



Brief Introduction

I am Seeking for Assistant Professor Position in a reputed college. I have a good experience in teaching and scientific technical writing.

My teaching areas are Biomedical, Electronics, and Instrumentation (currently teaching Basic Electronics- 1st year and Biomedical signal Processing-4th year at IET Lucknow). I have a good number of research publications (22 in which 12-SCI, 5-SCOPUS) in reputed journals. I am also good at material synthesis, characterizations, and its analysis. I have a good knowledge of Modelling & simulation in COMSOL Multiphysics Software. I have completed my **Ph.D. from MNNIT Allahabad with thesis title “Chemical synthesis and characterization of Zn and Mg metal oxides and spinel ferrites for biomedical applications.”**

CONTACT

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Abhishek Nigam

Assistant Professor

(Contractual)

at IET, Lucknow

EDUCATION

Ph.D. (Awarded on 21/09/2022)

Motilal Nehru National Institute of Technology-Allahabad, U.P.

NIRF Ranking- 47 (2022)

Thesis Title: “Chemical Synthesis and Characterization of Zn and Mg Metal Oxides and Spinel Ferrites for Biomedical Applications”

Supervisor: Prof. S. J. Pawar

CGPA: 7.75 (Absolute out of 10 scale)

Publications: - 22, **SCI-12**, Scopus-5, Book Chapter-1,

National/International Conferences -4

1-Patent

Source: - Google Scholar link: -

<https://scholar.google.com/citations?user=XEiWvrIAAAAJ&hl=en>

M. Tech: Biomedical Engineering

Motilal Nehru National Institute of Technology Allahabad, U.P.

NIRF Ranking- 47 (2022)

Dissertation: “Modelling and Simulation of Human Inner Ear”

Supervisor: Prof. S. J. Pawar

CGPA: 6.80 (Absolute out of 10 scale)

Northern India Engineering College, Lucknow, U.P

B. Tech: Electronics and Instrumentation Engineering

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DATE OF BIRTH

5th July 1986

Address (Permanent)

H.N.-5B/B-113, Vrindavan yojana
1st, near Telibagh Nahar Lucknow
Pin- 226025 (Uttar Pradesh), INDIA

HOBBIES

Playing Badminton, Teaching, Listening to music

STRENGTHS

- Capable of performing under pressure.
- Solving challenging technical problems through feasible solutions.

LANGUAGES

English, Hindi

NATIONALITY

Indian

Research Interest: - Synthesis of Nanoparticles, Drug delivery Applications, Biomedical Applications, Modelling and simulation.

Research Skills: - To operate FE-SEM/ W-SEM, PL, UV AND XRD characterization tool. **Technical writing**, Robotics, MATLAB, Modelling and simulation in **COMSOL Multiphysics** Software.

Biological characterizations- Antimicrobial activity of nanoparticles, Cytotoxicity and Biocompatibility of nanoparticles. Material Characterizations (XRD, FE-SEM, X'PERT HIGHSCORE, HR-TEM, FTIR spectroscopy, Photoluminescence spectroscopy, UV- vis spectroscopy), I was assigned duty for 2 years as a SEM operator in CIR LAB at MNNIT Allahabad.

Teaching Area/Subjects: - Biomedical Engineering, Anatomy Physiology, Biomedical Instrumentation, Digital Electronics, Microprocessor, Electronics and Measurements, Control and measurements etc.

EXPERIENCE

- Worked at "SINEONE TELESERVICES" for nine months as internship in 2009 through Campus Placement.
- Three years of teaching experience at **Sambhunath Engineering College, Prayagraj**, from August, 2010 to June, 2013.
- **M. Tech** from (2013-2015) from **MNNIT ALLAHABD**.
- One year teaching experience at **Sambhunath Engineering College, Prayagraj**, from August, 2015 to June, 2016.
- Two years working as a TA (during Ph.D.) in CIR Lab MNNIT ALLAHABAD for SEM/XRD (2017-2018).
- **PhD completed** (2016-2022) from **MNNIT ALLAHABD**.
- Six-months teaching experience at **Sambhunath Engineering College, Prayagraj**, (after Ph.D. Open Seminar- 12 July, 2021) from August, 2021 to Feb, 2022.
- Worked as a **Principal at RAJ Polytechnic, Varanasi** (Uttar Pradesh), PIN-221004, INDIA (Since Feb, 2022 to Oct, 2022)

RESEARCH PUBLICATIONS

- [1]. **Abhishek Nigam** and Suryappa J Pawar, Structural, magnetic, and antimicrobial properties of zinc doped magnesium ferrite for drug delivery applications, **Ceramics International** Volume 46, Issue 4, March 2020, Pages 4058-4064, DOI: 10.1016/j.ceramint.2019.10.243 **SCI, (IF-5.532)**
- [2]. **Abhishek Nigam**, Sheetal Saini, Ambak Kumar Rai, Suryappa J Pawar, Structural, Optical, Cytotoxicity, and Antimicrobial Properties of MgO, ZnO and MgO/ZnO Nanocomposite for Biomedical Applications, March 2021 **Ceramics International** Volume 47, Issue 14, 15 July 2021, Pages 19515-19525, DOI: 10.1016/j.ceramint.2021.03.289 **(SCI), IF-5.532**
- [3]. **Abhishek Nigam**, Sheetal Saini, Ambak Kumar Rai, Suryappa J Pawar, Structural, morphological, antimicrobial, and cytotoxicity study of spindle-shaped ZnO submicron particles for potential biomedical applications, July 2021 **Materials Today Communications** 28(18):102683 DOI: 10.1016/j.mtcomm.2021.102683 **(SCI), IF-3.662**
- [4]. **Abhishek Nigam**, Sheetal Saini, Bharat Singh, Ambak Kumar Rai, Suryappa J Pawar, Zinc doped Magnesium ferrite nanoparticles for evaluation of biological properties viz antimicrobial, biocompatibility, and in vitro cytotoxicity, June 2022, **Materials Today Communications**, Volume 31, 103632 DOI: 10.1016/j.mtcomm.2022.103632 **(SCI), IF-3.662**
- [5]. **Abhishek Nigam** and Suryappa J Pawar, Structural, optical, antimicrobial properties with drug loading and drug release of five different ZnO nano and sub-micron particles for biomedical applications, September 2021, **Materials Technology Advanced Performance Materials, Vol: - 37(11), Pages 1716-1724, 2021** DOI: 10.1080/10667857.2021.1978636 **(SCI) IF:-3.297**
- [6]. **Abhishek Nigam**, Kishor Kalauni, Suryappa J Pawar, Physio-chemical characterizations and antimicrobial properties of nano-sized Mg-Zn ferrite particles for biomedical applications, February 2022, **Materials Technology Advanced Performance Materials, Volume-37(13) Pages 2490-2502** DOI: 10.1080/10667857.2022.2043649, **(SCI), IF:-3.297**
- [7]. Shagun Varshney, **Abhishek Nigam**, Suryappa J Pawar, Nidhi Mishra, Structural, optical, cytotoxic, and anti-microbial properties of amorphous silica nanoparticles synthesised via hybrid method for biomedical applications, **Materials Technology Advanced Performance Materials, Vol:-37(10) Pages 1504-1515; 2022**, DOI: 10.1080/10667857.2021.1959190 **(SCI) IF:-3.297**
- [8]. Shagun Varshney, **Abhishek Nigam**, Suryappa J Pawar, Nidhi Mishra, An overview on biomedical applications of versatile silica nanoparticles, synthesized via several chemical and biological routes: A review, December 2021, Phosphorus, Sulfur, and Silicon and the Related Elements, Pages 72-88, **Vol: - 197(2) 2022**, DOI: 10.1080/10426507.2021.2017434 **(SCI) IF:-1.052**
- [9]. Shagun Varshney, **Abhishek Nigam**, Anirudh Singh, Sintu Kumar Samanta, Nidhi Mishra, R.P. Tewari, Antibacterial, Structural, and Mechanical Properties of MgO/ZnO Nanocomposites and its HA-Based Bio-Ceramics; Synthesized via Physio-Chemical Route for Biomedical Applications, Feb 2022, **Materials**

RELEVANT SKILLS

➤ Computational Skills:

MS Office, COMSOL Multiphysics

EndNote, Origin, Video editing, etc.

PERSONAL SKILLS

➤ Self-confidence

➤ Leadership qualities

➤ Believe in Team work

➤ Proficient in Hindi and English

ACHIEVEMENTS

1. Worked as a **Principal** (Feb, 2022-Oct, 2022) at Raj Polytechnic (AICTE approved), near Babatpur Airport, Varanasi (U.P.) since Feb 2022.
2. **Patent** filed on “A SUPERVISION TECHNIQUE AND MACHINE FOR DETERMINING A GEAR-STICK SPOT, AND A VEHICLE CONTROL SYSTEM”
3. Published a number of research papers (22) in reputed Journal with good IF, out of which 12 are **SCI** and 5 are **SCOPUS** indexed.
4. Involved in collaborative research activities with MNNIT and IIIT-Allahabad.
5. Head Coordinator of Lakshya 2009 (Cultural Fest) of Babu Banarasi das Engineering College.

Workshops Organized/ Attended

- “Hepatic and Bone Tissue Development for Drug Metabolism and Tissue Engineering” held at IIT Kanpur in 2018.
- Computational Simulation of Bio-fluid systems November, 1 to 12, 2016.
- Nanomedicine with nanoparticles-based diagnostic and therapy November 6-10, 2017.
- Emerging trends in Bio-Robotics for Development for prosthetic and orthotic Devices December 19-30/12/2016.

Technology Advanced Performance Materials, Volume 37, 2022 - Issue 13, Pages 2503-2516, DOI: 10.1080/10667857.2022.2043661 (SCI), IF: -3.297

- [10]. Shagun Varshney, **Abhishek Nigam**, Nidhi Mishra, Suryappa J Pawar, Microwave-assisted synthesis of magnesium oxide nanoflakes via green chemistry approach using Ficus Racemosa leaf extract: characterization and antibacterial activity, August 2022, **Journal of the Korean Ceramic Society, volume 60 (8), pages 62–74 (2023)** DOI: 10.1007/s43207-022-00236-7 (SCI) IF: - 2.506
- [11]. **Abhishek Nigam** and Suryappa J Pawar, Synthesis and characterization of ZnO nanoparticles to optimize drug loading and release profile for drug delivery applications, March 2020 **Materials Today: Proceedings, Volume 26, Part 2, 2020, Pages 2625-2628**, DOI: 10.1016/j.matpr.2020.02.554 (SCOPUS)
- [12]. **Abhishek Nigam**, Deepak Singh, Ankur Sinha, Deepak Sachan, Ankur Vishal, Deepak Kumar, Naveen Kumar, Structural and magnetic properties of Zinc doped Nickel ferrite $Ni_{(1-x)}Zn_xFe_2O_4$ synthesized using Sol-gel auto-combustion and Hydrothermal methods, October 2021, **Materials Physics and Mechanics** 47(3):493-500. DOI: 10.18149/MPM.4732021_10, (SCOPUS)
- [13]. Naveen Kumar, Ajaya Bharti, Manish Dixit, **Abhishek Nigam**, Effect of Powder Metallurgy Process and its Parameters on the Mechanical and Electrical Properties of Copper-Based Materials: Literature Review, November 2020, **Powder Metallurgy and Metal Ceramics** 59(7-8):401-410, DOI: 10.1007/s11106-020-00174-1 (SCIE) IF: -0.931
- [14]. Naveen Kumar, Ajaya Bharti, Abhishek Kumar, **Abhishek Nigam**, Effect of process parameters on the crystal- parameters of Cu-Zn spinel-ferrites, April 2021, **Materials Physics and Mechanics** 47(1):65-73 DOI: 10.18149/MPM.4712021_7 (SCOPUS)
- [15]. Naveen Kumar, Deepak Singh, **Abhishek Nigam***, Omprakash Rajpoot, Mayank Kumar, Yadav, Yogendra Pratap Singh, P. Shakti Prakash, Samarjit Singh, Structural and magnetic properties of zinc doped copper ferrite synthesized by sol-gel and hydrothermal route, **MATERIALS PHYSICS AND MECHANICS**, 2021, Vol. 47(2). Pg. 306-314., DOI: 10.18149/MPM.4722021_12 (SCOPUS)
- [16]. Samarjit Singh, Sushil Kumar Singh, Rahul Singh, Abhishek Kumar, Abhishek Nigam, Effect of Ni on the dielectric behavior and microwave absorption performance of ZnO composites. October 2021, **Materials Physics and Mechanics** 47(3):416-422, DOI: 10.18149/MPM.4732021_3 (SCOPUS)
- [17]. **Abhishek Nigam**, Faiz Ahmed, Suryappa J Pawar, Design and Simulation of Geometrical Shape and Size Variations of Micro-electrode for Cochlear Implant, May 2020, **Springer**, In book: **Biotechnological Applications in Human Health**, DOI: 10.1007/978-981-15-3453-9_8 (BOOK CHAPTER), ONLINE ISBN: - 978-981-15-3453-9
- [18]. **Abhishek Nigam**, Deepak Singh, Ankur Sinha, Deepak Sachan, Anisha, Ankur Vishal and Deepak Kumar, Structural and Magnetic properties of Zinc doped Nickel ferrite $Ni_{(1-x)}Zn_xFe_2O_4$ using both Sol-gel auto-combustion and Hydrothermal methods, Indian Conference on Applied Mechanics (INCAM) 2017, MNNIT Allahabad, 5– 7 July 2017 (Conference)

PUBLICATION SOURCES: -

Research gate link:

<https://www.researchgate.net/profile/Abhishek-Nigam>

Google Scholar:

<https://scholar.google.com/citations?user=XEiWvrIAAAAJ&hl=en>

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SCOPUS ID: - 57213652556

- [19]. Deepak Singh, **Abhishek Nigam**, Omprakash Rajpoot, Mayank Kumar Yadav, Naveen Kumar, Yogendra Pratap Singh and P. Shakti Prakash, The effect of Zn substitution on structural and magnetic properties of $Cu_{1-x}Zn_xFe_2O_4$ synthesized by sol-gel method and hydrothermal method, Conference on Applied Mechanics (INCAM) 2017, MNNIT Allahabad, 5– 7 July 2017 (**Conference**)
- [20]. Yogendra Pratap Singh, **Abhishek Nigam**, Suryappa J Pawar, Characterization of silica nano-particles synthesized by thermo-mechanical route, Conference: 3rd International Conference on Recent Development in Engineering Science, Volume: IJARSE (ISSN: 2319-8354) Volume No.06, Issue No. 05, May 2017 (**Conference**)
- [21]. **Abhishek Nigam**, Satya Prakash, Ambak Kumar Rai, Suryappa J Pawar, In-vitro cytotoxicity and drug release profile with mesoporous ZnO nanoparticle in simulated body fluid, Conference: NANOBIOTECK – 2018, 25-27 OCT, 2018 3rd Annual Conference of Indian Society of Nanomedicine At: AIIMS, New DELHI (**Conference**)
- [22]. **Abhishek Nigam**, Satya Prakash, Ambak Kumar Rai, Suryappa J Pawar, Physio-chemical characterization, in-vitro biocompatibility, and antimicrobial activity of magnetite nanoparticles synthesized via sol-gel route. “**Inorganic and Nano-Metal Chemistry**” (ACCEPTED)
- [23]. **Mr. R. Balamurugan, Mr. Ubaid Ahmad Khan, Dr. Abhishek Nigam, Dr. U. Arunkumar, Mr. S. Madhankumar, Mr. S. Rajesh, Dr. T. A. Selvan**, A Supervision Technique and Machine For Determining A Gear-Stick Spot, And A Vehicle Control System, Application No.-202241025497 A, Date of filing application: - 01/05/2022, Date of published: - 03/06/2022. (**Patent-Filed**)

REFERENCES: -

- 1). **S. J. Pawar** (Professor), Department of Applied Mechanics
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