

Curriculum Vitae

Name: Dr. Bhagwan Toksha

Address: N-12, F-27, HUDCO, Chhatrapati Sambhajnagar

E-mail: bhagwan.toksha@mit.asia,

Date of Birth: 26-04-1982



Academic Credentials

Class/ Degree	Specialization	Institution	University	Year	%/CGPA	Class
Ph.D.	Physics		Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	June 2010		
M.Sc.	Physics		Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	July 2004	63.5 %	<i>First Class</i>
B.Sc.	Physics, Mathematics, Computer Science	Sarswati Bhuwan Education Society	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	July 2002	58.97%	<i>First Class</i>

Physics (BSH)

Ph. D (Physics)

Title	Structural electrical and magnetic properties of nano structured spinel ferrite prepared by novel chemical approach
Guide	Dr. K. M. Jadhav
University	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
Completed on	June 2010

Key Research Areas: Synthesis and Characterization of Nano-materials, Ferrite, Education technology.

Experience

Sr. No.	Organization	Post	From-To	No. of Years
1	Maharashtra Institute of Technology	Assistant Professor	2014-till date	11 yrs
2	Marathwada Institute of Technology	Assistant Professor	2009-2014	5 yrs

List of Courses Taught/Teaching at UG level:

- Engineering Physics
- Indian Knowledge System
- Cognitive Aptitude
- Basic Human Rights
- Introduction to Sociology
- Introduction to Nanotechnology
- Functional Core-Shell nano composites
- Managerial Economics, Finance and Costing

List of Courses Taught/Teaching at PG level:

- Mathematical Physics

Additional Assignments/Duties:

- Worked as member of Adhoc Board of study MIT, Aurangabad
- Worked as Head of the Basic Science and Humanities Department
- Worked as Public Relation Officer (PRO), Maharashtra Institute of Technology.
- Worked as NSS program officer, Marathwada Institute of Technology.
- Academic coordinator, first year academics, since July 2023
- Central committee member for NAAC, NBA and autonomy visits at the institute.
- Coordinator, INSPIRE internship camp-2015, Marathwada Institute of Technology, Aurangabad

Membership of Professional Bodies:

- Indian Science Congress- Life member- Membership number L39409
- International Association of Engineers – Membership number- 159909 3
- International society for research and development- Senior member – SR 4150900436

Seminar/Workshop/Industrial Training/STTP//FDP/CEP/Conference Attended:

1. Educational technology for engineering teachers, IIT Bombay - 8 weeks
2. Designing learner centric MOOCs, IIT Bombay - 5 weeks
3. Use of ICT in Education for Online and Blended Learning, IIT Bombay - 10 weeks
4. Topper in two week FDP “IITBombayX: FDP301x Mentoring Educators in Educational Technology” with 82% score, IIT Bombay - 7 weeks
5. Orientation program Towards Building Effective Research Ecosystem, UGC-HRDC, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, June 2022.
6. Orientation workshop for associate faculty by IITBombay, at IITBombay March 2017
7. Faculty development program: Development of higher education in India an overview, under Pandit Madan Mohan Malviya National Mission on Teachers and Teaching of MHRD, 2020
8. Organized webinar at Maharashtra Institute of Technology, Aurangabad Name of Topic "How to write research paper by Dr.Kishor Kucche, Shivaji University, Kolhapur, 7thJuly 2020 Organizing committee member, National webinar
9. Advances in materials and manufacturing engineering AMME - 2020, at Maharashtra Institute of Technology, Aurangabad, 30thJune – 4thJuly 2020 (conducted online).
10. Organized webinar at Maharashtra Institute of Technology, Aurangabad Name of Topic: Energy & Environment: Challenges and opportunities, 05 June 2020, resource person was Dr.Nitin Labhsetwar, Chief Scientist and Head, Energy & Resource Management Division, CSIR-NEERI NAGPUR
11. Coordinator, Three weeks induction program-2019 (First year Induction program as per AICTE guidelines), Maharashtra Institute of Technology, Aurangabad
12. Coordinator “Day events” Annual social gathering-Kalaviahangam, Maharashtra Institute of Technology, Aurangabad 2019
13. Organizing Secretary, SciClone-2019, Department of Basic Sciences and Humanities, Maharashtra Institute of Technology, Aurangabad
14. Virtual Labs BootCamp 3.0, Organizing team member for six days short term training program on Virtual Lab Development and certification program held from 6th to 11th February 2019, organized by MIT group of Institutions, Aurangabad in coordination with Indian Institute of Technology, Bombay
15. Convener, one week refresher course “Use of ICT for effective teaching Learning, 8 to 12 January 2019, Maharashtra Institute of Technology, Aurangabad

16. Two day workshop “Intellectual Property Rights & Opportunities for Funded Research” 5-6 January, 2018, Maharashtra Institute of Technology, Aurangabad
17. Central coordinator “Tarunyabhan- 2018” a three day training program on adolescent education, Maharashtra Institute of Technology
18. Convener, “Use of ICT for effective teaching learning process” Short term training program 27 June 2017 to 1 July 2017, Maharashtra Institute of Technology
19. Convener, Six Day FDP on 'Empowering Faculty in English Communication and Soft Skills' from 11th Jan to 16th Jan 2016, Department of Basic Sciences and Humanities, Maharashtra Institute of Technology, Aurangabad
20. “Avishkar-2016” district level event, Aurangabad and Jalna, Dr.BabasahebAmbedkarMarathwada University, Aurangabad
21. Convener, SciClone-2016, Department of Basic Sciences and Humanities, Maharashtra Institute of Technology, Aurangabad
22. Convener, SciClone-2015, Department of Basic Sciences and Humanities, Maharashtra Institute of Technology, Aurangabad
23. Central coordinator “Tarunyabhan-2015” a three day training program on adolescent education, Maharashtra Institute of Technology
24. Coordinator, DST-Government of India sponsored “INSPIRE internship camp-2015”, Marathwada Institute of Technology, Aurangabad
25. Co-Convener “TechnoBlitz-2012” Department of Engineering Sciences and Humanities, Marathwada Institute of Technology, Aurangabad
26. Treasurer “TechnoBlitz-2011” Department of Engineering Sciences and Humanities, Marathwada Institute of Technology, Aurangabad

Intellectual Property Rights

Detail of Patent

S.No	Patent Title	Name of Applicant(s)	Patent No.	Award Date	Agency/Country	Status
1	A process for eco-friendly sono-chemical synthesis of activated carbon nano-particles grafted layered double hydroxide nano adsorbent	1 . Aniruddha Chatterjee 2. Bhagwan Toksha 3. Sham Tonde 4. Saurabh Tayade 5. Ajinkya Satdive 6. Vijendra Chaudhari 7. Shravanti Joshi 8. Chinmay Hajra	479728	06/08/2021 Number of pages: 28 Number of claims: 10	Indian Patent Office Government of India	Published

Detail of Copyright

S.No	Copyright Title	Copyright	Award Date	Agency/Country	Status
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		No.			
1	Ni				
2					

List of Research Publications

Papers in National/ International Journal

- | | Title | Publication | Year | Publisher |
|---|--|--|------|---------------------------|
| 1 | Structural investigations and magnetic properties of cobalt ferrite nanoparticles prepared by sol gel auto combustion method, | Solid State Communications | 2008 | Pergamon |
| 2 | Structural and magnetic properties of In ³⁺ substituted NiFe ₂ O ₄ | Materials Chemistry and Physics | 2009 | Elsevier |
| 3 | Electrical and magnetic properties of Cr ³⁺ substituted nanocrystalline nickel ferrite | Journal of applied physics | 2009 | AIP Publishing |
| 4 | Doping effect of Mn ²⁺ on the magnetic behavior in Ni ²⁺ -Zn ferrite nanoparticles prepared by sol-gel auto-combustion | Journal of Physics and Chemistry of Solids | 2010 | Pergamon |
| 5 | Effect of cation proportion on the structural and magnetic properties of Ni-Zn ferrites nano-size particles prepared by co-precipitation technique | Chinese journal of chemical physics | 2008 | IOP Publishing |
| 6 | Influence of Ce ⁴⁺ ions on the structural and magnetic properties of NiFe ₂ O ₄ | Journal of Applied Physics | 2011 | AIP Publishing |
| 7 | Cation distribution by Rietveld, spectral and magnetic studies of chromium-substituted nickel ferrites | Applied Physics A | 2009 | Springer-Verlag |
| 8 | Auto-combustion high-temperature synthesis, structural, and magnetic properties of CoCr _x Fe _{2-x} | The Journal of Physical Chemistry C | 2011 | American Chemical Society |
| 9 | Structural and electric properties of zinc substituted NiFe ₂ O ₄ nanoparticles prepared by co-precipitation method | Physica B: Condensed Matter | 2010 | North-Holland |

- 10 Remarkable influence of Ce⁴⁺ ions on the electronic conduction of Ni₂xCe_xFe₂O₄
Scripta Materialia 2011 Pergamon

- 11 Frequency, temperature and In³⁺ dependent electrical conduction in NiFe₂O₄
powder
Powder technology 2011 Elsevier

- 12 Structural properties and cation distribution of CoZn nanoferrites
International Journal of Modern Physics B 2009 World Scientific Publishing
Company

- 13 Structural and dielectric properties of Ni-Zn ferrite nanoparticles prepared by co-
precipitation method
Journal of optoelectronics and advanced materials 2008 INOE 2000

- 14 The effect of oxidizing agents on the electrical properties of cobalt ferrite
Physica Scripta 2010 IOP Publishing

- 15 Effect of cadmium substitution on structural and magnetic properties of nano sized
nickel ferrite
Chinese Journal of Chemical Physics 2010 IOP Publishing

- 16 Auto-ignition synthesis of CoFe₂O₄ with Al³⁺ substitution for high frequency
applications
Ceramics International, Volume 43, Issue 16, November 2017, Pages 14347-14353
2017 Elsevier

- 17 Effect of Magnetic Field on Pressure Drop Using Two-phase Flow in Small Diameter
Tubes at Horizontal Orientation
International Journal of Engineering Applied Sciences and Technology (IJEAST) 2018
Accepted for publication, International Journal of Engineering Applied

- 18 Analysing the impact of MOODLE and its modules on students learning, a case study
in Mechanical Engineering
Journal of Engineering Education Transformations 2019 Journal of Engineering
Education Transformations

- 19 Experimental Study on Two-Phase Flow Pressure Drop Using Ferrofluid (Fe₃O₄)
And Magnetic Field In Small Diameter Tube Bends
International Journal of Engineering Applied Sciences and Technology 2018

- 20 Training through Blended Mode in ICT for Effective Teaching Learning Process
Chronicle of Humanities and Cultural Studies 2019
- 21 Nano-additives in Concrete: Present Scenario and Challenges
Recent Trends in Civil Engineering & Technology 2019 STM journals
- 22 Microstructure, magnetic, and dielectric interplay in NiCuZn ferrite with rare earth doping for magneto-dielectric applications
Journal of Magnetism and Magnetic Materials 2021 North-Holland
- 23 Nanofertilizers: A review on synthesis and impact of their use on crop yield and environment
Environmental Technology & Innovation 2021 Elsevier
- 24 1D sub 10 nm nanofabrication of ultrahydrophobic Ag@ TiO₂ nanowires and their photocatalytic, UV shielding and antibacterial properties
Advanced Powder Technology 2022 Elsevier
- 25 A review on biodegradable packaging films from vegetative and food waste
The Chemical Record 2022
- 26 Cryogenically treated SiC based novel ceramic composite for advanced automotive brake applications
International Journal of Manufacturing and Materials Processing 2021
- 27 Study of Nano Additives in Concrete mix Proportioning Using Nano Particle
Journal of Construction Engineering, Technology & Management 2020
- 28 Data-driven modeling for tribological performance of nano-lubricants using artificial neural network
2022 IEEE International Conference on Nanoelectronics, Nanophotonics, Nanomaterials, Nanobioscience & Nanotechnology (5NANO) 2022 IEEE
- 29 Recent Developments and Research Avenues for Polymers in Electric Vehicles
The Chemical Record 2022 Wiley
- 30 Biosurfactant assisted in situ green and clean preparation route for layered double hydroxides and their green metrics-based sustainability
Chemical Engineering Journal 2023 Elsevier

- 31 Construction and Praxis of Six Sigma DMAIC for Bearing Manufacturing Process
Materials Today: Proceedings 2022 Elsevier
- 32 Anti-wear (AW) and extreme-pressure (EP) behavior of jojoba oil dispersed with green additive CaCO₃ nanoparticles
Journal of Engineering and Applied Science 2023 Springer Berlin Heidelberg Berlin/Heidelberg
- 33 Superhydrophobic hybrid nanocomposites: Mapping the current research trends and recent advances
Chemical Engineering Science 2023 Pergamon
- 34 A critical review on hydrogen based fuel cell technology and applications
The Chemical Record 2024
- 35 Optimizing nanoparticle attributes for enhanced anti-wear performance in nano-lubricants
Journal of Engineering and Applied Science 2024 Springer Berlin Heidelberg Berlin/Heidelberg
- 36 Hydrogen Sensing with Palladium •Based Materials: Mechanisms, Challenges, and Opportunities
Chemistry An Asian Journal 2024
- 37 A Review on Graphene Oxide-Based Ferrite Nanocomposites for Catalytic Applications
Catalysis Surveys from Asia 2024 Springer
- 38 Effect of Al³⁺ Doping on the Microstructure and Magnetic Behavior of CoFe₂O₄ Nanoparticles
Journal of Superconductivity and Novel Magnetism 2025 Springer US New York

Papers in National /International Conference Proceedings

- Data-driven modeling for tribological performance of nano-lubricants using artificial neural network, Trishul Kulkarni, ArunAutee, **BhagwanToksha**, Aniruddha Chatterjee, 2022 IEEE International Conference on Nanoelectronics, Nanophotonics, Nanomaterials, Nanobioscience& Nanotechnology (5NANO), DOI: 10.1109/5NANO53044.2022.9828932

- Application of Coconut Coir for Eco-friendly insulated Sandwich Panel (ME037) in International Conference on recent trends & research in Engineering and Science (ICRTRES 2K20), organized by Padm. Dr. V. B. Kolte College of Engineering, Malkapur - held on 2nd & 3rd May 2020, (India) - (Conducted online)
- Synthesis and structural analysis of Ni-Zn ferrite nanoparticles, Raje Shaikh B.B., Chaitali Vilasrao More, **Bhagwan G Toksha**, Syed Qadeeruddin Chishty, International Conference on recent trends & research in Engineering and Science (ICRTRES 2K20), organized by Padm. Dr. V. B. Kolte College of Engineering, Malkapur - held on 2nd & 3rd May 2020, (India) - (Conducted online)
- "A review on material for wear and friction characteristics", National conference on emerging trends in Mechanical Engineering (ETME-2019), 9-10 January 2019, NIT, Warangal, Telangana State, (India)
- Dielectric behaviour of Cr substituted cobalt ferrite nanoparticles, **B.G. Toksha**, A. C. Gurav, S. E. Shirsath, T. P. Kulkarni, M. N. Mangulkar, K.M. Jadhav, Materials for Advanced Technology and Applications, MATA-2019, 22-23 August, 2019, Maharashtra Institute of Technology, Aurangabad, (India).
- A study on deterioration of Water quality at Godavari River due to Immersion of Deity Idols A. C. Gurav, P. D. Ghodke, T. P. Kulkarni, **B. G. Toksha**, International Conference on Materials and Environmental Science (ICMES-2018) December 07- 08, 2018 Kolhapur (India)
- Some physical properties of Co-Zn ferrite, V. G. Patil, M. K. Babrekar, V. N. Dhage, B. G. Toksha, S. D. More, K. M. Jadhav, Indian Science Congress, 3rd to 7th January 2010, Trivendrum (India).
- Synthesis and magnetic properties of lithium ferrite by sol gel technique, A. P. Keche, Sagar E. Shirsath, **B. G. Toksha**, M. L. Mane, K. M. Jadhav, International **Conference** on Magnetic Materials & their Applications for 21st Century MMA-21 October 21 -23, 2008, New **Delhi** (India).
- Structural and magnetic properties of zinc substituted nickel ferrite, Sagar E. Shirsath, **B. G. Toksha**, S. M. Patange, S. S. Jadhav, K. M. Jadhav, National symposium for materials research scholars, May 17-18, 2008 Mumbai (India).
- A.P. Keche, B. G. Toksha, K.M. Jadhav DAE-SSPS, December 2008, BARC, Mumbai (India).
- Structural and magnetic properties of ultrafine particles of nickel ferri-aluminates, S.M. Patange, S.E. Shirsath, **B.G. Toksha**, S.D. More and K.M. Jadhav, International Conference on Advanced Materials and Applications, November 15-17, 2007, Kolhapur (India).

- Electrical and dielectric properties of Co-Zn ferrites prepared by Co-precipitation method, Santosh S. Jadhav, S.M. Patange, **B.G. Toksha**, S.E. Shirsath and K.M. Jadhav, International Conference on Advanced Materials and Applications, November 15-17, 2007, Kolhapur (India).
- Synthesis and magnetic properties of Zn substituted cobalt ferrite nanoparticles prepared by wet chemical co-precipitation method, S.S. Jadhav, **B.G. Toksha**, S.E. Shirsath, A.P. Keche, K.M. Jadhav, DAE-SSPS, December 2007, Mysore (India).
- Structural and magnetic properties of $Mg_{0.8}Zn_{0.2}Fe_2O_4 + BaTiO_3$ composite, **B.G. Toksha**, S.E. Shirsath, U.B. Dindore, B.G. Chavan, K.M. Jadhav, NCMRAT-2007, Aurangabad (India).
- Structural and electrical properties of nickel ferri-aluminates, S.M. Patange, S. E. Shirsath, V.B. Kawade, **B.G. Toksha**, K.M. Jadhav, Proceeding of DAE-SSPS, December 26-30, 2006, Bhopal, (India).

Book chapter

- 1 Basic theories responsible for electrical and magnetic properties in spinel ferrites Spinel Ferrite Materials 2025 Woodhead Publishing
- 2 Agricultural Applications of Nanobiosensors in Disease Diagnosis and Food Toxicity Analysis, The Nanotechnology Driven Agriculture: The Future Ahead 2024 CRC Press
- 3 The Potential of Nanocomposite Fertilizers for Sustainable Crop Production Nanofertilizers for Sustainable Agroecosystems: Recent Advances and Future Trends 2023 Springer Nature Switzerland Cham
- 4 Application of genetically modified microorganisms for the reduction of the toxicity of hazardous compounds, Genetically engineered organisms in bioremediation 2024 CRC Press
- 5 Polymer Composites for Construction Applications Industrial Applications of Polymer Composites 2023 Bentham science 978-981-5124-81-1
- 6 Polymer Composites for Sensor Applications Industrial Applications of Polymer Composites 2023 Bentham science
- 7 Polyester-Based Biocomposites for Building and Construction Applications Polyester-Based Biocomposites 2023 CRC press, Taylor & Francis
- 8 Polyester Resins and Their Use as Matrix Material in Polymer Composites Polyester-Based Biocomposites 2023 CRC press, Taylor & Francis
- 9 Insights and Applications of Double Positive Medium Metamaterials Electromagnetic Metamaterials: Properties and Applications 2023 John Wiley & Sons, Inc. Hoboken, NJ, USA
- 10 Metal oxides as chemical sensors Materials for Chemical Sensors 2023 CRC Press
- 11 Graphene Based Chemical Sensors Materials for Chemical Sensors 2023 CRC Press

- 12 Sustainable biodegradable and bio-based polymers Handbook of Sustainable Materials: Modelling, Characterization, and Optimization 2023 CRC Press
- 13 Processing of Recycled and bio-based plastics Handbook of Sustainable Materials: Modelling, Characterization, and Optimization 2023 CRC Press
- 14 AI-Based Predictive Models for Adaptive Learning Systems Artificial Intelligence in Higher Education 2022 CRC Press
- 15 Applications of Artificial Intelligence in Learning Assessment Artificial Intelligence in Higher Education 2022 CRC Press
- 16 Impact of AI on Teaching Pedagogy and its Integration for Enhancing Teaching-Learning Artificial Intelligence in Higher Education 2022 CRC Press
- 17 Packaging applications of polymer-graphene composites Polymer Nanocomposites Containing Graphene 2022 Elsevier
- 18 Applications of ICT: pathway to outcome-based education in engineering and technology curriculum Technology and Tools in Engineering Education 2021 CRC Press
- 19 Virtual Experimentation: An Advanced Tool for Educational Technology Technology and Tools in Engineering Education 2021 CRC Press
- 20 Tools and technology assisting accreditation in engineering education Technology and Tools in Engineering Education 2021 CRC Press
- 21 Challenges and Futuristic Approach of Blended Learning in Higher Education Innovative Education Technologies for 21st Century Teaching and Learning 2021 CRC Press
- 22 A Review of the Tribological and Thermal Effectiveness of Graphene-Based Nano-Lubricants Novel Applications of Carbon Based Nano-materials 2022 CRC Press
- 23 Bioaugmentation in the Bioremediation of the Heavy Metals and Radionuclides Bioaugmentation Techniques and Applications in Remediation 2022 CRC Press

Reviewer

- Elsevier Journals

NPTEL Certification

Start Date	End Date	Duration (in Weeks)	Course Name	Marks (Out of 100)	Performance
29 Jan 2024	30 Apr 2024	10 Weeks	Indian Knowledge System(IKS): Concepts and Applications in Engineering	66.6	Among top 10 nationwide
27th	28 th April	12 Weeks,	NPTEL course	94	Continuous

January, 2020	2020	course	NBA Accreditation and Teaching- Learning in Engineering (NATE)		online assessment score
29 July 2019	20 September 2019	eight week course	TALE 2: Course Design and Instruction of Engineering	83	silver certification
25 February 2019	22 March 2019	eight week course	Teaching and learning in Engineering	83	silver certification
July 2017	August 2017	four week course	Outcome Based Pedagogic Principles for Effective Teaching	72	Elite

Date: 25th April 2025

Place: Chhatrapati Sambhajinagar

Dr. Bhagwan Ghanshamji Toksha
Assistant Professor