



Dr. Prateek Raj Gautam

Ph.D., Electronics and Communication Engineering,
Motilal Nehru National Institute of Technology Allahabad

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ORCID:0000-0002-2889-4275, PUBLONS:I-9311-2017, IEEE:91250146, SCHOLAR:sLZHj6cAAAAJ

EDUCATION

Ph. D.

2016–2021

Electronic & Communication Engineering (Wireless Sensor Networks), **Motilal Nehru National Institute of Technology Allahabad, Prayagraj (UP), India**, with CPI of 7.25. Thesis Title: “Energy Efficient 2D and 3D Localization in Wireless Sensor Networks using Single Anchor Node”.

M. Tech.

2009–2011

Electronic & Communication Engineering, **Harcourt Butler Technological Institute (HBTI) Kanpur (UP), India**, with an aggregate of 67.55%. Thesis Title: “Generalized One Dimensional Optical Orthogonal Coding Scheme for CDMA Systems with its Grouping and Performance Analysis”.

B. Tech.

2004–2008

Electronics & Communication Engineering, **University Institute of Engineering and Technology (UIET), CSJMU Kanpur (UP), India**, with an aggregate of 62.00%.

12 (AISSCE)

2004

Mathematics, Biology, Physics, Chemistry, and English; **Kendriya Vidyalaya, IIT Kanpur (CBSE)**, with an aggregate of 58.40%.

10 (AISSE)

2002

Mathematics, Science, Social Studies, Hindi, and English; **Kendriya Vidyalaya, IIT Kanpur (CBSE)**, with an aggregate of 67.40%.

RESEARCH INTERESTS

Wireless Sensor Networks (WSNs), Energy efficient WSN Localization, Wireless Communication, CDMA, IDMA, Brain Wave Mapping

COMPUTER SKILLS

• **MATLAB** (previous collaborations: github.com/mgeekmatlab), • **LabVIEW**, • **LTspice**, • **Arduino IDE/PlatformIO**, • **CST Studio**, • **KiCAD**, • **LaTeX** (pgfplots/tikz/beamer), • **Gnuplot**, • **Word/Excel**, **LibreOffice**, • **Photoshop/Corel Draw/Inkscape/GIMP**, • **Blender**, • **Github**, • **Web design**: Javascript, Github pages, Jekyll, hosting and server management, **WordPress**, **Django** (Designed and hosted conference (vcas2018) website at MNNIT ECED, online at mnit.ac.in/vcas2018), • **Python** (tkinter/kivy/eel) (Designed GUI based hotspot software online at fwh.mgeek.in), (Form filler software online at formhelper.mgeek.in), and • **Linux**, Terminal, and Windows.

WORK EXPERIENCE

Assistant Professor

June 2012 – July 2013

ECED, Naraina College of Engineering and Technology, Kanpur, UP.

Assistant Professor

July 2013 – December 2015

ECED, Allehnouse Institute of Technology, Kanpur, UP.

PUBLICATIONS JOURNAL(J) CONFERENCE(C)

- [J1] **P. R. Gautam**, S. Kumar, A. Verma, T. Rashid, *et al.*, “Energy-efficient localization of sensor nodes in WSNs using beacons from rotating directional antenna,” *IEEE Transactions on Industrial Informatics*, vol. 15, no. 11, pp. 5827–5836, Nov. 2019. DOI: [10.1109/tii.2019.2908437](https://doi.org/10.1109/tii.2019.2908437) issn 1551-3203 **Impact Factor: 10.215** **SCIE, Q1**
- [J2] **P. R. Gautam**, S. Kumar, A. Verma, and A. Kumar, “Energy-efficient localization of sensor nodes in wsns using single beacon node,” *IET Communications*, vol. 14, no. 9, pp. 1459–1466, 2020. DOI: [10.1049/iet-com.2019.1298](https://doi.org/10.1049/iet-com.2019.1298) issn 1751-8628 **Impact Factor: 1.542** **SCIE, Q3**
- [J3] A. Verma, S. Kumar, **P. R. Gautam**, and A. Kumar, “Fuzzy logic based effective clustering of homogeneous wireless sensor networks for mobile sink,” *IEEE Sensors Journal*, vol. 20, no. 10, pp. 5615–5623, May 2020. DOI: [10.1109/jsen.2020.2969697](https://doi.org/10.1109/jsen.2020.2969697) issn 1530-437X **Impact Factor: 3.301** **SCIE, Q2**

- [J4] A. Verma, S. Kumar, **P. R. Gautam**, and A. Kumar, "Neural-fuzzy based effective clustering for large-scale wireless sensor networks with mobile sink," *Peer-to-Peer Networking and Applications*, Jun. 2021. DOI: [10.1007/s12083-021-01167-6](https://doi.org/10.1007/s12083-021-01167-6) issn 1936-6450 **Impact Factor: 3.307** **SCIE, Q2**
- [J5] A. Verma, S. Kumar, **P. R. Gautam**, T. Rashid, *et al.*, "Broadcast and reliable coverage based efficient recursive routing in large-scale wsns," *Telecommunication Systems*, vol. 75, no. 1, pp. 63–78, Jun. 2020. DOI: [10.1007/s11235-020-00679-5](https://doi.org/10.1007/s11235-020-00679-5) issn 1572-9451 **Impact Factor: 2.314** **SCIE, Q3**
- [J6] M. Yadav, **P. R. Gautam**, V. Shokeen, and P. K. Singhal, "Modern fisher–yates shuffling based random interleaver design for SCFDMA-IDMA systems," *Wireless Personal Communications*, vol. 97, no. 1, pp. 63–73, May 2017. DOI: [10.1007/s11277-017-4492-9](https://doi.org/10.1007/s11277-017-4492-9) issn 0929-6212 **Impact Factor: 1.671** **SCIE, Q3**
- [J7] A. Verma, T. Rashid, **P. R. Gautam**, S. Kumar, *et al.*, "Cost and sub-epoch based stable energy-efficient clustering algorithm for heterogeneous wireless sensor networks," *Wireless Personal Communications*, vol. 107, no. 4, pp. 1865–1879, Apr. 2019. DOI: [10.1007/s11277-019-06362-6](https://doi.org/10.1007/s11277-019-06362-6) issn 0929-6212 **Impact Factor: 1.671** **SCIE, Q3**
- [J8] T. Rashid, S. Kumar, A. Verma, **P. R. Gautam**, *et al.*, "Co-reerp: Cooperative reliable and energy efficient routing protocol for intra body sensor network (intra-wbsn)," *Wireless Personal Communications*, vol. 114, no. 2, pp. 927–948, Apr. 2020. DOI: [10.1007/s11277-020-07401-3](https://doi.org/10.1007/s11277-020-07401-3) issn 0929-6212 **Impact Factor: 1.671** **SCIE, Q3**
- [J9] S. Kumar, **P. R. Gautam**, A. Verma, T. Rashid, *et al.*, "An energy-efficient transmission in wsns for different climatic conditions," *Wireless Personal Communications*, vol. 110, no. 1, pp. 423–444, Sep. 2019. DOI: [10.1007/s11277-019-06735-x](https://doi.org/10.1007/s11277-019-06735-x) issn 0929-6212 **Impact Factor: 1.671** **SCIE, Q3**
- [J10] S. Kumar, **P. R. Gautam**, T. Rashid, A. Verma, *et al.*, "Division algorithm based energy-efficient routing in wireless sensor networks," *Wireless Personal Communications*, Aug. 2021. DOI: [10.1007/s11277-021-08996-x](https://doi.org/10.1007/s11277-021-08996-x) issn 1572-834X **Impact Factor: 1.671** **SCIE, Q3**
- [J11] R. C. S. Chauhan, A. Kumar, and **P. R. Gautam**, "Optical orthogonal code generation scheme and grouping of codes for optical CDMA systems," *International Journal of System Assurance Engineering and Management*, vol. 12, no. 1, pp. 91–103, 1 Jun. 2020. DOI: [10.1007/s13198-020-01007-5](https://doi.org/10.1007/s13198-020-01007-5) issn 0976-4348 **Impact Factor:** **ESCI, 0.47**
- [J12] S. Kumar, **P. R. Gautam**, T. Rashid, A. Verma, *et al.*, "ETDCC: Energy-efficient transmission scheme for dynamic climatic conditions in WSN," *TELKOMNIKA (Telecommunication Computing Electronics and Control)*, vol. 16, no. 3, p. 1126, Jun. 2018. DOI: [10.12928/telkomnika.v16i3.8513](https://doi.org/10.12928/telkomnika.v16i3.8513) issn 1693-6930 **Scopus**
- [J13] T. Rashid, S. Kumar, A. Verma, **P. R. Gautam**, *et al.*, "Pm-EEMRP: Postural movement based energy efficient multi-hop routing protocol for intra wireless body sensor network (intra-WBSN)," *TELKOMNIKA (Telecommunication Computing Electronics and Control)*, vol. 16, no. 1, p. 166, Feb. 2018. DOI: [10.12928/telkomnika.v16i1.7318](https://doi.org/10.12928/telkomnika.v16i1.7318) issn 1693-6930 **Scopus**
- [J14] A. Verma, T. Rashid, **P. R. Gautam**, S. Kumar, *et al.*, "Fuzzy based stable clustering protocol for Heterogeneous wireless sensor networks," *International Journal of Engineering and Technology*, vol. 9, no. 4, pp. 2854–2860, Aug. 2017. DOI: [10.21817/ijet/2017/v9i4/170904046](https://doi.org/10.21817/ijet/2017/v9i4/170904046) issn 0975-4024 **Scopus 2017**
- [J15] T. Rashid, S. Kumar, A. Verma, **P. R. Gautam**, *et al.*, "RB-IEMRP: Relay based improved throughput energy-efficient multi-hop routing protocol for intra body sensor network (INTRA-WBSN)," *International Journal of Computer Networks & Communications*, vol. 11, no. 02, pp. 69–82, Mar. 2019. DOI: [10.5121/ijcnc.2019.11205](https://doi.org/10.5121/ijcnc.2019.11205) issn 0974-9322 **Scopus**
- [C1] **P. R. Gautam**, S. Kumar, A. Verma, and A. Kumar, "Localization of sensor nodes in WSNs using three dimensional angle of arrival detection at BS," in *2019 International Conference on Electrical, Electronics and Computer Engineering (UPCON)*, ZHCET, AMU, Aligarh: IEEE, Nov. 2019, pp. 1–4. DOI: [10.1109/upcon47278.2019.8980262](https://doi.org/10.1109/upcon47278.2019.8980262) isbn: 9781728134550 issn 2687-7767 **Scopus**
- [C2] **P. R. Gautam**, S. Kumar, A. Verma, T. Rashid, *et al.*, *Localization of Sensor Nodes in WSN Using Area Between a Node and Two Beacons*, ser. Lecture Notes in Electrical Engineering. Motilal Nehru National Institute of Technology, Allahabad: Springer, Dec. 2019, vol. 587, pp. 221–228, 1060 pp. DOI: [10.1007/978-981-32-9775-3_22](https://doi.org/10.1007/978-981-32-9775-3_22) isbn: 9813297743 issn 1876-1100 **Book chapter**

- [C3] **P. R. Gautam**, S. Kumar, and A. Kumar, “Sensor localization in wsns using rotating directional - antenna at the base station,” in *Advances in VLSI, Communication, and Signal Processing*, ser. Lecture Notes in Electrical Engineering, vol. 683, Motilal Nehru National Institute of Technology, Allahabad: Springer, Oct. 2020, pp. 705–718. DOI: [10.1007/978-981-15-6840-4_58](https://doi.org/10.1007/978-981-15-6840-4_58) isbn: 978-981-15-6839-8 issn [1876-1100](https://www.isn-international.org/issn/1876-1100) **Book chapter**
- [C4] A. Kumar, S. Kumar, **P. R. Gautam**, A. Verma, *et al.*, *Performance Evaluation of Multi-operands Floating-Point Adder*, ser. Lecture Notes in Electrical Engineering. JK Institute of Applied Physics and Technology, Allahabad University, Allahabad: Springer Singapore, Dec. 2019, vol. 524, pp. 537–546. DOI: [10.1007/978-981-13-2685-1_51](https://doi.org/10.1007/978-981-13-2685-1_51) isbn: 9811326843 issn [1876-1119](https://www.isn-international.org/issn/1876-1119) **Book chapter**
- [C5] S. Kumar, A. Verma, **P. R. Gautam**, A. Dayal, *et al.*, “The load balancing of optimizing LEACH clustering algorithm with mobile sink and rendezvous nodes,” in *2018 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)*, Madan Mohan Malaviya University of Technology, Gorakhpur: IEEE, Nov. 2018. DOI: [10.1109/upcon.2018.8596989](https://doi.org/10.1109/upcon.2018.8596989) isbn: 978-1-5386-5002-8 issn [2687-7759](https://www.isn-international.org/issn/2687-7759) **Scopus**
- [C6] S. Kumar, **P. R. Gautam**, A. Verma, R. Verma, *et al.*, *Energy Efficient Routing using Sectors Based Energy-Hole Reduction in WSNs*. ZHCET, AMU, Aligarh: IEEE, 2019. DOI: [10.1109/upcon47278.2019.8980254](https://doi.org/10.1109/upcon47278.2019.8980254) isbn: 978-1-7281-3455-0 issn [2687-7767](https://www.isn-international.org/issn/2687-7767) **Scopus**
- [C7] A. Verma, S. Kumar, **P. R. Gautam**, and A. Kumar, *Stable Energy-Efficient Routing Algorithm for Dynamic Heterogeneous Wireless Sensor Networks*, ser. Lecture Notes in Electrical Engineering. Motilal Nehru National Institute of Technology, Allahabad: Springer, Dec. 2019, vol. 587, pp. 221–228, 1060 pp. DOI: [10.1007/978-981-32-9775-3_15](https://doi.org/10.1007/978-981-32-9775-3_15) isbn: 9813297743 issn [1876-1100](https://www.isn-international.org/issn/1876-1100) **Book chapter**

PAPER
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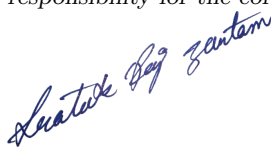
- “Localization of Sensor Nodes in WSNs using Three Dimensional Angle of Arrival detection at BS” In *1st International Conference on VLSI, Communication and Signal Processing (VCAS 2018)* at MNNIT Allahabad (UP) India. 29th November to 1st December 2018
- “Sensor Localization in WSNs Using Rotating Directional - Antenna at the Base Station.” In *2nd International Conference on VLSI, Communication and Signal Processing (VCAS 2019)* at MNNIT Allahabad (UP) India. 21st – 23rd October 2019
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PEER REVIEW

- IEEE Transactions on Industrial Informatics WOS (3), • IET Communications WOS (6),
 - International Journal of Distributed Sensor Networks WOS (6), • Asian Journal of Cardiology Research (1), • SN Applied Sciences WOS (2), and • Telecommunication Systems (2).
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WORKSHOPS
/FDP

1. One-week GIAN workshop “Advances in Nanotechnology and its Application in Future Electronics (ANFE-2017)” held at MNNIT Allahabad.
– Participated and volunteered 6th – 10th November, 2017
2. Ten days GIAN workshop on “Internet of Things in Smart Living & Cyber-Physical-Social Systems” held at IIT Kanpur.
– Participated and volunteered. 8th – 17th January 2018
3. Summer training program on “VLSI Design & Embedded System (VDES-2018)” held at MNNIT Allahabad.
– Volunteered. 13th June – 12th July, 2018
4. ATAL Academy FDP on “Blockchain” held at MNNIT Allahabad.
– Participated. 16th – 20th September 2019
5. ATAL Academy FDP on “Artificial Intelligence” held at MNNIT Allahabad.
– Participated. 10th – 14th December 2019
6. One-week short term course on “Computational Physics” held at MNNIT Allahabad.
– Participated. 1st – 5th March 2021
7. One-week FDP on “IPR Awareness and Patent Prosecution” held at MNNIT Allahabad.
– Participated. 13th – 17th July 2021
8. One-week FDP on “Antenna Design and Microwave Applications” held at HBTU Kanpur.
– Participated. 23th – 27th July 2021

WORKSHOPS FACILITATED	Manuscript preparation in LaTeX, Programming with 8051 micro-controller.
AWARDS AND OTHER ACHIEVEMENTS	<ol style="list-style-type: none"> 1. Awarded national scholarship “RG-NFSC” from UGC. 2017-2021 2. Offered national scholarship “MANF” from UGC based on NET score 2020 3. Eight times GATE qualified. 2008, 2009, 2012, 2013, 2014, 2016, 2017, and 2020 4. Three times NET (Electronics Science) qualified. Jul-2016, Jan-2017, and Dec-2019 5. Member of IEEE, IEEE Industrial Electronics Society, IEEE Microwave Theory and Techniques Society, and IEEE Broadcast Technology Society. 6. NPTEL Online Certification on MATLAB for Numerical Computations.
REFERENCES	<ol style="list-style-type: none"> 1. Dr. Arvind Kumar Associate Professor, ECED, MNNIT Allahabad, Teliyarganj, Prayagraj, UP 211004, E.Mail: arvindk@mnnit.ac.in Mob:7081869266, – <i>Ph.D. Thesis Supervisor</i> 2. Dr. Arun Prakash Associate Professor, ECED, MNNIT Allahabad, Teliyarganj, Prayagraj, UP 211004, E.Mail: arun@mnnit.ac.in Mob:9794008282. 3. Dr. Vijay Shankar Tripathi Professor, ECED, MNNIT Allahabad, Teliyarganj, Prayagraj, UP 211004, E.Mail: vst@mnnit.ac.in Mob:8004818000. 4. Dr. Ram Chandra Singh Chauhan Associate Professor, ECED IET Sitapur, Lucknow UP, E.Mail: ram1.hbti@gmail.com Mob:9336050184. – <i>M.Tech. Dissertation Supervisor</i>
PERSONAL PROFILE	Name: Dr. Prateek Raj Gautam DOB: 17 June 1987 Email: prateekrajgautam@gmail.com , rel1601@mnnit.ac.in Mobile: +91- 9151 404 899 Address: E 5409 Avas Vikas 1, Kalyanpur, Kanpur, UP - 208017, India Father's name: Mr. Shriram Gautam Mother's name: Mrs. Archana Gautam
DECLARATION	<p><i>I consider myself to be familiar with the various aspects of electronics and communication engineering. I hereby declare that the above information given is true to the best of my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.</i></p> <p></p> <p>March 7, 2022</p>