

Expert in environmental engineering and biotechnologist with a PhD in biochemical engineering and over 15+ years of experience in academic and research engineering roles that extend genetic engineering, membrane process designing and modeling, downstream process, water and wastewater treatment, environmental engineering, and Sensor for detecting chemicals and biomolecules. Proficiency in applied research and problem-solving to identify and lead engineering studies. Committed to offering scholars my undivided attention and expertise to assist them in achieving their academic and professional engineering objectives.

ACADEMIC CREDENTIAL

2018	AutoCad Certified Professional, Certification ID: 1WG24039W6
2009-2014	Ph.D., (BioChemical Engineering), Indian Institute of Technology Delhi , India.
2003-2005	M.Tech., (Biotechnology), Sathyabama Institute of Science and Technology , first class (77.73%), Tamil Nadu, India.
1999-2003	B.Tech., (Pharmaceutical Engineering and technology specialization in Chemical technology) Bharathidasan University , first class (69.5%), India.

Experiences:

Since 2018	Research Scientist , Aramco Laboratory for Applied Sensing Research Unit, King Abdullah Institute for Nanotechnology, King Saud University, Riyadh KSA.
Since 2015	Researcher , King Abdullah Institute for Nanotechnology, King Saud University, Riyadh, KSA.
2009 – 2014	Research Scholar (Doctoral Student) , Department of Biochemical Engineering and Biotechnology, Indian Institute of Technology Delhi, India.
2005 – 2009	Senior Project Associate , Indian Institute of Technology Delhi, India
2004	Graduate Research Participant , DBEB, Indian Institute of Technology Delhi

RESEARCH ACCOMPLISHMENTS

H-Index factor	17
Citations	:1200+
ORCID	: https://orcid.org/0000-0003-3716-1185
PUBLONS	: https://publons.com/researcher/2879780/muthumareeswaran-mr/
Google Scholar	: https://scholar.google.com/citations?hl=en&authuser= &user=ilbjLqsAAAAJ
Researcher ID	: C-5678-2008
Scopus ID	: 56206501300, 57219322350, 24172489900

RESEARCH PROJECTS

Since 2023	Research Supporting Program , King Saud University, Saudi Arabia, RSPD2023R1101; Role- PI
Since 2023	Institutional Funding Program For Research And Innovation oriented research publishing support program (3rd phase), King Saud University, Saudi Arabia, IFKSUOR3-301; Role- PI
Since 2022	Two research projects funded by Institutional Funding Program For Research And Innovation , King Saud University, Saudi Arabia <ul style="list-style-type: none">• Development of Polylactic Acid (PLA) based Nano-Engineered Biodegradable Thin Film Sheets – an Active Food Packaging Application (IFKSUDR_F143) role –PI; Grand 448275 SAR• Development of 3D printed biosensors for the sensing of glucose and other important analytes in biological fluids using MXenes (IFKSUDR_H173) role – CoI; Grand 484420 SAR

PATENTS

- N L Alanazi, A N Alodhayb, **Muthumareeswaran M.R** "Quartz tuning fork sensor-based dosimetry for sensitive detection of gamma radiation", submitted, US Patent, File No. 1001303815, 2020.
- G P. Agarwal, **Muthumareeswaran M.R**, U. Kharul, H. Lohokare, L. Thuyavan, "A Polyacrylonitrile ultrafiltration membrane for removal of arsenic and chromium", Patent No. IN201502470-I1, 2017.
- G P. Agarwal, **Muthumareeswaran M.R**, S. Singh, "A cross flow flexible membrane filtration assembly for small processing volume", Patent No. IN201203771-I1, 2013.

PROFESSIONAL TRAINING

- Worked as a trainee in **Laboratoire de Génie Chimique**, under the supervision of **Prof. Patrice Bacchin**, Department of chemical Engineering, **Université Paul Sabatier, Toulouse**, France, 2010.
- Worked as Project trainee in Membrane technology division, under the guidance of Dr. Ulhas Karul, Scientist, Polymer Science Division, National Chemical Laboratory Pune, INDIA, 2005.
- Worked as a Production Trainee in **Apex Laboratories Pvt. Limited**, Chennai, INDIA, 2002.

AWARDS

- **Travel award** from European membrane society (EMS), to attend International congress on membranes and membrane processes (ICOM14), China, 2014.
- **Young Scientist** International travel grant for award from "Department of Biotechnology", Government of India, 2014.
- **Young Scientist** International travel grant award from "Department of Science and Technology", Government of India, 2013.
- Award from "**France Government**" for Internship program of doctoral research at University of Toulouse, Toulouse, France, 2010.
- **Senior Research Fellow (SRF)** from "Council of Scientific and Industrial Research (CSIR)", Government of India, 2009.

TEACHING EXPERIENCE

- Since 2015 **Lecture and frequent presentation** on recent trends in membrane process engineering, water treatment, process design and simulation.
- 2010 – 2014 **Teaching assistantship** on graduate student courses such as Downstream Process Engineering (BE 820), Membrane Process Engineering (BE 461), including leading lectures and designing and assigning all homework, tests.

MENTORING EXPERIENCE

- Since 2016 **Co-Mentor**, KAIN, King Saud University, KSA :
- Trained students:
 - PhD students:
 - Postgraduate students:
 - Undergraduate students
- 2005 – 2014 **Lab Supervisor and Co-Mentor**, DBEB, Indian Institute of Technology Delhi, INDIA : Trained and guided to post graduate students (12 students) to complete their curriculum projects in the field of membrane process engineering and wastewater treatment.

PROFESSIONAL MEMBERSHIP

- Editorial board member – Scientific Reports Journal (since 2020)
- European membrane society, Member (since 2011)
- Institute of chemical engineer (ICHEM), Member (since 2012).

INSTRUMENTS HANDLED

- Quster System - for the application of Quartz Tuning Fork Sensors.
- PM3 System – for the application of microcantilever sensors
- Phase inversion method – flat sheet membranes; Hollow fiber spinning Unit; different modules of ultrafiltration, nanofiltration, reverse osmosis unit (dead end flow, tangential flow); forward osmosis and vacuum membrane distillation unit
- Atomic Force Microscopy (AFM), Ion Chromatography (IC), Atomic Absorption Spectroscopy (AAS), Fourier transform infrared spectroscopy (FTIR), Tangential Gravimetric Analysis (TGA), Differential Scanning Calorimetry (DSC), Electrokinetic Analyzer - solid surface analysis (SurPASS), High Performance/Pressure liquid chromatography (HPLC), Gas Chromatography (GC), Scanning Electron Microscope (SEM), UV-Visible spectrophotometer, fermenter, cell disruption unit (Bio neb, French press & Sonicator).

AREAS OF EXPERTISE

Engineering Skills

- Worked in sensors applications for detection of chemicals and simulation
- Worked in different membrane operation like ultrafiltration using plate and frame, stirred, thin channel flow and spiral module, Nanofiltration, RO via pilot scale, forward osmosis and vacuum membrane distillation (flat sheet as well hollow fiber).
- Water purification process for secondary level using membrane process
- Process designing, modeling and simulation via Autocad, Comsol Multiphysics, Matlab etc.,
- Preparing general process arrangement and developing equipment layout
- Preparing production and consumption figures.
- Process Calculation and Preparation of Process Data Sheets.
- Safety, environmental and operability reviews (HAZOP, HAZAN).
- Developing Installation and Operation Manual (Startup /Normal and Emergency Shutdown)
- Pre-commissioning, Commissioning and Stabilization

Project Management Skills

- Defining the scope and Coordinating with the Reviewer Committee.
- Preparing and evaluating the upcoming projects
- Sending enquiries, getting quotations, technical bid analysis, negotiation, placing of purchase order for Equipment's.
- Execution of projects through lab work.

INTERNATIONAL JOURNAL (SELECTED) PUBLICATIONS

1. **Muthuramamoorthy, M.**, Aldalbahi, A., Radi Alanzi, K. M., Pandiaraj, S., Karuppiah, P., & Govindasami, P. (2024). Production of Low-cost Lactic Acid from Dairy Wastes and Dates Wastewater for Bioactive Silver-Poly (lactic acid) Nanocomposite for Biological Applications. *BioResources*, 19(3). **Impact Factor: 1.3**
2. Alanazi N, Alshareef S, **Muthuramamoorthy M**, Shamma K, Alsowygh G, Aldawood S, Albrithen H, Alodhayb AN. Sensitive detection of low doses beta particles using quartz crystal oscillators. *Journal of Radiation Research and Applied Sciences*. 2024 Sep 1;17(3):100921. **Impact Factor: 1.9**
3. **Muthuramamoorthy M**, Aldalbahi A, Alanzi KM, Pandiaraj S, Karuppiah P, Govindasami P. Production of Low-cost Lactic Acid from Dairy Wastes and Dates Wastewater and Bioactive Silver-Poly (Lactic Acid) Nanocomposite for Biological Applications. *BioResources*. 2024 Jul 2; 19(3):5632-53. **Impact Factor: 1.5**
4. Alshraim A, Gopal TS, Alanazi N, **M. Muthuramamoorthy**, Alobaidi AA, Alsaigh R, Aldosary M, Pandiaraj S, Grace AN, Alodhayb AN. Cu/Cu₂O/C nanoparticles and MXene based composite for non-enzymatic glucose sensors. *Nanotechnology*. 2024 Jun 21;35(36):365704. **Impact Factor: 2.8**
5. N. Mathiazhagan, N.K. Sivakumar, S. Palaniyappan, **M. Muthuramamoorthy**, "A topological approach for optimizing the dimensional properties of various bioinspired periodic type honeycomb latticed carbon fiber reinforced glycol-modified poly (ethylene terephthalate) composite materials", *Polymer Composites* 45(6) (2024) 5068-5083. **Impact Factor: 5.2**
6. G. Poongavanam, P. Sundaram, A. Sathishkumar, K. Sureshkumar, B. Subramanian, S. Pandiaraj, **M. Muthuramamoorthy**, A.N. Alodhayb, "Augmenting the heat transfer performance of automobile

- radiators by combining surface modification and nanofluid techniques", *Journal of Thermal Analysis and Calorimetry* 149(9) (2024) 4087-4102. **Impact Factor: 4.4**
7. M. Shariq, S. Marimuthu, A.R. Dixit, S. Chattopadhyaya, S. Pandiaraj, **M. Muthuramamoorthy**, A.N. Alodhyab, M. Khaja Nazeeruddin, A.N. Grace, "Machine learning models for prediction of electrochemical properties in supercapacitor electrodes using MXene and graphene nanoplatelets", *Chemical Engineering Journal* 484 (2024) 149502. **Impact Factor: 15.1**
 8. H. Alrashed, A. Obeid, H. Albrithen, **M. Muthuramamoorthy**, S. Rahman, M.A. Al-Gawati, A.N. Alodhayb, "Modeling the mechanical response of microelectromechanical system (MEMS)-based sensors to volatile alcohol vapors: A finite element analysis", *AIP Advances* 14(3) (2024). **Impact Factor: 1.6**
 9. N. Thirumalaivasan, S. Mahapatra, G. Ramanathan, A. Kumar, T. Raja, **M. Muthuramamoorthy**, B. Pandit, S. Pandiaraj, S. Prakash, "Exploring antimicrobial and biocompatible applications of eco-friendly fluorescent carbon dots derived from fast-food packaging waste transformation", *Environmental Research* 244 (2024) 117888. **Impact Factor: 8.3**
 10. D. Bhavani J, T.s. Gopal, S. Gnanasekar, S. Pandiaraj, **M. Muthuramamoorthy**, A.N. Alodhayb, N.G. Andrews, "Ultrasonic Interferometry and Physiothermal properties of Al₂O₃/CuO nanofluids", *Case Studies in Thermal Engineering* 55 (2024) 104120. **Impact Factor: 6.8**
 11. T. Selvi Gopal, J.T. James, B. Gunaseelan, K. Ramesh, V. Raghavan, A.C. Malathi, K. Amarnath, V.G. Kumar, S.J. Rajasekaran, S. Pandiaraj, **M. Muthuramamoorthy**, S. Pitchaimuthu, C. Abeykoon, A.N. Alodhayb, A.N. Grace, "MXene-Embedded Porous Carbon-Based Cu(2)O Nanocomposites for Non-Enzymatic Glucose Sensors", *ACS omega* 9(7) (2024) 8448-8456. **Impact Factor: 4.1**
 12. S. Pandiaraj, **M. Muthuramamoorthy**, N. Alanazi, A.N. Alodhayb, "Enhanced Sensitivity of SPR-Based Biosensor for Waterborne Pathogen Monitoring: A Numerical Analysis", *Plasmonics* (2024). **Impact Factor: 3.0**
 13. K. Prabhu, S.J. Malode, N.P. Shetti, S. Pandiaraj, A. Alodhayb, **M. Muthuramamoorthy**, "Determination of fungicide at Ru-doped TiO₂/reduced graphene oxide decorated electrochemical sensor", *Microchemical Journal* 197 (2024) 109722. **Impact Factor: 4.8**
 14. K. Gothandapani, G.T. Selvi, R.S. Jennifer, V. Velmurugan, S. Pandiaraj, **M. Muthuramamoorthy**, S. Pitchaimuthu, V. Raghavan, A.C.J. Malathi, A. Alodhayb, "Ni-Ti₃C₂ MXene composite derived from Ni-metal organic framework for electrochemical hydrogen evolution reaction in acidic and alkaline medium", *Int J Hydrogen Energy* 52 (2024) 1164-1171. **Impact Factor: 7.2**
 15. K. Gothandapani, R.S. Jennifer, G. Tamil Selvi, V. Velmurugan, A.K. Assaifan, K.E. Alzahrani, H. Albrithen, **M. Muthuramamoorthy**, S. Pandiaraj, S. Pitchaimuthu, A.N. Alodhayb, A.N. Grace, "Nickel nanoparticles supported on carbon surface as an electrocatalyst for hydrogen evolution reaction", *Int J Hydrogen Energy* 52 (2024) 1137-1146. **Impact Factor: 7.2**
 16. A.S.B. Packirisamy, V.A. Basheer, S.N. Ravi, **M. Muthuramamoorthy**, S. Manoharadas, C.M. Chandrasekar, S. Muthusamy, "Antioxidant and Cardioprotective Property of Polyphenols from Natural Sources on Protein Denaturation and Vasorelaxation in Chick Embryo Model: A Replacing Study for Animal Model Testing", *Topics in Catalysis* 67(1) (2024) 313-324. **Impact Factor: 3.6**
 17. S. Marimuthu, S. Pandiaraj, **M. Muthuramamoorthy**, K.E. Alzahrani, A.N. Alodhayb, S. Pitchaimuthu, A.N. Grace, "Experimental and computational DFT, drift-diffusion studies of cobalt-based hybrid perovskite crystals as absorbers in perovskite solar cells", *Physical Chemistry Chemical Physics* 26(5) (2024) 4262-4277. **Impact Factor: 3.3**
 18. S. Palaniyappan, N.K. Sivakumar, P. Sikder, A. Alodhayb, **M. Muthuramamoorthy**, "Topological design factor optimization in the development of periodic-type honeycomb lattice structure on the carbon fiber reinforced polyethylene terephthalate glycol composite", *Polymer Composites* 44(12) (2023) 8640-8657. **Impact Factor: 5.2**
 19. S. Pandiaraj, **M. Muthuramamoorthy**, N. Alanazi, A.N. Alodhayb, "Detection of Infected and Normal Blood Sample Containing Plasma Using Long-Range Surface Plasmon Resonance Sensor", *Plasmonics* (2023) 1-11. **Impact Factor: 3.0**
 20. H. Manivannan, A. Krishnamurthy, R. Macherlla, S. Chidambaram, S. Pandiaraj, **M. Muthuramamoorthy**, S. Ethiraj, G.M. Kumar, "Enhancing the silica-magnetic catalyst-assisted bioethanol production from

- biowaste via ultrasonics", Clean Technologies and Environmental Policy (2023) 1-12. **Impact Factor: 4.3**
21. K. Prabhu, S.J. Malode, N.P. Shetti, S. Pandiaraj, A. Alodhayb, **M. Muthuramamoorthy**, "Electro-sensing layer constructed of a WO₃/CuO nanocomposite, for the electrochemical determination of 2-phenylphenol fungicide", Environmental Research 236 (2023) 116710. **Impact Factor: 8.3**
 22. R. Venkatesan, S. Surya, S. Suganthi, **M. Muthuramamoorthy**, S. Pandiaraj, S.-C. Kim, "Biodegradable composites from poly (butylene adipate-co-terephthalate) with carbon nanoparticles: Preparation, characterization and performances", Environmental Research 235 (2023) 116634. **Impact Factor: 8.3**
 23. S. Marimuthu, S. Shriswaroop, **M. Muthumareeswaran**, S. Pandiaraj, A.N. Alodhayb, T.A. Alrebdi, A.N. Grace, "Drift diffusion modelling of cell parameters effect on the performance of perovskite solar cells with MXene as additives", Solar Energy 262 (2023) 111804. **Impact Factor: 6.7**
 24. N.M. Badawi, K.M. Batoo, R. Subramaniam, R. Kasi, S. Hussain, A. Imran, **M. Muthuramamoorthy**, "Highly Conductive and Reusable Cellulose Hydrogels for Supercapacitor Applications", Micromachines 14(7) (2023) 1461. **Impact Factor: 3.4**
 25. N.B. Mohammed, K.M. Batoo, S. Hussain, R. Subramaniam, R. Kasi, M. Bhuyan, A. Imran, **M. Muthuramamoorthy**, "Natural solid-state hydrogel electrolytes based on 3D pure cotton/graphene for supercapacitor application", Micromachines 14(7) (2023) 1379. **Impact Factor: 3.4**
 26. N. Alanazi, T. Selvi Gopal, **M. Muthuramamoorthy**, A.A.E. Alobaidi, R.A. Alsaigh, M.H. Aldosary, S. Pandiaraj, M. Almutairi, A.N. Grace, A. Alodhayb, "Cu₂O/MXene/rGO ternary nanocomposites as sensing electrodes for nonenzymatic glucose sensors", ACS Applied Nano Materials 6(13) (2023) 12271-12281. **Impact Factor: 5.9**
 27. A. Alshammari, S.T. Abdulmawla, R. Alsaigh, K.M. Alarjani, N.S. Aldosari, **M. Muthuramamoorthy**, A.K. Assaifan, H. Albrithen, K.E. Alzahrani, A.N. Alodhayb, "Toward the Real-Time and Rapid Quantification of Bacterial Cells Utilizing a Quartz Tuning Fork Sensor", Micromachines 14(6) (2023) 1114. **Impact Factor: 3.4**
 28. G.A. Khouqeer, S. Suganthi, N. Alanazi, A. Alodhayb, **M. Muthuramamoorthy**, S. Pandiaraj, "Design of MEMS capacitive comb accelerometer with perforated proof mass for seismic applications", Journal of King Saud University-Science 35(3) (2023) 102560. **Impact Factor: 3.8**
 29. S. Suganthi, K.A. Alibrahim, S.S. Kumar, P. Saminathan, A. Alodhayb, B. Aneeba, V.R.P. Sethuraman, **M. Muthumareeswaran**, "Finite element analysis of three-stage micro-sieves based microfiltration technique", Journal of King Saud University-Science 35(3) (2023) 102497. **Impact Factor: 3.8**
 30. M. Soundarrajan, K.A. Alibrahim, J. Krishnamurthi, P. Maheswari, A. Harikrishnan, A. Alodhayb, **M. Muthumareeswaran**, "Preparation, enhancement of permeability, and anti-biofouling properties of PEES/nano-silver/PVP mixed-matrix membrane", Materials Research Express 10(1) (2023) 015301. **Impact Factor: 2.3**
 31. S. Rahman, M.A. Al-Gawati, F.S. Alfaifi, **M. Muthuramamoorthy**, A.F. Alanazi, H. Albrithen, K.E. Alzahrani, A.K. Assaifan, A.N. Alodhayb, P.E. Georghiou, "The Effect of Counterions on the Detection of Cu²⁺ Ions in Aqueous Solutions Using Quartz Tuning Fork (QTF) Sensors Modified with L-Cysteine Self-Assembled Monolayers: Experimental and Quantum Chemical DFT Study", Chemosensors 11(2) (2023) 88. **Impact Factor: 4.2**
 32. N. Pradeep, T. selvi Gopal, U. Venkatraman, T.A. Alrebdi, S. Pandiaraj, A. Alodhayb, **M. Muthuramamoorthy**, S.Y. Kim, Q. Van Le, S. Khan, "Effect of substrate bending towards chemiresistive based hydrogen gas sensor using ZnO-decorated MgO nanocubes", Materials Today Chemistry 26 (2022) 101200. **Impact Factor: 7.3**
 33. T.S. Gopal, K.E. Alzahrani, A.K. Assaifan, H. Albrithen, A. Alodhayb, **M. Muthuramamoorthy**, S. Pandiaraj, A.N. Grace, "Reduced graphene oxide supported MXene based metal oxide ternary composite electrodes for non-enzymatic glucose sensor applications", Scientific Reports 12(1) (2022) 20583. **Impact Factor: 4.6**
 34. A. Alshammri, R. Alsaigh, K.E. Alzahrani, A.K. Assaifan, H. Albrithen, M. Braim, S. Pandiaraj, A.V. Juliet, G. Sanchana, F.H. Alkallas, A.B.G. Trabelsi, T.A. Alrebdi, N. Alanazi, **M. Muthuramamoorthy**, S. Rahman, A.N. Alodhayb, "Quality Factor of a Microchannel Microresonator as a Function of Viscosity and

35. A.A. Ansari, **M.R. Muthumareeswaran**, R. Lv, "Coordination chemistry of the host matrices with dopant luminescent Ln³⁺ ion and their impact on luminescent properties", Coordination Chemistry Reviews 466 (2022) 214584. **Impact Factor: 20.6**
36. T.S. Gopal, S.K. Jeong, T.A. Alrebdi, S. Pandiaraj, A. Alodhayb, **M. Muthuramamoorthy**, G. Andrews Nirmala, "MXene-based composite electrodes for efficient electrochemical sensing of glucose by non-enzymatic method", Materials Today Chemistry 24 (2022) 100891. **Impact Factor: 7.3**
37. N. Alanazi, M. Almutairi, **M. Muthuramamoorthy**, A. Alodhayb, "Review—Measurements of Ionizing Radiations Using Micromechanical Sensors", ECS Journal of Solid State Science and Technology 11(5) (2022) 057001. **Impact Factor: 2.2**
38. R. Nivetha, K. Gothandapani, V. Raghavan, G. Jacob, R. Sellapan, A.M. Kannan, S. Pitchaimuthu, S. Pandiaraj, A.H. Almuqrin, A. Alodhayb, **M. Muthuramamoorthy**, Q. Van Le, S.K. Jeong, A.N. Grace, "NH₂-MIL-125(Ti) doped CdS/Graphene composite as electro and photo catalyst in basic medium under light irradiation", Environmental Research 200 (2021) 111719. **Impact Factor: 8.3**
39. K.M. Batoo, S. Pandiaraj, **M. Muthuramamoorthy**, E.H. Raslan, S. Krishnamoorthy, "Behavior-based swarm model using fuzzy controller for route planning and E-waste collection", Environmental Science and Pollution Research 29(14) (2022) 19940-19954. **Impact Factor: 5.8**
40. R. Jothiramalingam, S. Devasanan, H. Lohedan, **M. Muthumareeswaran**, H. Alqahtani, K. Abdalnaser, "Green chemistry method prepared effective copper nanoparticles by lemon flower (citrus) extract and its anti-microbial activity", Dig. J. Nanomater. Biostr 17 (2022) 145-151. **Impact Factor: 0.9**
41. N. Pradeep, G. Tamil Selvi, U. Venkatraman, Q. Van Le, S.K. Jeong, S. Pandiaraj, A. Alodhayb, **M. Muthuramamoorthy**, A.N. Grace, "Development and investigation of the flexible hydrogen sensor based on ZnO-decorated Sb₂O₃ nanobelts", Materials Today Chemistry 22 (2021) 100576. **Impact Factor: 7.3**
42. Alanazi, A.N. Alodhayb, A. Almutairi, H. Alshehri, S. AlYemni, G. Alsowygh, S. Abdulmawla, K. Shamma, H. Albrithen, **M. Muthuramamoorthy**, A.H. Almuqrin, "Quartz Tuning Fork Sensor-Based Dosimetry for Sensitive Detection of Gamma Radiation", Materials 14(22) (2021) 7035. **Impact Factor: 3.4**
43. R. Nivetha, K. Gothandapani, V. Raghavan, Q. Van Le, S. Pitchaimuthu, **M. Muthuramamoorthy**, S. Pandiaraj, A. Alodhayb, S. Kwan Jeong, A. Nirmala Grace, "Nano-MOF-5 (Zn) Derived porous carbon as support electrocatalyst for hydrogen evolution reaction", ChemCatChem 13(20) (2021) 4342-4349. **Impact Factor: 4.5**
44. S. Chidambaram, M.K. Ganesan, M. Sivakumar, S. Pandiaraj, **M. Muthuramamoorthy**, S. Basavarajappa, A. Abdullah Al-Kheraif, M.L. Aruna kumari, A.N. Grace, "Au integrated 2D ZnO heterostructures as robust visible light photocatalysts", Chemosphere 280 (2021) 130594. **Impact Factor: 8.8**
45. K.M. Batoo, S. Pandiaraj, **M. Muthuramamoorthy**, E. Raslan, S. Krishnamoorthy, "Fuzzy-based adaptive learning network using search and rescue optimization for e-waste management model: case study", Environmental Science and Pollution Research 29(14) (2022) 19975-19990. **Impact Factor: 5.8**
46. S.P. Sreekanth, A. Alodhayb, A.K. Assaifan, K.E. Alzahrani, **M. Muthuramamoorthy**, H.I. Alkhamash, S. Pandiaraj, A.M. Alswieleh, Q. Van Le, R. Mangaiyarkarasi, A.N. Grace, V. Raghavan, "Multi-walled carbon nanotube-based nanobiosensor for the detection of cadmium in water", Environmental Research 197 (2021) 111148. **Impact Factor: 8.3**
47. M. Shkir, K.V. Chandekar, A. Khan, T. Alshahrani, A. M. Toni, M.A. Sayed, A.K. Singh, A.A. Ansari, **M.R. Muthumareeswaran**, A. Aldalbahi, R.K. Gupta, S. AlFaify, "Tailoring the structure-morphology-vibrational-optical-dielectric and electrical characteristics of Ce@NiO NPs produced by facile combustion route for optoelectronics", Materials Science in Semiconductor Processing 126 (2021) 105647. **Impact Factor: 4.1**
48. R. Syamsai, J.R. Rodriguez, V.G. Pol, Q. Van Le, K.M. Batoo, S.F. Adil, S. Pandiaraj, **M.R. Muthumareeswaran**, E.H. Raslan, A.N. Grace, "Double transition metal MXene (Ti_xTa_{4-x}C₃) 2D materials as anodes for Li-ion batteries", Scientific Reports 11(1) (2021) 688. **Impact Factor: 4.6**

49. R. Jothi Ramalingam, M. Sivachidambaram, J.J. Vijaya, H.A. Al-Lohedan, **M.R. Muthumareeswaran**, "Synthesis of porous activated carbon powder formation from fruit peel and cow dung waste for modified electrode fabrication and application", *Biomass and Bioenergy* 142 (2020) 105800. **Impact Factor: 6.0**
50. R. Ramalingam, H. Al-Lohedan, A. Tawfik, G. Periyasamy, **M. Muthumareeswaran**, "SYNTHESIS AND CHARACTERIZATION OF MoS₂-GRAPENE OXIDE ON Ni-Co-MnO₂ NANOFIBER LIKE BINARY COMPOSITE FOR NICKEL FOAM BASED FLEXIBLE ELECTRODE FABRICATION", *Chalcogenide Letters* 17(8) (2020) 423-428. **Impact Factor: 1.0**
51. A. Alshammari, F. Aldosari, N.B. Qarmalah, A. Lsloum, **M. Muthuramamoorthy**, A. Alodhayb, "Detection of Chemical Host-Guest Interactions Using a Quartz Tuning Fork Sensing System", *IEEE Sensors Journal* 20(21) (2020) 12543-12551. **Impact Factor: 4.3**
52. J. Alam, A.K. Shukla, M. Alhoshan, , L. A Dass, **M.R. Muthumareeswaran**, A. Khan, F.A. Ahmed Ali, "Graphene oxide, an effective nanoadditive for a development of hollow fiber nanocomposite membrane with antifouling properties", *Advances in Polymer Technology* 37(7) (2018) 2597-2608. **Impact Factor: 3.1**
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