

## Preface

This book reflects selected research achievements in semiconductors of mine from the period of 1982 to 2008. My career in research has been quite unusual. I graduated from the Physics Department, Fudan University, Shanghai, in 1960. However, I only published my first scientific paper in an international journal in 1982. It was most unfortunate that for a very long period of time, opportunities to study science were few and far between.

On the other hand, I was fortunate to meet some very kind teachers and friends whose invaluable advice and timely help, greatly influenced my scientific career. Late Professor Xide Xie, former president of Fudan University, introduced me to the fruitful field of semiconductors and gave me constant support during my 30 years of work in this field. Late Professor Kun Huang, former Director of Institute of Semiconductors, Chinese Academy of Sciences, gave me very strong support and encouragement. I was strongly influenced by his advice and research style. Professor Chih-Tang Sah of University of Illinois, and now R.C.Pittman Eminent Professor of University of Florida, introduced me to the area of deep defects in semiconductors, and gave me invaluable advice in various stages, deeply affecting the course of my research. Professor Peter Yu of University of California at Berkeley, invited me to join the research team for deep defects in III-V semiconductors at University of California at Berkeley and Lawrence Berkeley Lab, and also gave me invaluable help in my life. Finally I have had pleasant collaboration with Professor Dim-Lee Kwong, former Professor at University of Texas at Austin, and now Director of Institute of Microelectronics in Singapore. We have different backgrounds complementary to each other, and therefore very efficient collaboration for more than 6 years. I learned much from Dim-Lee about Si technology during this period.

I was also fortunate to have many highly talented students in my group. I not only supervised their research, but also learned from these young students. As I compiled this volume, many names and events that have left an indelible impression on me came to mind. All deserve to be mentioned in this book but I am constrained by the number of papers I can include. It is therefore inevitable that some excellent collaborators and students may be left out. I apologize for this and would like to assure them their important contributions are nevertheless deeply appreciated.

I wish to thank the National University of Singapore, Fudan University, Graduate School of Chinese Academy of Sciences, Institute of Semiconductors of Chinese Academy of Sciences, University of Science and Technology of China, and Institute of Microelectronics, Singapore where I have worked and obtained much support from them. I want to thank many funding agencies in Singapore and China, particularly the National Science and Technology Board and later A\*STAR in Singapore, and National Science Foundation of China.

I would also like to thank Imperial College Press for giving me the opportunity to publish this collection of around 80 papers selected from more than 390 scientific publications of mine. Mr. V.K. Sanjeed, has been very cooperative and helpful in editing this book. This volume is a summary of my previous research achievements, which I hope to build on in time to come. I am expecting more breakthroughs in semiconductor science through collaborations with my colleagues in my home town Shanghai and my home university in Fudan.

Finally I am deeply indebted to my wife Xing-Zhen Qian and my son Hao-Hua Li. They have strongly supported and been very understanding of my work over the years.

Ming-Fu Li  
in Shanghai, December 2009