Dr. Balakumar Subramanian Professor and Director, University of Madras Anna University, Chennai – 600025.

2020

- 1. Facile synthesis of paper based graphene electrodes for point of care devices: A double stranded DNA (dsDNA) biosensorJ Mohanraj, D Durgalakshmi, RA Rakkesh, S Balakumar, S Rajendran, Hassan Karimi-Maleh, Journal of Colloid and Interface Science, Volume 566, 15 April 2020, Pages 463-472
- 2. Impact of copper on in-vitro biomineralization, drug release efficacy and antimicrobial properties of bioactive glasses, S Chitra, P Bargavi, M Balasubramaniam, RR Chandran, S Balakumar, Materials Science and Engineering: C, C 109, 110598, 2020
- 3. Anisotropic growth and strain-induced tunable optical properties of Ag–ZnO hierarchical nanostructures by a microwave synthesis method,RA Rakkesh, D Durgalakshmi, P Karthe, S Balakumar,Materials Chemistry and Physics, 122720
- 4. M. Balasubramaniam, S. Balakumar, A Review on Multifunctional Attributes of Zinc Antimonate Nanostructures towards Energy and Environmental Applications, Chemical Papers, 2020, 1-12.
- 5. Evolution of Phase Pure Magnetic Cobalt Ferrite Nanoparticles by Varying the Synthesis Conditions of Polyol Method, S Sathish, S Balakumar, Materials Science and Engineering B, Vol. 252(2020) 114451
- 6. S. Chitra, P. Bargavi, S. Balakumar, Effect of microwave and probe sonication processes on sol-gel-derived bioactive glass and its structural and biocompatible investigations, Journal of Biomedical Materials Research Part B: Applied Biomaterials, Volume108, 2020, Pages 143-155

2019

- 7. Bioactive assessment of bioactive glass nanostructures synthesized using synthetic and natural silica resources, Dhinasekaran Durgalakshmi, Rajendran Ajay Rakkesh, Balakumar Subramanian, International Joural of Applied Ceramics, 2019,
- 8. Low cost and quick time absorption of organic dye pollutants under ambient condition using partially exfoliated graphite, J Mohanraj, D Durgalakshmi, S Balakumar, P Aruna, S Ganesan, Journal of Water Process Engineering, 101078 In press
- 9. Enhanced Magnetic Behavior of Hydrogenated Fe and FeCo Nanoparticles Prepared by Chemical Reduction Method, Theertharaman G., Nibin K Mathew, Rohith Vinod K., P. Saravanan and S. Balakumar, AIP Conference Proceedings, 2019, Just Accepted Manuscript.

- 10. Graphitic Carbon Nitride: an Active and Economical Visible Light Photocatalyst towards Diversified Organic Pollutants, Nibin K Mathew, Subramanian Balakumar, AIP Conference Proceedings, 2019, Just Accepted Manuscript.
- 11. Nanostructuring of Graphitic Carbon Nitride as Potential and Economical Electrode Materials for Supercapacitors, Balasubramaniam M, Balakumar S, AIP Conference Proceedings, 2019, Just Accepted Manuscript.
- 12. Size Dependent Photoremediation of Water Pollutant using Bi₂WO₆ Nanoparticles, Annamalai. K, Radha. R, S. Balakumar, AIP Conference Proceedings, 2019, Just Accepted Manuscript.
- 13. Fabrication of Nickel Oxide Nanostructures and Evaluation of Morphology-dependent Photocatalytic and Supercapacitor Performance, Chinnadurai Nandhini, Subramanian Balakumar, AIP Conference Proceedings, 2019, Just Accepted Manuscript.
- 14. In vitro Bioactivity and Wound Healing Efficiency of 45S5 nanoBioactive Glass-Al₂O₃ Composites, P. Bargavi, S. Chitra, R. Riju Chandran, D. Durgalakshmi, P. Rajashree and S. Balakumar, AIP Conference Proceedings, 2019, Just Accepted Manuscript.
- 15. Exploration of Thermal Treatment dependent In-Vitro Mineralization on 45S5 Bioactive Nanostructured Materials, S. Chitra, P. Bargavi, Riju Chandran, and S. Balakumar, AIP Conference Proceedings, 2019, Just Accepted Manuscript.
- 16. Evaluation of Whitlockite through Conventional Hydrothermal method and its In-vitro Erythrocyte Compatibility and Antibacterial activity, R. Riju Chandran, K. Elakkiya, P. Bargavi, S. Chitra and. Balakumar, AIP Conference Proceedings, 2019, Just Accepted Manuscript.
- 17. Tamilselvan A, C. M Subramaniyam, Rajesh K. Smagul.K, Balakumar S, Electrochemical Performance of Nitrogen-Doped TiO₂ Nanotubes as Electrode Material for Supercapacitor and Li-Ion Battery, Molecules, 2019, 24 (16), 2952.
- 18. R. Radha, Rohith Vinod Kulangara, Elanthamilan Elaiyappillai, Janardhanam Sridevi, Subramanian Balakumar, Modulation in the Band Dispersion of Bi₂WO₆ Nanocrsytals Using the Electronegativity of Transition Elements for Enhanced Visible Light Photocatalysis, Crystal Growth & Design, 2019, 19, 11, 6224-6238.
- 19. D Durgalakshmi, R Ajay Rakkesh, Syed Kamil, S Karthikeyan, S Balakumar, Rapid Dilapidation of Alcohol Using Magnesium Oxide and Magnesium Aspartate based Nanostructures: A Raman Spectroscopic and Molecular Simulation Approach, Journal of Inorganic and Organometallic Polymers and Materials, 2019, 29 (4), 1390-1399.
- 20. M. Balasubramaniam, S. Balakumar, Zinc Antimonate Nanorods Integrated Porous Graphitic Carbon Nitride Nanosheets as Hybrid Electrode Materials for Supercapacitors, Diamond and Related Materials, 2019, 97, 107460.

- 21. M. Balasubramaniam, S. Balakumar, Sonochemistry-assisted Fabrication of 1D ZnSb₂O₆@2D-MoS₂ Nanostructures: a Synergistic Energy Storage Material for Supercapacitors, Ultrasonics Sonochemistry, 2019, 58, 104589.
- 22. M. Balasubramaniam, S. Balakumar, Ultrasonication-assisted Fabrication of Hierarchical Architectures of Copper Oxide/Zinc Antimonate Nanocomposites Based Supercapacitor Electrode Materials, Ultrasonics Sonochemistry, 2019, 56, 337-349.
- 23. Role of Sintering Temperature Dependent Crystallization of Bioactive Glasses on Erythrocyte/Cytocompatibility, Shivalingam Chitra, Purushothaman Bargavi, Dhinasekaran Durgalakshmi, Padmanaban Rajashree, Subramanian Balakumar, Processing and Application of Ceramics, 2019, 13, 12-23.
- 24. Nanostructuring of Silver Nanoparticles Anchored 1D Zinc Antimonate Electrode Material by Ultrasonication Assisted Chemical Reduction Approach for Supercapacitors, M Balasubramaniam and S Balakumar, Materials Chemistry and Physics, 2019, 224, 334-348.
- 25. Fe⁰/rGO Nanocomposites for Cadmium Remediation from Drinking Water and EMI Shielding Applications, Rohith Vinod K, Kumar M, Balakumar S, AIP Conference Proceedings, 2019, 2115, 030176.
- 26. Conductometric Sensing Characteristics of Nanoplatelet Bi₂WO₆ as Nanosensor for Hydrogen Detection, R Radha, R Ajay Rakkesh, S Balakumar, AIP Conference Proceedings, 2019, 2115, 030317.
- 27. On the Investigation of Structural and Biological Properties of 45S5 Bioglass and β-Tricalcium Phosphate Nanostructured Materials, S. Chitra, P. Bargavi, D. Durgalakshmi, P. Rajashree and S. Balakumar, AIP Conference Proceedings, 2019, 2115, 030242.
- 28. Enhancing the Electrochemical Properties of Zinc Antimonate Nanorods by Anchoring Silver Nanoparticles as Hybrid Electrode Material for Supercapacitors, M Balasubramaniam and S. Balakumar, AIP Conference Proceedings, 2019, 2115, 030538.
- 29. Fabrication of Bismuth ferrite Nanostructures and Their Visible Light Photocatalytic Degradation and Water Splitting Properties, S. Bharathkumar, M. Sakar and S. Balakumar, AIP Conference Proceedings, 2019, 2115, 030167.
- 30. Insights into Apatite Mineralization Potential of Thermally Processed Nanocrystalline Ca_{10-x}Fe_x(PO₄)₆(OH)₂, G. Radha, B Venkatesan, E Vellaichamy, S. Balakumar, New Journal of Chemistry, 2019, 43, 1358-1371.

2017

31. Electron spin resonance studies of Bi1-xScxFeO3 nanoparticulates: Observation of an enhanced spin canting over a large temperature range, S.Titus, S. Balakumar, M.Sakar, J. Das, V.V.Srinivasu, Solid State Communications, 2017, 268, 61-63

- 32. A mechanistic view into the morphology-reconstruction mediated facile synthesis of bismuth ferrite (BiFeO3) hierarchical nanostructures, M Sakar, S Balakumar, Nano-Structures & Nano-Objects, 2017, 12, 188-193
- 33. A Perspective on the Hemolytic Activity of Chemical and Green-Synthesized Silver and Silver Oxide Nanoparticle, C. Ashok Raja, Sakar Mohan, S. Balakumar, IOP Publishing, Materials Research Express, 2017, 4 (10), 105406.
- 34. On the Development of Hierarchical Nanostructures of Graphene-Zinc antimonate as Inexpensive Electrode Materials for Supercapacitors, M Balasubramaniam and S Balakumar, Electrochimica Acta, 2017, 253, 178-189.
- 35. Role of Nafion in the Electrochemical Characteristics of Zinc Antimonate Nanoparticles for Supercapacitor Application, M Balasubramaniam and S Balakumar, Nano Hybrids and Composites, 17, 2017, 18-23.
- 36. Biopolymer mediated nanoparticles synthesized from Adenia hondala for enhanced tamoxifen drug delivery in breast cancer cell line, Pradeepa V, Balakumar S and Amutha S, Advances in Natural Sciences: Nanoscience and Nanotechnology, 8, 2017, 035011.
- 37. Comparative studies on Indian traditional nanomedicine Yashadha Bhasma and zinc oxide nanoparticles for anti-diabetic activity, D Durgalakshmi, R Ajay Rakkesh, T Bhargavi Ram and S Balakumar, Mater. Res. Express, 2017, 4, 075016
- 38. Effect of Synthesis Parameters of Polyol technique on Photoluminescence Properties of ZnSe Nanoparticles, S Sathish, S Balakumar, Journal of Luminescence, 2017, 190, 272-278.
- 39. Concept of collective Nernstian-Capacitive mechanism in graphene nanosheets for electrochemical energy storage, M Balasubramaniam, S Balakumar, AIP Conference Proceedings, 2017, 1832, 050091.
- 40. In vitro studies of graphene oxide reinforced hydroxyapatite nanobiocomposite on human erythrocytes, G Radha, Balaji Venkatesan, Elangovan Vellaichamy, S Balakumar, AIP Conference Proceedings, 2017, 1832, 050127.
- 41. Sunlight driven photocatalytic water splitting using nanostructured bismuth tungstate (Bi2WO6), R Radha, M Sakar, S Bharathkumar, S Balakumar, AIP Conference Proceedings, 2017, 1832, 050031.
- 42. Room Temperature Detection of Hydrogen Gas Using Graphene Based Conductometric Gas Sensor, A Pavithra, R Ajay Rakkesh, D Durgalakshmi, S Balakumar, Journal of Nanoscience and Nanotechnology, 2017, 17, 3449-3453.
- 43. Electron Spin Resonance Studies of Undoped and Dysprosium Doped Bismuth Ferrite Nanoparticles, S Titus, VV Srinivasu, S Balakumar, M Sakar, J Das, Journal of Superconductivity and Novel Magnetism, 2017, 30, 819-823.

44. A novel nano-hydroxyapatite-PMMA hybrid scaffolds adopted by conjugated thermal induced phase separation (TIPS) and wet-chemical approach: Analysis of its mechanical and biological properties, G Radha, S Balakumar, Balaji Venkatesan and Elangovan Vellaichamy, Mater. Sci. Eng. C, 2017, C 73, 164-172.

2016

- 45. Visible light driven photocatalytic efficiency of rGO-Ag-BiFeO3 ternary nanohybrids on the decontamination of dye-polluted water: An amalgamation of 1D, 2D and 3D systems, Dr. Sakar Mohan, Bharathkumar Sivakumar, Rohith Vinod Kulangara and Prof. Dr. Balakumar Subramanian, Chemistry Select, 2016, 1, 6961-6971.
- 46. Exploration of electrochemical properties of zinc antimonate nanoparticles as supercapacitor electrode material, M Balasubramaniam and S Balakumar, Materials Science in Semiconductor Processing, 2016, 56, 287-294
- 47. Experimental Evidence for the Carrier Transportation Enhanced Visible Light Driven Photocatalytic Process in Bismuth Ferrite (BiFeO3) One-Dimensional Fiber Nanostructures, S Bharathkumar, M Sakar, S Balakumar, J. Phys. Chem. C, 2016, 120, 18811–18821
- 48. Tri-solvent mediated probing of ultrasonic energy towards exfoliation of graphene nanosheets for supercapacitor application, M Balasubramaniam, S Balakumar, Materials Letters, 2016, 182, 63-67.
- 49. Iron Incorporated Hydroxyapatite for Orthopaedic Applications: Its Synthesis, Characterization and Biocompatibility Studies, G Radha, S Balakumar, B Venkatesan, E Vellaichamy, Trends in Biomaterials and Artificial Organs, 2016, 29 (4), 322-326
- 50. Graphene based nanoassembly for simultaneous detection and degradation of harmful organic contaminants from aqueous solution, RA Rakkesh, D Durgalakshmi, S Balakumar, RSC Adv, 2016, 6 (41), 34342-34349
- 51. Insights into the nitridation of zero-valent iron nanoparticles for the facile synthesis of iron nitride nanoparticles, Rohith Vinod K., P. Saravanan, M. Sakar, S. Balakumar, RSC Adv., 2016, 6, 45850-45857.
- 52. Influence of physicochemical interaction of capping agent on magnetic properties of magnetite nanoparticles, S. Sathish, S. Balakumar, Mater. Chem. Phys., 2016. 173, 364–371.
- 53. Reduced Graphene Oxide/Nano-Bioglass Composites: Processing and Super-Anion Oxide Evaluation, C. Ashokraja, S. Balakumar, D. Durgalakshmi, Rani P. George, B. Anand Kumar and U. Kamatchi Mudali, RSC Adv., 2016, 6, 19657-19661.

- 54. Electric field induced formation of one-dimensional bismuth ferrite (BiFeO3) nanostructures in electrospinning process, M. Sakar, S. Balakumar, P. Saravanan, S. N. Jaisankar, Mater. & Design, 2016, 94, 487–495.
- 55. Anatase TiO2 nanotube by electrochemical anodization method: Effect of tubes dimension on the supercapacitor application, A. Tamilselvan, S. Balakumar, Ionics, 2016, 22, 99-105.
- 56. Effect of precipitating agent NaOH on the preparation of copper oxide nanostructures for electrochemical applications, M. Balasubramaniam, S. Balakumar, Nanosystems: Physics, Chemistry, Mathematics, 2016, 7 (3), 482-487.
- 57. Particulates Vs fibers: dimension featured magnetic and visible light driven photocatalytic properties of Sc modified multiferroic bismuth ferrite nanostructures, M. Sakar, S. Balakumar, P. Saravanan, S. Bharathkumar, Nanoscale, 2016, 8, 1147-60
- 58. Effect of temperature, solvent and precursor concentration on the anti-aggregation of ZnO nanoparticles prepared by polyol method, S. Sathish, M. Kesavan, S. Balakumar, J. Nanosci. & Nanotech., 2016, 16, 418-425.