

LIST OF PUBLICATIONS

In Refereed journals

1. Kumar, S., **Baruah, B.** and Kumar, A. Tunable degree of oxidation through variation of H₂O₂ concentration and its effect on structural, optical and supercapacitive properties of graphene oxide powders synthesized using improved method. *Materials Today Communications*, 13:26-35, 2017.
2. **Baruah, B.** and Kumar, A. Electrocatalytic activity of rGO/PEDOT: PSS nanocomposite towards methanol oxidation in alkaline media. *Electroanalysis*, 30(9):2131-2144, 2018.
3. **Baruah, B.** and Kumar, A. PEDOT: PSS/MnO₂/rGO ternary nanocomposite based anode catalyst for enhanced electrocatalytic activity of methanol oxidation for direct methanol fuel cell. *Synthetic Metals*, 245:74-86, 2018.
4. **Baruah, B.**, Kumar, A., Umaphathy, G.R. and Ojha, S. Enhanced electrocatalytic activity of ion implanted rGO/PEDOT: PSS hybrid nanocomposites towards methanol electro-oxidation in direct methanol fuel cells. *Journal of Electroanalytical Chemistry*, 840:35-51, 2019.
5. **Baruah, B.** and Kumar, A. rGO/PEDOT: PSS/NiMn₂O₄ nanohybrid: an inexpensive anode catalyst for methanol and ethylene glycol electro-oxidation. *Journal of The Electrochemical Society*, 168(3):034510, 2021.
6. **Baruah, B.** and Deb, P. Performance and application of carbon-based electrocatalysts in direct methanol fuel cell. *Materials Advances*, 2(16):5344-5364, 2021.
7. **Baruah, B.**, Biswas, R. and Deb, P. Hybrid 2D-1D nanostructure of NiO composited with PEDOT: PSS and rGO: Bifunctional electrocatalyst towards methanol oxidation and oxygen evolution reaction. *International Journal of Energy Research*, 46(12):16394-16415, 2022.

Book chapter

1. **Baruah, B.** and Kumar, A. Platinum-Free Anode Electrocatalysts for Methanol Oxidation in Direct Methanol Fuel Cells. In *Ceramic and Specialty Electrolytes for Energy Storage Devices*, pages 261-283, ISBN 9780367701444. CRC Press, 2021.
2. **Baruah, B.** and Kumar, A. Recent Advances in Non-Platinum-Based Cathode Electrocatalysts for Direct Methanol Fuel Cells. *Ceramic and Specialty Electrolytes for Energy Storage Devices*, pages 237-259, ISBN 9780367701444. CRC Press, 2021.

Papers presented in conferences

1. **B. Baruah, A. Kumar, International Conference on Light and Light based Technologies (ICLLT)**, Tezpur University, Assam, India, November 26-28, 2016.
2. **B. Baruah, A. Kumar, UGC-SAP (DRS II) Sponsored National Conference on Hard and Soft Condensed Matter Physics (NCHSCMP-2017)**, Tezpur University, Assam, India, March 2-4, 2017.
3. **B. Baruah, A. Kumar, Condensed Matter Days-2017 (CMDAYS17)**, Tezpur University, Assam, India, August 29-31, 2017
4. **B. Baruah, A. Kumar, National conference on Nanomaterials Science, Technology and Applications (NAMASTA-2017)**, Dibrugarh University, Dibrugarh, Assam, India, November 10-11, 2017.
5. **B. Baruah, A. Kumar, International conference on Renewable and Alternate Energy (ICRAE-2018)**, Assam Science and Technology University, Guwahati, Assam, India, December 4-6, 2018.
6. **B. Baruah, A. Kumar, G.R. Umaphathy, S. Ojha, UGC-SAP (DRS II) Sponsored 2nd National Conference on Hard and Soft Condensed Matter Physics (NCHSCMP-2019)**, Tezpur University, Assam, India, March 4-6, 2019.