Resume of Dr. VIKASH KUMAR

Dr. VIKASH KUMAR
Assistant Professor,
Department of Electronics and
Communication Engineering,
RV Institute of Technology and
Management (RVITM),
Bengaluru - 560 076.
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EDUCATION

Doctor of Philosophy 2017 - 2022

- ***Ph. D. (2022): Nanoelectronics, Department of Nanoscience and Technology, Central University of Jharkhand, Ranchi, Jharkhand, India*** *Completion*: ***April 2022*** – Status of the Comments: ***Recommended***
- *Thesis:* ***Development of Ni loaded CdS photocatalysts for photocatalytic water splitting hydrogen production and dye degradation applications***
- *CGPA in Course Work:* ***8.***0

Master of Technology in **VLSI Technology** 2013 - 2015

- VLSI Technology, School of Electrical, Electronics and Communication Engineering, Galgotias University, G. Noida, U.P, India *Completion*: ***July 2015***
- *Thesis:* ***Very low power low cutoff frequency low pass filter design using Operational Trans Conductance Amplifier***
- *CGPA:* ***6.79/ 10***

Bachelor of Engineering in **Electronics and Telecommunication** 2007 - 2011

- Electronics and Telecommunication, AITEM, Amity University, Noida, U.P, India
- *CGPA*: ***6.98.***

EXPERIENCE DETAILS

- Around **4 years** of teaching and **5 years** research experience in reputed Universities.

Shekhawati Engg. College, Rajasthan	- Asst. Prof. -	- August 2015 to Dec 2016
Central University of Jharkhand., Ranchi	- Research Scholar	- Sept 2017 to April 2022
CenSE, IISc, Bengaluru	- Visiting Researcher	- Dec 2019 to March 2022
RVITM, Bengaluru, KA	- Asst. Prof.	- Oct 2022 to till Date

SUPERVISOR DETAILS

I have been acting as recognized supervisor in VTU, Belagavi since 2024

Reference Number : VTU/BGM/Aca./Ph.D./2023-24/300

EXPERIMENTAL SKILLS:

- AI based Peripheral Vision Loss Test Equipment
- Analog AI Accelerator
- Nanofabrication and device fabrication for energy generation and energy conversion applications.
- Application of nanoparticles for energy harvesting using solar spectrum in form of solar cell design hydrogen evolution from water splitting and charge storage super capacitors.

COMPUTER SKILLS:

- VLSI EDA TOOLS

LIST OF JOURNALS:

1. **Vikash Kumar**, G.P Singh, Manish Kumar, Amit Kumar, Pooja Singh, Alok Kumar Ansu, Abhishek Sharma, Tabish Alam, Anil Sigh Yadav, Dan Dabrota, "Nanocomposite Marvels:Unveiling Breakthroughs in Photocatalytic Water Splitting for Enhanced Hydrogen Evolution", ACS Omega, Volume 9, Issue- 6, 6147-6164, 2024, IF 4.032 DOI: https://doi.org/10.1021/acsomega.3c07822 (Q1)
2. **Vikash Kumar**, Neha Singh, Soumita Jana, Sanjeeb Kumar Rout, Ratan Kumar Dey, Gajendra Prasad Singh; "Surface polar charges induced Ni loaded CdS nanorod for efficient photocatalytic hydrogen evolution", International Journal of Hydrogen Energy, Volume 46, Issue 30,16373-16386, 2021, IF 7.2 DOI: https://doi.org/10.1016/j.ijhydene.2020.06.176 (Q1)
3. Parameshwar Kommu, G.P. Singh, Ch. Shilpa Chakra, Soumita Jana, **Vikash Kumar**, A.S. Bhattacharyya; "Preparation of ZnMn2O4 and ZnMn2O4 /graphene nano composites by combustion synthesis for their electrochemical properties", Material Science and Engineering B, Volume 261, 114647, 2020, IF 3.6 DOI: https://doi.org/10.1016/j.mseb.2020.114647 (Q2)
4. **Vikash Kumar**, Benjamin Raj, Parmeshwar Kommu, Sanjeet Kumar Paswan, G P Singh, "Growth of Ni loaded CdS in nanorods structure for photocatalytic and dye degradation applications under solar irradiation", Nanoexpress, Volume 5, Issue 1, 2024, DOI: 10.1088/2632-959X/ad2c9c (Q2)
5. **Vikash Kumar**, G P Singh, "Unlocking the potential of CdS-based photocatalysts for high-efficiency hydrogen evolution in water splitting", Discover Applied Sciences, 2026, https://link.springer.com/article/10.1007/s42452-026-08506-3 (Accepted) (Q2).
6. Akshat Gupta, Archith P, Md Nadeem, Vikrant Rana, **Vikash Kumar**; "Unlocking Insights: Machine Learning for Autism spectrum Disorder Analysis and Detection", Indiana Journal of Multidisciplinary Research, vol. 4 issue 3, pg 162-168, 2024.

LIST OF CONFERENCES:

1. Charan Teja, Bharath Gowda, Dhanush S, **Vikash Kumar**, Nataraj V, "Advanced Design and Performance Analysis of 64 bit 6T SRAM", in Proc. International Conference on Digital Technology and Engineering (ICDTE-2025), Bengaluru, India, Oct. 16–17, 2025.
2. S. Varshini, B. Sarvamangala, Shricharan M.S, and **Vikash Kumar**, "Architectural Innovations on Sense Amplifiers for High-Speed, Low-Power SRAM and CIM Applications" in Proc. International Conference on Digital Technology and Engineering (ICDTE-2025), Bengaluru, India, Oct. 16–17, 2025.
3. Shriya Gomes, **Vikash Kumar** "Quantum Computing: Advancements, Architectures, and Applications in Electronics and Communication Engineering" in Proc. International Conference on Digital Technology and Engineering (ICDTE-2025), Bengaluru, India, Oct. 16–17, 2025.
4. Sanjay A V, Sujan S, Sumukh Sharma, Vajramanasa Palguna H V, Nataraj V, **Vikash Kumar**, "A Comparative Study on Machine Learning Based Power Estimation Techniques in VLSI Design", International Conference on Digital Technology and Engineering (ICDTE-2025), RV Institute of Technology and Management, Bangalore, 16th-17th Oct 2025.
5. **Vikash Kumar**, Akshat Gupta, Archith P, Md Nadeem, Vikrant Rana;"Using Machine Learning Models to detect and identify pills" in the 2nd National Conference on Digital Technology & Engineering, RVITM, Bangalore2-3 May 2024.
6. **Vikash Kumar**, P. Archith, A. S. Mirji, S. Vinodh Kumar and N. Poorna Chandra, "Design and Simulation of Operational Transconductance Amplifier for Biomedical Applications using Cadence," 2023 International Conference on the Confluence of Advancements in Robotics, Vision and Interdisciplinary Technology Management (IC-RVITM), RVITM, Bangalore, 28-29 Nov, 2023. doi: 10.1109/IC-RVITM60032.2023.10435353.
7. **Vikash Kumar**, Gajendra Prasad Singh (2021): CdS-Ni@NiO heterostructure nanorods formation for different energy generation and energy conversion applications, International Conference on Advanced Materials and Material Characterization, SRM, Chennai, 2-4 Dec, 2021.
8. **Vikash Kumar**, Gajendra Prasad Singh (2021): CdS-Ni@NiO heterostructure nanorods formation for different energy generation and energy conversion applications, International Conference on Advanced Materials for Better Tommorow, IIT BHU, Varanasi, 13-17 July, 2021.
9. **Vikash Kumar**, Gajendra Prasad Singh (2021): CdS-Ni@NiO heterostructure nanorods crystal growth, International Conference on Chemistry for Sustainable Development Central University of Jharkhand, Ranchi, 2-4 July, 2021.
10. **Vikash Kumar**, Neha Singh, Soumita Jana, Gajendra Parasad Singh (2019): Surface charges induced CdS-Ni hetero structure for efficient photocatalytic hydrogen evolution, International Conference on Nanoscience and Nanotechnology, Vellore Institute of Technology, Vellore, Tamil Nadu, 29 Nov- 1Dec, 2019.
11. **Vikash Kumar**, Gajendra Prasad Singh (2019): Synthesis and Characterization of Ni doped CdS nanocomposites for energy applications, International Conference on Green & Efficient Energy Technology and Materials, Central University of Jharkhand, Ranchi, Jharkhand, 6-8 March, 2019.
12. **Vikash Kumar**, "Very low power low cutoff frequency low pass filter design using OTA", International Conference on Research and Innovation in Engineering, United Group of Institution, Greater Noida, U.P, 12-13 Feb, 2016.

LIST OF PATENTS & COPYRIGHTS:

List of Indian Patents:

1. Dr. Raghavendra Reddy N V, Dr. C. Solaimuthu, Dr. Surbhi Agrawal, Dr. Kinny Garg, Dr. Vikash Kumar, Dr. Tanmoy Hazra, Dr. S. Sri Lavanya Priya, Dr. Sivasankar, IOT-BASED SOLAR POWERED STREETLIGHT CONTROLLING DEVICE, Design Application Number: 471999-001, 01.09.2025 **(Granted on 01.01.2026).**
2. Dr. Nataraj Vijapur, Deepa R Bhangi, Dr Arun Tigadi, Rudrappa B Gujanatti, Dr. Vikash Kumar, AI BASED SMART CRADLE FOR INFANT, Design Application Number: 479358-001, Dated on 06.11.2025 **(Granted on 09.03.2026).**

LIST OF BOOK CHAPTERS:

- Parameshwar Kommu, Divya Velpula, Shilpa Chakra Chidurala, Shireesha Konda, Rakesh Kumar Thida, Vikash Kumar, Madhuri Sakaray, G.P. Singh, Arnab Shankar Bhattacharyya;"Nanofabrication of Porous Structures Solution Combustion Synthesis of Advanced Electrode Materials in Energy Storage Devices", Nanofabrication, Taylor and Francis (2024) (Scopus)

- Ritu Raj, Subhashri Dutta, Rajan Singh, Vikash Kumar, Gajendra P. Singh, "Functionalization and Characterization of Organic Polymers" Organic Polymers in Energy-Environmental Applications, Wiley Online Library (2024) Scopus

LIST OF WORKSHOPS UNDERGONE

- Attended in a one-week Faculty Development Program on "AI-Driven Image Intelligence: Advances in Processing and Learning" organized by E&ICT Academy IIT Guwahati in association with RV Institute of Management and Technology from 08th-12th September, 2025.
- Attended in SERB sponsored National Level Two days FDP in Association with SERB, Department of Science & Technology, Government of India. On "Emerging trends in Mechanical Engineering: Bridging the gap with interdisciplinary technologies "conducted on 25th & 26th September 2025 Organized by Department of Mechanical Engineering, RVITM, Bengaluru.
- Attended AICTE ATAL Faculty Development Workshop on "Next Generation System on Chip Design for advanced semiconductor solutions" from 12th August to 24th August 2024 in RV College of Engineering.

- Attended Faculty Development Workshop on "VLSI to System Design: Silicon-to-End Application Approach" from 31st July to 4th August 2023 (AICTE) in association with Arm Education and ST Microelectronics with support from Cadence Design Systems.
- Attended a Faculty Development Program (FDP) on "Outcome-Based Education" conducted by ISE Department RVITM Bangalore on 25th October to 4th Nov 2023.
- Attended a Faculty Development Program (FDP) on "Electronic Circuit Design by using Labview" conducted by Visvesvaraya Technological University, Centre for PG Studies, VIAT, Muddenahalli on 12th June to 16th June 2023.
- Participated in a 5 day Faculty Development Program on "Importance of Data Science in Machine Learning and its application ", held from 06/2/23 to 10/02/23 by the Dept of ISE, RVITM, Bengaluru.
- Attended Faculty Development Workshop on "VLSI to System Design: Silicon-to-End Application Approach" from 31 st July to 4 th August 2023 (AICTE) in association with Arm Education and ST Microelectronics with support from Cadence Design Systems.
- Attended a Faculty Development Program (FDP) on "Outcome-Based Education" conducted by ISE Department RVITM Bangalore on 25th October to 4th Nov 2023.
- Attended a Faculty Development Program (FDP) on "Electronic Circuit Design by using Labview" conducted by Visvesvaraya Technological University, Centre for PG Studies, VIAT, Muddenahalli on 12th June to 16th June 2023.
- Participated in a 5 day Faculty Development Program on "Importance of Data Science in Machine Learning and its application ", held from 06/2/23 to 10/02/23 by the Dept of ISE, RVITM, Bengaluru.
- Participated in a 5 day Faculty Development Program on "VLSI IC Design and Avenues of Interdisciplinary Research ", held from 27/2/23 to 3/3/23 by the Dept of ECE, RVITM, Bengaluru.
- FDP workshop on "Novel materials" organized by MNIT, Jaipur
- Hands on Training Workshop "3 D Printing and Design" in DNST, Central University of Jharkhand, Ranchi [3rd February to 7th February, 2020].
- Hands on Training Workshop "Advanced Training on Nanofabrication and Characterization Techniques" in CeNSE, Indian Institute of Science, Bangalore [3 December to 13 December, 2019].
- Workshop on "Research Methodology and Latex Learning" in Central University of Jharkhand [14th December, 2018].
- Familiarization Workshop "Basic Training on Nanofabrication and Characterization Techniques" in CeNSE, Indian Institute of Science, Bangalore [14 March to 16 March, 2018].

LIST OF PROJECTS

- Project Titled "Plasmonic device fabrication by surface charge induced Ni doped CdS heterostructure for efficient photo-catalytic hydrogen evolution" under INUP, MHRD, Government of India at CeNSE, IISc, Bangalore.

- "Analog AI Accelerator using Edge Devices", Collaboration with Sensesemi Technologies.

LIST OF ACADEMIC ACHIEVEMENTS

- **Session Chair** in ICDTE-25 held in RV Institute of Technology and Management on 16th and 17th Oct, 25
- Member of the Organizing Committee for ICDTE-25 held in RV Institute of Technology and Management on 16th and 17th Oct, 25
- Organized IEEE International Conference **"IC-RVITM'23"** as **Organizing Secretary** of the Conference held in RV Institute of Technology and Management on 28th and 29th Nov, 23.
- **Session Chair** in IEEE International Conference **"IC-RVITM'23"** on 29th Nov, 24.
- **UGC-NET (2016):** Electronic Science, University Grant Commission, Govt. of India
- **MERIT SCHOLARSHIP (2009):** Nokia Siemens Pvt. Ltd. India (50% of Academic fee)

Google Scholar Citation as on 23.03.2026

	All	Since 2020
Citations	107	107
h-index	4	4
i10-index	3	3

PERSONAL DETAILS

Gender	:	Male
Native Place	:	Patna, Bihar
Marital Status	:	Married
Blood group	:	O Positive
Language Known	:	English, Hindi, German
Nationality	:	Indian
Religion	:	Hindu

REFERENCES

Dr. Gajendra Prasad Singh,
Professor & Head, Department Material and Metallurgical Sciences, Central University of Jharkhand, Ranchi. Email- gajendra.singh@cuj.ac.in Contact- 7903646516 (Ph.D. Supervisor).

Dr. Arnab Shankar Bhattacharyya,
Assistant Professor, Department of Department Material and Metallurgical Sciences, Green and Efficient Energy Technology, Central University of Jharkhand, Ranchi. Email- 2006asb@gmail.com Contact- 7870674251.

(Dr. VIKASH KUMAR)