

List of Publications:

2024

1. Kumari, K., et al. (2024). " Synthesis of highly porous hybrid nanocomposite of hemp derived carbon nanosheet/carbon nanotube/manganese cobalt oxide for asymmetric supercapacitor." *Materials Chemistry and Physics*, 313: 128677.
2. De, S., et al. (2024). " A quick and effective strategy for the synthesis of $\text{Ti}_3\text{C}_2\text{T}_x$ via electrochemical method." *Energy Advances*, DOI: 10.1039/d3ya00489a.
3. Acharya, S., et al. (2023). " Utilization of lead-based saturated adsorbents for the fabrication of battery-like hybrid asymmetric supercapacitors." *Environmental Science: Nano*, DOI: 10.1039/d3en00601h.

2023:

4. Acharya, S., et al. (2023). " Enhancing the efficiency of flexible all-solid-state supercapacitor via cadmium decontamination of water." *Journal of Energy Storage* 73: 108938.
5. Acharya, S., et al. (2023). "Resourceful utilization of methylene blue-contaminated water for the fabrication of an ultra-stable supercapacitor device." *Sustainable Energy & Fuels* 7(4): 1011-1026.
6. Acharya, S., et al. (2023). "Cnt/ldh-stabilized biomass-derived nanocellulose as a low-cost alternative for asymmetric supercapacitors: Impact of sources of nanocellulose." *ACS Applied Electronic Materials* 5(1): 406-417.
7. Alamgir, M., et al. (2023). Introduction of Metal Nanoparticles, Dental Applications, and Their Effects. *Nanoparticles Reinforced Metal Nanocomposites: Mechanical Performance and Durability*, Springer Nature Singapore Singapore: 23-52.
8. De, S., et al. (2023). "Boron Nitride/ $\text{Ti}_3\text{C}_2\text{T}_x$ MXene Nanosheet/ WS_2 Nanostructure Ternary Composites for All-Solid-State Flexible Asymmetric Supercapacitors." *ACS Applied Nano Materials*.
9. De, S., et al. (2023). "Polyindole-Stabilized Nanocellulose-Wrapped $\text{Ti}_3\text{C}_2\text{T}_x$ (MXene) Nanocomposite for Asymmetric Supercapacitor Devices." *ACS Applied Energy Materials* 6(2): 969-980.
10. De, S., et al. (2023). "Tin (IV) selenide anchored-biowaste derived porous carbon- $\text{Ti}_3\text{C}_2\text{T}_x$ (MXene) nanohybrid: An ionic electrolyte enhanced high performing flexible supercapacitor electrode." *Electrochimica Acta* 463: 142811.
11. De, S., et al. (2023). "MoSn₂Se₄-decorated MXene/functionalized RGO nanohybrid for ultrastable supercapacitor and oxygen evolution catalyst." *Materials Today Nano* 22: 100337.
12. Kumari, A., et al. (2023). "Polynaphthalene-Based Oxazaborinine Complexes Formulated as Red Light Emitters and High-Performance Asymmetric Supercapacitors." *Langmuir*.
13. Maity, C. K., et al. (2023). "Aerosol derived carbon dots decorated boron nitride supported Zn-doped MoS₂ for high performing flexible asymmetric supercapacitor." *Composites Part B: Engineering* 264: 110887.
14. Siddiki, S. H., et al. (2023). "Influence of Exfoliated Boron Nitride for Fabrication of a Lightweight Wideband Microwave Absorbing Material." *ACS Applied Engineering Materials*.

15. Siddiki, S. H., et al. (2023). "Defect Dipole-Induced HfO₂-Coated Ti₃C₂T_x MXene/Nickel Ferrite Nanocomposites for Enhanced Microwave Absorption." *ACS Applied Nano Materials* 6(3): 1839-1848.
16. Singhamahapatra, A., et al. (2023). "Click mediated synthesis of functionalized glycolipids with peptide-peptoid linkages." *Journal of the Serbian Chemical Society* 88(7-8).

2022:

13. Maity, Chandan Kumar; Sahoo, Sumanta; Verma, Kartikey; Nayak, Ganesh Chandra; SnS₂@ Conducting Energy Level-Induced Functionalized Boron Nitride for an Asymmetric Supercapacitor *Energy & Fuels*, 36, 4, 2248-2259, 2022, Q1
14. Alamgir, Md; Shahabuddin, Syed; Mallick, Ashis; Nayak, GC; Processing of pHEMA/TiO₂ based nanocomposites used as an excellent dental materials, *Materials Today: Proceedings*, 2022
15. De, Shrabani; Acharya, Sourav; Sahoo, Sumanta; Shim, Jae-Jin; Nayak, Ganesh Chandra; From 0D to 3D MXenes: their diverse syntheses, morphologies and applications, *Materials Chemistry Frontiers*, 2022, Q1
16. De, Shrabani; Maity, Chandan Kumar; Acharya, Sourav; Sahoo, Sumanta; Shim, Jae-Jin; Nayak, GC; MXene (Ti₃C₂T_x) supported CoS₂/CuCo₂S₄ nanohybrid for highly stable asymmetric supercapacitor device *Journal of Energy Storage*, 50, 104617, 2022, Q1
17. De, Shrabani; Maity, Chandan Kumar; Acharya, Sourav; Sahoo, Sumanta; Nayak, GC; MXene (Ti₃C₂T_x)-/Amine-Functionalized Graphene-Supported Self-Assembled Co₉S₈ Nanoflower for Ultrastable Hybrid Supercapacitor, *Industrial & Engineering Chemistry Research*, 2022, 61, 23, 7727-7738. Q1

2021:

18. Maity, Chandan Kumar; Santra, Deb Kumar; Verma, Kartikey; Sahoo, Sumanta; Cotts, Sheldon; Akinwande, Deji; Berry, Vikas; Nayak, Ganesh Chandra; Induced conducting energy-levels in a boron nitride nano-framework for asymmetric supercapacitors in high charge-mobility ionic electrolytes, *Composites Part B: Engineering*, 212, 108728, 2021. Q1
19. Alamgir, Md; Mallick, Ashis; Nayak, GC; Mechanical and thermal behaviour of pHEMA and pHEMA nanocomposites targeting for dental materials, *Applied Nanoscience*, 11, 4, 1257-1265, 2021, Q2
20. De, Shrabani; Maity, Chandan Kumar; Sahoo, Sumanta; Nayak, Ganesh Chandra; Polyindole Booster for Ti₃C₂T_x MXene Based Symmetric and Asymmetric Supercapacitor Devices, *ACS Applied Energy Materials*, 4, 4, 3712-3723, 2021, Q1
21. Alamgir, Md; Nayak, GC; Mallick, Ashis; Sahoo, Sumanta; Effects of TiO₂ and GO nanoparticles on the thermomechanical properties of bioactive poly-HEMA nanocomposites *Iranian Polymer Journal*, 30, 10, 1089-1099, 2021, Q2
22. De, Shrabani; Acharya, Sourav; Sahoo, Sumanta; Nayak, Ganesh Chandra; Current trends in MXene research: properties and applications *Materials Chemistry Frontiers* 5, 19, 7134-7169, 2022, Q1
23. De, Shrabani; Sahoo, Sumanta; Das, Ashok Kumar; Nayak, Ganesh Chandra; Recent Progress in Electrospinning Technologies for Graphene-Based Materials *Electrospinning of Graphene*, Jan-34, 2021

24. De, Shrabani; Acharya, Sourav; Sahoo, Sumanta; Das, Ashok Kumar; Nayak, Ganesh Chandra; 2D Materials for Solar Cell Applications Materials for Solar Energy Conversion: Materials, Methods and Applications, 227-267, 2021

2020:

25. Ghosh, Shankhamala; Maity, Chandan Kumar; Nayak, GC; Nayek, Hari Pada; 2020, A cobalt (II) metal-organic framework featuring supercapacitor application, Journal of Solid State Chemistry, 282, 121093, IF: 2.29. Q2.
26. Sonal, Sonalika; Prakash, Prem; Mishra, Brijesh Kumar; Nayak, GC; 2020, Synthesis, characterization and sorption studies of a zirconium (iv) impregnated highly functionalized mesoporous activated carbons, RSC Advances, 10, 13783-13798, IF-3.04, Q1.
27. Das, Ashok Kumar; Jena, Swarnabala; Sahoo, Sumanta; Kuch, Rambabu; Kim, Dongsoo; Aljohani, Talal A; Nayak, G. C.; Jeong, Jong-Ryul; 2020, Facile synthesis of NiCo₂O₄ Nanorods for Electrocatalytic Oxidation of Methanol, Journal of Saudi Chemical Society, 24, 434, IF-2.75. Q2.
28. Acharya, Sourav; Sahoo, Sumanta; Sonal, Sonalika; Lee, Joong Hee; Mishra, Brijesh K; Nayak, GC; 2020, Adsorbed Cr (VI) based activated carbon/polyaniline nanocomposite: A superior electrode material for asymmetric supercapacitor device, Composites Part B: Engineering, 193, 107913, IF: 6.86. Q1.
29. Maity, Chandan Kumar; Sahoo, Sumanta; Verma, Kartikey; Behera, Ajaya Kumar; Nayak, G.C.; 2020, Facile functionalization of boron nitride (BN) for the development of high-performance asymmetric supercapacitors, New Journal of Chemistry, 44, 8106 IF: 3.069. Q1.

2019:

30. Kumar, K.V.M., Krishnamurthy, K., Rajasekar, R., Kumar, P.S., Pal, K. and Nayak, G.C., 2019. Influence of graphene oxide on the static and dynamic mechanical behavior of compatibilized polypropylene nanocomposites. Materials Testing, 61(10), pp.986-990. IF: 0.573. Q4
31. Alamgir, M., Mallick, A., Nayak, G.C. and Tiwari, S.K., 2019. Development of PMMA/TiO₂ nanocomposites as excellent dental materials. Journal of Mechanical Science and Technology, 33(10), pp.4755-4760. IF: 1.221. Q2
32. Ghosh, S., De Adhikari, A., Nath, J., Nayak, G.C. and Nayek, H.P., 2019. Lanthanide (III) Metal-Organic Frameworks: Syntheses, Structures and Supercapacitor Application. ChemistrySelect, 4(36), pp.10624-10631. IF: 1.716. Q2
33. Maity, C.K., Hatui, G., Tiwari, S.K., Udayabhanu, G., Pathak, D.D., Nayak, G.C. and Verma, K., 2019. One pot solvothermal synthesis of novel solid state N-Doped TiO₂/n-Gr for efficient energy storage devices. Vacuum, 164, pp.88-97. IF: 2.515. Q1
34. Maity, C.K., Hatui, G., Sahoo, S., Saren, P. and Nayak, G.C., 2019. Boron Nitride based Ternary Nanocomposites with Different Carbonaceous Materials Decorated by Polyaniline for Supercapacitor Application. ChemistrySelect, 4(13), pp.3672-3680. IF: 1.716. Q2
35. Saren, P., De Adhikari, A., Khan, S. and Nayak, G.C., 2019. Self-assembled GNS wrapped flower-like MnCo₂O₄ nanostructures for supercapacitor application. Journal of Solid State Chemistry, 271, pp.282-291. IF: 2.291. Q2
36. De Adhikari, A., Tiwari, S.K., Ha, S.K. and Nayak, G.C., 2019. Boosted electrochemical

performance of TiO₂ decorated RGO/CNT hybrid nanocomposite by UV irradiation. Vacuum, 160, pp.421-428. IF:2.515. Q1.

2018:

37. Sahoo L., Kundu S., Singhamahapatra A., Jena N.K., Nayak G. C. , Sahoo S., 5-Benzoyl triazole as new structural dimension in glycoconjugates, 469, 2018, Carbohydrate Research, Elsevier, SCI, IF:1.873. Q3.
38. Maity C.K., Hatui G., Verma K., Udayabhanu G., Pathak D.D., Nayak G. C. , Single pot fabrication of N doped reduced GO (N-rGO) /ZnO-CuO nanocomposite as an efficient electrode material for supercapacitor application, 157, 2018, Vacuum, Elsevier, IF:2.515. Q1.
39. Alamgir M., Nayak G. C. , Mallick A., Tiwari S.K., Mondal S., Gupta M., Processing of cPMMA nanocomposites containing biocompatible GO and TiO₂ nanoparticles, 33, 12, 2018, Materials and Manufacturing Processes, SCI. IF:3.35. Q1.
40. Alamgir M., Tiwari S.K., Mallick A., Nayak G. C. , Graphene oxide and TiO₂ based PMMA nanocomposites for dental applications: A comprehensive study of the mechanical properties, 377, 1, 2018, IOP Conference Series: Materials Science and Engineering, SCI.
41. Jayanth D., Kumar P.S., Nayak G. C. , Kumar J.S., Pal S.K., Rajasekar R., A Review on Biodegradable Polymeric Materials Striving Towards the Attainment of Green Environment, Journal of Polymers and the Environment, 26, 2, 2018, Journal of Polymers and the Environment, Springer, SCI, IF:2.765. Q1.
42. Hatui G., Nayak G. C. , Udayabhanu G., Mishra Y.K., Pathak D.D., Correction: Template-free single pot synthesis of SnS₂@Cu₂O/reduced graphene oxide (rGO) nanoflowers for high performance supercapacitors, 42, 16, 2018, New Journal of Chemistry, RSC, SCI, IF:3.069. Q1.
43. Adhikari A.D., Oraon R., Tiwari S.K., Saren P., Lee J.H., Kim N.H., Nayak G. C. , CdS-CoFe₂O₄@Reduced Graphene Oxide Nanohybrid: An Excellent Electrode Material for Supercapacitor Applications, 57, 5, 2018, Industrial and Engineering Chemistry Research, ACS, SCI, IF:3.375. Q1.
44. Adhikari A.D., Oraon R., Tiwari S.K., Saren P., Maity C.K., Lee J.H., Hoon Kim N., Nayak G. C. , Zn-doped SnO₂ nano-urchin-enriched 3D carbonaceous framework for supercapacitor application, 42, 2, 2018, New Journal of Chemistry, RSC, SCI, IF:3.069. Q1.

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- synthesis of few layered graphene from discharged battery electrode and its application for energy storage, 10, 4, 2017, Arabian Journal of Chemistry, Elsevier, SCI, IF:3.298. Q1.
49. Adhikari A.D., Oraon R., Tiwari S.K., Jena N.K., Lee J.H., Kim N.H., Nayak G. C. , Polyaniline-Stabilized Intertwined Network-like Ferrocene/Graphene Nanoarchitecture for Supercapacitor Application, 12, 8, 2017, Chemistry - An Asian Journal, Wiley , SCI, IF:3.698. Q1.
 50. Das S., Sahu S.K., Oraon R., Routray P.C., Baskey H., Nayak G. C. , Reduced-graphene-oxide-And-strontium-Titanate-based double-layered composite: An efficient microwave-Absorbing material, 40, 2, 2017, Bulletin of Materials Science, Springer, SCI, IF:1.264. Q3.
 51. Oraon R., De Adhikari A., Tiwari S.K., Nayak G. C. , Nanoclay Coated "Doped CNT/Polyaniline Nanocomposite: A High-Performance Electrode Material for Supercapacitor Applications, 2, 28, 2017, ChemistrySelect, Wiley, SCI, IF:1.716. Q2
 52. Mishra J., Tiwari S.K., Abolhasani M.M., Azimi S., Nayak G. C. , Fundamental of polymer blends and its thermodynamics, 2017, Micro and Nano Fibrillar Composites (MFCs and NFCs) from Polymer Blends, SCI.
 53. Hatui G., Chandra Nayak G., Udayabhanu G., Mishra Y.K., Pathak D.D., Template-free single pot synthesis of SnS₂@Cu₂O/reduced graphene oxide (rGO) nanoflowers for high performance supercapacitors, 41, 7, 2017, New Journal of Chemistry, SCIE, IF:3.069. Q1.
 54. Tiwari S.Kr., Verma K., Saren P., Oraon R., De Adhikari A., Nayak G. C. , Kumar V. Manipulating selective dispersion of reduced graphene oxide in polycarbonate/nylon 66 based blend nanocomposites for improved thermo-mechanical properties, 7, 36, 2017, RSC Advances, Scie, Impact Factor 3.049. Q1.
 55. De Adhikari A., Oraon R., Tiwari S.K., Lee J.H., Kim N.H., Nayak G.C. A V₂O₅ nanorod decorated graphene/polypyrrole hybrid electrode: a potential candidate for supercapacitors, 41, 4, 2017, New Journal of Chemistry, Sci, IF:3.069. Q1.

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capacitance for high performance supercapacitors, Dalton Transactions, Sci, IF:4.052. Q1.

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59. Oraon R., De Adhikari A., Tiwari S.K., Nayak G. C. , Nanoclay based graphene polyaniline hybrid nanocomposites: Promising electrode materials for supercapacitors, 5, 84, 2015, RSC Advances, RSC, SCI, IF:3.049. Q2.
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2013:

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Book Chapters:

1. De, S., Roy, S., Nayak, G.C. MXene and Their Composites for Oxygen Evolution Reactions. In: Gupta, R. (eds) Handbook of Energy Materials. Springer, Singapore. 2023. pp 1–33.
2. Shrabani De, Sourav Acharya, Sumanta Sahoo, Ashok Kumar Das, Ganesh Chandra Nayak, 2D Materials for Solar Cell Applications. In: Materials for Solar Energy Conversion: Materials, Methods and Applications, Chapter 9, 227-267, 2021.
3. Shrabani De, Sumanta Sahoo, Ashok Kumar Das & Ganesh Chandra Nayak, Recent Progress in Electrospinning Technologies for Graphene-Based Materials. In: Electrospinning of Graphene. Carbon Nanostructures. Springer, Chapter 1, 1-34, 2021.
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