

## Accepted Manuscript

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PII: S1359-835X(15)00316-4

DOI: <http://dx.doi.org/10.1016/j.compositesa.2015.09.007>

Reference: JCOMA 4052

To appear in: *Composites: Part A*



Please cite this article as: Ray, D., Sain, S., Review: *In Situ* Processing of Cellulose Nanocomposites, *Composites: Part A* (2015), doi: <http://dx.doi.org/10.1016/j.compositesa.2015.09.007>

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## Review: *In Situ* Processing of Cellulose Nanocomposites

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### Abstract

Nanocellulose has gained attention in recent times due to their light weight, high strength, stiffness, biodegradability and renewability. Natural fibres have been used as reinforcement in composites for past many years, but the use of nanocellulose as reinforcement in composites is relatively new. The main challenges of preparing nanocellulose based composites include i) generation of nanocellulose from natural resources ii) production in larger scale iii) enhancing compatibility with hydrophobic polymers and iv) achieving uniform dispersion in polymer matrices. These challenges have encouraged researchers to innovate efficient processes and techniques to utilise the maximum benefit of such green nanoscopic materials. *In situ* fabrication of cellulose nanocomposites is one such technique of achieving uniform nanocellulose dispersion in polymer matrices and obtaining a stronger filler/matrix interface. This review summarises the recent progress in the field of *in situ* processing of cellulose nanocomposites.

**Key words:** A: Cellulose; A: Nanocomposites; B: Microstructures D: Fractography

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