

Department of chemistry

PATENT DETAILS: 2023-Till date

<u>Sl.No</u>	Name of the Inventor	Department	Title of the Patent	Patent No	Applied Date	Granted
1	Dr.H.N.Gayathri	Chemistry	Electricity generator from municipal wastewater using microbial fuel cells	6367812	23/05/2024	31/05/2024 UK Granted
2	Dr.H.N.Gayathri	Chemistry	Low Cost defloridation unit for ground water remediation	417305-001	17/05/2024	17/05/2024 Indian Granted
3	Dr.Usha Jinendra	Chemistry	Sustainable Water Management System Using Advanced Oxidation Process and IOT Monitoring	430078-001	23/10/2024	11/09/2024 Indian Granted
4	Dr.Usha Jinendra	Chemistry	Biofiltration device for Enhanced Removal of Microplastics and Organic Pollutants from Aquatic Environments	429336-001	4/9/2024	15/12/2024 Indian Granted
5	Dr.Usha Jinendra	Chemistry	Integrated system for smart inventory management: Unique management approach.	202311082-986	2023	2023 Indian Granted
6	Dr.Usha Jinendra	Chemistry	System to implement cyber security and institutional strategy incorporating principles of management	202311064767	2023	2023 Indian Granted

PATENT DETAILS: 2022-23

SL NO	NAME OF THE FACULTY	Department	Title of the Patent	Patent No	Applied Date	Granted
1	Dr.H.N.Gayathri	chemistry	A Wastewater Treatment System Using Combination Of Different Graded Soils	2022/10459	2022/12/21	REPUBLIC OF SOUTH AFRICA 21 years from the date of publication
2	Dr.H.N.Gayathri	chemistry	Prosthetic For Lower Extremity	369332-001	18/8/22	India 20 years from the date of publication
3	Dr.H.N.Gayathri	chemistry	Biogas Generator From Combination Of Food Waste And Water	6298500	01 /8/2023	UK 5 years from the date of publication

PATENT DETAILS: 2021-22

SL NO	NAME OF THE FACULTY	Department	Title of the Patent	Patent No	Applied Date	Granted
1	Dr.H.N.Gayathri	Chemistry	Cost effective water filtration system and treatment method thereof	2021101309	3/12/2021	AUSTRALIA 8 Years From The Date Of Publishing
2	Dr.H.N.Gayathri	Chemistry	A critical evaluative process for the groundwater stability indices	2021101301	3/12/2021	
3	Dr.H.N.Gayathri	Chemistry	A system for developing an activated carbon for biosorption of cadmium ions from aqueous solution	CO1B32/31 2202021106 578	12-Jan-22	GERMAN 10 Years From The Date Of Publishing

Research Publication Details For The Year 2024—Till Date

S.No	Name of the faculty	Department	Title of the paper	Journal / Conference	ISSN/ISBN/IF/ Publication Index
1	Dr.H.N.Gayathri	Chemistry	Data-Driven Approach: Predicting Critical Braking Temperature in Train Wheels Using Fiber Bragg Grating Sensors	Publisher: IEEE EXPLORER Feb 2025	ISSN 2473/Proceedings of the International Conference on Eco-friendly Fibers and Polymeric Materials 2024/1386-1425
2	Dr C ShanmugaSundari	Chemistry	Comprehensive Review on Eco-Friendly Fillers 2012–2023: A Potential Resource for Polymer Composites	Proceedings of the International Conference on Eco-friendly Fibers and Polymeric Materials 2024	Proceedings of the International Conference on Eco-friendly Fibers and Polymeric Materials 2024 1386-1425
3	Dr Usha Jinendra	Chemistry	Investigations of adsorption and photoluminescence properties of encapsulated Al–ZnO nanostructures: Synthesis, morphology and dye degradation studies	Heliyon	24058440/3.4/Elsevier BV
4	Dr Usha Jinendra	Chemistry	Synthesis, characterization, and photoluminescence investigations of Al/Co-doped ZnO nanopowder	Journal of Molecular Structure	222860/3.85/Elsevier
5	Dr Usha Jinendra	Chemistry	Multiresidue Pesticide Analysis in Onion Using GC-MS/MS Using Modified QuEChERS Method with Zirconium Oxide Nanoparticle	Food Analytical Methods	19369751/2.6/ Springer New York
6	Dr Usha Jinendra	Chemistry	Evaluation of antioxidant and antibacterial activities of silver nanoparticles derived from Limonia acidissima L. fruit extract	Current Research in Green and Sustainable Chemistry	26660865/7.1/Elsevier

Research Publication Details for the Year 2023—24

Sl. No.	Name of the Teacher (s)	Department	Title of Paper	Publication citation	National or International Journal
1	Dr.H.N.Gayathri	Chemistry	Detection of intraerythrocytic stages of malaria parasite using one-dimensional Bragg mirror optical sensor	https://doi.org/10.1007/s12596-024-01669-5	International
2	Dr.H.N.Gayathri	Chemistry	Design and Analysis of 2D Photonic Biosensor with ML for Respiratory Virus Detection	https://doi.org/10.56042/ije.ms.v30i4.2520	National
3	Dr.H.N.Gayathri	Chemistry	Design and simulation of a highly sensitive one-dimensional photonic crystal for different chemical sensing applications	10.1016/j.rio.2023.100376	International
4	Dr.H.N.Gayathri	Chemistry	FEM Analysis of Railway Brake Disc for Safety of Train	2023 10th International Conference on Computing for Sustainable Global Development (INDIA Com)	International
5	Dr.Usha Jinendra	Chemistry	Encapsulated Co-ZnO nanospheres as degradation tool for organic pollutants: synthesis, morphology, adsorption and photo luminescent investigations	https://doi.org/10.1016/j.crgsc.2024.100399	International
6	Dr.Usha Jinendra	Chemistry	Multiresidue pesticide analysis in green chilli using GC–MS/MS using modified QuEChERS method with highly efficient Fe ₃ O ₄ @ CFR@ GO nanocomposite	https://doi.org/10.1016/j.molstruc.2024.137701	International
7	Dr.Usha Jinendra	Chemistry	Development of Almotriptan Malate Biodegradable Nanoparticles Loaded for Treatment of Migraine	https://doi.org/10.33745/ijzi.2024.v10i01.051	International
8	Dr. Shipra Bhati	Chemistry	Investigation of anti-depressant potential of 2-(4-methyl piperazin-1-yl)acetohydrazide-synthesis, DFT and docking study	10.13040/IJPSR.0975-8232.14(10).4893-98	International

Research Publication Details for the Year 2022—23

Sl.N O	Name of the author/s	Department	Title of paper	Journal / Conference	ISSN number
1	H N Gayathri	Chemistry	FEM Analysis of Railway Brake Disc for Safety of Train	IEEE Xplorer 2023 1803–7232	1803–7232
2	H N Gayathri	Chemistry	Design and simulation of a highly sensitive one-dimensional photonic crystal for different chemical sensing applications	Results in Optics 2023	2666-9501

Research Publication Details for the Year 2021—22

S.No	Name of the faculty	Departmen t	Title of the paper	Journal / Conference	ISSN/ISBN/IF/ Publication Index
1.	Dr. H N Gayathri	Chemistry	Performance analysis of Photonic crystal based biosensor for the detection of biomolecules in urine and blood	Materials Today proceedings, Elsevier	April 2021
2	Shipra Bhati	Chemistry	Synthesis, characterization and antimicrobial screening of imidazolones derivatives,	International Conference on Recent Intelligent Technologies in Science, Engineering, Humanities and Management	26th February, 2021, Cheran College of Engineering and International Association of Research and Developed Organization (IARDO), Tamilnadu.
3.	Shipra Bhati	chemistry	Synthesis, Characterization, Antimicrobial, Anti-tubercular, Antioxidant Activities and Docking Simulations of Derivatives of 2-(pyridin-3-yl)-1H-benzo[d]imidazole and 1, 3, 4-Oxadiazole Analogy	Letters in Drug Design & Discovery,	August, 2020,17(8): 1047 – 1059, ISSN: 1875-628X (Online), ISSN: 1570-1808 (Print)

4.	Shipra Bhati	chemistry	Structure-based drug designing of naphthalene based SARS-CoVPLpro inhibitors for the treatment of COVID-19,	Heliyon, Elsevier	Volume 6, Issue 11, 20 Nov., 2020, e05558, ISSN 2405-8440
5.	Shipra Bhati	chemistry	Synthesis, characterization and in vitro antimicrobial activity of sulfonamide derivatives bearing pyridine moiety,	Oral Presentation, Emerging Smart Materials in Applied Chemistry (ESMAC-2020), 10-12	Aug., 2020, KIIT, Bhubaneswar, Odisha

Book Publication/Chapter Details for the Year 2022—till date

S.No	Name of the faculty	Department	Title of the Book/Chapter	Publication	Year
1	Dr. Usha Jinendra	Chemistry	Textbook Of Research Methodology	IIP Series	2024
2	Dr. Usha Jinendra	Chemistry	Textbook Of Research Methodology	IIP Series	2024
3	Dr. Usha Jinendra	Chemistry	Nanotechnology	IIP Series	2024
4	Dr. Usha Jinendra	Chemistry	Research On Natural Product Chemistry	Bhumi Publishing	2024
5	Dr. Usha Jinendra	Chemistry	Waste Management	Bhumi Publishing	2024
6	Dr. Usha Jinendra	Chemistry	Environmental Science- 2nd Edition	LAP Lambert Academic Publication	2024
7	Dr. Usha Jinendra	Chemistry	Common Digestive Herbs Present In Indian Kitchen And 01 How They Benefit The Human Health	Integrity Media – The Publisher	2023