



Dr. Rajesh W. Raut

Present Position:

Assistant Professor in Botany, (27th of July 2001 till date) The Institute of Science, Mumbai.

Academic Qualification:

Sr. no. Degree Awarded University Year Class and Percentage

- 1. B. Sc. Biology Amravati April 1995 First class (60.00%)**
- 2. M. Sc. Botany Amravati April 1997 First class (65.60%)**
- 3. National Eligibility Test (NET) CSIR-UGC June 1999 & Dec. 1999**
- 4. Ph. D. (Science) in Botany, University of Mumbai, “Biosynthesis of Silver Nanoparticles Using Some Important Medicinal Plants, Their Characterization and Antibacterial Properties.”**

Teaching Experience: 21 Years of Postgraduate Teaching Experience

Research Experience:

- Worked as a Senior Research Fellow on a project entitled “Development of Bt transgenic diploid cotton against bollworm - NAPT. (Rainfed) Agroecosystem”, at Central Institute for Cotton Research, Nagpur. From 5th of September 2000 to 11th June 2001.**
- Worked as a Research Associate under the TMC-MM-I (MMA6) at Central Institute for Cotton Research, Nagpur. From 12th June to 25th of July 2001.**

Field of Research Interests:

- Green Synthesis of Metal and Alloy Nanoparticles and their applications in diagnosis, medicine, sensors, nano fertilizers, photothermal therapy, and water filtration.**
- Characterization of the stabilizing agent responsible for the synthesis of metal nanoparticles.**
- Secondary Metabolites enhancement in cell cultures.**

Papers published 16 International and 09 national 03 Indian Patents

Sr. No.	Title	Citations	Year of Publication
1	Phytosynthesis of silver nanoparticle using <i>Gliricidia sepium</i> (Jacq.) R Raut, J Lakkakula, N Kolekar, V Mendhulkar, S Kashid Current Nanoscience 5, 117-122 Impact factor 1.513 (2021); 1.426 (2021) Five-year impact factor	313	2009
2	Extracellular synthesis of silver nanoparticles using dried leaves of <i>Pongamia pinnata</i> (L) pierre RW Raut, NS Kolekar, JR Lakkakula, VD Mendhulkar, SB Kashid Nano-Micro Letters 2 (2), 106-113 Impact factor 23.655 (2021); 19.837 (2021) Five-year impact factor	208	2010
3	Photosensitized synthesis of silver nanoparticles using <i>Withania somnifera</i> leaf powder and silver nitrate RW Raut, VD Mendhulkar, SB Kashid Journal of Photochemistry and Photobiology B: Biology 132, 45-55 Impact factor 6.814 (2021)	117	2014
4	Rapid biosynthesis of platinum and palladium metal nanoparticles using root extract of <i>Asparagus racemosus</i> Linn. R W Raut, A S M Haroon, Y S Malghe, B T Nikam, S B Kashid Advanced Materials Letters 4 (8), 650-654	67	2013
5	Synthesis, Characterization and Biological Activities of Mixed Ligand Zr (IV) Complexes Y S Malghe, R C Prabhu, R W Raut Acta poloniae pharmaceutica 66 (1), 45 mpact factor 0.555 (2021)	23	2009
6	Microwave assisted synthesis of nickel nanostructures by hydrazine reduction route: Effect of solvent and capping agent on morphology and magnetic properties S B Kashid, R W Raut, Y S Malghe Materials Chemistry and Physics 170, 24-31 Impact factor 4.778 (2021)	14	2016
7	Antibody tagged gold nanoparticles as scattering probes for the pico molar detection of the proteins in blood serum using nanoparticle tracking analyzer S B Kashid, R D Tak, R W Raut Colloids and Surfaces B: Biointerfaces 133, 208-213 Impact factor 5.999 (2021)	14	2015
8	Biocompatible antimicrobial cotton fibers for healthcare industries: a biogenic approach for the synthesis of bio-organic-coated silver nanoparticles S B Kashid, J R Lakkakula, D S Chauhan, R Srivastava, R W Raut IET nanobiotechnology 11 (8), 1046-1051 Impact factor 2.050 (2021)	8	2017
9	Room temperature H ₂ S gas sensing characteristics of platinum (Pt) coated porous alumina (PoAl) thick films P S More, R W Raut, C S Ghuge Materials Chemistry and Physics Volume 143, Issue 3, 14 February 2014, Pages 1278-1281 Impact factor 4.778 (2021)	7	2013

10	Myco-fabrication of copper nanoparticles and its effect on crop pathogenic fungi S Shende, R Bhagat, R Raut, M Rai, A Gade IEEE Transactions on Nanobioscience 20 (2), 146-153 Impact factor 3.206 (2021)	6	2021
11	Saponin estimation in Vigna radiata cell culture treated with cell permeabilizing agent, Triton X-100. V D Mendhulkar, M M Ali, R W Raut Advances in Plant Sciences 22 (1), 1-5	6	2009
12	Investigation of PEG embedded WO ₃ - graphene thin film sensor RWR Shivani A. Singh1 , Pravin. S. More1* , Dattatray. J. Late2 Advanced Materials Proceedings 2 (8), 506-509	2	2017
13	Azadirachta indica-Derived Silver Nanoparticle Synthesis and Its Antimicrobial Applications AA Pawar, J Sahoo, A Verma, AM Alswieleh, A Lodh, R Raut, J Lakkakula, Journal of Nanomaterials Volume 2022, Article ID 4251229, 15 pages https://doi.org/10.1155/2022/4251229 Impact factor 3.719 (2021)	1	2022
14	An evaluation of the antimicrobial, anticancer, anti-inflammatory and antioxidant activities of silver nanoparticles synthesized from leaf extract of Madhuca longifolia utilizing quantitative and qualitative methods Pooja Salve, Aruna Vinchurkar *, Arpita Roy *, Rajesh Raut, Ramesh Chondekar, Jaya Lakkakula, Md. Jamal Hossain, Saad Alghamdi, Mazen Almeahmadi, Osama Abdulaziz, Mamdouh Allahyani, Anas S Dablood, Md. Moklesur Rahman Sarker *, Nur Azlina Mohd Fahami * Molecules Impact factor 4.927 (2021) (Accepted)		2022
15	In situ growth of biocompatible biogenic silver nanoparticles in poly-vinyl alcohol thin film matrix R Raut, A Gade IEEE Transactions on Nanobioscience 20 (2), 146-153 Impact factor 3.206 (2021) (Accepted)		2022
16	Microbial diversity, interactions and biodegradation/biotransformation of organic and inorganic contaminants Microbial Community Studies in Industrial Wastewater Treatment (Book Chapter CRC Press)(Accepted)		2022
17	Effect of Pharmaceutical Effluent on Morphological and Biochemical Parameters in Vigna radiata (Linn) R W Raut, N G Tarapurwala, V D Mendhulkar Advances in Plant Sciences 20 (1), 289	1	2007
18	Mitotic depression in Trigonella foenum graecum Linn treated with sodium azide (SA) D Mendhulkar, DS Gupta, RW Raut Advances in Plant Sciences 18 (2), 529	1	2005

19	GREEN PROCESS FOR SYNTHESIZING METAL NANOPARTICLES WITHIN POLYMERIC MATRICES LJR Raut Rajesh W., Srivastava Rohit, Tharayil Deepika D. IN Patent 202,121,046,488 Awarded		2022
20	Membrane-Based Technologies for the Removal of Toxic Pollutants S Patwardan, RW Raut, NS Wagh, J Lakkakula Removal of Refractory Pollutants from Wastewater Treatment Plants , 335-368 (Book Chapter CRC Press)		2021
21	ALLOY, BI AND TRI METALLIC NANOPARTICLES AND METHOD FOR GREEN SYNTHESIS OF SAID NANOPARTICLES” IN Patent App. 201,721,029,703 Published		2017
22	PROCESS FOR GROWING THE SILVER NANOPARTICLES ON THE FIBRES. SBK Rajesh Warluji Raut IN Patent 90/MUM/2,013 Awarded		2021
23	Comparative assessment for the nutritional quality of sprouted and dried legume seeds. VD Mendhulkar, AM Shaikh, RW Raut Advances in Plant Sciences 22 (1), 85-88		2009
24	Effect of Chromium from Tannery Effluent on some Physiological and Biochemical Parameters in <i>Vigna radiata</i> Linn. Seedlings Grown under In-vitro Conditions. RW Raut, S Kolvekar, Mendhulkar, V. D. Advances in Plant Sciences 20 (2)		2008
25	Callus induction from leaf and stem explants of medicinally important plant <i>Blumea lacera</i> Linn. RW Raut, S Yaseen, VD Mendhulkar Genome Characterization: Basics and Applications , 352 (Book Chapter)		2007
26	Chlorophyll estimation and raphide quantification in <i>Colocasia esculenta</i> (L.) Schott. grown in polluted condition VD Mendhulkar, SB Panchal, RW Raut Advances in Plant Sciences 19 (1), 68		2006
27	Palmer Dermatoglyphy in Mentally Retarded Individuals. VD Mendhulkar, U Siddiqui, Raut, R.W Journal of Cytology and Genetics 1 (1)		2005

Published 3 Indian Patent Awarded-02

Ongoing research project:

Fabrication and development of In situ Characterization of soil element determination system, funding agency Rajiv Gandhi Science and Technology Commission, sanction amount 86.104 lakh.

Recognized Research Guide in Botany and Biotechnology of the University of Mumbai and Dr. Homi Bhabha State University Mumbai

Students Registered for Ph.D. degree: 04

Guidance for M. Sc. Dissertation: 52

Reviewer for International Journals:

1. Current Nanoscience
2. IET Nanobiotechnology
3. Dove press Journals
4. Colloids and Surfaces B
5. Materials Letters
6. Nano-Micro Letters
7. Photochemistry and Photobiology B
8. Plant Physiology and Biochemistry
9. The Arabian Journal for Science and Engineering
10. Nanotechnology, Science, and Applications
11. Micron
12. International Journal of Agricultural Policy and Research
13. International Journal of Nanomedicine

Paper Presented in conferences / Seminars: 20

Contribution to the design of new Courses & Curriculum:

BOS of Botany member in Dr. Homi Bhabha State University Mumbai

Extension work carried out:

Guest Lectures delivered **06**

Contribution to College committees: -

Convener: Website Committee

Member: IQAC committee, NAAC steering committee, UGC committee, NIRF committee.

Contribution to Student related co-curricular, extension, and field-based activities:

Organization of a Botanical study tour for collection and identification of plants of UG and PG classes to local areas and out of state every year

Contribution to Examination work:

Worked as a Paper Setter, External examiner for PG Botany at SGBA University, Amravati
Worked as Paper Setter, Paper Assessment, Invigilator, External and Internal Examiner, for PG Examination of the University of Mumbai and Dr. Homi Bhabha State University Mumbai.