



## Faculty - Biodata

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### Personal Information

1. Name: Dr. Vivek Kumar
2. Mobile Number: 8581032618
3. Email:8581032618
4. Date of Birth: 24/01/1986
5. Gender: Male
6. Father's Name: Shri Vidyanand Prasad
7. Hobbies: Writing Research Articles; Helping the needy

### Academic Qualifications

Degree	Specialization	Institution	Year of Completion	CGPA /Percentage	Thesis/Project Title
Ph.D.	Nano Science and Technology	Aryabhatta Knowledge University, Patna	2024	7.89	Studies On Ionic Conduction of Splitted Water in Nanoporous Ferrite Fabricated as Hydroelectric Cell
MTech	Nano Science and Technology	Jadavpur University, Kolkata	2012	8.33	Synthesis and study of photoluminescence of nanostructured Boron Nitride
B.Sc. Engineering	Electronics and Communication Engineering	MIT Muzaffarpur	2008	79.41 %	Designing 16-bit microprocessor using VHDL

### Professional Experience

1. Current Designation: Assistant Professor
2. Department: Electronics and Communication Engineering



3. Total Teaching Experience (Years): 7 Year 2 Months

4. Subjects Taught: Electromagnetic field theory; Microprocessor and Microcontrollers; Semiconductor Physics; Electrical and Electronic Materials; Antenna and wave propagation; Optical Fiber Communication

5. Industry/Research Experience:

- Organization: NO
- Designation: NO
- Duration: NO

### **Additional Responsibilities at VVIT**

1. Training & Placement Officer: Yes (Duration: 1<sup>st</sup> Feb 2017 to 1<sup>st</sup> May 2018)

2. Hostel Warden: No

3. Other Responsibilities:

i. HOD of ECE Department of VVIT from 1<sup>st</sup> December 2023 to till date.

ii. Member of IQAC Cell (June 2024 onwards)

iii. Faculty in charge for Physics Lab establishment according to New AICTE Syllabus.

iv. Routine management as Routine In charge at VVIT (with effect from 20<sup>th</sup> October 2023)

v. Faculty In charge (Coordinator) of Editorial cell (with effect from 20<sup>th</sup> October 2023)

### **Technical Skills**

1. Simulation Software: NA

2. Programming Languages: C and C++

3. Professional Certifications:

- Certification 1: Completed 1-week ATAL FDP on "Sensors Technology" from 01/10/2020 to 05/10/2020 at NIT Jamshedpur

- Certification 2: Completed 1-week ATAL FDP on "Sensors Technology" from 21/09/2020 to 25/09/2020 at National Institute of Technical Teachers Training and Research Chandigarh

- Certification 3: Completed one week FDP on Photonic Communications organized at National Institute of Technology Patna in July 2019.



- Certification 4: Completed 10 days FDP on Analog electronics and circuits organized at National Institute of Technology; Patna in Feb 2016
- Certification 5: Completed 2 Week FDP on “Wireless Communication Technologies for IoT” organized by Electronics and ICT Academies held from 27 July to 07 Aug; 2020.
- Certification 6: Participated in 1 day workshop on IPR organized by Aryabhata Knowledge University Patna in June 2018.

### Research Work and Publications

1. Research Interests: Condensed Matter Physics; Hydroelectric cells
2. Journals Published: 28
  - Title: Structural dependence of magnetic, luminescence and band gap of Li-Mg ferrite nanomaterials; <https://doi.org/10.1007/s42247-024-00912-w> (Year: 2024)
  - Title: Luminescence and dielectric investigations of crystalline niobate nanoceramics prepared through aqueous chemical process; <https://doi.org/10.1088/1402-4896/ad7999> (Year: 2024)
  - Title: A Review on Developments in Spinel Ferrite Nanomaterials: Synthesis, Characterization, and Diverse Applications; <https://doi.org/10.47392/IRJAEH.2024.0228> (Year: 2024)
  - Title: A Novel Ag-MgFe<sub>2</sub>O<sub>4</sub> nanocomposite based Hydroelectric Cell: Green energy source illuminating the future; <https://doi.org/10.1016/j.jallcom.2024.175032> (Year: 2024)
  - Title: Enhancing the structural; optical; magnetic and ferroelectric properties of perovskite BiFeO<sub>3</sub> through metal substitution; <https://doi.org/10.1016/j.chphi.2024.100478> (Year: 2024)
  - Title: Temperature dependent structural; optical; magnetic and dielectric characteristics of cobalt nanoferrites; <https://doi.org/10.1007/s12034-024-03221-4> (2024)
  - Title: Tailoring the structural, optical, and dielectric properties of nanocrystalline niobate ceramics for possible electronic application; <https://dx.doi.org/10.47392/irjash.2023.001> (Year: 2023)



-Title: Optimization of the structural; optical; and magnetic properties of sol-gel derived La<sup>3+</sup> substituted nanostructured barium hexaferrites; <https://doi.org/10.1088/1402-4896/acd728> (2023)

-Title: Unravelling the Green Electricity Generation Using Nanocrystalline Zn-Mg Ferrite Based Hydroelectric Cell: An Emerging Energy Harvester; (Year 2023)

-Title: Structural; optical and electrical behaviour of sodium-substituted magnesium nanoferrite for hydroelectric cell applications; <https://doi.org/10.1007/s13204-022-02737-7> (2022)

-Title: Studies on structural and magnetic properties of nanoporous Li<sup>+</sup> substituted MgFe<sub>2</sub>O<sub>4</sub> nanomaterials for its application in hydroelectric cell with other areas of science & technology; <https://doi.org/10.1016/j.matpr.2022.11.454> (2022)

-Title: Tailoring the physical properties of non-molar potassium-substituted magnesium ferrite nanomaterials and its applications in hydroelectric cell; <https://doi.org/10.1007/s00339-022-06291-5> (2022)

-Title: Investigation of opto-electronic properties and morphological characterization of magnesium niobate ceramics synthesized by two-stage process; <https://doi.org/10.1016/j.matpr.2021.02.476> (Year: 2022)

-Title: Studies on structural and optical behavior of nanoporous potassium-substituted magnesium ferrite nanomaterials; and their application as a hydroelectric cell; <https://doi.org/10.1007/s10854-022-08978-0> (2022)

-Title: Studies on the structural; magnetic and band gap engineering of novel Ag<sup>+</sup> modified MgFe<sub>2</sub>O<sub>4</sub> nanomaterials prepared by low-cost sol-gel method for multifunctional application; <http://dx.doi.org/10.1007/s10948-022-06220-w> (2022)

-Title: Structural; magnetic; optical and ferroelectric properties of Y<sup>3+</sup> substituted cobalt ferrite nanomaterials prepared by a cost-effective sol-gel route; <https://doi.org/10.1016/j.mssp.2022.106632> (2022)

-Title: Tuning in structural; opto-electronic; magnetic and multiferroic properties of NiFe<sub>2</sub>O<sub>4</sub> Nanomaterials by substitution of rare earth element Pr<sup>3+</sup>; prepared by sol-gel method; <http://dx.doi.org/10.1007/s10854-022-07790-0> (2022)



-Title: Physical properties of Pr-substituted Li/Ni ferrite magnetic materials at nanometric scale for its multifunctional applications in industries/environment and their cytotoxicity; lymphocyte studies as nanomedicine; <https://doi.org/10.1007/s13204-021-02198-4> (2021)

-Title: Impact of doping Gd<sup>3+</sup> rare earth ion on structural; magnetic; and optical properties of cobalt and nickel ferrite nanomaterials; <https://doi.org/10.1007/s00339-021-05011-9> (2021)

-Title: Structural characterization and investigation of magneto-optic and multiferroic properties of nanostructured CoFe<sub>2</sub>O<sub>4</sub> prepared by sol-gel derived facile chemical route; <https://doi.org/10.1016/j.matpr.2021.07.234> (Year: 2021)

-Title: Tailoring the structural; optical and multiferroic properties of low temperature synthesized cobalt ferrite nanomaterials; by citrate precursor method; <https://doi.org/10.1016/j.matpr.2021.04.001> (Year: 2021)

-Title: Studies of structural, electrical and optical properties of MgNb<sub>2</sub>O<sub>6</sub>-Mg<sub>4</sub>Nb<sub>2</sub>O<sub>9</sub> nanocomposite for possible opto-electronic applications; <https://doi.org/10.1016/j.matpr.2020.12.524> (Year: 2021)

-Title: Sol-gel assisted synthesis and tuning of structural, photoluminescence, magnetic and multiferroic properties by annealing temperature in nanostructured zinc ferrite; <https://doi.org/10.1016/j.matpr.2021.05.215> (Year: 2021)

-Title: Effect of Gd<sup>3+</sup> substitution on the structural and magnetic properties of barium hexaferrite nanomaterials; <https://doi.org/10.1016/j.matpr.2020.12.650> (Year: 2021)

-Title: Parametric Optimization and Evaluation of Machining Performance for Aluminium-Based Hybrid Composite Using Utility-Taguchi Approach. [https://doi.org/10.1007/978-981-16-3033-0\\_27](https://doi.org/10.1007/978-981-16-3033-0_27) (Year: 2021)

-Title: Structural, Optical and Magnetic Properties of Cobalt Ferrite Nanomaterials, synthesized by a Green Technological Approach Using Lemon Juice. [https://doi.org/10.1007/978-981-16-5371-1\\_22](https://doi.org/10.1007/978-981-16-5371-1_22) (Year 2021)

-Title: Synthesis and investigation of properties of nanostructured cubic PMN ceramics for possible applications in electronics; <https://doi.org/10.1007/s10854-020-03988-2> (Year: 2020)



-Title: Synthesis, Characterization and Property Evaluation of Single Phase Mg<sub>4</sub>Nb<sub>2</sub>O<sub>9</sub> by two stage process; <https://doi.org/10.1080/0371750X.2016.1237895> (Year: 2017)

3. Patents (if any):

- Granted: Nil
- Published: Nil

### Reviewer/Conference Participation

1. Journals Reviewed For: Optical Materials (Elsevier); Results in Physics (Elsevier); Current Materials Science (Bentham Science); Inorganic Chemistry Communications (Elsevier); Journal of inorganic and Organometallic polymers and materials (Springer Nature)

2. Conferences Attended:

ICASEM-2024, VVIT Purnea; ICASET-2023, VVIT Purnea; ICMET 2022, VVIT Purnea; ICEMA, 2022, A. N college, Patna; 5th Indian Conference on Applied Mechanics 2022, NIT Jamshedpur; GCRASM 2021, AJIET, Mangalore, Karnataka.; TIME 2021, SISTEC, Bhopal; ICAMME 2021, MANIT, Bhopal; ICMPC 2020, IIT Indore

3. Workshops Organized: Nil

### Professional Profiles (Optional)

1. Google Scholar: <http://scholar.google.co.in/citations?user=ZrpgOTAAAAAJ>
2. ResearchGate: <https://www.researchgate.net/profile/Vivek-Kumar-228>
3. ORCID: <https://orcid.org/0000-0002-3170-0646>

### Declaration

I, Dr. Vivek Kumar, hereby declare that the above information is true and correct to the best of my knowledge.

Date: 28-10-24

Place: Purnea