

List of Journals

1. Hydrogen Storage in Be (II)-Decorated Imidazole and Pyrazole Systems in Ambient Temperature: A Computational Study, **Abhishek Bag**, Shampa Bhattacharyya and Gourisankar Roymahapatra, Anupam Aash, Dilip K. Debnath, Soumyodeep Chowdhury, Saikat Saha, Zijian Wu, Himadri Sekhar Das, ES Energy and Environment, 2026, DOI: 10.30919/ee2086

DR. ABHISHEK BAG

2. A Quest to High-Capacity Reversible Hydrogen Storage on Li-Decorated Triazole and Tetrazole Systems: An In-Silico Approach, Sihem Ouchenane and Gourisankar Roymahapatra Mrinal Kanti Dash, Shatarupa Bhowmick, Shampa Bhattacharyya, Rakesh K. Sahoo, **Abhishek Bag**, Dipak Kumar Das, ES Chemistry and Sustainability, 2025, DOI: 10.30919/cs1934

3. Exploring Reversible Hydrogen Storage Efficiency of R-substituted [M-doped Imidazoline-Li]]? Complexes [R= -CF?, -CN, -CH? and M= C, Si, Ge]; An In-silico Study, **Abhishek Bag**, Naresh Reddy. , Gourisankar Roymahapatra, Anupam Aash, Dilip K. Debnath, Journal of Engineering in Industrial Research, 2025, <https://doi.org/10.48309/jeires.2025.514>

4. Ag (I) decorated isomeric triazine complexes as efficient hydrogen storage materials-A theoretical investigation, **Abhishek Bag**, Gobinda Chandra De, Shampa Bhattacharya, Sateesh Bandaru, Bikash Bepari, Gourisankar Roymahapatra, Chemistry of Inorganic Materials, 2025, <https://doi.org/10.1016/j.cinorg.2025.100093>

5. Cu(I)-Decorated Five-membered Aromatic Heterocyclic Complexes: A Potential Hydrogen Storage System, **Abhishek Bag**, Gourisankar Roymahapatra, Mrinal Kanti Dash, Ejaj Tarif, John Zhanhu Guo, Gobinda

Chandra De, Sibaprasad Maity, Jhuma Ganguly, Shampa Bhattacharyya, ES Chemistry and Sustainability, 2024, DOI: 10.30919/escs1311

6. Effect of Absorber Layer Thickness on the Performance of the Perovskite Solar Cell in SCAPS-1D, Bikash Bepari, Himadri Sekhar Das, Sneha Maity, Shampa Bhattacharyya, **Abhishek Bag**, Gourisankar Roymahapatra, Sudipta Banerjee, Heranmoy Maity, Aricson Pereira, 2024, ES General, DOI:10.30919/esg1292

7. Hydrogen Storage Efficiency of Isomeric Cu (1)-Triazine Complexes: In Quest of New Hydrogen Storage Material, Abhishek Bag, Mrinal Kanti Dash, Santanab Giri, Gobinda Chandra De, Gourisankar Roymahapatra, **Abhishek Bag**, Mrinal Kanti Dash, Santanab Giri, Gobinda Chandra De, Gourisankar Roymahapatra, CRC Press, 2024,

8. A Theoretical Study on Au(I) Decorated Isomeric Triazine Complexes as a New Class of Hydrogen Storage Materials. **Abhishek Bag**, Gourisankar Roymahapatra. , Santanab Giri, Periyathambi Dhaiveegan, Ramji T. T. Jhalgam, Gobinda Chandra De, Jhuma Ganguly, ES Energy & Environment., 2024, DOI:10.30919/esee1115

9. Hydrogen storage efficiency of the Ag (I)/Au (I) decorated five-member aromatic heterocyclic (AH) compounds: A theoretical investigation, **Abhishek Bag**, Swapan Sinha, Himadri Sekhar Das, Santanab Giri, Gobinda Ch, Sibaprasad Maity, Ben Bin Xu, Zhanhu Guo, Jhuma Ganguly, Gourisankar Roymahapatra, 2023, Engineered Science, DOI:10.30919/es1062

10. 'Particle in 1D box' - and plotting Multiparameter Graph along same axis having wide data variance, Gourisankar Roymahapatra Shampa Bhattacharyya, **Abhishek Bag**, GP Globalize Research Journal of Chemistry, 2022, GP Globalize Pvt Ltd; ISSN: 2581-5911

11. Hydrogen storage on lithium chloride/lithium bromide

surface at cryogenic temperature, Gourisankar Roymahapatra, Mrinal Kanti Dash, Anjana Ghosh, **Abhishek Bag**, Santanu Mishra, Sibaprasad Maity, ES Energy and Environment, 2022, DOI:10.30919/eese8c756

12. Hydrogen Storage Challenges and Solutions, Mrinal Kanti Dash Himadri Sekhar Das, **Abhishek Bag**, IGI Global, 2025, DOI: 10.4018/979-8-3373-1409-9.ch008

13. COMPACT MODULAR REACTOR FOR CONTROLLED SYNTHESIS OF NANOMATERIALS, Dr. Bhaskar Nath. Dr. Partha Pratim Bag, Dr. Arnab Maity, Dr. Giridhari Hazra, Dr. Shuvendu Singha, **Dr. Abhishek Bag**, Dr. Sourav Bhattacharya, Dr. Saurav Ranjan Das, Dr. Arijit Bag, 2026, Patent number: 479960-001, Application number Serial No. : 220369

14. AI BASED EARTH QUAKE MONITORING AND NOTIFICATION DEVICE, 2025, Harsh Anant. Dr. Partha Pratim Bag, Dr. Arnab Maity, Dr. Giridhari Hazra, Dr. Shuvendu Singha, **Mr. Abhishek Bag**, Patent number: 454533-001, Application number: Serial No. : 205778

List of Conference

1. One-week International Symposium on The Scope of Intra and Intercontinental Research and Collaboration in Applied Sciences, Engineering and Management organized by Haldia Institute of Technology, Haldia, India, 23rd- 29th May' 2022

2. BRNS & SERB Sponsored National Conference on Emerging Trends & applications of Green Technologies for Sustainable Development 'Green Tech-2022' organized by Haldia Institute of Technology, Haldia, in association with Indian chemical society(ICS), India, 21st – 22nd November, 2022

3. Presented a poster in an international conference on "Sustainability and Interdisciplinarity in Chemical Sciences, 'SICS 2023' in association with IISER Kolkata and Indian Photobiology Society during July 13-15, 2023.

4. Participated and presented a paper entitled "Hydrogen storage efficiency of Cu(I) doped five membered aromatic heterocyclic complexes" in the Three Days National Seminar on - Global Science for Global Well-being – Lab to the Land (GSGWLL - 2023) held during 3rd – 05th March 2023.

5. Three days faculty development program on "Renewable Energy resources" organized by Global Institute of Science and Technology. Haldia from 22nd to 24th December 2021.

6. Participated and presented a paper entitled "In silico investigation on Au(I) decorated isomeric Triazine complexes as a new class of Hydrogen storage materials." in the one Day National Symposium on -"Chemistry and Spectroscopy" held on 4th May – 2024

7. 2nd Faculty Development Program (FDP) on Computational Chemistry of Materials: Molecule, Solids, Nanoparticles and Biological Activity (CCM-2022) organized by Centre for Advanced Computational Chemistry Studies, Delhi, held from 25th July – 31st July 2022.

8. Participated in the one Day Seminar on -"Sustainable Energy" held on 11th March – 2024, organized by Haldia Institute of Technology, Haldia

9. Participated in Recent Advances in Condensed Matter and Materials Science, PHYSICHEM-2021, Organized by Department of Chemistry and Physics, Cooch Behar Panchanan Barma University, Cooch Behar-736101.

10. Participated and presented a paper in the AICTE-VAANI sponsored Three Days National Seminar on Recent Advancement in Molecules and Materials for Sustainable Development (RA2M-SD 2024) held from 7th - 9th August 2024.

11. I am a life fellow of INDIAN CHEMICAL SOCIETY [Life fellow No.- 8244 (Life Fellow)]

12. Participated in AICTE Training and Learning (ATAL) Academy Faculty Development Program on Hydrogen 3600: Unlocking the Potential of Sustainable Power at Army Institute of Technology, Pune from 17/11/2025 to 22/11/2025.

List of Books