Shri Shivaji College of Arts, Commerce and Science, Akola

Faculty Profile (Bio-data of faculty members)

1. Name : **Dr. Milind Rajesh Belkhedkar**

2. Address (residential) : A/30, Shraddha Residency, Mangrulpir road, Near Hingana Fata, Po. Gandhi Nagar, Akola. Dist. Akola. (Maharashtra State) India. Pin .No. 444004.

3. Phone No. / Cell No. : 8766425913

4. E-mail address : mrbelkhedkar@gmail.com/ shrimrbelkhedkar@shivajiakola.ac.in

5. Designation : Associate Professor

6. Department : Department of Physics

7. Date of birth : 05 July 1980

8. Area of specialization : Solid State Physics & Digital Electronics

9. Academic qualifications :

Examinations	Name of the Board / University	Year of Passing	Percentage of marks obtained	Division/ Class / Grade	Subject/s
S.S.C.	M.S. Board, Amravati.	1996	66.00 %	I	Hindi, English, Marathi, Science, Mathematics, Social Science
H.S.C.	M.S. Board, Amravati.	1998	66.00 %	I	Marathi, English, Chemistry, Biology, Physics, Geography
B.Sc.	Amravati University	2001	69.11 %	I	Physics, Chemistry, Math
M.Sc.	Amravati University	2003	68.10 %	I	Solid State Physics & Digital Electronics
S.E.T.	UGC- Pune	2005	Qualified	-	Physical Sciences
Ph. D.	S.G.B.Amravati University, Amravati	2016	Awarded	-	Studies on Preparation and Characterization of Doped and Undoped Chemically Deposited Nanostructured Iron Oxide and Manganese Oxide Thin Films

10. Teaching Experience : **UG:** 15 Yrs. & **PG:** 15 Yrs.

11. Research Experience : **15 Yrs.**

- ❖ Guided M. Sc. Dissertations : 35 Students.
- ❖ Recognized as Ph. D. Supervisor by Sant Gadge Baba Amravati University, Amravati (Notification No. 43/2020, Dated 04/06/2020)

12. Membership of Academic Organizations:

- ❖ Life Member of Indian Science Congress Association, Kolkata.
- ❖ Life Member of Indian Physical Society, Kolkata
- ❖ Life Member of Dr. Ambedkar Teachers Association.
- ❖ Life Member of Amravati University Physics Teachers Association.

13. Any other Achievements/ Any information:

- ❖ Member of Board of Studies in Physics, Nominated by Vice Chancellor of S.G.B. Amravati University, Amravati.
- ❖ Member of Board of Studies in Physics of CKT Autonomous College, Panvel, Mumbai.
- ❖ Member of Editorial Board of American Journal of Nano Research and Applications.

14. Academic Staff College Orientation / Refresher course/ Short term course attended:

Sr. No.	**Name of the Course/ Summer School**	**Place**	**Duration**
1.	Orientation Programme	UGC-ASC, R.T.M. Nagpur University, Nagpur	4 Weeks 18/02/2009 to 17/03/2009
2.	Refresher Course in Physics	UGC-ASC, Mumbai University, Mumbai	3 Weeks 17/01/2011 to 07/02/2011
3.	Refresher Course in Physics	CPDHE (UGC-HRDC), Delhi University, New Delhi	3 Weeks 13/10/2016 to 03/11/20116
4.	Short Term Course on Nanoscience and Nanotechnology	UGC-HRDC, Mumbai University, Mumbai	6day 11/02/2019 to 16/02/2019
5.	Short Term Course on Research Methodology	CPDHE (UGC-HRDC), Delhi University, New Delhi	6day 17/09/2019 to 23/09/2019

15. Research Projects Completed / Ongoing

Sr.No.	Title of the project	Name of the funding agency	Duration	Remarks
1	Structural, Dielectric and Electrical properties of nanosized Magnesium Aluminate.	UGC Minor Research Project.	2008 -2010	Completed **(0.65 Lac)**

16. **List of publications as on 01July 2021(<u>National and International Journal</u>): 24**

1. **M. R. Belkhedkar**, A. U. Ubale, "Physical properties of Fe doped Mn_3O_4 thin films synthesized by SILAR method and their antibacterial performance against E. coli." Journal of Saudi Chemical Society 20 (2016) 553 - 560. **(Impact Factor: 2.523)**
2. **M. R. Belkhedkar**, A. U. Ubale, Y. S. Sakhare, Naushad Zubair, M. Musaddique, "Characterization and antibacterial activity of nanocrystalline Mn doped Fe_2O_3 thin films grown by successive ionic layer adsorption and reaction method" Journal of Arab Universities in Basic and Applied Sciences 21 (2016) 38-44. **(Impact Factor: SNIP-0.546)**
3. A. U. Ubale, **M. R. Belkhedkar**, "Size Dependent Physical Properties of Nanostructured α-Fe_2O_3 Thin Films Grown by Successive Ionic Layer Adsorption and Reaction Method for Antibacterial Application" Journal of Materials Science & Technology 31(1) (2015) 1- 9 **(Impact Factor: 1.610)**
4. **M. R. Belkhedkar,** R. V. Salodkar, G. P. Save, A.V. Mitkari, Y. S. Sakhare, A. U. Ubale, **"**Structural and Electrical Properties of Magnesium Oxide Nanoparticles Synthesized By Chemical Co-Precipitation Method". International Journal of Researches in Biosciences, Agriculture & Technology, 2 (2015) 92 - 96.
5. **M. R. Belkhedkar**, A.U. Ubale, "Physical properties of nanostructured Mn_3O_4 thin films synthesized by SILAR method at room temperature for antibacterial application". Molecular Structure, 1068 (2014) 94 -100. **(Impact Factor: 1.599)**
6. **M. R. Belkhedkar**, A.U.Ubale, "Preparation and Characterization of nanocrystalline α-Fe_2O_3 thin films grown by successive ionic layer adsorption and reaction method", International Journal of Materials and Chemistry 4(5) (2014). **[ISSN: 2166-5354].**
7. **M. R. Belkhedkar**, A.U.Ubale, "Synthesis of porous α-Fe_2O_3 thin film by successive ionic layer adsorption and reaction method onto Al-substrate". Vidarbha Journal of Science 9 (1), (2014) 24-30.**[ISSN : 0973-8932]**
8. **M. R. Belkhedkar**, A.U.Ubale, "Structural and morphological properties of Mn doped Fe_2O_3 nanocrystalline thin film grown by Silar method", International Journal of Basic and Applied Research 4 (2014) 169-171.
9. Ashok U. Ubale, Y.S. Sakhare, S.G. Ibrahim**, M.R. Belkhedkar** "Structural, optical and electrical properties of nanocrystalline MgSe thin films deposited by chemical route using triethanolamine as a complexing agent" Solid State Sciences 23 (2013) 96 – 101. **(Impact Factor: 1.856).**
10. Ashok U. Ubale, J. S. Kantale, D. M. Choudhari, V. N. Mitkari, M. S. Nikam, **M. R. Belkhedkar,** "Characterization of **nanostructured** As_2S_3 thin films synthesized at room temperature by chemical bath deposition method using various complexing agents" Thin Solid Films 542 (2013)160 –166 . **(Impact Factor: 1.890)**
11. A. U. Ubale, Y. S. Sakhare, **M.R.Belkhedkar** "Synthesis and characterization of spray deposited nanostructured FeSe thin films" Materials Letters 92 (2013) 111 – 114. (**Impact Factor: 2.307**)
12. A. U. Ubale, Y. S. Sakhare, M. V. Bhute, **M. R. Belkhedkar**, A. Singh, "Size dependent structural, electrical and optical properties of nanostructured iron selenide thin films deposited by chemical bath deposition method" Solid State Sciences 16 (2013) 134 -142. **(Impact Factor: 1.856).**
13. A. U. Ubale, **M. R. Belkhedkar**, Y. S. Sakhare, Arvind Singh, Chetan Gurada, D. C. Kothari "Characterization of nanostructured Mn_3O_4 thin films grown by SILAR method at room temperature". Materials Chemistry and Physics 136 (2012)1067- 1072. **(Impact Factor: 2.234)**

14. A. U. Ubale, Y. S. Sakhare, **M. R. Belkhedkar,** Arvind Singh "Characterization of nanostructured iron selenide thin films grown by chemical route at room temperature" Materials Research Bulletin 48(2) (2012) 863 - 868. **(Impact Factor: 2.105)**
15. A. U. Ubale, K. S. Chipade, M.V. Bhute, P. P. Raut, G. P. Malpe, Y. S. Sakhare, **M.R.Belkhedkar,** " Structural, Optical and Electrical Properties of Nanostructured CdS: CuS composite Thin Films Grown by CBD Method" International Journal of Materials and Chemistry 2(4) (2012) 165-172. **[e-ISSN: 2166-5354].**
16. Yogesh S. Sakhare, Monali V. Bhute, **Milind R. Belkhedkar**, S. G. Ibrahim, Ashok U. Ubale, "Physical Properties of Nanostructured FeSe Thin Films Deposited by Chemical Bath Deposition Techniques: Effect of Fe $(NO_3)_3.9H_2O$ Source". International Journal of Computer Applications (2012) pp. 11- 14. **(ISBN: 973-93-80870-68-6)**
17. Ashok U. Ubale, Monali V. Bhute, Yogesh S. Sakhare, **Milind R. Belkhedkar**, S. G. Ibrahim, "Synthesis of Nanostructured As_2S_3 Thin Films by Chemical Route: Effect of Complexing Agent". International Journal of Computer Applications (2012) pp.15- 18. **(ISBN: 973-93-80870-68-6)**
18. **M. R. Belkhedkar**, A.U.Ubale, "Influence of film thickness and Fe doping on LPG sensing properties of Mn_3O_4 thin film grown by SILAR method". AIP Conference Proceedings, 1953(1) (2018) pp. 030112.
19. Farhan Ahmed, **M. R. Belkhedkar**, R.V.Salodkar, "Physical properties of nanostructured strontium oxide thin film grown by chemical bath deposition technique", AIP Conference Proceedings, 1953(1) (2018) pp.030105.
20. Ishaque Ahmad, **M. R. Belkhedkar**, R.V.Salodkar, A.U.Ubale, "Physical properties of nanostructured CeO_2 thin films grown by SILAR method," AIP Conference Proceedings 1953 (1) (2018)pp. 030102.
21. R.V.Salodkar, **M.R.Belkhedkar**, S.D.Nemade, "Structural, electrical and optical properties of nanostructured ZrO_2 thin film deposited by SILAR method", AIP Conference Proceedings 1953 (1) (2018), pp. 030137.
22. **M. R. Belkhedkar**, R. V. Salodkar, K.D. Sarode, S. B. Sawarkar, A.U. Ubale, "Structural and optical properties of nanostructured Zirconium di-sulphide thin film grown by SILAR method.", AJANTA VIII (I) (2019) 159 – 163.
23. **M. R. Belkhedkar**, R. V. Salodkar, C.C. Chaudhari, S. B. Sawarkar, A.U. Ubale, "Structural and optical properties of Antimony Trioxide nanoparticles prepared by chemical precipitation method.", Research Journey SPL 110(I) (2019) 21 - 24.
24. **M. R. Belkhedkar,** Mohd. Razique, R. V. Salodkar, S. B. Sawarkar, A. U. Ubale, "Structural and optical properties of nanostructured Manganese disulphide thin film grown by SILAR method", Aayushi International Interdisciplinary Research Journal, Spl.Vol. 66 (2020) pp. 189 -191.

Conference Publications: 05

1. **M. R. Belkhedkar**, A.U.Ubale, Y. S. Sakhare, S. G. Ibrahim, "Structural and morphological properties of nanocrystalline iron oxide thin films deposited by silar method" Proceedings of NCCDN-2013, pp. 9-11.
2. **M. R. Belkhedkar**, Y. S. Sakhare, A. U. Ubale, "Electrical properties of nanostructured manganese oxide thin films deposited by silar method onto glass substrate" Proceedings of NCCDN-2013 pp. 67-69.
3. Y. S. Tamgadge, A. L. Sunatkari, S. A. Sunatkari, S. M. Palhade, **M. R. Belkhedkar**, N. B. Thakare, G. G. Muley, "Optical and Structural Properties of L-Alanine Capped ZnO Quantum Dots", Proceedings of National Conference on Upcoming Trends in Chemical

Science UTCS-2013. pp. 1-3.

4. **M. R. Belkhedkar**, H. N. Pawar, M. K. Bhagat, Y. S. Tamgadge, D. A. Zatale, A. U. Ubale, "Synthesis and Characterization of Nano Structured Barium Peroxide by Chemical Co-precipitation Method at Room Temperature". Lasers and Advanced Materials: Proceedings of NCLAM-2012- pp.11-13.
5. **M. R. Belkhedkar,** M. K. Bhagat, H. N. Pawar, A. U. Ubale "Characterization of Nanostructured Barium Sulphide Prepared by Chemical Co- precipitation Method" Lasers and Advanced Materials: A proceedings of NCLAM-2012 – pp.114-116.

17. Publications other than the Journal Articles.

Sr. No.	**Title with page no./ Chapter with page no.**	**Book title with Editor, Publisher**	**Publication International / National Level**	**ISSN/ ISBN**
1.	Quantum Mechanics, Nuclear Physics and Electronics	Nabha Publication, Amravati	**National**	ISBN-978-81-905776-250-3
2.	**Chapter-II pp. 27- 50**	A TEXT BOOK OF PHYSICS B.SC.PART-III SISTH SEMESTER Dnyanpath Publication Amravati	**National**	ISBN13:978-93-87278-30-1

18. Seminars/ Conferences/ Symposia/ Conferences attended and organised

Sr. No.	Name of the Conf./Seminar/ Workshop etc	Place and Name of the Sponsoring Agency	Place and Date	Paper Presented
1	National Seminar on Current trends in Chemical Sciences Research	UGC & Dept. of Chemistry, Shri. Shivaji College Akola	28 March 2008	Participation
2	National One Day Workshop on "Lighting for Rural and Urban low income groups using LED's"	S.G.B.Amravati University, Amravati.	3 October 2009	Participation
3	One Day Workshop on " Impedance Analyzer	S.G.B.Amravati University, Amravati	09 February 2010	Participation
4	Workshop on " Physics with Homemade	Inter University Accelerator Centre, New Delhi	22- 27 February 2010	Participation

	Equipment and Innovative Experiment"			
5	National Seminar on "Current Trends In Physical Sciences& Electronics Research."	UGC & Dept. of Physics & Electronics, Shri. Shivaji College Akola	28 March 2010	Member of Organising Committee
6	A Seminar on "Current Challenges in Physics Education" and Annual Convention of AUPTA	Shri Shivaji Science College, Amravati	25 April 2010	Attended
7	National Level Conference on "Developing Frontiers of Physics, Astronomy &Space Science"	UGC & Dept. of Physics & Mathematics, RLT College ,Akola	24 – 25 September, 2010	Participation
8	Interdisciplinary International Conference on "Dr. Ambedkar's Buddhism and its Emancipatory Potential	Shri Shivaji College of Arts, Commerce & Science,	Akola (27 Jan-28 Jan 2011)	Attended
9	"Physics Olympiad Exposure Camp"	HBCSE, TIFR, Mumbai	4-6 Sept. 2011	Participated
10	Current trends in material science	Dr. R.G. Rathod Arts & Science College	3-Dec 2012, Murtizapur, Dist. Akola	Attended
11	National Conference on Mathematical Sciences-2013	Dr. R.G. Rathod Arts & Science College	18-19 January 2013	Attended and presented paper
12	6^{th} India –Singapore Joint Physics Symposium (ISJPS2013) on Physics of Advanced Materials	Department of Physics and Meteorology , I.I.T, Kharagpur	25-27 February 2013	Participated
13	(two weeks) "Information and Communication Technology (ICT)"	Dept of Commerce Shri Shivaji College of Arts, Commerce & Science, Akola,	Akola 5^{th} to 20^{th} April 2013	Participated

14	Workshop on Communicational English	Department of English Shri Shivaji College of Arts, Commerce & Science, Akola,	Akola 5th April to 13th April, 2013	Participated
15	National conference on Material Science-Trends and future	Bharatiya Mahavidyalaya, Amravati	10-11 Jan 2014	Participated
16	Recent trends in Mathematics, Physics and their application	Khandelwal College, Akola	19th March 2014	Participated
17	National Conference on "Current Developments in Nanoscience: Challenges and Opportunities"	Department of Physics, Kamla Nehru Mahavidyalaya, Nagpur	Nagpur 14 September 2014	Participated
18	National Conference on "Nanoscience for Sustainable Development "	Ambedkar College, Nagpur	23rd Feb 2015	Participated
19	One Day Workshop on "I for Inclusion: Higher Education Module" (Understanding Inclusion and Access at Higher Education)	Shri Shivaji College of Arts, Commerce & Science, Akola	Jan.20, 2017	Participated
20	University Level Workshop on "Credit, Grade and Semester System Introduced by SGBAU and Maharashtra Public University Act, 2016"	Shri Shivaji College of Arts, Commerce & Science, Akola	July 22, 2017	Participated
21	2ndnternational Conference on Condensed Matter and Applied Physics (ICC2017), Bikaner	Govt. Engineering College Bikaner	Nov 24 - 27, 2017	Participated
22	National Conference on "Recent Advances in Chemical Sciences" (Paper)	Shri Shivaji College of Arts, Commerce & Science, Akola	Feb.26-27, 2018	Participated

23	National Conference on "Emerging Trends in Sciences" (Paper)	Vidya Bharati Mahavidyalaya, Amravati	Feb.01-02, 2019	Participated
24	One Day Regional Level Workshop on "New Accreditation Methodology: An Overview"	Shri Shivaji College of Arts, Commerce & Science, Akola	March 28, 2019	Participated
25	National Symposium on "Innovative Materials and Devices" (Paper)	S.G.B. Amravati University, Amravati and Shri Shivaji Science College, Amravati	June 24-25, 2019	Participated
26	National Conference on "Recent Advances in Physical and Mathematical Sciences", (Paper)	Shri Shivaji College of Arts, Commerce & Science, Akola	Jan.18, 2020	Participated
27	International Web Conference on "Science, Engineering and Technology"	Society for Technologically Advanced Materials of India(STAMI), Nagpur	May 15-16,2020	Participated
28	Online District Level "NAAC Awareness Workshop"	Shri Shivaji College of Arts, Commerce & Science, Akola	June 23, 2020	Participated
29	One Day Online workshop on Intellectual Property Right (IPR)	Shri Shivaji College of Arts, Commerce & Science, Akola	20 Jan, 2021	Participated

19. Innovations/ Contributions in Teaching

a. Design of Curriculum:

- For classroom lectures synopsis is already distributed well in advance to the students and make them aware for further preparation to keep them ready for questions in the classroom.

b. Teaching Methods:

- Usual Classroom teaching method adopted usually along with some model, Chart, OHP and LCD projector used for special lectures as when required.
- Google Classroom and Whatsapp used for Online Teaching.
- Seminar in different units as per syllabus.

c. Laboratory Experiments: -

- Experimental Demonstration, followed by explanation on actual practical.
- Encouraging students to fabricate and design various experiments based on syllabus.

d. Preparation of resource materials:-

- Notes on theory as well as practical are distributed and some reference books for up-to- date knowledge is recommended.
- Practical manuals were prepared for each experiment and made available for students.

e. Remedial teaching:
Guidance to the students weak in studies during free and spare time.

20. **Role in college activities:**

- ❖ Coordinator of Prize Distribution Committee.
- ❖ Member of Admission Committee.
- ❖ Member of Students Teacher Guardian Committee.
- ❖ Member of Career Guidance and Placement cell.
- ❖ Member of Departmental Activities Committee (Hiroshima Day, National Science Day, Quiz Competition, Science Exhibition etc.)

21. **Role in university activities:**

- ❖ Member of Board of studies in Physics of S.G.B.Amravati University, Amravati.
- ❖ Member of PG Subject Examination Committee in Physics of S.G.B.Amravati University, Amravati.
- ❖ Paper Setting and Valuation (UG & PG) for S.G.B. Amravati University Examinations.
- ❖ Invigilation for University and College Test examinations.
- ❖ Internal and External Examiner for S.G.B. Amravati University Practical Examination.
- ❖ Worked as a member of University Local Enquiry Committee (LEC).
- ❖ Member of various University Placement committees as subject expert/ VC nominee
- ❖ Member of University Selection Committee for recruitment Assistant Professors as Subject Expert/VC's nominee.

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