

## Foreword

### Hands-on Science Rethinking STEAM education in times of uncertainty

Sadly, the world is currently evolving in a rather distressing way.

After over two years of major constraints imposed by the COVID pandemic, the education world is still trying to find ways to adapt in order to keep providing, in an effective way, its crucial contribution to the world' development our societies need and expect.

War and destruction, widespread humanitarian crisis, systematic disrespect for human rights, regression of several civilizational advances humanity hardly conquered over many decades, recurring economic social and political crisis, all adds up to the uncertainty we all are felling today. The school, in the broader sense, must keep up with the difficulties and raise to the complex challenges it faces, finding ways to fulfil its goal supporting the students as learners and in their growth as integral human beings.

From July 25 to 29 at the 19th International Conference on Hands-on Science, hosted by the University of Burgos, in the open friendly informal environment that characterizes our conferences, these issues, from different perspectives, are discussed. To science education we add into this discussion technology, engineering, mathematics and arts education, STEAM, in an interconnected and holistic way.

The book herein aims to contribute to the improvement of Education and Science Education in particular, in our schools and to an effective implementation of a sound widespread scientific literacy at all levels of society. Its chapters reunite a variety of diverse works presented at the 19th International Conference on Hands-on Science held at the University of Burgos, Spain, July 25 to 29, 2022.

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