

List of Peer View Research Publications

2025

[115] S. Banerjee, and **R.B. Choudhary**. "Graphene-derived cathodes for sodium-ion batteries (SIBs): Advancements, challenges, and future directions- A review." *Journal of Material Science, Springer*. Vol. *** (2025): ***** (*In Press*).

[114] J. Bauri, **R.B. Choudhary**, and K. Karak. "Ameliorated photophysical properties of ZrO₂ nanoparticles derived PCz/ZrO₂ based nanocomposite as an emissive material." *Optical Materials, Elsevier* Vol. 166 (2025): 117183.

[113] R. Kandulna, D. Nayak, **R.B. Choudhary**, and B. Kachhap. "Assessment of dielectric and electrochem-ical properties of PPY/CuO/rGO nanocomposite for organic light-emitting diode and supercapacitor application." *Journal of Material Science: Material in Electronics, Springer* Vol. 36 (2025): 337.

[112] S. Dutta, and **R.B. Choudhary**. "Carbonyl based electrode materials for rechargeable sodium (Na)- ion batteries (SIBs): A review." *Materials Today Chemistry, Elsevier* Vol. 46 (2025): 102711.

[111] D. Nayak, T. Nayak, S. Mohanty, **R.B. Choudhary**, A.K. Palai, and R. Kandulna. "Polyaniline-V₂O₅ nanocomposite for photocatalytic efficacy in organic dye degradation and as electrode materials for supercapacitor applications." *Material Research Bulletin, Elsevier* Vol. 184 (2025): 113277.

[110] B. Myrthong, S. Ansari, and **R.B. Choudhary**. "Bimetallic oxide-conducting polymer composites for robust supercapacitor performance and applications: A review." *Journal of Energy Storage, Elsevier* Vol. 117 (2025): 116182.

[109] J. Bauri, and **R.B. Choudhary**. "Inflated electronic and optical assessment of gC₃N₄/ZnO nanocomposite as a potential emissive layer material for OLED application." *Journal of Molecular Structure, Elsevier* Vol. 1322 (2025): 140471.

[108] S. Kumar, **R.B. Choudhary**, D. Nayak, and G. Sarkhel. "Robust structural, optical and thermal properties of stannic oxide nanoparticles incorporated polyindole nanocomposite as an efficient emissive layer material for OLED applications." *Optical & Quantum Electronics, Springer* Vol. 57, (2025): 82.

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[107] S. Banerjee, **R.B. Choudhary**, and S. Ansari. "Na₃V₂(PO₄)₃ Derived Cathode Materials for Sodium-Ion Batteries (SIBs): A Review." *Future Batteries, Elsevier* Vol. 4 (2024): 100010.

[106] D. Nayak, and **R.B. Choudhary**. "Highly conductive composites of PEDOT: PSS-ZnS thin film for improved hole mobility in polymer devices." *Optical Materials, Elsevier* Vol. 157 (2024): 116120.

[105] J. Bauri, and **R.B. Choudhary**. "Tailoring the luminescent and structural behaviors of pH-driven PPy/gC₃N₄/ZrO₂ nanocomposite as an emissive layer material for OLED application." *Materials Science and Engineering: B, Elsevier* Vol. 309 (2024): 117650.

[104] G. Mandal, and **R.B. Choudhary**. "Solution-processed PANI-rGO-SiO₂ nanocomposite with inflated electron injection and transport capabilities as ETL for OLED applications." *Materials Science and Engineering-B, Elsevier* Vol. 300 (2024) : 117118.

[103] G. Mandal, J. Bauri, and **R.B. Choudhary**. "Conjugated polymeric nanocomposite-based light-generating active materials for OLED applications: A review." *Materials Science and Engineering-B, Elsevier* Vol. 303 (2024) : 117271.

[102] D. Nayak and **R.B. Choudhary**. "ZnS-integrated polypyrrole and emeraldine polyaniline composites for enhance photophysical and electrochemical performance for an active layer in an optoelectronic device." *Journal of Molecular Structure, Elsevier* Vol. 1299 (2024) :137135.

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[101] V. Kushwaha, A. Gupta, **R.B. Choudhary**, K. D. Mandal, R. Mondal, and P. Singh. "Nanocrystalline β -NiS: A redox-mediated electrode in aqueous electrolyte for pseudocapacitor/supercapacitor applications." *Physical Chemistry Chemical Physics*, RSC Vol. 25 (2023) : 555-569.

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[94] D. Nayak, and **R.B. Choudhary**. "Enhanced photophysical and electrochemical properties of 2D layered rGO and MoS₂ integrated polypyrrole (rGO-PPy-MoS₂) composite." *Journal of Materials Science, Springer* Vol. 58, (2023) : 9160-9180.

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- [91] G. Mandal, **R.B. Choudhary**, Bandar Ali Al-Asbahi, and Abdullah Ahmed Ali Ahmed. "WS₂ incorporated PANI-rGO nanocomposites tailored for inflated thermal, optical and electrical properties used as ETL for OLEDs." *Optical Materials*, Elsevier Vol. 146 (2023): 114379.
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