

Department of Chemistry
Research and Development

S. No.	Name of the faculty member	Research Area
1.	Dr. O. Senthilkumar	semiconducting and metallic nanomaterials and thin films, & waste water treatment
2.	Dr. G. Kanthimathi	Nanomaterials for Environmental Applications
3.	Dr. N. Revathi	Bio inorganic Chemistry: Pyrimidine based metal complexes.
4.	Dr. M. Venkatesh Perumal	Organic synthesis, Computational studies, Soil and Water analysis
5.	Dr. K. Leeladevi	Photocatalytic nanomaterials

List of Publications

- **Dr. N. Revathi**, Assistant Professor (Sr. Gr) published a paper on “Spectroscopic Studies on DNA interaction and anticancer activities of pharmacologically active pyrimidine derivative mixed ligand Co(II) and Ni(II) complexes” in Journal of Molecular Structure on 5 Dec 2021. (IF = 3.196)
- S.Pulla Reddy, J.Sai Chandra, K.S. Yoganand, **G.Kanthimathi** and K.V.L.N. Murthy published a paper on “Optimization and Validation of RP-HPLC Stability Indicating Method for Determination of Gliclazide in Pure and Bulk Drug” in Bulletin Of Environment, Pharmacology and Life Sciences Volume 11, 2022.(IF =0.982, WOS)
- C. Revathi, **O. Senthilkumar** and S. Soundeswaran published a paper on ‘Growth of Pyridinecarbothioamides and Single Crystal XRD Studies’ in Materials Today Proceedings, in Press (Nov 2022) on 11.11.2022
- C. Revathi, S. Soundeswaran and **O. Senthilkumar** published a paper on ‘Synthesis and Characterization of Dibromobis (dimethylglyoxime)cobalt(II) Complexes’ in AIP Conference Proceedings, Accepted (Oct 2022).
- S. Gurusamy, M. Sankarganesh, **N. Revathi**, R. Nandini Asha, A. Mathavan, Synthesis and structural investigation of o-Vanillin scaffold Schiff base metal complexes: Biomolecular interaction and molecular docking studies, Journal of Molecular Liquids, 369, 120941, 1.1.2023.
- Tarek A.Yousef, Abdulrahman G.Alhamzani, Mortaga M.Abou-Krishna, **G. Kanthimathi**, M.S.Raghu, K.Yogesh Kumar, M.K.Prashanth, Byong-Hun Jeon published a paper on”Synthesis, molecular docking study and anticancer activity of novel 1,3,4-oxadiazole derivatives as potential tubulin inhibitors” **Heliyon**, Science Direct. [Volume 9, Issue 2](#), February 2023, e13460. (SCI Indexed, IF 3.776) <https://www.sciencedirect.com/science/article/pii/S2405844023006679>.

- K.Jayamoorthy, N.R.Rajagopalan, S.M.Prakash, B.Subash, G.Murugan, K.I.Dhanalekshmi, S.Suresh, R.Sasikala, K.Saravanan, **M.Venkatesh Perumal**, published a paper on “Catalytic synthesis and characterization of aryl benzimidazole and its interaction with TiO₂ nanoparticles: ESIPT process” Chemical Physics Impact, Volume 6 (2023) 100184. (SCI Indexed, IF 0.639) <https://doi.org/10.1016/j.chphi.2023.100184> ISSN 2667-0224.
- **N. Revathi**, M. Sankarganesh, J. Dhavethu Raja, S. Johnson Raja, S. Gurusamy, R. Nandini Asha, T. Christopher Jeyakumar, Synthesis, spectral, DFT calculation, antimicrobial, antioxidant, DNA/BSA binding and molecular docking studies of bio-pharmacologically active pyrimidine appended Cu(II) and Zn(II) complexes, Journal of Biomolecular Structure & Dynamics, 6.4.2023.
- N. Ravisankar, N. Sarathi, T. Maruthavanan, Subramaniyan Ramasundaram, M. Ramesh, C. Sankar, S. Umamatheswari, **G. Kanthimathi**, Tae Hwan Oh, published a paper on “Synthesis, antimycobacterial screening, molecular docking, ADMET prediction and pharmacological evaluation on novel pyran-4-one bearing hydrazone, triazole and isoxazole moieties: Potential inhibitors of SARS CoV-2”, [Journal of Molecular Structure, Volume 1285](https://doi.org/10.1016/j.molstruc.2023.135461), 5 August 2023, 135461 <https://doi.org/10.1016/j.molstruc.2023.135461>. (SCI Indexed, IF 3.841)
- Hana Tadesse, **G.Kanthimathi** Raji Fayisa, Ponnusamy Thillai Arasu, Segni Asaf published a paper on “Antibacterial studies and characterization of newly synthesized ZnO/ZnS/CuS ternary nanocomposite” in Elsevier Materials Today Proceedings, in Press (July 2023) on 19.06.2023
- T.Vigneswari*, **G.Kanthimathi**, Lakshmanan Muthulakshmi, published a paper entitled “Superparamagnetic properties of iron oxide nanoparticles using vitex negundo leaf extract by green synthesis method and its antimicrobial activity against wound pathogen” in Elsevier Materials Today Proceedings, in Press (July 2023) on 19.06.2023.
- **N. Revathi**, M. Sankarganesh, J. Dhavethu Raja, J. Rajakanna, **O. Senthilkumar**, Green synthesis of *Plectranthus amboinicus* leaf extract incorporated fine-tuned manganese dioxide nanoparticles: antimicrobial and antioxidant activity, Inorganic Chemistry Communications, 154, 110935, August 2023.
- **Dr.M.Venkatesh Perumal**, A.Manicka Mamallan, V..Ragavan, "Determination and eco-friendly suppression of fluoride contamination in ground water samples using activated carbon constituents of carica papaya – A Natural Adsorbent,"Materials Today: Proceedings (Elsevier) - Accepted on 5 July 2023.
- Omod Ojulu, **G.Kanthimathi**, Raji Fayisa, Ponnusamy Thillai Arasu, published a paper entitled “Sensitivity and Selectivity Detection Studies of Fe (III) Using Cu(I) Complex of Schiff Base Material”, **Materials Science Forum**, ISSN:1662-9752, Vol. 1119, pp31-45, 2024, Trans Tech Publications Ltd, Switzerland on 29.03.2024 (<https://doi.org/10.4028/p-O8mOcg>, Scopus Indexed) - -

- **M.Venkatesh Perumal***, S.Nagarajan, R.Srinivasan, K.Jayamoorthy, T. Usharani, “Green Synthesis of Copper Nanoparticles Using Flower Extracts: A Promising Route For Enhanced Microelectronics Packaging”, **Journal of Molecular and Engineering Materials**, Accepted on 13.05.2024 (<https://doi.org/10.1142/S2251237324500102>, Indexed in **Web of Science & ESCI**, IF: 2.4).
- Lakshmanan Muthulakshmi, Shalini Mohan, **Gomathinayagam Kanthimathi**, Rajendran Rajaram published a paper entitled “Immobilization of EPS-modified sodium alginate microcapsule by co-polymerization for methylene blue dye adsorption and kinetics”, **Total Environment Advances**, Elsevier, on 11.07.2024. (<https://doi.org/10.1016/j.teadva.2024.200109>).
- Rajaram Pandiyan, Ganesan Sriram, Shen-Ming Chen, Ju-Ching Tsai, **Karuppasamy Leeladevi**, Tae Hwan Oh, Mohamed, and A. Habila published a paper entitled “Hydrothermal synthesis of CoSnO₃ nanocubes-incorporated graphitic carbon nitride for the efficient photodegradation of organic dye and antibiotic drug”, **Diamond & Related Materials**, Accepted on 12-08-2024. (<https://doi.org/10.1016/j.diamond.2024.111495>, Indexed in **Web of Science & ESCI**, IF: 4.3)
- S.Manimegalai, A.Prathiba, **G.Kanthimathi** and A.Mathina published a paper entitled “ A Comprehensive Corrosion Inhibition Behaviour Studies of *Leucophyllum frutescens* Leaves Extract for Mild Steel” **Asian Journal Of Chemistry**, Vol. 36, No.9 (2024) Accepted on 30.08.2024.ISSN: 0975-427X (Online) | ISSN: 0970-7077 (Print) <https://doi.org/10.14233/ajchem.2024.32109> (**Scopus Indexed**). IF : 4.1
- Dhanuja K., Manimegalai S., Prithiba A. **Kanthimathi G** and Ancy M.V. published a paper entitled “*Telosma cordata* and *Zephyranthes candida* mediated Green Synthesis of Zinc Oxide Nanoparticles using Plant Extract “ **Research Journal of Chemistry and Environment** (Res. J. Chem. Environ.) Vol. 28 (11) November 2024 Accepted on 01.11.2024. <https://doi.org/10.25303/2811rjce0990106>.(**Scopus Indexed**) .IF : 2.59.
- C. Revathi, **Senthilkumar O**, S. Soundeswaran, B. Sridevi and M. Muralisankar, Bioactive Components in Functional Foods, Mechanism of Action and Impacts on Health with a Focus on COVID-19, Current Research in Food and Nutrition Science, 2024; 12(3). ESCI. IF: 0.9
- **Senthilkumar O**, N.Karthikeyan, C. Revathi, S. Soundeswaran, and M. Muralisankar, Promoting learner autonomy of Generation-Z Engineering students: ICT needs and perceptions of the learners", **Journal of Engineering Education Transformations (JEET)**. Accepted. Scopus. IF: 1.6.
- R. Vijayakumar, R. Tamilarasan, K. Jayamoorthy, **M. Venkatesh Perumal**, Structural Elucidation and Computational Studies of Novel Bidentate Organometallic Complexes of 2-Thiophene Carboxylic Acid with Ethyl-2-Amino Acetate for Antidiabetic Applications, [**Journal of Molecular Structure**](#), Accepted on 21.02.2025, Vol. 1334, 2025, 141829

(Available Online), Web of Science Core Collection: Science Citation Index Expanded, IF: 4.0

- **M.Venkatesh Perumal***, S.Nagarajan, **G. Kanthimathi**, T. Usharani, M. Anandakumar, “Lanthanum Oxide Nanoparticles Synthesis Using Plant Extracts: A Greener Approach”, **Journal of Molecular and Engineering Materials**, (2025) 2550012 (7 pages), **Web of Science Indexed & ESCI, IF: 2.4**. DOI: 10.1142/S2251237325500121.

PATENT Filed / Granted

1. Patent granted for S.Jeyanthi, A.Arun Kumar, S.Kannan, **G.Kanthimathi and O.Senthil Kumar** entitled “Multi Terminal Corrosion Free Service Line Clamp” on 01.02.2024, Patent Number: 516892, **Date of Filing: 01.02.2021**.
2. M.Ananda Kumar, R.Umapriya, . Shaik Raziya, **M.Venkatesh Perumal**, S.Parameswari, S.Suresh and M.Sudhakar published a patent entitled “***Compositions and Methods for Inhibiting Amyloid Fibril Aggregation***”. Application No.202541015737 A; Date of filing of Application :23/02/2025; **Publication Date : 07.03.2025**.
3. M.Ananda Kumar, **M.Venkatesh Perumal**, G. Kanthimathi, B. Vahini, 1. R. Saravana kumar, T. Vigneswari and R. Kalaivani applied for a design patent entitled “**A Bottle for Chemical Storage**”. **Date of filing of Application: 30.04.2025**.