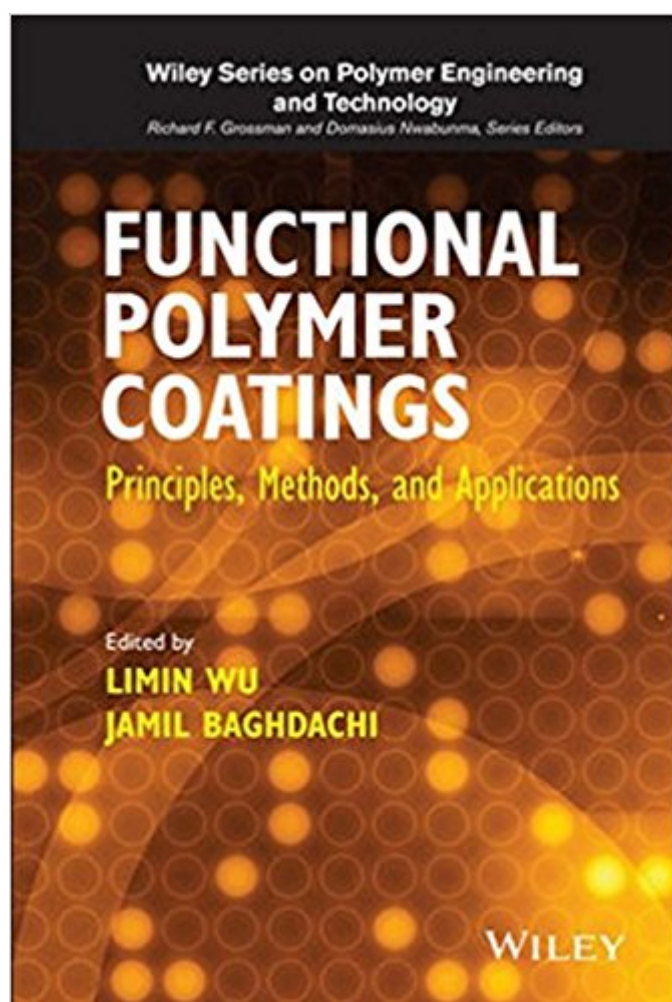


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# Functional Polymer Coatings: Principles, Methods, And Applications (Wiley Series On Polymer Engineering And Technology)





## Synopsis

Focusing on a variety of coatings, this book provides detailed discussion on preparation, novel techniques, recent developments, and design theories to present the advantages of each function and provide the tools for better product performance and properties. **•** Presents advantages and benefits of properties and applications of the novel coating types **•** Includes chapters on specific and novel coatings, like nanocomposite, surface wettability tunable, stimuli-responsive, anti-fouling, antibacterial, self-healing, and structural coloring **•** Provides detailed discussion on recent developments in the field as well as current and future perspectives **•** Acts as a guide for polymer and materials researchers in optimizing polymer coating properties and increasing product performance

## Book Information

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## Customer Reviews

Used to manufacture products such as cars, appliances, packaging, electronics, plastics, buildings, fibers, ships, and aircraft; coatings can improve the performances and appearance of these products. In a world where polymers are a necessary component in a variety of industries, polymer coating science and technology is a rapidly growing field and has extensively developed over the past decades. Continuing research on designs and coating technologies through novel theories and technologies lead the way for better product performance and new high-performance materials. Focusing on a variety of coatings, this book introduces principles and methods for the

fabrication of functional polymer coatings. Each chapter provides detailed discussion on the preparation, properties, design theory, and applications. The book compares and contrasts various types of coatings to help determine the benefits and advantages of each. Although there are many articles and related books on the topic, this book's compilation of broad aspects, novel technologies, and recent developments stands out as offering a comprehensive resource for polymer scientists. Among the key features the book offers are:

- Inclusion of chapters on specific and novel coatings like nanocomposite, surface wettability tunable, stimuli-responsive, anti-fouling, antibacterial, self-healing coatings, self-stratifying coatings, and structural coloring
- Detailed discussion on novel preparation principles and techniques, recent developments, and current and future perspectives
- Guidance for polymer and materials researchers in optimizing polymer coating properties and increasing product performance

Limin Wu is the director of the Advanced Coatings Research Center of the Ministry of Education of China and a Professor of the Department of Materials Science at Fudan University in Shanghai. He has over 20 years of experience in the areas of nano/micro hybrid colloidal spheres and functional polymer coatings. Jamil Baghdachi is the Interim Director of the Coatings Research Institute and a Professor in the Polymers and Coatings department at Eastern Michigan University. He has over 25 years of experience in polymers, coatings, adhesives, paints, and composites and has acted as a consultant for national and international firms.

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