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List of Publications

Patent:

1. Composites of Polypyrrole and NASICON-structured-based compounds for electrocatalytic hydrogen evolution reaction (Application No.: 202221075078).

Publications:

1. **Ajay Kumar**, Ashish Kumar, Subhajit Jana, Rajiv Prakash. Electro-Oxidation of Formic Acid on Composites from Polycarbazole and WO_3. *Mater. Chem. Phys.* 2022, 282, 125958. https://doi.org/10.1016/j.matchemphys.2022.125958.

2. **Ajay Kumar**, Saurabh Kumar, Subhajit Jana, Rajpal, and Rajiv Prakash. Facile Polypyrrole/NASICON (PPy/Na3Fe2(SO4)2(PO4)) Electrode 2 Materials for the Hydrogen Evolution Reaction. *ACS Energy & Fuels* 2022, *36* (18), 11142-11153. DOI: 10.1021/acs.energyfuels.2c01893.

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4. **Ajay Kumar**, Saurabh kumar and Rajiv Prakash. Investigation of Redox mediated Super capacitive property of PPy/NFS and PPy/Ni-doped NFS composites. (communicated).

5. **Ajay Kumar**, Ravi Prakash Ojha, Subhajit Jana, Radhe Shyam and Rajiv Prakash. To study the effect of Alkyl Chain on Supercapacititve Behaviour of Co-Polymer derived from Aniline and Thiophene Using electrochemical and FTM Techniques. (communicated).

6. Shaili Pal, **Ajay Kumar**, Arup Kumar De, Rajiv Prakash and Indrajit Sinha. Visible Light Photocatalysis on Magnetically Recyclable Fe_3O_4/Cu_2O Nanostructures. *Catalysis Letter,* 2022. https://doi.org/10.1007/s10562-021-03893-1.

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10. Shaili Pal, Sunil Kumar, Alkadevi Verma, **Ajay Kumar**, Tim Ludwig, Michael Frank, Sanjay Mathur, Rajiv Prakash, Indrajit Sinha. Development of magnetically recyclable visible light photocatalysts for hydrogen peroxide production. *Materials Science in Semiconductor Processing*, 2020, 112, 105024. https://doi.org/10.1016/j.mssp.2020.105024.

11. Shaili Pal, Prakash Narayan Singh, Alkadevi Verma, **Ajay Kumar**, Dhanesh Tiwary, Rajiv Prakash, Indrajit Sinha. Visible light photo-Fenton catalytic properties of starch functionalized iron oxyhydroxide nanocomposites. *Environmental Nanotechnology, Monitoring & Management.* 2020, 14, 100311. https://doi.org/10.1016/j.enmm.2020.100311.

List of Conferences/workshops/symposiums attended

1. International Conference on Advances in Polymer Science and Technology (APA 2018), Nepal
2. International Conference on Beyond Fossil Fuel: The Future of Alternative Energy Technologies (B-FAT 2020), IIT(BHU), Varanasi, India.
3. International Conference on Emerging Trends in Chemical Science (ICETCS 2018), Gorakhpur University, Gorakhpur.
4. National Symposium on contemporary trends and future prospects of functional materials (CTFM 2019), Department of Chemistry, Banaras Hindu University, Varanasi.
5. National Conference on Innovative Approaches Towards Sustainable Developments (NCIATSD 2020), KNPG College, Gyanpur, Bhadohi, U.P.
6. 45th National Seminar on Crystallography (NSC 45 - 2017), IIT(BHU).
7. Workshop on Research Writing and Publishing (2019). IIT(BHU).