

CURRICULUM VITA

- 1) **Name** : Dr. Ramchandra Tukaram Sapkal
2) **Educational Qualification** : M.Sc M.Phill, Ph.D.
3) **Present Designation** : Associate Professor
4) **Date of Birth** : 03/03/1967
5) **Contact No.** : 9421178265
6) **Email ID** : sapkalramchandra33@gmail.com
7) **Date of Appointment** : 5/9/2005
8) **Teaching Experience** : 28 Years
9) **Date of joining in present college:** 5/9/2005

10) Educational Qualification:

Sr. No.	Exam. Passed	University	Subject	Year	Grade / Class
1	B.Sc	Shivaji	Physics	1991	First Class
2	M.Sc	Shivaji	Physics	1994	Second Class
3	M.Phill	Shivaji	Physics	1997	Awarded
4	PhD	Shivaji	Physics	2013	Awarded

11) Total Research Publications : 4 Books, 1 Book Chapter, 18 papers

a. M.Phil. / Ph.D./Research

Sr. No.	Research	Title of Work / Thesis	University / Institute
1	M.Phil.	Properties of NixFe 1-x O19 Ferrites	Shivaji University
2	Ph.D.	Photoelectrocatalytic purification of Water using ZnO thin films	Shivaji University

b. Book:

Sr. No.	Title with page nos.	Type of Book International /National / Chapter in Edited Book / Editor of Book by International / Editor of Book by National Publisher	Publisher & ISBN No.
1	Sprayed Nanocomposite Thin Films for Water Purification	International	978-620-2-00677-4 https://www.lap-

			publishing.com/extern/listprojects
2	Biosynthesis of Noble Metal Nanoparticles using	International	978-3-330-34887-5 https://www.lap-publishing.com/extern/listprojects
3	Isolation and Identification of Aquatic Actinomycetes	International	978-3-330-35215-5 https://www.lap-publishing.com/extern/listprojects
4	Photoelectrocatalytic purification of water by zinc oxide thin films CONCEPT AND APPLICATIONS	International	978-3-659-40907-3 https://www.lap-publishing.com/extern/listprojects

c. Chapter in Book:

Sr. No.	Title of Book & Name of Editor	Title of the Chapter	Year of publication	ISBN	Name & Place of Publisher
	Methodologies and Applications for Analytical and Physical Chemistry	Photoelectrocatalytic Degradation of Methylene Blue and Inactivation of <i>Escherichia coli</i> by Spraydeposited Au:Zno Thin Films	2017	1781771886215	Apple Academic Press USA

d. Research Paper:

Sr. No.	Title with page Nos.	Journal	ISSN / ISBN No.	Impact Factor, if any
1	Sequential photocatalysis and biological treatment for the enhanced degradation of the persistent azo dye methyl red 115-122	Journal of Hazardous Materials 371, 115-122	0304-3894	14.224
2	Photo-corrosion inhibition and photoactivity enhancement with tailored zinc oxide thin films	Journal of Photochemistry and Photobiology B: Biology	1011-1344/1873-2682	6.841
3	Photoelectrocatalytic decolorization and degradation of textile effluent using ZnO thin films 201-107	Journal of Photochemistry and Photobiology B: Biology	1011-1344/1873-2682	6.841
4	Intracellular Biosynthesis of Silver Nanoparticles using Streptomyces species	Research Journal of Biotechnology Vol.4(3)	2278-4535 0973-6263	
5	Photoelectrocatalytic degradation of oxalic acid by spray deposited	Journal of alloys and compounds	0925-8388/1873-4669	6.371

	nanocrystalline zinc oxide thin films 237-243			
6	Structural, morphological, optical and photoluminescence properties of Ag-doped zinc oxide thin films 64-70	Materials Express	2158-5849/2012-064007	1.650
7	Photoelectrocatalytic hydrolysis of starch by using sprayed ZnO thin films 053001	Journal of Semiconductors	1674-4926	0.418
8	Photoelectrocatalytic activity of spray deposited ZnO thin films against E. coli Davis 417-424	Materials Research Innovations	1432-8917	0.283
9	Synthesis of ZnO: TiO ₂ Nanocomposite Thin Films by Spraypyrolysis 55-58	International Journal of Science and Engineering	2322-0015	-
10	Effect of substrate temperature and concentration on spray deposited zinc oxide thin films	Material Science An Indian Journal	0974-7486	
11	Biosynthesis of Silver Nanoparticles and its Bacterial study on AgNP 123-126	Research Journal of Biotechnology	2278-4535 /0973-6263	-
12	Structural And Magnetic Properties of Zn-Mg-Ti Ferrite System	Material Science An Indian Journal	0974-7486	Preer Reviewed
13	Effect Of Deposition Current on Crystallites Size of Electrodeposited CdSe Thin Films	Material Science An Indian Journal	0974-7486	Preer Reviewed
14	Photoelectrocatalytic purification of fecal, tap and E.coli contained water using ZnO thin films 42-49.	International Journal of Basic and Applied Research		Preer Reviewed
16	Photoelectrocatalytic hydrolysis of starch by sprayed ZnO thin film 250-255	Material Science An Indian Journal. Trade Science MSAIJ, 7(4), 2011 [250-255]	0974-7486 Trade Science	
16	Photoelectrocatalytic Degradation of Methylene Blue and Inactivation of Escherichia coli by Spray Deposited	Journal of Waterpurification and purification research	2394-7306 STM Journal	Peer Reviewed
17	Plug and Play Electrodeposition Cell: A Case Study of Bismuth Ferrite Thin Films for Photoelectrochemical Water Splitting 7 pp	ECS Journal of Solid State Science and Technology, Volume 11, Number 1 2022	IOP Publishing	2.07
18	Review on Waste Water under Different Regions and Water Purification Techniques and Their Limitations	IJISSET - International Journal of Innovative Science, Engineering & Technology, Vol. 10 Issue 08, August 2023	ISSN (Online) 2348 – 7968	6.72

e. Research Project:

Sr.	Title	Agency	Year of	Whether Co-PI	Grant (Rs.)
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No.			completion		Lakh)
	Sprayed Nanocomposite Thin Films for Water Purification(02 Years 2014-2016)	BCUD, SPPU, Pune	2016	Principal Investigator	2,10,000/-
	Synthesis of large area ZnO thin films by spray pyrolysis(02 Years 2008 – 2010)	BCUD, SPPU, Pune	2010	Principal Investigator	1,10,000/-

f. Papers presented in Seminar / Conference:

Sr. No.	Invited Talk/ Resource Person/ Session Chair/ Title of the paper	Title of Conference /Seminar and Organizer	Level- International (Abroad/within country) /National / State / University
Invited Talk			
1.	Invited Talk		
1.	Invited Talk	2 nd International conference on nanostructured materials and nanocomposite Organizer: international and interuniversity center for Nanoscience and nanotechnology M.G. university, Kottayam During: 19-21 December 2014	International
2	Invited Talk	3 rd International conference on nanostructured materials and nanocomposite. Organizer: Hindustan College of science and technology Agra During: 12-14 December 2015	International
3	Invited Talk	2 nd International conference on advanced materials for power engineering Organizer: international and interuniversity center for Nanoscience and nanotechnology M.G.	International

		university, Kottayam During : 11-13 November 2016	
4	Invited Talk	Induction program for 1 st year engineering student Organizer: Walchand College of Engineering, Sangli During: 24 August 2019	National
2	Resource Person		
1	Resource Person	Science Academy Refresher course in Experimental Physics-XXIX at SICES degree college of arts, science and commerce, Ambarnath. Organizer: Indian Academy of Bangalore, During 7-22 June 2011	National
2	Resource Person	Science Academy Refresher course in Experimental Physics-XXIX at VIT Chennai Organizer: Indian Academy of Bangalore, During : 4-19 December 2012	National
3	Resource Person	Science Academy Refresher course in Experimental Physics-XXIX at T.C.College, Baramati Organizer: Indian Academy of Bangalore, During : 7-23 November 2013	National
4	Resource Person	Science Academy Refresher course in Experimental Physics-XXIX at V.P.College, Baramati Organizer: Indian Academy of Bangalore, During : 14-29 May 2013	National
5	Resource Person	Science Academy Refresher course in Experimental Physics-XXIX at ISC	National

		Bengaluru Organizer: Indian Academy of Bangalore, During : 7-23 November 2013	
6	Resource Person	Two days national level conference on Recent interdisciplinary approach in chemical , physical and life science Organizer: Anantrao Pawar college, Pirangut, Mulsi During: 11-12 January 2021	National
7	Resource Person	One day national seminar on revised accreditation framework and institutional Preparation: and review Organizer: Vidhya Bharti Mahavidyalaya, Amravati During: 9 March 2019	National
8	Resource Person	National conference on Advanced functional materials: Synthesis, characterization and application. Organizer: V.P.College, Baramati During : 3-4 January 2020	National
9	Resource Person	Member co-ordinator for Mock Peer Team of NAAC Organizer: Dhahiwadi College, Dhahiwadi During: 27 March 2017	National
10	Resource Person	Member co-ordinator for Mock Peer Team of NAAC Organizer: Shrimati Indira mahadeo beharay College, Khed, Ratnagiri During: 06 September 2017	National
11	Resource Person	Preparation for NAAC in 3 rd cycle Organizer: Mudhoji College,	National

		Phaltan, satara During: 11 March 2017	
12	Resource Person	Internal Audit for ISO 9001: Continual Management Services, Aurangabad Organizer: T.C.College, Baramati During : 5-6 October 2012	National
13	Resource Person	Residential nature traning camp Oragnaizer : Sahyadri Adventure, Patan During : 24-7 December 2016	National
14	Resource Person	Annual Prise distribution organized by Yashwantrao Chavan Vidhyalay, Wadjal, Satara During: 26 Febury 2015	National
15	Resource Person	41th National Science exibhition organized by Rajya Vidhyan Sanshta Nagpur during 31 Jan -4 Feb 2016	National
3	Session Chair		
1	Session Chair	18 th National seminar of Physics and technology of sensors Organizer: Department of Physics, T.C.College, Baramati During : 6-8 March 2014	National
2	Session Chair	2 nd International conference on nanostructured materials and nanocomposite Organizer: international and interuniversity center for Nanoscience and nanotechnology M.G. university, Kottayam During: 19-21 December 2014	International
3	Session Chair	2 nd International conference on	International

		nanostructured materials and nanocomposite Organizer: international and interuniversity center for Nanoscience and nanotechnology M.G. university, Kottayam During: 19-21 December 2014	
4	Session Chair	3 nd International conference on nanostructured materials and nanocomposite. Organizer: Hindustan College of science and technology Agra During: 12-14 December 2015	International
5	Session Chair	2 nd International conference on advanced materials for power engineering Organizer: international and interuniversity center for Nanoscience and nanotechnology M.G. university, Kottayam During : 11-13 November 2016	International
4	Paper Presentation in Seminars / Conferences		

Paper Presentation in Seminars / Conferences

1	Spray deposited ZnO thin film for water purification	Innovation 2016: Regional research conference organized by Baburavji Gholap College, Sangvi, Pune during 7 october 2016	National Level
2	Thermodynamic model of a global warming	National conference on global warming and its consequences organised by Shardabai Pawar mahila mahavidhyala,	National Level

		barmati During 10-12 January 2008	
3	Spray deposited TiO ₂ thin film for water purification	Innovation 2016: Regional research conference organized by H.V.Desai College,during 22-23 November 2010	National Level
4	Photoelectrocatalytic hydrolysis ZnO thin film	National Conference on recent trends in material science organized by Jaypee University of information Technology, Waknaghat, Solan,H.P.India during 8-10 October 2011	National Level
5	Photocatalytic inactivation of Ecoli, Salmonella, Bacillus, Staphylococcus by Au doped ZnO thin films	Two days international conference on recent trends and issues of renewable energy organized by Department of Physics, Mahatma Gandhi University, Nalgolanda during 29-3 March 2012	National Level
6	Synthesis of large area ZnO thin films by spray pyrolysis	Innovation 2012: Regional research conference organized by Bhartiya Jain Darma art, science college pune during 26-27 March 2012	National Level
7	Statistical approach for optimization And preparing ZnO thin films	National conference on recent developments in mathematics and statistics organized by Department of	National Level

		Statistics, T.C.College, Baramati During : 14-16 February 2013	
8	Charactatiration of Refractory	National Seminar on electro and magneto ceramic devices and systems organized by Department of Physics and electronics Shankrrao Mohite Mahavidhyalay, akulj during 21-22 october 2002	National Level
9	Synthesis, characterization and photoelectrocaytic application spray deposited zno-TiO ₂ nanocomposite thin films	3 rd international conference on nanstructred materials and nanocomposites organized by hindhustan college of science and technology Farah, Mathura during 12-14 December 2015	International Level
10	Structural properties of spray deposited zno thin films on Al foil	1 st International conference on Physics of materials and material based device fabrication (ICPM- MDF 2012) organized by Department of Physics, Shivaji University, Kolhapur during 17-19 January 2012	International Level
11	Physical properties of sprayed hin films	1 st International conference on Physics of materials and material based device fabrication (ICPM- MDF 2012) organized by Department of	International Level

		Physics, Shivaji University, Kolhapur during 17-19 January 2012	
12	Structural, morphological, optical photoluminamce properties of doped ZnO thin films	1 st International conference on Physics of materials and material based device fabrication (ICPM-MDF 2012) organized by Department of Physics, Shivaji University, Kolhapur during 17-19 January 2012	International Level
13	Prepartio of ZnO thin films by s pyrolysis and design of experin	1 st International conference on Physics of materials and material based device fabrication (ICPM-MDF 2012) organized by Department of Physics, Shivaji University, Kolhapur during 17-19 January 2012	International Level
14	Photoelectrocatalytic hydrolysis starch by sprayed ZnO thin fil	RTMS 11	National Level
15	Spray deposited nanocrystalline oxide thin films: Effect of subs temperature	ANNMS 2012	National Level
16	Degradation of Methylene Blue using spray deposited composite thin films	International conference on plant research and resource management and 25 th APSI silver Jubilee Scientist Meet organized by T.C.College, Baramati during 11-13 Feb 2016	International Level

17	Synthesis of Silver Nano Collidal from medicinal plant extract and its antimicrobial activity	International conference on Empowering society with microbial technology (ICESMT)-2019 organized by Post-Graduate department of Microbiology, T.C.College, Baramati during 7-9 Feb 2019	International Level
18	Photoelectrocatalytic inactivation of E. coli, Davis by sprayed V ₂ O ₅ /TiO ₂ thin films under visible light	International conference on Empowering society with microbial technology (ICESMT)-2019 organized by Post-Graduate department of Microbiology, T.C.College, Baramati during 7-9 Feb 2019	International Level
19	Photocatalytic degradation of methylene blue using ZnO nanoparticles synthesized by hydrothermal method	International conference of applied nanotechnology and Nanoscience organized by T.C.College Baramati and Nano-Molecular Society, India during 7-9 December 2017	International Level
20	Effect of UV irradiation on dielectric properties of Salicylic acid doped polyimide thin films of polypyrrole	International conference of applied nanotechnology and Nanoscience organized by T.C.College Baramati and Nano-Molecular Society, India during 7-9 December 2017	International Level
21	Composite thin films of ZnO: TiO ₂ by spray pyrolysis technique	International conference of applied nanotechnology and	International Level

		Nanoscience organized by T.C.College Baramati and Nano-Molecular Society, India during 7-9 December 2017	
22	Compositional impact on growth surface properties of chemically deposited Cu _{1-x} Ni _x hydroxide film	International conference of applied nanotechnology and Nanoscience organized by T.C.College Baramati and Nano	International Level
23	Coupled multilayer photoelectrocatalytic electrode-microbial system used for decolorization and degradation of AZO dye methyl red	International conference of applied nanotechnology and Nanoscience organized by T.C.College Baramati and Nano	International Level
24	Sprayed nanostructured Cu; Zn film for inactivation of bacteria	International conference of applied nanotechnology and Nanoscience organized by T.C.College Baramati and Nano	International Level
25	Humidity sensing mechanism of PANI/ZNO nanocomposite	International conference of applied nanotechnology and Nanoscience organized by T.C.College Baramati and Nano	International Level
26	PANI doped SnO ₂ /ZnO nanocomposite humidity sensor	International conference of applied nanotechnology and Nanoscience organized by T.C.College Baramati and Nano	International Level
27	Study of electrical properties of oxide thick film in presence of gas	International conference of applied nanotechnology and Nanoscience organized	International Level

		by T.C.College Baramati and Nano	
28	Humidity sensing characteristic porous ZnO/SnO ₂ doped thick	International conference of applied nanotechnology and Nanoscience organized by T.C.College Baramati and Nano	International Level
29	Spectroscopic study of Poly (S/Ply (Vinyl acetate) composite films with salicylic acid as dop synthesized by Isothermal Evaporation technique	International conference of applied nanotechnology and Nanoscience organized by T.C.College Baramati and Nano	International Level
30	Synthesis and characterization thin films by SILAR Method	National conference on frontiers of chemistry and materials organized by Post graduate Department of Chemistry, T.C.College, Baramati 12-14 Feb 2015	National Level
31	Cu _{0.5} Zn _x Ni _{0.5-x} Fe ₂ O ₄ nanosoft ferrites synthesized by sol autocombustion method	National conference on frontiers of chemistry and materials organized by Post graduate Department of Chemistry, T.C.College, Baramati 12	National Level
32	PBS thin layer coating over sp deposited ZNO nanowires by cl bath deposition	National conference on frontiers of chemistry and materials organized by Post graduate Department of Chemistry, T.C.College, Baramati 12	National Level
33	Synthesis and characterization doped NiCo ferrite by using au	National conference on frontiers of chemistry	National Level

	ignition method	and materials organized by Post graduate Department of Chemistry, T.C.College, Baramati 12	
34	Chemical growth of Cu(OH) ₂ films electrodes for supercapacitors	National conference on frontiers of chemistry and materials organized by Post graduate Department of Chemistry, T.C.College, Baramati 12	National Level
35	Biosynthesis of CdS, ZnS and nanoparticles using Streptomyces rameus strain NBR	National conference on frontiers of chemistry and materials organized by Post graduate Department of Chemistry, T.C.College, Baramati 2012	National Level
36	Structural and optical properties of doped ZnO thin films	National conference on frontiers of chemistry and materials organized by Post graduate Department of Chemistry, T.C.College, Baramati 2012	National Level
37	Green synthesis of Silver nanoparticles using plant extracts	National conference on frontiers of chemistry and materials organized by Post graduate Department of Chemistry, T.C.College, Baramati 2012	National Level

Full Paper in Conference Proceedings

1	Photo-bio coupling treatment for degradation of AZO dye methyl red	International conference on plant research and resource management and 25 th APSI silver Jubilee Scientist Meet organized by T.C.College, Baramati during 11-13 Feb 2016	International Level 978-81-924850-2-7
			Total

g. Patents published/Register: Nill

12) Research Guidance:

a) Guide ship Details

Sr. No.	M.Phil./ Ph.D. Guide	Name of University	Month & Year of recognition	No. of Research Scholars	
				Completed	Perusing
1	PhD	SPPU Pune	2017	Nil	4

b) Research Guidance

Sr No	PRN	Name of student	Title	Date of Registration	Category	Mobile no	Address	Amount to be paid
1	21030213937	Supriya Jyotiram Shinde	Studies on Synthesis of Transition Metal Nickel Phosphate Composite as an Electrode Material for Supercapacitor	12-04-2022	EWS	9370736434	A/p - Pimpali ,Tal-baramati, Dist-Pune.	20950
2	21030151709	Jayashri Vitthal Waghmode	Studies on Synthesis and Characterization of TiO ₂ based Heterostructured Films for Purification of Waste Water	12-04-2022	NT-(C)	7798540635	AP Malegaon BK Taluka Baramati District Pune	650
3	21030089531	Sagar Kundlik Sodmise	Studies on Photoelectrocatalytic Water Splitting By Sprayed Bi-Based Heterostructured Films	12-04-2022	OBC	7666205283	A/P Somanthali , Tal-Phaltan, Dist- Satara	650

4	2103 0198 358	Ashwini Dattatray Jadhav	"Studies on Enhanced Photoelectrolysis of Water for Hydrogen Generation by a nanocomposite of g-C ₃ N ₄ -Metal Oxide thin film."	15-07-2022	Open	9970452289	A/P Jadhavwadi, Tal- Malshiras,Di st-Solapur Pin-413111	30950
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13) Professional recognition / award/ fellowship etc.

Sr. No.	Fellowship / Award	Year	International /National	Awarding Academic Body/ Association
1	Certificate of Excellence awarded by Nano and Molecular society , New Delhi, on 9 th Dec. 2017	2017	National	NMS
2	Global Faculty Award	2020	International	GBS

14) E-Content Development:

Sr. No	Title of Content	Level (UG/ PG / ALL)	Platform	Link of E-Content
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15) Work Experience on Academic Bodies and other:

Sr. No.	Designation/ Position	Duration	Name of Institute / University	Details
-	-	-	-	-

16) Life Membership of Profession Bodies:

Sr. No.	Name of Professional Body
1	Parivartan Munch Patan
2	Sahadri Advancher Patan
3	Nanomolecular Society Delhi

17) Any other Attainment:

18)

a) Contribution in Design of new curricula /courses

Sr. No.	Design of new curricula /courses
1	One day workshop on F.Y.B.Sc new syllabus organized by V.P.College, Baramati During 4 July 2008
2	One day workshop on F.Y.B.sc Syllabus revision organized by Abasaheb Garware College, Pune During 13 August 2008
3	Workshop on Restructing of F.Y,b.Sc Physics syllabus organized by Prof. Ramkrushna More Art, Commerce and Science college Akurdi during 12 Februry 2013
4	Restructrng of T.Y.B.sc Syllabus Theory organized by Baburaoji Gholap College, Sangvi, Pune During 28 January 2015
5	T.Y.B.Sc. Physics Syllabus framing meeting organized by Department of Physics , TuljaramChaturchand College, Baramati Syllabus on 07/04/2021.
6	F.Y.B.Sc./ M.Sc-I Physics Syllabus framing meeting organized by Department of Physics
7	S.Y.B.Sc. Physics Syllabus framing meeting organized by Department of Physics

- b) Details of Conferences / Seminars / Workshops organized as **a Co- Convener** at State/National/ International levels.

Sr. No.	Name of the Event Conferences / Seminars / Workshops	Level State/National/ International	Date organized	Name of the Funding agency
1.	International conference of applied nanotech logy and Nanoscience organized by T.C.College Baramati and Nano-Molecular Society, India during 7-9 December 2017	International	7-9 December 2017	BCUD

- c) Efforts made for all-round personality development of students.

- Personal Guidance
- Learning by Hands on training
- Learning by Field visits
- Time line Education
- Creating interests in research
- Learning trough Projects

- d) Significant achievements-

Teaching Advanced Quantum Mechanics from last 20 years to UG and PG. Applied Density Functional Theory for designing new materials with this connection collaborative work started with , Dr Mali Koriya , Dr Deniss (Ghana) , NCAL New Delhi, Delhi University , Shivaji University Kolhapur, etc