

**ADVANCED TOPICS
IN SCIENCE AND TECHNOLOGY IN CHINA**

ADVANCED TOPICS IN SCIENCE AND TECHNOLOGY IN CHINA

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Zhong-Shan Gao Hua-Hao Shen
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Multidisciplinary Approaches to Allergies

With 47 figures

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Preface

The world-wide increase in allergy is the consequence of drastic changes in people's lifestyles, living environments (both indoors and outdoors) and food. The allergy problem has become an important health issue in the past two decades, and valuable knowledge and strategies regarding prevention have been fully developed yet over this period. In China, the economy is growing at a very high speed. Currently, asthma, allergic skin diseases and several forms of food allergy are major recognized health problems. Although there are no exact national data to enable understanding of the prevalence of allergic diseases currently available, there is, non-the-less, a body of evidence available to suggest that the incidence of allergic disease is increasing. Allergy is caused by multiple factors, so prevention strategies should be based on data derived from medical, food and agricultural, environment-related, and consumer-related research, and should address human genetic and physiological/immunological as well as environmental aspects of allergic disease development and management. In addition, health organizations, food and pharmaceutical industries, and governmental authorities should be supplied with the relevant information. Preventing and managing allergy requires the simultaneous development of multidisciplinary and integrated strategies involving researches from medical, food, environment and societal approaches. Allergic disease should be researched from the perspective of the gene to molecular biology, cell biology, histopathology, symptomology, and social and environmental sciences. Impact on quality of life should also be considered. The prevention and treatment of allergy requires an interdisciplinary research strategy.

This book addresses a broad range of allergy issues, with chapters being contributed by leading scientists and experts, regarding the prevalence, basic mechanisms, allergenic sources and allergens, diagnosis, therapies and pharmacy, hypoallergenic products, environmental pollution, climate change and hygiene life style that are involved in the course of allergy development and its societal impact. We hope this book will stimulate more active collaboration in the common theme of multidisciplinary approaches to understand, manage and prevent the prevalent allergies. This book can be used as a reference by students, experts and end-users in education, research, and governmental administration of allergy.

Multidisciplinary approaches to reduce allergy was a cooperative initiative

between China and the Netherlands in 2007. Now we are very glad to see that a special book on this theme will be published. We would like to thank firstly professor Jun Zhu at Zhejiang University (ZJU) and professor Evert Jacobsen at Wageningen University and Research Center (WUR), who played key roles in the starting of the project by their mutual visits. Zhejiang University has supported the idea and established a multidisciplinary Allergy Research Center at ZJU. As organized and financed by ZJU, WUR, HAL Allergy BV and Hangzhou Zheda Dixun Biological Gene Engineering Co. Ltd., Hangzhou Allergy Symposium in 2008 provided a platform for exchanges of broad knowledge on allergy and initiated a book publishing plan.

It was a challenging task to write allergy in such broad subjects, which is driven by great enthusiasm and strong belief of this new idea. Sincere thanks are addressed to all authors of this special book.

We thank Professors Shao-Heng He, Yi-Ping Xu, Xue-Jun Zhu, Chun-Di He for critical reading of this book. Also thanks go to editors of Zhejiang University Publisher and Springer, who encouraged us and with great assistance and management of the editing work.

This work was partly supported by the Natural Science Foundation of China (30971970) and the Special Research Fund for International cooperation with European Union (Contract No. 1114).

The editorial team experienced a real pleasure in the cooperation during the realization of the final volume on this interesting and challenging topic.

Finally, we would like to acknowledge the references and permissions to use text, tables, photos figures from publishers and authors which are indicated in the text through which the book gains additional value as a textbook and a reference study book.

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