

## Curriculum Vitae



**Name** : Dr. Sugandha V. Khangar (Wagh)

**Qualification** : M.Sc. Ph.D. (Physics)

**Designation** : Assistant Professor

**College** : Department of Physics, Shri Sivaji Education Society  
Amravati's, "Science  
College", Congress Nagar, Nagpur. 440012.

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Manewada- Besa Road Nagpur  
Pin: 440027

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**Date of Birth** : 10/06/1985

**Nationality** : Indian

**Google Scholar ID** : fBqdC-UAAAAJ&hl

**ORCID ID** : 0009-0008-4463-7317

**Vidwan ID-** : 544987

Profile [URL:- https://vidwan.inflibnet.ac.in/profile/544987](https://vidwan.inflibnet.ac.in/profile/544987)

### Academic Qualification Details :

Examination passed	College/ Institute	Board/ University	Subject/ Specialization	Year of passing	Division/G rade
Ph.D.	PGTD of Physics, Campus Amravati Road Nagpur	RTM Nagpur University, Nagpur	Ultrasonic Study of Polymer solution (Physics)	2015	NA
M.Sc.	PGTD of Physics, Campus, Amravati Road Nagpur	RTM Nagpur University, Nagpur	Condensed Matter Physics	2008	I
B.Sc.	Anand Niketan College Warora	RTM Nagpur University, Nagpur	Physics, Electronics, Mathematics	2006	I
H.S.S.C.	Anand Niketan College Warora	Divisional Board Nagpur	General Science	2003	II

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SSC	Lokmanya Girl's high school Warora	Divisional Board Nagpur	Eng, Marathi, Hindi-sanskrit, maths, Sci, Soc. Sci	2001	I
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### Work Experience Details:

SN	College Name/ Society Name	University	Date: From	Date: to	UG/ PG	Year
1.	Shri Sivaji Education Society Amravati (Science College, Congress Nagar, Nagpur)	RTMNU	5/01/2022	Till Date	UG, PG	2.8 yr 2.8 yr
2.	Shri Sivaji Education Society Amravati (Mahatma Fule Mahavidyalaya Warud)	SGBAU	20/09/2019	4/01/2022	UG	2.3 yrs
3.	Saraswati Mahila Mahavidyalaya Saoner (No-grant) <b>(Regular)</b>	RTMNU	1/01/2019	19/09/2019	UG	9 months
4.	PGTD of Physics, Campus, Amravati Road Nagpur & Mohota Science College Nagpur <b>(CHB)</b>	RTMNU	1/07/2017	19/09/2019	PG	2 yrs
5.	GNI Institution (GNIET) Kalmeshwar Road, Nagpur <b>(Regular)</b>	RTMNU	11/05/2015	29/04/2017	UG	2 yrs
6.	GNI Institution (CICET) Koradi Road, Nagpur <b>(Regular)</b>	RTMNU	1/7/2014	10/05/2015	UG	1 yrs
7.	V.M. Institute of Engineering & Technology, Dongargaon, Nagpur. <b>(Adhoc)</b>	RTMNU	26/07/2010	31/05/2012.	UG	2 yrs
8.	Wainganga College of Engineering & Management Dongargaon, Nagpur <b>(Adhoc)</b>	RTMNU	1 <sup>st</sup> August 2008 to	23 July 2010.	UG	2 yrs

**Experience: Teaching** : UG: 13 Yrs PG: 04 Yrs, 8 Months

**Research** : 5 Yrs

**Ph.D. Thesis Title** : **Ultrasonic and Related Studies in Advanced Organic Polymer Solutions**

**Ph.D. Supervisor** : Dr. Omprakash P. Chimankar

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**Ph.D. Co-Supervisor** : Dr. Vivek D. Bhandakkar

**Area of Research** : Ultrasonics

**Ph.D/M.Phil Guidance** : Nil

**International Paper Published** : 14

**Paper Presented** : International 07                      National 12

**Book Chapter Published** : 02

**Invited Talk & Guest Lectures** : 2

**Conference/Workshop Attended** : International 06                      National 12

**NPTEL Courses** : 04

**Udemy Courses** : 01



**Induction Program:** 01 HRDC Amravati (7 Sept 2020-6 Oct 2020)

**Refresher:** 02 – 1) HRDC Nagpur (10-22 January 2022), 2) 30 March- 12 April 2024







**Teaching Learning Centre Ramanujan College, University of Delhi**

## RESEARCH PROFILE





### 1. Research Papers published in journals:

Sr. No	Title	Name of Authors as mentioned in paper	Journal, Vol. No., Page No. Year	IF if any/ Peer reviewed	ISSN/ ISBN No.	Link of Paper
1.	Study of Miscibility of Aqueous Polyacrylamide (PAA) Solution	Sugandha V. Khangar and Omprakash P. Chimankar	International J. of Engineering and innovative technology (IJEIT) Volume 3, Issue 11; pp. 148-150,	Peer reviewed	ISSN: 2277-3754; May 2014	 UEIT1412201405df
2.	Ultrasonic Investigation of Dipole- Induced Interactions in Binary Solutions of Cellulose Acetate with	Khangar S. V. and Chimankar O.P.	International J. of Advanced Information Science and Technology (IJAIST) Vol. 25, No. 25; pp. 102-108,	Peer reviewed	ISSN: 2319-2682; May 2014	 Paper publishe IJAIST.PDF



## Curriculum Vitae

	Cyclohexanone and Carbontetrachloride (CCl <sub>4</sub> )					
3.	Study of Thermodynamical Properties of Aqueous Polyvinyl Pyrrolidone (Pvp) Solution	<b>Sugandha V. Khangar</b> , Omprakash P. Chimankar and V.D. Bhandakkar	(GJRA) Global J. of Research Analysis Vol. 3, Issue 6; pp- 73-76,	UGC care listed & Peer reviewed	<b>ISSN : 2277-8160</b> ; , June 2014	 file.php SVK.p
4.	Ultrasonic Characterization of Aqueous polyvinyl pyrrolidone (PVP)	<b>Sugandha V. Khangar</b> and Omprakash P. Chimankar	International journal of physical sciences	Peer reviewed	pp. 1351-1357, <b>ISSN: 2348-0130</b> ;4(10) 2014	 Khangar410201411487.pdf
5.	Ultrasonic Investigation of Dipole- Dipole Interaction in Binary Solution of Cellulose Acetate + Water	<b>Sugandha V. Khangar</b> and Omprakash P. Chimankar, Ranjeeta S Shriwas and Sushma Patil	International journal of Science and Research (IJSR)	Peer reviewed	pp. 331-334 <b>ISSN (online): 2319-7064</b> , 2015	 ISU-075.pdf sugandha.pc
6.	A Comparative Study of Molecular Interactions of Pure Cow Milk and Branded Milk	Ranjeeta Shriwas, O P Chimankar, <b>Sugandha Khangar</b> , R Turkar, S T Hiwarkar;	International journal of Science and Research (IJSR) pp. 261-262,	Peer reviewed	<b>ISSN (online): 2319-7064</b> , 2015	 ISU-057.pdf sugandha.pc
7.	Molecular interaction study of Linolic acid with $\alpha$ -tocopherol by ultrasonic technique	Sushma Patil , M.S. Deshpande , <b>Sugandha V. Khangar</b> , Omprakash P. Chimankar and Atul N. Wagh	Palegia Research Library, Der-Chemica- Sinica pp. 361-366,	Peer reviewed	<b>ISSN online: 0976-8505</b>  2015	 pelegia.pdf
8.	Study of highly viscous polyacrylamide	<b>Sugandha V. Khangar</b> , O. P. Chimankar, D.	Journal of Pure and Applied Ultrasonics	UGC Care listed & Peer	2019 <b>ISSN 025</b>	 JPAU-41(4), 2019.pdf

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	and measurement of viscosity and ultrasonic velocity	V. Nandanwar, J. N. Ramteke & Swapnil Kale	(JPAU) Volume 41, pp 94-96-	reviewed	6-4637	
9.	Ultrasonic and spectroscopic investigation of polychloroprene and polymethyl methacrylate Blends	Sushma Patil, M.S. Deshpande, <b>Sugandha V. Khangar</b> , Omprakash P. Chimankar	Acoustical Society of America (ASA) Volume 38, Issue 4-;	UGC Care listed & Peer reviewed	ISSN: 0001-4966; 2020	 POMA-D-20-00008.pdf
10.	Frequency and Temperature Dependence of Ultrasonic Properties of Aqueous PVA solutions Using Pulse-Echo Technique	<b>S. V. Khangar (Wagh)</b> <sup>1</sup> , O. P. Chimankar <sup>2</sup> , R. Y. Bakale <sup>1</sup> , Y.S Tamgadge <sup>1</sup> , S. H. Nimkar <sup>2</sup>	International Journal of Scientific Research in Science and Technology	Peer reviewed	Print ISSN: 2395-6011   Online ISSN: 2395-602X (www.ijrsr.com)   IJSRST   Volume 8 - Issue ; 2021	 RAMAN PDF.p
11.	Study of Doped Blend Film and Its Application as a Sensor Material	R Y Bakale <sup>1</sup> , Y G Bakale* <sup>2</sup> , <b>S V Khangar</b> <sup>1</sup>	International Journal of Scientific Research in Science and Technology	Peer reviewed	2395-602X (www.ijrsr.com)   IJSRST   Volume 8 - Issue ; 2021	 RAMAN PDF.p
12.	Synthesis and Nonlinear Optical Absorption of L-Valine Capped Zn-Doped MgO Nanoparticles	Yuoraj S. Tamgadge,* Gajanan G. Muley, Narendra B. Thakre, <b>Sugandha V. Khangar</b> , Rajesh P. Ganorkar, and	Macromolecular symposia	IF : 0.913  Web of Science & Peer reviewed	<a href="http://www.ms-journal.de">www.ms-journal.de</a> 2022	 macromolecular svk paper.pc

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		Reena Y. Bakale;				
13.	Ultrasonic and Spectroscopic investigation of aqueous polyvinyl alcohol (PVA) solutions	<b>S. V. Khangar</b> , O. P. Chimankar, Y.S Tamgadge & R. Y. Bakale	R. P. Trends in Applied sciences by Research Plateau Vol.2 No. 4 pp 78-83	Peer reviewed	e-ISSN: 2583-7486 2023	 Sugandha PVA current trends.
14.	Optical Properties of Polymethyl methacrylate/Poly vinyl chloride Blends	R. Y. Bakale, Y. G. Bakale, Y.S Tamgadge, R. P. Ganorkar & <b>S. V. Khangar</b> ,	R. P. Trends in Applied sciences by Research Plateau Vol.2 No. 4 pp 84-89	Peer reviewed	e-ISSN: 2583-7486 2023	 Sugandha Paper Current trends.
15.	Relaxation behavior of polymer thin film	R.Y. Bakale,*, Y.G. Bakale, Y.S.Tamgadge ,R.P.Ganorkar, S.V. Khangar	RP Current Trends in Applied Sciences Vol. 3, No. 2 (April – June 2024) pp. 43–46	Peer reviewed	e-ISSN: 2583-7486	
16.	Structural and optical properties of L-alanine passivated ZnS nanoparticles	Y.S.Tamgadge ,*P.P. Gedam, R.Y. Bakale, R.P. Ganorkar, S.V. Khangar, G.G. Muley	RP Current Trends In Applied Sciences Vol. 3, No. 2 (April – June 2024) pp. 35–38	Peer reviewed	e-ISSN: 2583-7486	

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### 2. Full Papers in Conference proceedings:

Sr. No.	Name of Conference	Level	Title of Paper	Name of Authors as mentioned in paper	Place & Date	ISSN/ ISBN No.
1.	International Symposium on Ultrasonics	International	Ultrasonic Investigation of Dipole-Dipole Interaction in Binary Solution of Cellulose Acetate + Water	<b>Sugandha V. Khangar</b> and Omprakash P. Chimankar, Ranjeeta S Shriwas and Sushma Patil	22- 24 January 2015 Dept of Physics Campus Nagpur	pp. 331-334 <b>ISSN (online): 2319-7064,</b>

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2.	International Symposium on Ultrasonics	International	A Comparative Study of Molecular Interactions of Pure Cow Milk and Branded Milk	Ranjeeta Shriwas, O P Chimankar, <b>Sugandha Khangar</b> , R Turkar, S T Hiwarkar;	22- 24 January 2015 Dept of Physics Campus Nagpur	pp. 261-262, <b>ISSN (online): 2319-7064,</b>
3.	<b>Advanced material in industries</b>	<b>National conference</b>	“Preparation and ultrasonic characterization of polystyrene with CCl <sub>4</sub> , C <sub>6</sub> H <sub>6</sub> & CS <sub>2</sub> for industrial applications	<b>Sugandha Khangar</b> , O.P.Chimankar, Ranjeeta Shriwas, and V. D. Bhandakkar	10 <sup>th</sup> -11 <sup>th</sup> February - 2012, I.Y. College, Jogeshwari, Mumbai;	
4.	Material preparation and characterization	National seminar	Study of polymer-solvent interaction in aqueous hydroxyl ethyl and propyl cellulose	<b>S.V. Khangar</b> , O.P.Chimankar, R.S. Shriwas, V.D. Bhandakkar and D. Ganvir	24 <sup>th</sup> Feb 2013, UGC Sponsored and Sindhu Mahavidyalaya , Nagpur	
5	Material preparation and characterization	National seminar	Intermolecular interaction in Soybean oil+ Ethanol by ultrasonic measurements	Ranjeeta Shriwas, O.P.Chimankar, <b>S.V. Khangar</b> , R.H. Dongarwar and S. Jajodia	24 <sup>th</sup> Feb 2013, UGC Sponsored and Sindhu Mahavidyalaya , Nagpur	
6.	VIMARSH	National conference	Ultrasonic velocity and density studies in some Refined	Ranjeeta Shriwas, O.P.Chimankar, <b>S.V. Khangar</b> , and S. Jajodia	12 <sup>th</sup> -13 <sup>th</sup> Sept. 2013, Chouksey Engineering College Bilaspur.	

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			and Unrefined Oils		CGCOST sponsored	
7.	Advance material, NCAM-.	National conference	Study of compatibility in aqueous Polyvinyl Pyrrolidone (PVP) using Pulse Echo Technique	<b>S.V.Khangar</b> , O.P.Chimankar and V.D.Bhandakkar	2014, Katol UGC sponsored and department of Physics Nabira Mahavidyalaya Katol	P.P.179 181, ISBN : 97893 81432 709
8.	Ultrasonics(NSU-XX),.	National symposium	Study of miscibility of aqueous polyacrylamide (PAA solution)	<b>S.V.Khangar</b> and O.P.Chimankar	, Jan 2014 Department of Physics, Ravenshaw University, Cuttack	pp 246-249
9.						

### 3. Papers presented in Conferences / Seminar / Symposia / Workshop:

Sr. No.	Title of Paper	Title of Event	Level	Date	Organizer
1.	Estimation of volume expansivity polystyrene with CCl <sub>4</sub> , C <sub>6</sub> H <sub>6</sub> & CS <sub>2</sub> solution	Innovations in Basic Sciences in the Realm of Modern Education	National Seminar	27 <sup>th</sup> & 28 <sup>th</sup> Dec.2008	UGC, CSIR, DST, J.B. Science College Wardha
2.	“Preparation and ultrasonic characterization of polystyrene with CCl <sub>4</sub> , C <sub>6</sub> H <sub>6</sub> & CS <sub>2</sub> for industrial applications	National conference	National	10 <sup>th</sup> -11 <sup>th</sup> February -2012	, I.Y. College, Jogeshwari, Mumbai;
3.	-----	National Conference on Ultrasonics	National Conference	2012	National Physical Laboratory, New Delhi



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4.	Study of polymer-solvent interaction in aqueous hydroxyl ethyl and propyl cellulose	Material preparation and characterization	National Seminar	24 <sup>th</sup> Feb 2013	, UGC Sponsored and Sindhu Mahavidyalaya, Nagpur.
5.	“Ultrasonic characterization of various thermo acoustic parameters of Tussar silk in aqueous KOH”	Nanomaterials: New Horizon for Betterment of Mankind	National Conference	2013	Shree Shivaji Science College Nagpur
6.	Ultrasonic velocity and density studies in some Refined and Unrefined Oils	VIMARSH	National conference	12 <sup>th</sup> - 13 <sup>th</sup> Sept. 2013	Chouksey Engineering College Bilaspur. CGCOST sponsored
7.	“Molecular Interaction studies of Polyvinyl Pyrrolidone (PVP) in aqueous medium.	Acoustics 2013	international conference	Nov. 11-15, 2013	NPL, New Delhi,
8.	Ultrasonic Investigation of Dipole- Dipole Interaction in Binary Solution of Cellulose Acetate + Water	Ultrasonics (ICU) 2015	International Symposium	22- 24 January 2015	Dept of Physics Campus Nagpur
9.	Ultrasonic Investigation of Dipole- Dipole Interaction in Binary Solution of Cellulose Acetate	Ultrasonics (ICU) 2015	International Symposium	22- 24 January 2015	Dept of Physics Campus Nagpur

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	+ Water				
10.	Thermodynamical studies of polyblend solutions.	ISU 2015	Poster Presentation International Symposium	22- 24 January 2015	Department of Physics RTMNU, Nagpur.
11.	“Ultrasonic and spectroscopic investigation of aqueous polyvinyl (PVA) alcohol solutions”	Recent Trends in Material Science & Devices	International  Invited talk	22-23 July 2023	Research Plateau & GAV Degree College, Patauda, JhajJar, Haryana
12.	Optical properties of polymer blend of polymethyl methacrylate and polyvinyl chloride copolymer	GC-RASM 2022 2 <sup>nd</sup> Global Conference on Recent Advancements in Sustainable Material	International Oral presentation Presentation	28-29 July 2022	A.J. Institute of Engineering & Technology Mangaluru, Karnataka, India.
13	Ultrasonic Investigation of Molecular Interactions in aqueous Polyacrylamide (PAA) Solution	Indian Science Congress (ISCA-2023)	National  Oral presentation Presentation	3-7 January 2023	RTMNU Campus
14	Ultrasonic and spectroscopic investigation of aqueous polyvinyl alcohol (PVA) solution	ICRTMD - 2023	International Invited talk	22-23 July 2023	Research Plateau Publishers & G.A.V. Degree College, Patauda, Jhajjar, Haryana, India
15	Ultrasonic and spectroscopic investigation of synthetic polymer (PAA) solution	Advanced Sustainable Futuristic material	International  Oral presentation	26-27 April 2024	Kamala Neharu Mahavidyalaya Nagpur, Sharda University Greater Noida & CSIR NEERI, Nagpur

#### 4. Conferences / Seminar / Symposia / Workshop Attended:

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Sr. No.	Theme	Level	Date	Organizer
1.	Advanced Technologies in Materials and Crystals.	National Conference	28 <sup>th</sup> & 29 <sup>th</sup> Jan. 2008	Dr. Ambedkar College RTM Nagpur University
2.	Materials Preparation & Characterization.	National Seminar	30-31 March, 2007	R. T. M. Nagpur, held at VANAMATI-Nagpur
3.	VIRTUAL LAB	In- House faculty training Programme	23 Oct 2015	GNIET in association with IIT Bombay
4.	Optical properties of polymer blend of polymethyl methacrylate and polyvinyl chloride copolymer	GC-RASM 2022 2 <sup>nd</sup> Global Conference on Recent Advancements in Sustainable Material	28-29 July 2022	A.J. Institute of Engineering & Technology Mangaluru, Karnataka, India.
5.	Ultrasonic Investigation of Molecular Interactions in aqueous Polyacrylamide (PAA) Solution	Indian Science Congress (ISCA-2023)	3-7 January 2023	RTMNU Campus

### 5. Invited Lectures & session Chairmanship: Nil

Sr. No.	Title	Academic Session	Event	Level	Date	Organizer
1.	<b>Research Methodology</b>	2021-2022	Guest Lecture	University level	20 May 2022	S. Chandra Mahila Mahavidyalaya, Ashti"; Gondwana University
2.	VUPTA Seminar PG Seminar	2021-2022	Session Chairmanship	Vidharbha level	19-20 March	"Vidya Vikas Arts, Commerce College" Samudrapur, Dist: Wardha
3.	"Ultrasonic and spectroscopic investigation of aqueous polyvinyl (PVA) alcohol solutions"	2023-2024	Invited talk International Conference Recent Trends in Material Science & Devices	International Level	22-23 July 2023	Research Plateau & GAV Degree College, Patauda, JhajJar, Haryana

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### 6. Research Projects (Minor/Small Grants): Nil

Sr. No.	Project Title	Duration and Cost	Status
1.	Ultrasonic Assisted Lithium Extraction from Used/ Waste Batteries	24 months & 3 lacs	Submitted on August 2024

### 7. Training Courses, Teaching-Learning-Evaluation Technology Programmes, Faculty Development Programmes (not less than one week duration)

Sr. No.	Programme	Duration	Organized By
1.	Induction Program	7 <sup>th</sup> Septeber to 6 <sup>th</sup> October 2020	HRDC, SGBAU- Amaravati
2.	Refresher Course	10-22 January 2022	HRDC, RTMNU -Nagpur
3.	NPTEL-SWAYAM Experimental Physics -II (58%)	Jan-Apr-2020 (12-Week)	IIT -Kharagpur
4.	NPTEL-SWAYAM Experimental Physics -I (60%)	Sept-Dec 2020 (12-Week)	IIT -Kharagpur
5.	NPTEL-SWAYAM Experimental Physics -III (60%)	Jan-Apr 2022 (12-Week)	IIT -Kharagpur
6.	NPTEL-SWAYAM Nuclear and Particle Physics (56%)	Jul-Oct 2023 (12- Week)	IIT- Guhawati
7	A Boot Camp to Nuclear Physics	15/ 05/2021 to 15/06/2022	MOOC (Udemy)
8	Refresher Course	30/03/2024-12/04/2024	Teaching Learning Centre Ramanujan College, University of Delhi under the aegis of Malaviya Mission Teacher Training Programme

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### 8. Articles/Chapters published in Book:02 , No. of Books: 02

Sr. No.	Title & Page No.	Book Title, Editor & Publisher	ISSN/ISBN No.	Authors	Whether Main authors
1.	<b>“Molecular Interactions of Ultrasonic Parameters in aqueous Polymer solutions”</b>	<b>INTERDISCIPLINARY RESEARCH AND INNOVATION</b>	<b>ISBN: 978-81-947154-6-7</b>	<b>S.V.Khangar, O.P.Chimankar, R. Y. Bakale , Y. S. Tamgadge</b>	yes
2.	<b>CONDUCTION MECHANISM OF BLEND POLYMER FILM</b>	<b>INTERDISCIPLINARY RESEARCH AND INNOVATION</b>	<b>ISBN: 978-81-947154-6-7</b>	<b>R Y Bakale, Y G Bakale and S V Khangar</b>	No
3.	<b>Book-</b>	<b>Experiments in Physics, Published by ENVINZOA Pub</b>	978-81-957599-0-3	S. V. Khangar, Y.D. Chaudhari, Y. S. Tamgadge, S. R. Daf, R. Y. Bakale	NA

### 9. Events Organized:

Sr. No.	Events	Level	Organized by	Date	Position
1.	One Day National Seminar on Life & Work of S N Bose	National	IAPT in association with Science College, Congress Nagar, Nagpur on Online Platform	27 January 2024	Contributed as a Physics Society Convener
2.	One Day Workshop (OJT) On Job Training	College	Dept. of Physics SSES, Science College in association with Physics Society	13 February 2024	Contributed as a Physics Society Convener
3.	Two Days Workshop on ExpEyes	National	Department of Physics, Science College in Association with IAPT (SRC) 08E(Vidarbha)	28-29 August 2024	Contributed as a Member
4.	Guest Lecture organized by Physics Society	College	Department of Physics (Physics Society)	21 September 2024	Convener

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1. **Special Achievement:** Guest lecture delivered to UG students “S. Chandra Mahila Mahavidyalaya, Ashti”; Gondwana University April 2022.
2. Invited talk delivered in International Conference on Recent Trends in Material Science & Devices organized by Research Plateau & GAV Degree College, Patauda, Jhajjar, Haryana.

**10. Other Membership:**    **1. Life member of Ultrasonic Society of India ... Membership No: LM 254**

**2. Life Membership Indian Science Congress Association (ISCA) ...Membership No.: L42805**

**Signature**