speech application	2023
17	Optimized varational mode decomposition for imagined speech recognition	2023
18	Hyper-parameter optimization of ML algorithms for brain computer interface	2023

28. Text/Reference Books Published on relevant subjects from reputed national publishers or book chapters in the book published by reputed international publishers

Sl. No.	Author(s)	Title
1	Rasika Dhavse, Vinay Kumar, Salvatore Monteleone	Emerging Technology Trends in Electronics, Communication and Networking, Springer Nature, 978-981-19-6737-5, 2023.
2	Ashwin Kamble, Pradnya H Ghare, Vinay Kumar	Classifying Phonological Categories and Imagined Words from EEG Signal, CRC Press, 9781003147817, 2021.
3	Vinay Kumar et. al.	5G and Beyond Wireless Networks: Technology, Network Deployments and Materials used for antenna deployments, Accepted for publication in CRC Press, 2023.

29. Some of the Outreach Institute Activities

Sl. No.	Nature of Activity	Department / Institute
1.	Observer for CMAT/ GPAT, 2017,	Jhulelal Institute of Technology,Nagpur
2.	Expert lecture,	RKGIT, Ghaziabad
3	Observer for CMAT, 2014,	Dr. Panjab Rao Deshmukh Institute of Management and Technology,Nagpur.
4	Expert Lecture,	National Institute of Technology, Uttarakhand
5	External Examiner	National Institute of Technology, Raipur
6	Deputation for Workshop on NBA Accreditation	Visvesvaraya National Institute of Technology, Nagpur

30. Details of Conference[s] Organised/Conducted

SN	Name of the Conference	Responsibility
1	International Conference on Microwave, Antenna and Communication-2023	Secretary, 24 Mar 2023-26 Mar 2023
2	International Conference on VLSI, Communication and Signal Processing-2020	Programme Co-chair, 09 Oct 2020-11 Oct 2020
3	International Conference on VLSI, Communication and Signal Processing-2021	Registration Co-Chair, 24 Sep 2021-26 Sep 2021
4	International Conference on VLSI, Communication and Signal Processing-2022	Programme Co-chair, 14 Oct 2022-16 Oct 2022