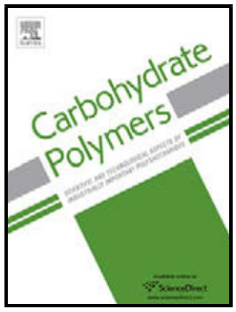

Title: BIOSYNTHESIS OF BACTERIAL CELLULOSE IN THE PRESENCE OF DIFFERENT NANOPARTICLES TO CREATE NOVEL HYBRID MATERIALS

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Highlights

- BC-based novel hybrid nanocomposites were produced through an in situ approach with an aim to incorporate the multifunctional properties of BC and nanoclay, xGnP and CNFs for the development of nanostructed materials with designed functionalities.
- Nanocomposites exhibited good dispersion of the nanoparticles (NPs) within the BC matrix and the NPs were found embedded among the voids and microfibrils.
- The thermal stability and residual mass of BC-xGnP and BC-NC nanocomposites were significantly increased compared to the pristine BC.
- The ability to synthesize and manipulate bacterial cellulose in the presence of different nanoparticles allows tremendous versatility in creating new materials results in increased performance for a chosen application.