

## Foreword

Today, STEM education is at the center of educational systems all over the world. However, two international comparative studies—TIMES and PISA—demonstrate that only a small segment of the population reach acceptable mastery of the STEM knowledge core. At the third millennium in the midst of the digital age, it is expected that emerging technologies will be able to accelerate scientific literacy and enable the majority of citizens to enjoy the blessing of STEM.

The authors of this book are searching innovative ways to bridge traditional learning strategies, namely the inquiry conceived by Dewey and Bruner, with new digital technologies to overcome the cognitive difficulties in learning complex logical rational concepts. No less important to the authors is to recognize the meaning of those emerging digital technologies in the real world.

Simulations, Virtual worlds, Networking, Design and construction of learning environments are among the topics under study here. We are having a fresh start, and it is the researchers' as well as the educators' role to carry the inquiry about the inquiry as far as we can.

This book sets the significant stage for a very important insight into the STEM universal scene. The talented authors share their attitude and knowledge with the community of modern scientists and skilled educators. The critical involvement of all of us will be a blessing.

*David Chen*

*Tel Aviv University, Israel*

**David Chen** is the President of the Center for Academic Studies in Or Yehuda, Israel, Professor-Emeritus of Science and Technology Education, School of Education, Tel Aviv University and former Dean of the School. Member of professional societies in the area of educational research both in Israel and worldwide. Held lectureships and visiting positions at a number of universities including Harvard University, MIT, Stanford and Queens College, CUNY. Also, served as National Director of the Amos De Shalit Israel Science Teaching Center. Served as Assistant to the President of Israel for Education and Social Welfare issues. Recipient of the Tel Aviv-Yafo Education Prize and the Kennedy Prize from the Weizmann Institute of Science. Co-authored several books and textbooks as well as many articles. Received a Ph.D. in Bio-Physics from the Weizmann Institute of Science.