

PERSONAL RESUME



Name: Prashant Kumar

Father's name: Shyam Narain Sharma

Mother's name: Madhuri Devi

Date of birth: 10-1-1980

Gender: Male

Marital status: Married

Designation: Assistant Professor in Dept. of Electronics and Comm. Engg., NIT Jamshedpur

Administrative responsibility: Associate Dean (Student Welfare), NIT Jamshedpur

Correspondence address: Faculty office, ECE Dept., NIT Jamshedpur, Jharkhand-831014

Permanent address: S/o Prof. S N Sharma, Mahendru, Patna, Bihar-800006

Phone no.: 9472251615

Email: prashant.ece@nitjrr.ac.in, pks407@gmail.com

Area of interest: Wireless Communication, Underwater Acoustic Communication, Device-to-device Communication, Internet of Underwater Things, Micro-scale Energy Harvesting

EDUCATIONAL QUALIFICATION:

Exam	Year	Institute	Board/Univ.	Marks/CGPA
ICSE(X)	1994	R.P.S Residential Public School, Patna	ICSE, New Delhi	84%
I.Sc(XII)	1996	Science College, Patna	BIEC, Patna	76%
B.Sc.Engg. [Electro. & Comm. Engg.]	1997-2001	Bihar College of Engineering, Patna (Now NIT Patna)	Patna University	78.5%
M.Tech. [Telecom Engg.]	2005-2007	National Institute of Technology Durgapur	NIT Durgapur	8.54
Ph.D [Wireless Comm.]	2010-2016	Indian Institute of Technology Patna	IIT Patna	-

Qualified GATE in Electronics and Communication Engineering in 2003 and 2013

M.Tech. Dissertation Title

The hardware implementation of CRC algorithm over a prototype data communication system

Ph.D. Thesis Title

Multicarrier schemes for efficient underwater acoustic communications

COMPUTER KNOWLEDGE:

Operating system platforms: MSDOS, Windows, UNIX, LINUX and Android

Languages: BASIC, ForTran, C, C++ and Matlab

Packages: PSpice, OrCAD, MathCAD, Mathematika, MultiSim, ComSim, SBip, LabVIEW, Elvis, SILVACO, T-SUPEREME, MEDICI, SYNOPSIS, Xilinx, AutoCAD, etc.

WORK EXPERIENCE:

Eighteen years of teaching experience in Electronics & Communication Engineering at undergraduate and post-graduate levels; which include three years at National Institute of Technology Patna (formerly Bihar College of Engineering Patna) and eleven-and-a-half years at Birla Institute of Technology Mesra Patna Campus.

COMMUNICATION SKILLS:

Very good in communicating in English and Hindi.

FOREIGN COUNTRIES VISITED:

1. Malaysia to present research paper in USYS12 conference (4th-6th December 2012)
2. Hungary to present research paper in IEEE ICC 2013 conference (8th-13th June 2013)
3. Taiwan to present research paper in IEEE Oceans 2014 conference (4th-9th April 2014)

TEACHING EXPERIENCE:

Designation	Institute	From	To	Duration	Subjects Taught
Visiting Lecturer	National Institute of Technology Patna (Formerly Bihar College of Engineering Patna), Bihar	23-7-2002	30-5-2005	3 yrs	1) Basic Electronics 2) Digital Electronics 3) Communication Sys 4) Computer Comm. 5) EMF Theory
Assistant Professor (Stage-I)	Birla Institute of Technology Mesra Patna Campus, Bihar	1-3-2007	31-7-2012	11 yrs 6 months	1) Basic Electronics 2) Digital Electronics 3) Analog Com. Sys. 4) Data Communication 5) Power Electronics 6) Telecom. Switching 7) Dig. Video Sig. Cod. 8) Wireless Comm.
Assistant Professor (Stage-II)		1-8-2012	13-8-2018		
Assistant Professor	National Institute of Technology Jamshedpur, Jharkhand	14-8-2018	till date	-	1) Basic Electronics 2) Analog Electronics 3) Soft Computing 4) Network Theory 5) Mobile Comm. 6) Satellite & Radar Comm. 7) Analog Communication 8) Digital Electronics
Master's Thesis Guided: 09 at BIT Mesra Patna Campus					
Undergraduate Major Projects Guided: 21 (16 at BIT Mesra Patna Campus)					
Handholding of Technical Students: 06 participants during State Level Competition of World Skills 2019					

SPONSORED RESEARCH PROJECT:

Project Title	Sponsoring Agency	Date of Award	Project Cost (in lakhs)	Role	Duration
Development of low-cost acoustic modem for underwater sensor networks for coastal surveillance and early warning system	SERB, DST, GoI	9-10-2020	14.26	Principal Investigator	2 yrs

MINOR RESEARCH GRANT TO FACULTY PROJECTS:

Project Title	Sponsoring Agency	Date of Award	Project Cost (in lakhs)	Role	Duration
Performance evaluation of digital communication techniques in underwater acoustic sensor networks for coastal surveillance and early warning system.	TEQIP-3	6-11-2019	3.0	Principal Investigator	1 yrs

SPONSORED NATIONAL CONFERENCE ORGANIZED:

Title of the seminar/workshop/STTP	Role	Name of the sponsor	Duration
National Conference on Electronics, Communication and Computation (NCECC-2020)	Coordinator and Organizing Secretary	TEQIP-3	2 days (5-6 September 2020)

SPONSORED FACULTY DEVELOPMENT PROGRAMS ORGANIZED:

Sl. No.	Title of the FDP/Workshop/STTP	No. of Participants	Sponsored Amount	Name of the sponsor	Duration
1.	Short Term Training Program on Internet of Things (STTPIoT-19)	61	1.62 Lakh	ATAL Academy Guwahati	9-13 October 2019
2.	Online Faculty Development Program on Internet of Things (OFDPIoT-2020)	184	0.93 Lakh	ATAL Academy Kolkata	7-11 May 2020
3	Workshop of Wearable Devices (WWD-2020)	116	0.93 Lakh	ATAL Academy Kolkata	14-18 December 2020

PhD Guidance:**Ongoing: 04**

- 1) Rashmi (2018-continuing)-Physical layer issues in Device-to-device Communication
- 2) Anand Kumar (2019-continuing)-Underwater Channel Estimation Techniques
- 3) Alisha Priya (2019-continuing)-Performance enhancement schemes for Solar Cells (Joint Supervision with Prof. S N Singh)
- 4) Rajesh Kumar (2020-continuing)-Underwater Sensor Network Design Issues

PUBLICATIONS:

23 research articles with 223 citations (h-index of 8 and an i-10 index of 8)

Google Scholar webpage: <https://scholar.google.co.in/citations?user=51pub3cAAAAJ&hl=en>

Journal

1. **Prashant Kumar** and Preetam Kumar, “A comparative study of spread OFDM with transmit diversity for underwater acoustic communications,” Springer **Wireless Personal Communications**, vol. 83, no. 1, pp. 69–86, 2015 (SCI-Ex IF 1.2).
2. **Prashant Kumar** and Preetam Kumar, “Performance evaluation of $\pi/4$ -DQPSK OFDM over underwater acoustic channels,” Springer **Wireless Personal Communications**, vol. 91, no. 3, pp. 1137–1152, 2016 (SCI-Ex IF 1.2).

Conference

1. A Kumar and **P Kumar**, “Underwater Acoustics Channel Estimation via Basic-CS and Modified-CS Using Two-Dimensional Frequency Sampling” in Proc. International Conference on Advanced Communication Technologies and Signal Processing (IEEE **ACTS-2020**) December, 2020, Silchar, India.
2. A Kumar and **P Kumar**, “Pilot-Assisted Maximum-Likelihood Estimation for Underwater Acoustic Communication”, in Proc. 5th International Conference on Computing, Communication and Security (**ICCCS-2020**) October 2020, Patna, India.
3. Rashmi and **P Kumar**, “A new pairing scheme for D2D with cellular users in underlay spectrum sharing” in Proc. 5th International Conference on Computing, Communication and Security (**ICCCS-2020**) October 2020, Patna, India
4. A Priya, **P Kumar** and S N Singh, “Effects of buffer and BSF contact layer on ZnMnO/CIGSSe heterojunction solar cell” in Proc. 5th International Conference on Computing, Communication and Security (**ICCCS-2020**) October 2020, Patna, India
5. A Kumar and **P Kumar**, “Recent Trends in Adaptive OFDM and Future Direction on Underwater Acoustic Communication”, in Proc. National Conference on Electronics, Communication and Computation (**NCECC-2020**) September 2020, Jamshedpur, India.
6. A Priya, **P Kumar** and SN Singh, “Optimization of ZnSnO/CIGS solar cell with the incorporation of Cu₂O-EBL layer”, in Proc. National Conference on Electronics, Communication and Computation (**NCECC-2020**) September 2020, Jamshedpur, India.
7. **P Kumar**, C M Shamrao, M Mukherjee, “Sum-rate Maximization with Joint Power Allocation and Mode Selection in D2D-enabled 5G Cellular Networks” in IEEE International Conference on Communications (**ICC**), Shanghai, China, May 2019, pp. 1-6
8. C M Shamrao, **P Kumar**, “ Interference Mitigation by Switching the Underlying Transmitter in Device-to-Device Communications” International Conference on Innovations in Power and Advanced Computing Technologies (**iPACT**), Vellore, India April 2017, pp 1-6
9. Chaudhari Mahesh Shamrao, **Prashant Kumar** and Preetam Kumar, “Interference Reduction by Switching the Underlying Transmitter in D2D Communications”, in 9th IEEE International Conference on Communication Systems & Networks (**COMSNET**), Bengaluru, India, January 2017, pp.1-2
10. M Mukherjee, L Shu, V Kumar, **P Kumar**, R Matam, “Reduced out-of-band radiation-based filter optimization for UPMC systems in 5G”, in IEEE International Wireless Communications and Mobile Computing Conference (**IWCMC**), Dubrovnik, Croatia, August 2015, pp.1-6.

11. Mukherjee, **P Kumar**, R Matam, “A study on Non-contiguous Carrier Interferometry code for Cognitive Radio”, in IEEE International Conference on Communications, Signal Processing, and their Applications (**ICCSPA**), Dubai, UAE, February 2015 pp. 1-5.
12. M Mukherjee, **P Kumar**, R Matam, “A PHY-layer framework of multirate transmission for ultradense networks in 5G”, in IEEE International Conference on Communications, Signal Processing, and their Applications (**ICCSPA**), Dubai, UAE, February 2015, pp. 1-5
13. **Prashant Kumar** and Preetam Kumar, “CI/DS-CDMA scheme for autonomous underwater vehicle communication,” in IEEE International Conference on Communications (**ICC**), London, United Kingdom, Jun. 2015, pp. 549–554.
14. **Prashant Kumar**, Vinay Kumar Trivedi, and Preetam Kumar, “Recent trends in multicarrier underwater acoustic communications,” in IEEE Underwater Technology (**UT**), Chennai, India, Feb. 2015, pp. 1–8.
15. **Prashant Kumar**, Vinay Kumar Trivedi, and Preetam Kumar, “Performance evaluation of DQPSK OFDM for underwater acoustic communications,” in IEEE Underwater Technology (**UT**), Chennai, India, Feb. 2015, pp. 1–6.
16. **Prashant Kumar**, Vijay Mukati, and Preetam Kumar, “Performance evaluation of SFBC-SOFDM for underwater acoustic channels,” in **IEEE OCEANS**, Taipei, Taiwan, Apr. 2014, pp. 1–6.
17. **Prashant Kumar** and Preetam Kumar, “Performance evaluation of modified OFDM for underwater communications,” in IEEE International Conference on Communications (**ICC**), Budapest, Hungary, Jun. 2013, pp. 967–971.
18. **Prashant Kumar** and Preetam Kumar, “WH-spread OFDM for underwater acoustic communication with transmit diversity,” in 4th International Conference on Underwater System Technology: Theory and Applications (**USYS’12**), Kuala Lumpur, Malaysia, Dec. 2012, pp. 208–212.
19. **Prashant Kumar**, Preetam Kumar, Poonam Priyadarshini, and Srija, “Underwater acoustic sensor network for early warning generation,” in **IEEE OCEANS**, Virginia, USA, Oct. 2012, pp. 1–6.
20. **Prashant Kumar** and Preetam Kumar, “Performance evaluation of DFT-spread OFDM and DCT-spread OFDM for underwater acoustic communication,” in IEEE Vehicular Technology Conference (**VTC Fall**), Quebec, Canada, Sep. 2012, pp. 1–5.
21. **Prashant Kumar** and Preetam Kumar, “DCT based OFDM for underwater acoustic communication,” in International Conference on Recent Advances in Information Technology (**IEEE RAIT**), Dhanbad, India, Mar. 2012, pp. 170–176.

REVIEWER OF INTERNATIONAL JOURNALS

1. IEEE Transaction on Vehicular Technology
2. IET Communications
3. IEEE Access
4. IET The Journal of Engineering
5. International Journal of Distributed Sensor Networks
6. Springer Wireless Personal Communications

MEMBERSHIP OF PROFESSIONAL BODIES

1. Life Time Member of The Indian Society for Technical Education (ISTE), New Delhi.
2. Life Time Member of The Institution of Electronics And Telecommunication Engineers (IETE), Delhi.
3. Senior Member of Institution of Electrical and Electronics Engineers (IEEE), USA.

Member of Review Committee of INSPIRE Awards 2019-20 of National Innovation Foundation India
Member of Evaluator Committee of Toy Hackathon-2021 organized by AICTE

SHORT TERM COURSE ATTENDED

1. Five day Short Term Course on DSP Tools & Practices (June 12th-17th, 2006) at G.S.Sanyal School of Telecommunications, IIT Kharagpur.
2. Four day Short Term Course on Technology CAD for VLSI Design, (June 4th-7th, 2008) at Electronics and Electrical Communication Engineering Department, IIT Kharagpur.
3. Fourteen day MHRD/AICTE sponsored Summer School on Recent Advances in Electronics and Communication (June 16th -29th, 2008) at NIT Patna.
4. Five day MHRD/AICTE sponsored Winter School on Opto-electronics Materials and Devices (December 29 2008-January 2 2009) at IIT Kharagpur Extension Center, Kolkata.
5. Fourteen day MHRD/AICTE sponsored Summer School on Technology CAD for VLSI Design, (June 14th-27th, 2009) at Electronics and Electrical Communication Engineering Department, IIT Kharagpur.
6. Short Term Course on Analog Integrated Circuits (June 15th -22nd, 2015) at Department of Electronics and Communication Engineering, NIT Patna.
7. Short Term Course on Recent Trends in Speech and Image Processing (June 23rd -27th, 2015) at Department of Electronics and Communication Engineering, NIT Patna.
8. Faculty Development Program on Advanced Pedagogy (December 14th -19th, 2015) at BIT Mesra Patna Campus.

SEMINARS/CONFERENCES/WORKSHOPS ATTENDED AND PAPER PRESENTED

1. One day workshop on Implementation of Energy Efficiency Act. 2001 in the State of Bihar on 17th February 2008, at BIT Mesra Patna Campus.
2. One day UGC sponsored National Seminar on Applications of Nanoscience and Nanotechnology, 12th September 2008, at Patna Women's College, Patna. Presented a paper "Nano Technology will change the future of Communication Devices". (This paper was selected as the second best presentation)
3. Two day National Conference on Information and Communication Technology Opportunities and Challenges in 21st Century, 4th-5th February 2011 at BIT Mesra Noida Campus. Presented a paper entitled "Physical Layer Solution to Underwater Acoustic Communication".
4. Two day UGC sponsored National Seminar on Right to Information: A Step Towards Good Governance 17th-18th March 2012 at Govt. Women's College, Gardanibagh, Patna. Presented a paper entitled "Misuse of the Right to Information".

INVITED TALK

Sl. No	Topic/Title
1.	"Underwater acoustic sensor network for early warning generation and disaster management" at 5 th Bihar Vigyan Congress 27 th -29 th Nov. 2012 organized by Bihar Council on Science & Technology, Patna, Govt. of Bihar.
2.	"Research with minimum resources", 6 th & 7 th Bihar Vigyan Congress 17 th -19 th Feb. 2017 organized by Bihar Council on Science & Technology, Patna, Govt. of Bihar.
3.	"Internet of Underwater Things (IoUT)", Short Term Training Program on Internet of Things 8 th -18 th May 2019, organized at BIT Mesra Patna with support from DST Govt. of India under the Interdisciplinary Cyber Physical Systems (ICPS).
4.	"Internet of Underwater Things and Future Applications", Short Term Training Program on

	Internet of Things (STTPIoT-19), 9-13 October, 2019, organized at NIT Jamshedpur and sponsored by ATAL Academy Guwahati .
5.	“Computer Vision”, ATAL Faculty Development Program on Robotics, 23-27 December 2019, organized at NIT Jamshedpur and sponsored by ATAL Academy Guwahati .
6.	Webinar at Government Polytechnic Tekari, Gaya, Bihar on Basic Mobile Communication, 23- September 2020.
7.	Physical Layer Issues Related to Device-to-device Communication, AICTE sponsored 6-Days Online Short Term Training Program on "Advanced Next Generation Wireless Technique“ 6 th -11 th August, 2020, United College of Engineering & Research, Prayagraj, India.
8.	Future Underwater Wireless Communication Techniques, AICTE sponsored 6-Days Online Short Term Training Program on "Advanced Next Generation Wireless Technique“ 27 th July-1 st August, 2020, United College of Engineering & Research, Prayagraj, India
9.	Sensors used in Underwater Wireless Communication and Applications, ATAL sponsored 5-Days Online Faculty Development Program on “Sensor Technology“ 1-5 October, 2020, NIT Jamshedpur, India
10.	Introduction to Wearable Devices, ATAL sponsored 5-Days Online Faculty Development Program on “Wearable Devices“ 14-18 December, 2020, NIT Jamshedpur, India
11.	One day webinar on ‘Talk with expert on Anti-Ragging Laws’ for our students on 19-12-2020, Chaibasa College of Engineering , West Singhbhum , Jharkhand
12.	Underwater Sensor Network based River Pollution Monitoring for Smart Cities, One-Week ATAL Faculty Development Program (FDP) on “Information and Communication Technologies for Smart City Applications”, (ICT4Smart-2021), 11-15 January 2021, NIT Silchar

SEMINARS/CONFERENCES/WORKSHOPS ATTENDED

1. Two day Symposium on Contemporary Electronics and Computer Technology sponsored by Department of Science & Technology, Govt. of Bihar, 24th-25th December 2005, Patna.
2. TEQIP sponsored Seminar on “Albert Einstein & Revolution in Science” 19th January 2006, at NIT Durgapur.
3. Three day Symposium Scientific Foresight, sponsored by Department of Science & Technology, Govt. of Bihar, 22nd-24th December 2007, Patna.
4. TEQIP sponsored Seminar on Wireless Communication & Networking (WCN-2008), 28th-29th March 2008, at ECE Department, NIT Durgapur.
5. Five day workshop on Effective Teaching, 16th-20th September 2008 at BIT Mesra, Ranchi.
6. One day National Symposium on Ethics in Science & Technology, 22nd August 2009, at Patna Women’s College, Patna.

7. Three day National Seminar on Applications of Biotechnology and the development of Bihar, 22nd-24th March 2010, at BIT Patna.
8. One day Workshop on Application of Video Processing, 24th December 2010 at IIT Patna.
9. Three day International Conference on Speech, Image and Video Processing, 13th-15th February 2012 at IIT Patna

SEMINARS/CONFERENCES/WORKSHOPS ORGANIZED

1. Co-coordinator and resource person of seven day workshop “Trainer Training Programme for ITI Technicians on Computer Fundamentals”, organized at BIT Patna and sponsored by Dept. of Labour & Employment, Govt. of Bihar (25th-31st December-2007).
2. Winter School on Effective Teaching and Research at BIT Mesra Patna Campus for Faculty members of Engineering Colleges affiliated to AICTE, 24th-29th December 2012.
3. CSI and Diety GoI sponsored One day workshop on Electronic System Design and Manufacturing for Technical Students and Faculty members at BIT Mesra Patna Campus on 6th July 2013.

PAST RESPONSIBILITIES (EXTRA- CURRICULAR/ STUDENT’S INTERACTIVE)

1. Successfully organized and judged events in “CORONA-2007”, a National Level Technical Symposium held at NIT Patna, as the Prof-in-charge, ECE Dept.
2. Served as Prof. In-charge ECE Dept, BIT Mesra Patna Campus for two-and-a-half year, 1-8-2007 to 31-1-2010.
3. Served as Prof. In-charge Time-Table, BIT Patna Campus for two-and-a-half years 1-8-2007 to 31-1-2010.
4. Successfully organized “TECHNIKA-2009” the 1st Technical Festival of BIT Patna as the Faculty Coordinator.
5. Successfully organized Inter-College Debate Competition, sponsored by Bihar Renewable Energy Development Agency (BREDA) on 18-8-2008 and 17-8-2009 at BIT Patna campus as the Coordinator.
6. Offered consultancy to Government Women’s Polytechnic, Patna-801506, in setting up Laboratories as Subject Expert.
7. Served as a Technical Expert for the University Automation Committee, Lalit Narayan Mithila University Darbhanga, Bihar.
8. Member, Board of Studies, Faculty of Engineering, Magadh University, Bodh Gaya, Bihar.
9. Faculty Adviser (ECE Dept.), Training and Placement Cell, BIT Mesra Patna Campus (August 2017 to August 2018).
10. Faculty Counselor, IEEE Student Branch, BIT Mesra Patna Campus (1-8-2015 to 13-8-2018).
11. Served as Technical Expert for Bihar State Level Skill India Competition 2018, a part of World Skills 2019.