Dr. JAYA V. GADE
(HOD & Associate Professor)
SHPT COLLEGE OF SCIENCE, DEPT. OF ANALYTICAL CHEMISTRY, SNDT WOMEN'S UNIVERSITY, MUMBAI- 400049

Deputy Director
Ramkrishna Bajaj CFBP, Consumer Education & Testing Centre) SNDT Women's University, Mumbai, India.

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PROFILE:

A committed teacher more than 20 yrs. of experience at leading Indian academic institute, i.e., SNDT Women's University Mumbai. Possessing excellent administrative, verbal communication and written skills along with constructive and effective teaching methods that promote a stimulating learning environment. Along with teaching I am highly devoted for research work. I have registered as Ph.D. supervisor at SNDT Women's Mumbai University, India.

EDUCATION:

- Graduation (B.Sc.) from University of Pune, India with first division in 2002.
- Post-Graduation (M.Sc., Chemistry) from University of Mumbai, India with first division in 2004.
- Ph.D. (Analytical Chemistry) from University of Mumbai, India in 2008.
- PGDM (Post Graduation Diploma in Education management) from University of Mumbai, India in 2013.

SKILLS:

- Uncovering new learning opportunities.
- Confident speaker.
- Punctuality for work (time management).
- Good communication skill.

WORK EXPERIENCE:

- Jun 2004 - May 2006 - **"Lecturer in Analytical Chemistry"** Karamveer Bhavrao Patil College, Vashi, Navi Mumbai
- Jun 2006 - Feb 2007 - **"Lecturer in Analytical Chemistry"** Department of Chemistry, Modern College, Vashi, Navi- Mumbai
- Feb 2007 - Aug 2009 - **"Lecturer in Analytical Chemistry"** Department of Analytical Chemistry SNDT Women's University, Juhu, Mumbai- 400 049
- Jun 2009 - Jun 2016 - **"Assistant Professor, Junior Scale"** Department of Analytical Chemistry SNDT Women's University, Juhu, Mumbai- 400 049
- Jun 2016 – Present - **"Assistant Professor, Senior Scale"** Department of Analytical Chemistry SNDT Women's University, Juhu, Mumbai- 400 049
- Oct 2020 - Present - **"Head Of Department"** Department of Analytical Chemistry SNDT Women's University, Juhu, Mumbai- 400 049
- Jun 2022 – Present - **"Deputy Director (Additional Charge) -** Ramkrishna Bajaj CFBP Consumer Education & Testing Centre, SNDT Women's University, Juhu, Mumbai- 400 049
  Women's University

PUBLICATIONS:

- Seventeen (26) Research paper published in National and International Journal.

CONFERENCES:

- Twenty (20) Research paper presented in National & International level.

PATENT ACCEPTED:

- Four (5) patent has been accepted between 2016-2023.

MASTER'S STUDENTS GUIDED:

- Sixty (60) students worked under my mentorship.

Ph.D. STUDENTS GUIDE:

- Eight (8) scholars have been enrolled under respective fields.

RESEARCH INTEREST:

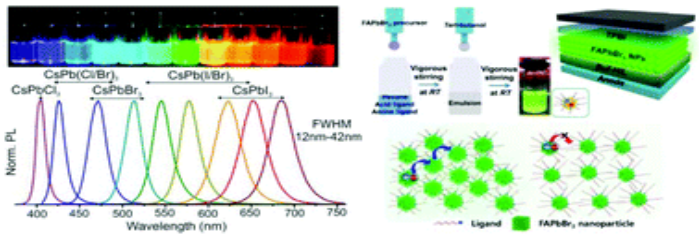
- Analytical Chemistry
- Astro Chemistry
- Green and Sustainable Chemistry
- Nanomaterial
- Graphene
- Catalysis
- Quantum Dots
- Carbon Nano Tubes
- Solvent Extraction
- Analysis of Different Metals
- Chemical Neuro Science
- Environmental Nanotoxicology

RESEARCH HIGHLIGHTS:

Fabrication of Highly Luminescent Polymer Encapsulated Perovskite Quantum Dots: An Eco-friendly Approach

Since 2012, the halide perovskite solar cells are supposed to impart enormous convenient influence on excellent execution because of their cost effective simple production, superior light absorption, and smoothness of fabrication. Regardless of many advantages, most top executing perovskite solar cells possess water-soluble lead, the significant leakage of toxic lead from damaged cells create serious concerns towards their future commercial expansion. Therefore, the exploration of lower toxic perovskite type material as a back-up approach is highly desirable. This challenging issue has attracted significant attention of the scientific community to develop Pb-free materials for the production of perovskite solar cells and delightful results have been obtained too, yet more efforts are needed for the magnificent performance of ABX3 materials. Hybrid organic- inorganic perovskite have high thermal stability and appropriate band-gap for high-performance solar cells. Although, because of water vapor- induced state transition under extensive condition, it can rapidly interchange into perovskite state to the non-perovskite state.

Nowadays, the study of luminescent quantum dots (QDs) has been thrust area of research for profound comprehension insight halide perovskite solar cells and application in light emitting devices. While, perovskite used for light emitting diodes have gained a milestone for their light emitting efficiency. Thus, herein, we propose the introduction of a different kind of dopant, metal ion, and polymer inside the lattice for attaining stability of the perovskite phase and for its better optoelectronic properties.



A Critical Analysis Of The Biogenic Synthesis Of Transition Metal Nanoparticles Along With Its Application And Stability

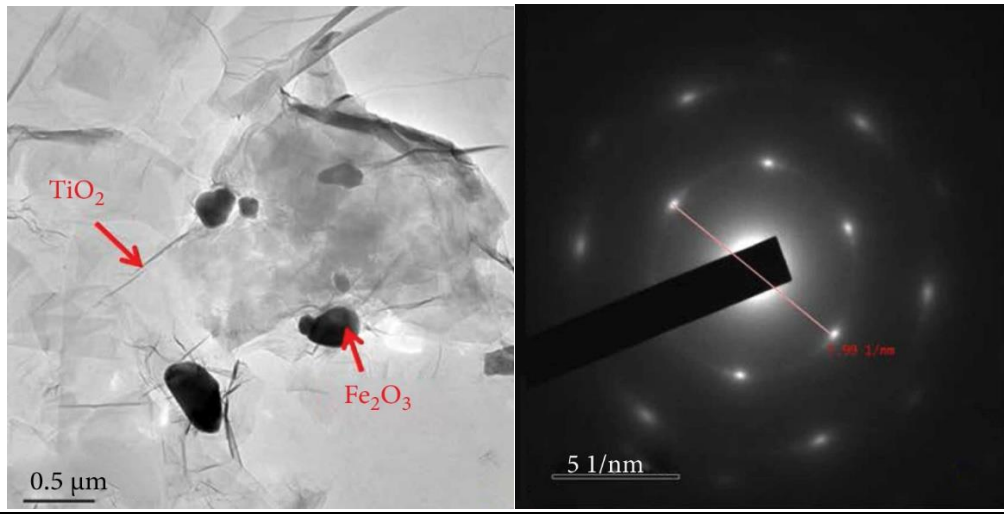
Nanomaterial fabrication has been an extensive research area in the past decade, especially with managed morphologies side by side, having remarkable properties. Nowadays, naturally available substances and waste products from factories have built growing implementations in the Metal Oxide Nanoparticles (MONPs) synthesis because they can play multiple roles such as complexing agents, catalysts, capping agents, reducing agent, etc. Besides, plants, algae, fungi, yeast, virus, and bacteria are a green and safe way of creating MONPs concerning the traditional methods of using chemicals. This viewpoint includes several kinds of biogenic pathways that have been used to fabricate MONPs, the inclusion of their functions, and mechanism. This review consists of discussions of potential applications of MONs derived from biogenic materials to store Energy, Remediation of nature, and bio-related sensors. Overall we intended to highlight the biogenic route to form transition MONPs and highlight future potentials, toxicity, and stability of MONPs.

Groundwater Management by New Rainwater Harvesting Idea and Its Effect on Climate Change

The decline of the groundwater table is indeed a global phenomenon, several studies have shown that overexploitation of groundwater in India has caused major depletion of groundwater. There is no dispute among Indian scientists about the magnitude of groundwater depletion in many parts of India. More than 76% growth of the crops in the Chhattisgarh region is highly water- intensive, which directly affect the climate change and unstable agriculture is major reason for groundwater depletion. Rainwater is only source to recharge groundwater table but in pre; nt scenario rainwater get polluted.So, initially, we collected rainfall water samples from Chhattisgarh India for different months; July and February 2019, and found a higher percentage of toxic contents, i.e. SO4, SO;.NO, NO, in rainwater. Next, we invented a new type of 1ain harvesting system and observed a reduction in toxic substances present in rainwater and an improvement in the consistency of groundwater quality. Additionally, the proposed system is reliable, economical, and structure friendly.

A Facile Synthesis and Properties of Graphene Oxide-Titanium Dioxide-Iron Oxide as Fenton Catalyst

Textile industries discharge wastewater in huge amount that contains several toxic contaminants, especially organic dyes. Organic dyes present in wastewater have many adverse effects on environment as well as on living organisms including human beings. The generation of a nanocomposite to trap the toxic organic dyes from wastewater is highly recommended. Herein, we report the preparation of graphene-iron-titanium oxide (GFT) nanocomposite using simple, practical, and cost-effective protocol. The prepared tri-nanocomposite was successfully recognized by employing several analytical techniques. Morphology of the prepared nanocomposites was assessed by SEM coupled with EDS (energy dispersive spectroscopy). HRTEM was used to measure the size of the nanocomposites with shape and morphology. The UV-visible absorption spectra of the nanocomposites were recorded by a UV-visible spectrophotometer. Finally, the crystal structures of the nanocomposites were confirmed by XRD. Moreover, we proposed a plausible mechanism to demonstrate the catalytic activity of GFT oxide nanocomposite for the degradation auramine (AM) dye via a heterogeneous Fenton process.



AWARDS

- Receiving Best Paper Presentation Award and Certificate in World Environment Congress in 3rd World Research Congress.

AWARDS & ACHIEVEMENTS:

- State level Bharat Ratn Mahrishi Karve Samaj Sudharak Puruskar- 2014.
- State level Prabodhan Seva Ratn Puruskar- 2014.
- Lok Kalyan Samman Puruskar in 2011.
- Lokmanya Tilak Samaj bhusan Puruskar in 2010.

PROFESSIONAL MEMBERSHIP:

- Fellow member of International Congress of Chemistry and Environment.

- Member of Subject and paper moderations.
- Member of enquiry committee, SNDT Women's University, Mumbai, India.
- Member of Ad-hoc board of studies in Analytical Chemistry.
- Member on the Board of Studies in Microbiology.

LIST OF PUBLICATIONS

A. PUBLISHED RESEARCH PAPERS

S. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1.	Jaya Gade	Physical and Optical Properties of CuO Nano Structures	Dogo Rangsang Research Journal	Vol-13, Issue 2	ISSN 2347-7180	2023
2.	Jaya Gade	The WO_3 Nano Structure for Functional Application	Industrial Engineering Journal	Vol 52, Issue 2	ISSN 0970-2555	2023
3.	**J.V. Gade Anshu Singh, Bhavana Jain**	Current Industrial and Commercial Scale Applications of Biomolecules	Handbook of Biomolecules	-	551-574	2023
4.	**J.V. Gade Ashutosh Dixit, Rajinder Singh Sodhi**	Current Applications of Biomolecules in Artificial intelligence & Machine	Handbook of Biomolecules	-	575-589	2023
5.	**J.V. Gade Neeta Gupta, Manjur Hasan**	An overview of microwave dielectric spectrometry on aqueous medium	Annals of Forest Research	-	ISSN 18448135, 20652445	2023
6.	**J.V. Gade Arti Hadap, Huma Ali**	Facile Synthesis and Properties of Graphene Oxide Titanium Dioxide Iron Oxide as Fenton Catlyst	Hindawi	-	Volume 2022, Article ID 2598536, 10 pages	2022
7.	**J.V. Gade**, B. Jain, R. Rawat, P. P. Sharma, P. Gupta	An effective nanoparticles for drug delivery system	Materials Today Proceedings: Springer	Volume 51	Pages A1-A8, 1-1276 (2022)	2021

8.	**J.V. Gade** , P. P. Sharma, B. Jain, R. Rawat	Synthesis and characterization of paclitaxel nanoparticles for drug delivery	Materials Today Proceedings: Springer	Vol. 51	445-450	2021
9.	Y. Sahu, **J.V. Gade**, R. Rawat, B. Jain	Groundwater management by new Rainwater harvesting idea and its effect on climate change	Design Engineering	-	0011-9342	2021
10.	Jaya V. Gade, Farhana Farooq	Evaluation of Antimicrobial Peptide Isolated from Skin Mucus of Bacterial Infected Fishes	Annals of RSCB	Vol. 25	1583-6258	
11.	Noorafsha, **Jaya V. Gade**, A. Kashyap, A. Kashyap, D. Vishwakarma , S. Azizi	A critical analysis of the biological synthesis of transition metal nanoparticles along with its application and its stability	European Journal of Molecular & Clinical Medicine	7	6368-6397	2020
12.	Jaya Gade	Sustainable Approach on Oxidation of Aliphatic Amines to Oximes	-	-	-	2019
13.	S. Gotmare, **Jaya V. Gade**	Orange peel: A potential source of phytochemical compounds	International Journal of Chem Tech Research	11	240-243	2018
14.	**Jaya V. Gade**, S. Gotmare	Oxidative stability of safflower oil by comparing natural and synthetic antioxidants	International Journal of Chem Tech Research CODEN (USA)	10	300-306	2017
15.	**Jaya V. Gade**, A. Fakir, S. More	Production and characterization of carissa carandas seed oil	Asian Journal of Plant Science and Research	5(9)	5-7	2015
16.	**Jaya V. Gade**, S. More,	Microencapsulation of Fenugreek Seeds Oil and Curry Leaves Oil Using Simple Coacervation and Its Application in Shampoo	Asian Journal of Science and Technology	Vol 06, issue 19	1902-1906	2015

17.	A.Thakur, M. Thakur, **Jaya V. Gade**	Ligand based drug design strategy for the modelling of phenylalkyl amines as a psychotomimetic agent	International Journal of Research and Development in Pharmacy and Life Sciences	4(6)	1838-1845	2015
18.	**Jaya V. Gade**, S. More, n. Bhalero	Formulation and characterization of herbal cream containing fenugreek seed extracts	International Journal of Scientific and Research Publication	5(10)	1-4	2015
19.	M. L. Gangwal, V. R. Shastry, **Jaya V. Gade,** D. Shastry	7,4-dihydroxy-3-methylflavone-5-O-alpha-L-Rhamnopyrnosyl(1,4)-O-beta-D-glucopyranoside from the seeds of Litsea chinesis	International Journal of Chemical Sciences	10(1)	0972-768X	2012
20.	D.V. Prabhu, M.A. Tandel, H. A. Prabhat, **Jaya V. Gade**	Oxidation studies of some acyclic and cyclic perfumery alcohols	Research Journal of Chemistry & Environment: Proceedings of ICCE	-	0972-0626	2009
21.	**Jaya V. Gade,** S. Lokhande	Exctractive spectrophotometric determination of Cu(II) using 2,1pentane dione, bis(ethylenediamine) as an analytical reagent	Journal of Chemical Sciences	-	0972-0626	2007
22.	**Jaya V. Gade,** R. Lokhande	Exctractive spectrophotometric determination of Co(II) using 2,1pentane dione, bis(ethylenediamine) as an analytical reagent	Ind. Journal of Chemical Sciences	-	-	2008
23.	**Jaya V. Gade,** R. Lokhande	2,1 Penatane Dione,bis(ethylene diamine) as an analytical reagent for the exctractive spectrophotometric determination of Fe(II)	Ind. Journal of Chemical Sciences	-	-	2009

24.	**Jaya V. Gade,** R. S. Lokhande	Study of the glycoside, Luteolin7-0-β-D-Glucopyranoside from the flowers of Jatropha cureas	Journal of Chemical Sciences		0973-6263	2007
25.	**Jaya Gade**, R. Lokhande	Carbohydrate contents of the anthelmintic plant maesa India wall	Journal of Ultra Chemistry	-	0973-3450	2006
26.	**Dr. Jaya Gade**	Mathematical Characterization of Benzodiazepine Receptor Ligands	Modeling of Binding Affinity	-	-	2006

B. PAPERS PRESENTED IN CONFERENCES

1. **Extraction of methanol from mentha piperita and mentha arvensis herbs using various methods.**

   Jaya Gade

   4th World Research Journal Congress, Romania, on 24-26 May 2018.

2. **Ultrasound pretreatment as a novel approach for intensification of acid catalyzed esterification of tricaprylin.**

   Jaya Gade

   National conference on Biodiversity and its conservation, on 2016.

3. Oxidative stability of safflower oil by comparing natural and synthetic antioxidants.

   Jaya Gade

   Recent Trends in Chemical & Biological Sciences on 2012.

4. Ligand based drug design strategy for the modelling of phenylalkyl amines as a psychotomimetic agent.

   Jaya V. Gade

   SCODET ASIA on 13-15 Jaunuary 2016.

5. **Study of the glycoside:Luteolin-7-o-β-d-glucopyranoside from the flower of Jatropha curcas.**

   Jaya V. Gade

   International Society Biotechnology Conference (ISBT) on 28-30 December 2008.

6. **2,1-Pentane dione, bis(ethylenediamine)** as an analytical reagent for the exctractive spectrophotometric determination of Cu(II).

   Jaya V. Gade, R. S. Lokhande

   3rd Conference for International Congress of Chemistry and Environment,

   Kuwait University of Engineers, Kuwait, held 18-20 November, 2007.

7. **2,1-Pentane dione, bis(ethylenediamine)** as an analytical reagent for the exctractive spectrophotometric determination of Co(II).

   Jaya V. Gade, R. S. Lokhande

   UGC-SAP, National Seminar on synthesis of new materials for industrial applications held on 1-2 February 2008.

8. **Oxidation studies of some acyclic and cyclic perfumery alcohols.**

   Jaya V. Gade, R. S. Lokhande

   Thailand Ubonratchathani University, 4th International Congress of Chemistry & Environment, Thailand, held on 21-23 November 2010.

9. **Protein content of the Cassia Tora plant.**

   Jaya V. Gade, Kamini Sethi

   National Seminar on recent trends in Chemical and biological Sciences held on 13-14 January 2012.

C. PATENT ACCEPTED

1. **Sustainable approach on oxidation of aliphatic amines to oximes. Date of publication: 11-10-2019.**
2. **Caprylic acid catalyzed oxidation of arylboronic acid to phenol. Date of publication:5-1-2018.**
3. **$ZnCl_2$ urea mediated oxidation of sulfide compounds. Date of publication 24-2-2017.**
4. **Peroxide mediated ecofriendly oxidation of organic compounds; Date of publication 9-12-2016.**
5. **Green Synthesis Nano Particles for Environment Application, Date of Publication March 2023.**