Preface

Fibers have been closely related to the human civilization ever since the origin of mankind. As they evolved from natural fibers such as cotton, hemp, silk and wool which are widely used on the daily basis, to the synthetic fibers with designated properties and high performance targeted for aerospace and military usage, fibers are even more closely connected to human society than ever. Nowadays, with the integration of physics, chemistry, biology, medical science, and information technology, fiber science has fully grown into a multidisciplinary research frontier, targeting to develop high-performance, intelligent and sustainable materials. At the same time, fiber technology has become an essential part in affecting and guiding the directions of modern industry. Fibers are showing their vast potential as smart and highly functional materials. In the very near future, the modern fibers will not only be able to function as energy generation and storage materials, but also be capable of sensing and responding, communicating and data processing, as well as performing many more advanced tasks.

I would like to express my sincere appreciation to Prof. ZHANG TongYi for providing the platform and inviting me to organize this special topic on Smart and Functional Fiber Materials. This special issue mainly focuses on presenting a comprehensive overview of the most recent science and technology advances in this field. We have gladly collected 9 high-quality papers in this area, including 6 review articles and 3 research reports. These papers cover the fundamental concepts, novel experimental and fabrication techniques, growth mechanisms of novel fiber materials, as well as the advanced modification methods and processing technologies in fiber area. Sophisticated examples of potential applications for smart and functional fiber materials in many areas, including clean and sustainable energy, environment, information technology, healthcare and hygiene, and modern textile and garments, are summarized and discussed. Most importantly, the special issue also points out the critical steps and challenges involved in the translation of these materials from the lab to the real-world applications. I would like to thank all the authors for sharing informative knowledge and research results, and contributing their valuable time and effort to this special issue.

I hope that this special issue provides the readers a better understanding of smart and functional fiber materials and inspires more researchers to devote their passion for fiber research. Herein, I also would like to take this opportunity to sincerely invite your attention to a newly launched journal, *Advanced Fiber Materials* (a new member of Springer Journal Family), which is committed to providing a platform for fiber scientists, engineers and entrepreneurs all over the world to exchange their ideas and demonstrate their fiber-related cutting-edge research progress.

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