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57 Research Publications
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Reviewer in Journals

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- Chemical Physics Letters; Results in Engineering
- Biomass Conversion and Biorefinery
- Hybrid Advances
- Ionics
- Discover Applied Sciences

Research Specialization

- Nanotachnology
- Solar Energy Conversion and Pollution Control
- Dye-Sensitized Solar Cells
- Photocatalysis
- Green Synthesis of Nanomaterials
- Solar Thermal Energy Conversion
- Perovskite Solar Cells
- Solar Selective Absorbers
- Bactericidal Activity
- Graphene Modified Semiconductor Nanomaterials
- Dual and Ternary Semiconductor Nanocomposites
- Dye and Pharmaceutical Effuleant Treatment
- Energy Storage
- Anticancer Activity
- Respirable Particulate Pollution

Personal Information

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Academic Credentials

Ph.D. (2008–2016)

Department of Natural Resources & Waste Recycling, School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai, Tamil Nadu, India

(**Thesis Title:** Respirable Particulate and Heavy Metal Pollution in Madurai City; **Date of Award:** 01.04.2016)

DST–SERB JRF (2013–2016)

Department of Marine & Coastal Studies, School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai, Tamil Nadu, India

(**Project Work:** Dye-sensitized solar cells (Applicability of marine seaweed pigments as sensitizers in dye-sensitized solar cells)

UGC-UPE (JRF/SRF) (2007–2012)

Department of Natural Resources & Waste Recycling, School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai, Tamil Nadu, India

(**Project Work:** Dye-sensitized solar cells (Photoanode and electrolyte modifications in dye-sensitized solar cells)

M.Phil. (2005–2006)

School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai, Tamil Nadu, India

(*First Class in* ***Energy & Environment*** (68.3%))

M.Sc. (2002–2004)

School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai, Tamil Nadu, India

(*First Class in* ***Energy Sciences*** (78.8%))

B.Sc. (1999–2002)

Jayaraj Chelladurai College, Periyakumam, Tamil Nadu, India

(*First Class in* ***Physics*** (73.8%))

HSC (+2) (1998–1999)

Nadar Saraswathi Higher Secondary School, Theni, Tamil Nadu, India

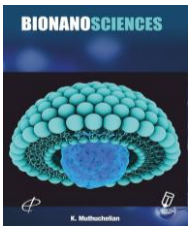
(*First Class in* ***Bio-Mathematics*** (71.0%))

SSLC (10th) (1996–1997)

Nadar Saraswathi Higher Secondary School, Theni, Tamil Nadu, India

(*First Class* (83.0%))

Book Chapters Published



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4. M. Kandasamy, **S. Suresh,** Adel El-marghany, N. Pugazhenthiran, S. Karthick Kumar, S. Murugesan, M.N.M. Ansari, Plasmonic silver nanoparticles anchored ethylenediamine-titania nanobelt composite photoanode for efficient electron transport in dye-sensitized solar cell, ***Materials Research Bulletin*** 171 (2024) 112602, https://doi.org/10.1016/j.materresbull.2023.112602. ***(Impact Factor = 5.3)***

5. M. Kandasamy, Ahmad Husain, **S. Suresh,** Jayant Giri, Dheyaa J. Jasim, P. Rameshkumar, Hamad A. Al-Lohedan, S. Thambidurai, Niraj Kumar, M.N.M. Ansari, S. Murugesan, Enhanced dye-sensitized solar cell performance and electrochemical capacitive behavior of bi-functional ZnO/NiO/Co3O4 ternary nanocomposite prepared by chemical co-precipitation method, ***Journal of Science: Advanced Materials and Devices*** 9 (2024) 100726, https://doi.org/10.1016/j.jsamd.2024.100726. ***(Impact Factor = 6.7)***

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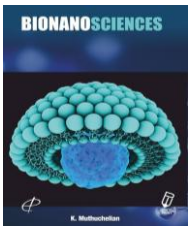

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8. K. Vinayagar, S. Karthick Kumar, A.I. Almansour, K. Sivaramasundaram, J. Selvi, N. Pugazhenthiran, M. Kandasamy, K. Muthuchelian, **S. Suresh,** Solar to thermal energy conversion potential of carbon nanotubes modified copper oxide nanocomposite thin film solar selective absorbers, ***ChemistrySelect*** 9 (2024) e202401042, https://doi.org/10.1002/slct.202401042. ***(Impact Factor = 1.9)***

9. N. Murugesan, **S. Suresh,** S. Murugesan, B.K. Balachandar, M. Kandasamy, N. Pugazhenthiran, J. Selvi, P. Indira, S. Karthick Kumar, Improving selectivity of thin film solar absorber by cobalt oxide grafted reduced graphene oxide, ***Optical Materials*** 138 (2023) 113629, https://doi.org/10.1016/j.optmat.2023.113629. ***(Impact Factor = 3.8)***

10. N. Pugazhenthiran, P. Sathishkumar, Omeer Albormani, S. Murugesan, M. Kandasamy, M. Selvaraj, **S. Suresh,** S. Karthick Kumar, D. Contreras, H. Váldes, R.V. Mangalaraja, Silver nanoparticles modified ZnO nanocatalysts for effective degradation of ceftiofur sodium under UV–vis light illumination, ***Chemosphere*** 313 (2023) 137515, https://doi.org/10.1016/j.chemosphere.2022.137515. ***(Impact Factor = 8.1)***

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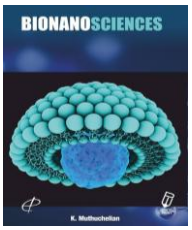

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13. S. Thambidurai, J. Arumugam, M. Kandasamy, D. Balaji, N. Pugazhenthiran, R. Jothilakshmi, B. Sathish Kumar, K. Murugesan, S. Karthick Kumar, T. Muneeswaran, K. Jayakumar, **S. Suresh,** *Vitex negundo* and *Euphorbia milii* leaf extracts aided green synthesis of copper oxide nanostructures for effective inactivation of pathogenic bacteria, ***Chemical Physics Letters*** 832 (2023) 140881, https://doi.org/10.1016/j.cplett.2023.140881. ***(Impact Factor = 2.8)***

14. **S. Suresh,** K.M. Prabu, R. Arivuselvi, M. Kandasamy, N. Pugazhenthiran, S. Karthick Kumar, R. Jothilakshmi, K. Murugesan, Cow dung extract as a low-cost and natural sensitizer for zinc oxide nanoparticles photoanode based dye-sensitized solar cell: A novel initiative for waste to energy conversion, ***Results in Chemistry*** 6 (2023) 101060, https://doi.org/10.1016/j.rechem.2023.101060. ***(Impact Factor = 2.5)***

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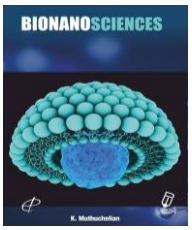

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20. N. Murugesan, **S. Suresh,** M. Kandasamy, S. Murugesan, N. Pugazhenthiran, S. Karthick Kumar, Enhancing selectivity of solar absorber using reduced graphene oxide modified nickel oxide nanocomposite thin films, ***Solar Energy*** 247 (2022) 185–195, https://doi.org/10.1016/j.solener.2022.10.016. ***(Impact Factor = 6.0)***

21. **S. Suresh,** S. Thambidurai, J. Arumugam, M. Kandasamy, N. Pugazhenthiran, D. Balaji, Bandar Ali Al-Asbahi, N. Ramesh Reddy, A. Arunkumar, T. Muneeswaran, Antibacterial activity and photocatalytic oxidative performance of zinc oxide nanorods biosynthesized using *Aerva lanata* leaf extract, ***Inorganic Chemistry Communications*** 139 (2022) 109398, https://doi.org/10.1016/j.inoche.2022.109398. ***(Impact Factor = 4.4)***

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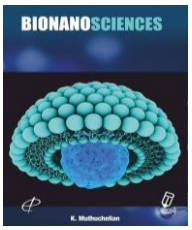

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24. S. Venkatesan, **S. Suresh,** P. Ramu, M. Kandasamy, J. Arumugam, S. Thambidurai, K.M. Prabu, N. Pugazhenthiran, Biosynthesis of zinc oxide nanoparticles using *Euphorbia milii* leaf constituents: Characterization and improved photocatalytic degradation of methylene blue dye under natural sunlight, ***Journal of the Indian Chemical Society*** 99 (2022) 100436, https://doi.org/10.1016/j.jics.2022.100436. ***(Impact Factor = 3.2)***

25. S. Kanimozhi, **S. Suresh,** **S**. Thambidurai, N. Suresh, K.M. Prabu, Facile co-precipitation assisted synthesis and characterization of zinc oxide-tin oxide nanocomposites and their performance evaluation as photoanodes in dye-sensitized solar cell, ***Results in Chemistry*** 4 (2022) 100615, https://doi.org/10.1016/j.rechem.2022.100615. ***(Impact Factor = 2.5)***

26. G. Kalaiyan, **S. Suresh,** K.M. Prabu, S. Thambidurai, M. Kandasamy, N. Pugazhenthiran, S. Karthick Kumar, T. Muneeswaran, Bactericidal activity of *Moringa oleifera* leaf extract assisted green synthesis of hierarchical copper oxide microspheres against pathogenic bacterial strains, ***Journal of Environmental Chemical Engineering*** 9 (2021) 104847, https://doi.org/10.1016/j.jece.2020.104847. ***(Impact Factor = 7.4)***

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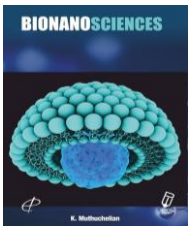

27. R. Sasikala, M. Kandasamy, **S. Suresh,** V. Ragavendran, V. Sasirekha, J.M. Pearce, S. Murugesan, J. Mayandi, Enhanced dye-sensitized solar cell performance using strontium titanate perovskite integrated photoanodes modified with plasmonic silver nanoparticles, ***Journal of Alloys and Compounds*** 889 (2021) 161693, https://doi.org/10.1016/j.jallcom.2021.161693. ***(Impact Factor = 5.8)***

28. S. Kanimozhi, K.M. Prabu, S. Thambidurai, **S. Suresh,** Dye-sensitized solar cell performance and photocatalytic activity enhancement using binary zinc oxide-copper oxide nanocomposites prepared via co-precipitation route, ***Ceramics International*** 47 (2021) 30234–30246, https://doi.org/10.1016/j.ceramint.2021.07.203. ***(Impact Factor = 5.1)***

29. N. Pugazhenthiran, S. Murugesan, T. Muneeswaran, **S. Suresh,** M. Kandasamy, H. Valdés, M. Selvaraj, A. Dennyson Savariraj, R.V. Mangalaraja, Biocidal activity of *Citrus limetta* peel extract mediated green synthesized silver quantum dots against MCF-7 cancer cells and pathogenic bacteria, ***Journal of Environmental Chemical Engineering*** 9 (2021) 105089, https://doi.org/10.1016/j.jece.2021.105089. ***(Impact Factor = 7.4)***

30. S. Thambidurai, P. Gowthaman, M. Venkatachalam, **S. Suresh,** M. Kandasamy, Morphology dependent photovoltaic performance of zinc oxide-cobalt oxide nanoparticle/nanorod composites synthesized by simple chemical co-precipitation method, ***Journal of Alloys and Compounds*** 852 (2021) 156997, https://doi.org/10.1016/j.jallcom.2020.156997. ***(Impact Factor = 5.8)***

31. J. Arumugam, S. Thambidurai, **S. Suresh,** M. Selvapandiyan, M. Kandasamy, N. Pugazhenthiran, S. Karthick Kumar, T. Muneeswaran, Franck Quero, Green synthesis of zinc oxide nanoparticles using *Ficus carica* leaf extract and their bactericidal and photocatalytic performance evaluation, ***Chemical Physics Letters*** 783 (2021) 139040, https://doi.org/10.1016/j.cplett.2021.139040. ***(Impact Factor = 2.8)***

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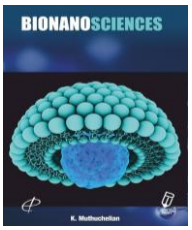

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34. N. Pugazhenthiran, R.V. Mangalaraja, S. Vijaya, **S. Suresh,** M. Kandasamy, P. Sathishkumar, H. Valdés, M.A. Gracia-Pinilla, S. Murugesan, S. Anandan, Fluorine-free synthesis of reduced graphene oxide modified anatase TiO2 nanoflowers photoanode with highly exposed {0 0 1} facets for high performance dye-sensitized solar cell, ***Solar Energy*** 211 (2020) 1017–1026, https://doi.org/10.1016/j.solener.2020.10.008. ***(Impact Factor = 6.0)***

35. G. Kalaiyan, **S. Suresh,** S. Thambidurai, K.M. Prabu, S. Karthick Kumar, N. Pugazhenthiran, M. Kandasamy, Green synthesis of hierarchical copper oxide microleaf bundles using *Hibiscus cannabinus* leaf extract for antibacterial application, ***Journal of Molecular Structure*** 1217 (2020) 128379, https://doi.org/10.1016/j.molstruc.2020.128379. ***(Impact Factor = 4.0)***

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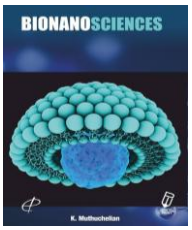

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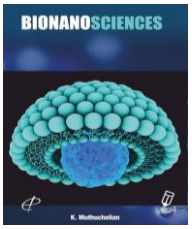

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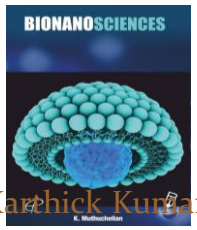

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Awards & Honors

1. Awarded as **Junior Research Fellow (JRF)** by the Scientific and Engineering Research Board (SERB), Department of Science and Technology (DST), Government of India, New Delhi, India. **(2013–2016)**

   Project Work: Dye-Sensitized Solar Cells (Applicability of Marine Seaweed Pigments as Sensitizers in Dye-Sensitized Solar Cells)

2. Awarded as **Senior Research Fellow (SRF)** by the University Grants Commission (UGC), Government of India, New Delhi, India under the scheme "**University with Potential for Excellence**". **(2010–2012)**

   Project Work: Dye-Sensitized Solar Cells (Photoanode and Electrolyte Modifications in Dye-Sensitized Solar Cells)

3. Awarded as **Junior Research Fellow (JRF)** by the University Grants Commission (UGC), Government of India, New Delhi, India under the scheme "**University with Potential for Excellence**". **(2007–2010)**

   Project Work: Dye-Sensitized Solar Cells (Photoanode and Electrolyte Modifications in Dye-Sensitized Solar Cells)

Instrumentation & Analytical Skills

1. **Dye-sensitized solar cell fabrication, testing and analysis through Autolab electrochemical workstation**
2. **UV-visible spectrophotometer with Diffuse Reflectance Spectral (DRS) accessory**
3. **Fourier-transform infrared (FTIR) spectroscopy**
4. **Total Organic Carbon (TOC) analyzer**
5. **Electrodeposition and anodization through Autolab electrochemical workstation and Keithley source meter**
6. **Heavy metal analysis through Atomic Absorption Spectrophotometer**
7. **Water quality analysis using BOD and COD analyzers**
8. **Elemental analysis by flame photometer**
9. **Ambient air quality and stack monitoring by standard instruments**
10. **Testing of solar flat plate and evacuated tube collectors**
11. **Physico-chemical analysis of water and waste water**
12. **CO, CO_2, NOx and noise level meters**

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