Curriculum Vitae

Name: Dr. Bhagwan Ghanshamji Toksha

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Date of Birth: 26 April 1982

Academic Credentials

Class/ Degree	Specialization	Institution	University	Year	%/CGPA	Class
Ph.D.	Physics	Dr. BAMU, Aurangabad	Dr. BAMU, Aurangabad	2010	NA	NA
M.Sc.	Physics	Dr. BAMU, Aurangabad	Dr. BAMU, Aurangabad	2004	NA	63.5
B.Sc.	Physics	S. B. E. S. College of Science, Aurangabad	Dr. BAMU, Aurangabad	2002	NA	58.9

M. Sc. Project: Electron diffraction technique for materials analysis

Ph. D. Research: Structural, electrical and magnetic properties of nano structured spinel ferrite prepared by novel chemical approach

1. **Key Research Areas:**

- Ferrimagnetic oxide materials

- Nano materials
- Education Technology

Experience

Sr. No.	Organization	Post	From To	No. of Years
1	Marathwada Institute of Technology	Assistant professor	23rd June 2009 to 31st December 2014	5 years
2	Maharashtra Institute of Technology	Assistant Professor	1st January 2015– till date	7 years

List of Courses Taught/Teaching at UG level

1. Engineering physics
2. Introduction to nanotechnology
3. Polymer Nanocomposites
4. Functional core-shell nano-composites
5. Managerial economics, finance and costing

List of Courses Taught/Teaching at PG level

1. Research Methodology – MBA First year
2. Experimental Physics – M. Sc. First Year

Additional Assignments/Duties

1. Head, Basic Sciences and Humanities Department, Maharashtra Institute of Technology, Aurangabad January 2015 to June 2016
2. Media and publicity in-charge, Maharashtra Institute of Technology, Aurangabad January 2015 to December 2016
3. NSS Program officer, Marathwada Institute of Technology, July 2013 to December 2014

Membership of Professional Bodies

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

Computer/Software Proficiency

1. MS office (MS Excel, MS Word, MS Power point)

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

1. Faculty development program: national webinar entitled "Development of higher education in India an overview" under Pandit Madan Mohan Malviya National Mission on Teachers and Teaching of MHRD on April 16, 2020
2. Completed, MOOC: Learn MOODLE 3.8 Basics by MOODLE HQ in the Feb 2020
3. FDP credit of one week awarded for TALE 2: Course Design and Instruction of Engineering, July-September, 2019, a eight week course, silver certification with 83% marks, NPTEL
4. Faculty Development Program for Student Induction (FDP-SI) at CSMSS Chh Shahu College of Engineering, Aurangabad, organized by All India Council for Technical Education (AICTE), May 27, 2019 to May 29, 2019
5. International Conference on Materials and Environmental Science (ICMES-2018) December 07- 08, 2018 Kolhapur (India)
6. MHRD sponsored Two-Week FDP (301x) on Mentoring Educators in Educational Technology conducted by IIT Bombay May 17, 2018 to July 5, 2018
7. Orientation workshop for associate faculty by IITBombay, at IITBombay March 25, 2017 to March 26, 2017
8. 8th IEEE International Conference on Technology for Education, held between 2nd – 4th December, 2016 at IITBombay, Mumbai
9. 24th International Conference on Computers in Education, held between 28th Nov – 2nd December, 2016 at IITBombay, Mumbai
10. Four day workshop on “Analytical Testing and Characterization” 31 August to 3 September, 2015, Maharashtra Institute of Technology, Aurangabad

11. Attended two days workshop on “Akash” tablet training for staff at Marathwada Institute of Technology, 10-11 November 2012, organized by IIT-Bombay
12. Indo-Russian workshop on Self propagating High temperature Synthesis (SHS)- November 27-29, 2008, Indian Institute of Science, Bangalore, India
13. International Conference on Advanced Materials and Applications, November 15-17, 2007, Kolhapur (India)

Seminar/Workshop/Industrial Training/STTP//FDP/CEP/Conference organized

1. Organized webinar at Maharashtra Institute of Technology, Aurangabad Name of Topic "How to write research paper by Dr. Kishor Kucche, Shivaji University, Kolhapur, 7th July 2020 Organizing committee member, National webinar
2. Advances in materials and manufacturing engineering AMME - 2020, at Maharashtra Institute of Technology, Aurangabad, 30th June – 4th July 2020 (conducted online).
3. 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
4. Coordinator, Three weeks induction program-2019 (First year Induction program as per AICTE guidelines), Maharashtra Institute of Technology, Aurangabad
5. Coordinator “Day events” Annual social gathering-Kalaviahangam, Maharashtra Institute of Technology, Aurangabad 2019
6. Organizing Secretary, SciClone-2019, Department of Basic Sciences and Humanities, Maharashtra Institute of Technology, Aurangabad
7. 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

8. Convener, refresher course “Use of ICT for effective teaching Learning, 8 to 12 January 2019, Maharashtra Institute of Technology, Aurangabad
9. Two day workshop “Intellectual Property Rights & Opportunities for Funded Research” 5-6 January, 2018, Maharashtra Institute of Technology, Aurangabad
10. Central coordinator “Tarunyabhan- 2018” a three day training program on adolescent education, Maharashtra Institute of Technology
11. Convener, “Use of ICT for effective teaching learning process” Short term training program 27 June 2017 to 1 July 2017, Maharashtra Institute of Technology
12. 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
13. “Avishkar-2016” district level event, Aurangabad and Jalna, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
14. Convener, SciClone-2016, Department of Basic Sciences and Humanities, Maharashtra Institute of Technology, Aurangabad
15. Convener, SciClone-2015, Department of Basic Sciences and Humanities, Maharashtra Institute of Technology, Aurangabad
16. Central coordinator “Tarunyabhan-2015” a three day training program on adolescent education, Maharashtra Institute of Technology
17. Coordinator, DST-Government of India sponsored “INSPIRE internship camp-2015”, Marathwada Institute of Technology, Aurangabad
18. Co-Convener “TechnoBlitz-2012” Department of Engineering Sciences and Humanities, Marathwada Institute of Technology, Aurangabad
19. Treasurer “TechnoBlitz-2011” Department of Engineering Sciences and Humanities, Marathwada Institute of Technology, Aurangabad

Invited talks delivered

1. “Nanotechnology Foundations and Frontiers” on 29th May 2021 at 11:00 am under Raman Lecture Series, Shree Muktanand College, Aurangabad, Maharashtra

2. "Superconductivity" on 27/02/2021, 10:00 am to 11.00 am under Raman Lecture Series, Shree Shivaji science and arts college, Chikhali, Buldhana
3. Resource Person, Faculty development program on Use of ICT tools in online teaching, resource person, MIT-CIDCO, 8th July to 12th July
4. One day orientation program on 'Virtual laboratory' SRTMU, Nanded, 29th June 2020
5. One day webinar 'Introduction to Virtual Laboratory', Swami Ramanand Teerth Marathwada University, Nanded, an expert talk on the topic: Teaching and learning through Virtual laboratory, on 27 May 2020
6. National Webinar on New Horizons for E-Learning in Higher Education to be held on 14th & 15th May, 2020 jointly organized by Internal Quality Assurance Cell (IQAC), Vidya Vikas Mandal's Sitaram Govind Patil Arts, Science and Commerce College, Sakri and EdFly Learn. The topic "Online Learning through Virtual Laboratory" on 15th May, 2020.
7. Webinar on virtual Labs for the faculty at Dr. A. P. J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow Sector-11, Jankipuram Extension, Lucknow in the subject Physics 01 May 2020
8. Invited speaker, "Outcome based education and NBA process", one week faculty development program, Maharashtra Institute of Technology, Aurangabad, 9th July to 14 July 2018
9. Invited talk, Marathwada Institute of Technology, "Education and online resources", 27-9-2016, mentor speaker, INSPIRE camp
10. Invited talk, Marathwada Institute of Technology, "Open Educational Recourses", 27 September 2016
11. Invited talk, High-Tech institute of Technology, "Nanomaterials and Superconductivity", 26 September 2015

Intellectual Property Rights

A process for eco-friendly sono-chemical synthesis of activated carbon nano-particles grapfted layered double hydroxide nano-adsorbent, Application no. 202121027842 A

List of Research Publications

Papers in National/ International Journal:

1. A Review on Biodegradable Packaging Films from Vegetative and Food Waste, Chemical Record, Chem. Rec. 2022, e202100326 (1 of 36), , impact factor 6.771, Q 1 quartile journal, https://doi.org/10.1002/tcr.202100326
2. 1D sub 10 nm nanofabrication of ultrahydrophobic Ag@TiO_2 nanowires and their photocatalytic, UV shielding and antibacterial properties, Advanced Powder Technology, Volume 33, Issue 2, February 2022, 103404, impact factor 4.833, Q 1 quartile journal, https://doi.org/10.1016/j.apt.2021.103404
3. Nanofertilizers: A review on synthesis and impact of their use on crop yield and environment, Environmental Technology & Innovation, Volume 24, November 2021, 101986, impact factor 5.263, Q 1 quartile journal, https://doi.org/10.1016/j.eti.2021.101986
4. Microstructure, magnetic, and dielectric interplay in NiCuZn ferrite with rare earth doping for magneto-dielectric applications, B.B. RajeShaikh, Bhagwan G.Toksha, Sagar E.Shirsath, AniruddhaChatterjee, ShyamTonde, Syed QadeeruddinChishty, Journal of Magnetism and Magnetic Materials, Volume 537, 1 November 2021, 168229, https://doi.org/10.1016/j.jmmm.2021.168229
5. Nano-additives in Concrete: Present Scenario and Challenges, Anagha D. Satbhai, M.N. Mangulkar, **B.G. Toksha**, Recent Trends in Civil Engineering & Technology ISSN: 2249-8753 (Online), ISSN: 2321-6476 (Print) Volume 9, Issue 3, 11-20, 2020
6. Study of Nano-additives in Concrete Mix Proportioning using Nano-particle, Anagha D. Satbhai, M.N. Mangulkar, **B.G. Toksha**, Recent Trends in Civil Engineering & Technology ISSN: 2249-8753 (Online), ISSN: 2321-6476 (Print) Volume 10, Issue 1, 37-48, 2020
7. Training through Blended Mode in ICT for Effective Teaching Learning Process, Chronicle of Humanities and Cultural Studies, Vol. 5, Special issue 1, September 2019 **B. G. Toksha**, TP Kulkarni, SV Lomte, PM Ambad, GS Sable, K B Kulkarni, S P Bhosle, Chronicle of Humanities and Cultural Studies 5 (1), 119-121, 2019
8. Analysing the impact of Moodle and its modules on students learning, a case study in Mechanical Engineering, Trishul P. Kulkarni, **B. G. Toksha**, Santosh P. Bhosle, Bijlee

Deshmukh, Journal of Engineering Education Transformations 32 (January 2019), 56-61, 2019

9. Experimental study on two-phase flow pressure drop using ferrofluid (Fe_3O_4) and magnetic field in small diameter tube bends, GE Chaudhari, **B. G. Toksha**, SB Charthankar, AT Autee, International Journal of Engineering Applied Sciences and Technology, 2018
10. Effect of Magnetic Field on Pressure Drop Using Two-phase Flow in Small Diameter Tubes at Horizontal Orientation, N. J. Sisodiya, S.B. Charthankar, **B. G. Toksha**, A.T. Autee, International Journal of Engineering Applied Sciences and Technology (IJEAST), 2018
11. Wear Performance Analysis of Cottonseed Oil as a Lubricant with Boric Acid Additive, Trishul P Kulkarni, Sanket S Sonawane, **B. G. Toksha**, Jagdeep M Kshirsagar, International Journal of Innovative Research in Science, Engineering and Technology, 6, 4, 6804-6810
12. Auto-ignition synthesis of $CoFe_2O$ with Al^{3+} substitution for high frequency applications, **B. G. Toksha**, SE Shirsath, ML Mane, KM Jadhav, Ceramics International, Volume 43, Issue 16, November 2017, Pages 14347-14353, 13, 2017
13. Effect of cation proportion on the structural and magnetic properties of Ni-Zn ferrites nano-size particles prepared by co-precipitation technique, SJ Santosh, ES Sagar, **B. G. Toksha**, SJ Shukla, KM Jadhav, Chinese journal of chemical physics 21 (4), 381, 59, 2013
14. Auto combustion High-Temperature Synthesis, Structural, and Magnetic Properties of $CoCrxFe_{2-x}O_4$ ($0 \leq x \leq 1.0$), **B. G. Toksha**, SE Shirsath, ML Mane, SM Patange, SS Jadhav, KM Jadhav, The Journal of Physical Chemistry C 115 (43), 20905-20912 90, 2011
15. Influence of Ce^{4+} ions on the structural and magnetic properties of $NiFe_2O_4$, SE Shirsath, SS Jadhav, **B. G. Toksha**, SM Patange, KM Jadhav, Journal of Applied Physics 110 (1), 013914, 75, 2011
16. Remarkable influence of Ce^{4+} ions on the electronic conduction of $Ni_{1-2x}Ce_xFe_2O_4$, SE Shirsath, SS Jadhav, **B. G. Toksha**, SM Patange, KM Jadhav, Scripta Materialia 64 (8), 773-776, 46, 2011
17. Frequency, temperature and In^{3+} dependent electrical conduction in $NiFe_2O_4$ powder, SE Shirsath, BG Toksha, ML Mane, VN Dhage, DR Shengule, KM Jadhav, Powder technology 212 (1), 218-223 36, 2011

18. Structural and electric properties of zinc substituted nife2o4 nanoparticles prepared by co-precipitation method, SS Jadhav, SE Shirsath, **B. G. Toksha**, SM Patange, DR Shengule, KM Jadhav, Physica B: Condensed Matter 405 (12), 2610-2614 42, 2010
19. Doping effect of Mn^{2+} on the magnetic behaviour in Ni–Zn ferrite nanoparticles prepared by sol–gel auto-combustion, SE Shirsath, **B. G. Toksha**, RH Kadam, SM Patange, DR Mane, GS Jangam, KM Jadhav, Journal of Physics and Chemistry of Solids 71 (12), 1669-1675, 116, 2010
20. The effect of oxidizing agents on the electrical properties of cobalt ferrite, SM Patange, KS Lohar, SE Shrisath, **B. G. Toksha**, SS Jadhav, N Kulkarni, KM Jadhav, Physica Scripta 82 (4), 045703, 4, 2010
21. Effect of cadmium substitution on structural and magnetic properties of nano sized nickel ferrite, SP Jadhav, **B. G. Toksha**, KM Jadhav, ND Shinde, Chinese Journal of Chemical Physics 23 (4), 459, 14, 2010
22. Structural properties and cation distribution of Co–Zn nanoferrites, SS Jadhav, SE Shirsath, **B. G. Toksha**, SM Patange, SJ Shukla, KM Jadhav, International Journal of Modern Physics B 23 (30), 5629-5638 29, 2009
23. Cation distribution by Rietveld, spectral and magnetic studies of chromium-substituted nickel ferrites, SM Patange, SE Shirsath, **B. G. Toksha**, SS Jadhav, SJ Shukla, KM Jadhav, Applied Physics A 95 (2), 429-434 78, 2009
24. Structural and magnetic properties of In^{3+} substituted $NiFe_2O_4$, SE Shirsath, **B. G. Toksha**, KM Jadhav, Materials Chemistry and Physics 117 (1), 163-168, 174, 2009
25. Electrical and magnetic properties of substituted nanocrystalline nickel ferrite, SM Patange, SE Shirsath, **B. G. Toksha**, SS Jadhav, KM Jadhav, Journal of applied physics 106 (2), 023914, 118, 2009
26. Structural investigations and magnetic properties of cobalt ferrite nanoparticles prepared by sol–gel auto combustion method, **B. G. Toksha**, SE Shirsath, SM Patange, KM Jadhav, Solid State Communications 147 (11-12), 479-483, 204, 2008
27. Structural and dielectric properties of Ni-Zn ferrite nanoparticles prepared by co-precipitation method, SS Jadhav, SE Shirsath, **B. G. Toksha**, DR Shengule, KM Jadhav, Journal of optoelectronics and advanced materials 10 (10), 2644-2648, 24, 2008

Books/ Book Chapter

1. Packaging applications of polymer-graphene composites, P Gupta, BG Toksha, Polymer Nanocomposites Containing Graphene, 713-741, 2022
2. Challenges and Futuristic Approach of Blended Learning in Higher Education, P Gupta, T Kulkarni, B Toksha, Innovative Education Technologies for 21st Century Teaching and Learning, 2021
3. Virtual Experimentation: An Advanced Tool for Educational Technology, P Gupta, B Toksha, T Kulkarni, B Rajaguru, A Mishra, Technology and Tools in Engineering Education, 1-27, 2021
4. Tools and Technology Assisting Accreditation in Engineering Education, P Gupta, T Kulkarni, B Toksha, Technology and Tools in Engineering Education, 159-183, 2021
5. Applications of ICT: Pathway to Outcome-Based Education in Engineering and Technology Curriculum, P Gupta, T Kulkarni, V Barot, B Toksha, Technology and Tools in Engineering Education, 109-142
6. Introduction to fascinating subject Physics, Educational Publishers and Distributors, Aurangabad, ISBN 978-81-906858-0-1, 2008
7. Engineering Physics, Tech-Max publications, Pune, ISBN 978-93-5077-187-7, 2013

Papers in National /International Conference Proceedings:

1. 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)
2. Synthesis and structural analysis of Ni-Zn ferrite nanoparitcles, 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)
3. "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)
4. 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).

5. 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)
6. 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).
7. 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).
8. 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).
9. A.P. Keche, B. G. Toksha, K.M. Jadhav DAE-SSPS, December 2008, BARC, Mumbai (India).
10. 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).
11. 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).
12. 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).

13. Structural and magnetic properties of Mg0.8Zn0.2Fe2O4+BaTiO3 composite, **B.G. Toksha**, S.E. Shirsath, U.B. Dindore, B.G. Chavan, K.M. Jadhav, NCMRAT-2007, Aurangabad (India).

14. 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).

NPTEL Certification

Start Date	End Date	Duration (in Weeks)	Course Name	Marks (Out of 100)	Performance
27th January, 2020	28th April 2020	12 Weeks, course	NPTEL course NBA Accreditation and Teaching-Learning in Engineering (NATE), course duration	94	Continuous 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

Massive Open Online Courses: as a learner

1. Introduction to programming with Matlab – Vanderbilt University, Nashville, Tennessee USA, June 24, 2015
2. Energy and the Earth - University Of Wisconsin-Madison USA, July 27, 2015
3. Making sense of science stories – Elsevier Publishing Campus, 7 January, 2016

Awards, Achievements and Recognition

1. Mentor for Online BOOTATHON (BootCamp + Hackathon) : Faculty Track (Online-FDP) conducted by Vlabs IITBombay 12th April 2020 to 10 June 2020
2. Designated as national mentor of virtual lab Bootathon, 4-10 November 2019, Banda, Uttar Pradesh, India
3. Silver certification from VLabs IIT Bombay for the development of virtual lab 'Newton's ring experiment' in Engineering Physics, 6th to 11th February 2019
   Lab developed is hosted on national portal
   http://vlabs.iitb.ac.in/vlabs-ev/labs/mit_bootcamp/engg_physics/labs/exp1/index.php
4. Designated as virtual lab national reviewer by Vlabs-IITBombay
5. Designated as staff at IITBombayX "Discussion forum moderator" for the courses, 2018
   FDP101x Foundation Program in ICT for Education and
   FDP201x Pedagogy for Online and Blended Teaching-Learning Process
6. Designated as Associate Faculty by IITBombay for the course "Pedagogy for Online and Blended Teaching-Learning Process" 2017
7. Awarded "Certificate of outstanding contribution in reviewing" by Journal of Materials research and Technology, 2017
8. Recipient of "Certificate of Excellence" by IITBombay, 2016 being topper in the course "Use of ICT in Education for Online and Blended Learning"

Date: 07/21/2021

Place: Aurangabad