

PART I: Introduction to Nanofiber Production and Its Pretreatment Techniques

1. Nanofiber and Nanoparticle Production Techniques for Various Functional Product Developments

S. Rajesh Kumar, M. Gopalakrishnan, R. Vijayasekar, and A. Ashok Kumar

2. Flexible Piezoelectric Nanogenerator Composed of Electrospun Nanofibrous Web

S. Wazed Ali and Satyaranjan Bairagi

3. Nanopretreatments for Textile: Nanoscouring, Nanobleaching, Nanosoftening, and Nanosurface Activation

Subhankar Maity, Kunal Singha, and Pintu Pandit

PART II: Nanoparticle Modification Techniques and Applications of Nanotechnology in the Textile Industry

4. Advanced Nanotechnologies for Finishing of Cellulosic Textiles

Faten Hassan Hassan Abdellatif, Mohamed Mehawed Abdellatif, and Hend M. Ahmed

5. Nano-Finishing on Woolens

Ajay Kumar, D. B. Shakyawar, Seiko Jose, Vinod Kadam, and N. Shanmugam

6. Application of Nanotechnology-Based UV Finishes on Textiles and Their Evaluation

M. S. Parmar

7. Nanoparticles Modifications of Textiles Using Plasma Technology

Hend M. Ahmed, Mohamed Mehawed Abdellatif, and Faten Hassan Hassan Abdellatif

8. Nanoparticle Application by Layer-by-Layer Deposition Technique to Produce Polyelectrolyte Multilayers on Fabrics

Chet Ram Meena

9. Nanotechnology in Sports Clothing

M. Parthiban and K. Saravanan

10. Sustainable Physiological Adaptation of Humans to Diverse Environment Conditions Using Smart NanoTextiles

Renu Bala Yadav, Vinay Kumar Yadav, Dharam Pal Pathak, and Rajesh Arora

11. A New Dimension on Novel Application of Nanotechnology for High-Performance Clothing

D. Gopalakrishnan, M. Parthiban, and P. Kandhavadi

PART III: Nanotechnology: An Innovative Way for Removal of Textile Waste and Nano-Textiles Used for Healthcare Perspective

12. Nanotechnology Applications for the Management of Textile Effluent

A. S. M. Raja, A. Arputharaj, G. Krishnaprasad, T. Senthil Kumar, and P. G. Patil

13. Recent Advances of Nanoparticles in the Removal of Textile Dyes

Rekha Sharma, Ankita Dhillon, and Dinesh Kumar

14. Health Safety and Environment Aspect of Nanotextiles