

List of Important Research Articles in the last five years

Highlighted: Research on quantum dots, perovskites and photovoltaics

1. Abhisek Chakraborty, Giulia Lucarelli, Jie Xu, Zeynab Skafi, Sergio Castro-Hermosa, AB Kaveramma, R Geetha Balakrishna, Thomas M Brown, Photovoltaics for indoor energy harvesting, *Nano Energy*, 128, 109932, (2024)
2. Jesna George, Altaf Pasha, R. Geetha Balakrishna, Creating Energy Transfer Pathways in Lead-Free Perovskite Nanocrystals via Dopant Emission Centers for Optical Sensing, *ACS Appl. Nano Mater.* 17, 19774- 19783
3. Swathi Divakar, Harini G Sampatkumar, Satish S Naik, Shridhar Malladi, Mahesh Padaki, Siddappa A Patil, R Geetha Balakrishna, Graphitic carbon nitride enriched phytochemicals-based photo active membranes for perilous chromium (VI) ion removal, *Sep. Purif. Technol*, Volume 334, 125953, (2024)
4. Karthikeyarajan Vinothkumar, R Geetha Balakrishna*, One-pot synthesis of NH₂-MIL-101(Fe) and α - Fe₂O₃ composite as efficient heterojunction for multifunctional photocatalytic membranes: Towards zero waste generation, *Appl. Cat., B: Environ*, 340,123199, (2024)
5. S Akash, S Akhil, V Sanjana, A Chakraborty, R Geetha Balakrishna, Suppressing phase segregation in mixed halide CsPbI₃-xBr_x perovskites by dual passivation using sodium dodecyl sulphate, *Sol. Energy*, 324, 112596, (2024)
6. Jomy Jose Philip, Gouranga H. Debnath,* David H. Waldeck R. Geetha Balakrishna*, Halide exchange mediated cation exchange facilitates room temperature co-doping of d-and f-block elements in cesium lead halide perovskite nanoparticles, *Nanoscale*, 16, 9558, (2024)
7. Sumanth Dongre S, Asif Iqbal, Ranjit Thapa, Pratheeksha M, Shwetharani Ramu, and R. Geetha Balakrishna, Synergistic Catalyst Design for Enhanced Electrochemical Hydrogen Evolution: Fe₂O₃/MoS₂/Ti₃C₂T_x MXene Ternary Composite, *ACS Appl. Eng. Mater.* 2, (2024)
8. Altaf Pasha, Patatri Pramanik, Jesna K G, Nishant Dhiman, Hao Zhang, Siraj Sidhik, Faiz Mandani, Sudhir Ranjan, Ahipa TN, Siva Umapathy, Aditya D. Mohite and R Geetha Balakrishna*, Cationic and Anionic Vacancy Healing for Suppressed Halide Exchange and Phase Segregation in Perovskite Solar Cells, *ACS Energy Lett.*, 8, 3081–3087(2023)
9. Sanjayan C. G, R. Geetha Balakrishna*, Ratiometric probe of PQDs/R6G: Achieving high sensitivity and precision in contaminant detection, *Sens. Actuators B Chem*, 397, 134626 (2023)
10. Bhavya M. Basavaraja, Ramya Prabhu Bantwal, Anjana Tripathi, Gautam Hegde, Neena Susan John, Ranjit Thapa, Gopalkrishna Hegde, R. Geetha Balakrishna*,

- Manav Saxena, Ali Altaee, Akshaya K. Samal*, Functionalized Silver Nanocubes for the Detection of Hazardous Analytes through Surface-Enhanced Raman Scattering: Experimental and Computational Studies, *ACS Sustain. Chem. Eng.* 11, 29, 10605–10619, (2023)
11. Hemanth Kumar Beere, Pranav Kulkarni, Uday Narayan Maiti, **R. Geetha Balakrishna**, Priyam Mukherjee, Hyun Young Jung, Ketaki Samanta and Debasis Ghosh, Realizing Favourable Oxygen Electrocatalytic Activity with Compositionally Complex Metal Molybdates, *Sustain. Energy Fuels*, doi.org/10.1039/D3SE00736G, (2023)
 12. Dual Vacancy Passivation in CsPbCl₃ Perovskite Nanocrystals: Implications on Optoelectronic Applications, Sumanth Dongre S, E E. Siddharthan, Ranjit Thapa, Shwetharani R* and **R. Geetha Balakrishna***, *ACS Appl. Nano Mater.* 6, 14, 13227–13237, (2023)
 13. Akhil S and **R Geetha Balakrishna***, CuBiS₂ Ternary Quantum Dots: Tuning the Deposition Techniques for Enhanced Photovoltaic Performance, *ACS Appl. Energy Mater.*, 6, 14, 7487–7496 (2023)
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 16. Shwetharani R, Itika Kainthla, Sumanth Dongre, Laveena D'Souza, **R Geetha Balakrishna***, Recent Advances of Ecofriendly 2D Monoelemental Bismuthene as a photoabsorber for Energy, Catalysis and Biomedical applications, *J. Mater. Chem. C*, 11, 6777-6799, (2023)
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 18. Sanjay and **R Geetha Balakrishna***, Phase transferred and non-coated, water soluble perovskite quantum dots for biocompatibility and sensing, *J. Mater. Chem. B*, 11, 2184-2190, (2023)
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 20. Sanjayan C G, Jyothi Mannekote Shivanna, Jessica D. Schiffman, Sakar Mohan, Srinivasa Budagumpi, and **R. Geetha Balakrishna***, Aqueous, Non-Polymer-Based

- Perovskite Quantum Dots for Bioimaging: Conserving Fluorescence and Long-Term Stability via Simple and Robust Synthesis, *ACS Appl Mater Interfaces*, 14 (34), 38471-38482 (2022)
21. S. Akhil and R Geetha Balakrishna, AgBiS₂ QDs as a photoabsorber for eco-friendly solar cells, *J. Mater. Chem. A*, 10, 8615-8625, (2022)
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 23. Akhil, S.; Kusuma, J.; Balakrishna, R. G., Green AgBiSe₂/AgBiS₂ core shell quantum dots for stable solar cells by robust SILAR method. *J. Clean. Prod.*, 366, 132760, (2022).
 24. Sanjayan C. G, Jyothi M S and R Geetha Balakrishna, Stabilization of CsPbBr₃ Quantum Dots for Photocatalysis, Imaging and Optical Sensing in Water and Biological Medium; A Review *J. Mater. Chem. C*, 10, 6935-6956, (2022)
 25. Karthikeyarajan Vinothkumar, Mannekote Shivanna Jyothi, Chandra Lavanya, Mohan Sakar, Suresh Valiyaveetil, R Geetha Balakrishna*, Strongly co-ordinated MOF-PSF matrix for selective adsorption, separation and photodegradation of dyes, *Chem. Eng. J*, 428, 132561, (2022)
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Full Publications other than listed above

52. K Gayathri, K Vinothkumar, Sakar Mohan, R Geetha Balakrishna, Manifestation of UiO-66-Zr MOF-enabled photocatalytic membranes for successive separation and degradation of dye mixtures in water remediation, *Journal of Environmental Chemical Engineering*, 12, 112490, (2024)
53. Praveen Kumar Gopi¹, Sanjayan C. G, Akhil. S, Chandan Hunsur Ravikumar, Siripong Thitamadee, Supornchai Kongpatanakul¹, R. Geetha Balakrishna*, Werasak Surareungchai, Silver Bismuth Sulphide (AgBiS₂)-MXene Composite as

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