

74. Bacterial Cellulose: From Biotechnology to Bio-Economy

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Bacterial cellulose (BC) is a nanofibrillar exopolysaccharide synthesized by certain Gram-negative, obligate aerobic, acetic acid bacteria, the *Komagataeibacter* genus being the most important due to the high cellulose yield obtained. The unique properties of this biopolymer have supported a wide range of potential applications, in human and veterinary medicine, odontology, pharmaceutical industry, acoustic and filter membranes, biotechnological devices and in the food and paper industry. The large-scale production of BC, through advanced biotechnology has eluded many researches. Historical attempts but on low volume and high-value (mostly for biomedical applications) production can be traced back to the 90s.

This presentation will overview the potential uses of BC in several applications. Also, it will present Satisfibre, S.A., a spin-off from the University of Minho (Portugal). Through R&D activities, networking & partnering with industry, Satisfibre aims to bring new and improved solutions, based on the use BC, to the food sector, biomedical, composites, pulp & paper and textile industries. Examples of successful product development and industry networking will be shown. Finally, an overview on the main efforts towards the production of BC at large scale and potential markets will also be presented.

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