



CV-Shobha A.Waghmode

Shobha A.Waghmode, PhD.

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https://www.youtube.com/channel/UC_UMghtkraOawJLe6hK46lg/videos

A. Professional Experience: Total = 26 years teaching experience.

- ✚ **July 2020- Head**, Department of Chemistry, MES Abasaheb Garware College, Pune-411004, India.
- ✚ **December 2008- Associate Professor**, Department of Chemistry, MES Abasaheb Garware College, Pune-411004, India.
- ✚ **July 1996-** Assistant Professor, Department of Chemistry, MES Abasaheb Garware College, Pune-411004, India.
- ✚ **January 1995-** Lecturer, Department of Chemistry, Sir Parshurambhau College, Pune 411030, India.
- ✚ **1st August 1994-** Lecturer, Department of Chemistry- PG section, Tuljaram Chaturchand College, Baramati, Dist. Pune, India.

B. Education

- ✚ **Ph. D.** (Chemistry), Department of Chemistry, Savitribai Phule Pune University, formerly University of Pune, India, 2000. Title of the thesis: “Iron II,III sites in iron-proteins modelled in iron complexes of bio-significant hydroxy naphthoquinone oximes and its derivatives”, under the guidance of Prof. Sandhya Y.Rane.
- ✚ **M. Sc.** (Inorganic Chemistry), Department of Chemistry, Savitribai Phule Pune University, formerly University of Pune, India, 1994.

- ✚ **B. Sc. (Chemistry)**, Department of Chemistry, Savitribai Phule Pune University, formerly University of Pune, India, 1992.
- ✚ **SET (State Eligibility Examination- Chemistry)**, Savitribai Phule Pune University, formerly University of Pune, India, 1995.
- ✚ Certificate Course in Yoga- Omkar Yoga Centre, Pune, 2017.

C. Awards

- ✚ **Best Teacher Award**, for the year 2019, Savitribai Phule Pune University, India.
- ✚ **Best Teacher Award** from D.Y.Patil Ajinkya University and Lions club of Poona, Pune, India. 2016.
- ✚ Summer Research Fellowship from **Indian Academy of Sciences**, Bangalore, Guide- Prof C.P.Rao, IIT Powai, Topic- Interaction of fluorescent guanidynylated calix[4]arene with ct-DNA, 2015.
- ✚ Prof B.C.Haldar- Young Scientist Award for oral presentation, in Indian Council of Chemists symposium held at Jaipur, India. 1995.
- ✚ Recognised PhD Guide – Savitribai Phule Pune University, Ref.No. BUTR/Science/48/107 dated 21/01/2013.
- ✚ Recognised Guide for M.Phil- SPPU -2013.

D. Patents Publications: 06

- ✚ S.A.Waghmode and A.Cukkemane, one pot synthesis of antimicrobial photo-active herbal core shell TiO₂ quantum dots, IP, 201721016132, (Publication date: May 26, 2017).
- ✚ S.A.Waghmode and A.Cukkemane, one pot synthesis of photo-active carbon based rod shaped TiO₂ quantum dots, IP, 201721016133, (Publication date: May 26, 2017).
- ✚ S.A.Waghmode and A.Cukkemane, one pot synthesis of photo-active bimetallic CuPd quantum dots with its antimicrobial activity, IP, 201721016134, (Publication date: May 26, 2017).
- ✚ S.A.Waghmode, B.Arora and V.Lokhande, one pot synthesis of antimicrobial photo-active herbal core shell silver quantum dots, IP, 201721016135, (Publication date: May 26, 2017).
- ✚ S.A.Waghmode, S.P.Dagade, V.K.Kalyankar and H.K.Meroliya, synthesis of lipase mediated metal nanoparticles as selective destaining detergents, IP, 201721019044, (Publication date: June 16, 2017).
- ✚ S.A.Waghmode and S.S. Pingale IP, 201921005787, Publication pending, 14th Feb 2019

E. Membership

- ✚ Life member of Indian Society of Nanomedicine(2019).
- ✚ Life member of the Society for Polymer Science India(2019).
- ✚ Fellow membership of world research associations No.FM/2020/0006 dated 19th April 2020.

F. Coordinator/Organiser

1. **Coordinator** of Nanotechnology courses for BSc and MSc, successfully conducted Summer Internship for Undergraduates during 15th May 2019 to 24th May 2019. Few Lecture sessions as well as Practical sessions conducted during this course. II) July 2020 with 202 student participation.
2. **Coordinator** for one day workshop, Fabrication and assembly of solar panels from natural fruit juice/Dye to produce electricity, on 28th September 2019 for post graduates as well as undergraduates.
3. **Coordinator** for one day workshop on Foldscope Microscopy -Nano-Micro Interaction on 21st May 2019, by Department of Chemistry, MES AGC, Pune.
4. **Coordinator** of Teacher's day program with prof Ramesh Gardas, IIT Madras, 5th Sept 2020.
5. **Coordinator** of Saturday meet (October) inaugural function organized on 26th sept.2020 with Shukla sir Kannouj UP.
6. Coordinator of Saturday meet 31st November 2020 with our Aluminus Dr.Dinesh Paymode, Post-doctoral Associate At Virginia USA.
7. **Organizer** as well as Resource person of **International E conference** on Foldscope on 20th and 21st June 2020.
8. **Coordinator** Sin 2020, 1st July to 10th July Summer Internship in Nanotechnology.
9. Coordinator to Implementation of Research Based pedagogical techniques (RBPT) to TYBSc students with Interdisciplinary approach, 2016-17.
10. Coordinator to implement Guru-Shishya-Setu program with corporation schools since 2016.
11. Organising committee member - one day workshop on writing research papers and proposals sponsored by BCUD, SPPU at Abasaheb Garware College, Pune, 2014.

G. Career Activities & Highlights

- ✚ Reviewer of 5+ peer-reviewed journals.
- ✚ Chairperson at National Conference at V.P.College Baramati, RTPCB Dec-2016
- ✚ Board of Studies member for vocational courses in University of Pune. 2014.
- ✚ Coordinator for vocational Industrial chemistry (UG courses), Abasaheb Garware College, Pune. 2008-2013.
- ✚ Jury member in ABHIKALP 2018 at Department of Chemistry SPPU, Pune- through DIC-SPPU.
- ✚ Judge at WE-GYAN 2018 Inter-collegiate Science Exhibition cum competition on 18th Dec 2018 Organized by MMCC Pune.
- ✚ Invited speaker at Refresher Course in Modern College, Shivajinagar, Pune on coreshell Nanomaterials, 4th Oct 2018.

- ✚ Resource Person - one day workshop on orientation of scientists and teachers of school, college and university on Foldscope microscopy at SKUAT- Jammu, on 4th Dec 2018. Topic of the talk- Nanomaterials synthesis and characterization.
- ✚ Resource Person - two days workshop under student exchange program at ADP College Nagoan College, Assam on 27th Nov.2018, Topic of the talk- correlation between Nanotechnology and herbal chemistry.
- ✚ Judge at R.J.Gandhi Lecture competition organized by T.C.College, Baramati, 16th Feb 2019.
- ✚ In charge of student's health scheme program with SPPU, 2018.
- ✚ IQAC -Criterion III Incharge 2020-21
- ✚ Industry Academia relationship committee Incharge 2019-2020

H. Research projects completed

Sr. No.	Title	Funding Agency	Period	Grant / Amount (Rs. Lakh)	Completed /Ongoing
1.	Bio-mimicking of Cu-Zn superoxide dismutase Enzyme,	UGC	2010 to 2012	1,05,000/-	Completed
2.	Splitting of carbon dioxide into oxygen and carbon moiety using Biomimetics of biological catalyts involved in Photosynthesis	ISRO-UoP-STC	2013 to 2015	9,13,000/-	Completed
3.	Preparation and Functionalization of Graphene for its biosensor applications.	BCUD-SPPU	2013 to 2015	2,30,000/-	Completed
4.	Selective capture and conversion of CO ₂ to methanol from direct air using MOFs supported polyamines.	ISRO-UoP-STC	2017 to 2020	15,00,000/-	Completed
5	Synthesis of core-shell nanoparticles using green approach as an antimicrobial agent	DBT-Foldscope	2018	8,00,000/-	Completed

I. Participation in Hands on training workshops: since 2012.

12. Participation in three-day workshop on 'Cultivation of aromatic crops and its processing and marketing organized by FFDC Kannouj U.P. during 23rd to 25th June 2020.
13. Participation in three-day workshop by FFDC, Kannouj UP, on Essential oil, perfumery and aromatherapy, on 14th July to 16th July 2020.

14. Invited Participant at CeNSE DBT ‘Nano-biotechnology Alliance (C-DNA)’ Inaugural workshop held at CeNSE IISc, Bangalore -4th and 5th November 2019.
15. Participation in workshop on hands on, ‘Soap making’ by APG learning center Pune on 28th November 2019.
16. Participated in the three days workshop on ‘Design and Developing MOOCs’ on 20th to 22nd August 2019 organized by TLC SPPU.
17. Participated in ‘Hydroponic Training Techniques’ Workshop on 22nd September 2019 by Simplee Grow, Pune.
18. Participation in **Foldscope Orientation Workshop**- Hands on training, ICGB, New Delhi, organized by Department of Biotechnology, Ministry of Science and Technology, Government of India. 16th-17th April 2018.
19. Participation in a one-day hands -on-workshop - **Organic Electronics** organized and conducted by Indo-German-Teachers-Program – Tata Institute of Fundamental Research, Mumbai and University of Cologne, Institute of Chemistry Education, Germany. Fabrication of low-cost organic LEDs and solar cells for educational purpose; 2nd Dec. 2017.
20. Participated in the **IP commercialization awareness workshop** in CIF_SPPU, Pune, 14 Feb 2018.
21. Participated in workshop on **professional skill** organized by CoESME IISER Pune. It was conducted by educationists, Prof.Micheal Zigmond and Dr.Beth Fisher from University of Pittsburg, USA, 26th Feb 2018.
22. Participated in the one day Workshop on ‘**Transdisciplinary Research and Capacity Building**’ organized by SPPU- Interdisciplinary school of Health Sciences and Centre for Complementary and Integrative Health (CCIH) Ayush Centre of Excellence (CoE); 17th March 2018.
23. Participated in workshop organized by Design Innovation Centre at SPPU on topic- Design Thinking Workshop, 19th Jan 2019.
24. Participated in the STEM Teacher Training workshop on Research –Based Pedagogical Tools (Level1) held at Indian Institute of Science Education and Research (IISER) Pune, jointly sponsored by DBT Gov. of India, British Council, and HRD Ministry, conducted by Experts from Centre of Science Education, Sheffield Hallam University, UK, from 26th Feb to 1st March, 2017.
25. Participated in Micro scale workshop on Micro scale techniques in physical chemistry, Abasaheb Garware College, Pune, Feb 2012.
26. Participated in PG syllabus revision for credit system, for SPPU at Abasaheb Garware College, Pune, Feb 2013.

27. Participated in UG syllabus – F.Y.BSc revision at Garware College, for Pune University, Oct 2013.
28. Participated in workshop organized by Design Innovation Centre at SPPU on 19th Jan 2019 on topic- Design Thinking Workshop.

J. Selected research/academic news in the social media

- 10th Nov 2013: <http://archive.indianexpress.com/news/garware-college-team-undertakes-Isro-sponsored-research/1193043/>
- Jan 2015: Pune Mirror has published winners of intercollegiate **Avishkar** competition conducted by SPPU, Pune
- Feb 2019: https://epaper.esakal.com/FlashClient/Client_Panel.aspx#currPage=1, Best teacher award – SPPU 2019.

K. PhD supervision

Sr. No	Name of the Student	Topic of Research	Current/Awarded
1	Dr.Vidya K.Kalyankar	Studies on superoxide dismutase enzyme from seeds of <i>Papaver somniferum</i> L. and SOD mimics”	Degree Awarded 4 th September (2017)
2	Dr.Omkar B.Pawar	Synthesis and characterization of transition metal complexes of 2,3-substituted-1,4-naphthoquinones	24 th Dec 2019 Degree awarded
3	Ms Vaishali Patil	Visible Light Photochemical Organic Transformations Using Bimetallic Nanoparticles: A Green Approach.	Current
4	Mrs.Asha Desai	Polyionic liquids as a green solvents	Current
5.	Mrs.Deepali Bhutala	Graphene Foam and its applications	Current
6	Mr.Amol Warungale	Coreshell nanomaterials for organic transformation	Current

L. Collaborations with International / National Institutions: (Research Collaborations of Dr. Waghmode Shobha)

Sr.No.	Name of the collaborator	Collaborating Institution	Period of collaboration	Nature of the Activity
1.	Dr. Mousmi Saikia	Dept. of Herbal Science and Technology, ADP College, Nagaon, Assam	2018-	Foldscope project for herbal analysis

2.	Dr. Renu Gupta	Dept. of Soil Science, Sher-E-Kashmir university, Jammu	2018-	Soil study from Jammu and Kashmir state
3.	Dr. Ramchandran	Dept. of Life Sciences, Central University of Kerala	2018-	Soil research during Tsunami
4.	Dr.Gaikwad A.P.	Agriculture College, Pune, Mycology Department. Mycologist , AICRP-Mushroom, Pune Centre , College of Agriculture , Pune.	2019-	Mushroom -Nano interaction study
5	Dr.Dagade S.P.	Y.M. College, Bharati Vidyapeeth	2010-	Organic transformation analysis and instrumentation
6	Dr.S.S.Pingale	Dept. Of Chemistry, SPPU	2017-	Computational chemistry research
7	Dr.Suresh Iyer	Organic Chemistry Division, NCL Pune.	2015-	Catalysis reactions using nanomaterials
8	Dr.Sameer Patwardhan	PC Technologies LLC , US based Edu tech company.	2019-	Solar panel assembling and energy generation through natural extracts
9	Dr. Manisha Khaladkar	Applied science department COEP , Pune	2015-	Metal complex study of many coordination molecules
10	Dr.Narendra Kumar Kumawat	Maharshi Arvind College of Pharmacy,Ambabari , Jaipur, Rajasthan 302039.	2019-	Pharmacy study of many Nano particles
11	Dr.Shankarlal Garg	World Researchers Associations, Vijay Nagar-452010, Indore, INDIA	2020-	Covid 19 and Indian scenario discussions through virtual meetings
12	Dr. Alwar Ramani	Herriot Watt University, United Kingdom	2020-	VLPC book writing discussions and chapter publication

13	Dr.Prashant Alegaonkar	Department of Physics, School of basic and applied sciences, Central University of Punjab, Bathinda, India.	2011-	Carbon based materials research
14	Dr. Dhiman Sarkar	Combichem lab, NCL Pune	2013-	Interaction of nanomaterials with actual cell line work
15	Dr.Vidya Gupta	Department of Biochemistry, NCL Pune	1997-	Metal complex -DNA interaction study
16	Dr.M.K.Dongare	NCL Innovation park, NCL Pune.	2000-	Catalysis reaction study
17	Dr. Atul Kulkarni	Symbiosis centre for nanoscience and nanotechnology, Pune.	2013-	Graphene FRET sensor designing
18	Dr. Pooja More	Skill development SPPU	2014-	Nano-Cellulose conductivity study.
19	Dr. Benny George and Dr. K. Abhilash	VSSC Trivandrum (ISRO Headquarter)	2013	CO ₂ utilization into fuel.

M. Publications

1. Pronnoy G. Bangar , Pradip D. Nahide , Heena K. Meroliya , Shobha A. Waghmode & Suresh Iyer (2020): Oxime ligands for Pd catalysis of the Mizoroki–Heck reaction, Suzuki–Miyaura coupling & annulation reactions, **Synthetic Communications**, DOI: 10.1080/00397911.2020.1826969 .
2. Covid 19: Indian Scenario with New Non-Natural Risk?? Shobha Waghmode, Apoorva Agarwal, Sharada Dagade-Gadale and Shankar Garg , 2020, Research J of Chem and Environment. Vol.24(5) May 2020, 152-157.
3. Nano materials as the good nutrient source for Precision Agriculture, Waghmode Shobha, Shete Siddhiprada, Maniwal Priyanka, Patole Vaishnavi and Mulay Shivani, International Journal of Agricultural Sciences and Veterinary Medicine Vol. 8 (3), August (2020),1-7.
4. Graphene Foam: Next Generation Graphene Analogue, Butala Deepali and Waghmode Shobha, Research Journal of Chemistry and Environment Vol. 24 (8) August (2020), 1-11.scopus
5. Kashid, A.A., Patil, D.J., Mali, R.D. Suresh Iyer and Shobha A.Waghmode *et al.* Bimetallic Ni–Pd Synergism—Mixed Metal Catalysis of the Mizoroki-Heck

Reaction and the Suzuki–Miyaura Coupling of Aryl Bromides. *Catal Lett* (2020).
<https://doi.org/10.1007/s10562-020-03330-9>.

6. Antineoplastic Activity of Alkylaminolapachol Analogues and their Copper Complexes against MDA-MB-231 Human Breast Cancer Cell Lines, Omkar Pawar, Shobha Waghmode and Manisha Khaladkar et al. *Asian Journal of Chemistry* 32(4):887-895 · March 2020. DOI: [10.14233/ajchem.2020.22496](https://doi.org/10.14233/ajchem.2020.22496).
7. Amal A. Muftah, Shobha Waghmode, Sharda Gadale (Dagade), ‘Green synthesis and antimicrobial activity of silver nanoparticles using ROSMARINUS OFFICINALIS leaves extract’, *Bio - Mat. Tech.* 1/1 (2019) 48 – 54.
8. Parenting behaviour in Indian Peafowl - Pune, Maharashtra, Shobha A. Waghmode and Siddhiprada Shete. *Ela Journal of Forestry and Wildlife* , Vol.8 (1 & 2): 569-572,30 June 2019,36-54 .
9. Heena Meroliya, Vaishali Patil, Nilesh Jadhav, Vikram Deshmukh, Vidya Kalyankar, Sharda dagade and Shobha Waghmode, Lipase mediated nanoparticles as a robust catalysts for VLPC assisted trans-esterification reaction. *The Pharma Innovation Journal* 2018; 7(1): 205-207.
10. Heena Meroliya, Vidya Kalyankar, and Shobha Waghmode, Synthesis of novel metal complexes of lawsone derivative and their applications in CO₂ utilization. *The Pharma Innovation Journal* 2018; 7(1): 132-135.
11. Vinod Mane, Shobha Waghmode and Sharada Dagade, Nanocrystalline Supported Ceria as a Highly Efficient Catalyst for The Oxidative Coupling of Thiophenol. *Research Journal of Pharmaceutical, Biological and Chemical sciences*, January–February 2018 *RJPBCS* 9(1) Page No. 80
12. Sarika Pawar, Vidya Kalyankar, Bela Dhamangaonkar, Sharada Dagade, Shobha Waghmode and Abhishek Cukkemane, Biochemical profiling of antifungal activity of betel leaf (*Piper betle* L.) extract and its significance in traditional medicine, *J Adv Res Biotech*, 2017, 2(1): 4.
13. J.M. Deshmukh, L.H. Mahind, S.A. Waghmode and S.P. Dagade, Study of catalytic activity of silica supported Schiff base complexes, *Asian Journal of Chemistry*, 29, 7, 1455, 2017.
14. Bhide Gauri, Kalyankar Vidya, Dagade Sharada and Waghmode Shobha, Synthesis and characterization of Ag/AgO nano particles as alcohol sensor, , *Research J. of Chem. and Environment*, Vol.20(10) October 2016. scopus
15. Nigam Joshi P. And Waghmode S Graphene quantum dot-based on-chip electrochemical DNA hybridization sensor for pancreatic cancer, **Reports in Electrochemistry**, Vol 2016-6, 14th November 2016, 31-40.
16. Kalyankar V. K., Dagade P. M, Dagade S.P and Waghmode S. A. Biosynthesis of Silver nanoparticles using isolated superoxide dismutase enzyme from novel source *Papaverum somniferum* L. Vol. 19 (3) March (2015) *Res. J. Chem. Environ. Scopus*

17. Omkar Pawar, Neelima Deshpande, Sharada Dagade, Preeti Nigam-Joshie, Shobha Waghmode. Green synthesis of silver nanoparticles from purple acid phosphatase apo-enzyme isolated from a new source *Limonia acidissima*. **J.of Expt.Nanoscience**,doi.org/10.1080/17458080.2015.1025300, Published online: 27 Mar **2015**.
18. Vinod B. Mane , Jayamala M. Deshmukh , Shobha A Waghmode and Sharda P. Dagade. Surface Characterization and Catalytic Activity of Cobalt Promoted MoO₃/SiO₂ Solid Acid Catalysts. International Journal of ChemTech Research CODEN (USA): IJCRGG ISSN: 0974-4290 Vol.8, No.8, pp 310-317, **2015**.
19. Preeti Nigam, Shobha Waghmode, Michelle Louis, Shishanka Wangnoo, Pooja Chavan and Dhiman Sarkar. Graphene quantum dots conjugated albumin nanoparticles for targeted drug delivery and imaging of pancreatic cancer. **J. Mater. Chem. B**, **2014**, 2, 3190-3195, DOI: 10.1039/C4TB00015C.
20. Preeti Nigam, Shobha Waghmode and Dhiman Sarkar. Aptamer Functionalized Multifunctional Fluorescent Nanotheranostic Platform for Pancreatic Cancer. **Journal of Nanopharmaceutics and Drug Delivery**, Volume 2, Number 4, December **2014**, pp.280-287(8) ASP.
21. VB Mane, SP Chavan, RJ Sayyad, JM Deshmukh, SA Waghmode, and SP Dagade. Liquid Phase Oxidation of Benzhydrol by Using Nano Crystalline Iron Supported on Ceria Mixed Oxide Catalysts., Research Journal of Pharmaceutical, Biological and Chemical Sciences, September - October **2014** RJPBCS 5(5) Page No. 803.
22. Siddhiprada Shete, Shriya Shende, Ketaki Bhagwat, Sharada Dagade, Neelima Deshpande and Shobha Waghmode. Green synthesis of silver chloride nanoparticles by using rosa macdub petal extract International Journal of Biosciences and Nanoscience, Volume 1 (5), **2014**, pp.96-99.
23. Vinod Mane, Mahind Lalaso, Shobha Waghmode, K. D. Jadhav, M. K. Dongare, Sharda P. Dagade. Nitration of benzene using mixed oxide catalyst. **IOSR Journal of Applied Chemistry**, (IOSR-JAC) e-ISSN: 2278-5736. Volume 7, Issue 7 Ver. II. (July. **2014**), PP 50-57
24. VB Mane, SP Chavan, RJ Sayyad, JM Deshmukh, SA Waghmode, and SP Dagade One pot synthesis of benzimidazole derivatives by using solid acid catalysts at RT. April **2015**. Bionano frontiers 2320-9593.
25. A.P.Alegaonkar, ArvindKumar, P.S.Alegaonkar, S.A.Waghmode & S.K.Pardeshi. Exchange interaction of itinerant electron donors of tetrakis (dimethyl amino) ethylenewith localized-electrons in graphene, **Synthesis and Reactivity in Inorganic,metalorganicandNano-etlchemistry**,DOI10.1080/15533174.2013.817421, Published online: 19 Dec 2013. Volume 44, Issue 10, 2014.
26. V. B. Mane, L. H. Mahind, K. D. Jadhav, S. A. Waghmode and S. P. Dagade; Structural Characterization of Nanosized Fe₂O₃-CeO₂ catalysts by XRD, EDX andTEM Techniques, Carbon – Sci. Tech. 5/2 (**2013**) 260 – 264; ISSN 0974 – 0546.
27. Shobha Waghmode, Pooja Chavan, Vidya Kalyankar, and Sharada Dagade. Synthesis of Silver Nanoparticles Using *Triticum aestivum* and Its Effect on Peroxide Catalytic

Activity and Toxicology. **Journal of Chemistry**, Volume **2013**, Article ID 265864, 5 pages, <http://dx.doi.org/10.1155/2013/265864>.

28. L. H. Mahind, S.A Waghmode, Avinash Nawale, V. B. Mane and S. P. Dagade; Evaluation of Antimicrobial Activities of Zirconium (IV) Complex ; IOSR Journal of Pharmacy and Biological Sciences (*IOSR-JPBS*) e-ISSN: 2278-3008. *Volume 5, Issue 4* (Mar. – Apr. **2013**), PP 102-105. 10.9790/3008-05410210
29. Shobha Waghmode, Vidya Kalyankar, and Sharada Dagade, B.J Bhadbahde, S.Sabharwal. Synthesis and characterisation of novel bimetallic Cu II –Zn II complexes: Antimicrobial and superoxide dismutase activity. Page 60-66, Res. J. Chem. Environ., Volume 17, No. (2), Pages 1-83, February (**2013**), scopus
30. S. P. Dagade, V. B. Mane, A. A. Jape, S. A. Waghmode, V.V. Dhapte and L. H. Mahind, Synthesis, Characterization and Antimicrobial study of Cr(III), Mn(II), Y(III) and Zr(IV) Schiff base complexes, Int. J.of Chem. and Anal.Sci., **2012**, 3(12), 1672-1674
31. Santosh Zaware, Shobha Dagade-Waghmode, Rajesh Gonnade, D.Srinivas and Sandhya Rane. Magnetic phase transition in valence tautomeric concomitant polymorphs of 3-iodo-lawsone: X-ray single crystal, DSC and EPR studies. **J.Mol.Struct.**Vol.938,1-3, (**2009**) 328-335.
32. Shobha A.Waghmode, Sadgopal K.Date, Vidya S.Gupta and Sandhya Y.Rane, Structure-function mimicry of oxidized purple acid phosphatase-PAPox: A new functional model. Indian J.of Chem.,Vol.49A, (**2010**)1023-1029.
33. S.Y.Rane, S.P.Dagade-Waghmode, D.Srinivas, V.S.Gupta and Khursheed Ahmed, Evidence of Topoisomerase Type Function at metal constellation of spPAP radical enzyme. Indian J.Chem.Sec.A, 41(1) (**2000**) 48.
34. Shobha Dagade – Waghmode, S.Y.Rane and S.V.Bhide Correlation of the activity of purple acid phosphatase with the microenvironment of metal ion.. Int.J.Mendel, Vol. 21 (3-4), 79-80, **2004**.

N. Book Chapters.

1. Foldscope and Its Applications, published by National press associates New Delhi. **ISBN No:978-93-85835-68-1**, Worked as an Editor for the same book. Chapter title, “Green synthetic approach core shell nanomaterials: as an antimicrobial agents”.
2. Visible light photo catalysis of aldehyde and carbonyl functionalities, an innovative domain , Alwar Ramani^{*b}, Shobha Waghmode^c, Suresh Iyer^{*a}, IntechOpen Publication, 01.04.2020, London

O. Participation and publication in conference/seminar/proceedings

1. Dr.Shobha Waghmode, Oral presentation In **National symposium** on, **New horizons on Women Studies in Twenty first Century**, organized by AGC, on 30th-31st Jan 2020, **entitled**, “Women entrepreneurship in Indian Perspective”.

2. Dr.Shobha Waghmode, Poster presentation in **International Conference on Emerging Trends in Delivery of Phytoconstituents and Ethnopharmacology-Validation of Traditional Medicine-II**, 29th-30th November 2019, organized by Poona College of Pharmacy, Bharati Vidyapeeth, Pune with AICTE, Govt of India and Society for Ethnopharmacology India-Pune chapter. **Title of the Poster**, ‘Study of Biological applications of Coreshell Nanoparticles.
3. Shreya Bhonge, Aishwarya Tekale,Pallavi Raut,Vaishali Patil,Heena Meroliya,Vidya Kalyankar,Sharada Dagade,Suresh Iyer And Shobha Waghmode, Bimetallic Nanoparticle Assisted Suzuki And Heck C-C Coupling Reactions, Participated in **International Conference** for poster presentation in - Advance Catalysis For Energy And Environment(CACEE-2018),Tata Institute Of Fundamental Research(TIFR) Mumbai, 10-12 Jan -2018.
4. Heena Meroliya, Vaishali Patil,Nilesh Jadhav, Vikram Deshmukh, Vidya Kalyankar,Sharada dagade and Shobha Waghmode, Lipase mediated nanoparticles as a robust catalysts for VLPC assisted trans-esterification reaction, Participated in **National Conference** for poster presentation in - Chemical Science :An Interdisciplinary Approach(CSIA-2018)Modern College of Ganeshkhind, Pune-16,January 18-20, 2018.
5. Heena Meroliya,Vidya Kalyankar, and Shobha Waghmode, Synthesis of novel metal complexes of lawsone derivative and their applications in CO₂ utilization. Participated in **National Conference** for oral presentation in - Chemical Science: An Interdisciplinary Approach(CSIA-2018)Modern College of Ganeshkhind, Pune-16 ,January 18-20, 2018
6. Heena Meroliya, Vidya Kalyankar, Shweta Shete, Vaishali Patil Sharada Dagade and Shobha Waghmode. Comparative study of microbial Inhibition activity between bimetallic nanoparticles and standard antibiotics. Participated in **International Conference** for oral presentation in - Nanotechnology for Human Welfare 2018 (ICNHW), Haribhai V. Desai College, Pune, MS, India,1-3 Feb 2018.
7. Vaishnavi Taple, Diksha Dhanawale, Heena Meroliya and Shobha Waghmode*,Synthesis of nanomaterial embedded Bio-plastic, Participated in **International Conference** for poster presentation in - Microbial Technology For Better Tomorrow(**ICMTBT-2018**).D.Y.Patil College Pune, February 17-19 2018.

8. Vaishnavi Ghume, Pratiksha Jadhav, Shilpa Shingade, Heena Meroliya, Niranjana Patil and Shobha Waghmode, Dye industry water effluent analysis / treatment by using microbial and chemical method. Participated in **International Conference** for poster presentation in - Microbial Technology For Better Tomorrow(**ICMTBT-2018**). D.Y.Patil College Pune, February 17-19 2018.
9. Rupali Kamble, Heena Meroliya, Vidya Kalyankar, Sharada Dagade, Amit Chaudhari, Dhiman Sarkar and Shobha Waghmode*¹, Effect of Photosensitizers In Photodynamic Therapy., Participated in **International Conference** for poster presentation in - Microbial Technology for Better Tomorrow(**ICMTBT-2018**). D.Y.Patil College Pune. February 17-19 2018.
10. Participation and poster presentation on topic 'Utilization of CO₂ by using Ionic Liquid functionalized metal oxide Nanomaterials in Carbon capture **International** conference at NCL – Pune on 14th and 15th Dec 2018.
11. Participation and poster presentation on topic, Nano composites of bio polymeric chitosan as a peroxidase nanozymes, in **International** conference SPSI-MACRO 2018 at IISER Pune SPSI -MACRO on 19-22nd Dec 2018.
12. Natural cellulosic fiber as a Humidity Sensor, Vidya Kalyankar, Mahesh Salunkhe, Prashant More, Heena Meroliya, Sharada Dagade, Shobha A. Waghmode*., Proceeding of **International conference** on Advances in Materials Science ISBN 978-93-5254-490-5 409. ICAMS- (ICAMS – 2016) on 7th – 8th December 2016, Raje Ramrao Mahavidyalaya, Jath, Sangli, India. **Best poster presentation** in International conference at Jath Sangli Maharashtra, 2016.
13. Formylation of N-H bonds with CO₂ as an alternative to Photo and Electrochemical methods, Vaishnavi Kulkarni, Vidya Kalyankar, Sharada Dagade and Shobha Waghmode*, **National conference** on Innovative Research in Chemical Sciences, (IRCS-2017), 1-2 Feb-2017, Shivaji University, Kolhapur, India.
14. Nanoconjugates of metal nanoparticles with Chitosan and Graphene oxide as a peroxidase mimics, Vidya Kalyankar, Mrunali Dudhane, Abhaya Zirpe, Sharada Dagade* and Shobha A. Waghmode*, **National conference** on Innovative Research in Chemical Sciences, (IRCS-2017), 1-2 Feb-2017, Shivaji University, Kolhapur, India.
15. Synthesis & characterization of MOFs for gas adsorption studies, Digamber Nemade, Sunil Kapure, Vidya Kalyankar, Sharada Dagade* and Shobha A. Waghmode*, **National conference** on Innovative Research in Chemical Sciences, (IRCS-2017), 1-2 Feb-2017, Shivaji University, Kolhapur, India.

16. Reduction of graphene oxide to graphene by using green approach, Parshuram Aswale, Vidya Kalyankar, Sonali Naik, Sharada Dagade, Chetan Bhongale , and Shobha Waghmode*. **National Conference** on Recent Trends in Physical, Chemical and Biosciences [RTPCB-2016], 16th & 17th December, 2016, Department of Chemistry Vidya Pratishthan's Arts, Science & Commerce College Baramati, Pune.
17. Cu-Ni bimetallic Nano particle catalysed Heck coupling, Prashant More, Mahesh Salunkhe, Vidya Kalyankar, Sharada Dagade, Suresh Iyer and Shobha Waghmode*. **National Conference** on Recent Trends in Physical, Chemical and Biosciences [RTPCB-2016], 16th & 17th December, 2016, Department of Chemistry Vidya Pratishthan's Arts, Science & Commerce College Baramati, Pune.
18. Visible light photo catalysed trans esterification using enzyme nano conjugates, Sarita Rajmane, Smita Javare, Vidya Kalyankar, Sharada Dagade* and Shobha Waghmode* **National Conference** on Recent Trends in Physical, Chemical and Biosciences [RTPCB-2016], 16th & 17th December, 2016, Department of Chemistry Vidya Pratishthan's Arts, Science & Commerce College Baramati, Pune.
19. "Synthesis of metal nano powder using biodiesel waste: Glycerol", Heena Meroliya, Sunil Kadam, Kalyani Chaitanya **Vidya Kalyankar**, Sharada Dagade, **Shobha Waghmode*** **Third prize** for poster presentation in National Seminar on New horizons in chemical environmental science, Vashi, Navi Mumbai on 30th January 2016.
20. "Biosynthesis of stable Cu nanoparticles: Green Approach", Hitesh Salunkhe, Chanchal Kasat, Prasad Rasane, Rohit Chavhan Heena Meroliya¹, **Vidya Kalyankar**¹ Sharada Dagade² and **Shobha Waghmode**^{1*} presented poster in National Seminar on New horizons in chemical environmental science , Vashi, Navi Mumbai on 30th January 2016.
21. "Artificial photosynthesis using superoxide dismutase model", **Vidya Kalyankar**, Gauri Bhide, Sunil Joshi, Sharada Dagade, and **Shobha Waghmode**^{1*1} presented poster in International conference, HSDS-2016, PUNE held at Abeda Inamdar College, Pune on 7- 9 January 2016
22. "Utilization of Glycerol, waste of biodiesel for the synthesis of Nano particles: A green approach" , Sunil Kadam, Heena Meroliya, **Vidya Kalyankar**, Sonali Naik,

- Shobha Waghmode** * presented poster in International conference, HSDS-2016,PUNE held at Abeda Inamdar College, Pune on 7- 9 January 2016
23. “Tagging of 2 amino- 1, 4 naphthoquinone with silver nanoparticles using green approach and its biological assay”, Devyani Kamble, Abhilasha Adulkar, Heena Meroliya, **Vidya Kalyankar**, Sharada Dagade²and **Shobha Waghmode*** **3rd Consolation prize** for poster presentation in National Seminar on Interface between Colleges and Industry with reference to Synthetic Organic Chemistry and Spectroscopy(ICISOCS-2016)in Shrirampur Dist.Ahmednagar on 16th January 2016.
 24. “Metal nanoparticles as an alcohol sensitizer”, Yugandhara Girme,Yogita Jogdand, Rohit Chavhan, Heena Meroliya, Vidya Kalyankar, **Shobha Waghmode*** · **Best poster award** in National Seminar on Interface between Colleges and Industry with reference to Synthetic Organic Chemistry and Spectroscopy(ICISOCS-2016)in Shrirampur Dist.Ahmednagar on 16th January 2016.
 25. “Synthesis and spectral analysis of lawsone derivatives: A novel dye”, **Vidya K. Kalyankar**, Sharada Dagade and **Shobha A. Waghmode*** received,**First prize in oral** presentation at National Seminar on Interface between Colleges and Industry with reference to Synthetic Organic Chemistry and Spectroscopy(ICISOCS-2016) in Shrirampur, Dist.Ahmednagar on 16th January 2016
 26. Dr.Shobha Waghmode -Selected as Mentor at inter university level competition at **Avishkar**, organised by SPPU Dec 2014.Agnp synthesis from enzyme.
 27. Synthesis of Fe-Zn bimetallic complex and its application in electrochemical biosensing of parathion, **Omkar Pawar**¹, Gauri Bhide¹, Shobha Waghmode¹, Dhiman Sarkar², Preeti Nigam Joshi², **International conference on structural Inorganic chemistry**, Dec 4-5 2014, NCL Pune.
 28. Synthesis of Photoluminescence Silver Nanoparticles and Their Use as Ethanol Sensor, Vidya Kalyankar^a, Priyanka Dagade^a, Dada Marale^a, Pooja More^{*b}, Vipul Dhongade^b, R. C. Aiyer^b and Shobha Waghmode^{*a}, **National conference on advances in chemical sciences** , NCACS-2014 , 19-20 Dec 2014 , F.C College, Pune.
 29. Synthesis of silver nano particles from superoxide dismutase enzyme using *Papver somniferum L.*; **International workshop on Nanotechnology and Advanced**

- functional materials (NTAFM-2013),at NCL, Pune**, Proc.Abst.No. PS-117, Page no.141, July 24-25, (2013); Vidya Kalyankar^a, Sharada Dagade^b and **Shobha Waghmode^{a*}**.
- 30.** Biogenic synthesis of silver nanoparticles using Rumex vesicarius plant extract; **International workshop on Nanotechnology and Advanced functional materials (NTAFM-2013),at NCL, Pune**, Proc.Abst.No. PS-134, Page no.158, July 24-25, (2013); Vidya Kalyankar^a, Sharada Dagade^b and **Shobha Waghmode^{a*}**.
- 31.** Peroxide activity of silver nanoparticles with a greener approach.; published in Bionano frontier journal, Vol.6, issue -4, ISSN 0974-0678, Oct. 2013 page no. 194-197. Poster presentation in **National conference on emerging trends in laser and advanced materials (NCETLAM 2013) , Oct 28-29 (2013)**, Dept. of Physics, Vidya Kalyankar^a, Sharada Dagade^b and **Shobha Waghmode^{a*}**.
- 32.** Folic acid functionalized graphene quantum dots for cancer cell imaging, **16th CRSI National symposium in Chemistry, Feb 7-9 , 2014 ; IIT Bombay ; P-465 , Shobha Waghmode***, Preeti Nigam-Joshi, and Dhiman Sarkar.
- 33.** Antimicrobial and antitumor activity of tagged 2-amino 1,4 naphthoquinone with silver nanoparticles., **2nd Internatinal conference on Herbal and Synthetic drugs studies, (HSDS-2014) 10-12 Feb 2014, organised by Interdisciplinary science and technology research academy (ISTRA) Azam campus, Pune.** P-105 , Page No. 78, Vidya Kalyankar^a, Pallavi Vedpathak^a , Omkar Pawar^a, Priyanka Dagade^a, Anurag Pujari^b, Sharwari Dixit^b, Alpana Moghe^c, Neelima Deshpande^{b*} and **Shobha Waghmode^{a*} , Best Poster consolation award for this work as Mentor.**
- 34.** Green synthesized silver nanoparticles used as ethanol sensor, Accepted for oral presentation in **18th National seminar on Physics and Technology of sensors, (NSPTS-2014), 6-8 March 2014, T.C. College, Baramati, Shobha Waghmode^{a*},Pooja More^{b*}, Pooja Chavan^a, Dada Marale^a, Atul Sanas^a Vipul Dhongade^b, R. C. Aiyer^b.**
- 35.** Structural Characterization of Nanosized Fe₂O₃-CeO₂ Catalysts by XRD, EDX and TEM Techniques.,S. P. Dagade, V. B. Mane, **S. A. Waghmode*** and L. H. Mahind, oral presentation for **Nanocon012, 2nd International conference of nanotechnology**, 18-19 Oct.2012 BVUCOE ,Pune, India.

36. Characterizations On Tetrakis (Dimethyl Amino) Ethylene–Treated–Graphene , A. P.Alegaonkar^{1,3}, Arvind Kumar², P. S. Alegaonkar², **S. A. Waghmode**^{3,*}, S. K. Pardeshi paper published in proceedings of ,**International Symposium on macro and supramolecular architectures and materials MAM12** 21st-25th Nov 2012, at Coimbatore.
37. **Shobha A. Waghmode**^{*a}, Darbha Srinivas^b, Kirti D. Badave^c & Sandhya Y. Rane; **International conference on Emerging trends in chemistry**, Dept.of Chemistry, University of Pune, 5-7 Jan 2010.
38. Investigations on valence tautomeric coordinations in model compounds of non-heme proteins : Mossbauer, EPR, Magnetic and Cyclic voltametric studies.Sunita D.Gawali, Khursheed Ahmed, Francois Varret, Jorge Linares, JeromeMarrot, **Shobha P.Dagade-Waghmode**, Sadgopal K.Date and Sandhya Y.Rane. **Sixth Workshop on Mossbauer Spectroscopy, at Seeheim, GERMANY, June 7-11 (2006).**
39. Evidence of topoisomerase type function at metal constellation in spPAP radical enzyme.**International symposium on advances in Bioinorganic Chemistry (ISABC-2000),at TIFR, Mumbai, Proc.Abst.No. p 11 pp.61, November 20-24 (2000) S.P.Dagade,S.Y.Rane, D.Sriniwas, V.S.Gupta and Khursheed Ahmed.**
40. Antimicrobial and Biological Activity of bimetallic Cu-Zn Complex, Gouri Bhide^a, Vidya Kalyankar^a, , Sharada Dagade^b and Shobha Waghmode^a, poster presentation in national conference, current trends in chemistry organised by Y.M. college, Bharati Vidyapeet, Pune 12-13 Jan 2013.
41. Correlation of plant purple acid phosphatase with its bimetallic model complex, Rushant Nandkhile^a, Vidya Kalyankar^a, , Sharada Dagade^b and Shobha Waghmode^a, poster presentation in national conference, current trends in chemistry organised by Y.M. college, Bharati Vidyapeet, Pune 12-13 Jan 2013.
42. Correlation of superoxide dismutase enzyme from *Vetiveria Zizanoides* with its bimetallic (Cu-Zn) model complex, Vikas Jadhav^a, Vidya Kalyankar^a, , Sharada Dagade^b and Shobha Waghmode, poster presentation in national conference,
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- current trends in chemistry organised by Y.M. college, Bharati Vidyapeet, Pune 12-13 Jan 2013.
43. Synthesis of silver nanoparticles using *Triticum aestivum* and *Rumex vesicarius* : An investigation on the effect of plant variety in reduction mechanism and particle size, Pooja Chavan^a, Sonal Wankhede^a , Vidya Kalyankar^a, Varsha Honmore^a, Sharada Dagade^b and Shobha Waghmode^a , **Best poster award** poster presentation in national conference, current trends in chemistry organised by Y.M. college, Bharati Vidyapeet, Pune 12-13 Jan 2013.
 44. Antifungal effect of medicinal plant extract against fungus causing Wilt Disease of *Punica granatum* , Nayana Gandhi^a, Kamlesh Jangid^b, Bharti Bhadbhade^c, Bindu Arora^a and Shobha Waghmode^d , **Consolation prize**, poster presentation in national conference, current trends in chemistry organised by Y.M. college, Bharati Vidyapeet, Pune 12-13 Jan 2013.
 45. Effect of TiO₂ nanoparticles on clinical isolates of multi-drug resistant *Pseudomonas aeruginosa*. Madhura Murar^a, Shankar Laware^b, Bharti Bhadbhade^c, Bindu Arora^a and Shobha Waghmode^d, poster presentation in national conference, current trends in chemistry organised by Y.M. college, Bharati Vidyapeet, Pune 12-13 Jan 2013.
 46. Efficient oxidation catalyst by model complex of superoxide dismutase, , Vidya Kalyankar^a, Sudhir Phadtare^a, Priyanka dagade, Sharada Dagade^b and Shobha Waghmode^a, , poster presentation in national conference on Chalcogenides, organised by DIAT , Pune 14-15 Jan 2013.
 47. A Nano solution for antibiotic resistance of multi-drug resistant (MDR) *Pseudomonas aeruginosa*, Madhura Murar^a, Bindu Arora^a, Bharati Bhadbhade^b and Shobha Waghmode, poster presentation competition in National symposium IIT Bombay, 16 Feb 2013.
 48. Vapour phase nitration of benzene using solid acid catalysts, S P Dagade¹, Vinod B. Mane², Mahind Lalaso², **Shobha A. Waghmode**^{*2}, Shubhangi Umbarkar³, Mohan K. Dongare³, **poster presentation at Indian Science Congress – 2012** Materials Science, Bhivaneshware, 3-7Jan 2012.
 49. Attended GIST 2010 symposium on water organized by MES' Abasaheb Garware College Pune 26-27 Dec.2010.

50. *Asparagus racemosus*: A nutraceutical and a neuro tonic. **Shobha Waghmode-Dagade**, Ujawala Bapat, Shobha Bhide and Sandhya Rane.; **National conference on New frontiers in herbal and synthetic drug studies,(HSDS-2010)** Dept. of Chemistry, Abeda Inamdar college, Pune, 14-16 Jan 2010.
51. Bio- and physiological activities in spPAP enzyme : Kinetics and immune response, **S.P.Dagade-Waghmode**, S.Y.Rane, Khursheed Ahmed and S.Ranade. Proceedings of Current **Trends in Inorganic Chemistry (CTIC-2004)** at Department of Chemical technology, Cochin University, Cochin March 15-17, (2004).
52. A functional physiological activity model for the mixed –valent iron active site of PAPr enzyme, S.Y.Rane, S.D.Gawali, **S.P.Dagade** , Khursheed Ahmed , V.S.Gupta, J.Linares and F.Varret. Proceedings of 10th Symposium on Modern Trends in Inorganic Chemistry (MTIC-2003) at IIT Mumbai, pp.7, Dec 15-17 (2003) .
53. Tyrosine radical function at active Fe III Mn II site performing spPAP as redox enzyme : EPR spectral and pUC 19 DNA cleavage evidences. Proceedings of Modern Trends in Inorganic Chemistry (MTIC-2000) p-59, IISC Bangalore 2000. S.Y.Rane, **S.P.Dagade** V.S.Gupta and D.Sriniwas.
54. Triggering DNA cleavage activity in native PAP with Fe II,III model compounds. Proceedings of 10th Symposium on Modern Trends in Inorganic Chemistry (MTIC-1997)p-66 at Kanpur 1997. S.Y.Rane, **S.P.Dagade** and V.S.Gupta
55. Structural approach towards synthetic model of purple acid phosphatase : Studies on mixed valent complexes of iron. Proceedings of academy discussion meeting on frontiers in structural chemistry, p-33 IIT Madras, 1996. S.Y.Rane, **S.P.Dagade**, S.D.Gawali, V.S.Gupta and D.Sriniwas.
56. Mimicks of non-heme oxidized Purple Acid Phosphatase : A functional model approach. Proceedings of Current Trends in Inorganic Chemistry (CTIC-2004) at Department of Chemical technology, Cochin University, March 15-17, (2004). S.Y.Rane, **S.P.Dagade** and S.K.Date

57. Metal DNA interaction using model compound of PAP. Proc. Of national seminar on research in Chemistry at college level, p-7 A.G.College Pune , 1998.S.Y.Rane, **S.P.Dagade** and .S.Gupta
58. Molecular mimicks of phphosphodiester bond hydrolysis in PAP Proc. Of Golden jubilee research student seminar : Susamwad, p-12.University of Pune , Pune 1998.S.Y.Rane, **S.P.Dagade** and .S.Gupta
59. Evidence for functionality of PAP enzyme by synthetic model compound.Proc. Of Annual ICC conference ,Abst-IO22 at Mangalore 1997S.Y.Rane,**S.P.Dagade**, P.PBakare and S.K.Date
60. Solid state magnetostructural correlations in dinuclear hydroxobridged iron II,III and monomer III chelates; thermal and IR spectral studies.Proc.of 32 nd Annual ICS convention of chemists Abst.A-4 at Jaipur 1995 **Shobha A.Waghmode**, Sandhya Y.Rane, P.P.Bakare and Sadgopal K.Date.
61. Properties of Con-A from jack beans : Role of metal ions in calcium manganese metalloprotein.S.Y.Rane , **Shobha A.Waghmode** , S.V.Bhide and J.P.Salvekar.Proc.of 32 nd Annual ICS convention of chemists p-42, Abst.15 at Jaipur 1995.
62. An insight in magnetostructural behaviour of o-functionalized –p-naphthoquinone ligand field parameters for bis (laesonato/phthiocolato) Cobalt II complexes.Proc. Of Annual ICC conference ,p- 50 Abst-IO38 at Jammu. 1994 S.Y.Rane , **Shobha A.Waghmode** and J.P.Salvekar.

P. Participated in online webinar 2020

1. For attending the online learning workshop for faculty., 1st to 3rd April 2020 by QASPIR, CPD Member.
2. Participated in Virtual conference on materials for energy harvesting and catalysis by TIFR and IISER Kolkata on 1st to 3rd May 2020, zoom.
3. Attended, ' Strategies for Extension as a Social Responsibility: Perspectives of Higher Education by DLLE, SPPU National webinar on 13th May 2020.
4. Participation in Reinventing Research: IPR for revenue generation webinar on 9th June 2020, SKN Sinhgad College of Engineering, Pandharpur, Maharashtra.

5. Participated in National level one-week short term course on ‘Green Audit’ by Environmental Science Department of Osmania University, Hyderabad, 9th to 14th August 2020.

Q. Courses taught at AGC

- CHI-130/ 230 – Molecular Symmetry, Group Theory and Spectroscopy, Coordination & Bioinorganic Chemistry
- CHI-190/290- Modern Separation Methods, Organometallic Chemistry, Safety in Chemical Laboratory and Good Laboratory Practices.
- T.Y.BSC / SYBSc/ FYBSc- Inorganic chemistry, Organic and Physical chemistry syllabus, Environmental chemistry for TYBSc.
- Guest faculty at BV Deemed University- Green Chemistry and Analytical chemistry for PG.
- Guest faculty- at V.P. College, Baramati – Coordination Chemistry for PG.

R. Industry interactions/consultancy from AGC - March 2019

1. Consultant and mentor for Nanosion healthcare solutions, Pune.
2. **Consultant** – for all healthcare products, beauty products, herbal decoctions, and mentoring for product development in Aroma Industry.
3. Autonomous course developer in chemistry.
4. Process development for natural product isolation.
5. Paint and pigment industry consultancy for product development.
6. Drug analysis using hyphenated techniques, e.g. content of methyl cobalamine.
7. Agriculture testing and consulting Hub- water / soil/ mineral nutritional counseling and guidance for different parts of plants e.g. petiole content testing.
8. Sustainable Product development from raw materials consultancy.
9. Nanomaterial development and testing.

S. Guidance / Mentoring of MSc II Project Students from curriculum-SPPU syllabus, since 2007 by Dr.Shobha Waghmode

Year 2019-20		
Sr.No.	Name	Title of the project
1	Snehal Vispute	Synthesis and application of multifunctional nanomaterials in Biotechnology
2	Anisha Shinde	DNA- Nanomaterial Interactions
3	Priyanka Satkar Patil	Bimetallic nanomaterials for Suzuki-cross coupling reactions
4	Stella D'souza	Synthesis and applications of Ionic liquids.

5	Pranjal Zarkad	Isolation of anticancer drug from Moringa Olifera leaves and synthesis of nanoparticles from leaf extract.
6	Ganesh Gore	Synthesis of transition metal complexes and its application in organic transformation.
	Year 2018-19	
7	Shweta R Bane	Synthesis of ionic liquids as a green solvents for organic transformations
8	Vaishnavi U.Jadhav	C-dot Nanomaterials and their applications
9	Supriya Wadkar	Synthesis and characterization of triazole derivatives.
	Year 2017-18	
Sr.No.	Name	Title
10	Rupali Kamble	Synthesis of nanoparticles and its effect on microbial and biological systems
11	Nilesh Jadhav	Photocatalyzed NH formylation of amines using monometallic and bimetallic nanoparticles.
12	Vikram Deshmukh	Esterification reaction by using nanoparticles immobilized enzyme.
	Year 2016-17	
Sr.No.	Name	Title
13	Mahesh Salunkhe	Synthesis and characterization of Nanomaterials.
14	Prashant More	Model compounds of purple acid phosphatase
15	Mrunali	Biopolymer functionalization, Chitosan.
16	Abhaya Zirpe	Graphene functionalization and its applications.
17	Smita Javare	Coumarin derivatives
18	Vaishnavi	CO2 utilization by using transition metal catalysts.
19	Vishal Lokhande	Microbial reduction of bimetallic Nanomaterials.
20	Apurva	Silver nanoparticle synthesis and its applications
21	Shweta Shete	Nanomaterials in healthcare and agriculture.
	Year 2015-16	
Sr.No.	Name	Title

22	Yugandhara Grime	Synthesis of organic molecules as ligands
23	Abhilasha Adulkar	Graphene synthesis and functionalization
24	Yogita Jogdand	Natural product isolation.
25	Devyani Kamble	Synthesis of different coumarin derivatives.
26	Rohit Chavan	Organic catalytic reactions using enzyme
27	Kalyani Chaitanya	Catalytic reactions using carbon composites.
28	Chanchal Kasat	Synthesis of nanoparticles using different plant extract.
29	Prasad S.Rasane	Isolation of enzyme from novel source.
30	Hitesh Salunkhe	Isolation and characterization of SOD enzyme.

Year 2014-2015

Sr.No.	Name	Title
31	Sayali Thakre	Synthesis and Tagging of pyrazolines: Ethanol Sensor & antimicrobial activity
32	Mahesh Kadam	Preliminary photochemical analysis & preparation & characterisation of silver nanoparticles by 'Pogostemon Paniculatus Benth'
33	Aparna Dattu Bhong	Graphene oxide & graphene : Present Material
34	Rubiya Dhone	From dead flowers to carbon material
35	Pillay Jeevitha Mayavan	Utilization of biomass :As a humidity sensor & energy Material
36	Manisha Redekar	Synthesis & application of naphthoquinone derivative & their metal complex
37	Prashant Pillay	Photocatalytic degradation of carcinogenic methylene blue using Zr/Cd doped polyaniline.
38	Sudnya Wanjale	Phytochemical screening of bioactive compounds And Synthesis of Copper nanoparticles by green approach from <i>Catharanthus roseus</i> Root extract and its antibacterial activity
39	Kunal Kulkarni	An efficient synthesis of Zn-Cd nanoparticles and their dye degradation studies.
40	Anuja Sable	Synthesis and microbiological activity of naphthoquinone derivatives.

41	Pranita joshi	Synthesis, characterization and kinetic study of naphthoquinone derivatives.
Year 2013-2014		
42	Heena Meroliya	Green synthesis of silver nanoparticles using isolated SOD enzyme from 'pennisetum'
43	Sanjay Isure	Synthesis of silver/silver oxide nanoparticles using PAP enzyme & its antimicrobial activity
44	Sonia Jadhav	Synthesis & characterisation of silver nanoparticles from Isolated Plant Purple Acid phosphatase
45	Soham Dhagude	Synthesis & Characterisation of Bio mimic Plants purple acid phosphatase
46	Gandhali Kulkarni	Green Synthesis of silver nanoparticles using isolated SOD enzyme from 'sesamumindicum L.'
47	Atul Sanas	Serum induced biosynthesis of silver nanoparticles & their sensitivity towards ethanol
48	Pooja Gaikwad	Synthesis & characterisation of Thiophene based Schiff bases & its antimicrobial activity
49	Pallavi Vedpathak	Surface modification, functionalisation of colloidal silver nanoparticles using 2-Amino-4-naphthoquinone
50	Shreya shende	Nanoparticles synthesis using microbes
51	Sidhi Pradda	Synthesis of silver nanoparticles using rose flower extract
52	Ketaki Bhagwat	Synthesis of silver nanoparticles using plant extract
53	Hitesh	Synthesis and application of carbon composites from natural source.
Year 2012-2013		
54	Rushant Nandkhile	Isolation and characterisation of plant purple acid phosphatase from Arvi: Biological activity correlation with its model complex
55	Pooja Chavan	Synthesis of silver nanoparticles using triticum Aespivum

56	Gauri Bhide	Correlation of SOD enzyme from <i>Elusine Corocana</i> L. With its bimetallic model complex
57	Sonal Wankhede	Isolation & Characterization of Natural Products from the <i>Cynodon dactylon</i> .
58	Nayana Gandhi	Isolation and identification of fungal plant pathogens infecting Pomegranate and its activity against certain plant extract
59	Vikas Jadhav	Isolation & characterisation of plant SOD enzyme from <i>Papaverum Somniferum</i> : Biological activity correlation with its model complex
Year 2011-2012		
60	Priyanka Dagade	“Structural And Spectroscopic Properties of Iron Dimeric Complex showing Excellent phosphodiester Cleavage Activity”
61	Sudhir Phadtare	“Efficient Oxidation of Hydroquinone Catalysed by Cu Monomeric and Bimetallic Cu-Zn Complex”
62	Yuvraj Kate	“Antibacterial and Biological Activity of Bi-metallic Cu-Zn Complex”
63	Ankita Pawar	“Asymmetric Dinuclear Iron Complexes As A Models For Active Sites In Purple Acid Phosphatase
64	Rajendra Gadhave	“Synthesis and Characterisation of Novel Bimetallic Cu-Zn Complex As A SOD Model
	Year 2009-2010	
65	Prajakta Kelaskar	
Year 2008-2009		

66	Pawan more	Correlation of biological activity of diiron active site core: purple acid phosphatase with diiron complex.
Year 2007-2008		
67	Urmila Pansare	Vanadyl phosphate as molecular catalyst.
68	Mahesh Jadhav	Anomalous behaviour of spin transition in iron complexes.
Year 2007-2008		
69	Nilesh Tangle	Synthesis and characterization of transition metal complexes.
70	Pranav Joshirao	Study of thermal properties in transition metal complexes.
71	Amal	Silver nanoparticles synthesis using <i>Rosemerry</i> extract.

**U. Implementation of Research Based Pedagogical techniques (RBPT) with TYBSc students:
Context: Industrial water effluent analysis and treatment: Mentoring was done
by, Dr. Mrs. Shobha A. Waghmode 2017-18**

1. Ashish Shingade, Sana Manyar and Tejashri Tambe- Isolation and identification of microorganisms from water sample and its treatment by using transition metal nanoparticles.
 2. Abhinay Chillal, Tejashri Chavan, Suman Mane – Interaction of silver nanoparticles with different phenol derivatives- polyols.
 3. Onkar Waghmare- Industrial water effluent treatment using transition metal nanoparticles with reference to dye industry.
 4. Vaishnavi Ghume, Pratiksha Jadhav, Shilpa Shingade - Dye industry water effluent analysis / treatment by using microbial and chemical method.
 5. Vaishnavi Taple, Diksha Dhanawale- Synthesis of nanomaterial embedded Bio-plastic.
 6. Payal Pachore and Dristi Jaiswal- Heavy metal analysis and treatment for automobile industry water effluent samples.
 7. Shilpa Shingade and Sayali Bagate- Quantitization of BOD level by different methods for different effluent water samples.
 8. Prajkta Jade and Nidhi Sharma- Microbial treatment for phenol toxicity.
 9. Shubham Patil and Aishwarya Patil- Quantitaion of P from industrial water effluent samples and treatment by microbial method.
 10. Pooja More and Yogita Hulsulkar- Quantitation of chemical oxygen demand from different water effluent samples.
 11. Pawan Yadav, Ganesh Vedpathak and Shubham Doke- Quantitation of chemical oxygen demand from different water effluent samples.
 12. Pooja Deshpande and Shweta Kalekar-Contact angle quantitation of different water samples and synthesis of transition metal nanoparticles for sensor application.
 13. Aditi Kaledhonkar, Gayatri Divekar, Shweta Pande and Bhagyashree Mitragotri- Industrial water effluent treatment using bimetallic nanoparticles.
 14. Apurva Agarwal and Visha Badiyali-COD analysis for different industrial water effluent samples.
 15. Jyoti Gavadgave, Vrutali Patil and Anita Prajapati- Quantitation of Physical and chemical parameters treatment using graphene oxide.
 16. Chaitanya Gosavi and Pranaya Shewale- Isolation and identification of heavy metals.
 17. Avani Mahadik, Mugdha Fulambrikar and Gauri Gund- Microbial isolation and identification from different water samples.
 18. Tanvi Jadhav, Swaroopa Chandorkar and Kashmira Lad- synthesis and characterization of lanthanide nanoparticles.
 19. Prachi Deshpande, Akansha Mokashi and Pragati Thorat- Detection of BOD from different industrial water effluents.
 20. Shreya Bhonge and Aishwarya Tekale - Bimetallic Nanoparticle Assisted Suzuli And Heck C-C Coupling Reactions.
 21. Aishwarya Tekale- Natural product isolation and identification using IR and NMR techniques.
 22. Kiran Takale and Prasad Walimbe- Natural product isolation and identification by IR and NMR techniques.
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