

LIST OF PUBLICATIONS

Journals

- [1] **Duarah, R.** and Karak, N. A starch based sustainable tough hyperbranched epoxy thermoset. *RSC Advances*, 5(79):64456-64465, 2015.
- [2] **Duarah, R.**, Singh, Y. P., Mandal, B. B., and Karak, N. Sustainable starch modified polyol based tough, biocompatible, hyperbranched polyurethane with a shape memory attribute. *New Journal of Chemistry*, 40(6):5152-5163, 2016.
- [3] **Duarah, R.**, Singh, Y. P., Gupta, P., Mandal, B. B., and Karak, N. High performance bio-based hyperbranched polyurethane/carbon dot-silver nanocomposite: a rapid self-expandable stent. *Biofabrication*, 8(4):045013, 2016.
- [4] **Duarah, R.** and Karak, N. Facile and ultrafast green approach to synthesize biobased luminescent reduced carbon nanodot: an efficient photocatalyst. *ACS Sustainable Chemistry & Engineering*, 5(10):9454-9466, 2017.
- [5] **Duarah, R.**, Singh, Y. P., Gupta, P., Mandal, B. B., and Karak, N. Smart self-tightening surgical suture from a tough bio-based hyperbranched polyurethane/reduced carbon dot nanocomposite. *Biomedical Materials*, 13(4):045004, 2018.
- [6] **Duarah, R.** and Karak, N. High performing smart hyperbranched polyurethane nanocomposites with efficient self-healing, self-cleaning and photocatalytic attributes. *New Journal of Chemistry*, 42(3):2167-2179, 2018.
- [7] **Duarah, R.** and Karak, N. Hyperbranched polyurethane/reduced carbon dot-zinc oxide nanocomposite-mediated solar-assisted photocatalytic degradation of organic contaminant: an approach towards environmental remediation, 2018. [Under Review].

Conferences

- [1] **R. Duarah** and N. Karak, Bio-based hyperbranched epoxy modified hyperbranched polyurethane thermoset, 27th Materials Research Society of India (MRSI) Symposium on Advanced Materials for Sustainable Applications, CSIR-NEIST, Jorhat, 18-21st February, 2016.

- [2] **R. Duarah** and N. Karak, Prospective rapid self expandable stent from carbon dot-silver modified high performing hyperbranched nanocomposites, 20th CRSI National Symposium, Gauhati University, Guwahati, 3rd-5th February, 2017.
- [3] **R. Duarah** and N. Karak, Characterization of starch modified hyperbranched carbon based polyurethane nanocomposites as smart materials, 1st International Conference on Sophisticated Instruments in Modern Research, IIT Guwahati, 30th June-1st July, 2017. (Awarded as **Best Poster**)
- [4] **R. Duarah** and N. Karak, Sustainable resource based tough hyperbranched polyurethane/carbon dot-Ag nanocomposite: a prospective rapid self-expandable stent, International Conference on Advances in Polymer Science & Technology, New Delhi, India, 23rd-25th November, 2017.
- [5] **R. Duarah** and N. Karak, Sustainable-resource-based tough hyperbranched polyurethane nanocomposites with different carbon based metal nano hybrids: Perspective as multifunctional smart materials, Fourth International Symposium on Advances in Sustainable Polymers (ASP 2017), IIT Guwahati, Assam, 8th-11th January, 2018. (Awarded as **Best Presenter**)
- [6] **R. Duarah** and N. Karak, Starch modified hyperbranched polyurethane nanocomposites with diverse carbon based nanomaterials: as prospective multifaceted smart materials, OrganiX-2018: An International Conference in Chemistry, Tezpur University, Assam, 20th-21st December, 2018.