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Editors

Communicating Science to the Public

Opportunities and Challenges for
the Asia-Pacific Region

 Springer

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Foreword

Communicating Science to the Public: Opportunities and Challenges for the Asia-Pacific Region is an exciting and very timely contribution that explores the promotion of the public understanding of science, largely from a regional perspective. It explores key platforms for communicating science to the public, shares best practices in science communication from both high-income and lower-income countries, and underscores the role of science communication initiatives in fostering national development in low-income countries. The range of platforms it explores is broad: from conventional science journalism and university-based public outreach, to the establishment of science centers and the emergence of new web-based communication, to café scientifiques and science olympiads. The volume also delves into graduate education in science communication, the role of learned societies, and the particular problems of science communication in developing countries. The Pacific Science Association (PSA) is indeed pleased to have had a small part in encouraging this volume so ably edited by Professor Leo Tan Wee Hin and Associate Professor R. Subramaniam.

In the 90+ years since the PSA was founded as an interdisciplinary science organization with an implicit goal of fostering science communication, the Asia-Pacific region has undergone dramatic political, demographic, economic, and environmental change. Science and technology have served as important engines for many of those transformations. While the Asia-Pacific is in many ways the most economically dynamic part of the world, it also faces huge challenges in terms of development, human security, and environmental sustainability. How these challenges are met will directly impact the entire globe. As the global community grapples with a new understanding of the relationship between sustainability and development, a wide range of stakeholders must be engaged in the debate. Effective science communication is absolutely critical for this effort, and it is for this reason that the publication of this volume is particularly timely.

Last year's Rio+20 Conference on Sustainable Development resulted in *Future Earth* – a new 10-year international architecture for global change research organized under the auspices of the International Council for Science (ICSU) and the International Social Science Council (ISSC). The target date for the Millennium

Development Goals (MDGs) is also fast approaching, and the United Nations has released the High-Level Panel report on the Post-2015 Development Agenda and appointed a Science Advisory Board to the UN Secretary General. That new report¹ explicitly links environmental targets and development goals and acknowledges the critical role of science and technology. The task is to develop a set of sustainable development goals (SDGs) that will carry the implementation of the MDGs forward, especially the overarching goal of poverty eradication, and address the integration of the three dimensions of sustainable development – economic, social, and environmental.

The global community faces a daunting set of challenges with respect to sustainability. The science and technology community has a critical role to play in meeting this set of challenges. To do so, scientists must find ways to communicate more effectively and reach a much broader range of stakeholders. The chapters in this volume suggest some practical and innovative ways to do this. Scientific literacy must be enhanced, and science communication can be used to help those outside the science community to understand how scientific knowledge can facilitate better decision-making. Science itself must become more open to fruitful collaborations not just across disciplines and across national boundaries but also between the science and nonscience communities in an effort to become truly *transdisciplinary*: forming an inclusive global partnership with not only governments but multilateral institutions, businesses, academia, private philanthropic entities, as well as all of civil society – people living in poverty, indigenous and local communities, women, persons with disabilities, and other historically marginalized groups. The lessons contained in this volume suggest ways to engage these multiple stakeholders.

Honolulu, HI, USA

Nancy D. Lewis
Pacific Science Association

¹ United Nations. High-Level Panel of Eminent Persons on the Post-2015 Development Agenda. (2013). *A new global partnership: eradicate poverty and transform economies through sustainable development, the report*. New York: United Nations Publications.

Preface

In recent times, science communication has become an important area of academic activity. It rides on various platforms to achieve its objectives – for example, science journalism, science centers, and outreach activities by institutions of higher learning. While the field of science communication is generally well established in the developed world, the situation in many developing countries is far from satisfactory. Given the pervasive influence of science and technology in today's society, its influence will only increase in the years to come as the world becomes more globalized and the economies of countries become more interlinked.

With a view toward exploring the multifaceted dimensions of science communication, especially from the point of view of developing countries, this book was conceptualized. The book thus seeks to address the challenges of communicating science to the public in the developing world. We have taken a broad interpretation of the term "science communication," and thus a multiplicity of approaches for communicating science to the public is explored. Though the book title has a sub-line emphasizing the Asia-Pacific region, the issues explored are relevant to developing countries irrespective of region.

Chapters were commissioned from scholars working in the areas of communication of science to the public or who have experience in this area. Each chapter was subjected to peer review. A total of 17 chapters are presented in this book. They represent the efforts of 27 authors from eight countries: Australia, Bangladesh, India, Ireland, New Zealand, the USA, Singapore, and South Africa – a truly international effort. The diverse perspectives offered from the lens of authors in different cultural contexts serve to enrich the value of this publication further. For convenience, the chapters are divided into various sections.

A book of this nature would not have been possible without the efforts of various parties. We owe a debt of gratitude to many people. We thank Professor Nancy Lewis, President of the Pacific Science Association in Hawaii, for her encouragement and support for us to work on this book project. The folks in Springer have been especially helpful – particular mention must be made of acquisitions editor, Ms Bernadette Ohmer, for her patience and encouragement in

the course of our working on this book. We also thank all authors for their cooperation and support in the course of producing this book.

It is our hope that the publication of this book will spur more efforts in communicating science to the public in developing countries.

Singapore
Singapore

Leo Tan Wee Hin
R. Subramaniam

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Kim Yong Lim was previously a high school teacher who taught at NUS High School of Mathematics and Science in Singapore for 4 years from 2005 to 2008. He helped to develop the first science and physics curriculum of the school and later participated in further refinement of that curriculum. He is presently at the National University of Singapore where he is a scientific manager helping the Faculty of Science in its science outreach and public education efforts, as well as in the training of future science teachers and communicators. In his spare time, he conducts nanomaterials research.

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