



# Introduction to Bionanocomposites

Cite this: *Nanoscale Adv.*, 2024, 6, 745 Sabu Thomas,<sup>a</sup> Maya Jacob John<sup>b</sup> and Aji P. Mathew<sup>c</sup>

DOI: 10.1039/d3na90115g

rsc.li/nanoscale-advances

Bionanocomposites comprising biobased polymers and nanosized bio-based fillers are novel materials with tunable properties and have diverse applications in packaging, environmental remediation and the biomedical sector.

Bionanocomposite materials also have a significant role to play in the implementation of a functional circular economy.

In this themed issue, leading researchers from academia and industry

were invited to submit reviews or their latest research on topics aligned to the development of bionanocomposites from renewable resources. Studies dealing with waste conversion to bio-based products and the development of biona-

<sup>a</sup>Mahatma Gandhi University, Kottayam, Kerala, India

<sup>b</sup>Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa

<sup>c</sup>Stockholm University, Sweden



Sabu Thomas

Professor Sabu Thomas is the Director of the International and Interuniversity Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala, India. He is also the Chairman of the Trivandrum Engineering Science and Technology Research Park (TrEST PARK), Trivandrum, Kerala, India. He was the former Vice Chancellor of Mahatma Gandhi University. Prof. Thomas is a highly committed

teacher and a remarkably active researcher well known for his outstanding contributions in polymer science and nanotechnology. He has published over 1400 research articles in international refereed journals and has also edited and written 210 books. His h-index is 138 and total citations are more than 90 000. He has supervised 126 PhD theses.



Maya Jacob John

Dr Maya Jacob John is Principal Researcher at the Centre for Nanostructures and Advanced Materials at the Council for Scientific and Industrial Research (CSIR) in Pretoria, South Africa. She received her PhD (2006) in chemistry from Mahatma Gandhi University, India. Her current research interest focuses on valorisation of agro and industrial waste residues and development of biobased materials. Dr Maya

has published more than 100 peer-reviewed research articles and was granted two patents and four technology demonstrators. The impact of her research is evident in her overall citation record with a total of more than 12 000 citations and current h-index of 40.



nocomposites have been included in this issue. This issue consists of 7 research articles.

As guest editors of this themed issue, we acknowledge all the authors and reviewers who have contributed to its publication. We would also like to thank

the technical support team at the Royal Society of Chemistry for their assistance in preparing this themed issue.



**Aji P. Mathew**

*Aji Mathew is a Professor in Materials Chemistry with focus on Biobased functional materials since February 2017, at the Department of Materials and Environmental Chemistry, Stockholm University. She holds a PhD in Polymer chemistry (2001) from Mahatma Gandhi University, India. Her current research has a strong focus on designing biobased materials in nanoscale for a sustainable society. She currently also serves as director of the Stockholm University Centre for Circular and Sustainable Systems (SUCCESS) and contributes to sustainable materials research. She currently has an h-index of 71 (Google scholar) and about 19 000 citations.*