List of Publications

In journals

[1] **Morang, S.**, Biswakarma, N., Deka, R. C. and Karak, N. Citric acid/glycerol ester, a backup of 2, 2-bis (hydroxymethyl) propionic acid and biobased synthesis of anionic polyurethane dispersion. *Progress in Organic Coatings*, 168:106880, 2022. (DOI: 10.1016/j.porgcoat.2022.106880)

[2] **Morang, S.**, Bandyopadhyay, A., Mandal, B. B. and Karak, N. Asymmetric hard domain-induced robust resilient biocompatible self-healable waterborne polyurethane for biomedical applications. *ACS Applied Bio Materials*, 6(7):2771–2784, 2023. (DOI: 10.1021/acsabm.3c00243)

[3] **Morang, S.**, Bandyopadhyay, A., Rajput, J.H., Mandal, B. B., Poundarik, A., and Karak, N. A robust self-healable and 3D printable thermoplastic elastomeric waterborne polyurethane for artificial muscle and biomedical scaffold applications. *ACS Applied Polymer Materials,* 5(10):8518–8532, 2023. (DOI:10.1021/acsapm.3c01627)

[4] **Morang, S.**, Rajput, J. H., Mukherjee, A., Poundarik, A., Das, B., and Karak, N. A dynamic hard domain induced self-healable waterborne poly(urethane/acrylic) hybrid dispersion for 3D printable biomedical scaffolds. *Materials Advances*, 4:4784-4797 2023. (DOI: 10.1039/D3MA00607G)

[5] **Morang, S.**, Bandyopadhyay, A., Borah, N, Kar Annesha, Mandal, B. B., Mandal, M. and Karak, N. Photoluminescent self-healable waterborne polyurethane/Mo and S co-doped graphitic carbon nitride nanocomposite with bioimaging and encryption capability. (*Manuscript is under revision, ACS Applied Bio Materials, Manuscript ID: mt-2023-01259c*).

In patent

[1] Karak, N. and **Morang, S**. Microwave self-healable and melt reprocessable environmentally benign, organic solvent-free, and surfactant-free waterborne polyurethane/acrylic dispersions. Indian Patent (Application no. 202231066854 of 21.11.2022).

Book Chapters

[1] **Morang, S.** and Karak, N. Nanocomposites of Waterborne Polyurethanes. In Gupta, R, and Mishra A.K., editors, *Eco-Friendly Waterborne Polyurethanes*, pages: 83-100, CRC Press, 2022.

[2] **Morang, S.** and Karak, N. Polyurethanes: In, Gupta, R., editor, *Preparation, Properties, and Applications*, American Chemical Society. In Gupta, R., editor, Composites of Polyurethane, pages:79-99, ACS Symposium Series, American Chemical Society, 2023.

<u>In Conferences (as abstract)</u>

Poster Presentation:

[1] **Morang, S.** and Karak, N. Dual dynamic reversible bond derived self-healable waterborne polyurethane. In Frontiers in Chemical Sciences (FICS-2023), IIT Guwahati, India, 2nd-4th December, 2022.

Oral Presentation:

[1] **Morang S.** and Karak, N. Citric acid/glycerol ester, a backup of 2, 2-Bis(hydroxymethyl)propionic acid and biobased synthesis of anionic polyurethane dispersion. In virtual international conference on 'Molecules to Materials (MTM-2020), Sardar Vallabhbhai Institute of Technology, Gujarat, 17-18th December 2020. (**Awarded for the 'Best Oral Presentation' sponsored by ACS Langmuir**)