



॥ विद्या विनयेन शोभते ॥

Janardan Bhagat Shikshan Prasarak Sanstha's
CHANGU KANA THAKUR

**ARTS, COMMERCE AND SCIENCE COLLEGE, NEW PANVEL
(AUTONOMOUS)**

Re-accredited 'A+' Grade by NAAC (3rd Cycle - CGPA 3.61)

'College with Potential for Excellence' Status Awarded by UGC

'Best College Award' by University of Mumbai

Department of Chemistry Research Projects

1. No. of Projects Undertaken by the center from the Date of Establishment till Date (RUSA, UGC, University and Seed Money)

Sr. No.	Name	Title of Project	Year	Amount in (Rs.)	Funding Agency
1.	Prof. (Dr.) S.K. Patil	Extraction and Spectrophotometric Determination of Copper(II) in Pharmaceuticals, Alloys, Foodstuffs Cultivated on Polluted Soil and Water Around Industrial Area with Novel Schiff's Base	2010-12	70000	UGC
2.	Prof. (Dr.) S.K. Patil and Dr. S.S. Patil	Synthesis, Characterization and Biological Studies on Mixed Ligand Fe(III) Complexes of Some Amino Acids	2010-11	10000	University of Mumbai
3.	Prof. (Dr.) S.K. Patil	Use of Novel Schiff Base for Extraction and Determination of Nickel (II) in Alloys and Vegetable oils by solvent Extraction Method.	2013-14	25000	University of Mumbai
4.	Prof. (Dr.) S.K. Patil	Synthesis and Characterization of Novel Bioactive Coumarin Derivatives.	2016-17	25000	University of Mumbai
5.	Prof. (Dr.) S.K. Patil	Extraction and characterization of flavored tobacco by GC-MS studies and validation of results by GC-FID in order to investigate the hazardous flavor ingredients	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
6.	Prof. (Dr.) B.V. Jadhav	Synthesis and Characterization of Chemically Deposited Transition Metal Chalcogenide Thin Films	2011-12	1,60,000	UGC
7.	Prof. (Dr.) B.V. Jadhav	Synthesis and Characterization of Transition Metal Chalcogenide Thin Film	2008-09	45,000	University of Mumbai
8.	Prof. (Dr.) B.V. Jadhav	Synthesis and Characterization of CdO ₅ and NiO ₅ , Se Thin Film	2010-11	20,000	University of Mumbai
9.	Prof. (Dr.) B.V. Jadhav	Synthesis and characterization of	2020-21	100000	Rashtriya

		CdNiSe thin films for photoelectrochemical Solar Cells			Uchchatar Shiksha Abhiyan (RUSA)
10.	Prof. (Dr.) V.D. Patil	Synthesis of Organic Compounds using Solid Supportive Catalyst	2009-10	31500	University of Mumbai
11.	Prof. (Dr.) V.D. Patil	Synthesis of biologically active heterocycles using solid supportive catalyst	2016-17	30,000	University of Mumbai
12.	Prof. (Dr.) V.D. Patil	Synthesis, Characterization of biologically active heterocycles using nano-materials	2017-19	2,00,000	UGC
13.	Prof. (Dr.) B.D. Aghav and Dr. S.S. Patil	Synthesis, Characterization and Biological Studies on Mixed Ligand Co(II) Complexes of Some Amino Acids	2010	30,000	University of Mumbai
14.	Prof. (Dr.) B.D. Aghav	Synthesis, Spectral, Characterization and Antimicrobial Studies of Some Ternary Cobalt (II) and Cerium (III) Complexes with Novel Schiff Base Containing NOS Donor and N / O Donor Ligands	2011-12	1,45,000	UGC
15.	Prof. (Dr.) B.D. Aghav	Preparation, characterization and use of metal doped ceria and ceria nanoparticles in the synthesis of heterocyclic compounds.	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
16.	Dr. J. S. Thakur	Synthesis and Characterization of Nanoparticles and their Scope in Catalysis	2010-11	25,000	University of Mumbai
17.	Dr. J. S. Thakur	Study of Bio-accumulation of Metal in Some Edible Fresh Water Fish From MIDC Industrial Area, Taloja and Patalganga	2011-12	1,10,000	UGC
18.	Dr. J. S. Thakur	Synthesis and Characterization of Magnetic Nanoparticles and their Applications in Catalytic Organic Transformations	2016-17	25,000	University of Mumbai
19.	Dr. J. S. Thakur	Soil Testing and Study of Agricultural and Nutrient Application Practices in Panvel Tehsil	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
20.	Dr. S. S. Patil And Prof. (Dr.) S. K. Patil	Synthesis, Characterization and Biological Studies on Mixed Ligand Ni(II) Complexes of Some Amino Acids	2009-10	38000	University of Mumbai
21.	Dr. S. S. Patil	Synthesis, Spectral and Antibacterial Investigations of Some Rare Earth Metal Complexes with Polydentate Ligands.	2019-20	450000	UGC
22.	Dr. S. N. Vajekar	Fe ₃ O ₄ @Silica Sulfuric acid nanocatalyst promoted one-pot, three-component greener route to novel 1-H pyridazino[1,2-a] indazoletriones under solvent-free conditions	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)

23.	Dr. V. S. Kamble	Preparation and Characterization of metal doped zinc oxide nanostructures for hazardous gas sensors and applications.	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
24	Dr. J. M. Pawara	Physicochemical, Thermal, Spectral and Biological Evaluation of Mixed Ligand Complexes of Inner Transition Metal and their nanoparticles”	2022-23	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
25.	Dr. J. G. Pargaonkar	A detailed and systematic study of nanostructures for toxic gases applications	2022-23	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
26.	Dr. D. K. Patil	Synthesis of Mixed Ligand Complexes and Study of Their Physicochemical, Spectral, Thermal Properties (Seed Money Project)	2022	17,000	Changu Kana Thakur Arts, Commerce & Science college, New Panvel (Autonomous)
27.	Dr. A. C. Chaskar and Dr. B. P. Langi	Synthesis of Biologically Active Heterocyclic Compounds	2007-08	20,000	University of Mumbai
28.	Dr. A. C. Chaskar and Dr. B.P. Langi	Heteropolyacid: A Green Catalyst for Organic Transformations	2008-09	39000	University of Mumbai
29.	Dr. A. C. Chaskar And Dr. B.P. Langi	Synthesis of Bioactive Molecules	2007-08	95,000	UGC
30.	Dr. (Ms.) S. B. Mulla and Dr. A.C. Chaskar	Study of the Effective Separation of Metal Ions and Biomolecules by Liquid Membrane Technology	2007-08	40000	University of Mumbai
31.	Dr. Sapana M. Chilate	Removal Study of Organic Dyes using Activated Carbon prepared from Agricultural waste.	2022-23	1,05,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
32.	Dr. Sapana M. Chilate	Adsorption Study of fluoride ions on alum impregnated activated carbon	2019-21	30000	University of Mumbai
33.	Kamini Pawar	Preparation of Bismuth from oxide BiFexOy/rGO Electro catalysis application	2021-22	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)



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2. Research Projects by Students:

Sr. No.	Name	Title of Project	Year	Amount	Funding Agency
1.	Mrs. Maheshwari R. Zirpe & Dr. Jyotsna S. Thakur	Synthesis, Characterization of Nanocomposite for Removal of Cationic and Anionic Dyes from Water: Determination of Equilibrium and Kinetic Parameters(ii) Introduction	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
2.	Mrs. Gayatree V. Shinde & Dr. Jyotsna S. Thakur	Fe-Based Nano-catalyst: Green Synthesis Approach to prepare Heterocyclic Scaffolds.	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
3.	Mrs. Amruta M. Salve & Dr. V.D. Patil	Effective synthesis of medicinally important Scaffold of Heterocyclic Compounds with the help of Nano-catalyst.	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
4.	Mr. Tushar S. Umasare & Dr. S.K. Patil	Synthesis, Spectral Characterization and Antimicrobial activity studies of Acenaphthaquinone Schiff Base and its transition metal complexes.	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
5.	Dr. Baliram T. Vibhute & Dr. S.K. Patil	Synthesis, Spectral characterization and Anticancer study of metal complexes derived from novel Quinoline Schiff Base.	2020-21	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
6.	Mr. Amol Pinjarkar & Prof.(Dr.) B.V. Jadhav	Synthesis and Characterization of Nanosized mixed metal oxides by Sol-Gel method: Application as Catalyst	2022-23	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
7.	Mr. Amol Nikam & Prof.(Dr.) B.V. Jadhav	Study of Photocatalytic activities of Green Synthesized metal oxide nanoparticles	2022-23	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)

8.	Ms. Chaitrali Patil & Prof. (Dr.) S.K. Patil	Environmental-friendly synthesis, haracterization, Biological activity of Metal and Metal oxide nanoparticles and their catalytic applications in the synthesis of novel bioactive compounds	2022-23	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
9.	Ms. Priya Patil & Dr. B.D. Aghav	Synthesis of Reduced Graphene Oxide-ZnO nanocomposite for Chemosensitive Gas Sensor Application	2022-23	1,00,000	Rashtriya Uchchatar Shiksha Abhiyan (RUSA)



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3. Copyrights/Patents

Sr. No.	Name	Title of Patent	Year	Title of the Patent	Patent Number	Patent Filed/Granted
1.	Dr. Balasaheb D. Aghav	Process for the preparation of 2-amino-4,5,6,7 tetrahydro-6-aminobenzthioles from cyclohexanes and cyclohexanones as intermediates	18th May 2006	U.S. Patent	US 7868029 B2	11 th January 2011
2.	Dr. Balasaheb D. Aghav	Process for the preparation of 2-amino-4,5,6,7 tetrahydro-6-aminobenzthioles from cyclohexanes and cyclohexanones as intermediates	14th March 2005	Canadian Patent	CA 2498945 C	8th November 2011
3.	Dr. Balasaheb D. Aghav	Process for the preparation of 2-amino-4,5,6,7 tetrahydro-6-aminobenzthioles from cyclohexanes and cyclohexanones as intermediates	22nd July 2009	European Patent	EP 1542981 B1	22nd July 2009
4.	Dr. Balasaheb D. Aghav	Process for the preparation of 2-amino-4,5,6,7 tetrahydro-6-aminobenzthioles from cyclohexanes and cyclohexanones as intermediates	1st April 2004	World Intellectual Property Organization	WO 2004/0268 50 A1	-----
5.	Sunil Patil, Bhushan Langi, Rushikesh Deokar	Synthesis of Novel Biologically Active Mixed Ligand Yttrium(III) Complexes	2015		No.- 3909/Mum/ 2015 Issue No.44/2015	Copyright Filed
6.	Dr. Vrushali M. Shedekar	Process for catalytic reclamation of silver present in photo processing waste	23 January 2019	Indian patent	201921002 716	Filed



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4. Participation of learners in Avishkar research convention

Research Guide: Prof. Dr. Vishvanath D. Patil

Sr. No.	Category /Level	Name	Class	Project Title	Year
1.	PPG	Mr.Patil Ketan Padmakar Pushpa	Ph.D. Chemistry	Heteropolyacids as useful Recyclable Heterogenous Catalysts for the Facile and Highly Efficient Aza-cope Rearrangment of N-allylanilines	2012-13 Selected for Inter University Gold medal
2.	03/PPG	Mr. Patil Ketan PadmakarP ushpa	Ph.D. Chemistry	Azo dye removal from industrial effluent by Karanj Bark (Pongamia pinnata)	2016-17 Selected for Inter University, Gold medal
3.	03/PPG	Ms. Salve Amruta Mohan Surekha	Ph.D. Chemistry	Soap-Detergent and Waste Water Treatment Using modified Banana peels as a flocculant	2016-17 Selected for University
4.	03/TH	Mr. Sutar Nagesh Ragunath Kasturi	Ph.D. Chemistry	Removal of Pollutants from Ground water using low cost natural adsorbent	2016-17 Selected for inter University
5.	03/TH	Mr. Sutar Nagesh Ragunath Kasturi	Ph.D. Chemistry	Separation Of Ions By Using Natural Adsorbent	2017-18 Selected for Inter University Gold medal
6.	06/TH	Mrs. Jadhao Sunita	Ph.D. Chemistry	Formulation and Evaluation of a herbal antimicrobial Hand wash	2017-18 Selected for Inter University Gold medal

		Baburao Aruna			
7.	03/PPG	Ms. Salve Amruta Mohan Surekha	Ph.D. Chemistry	Biosynthesis of Nano fertilizer and its Efficiency for plant growth	2017-18 Selected for University
8.	04/St	Mr. Gidh Prathamesh Vidyadhar	M.Sc. by Research	Metal oxide nanoparticles as an adsorbent for Removal of heavy metals from bore well water and its effect to the society of MIDC area Talaja	2017-18 Selected for college
9.	UG	Ms.Desai Sakshi Pradeep Pooja	UG	Laboratory Waste Water Treatment Using modified powder of <i>Morus alba</i> leaves as a flocculent	2018-19 Selected for Raigad Zone
10.	3/PPG	Ms. Salve Amruta Mohan Surekha	Ph.D. Chemistry	Effective Synthesis of Herbal antifungal ointment and it is for foot mark used in paddy area	2018-19 Selected for Raigad Zone
11.	3/PPG	Mr.Patil Suraj Ananta Anita	Ph.D. Chemistry	The removal of anionic azo dyes from aqueous solution using quinoline polymer as novel adsorbents	2022-23 Selected for Raigad Zone

5. Achievements of the research guide and learners/ photo

