THE ROAD TO SCIENTIFIC SUCCESS

Inspiring Life Stories of Prominent Researchers

Volume 2

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THE ROAD TO SCIENTIFIC SUCCESS

Inspiring Life Stories of Prominent Researchers

Volume 2

editor

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Preface

This is Volume 2 of the book series *The Road to Scientific Success: Inspiring Life Stories of Prominent Researchers*. The book series is aimed at (i) inspiring young people to pursue careers in science or engineering, (ii) documenting the process of scientific research, (iii) providing illustrations of how research is steered, (iv) providing information on how to prepare for a scientific career, (v) providing illustrations of the interplay between science and life, and (vi) communicating science to the general public.

Volume 2 features four prominent researchers, namely Wilton W. Webster, Jr. (pioneer in cardiac catheters), Didier de Fontaine (leader in the science of phases in materials), Christopher W. Macosko (leader in the science of polymer flow) and Sek Yen Kim-Cho (speech scientist and developer of the Global Writing System). These researchers are diverse in gender and ethnicity, with their work conducted in U.S.A., Belgium, Britain, Congo and Korea. Their scientific contributions relate to biomedical/mechanical engineering, materials science, chemical science and speech science, and span the spectrum from fundamental science to applied science and to technology implementation and commercialization. The impacts of their science pertain to health (fighting heart diseases), engineering material development (understanding the internal structure of engineering materials so as to create new materials), industrial process development (understanding how a material flows), communication (converting from speech to text automatically so as to speak to a computer, for example) and literacy (fighting illiteracy through a global writing system that is simple and that covers all speech sounds). Each researcher provides a moving first-person account of how perseverance, dedication, diligence, insight, innovation and education contribute to his/her success. Particularly interesting is how each person pursues life (family, students, mentors, colleagues, faith, arts, travel, etc.) amidst a heavy and long-term involvement in science, and how each person faces his/her difficulties (such as those related to the gender, social system, educational system, cultural adjustment,

immigration, research funding and technology acceptance). The experience of these scientists provides valuable lessons to be learned.

Because of the direct interaction of the featured scientists with other prominent professionals, this volume also provides valuable information on Georges Lemaître, John E. Hilliard, John W. Cahn, André Guinier, Lars Onsager, Chen-Ning Yang, Marc Kac, Ryoichi Kikuchi, John W. Christian, Vitaly Ginzburg, Ilya Prigogine, Neal R. Amundson and John W. Kirklin — a list that includes several Nobel laureates.

The history of the pertinent science is reported in the context of world history (such as World War II and the Korean War) and provides new information for study by historians. Due to the diverse cultural background of the readers, numerous footnotes are included to provide basic information on the relevant world history, geography and culture and the prior science history. As the readers are not expected to have much science background, each chapter includes an introduction written by the Editor for providing the basic science background that is needed for understanding the chapter.

This volume is suitable for students (such as secondary school students and undergraduate and graduate students that major in science, engineering, health-related subjects, linguistics, history and sociology), professionals (such as scientists, engineers, technicians, medical personnel, medical device personnel, linguists, phonetics personnel, historians, sociologists, technology-related public policy personnel, teachers, professors, educators, guidance counselors, research managers, technology managers, technology marketing personnel, technology transfer personnel, technology-related business managers and science writers) and the general public (such as the parents of students, science museum visitors, and people interested in science, health, heart diseases, literacy, communication, speech-to-text conversion, faith, international culture, the Korean War, science education, technology-related issues, technology-related businesses and history).

I sincerely hope that this volume will inspire, motivate, encourage and energize the readers to pursue life with meaning, purpose, creativity, rigor and perseverance. Suggestions for possible scientists to be featured in future volumes are welcome.

Deborah D.L. Chung
Series and Volume Editor
 Buffalo, NY, U.S.A.
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