

STEM Education and Research in a Changing World: Our Social Responsibility

At the awaking of the third millennium, in the here and now, the world finds itself facing a series of challenges, such as climate change, poverty, inequality, refugee crisis, unemployment, and so on, and so on. These global challenges raise a number of questions for STEM education and research: What should we teach our children? What knowledge and skills will our children need to have in 2050? How can we utilize scientific and technological knowledge to address global challenges? How can we think beyond the *here and now* in order to prepare ourselves for the future societies? Essentially, two questions are raised for STEM researchers: (a) what is the role of STEM education and research in a constantly changing world? and, (b) How does STEM shape our societies and how are our societies shaped by STEM?

As a STEM researcher, I cannot help but constantly remind myself of my social responsibility, and to explore the ways in which my work addresses these global challenges. A question I often challenge myself with is: *What is the global dimension and social responsibility of my research?* I invite others to do the same. I invite us all to engage in more reflexive research conversations and practices for the purpose of:

- a) **Re-thinking the fundamental principles** that frame approaches to STEM education in the context of globalization, multiculturalism and current global challenges;
- b) **Re-envisioning science teacher preparation** in light of the need to create socially, linguistically and culturally diverse societies;
- c) **Re-examining the various places** where science learning happens and design for learning that promotes equity and social justice.

In engaging in such reflexive practices, I hope that we become better aware of the complex mission of STEM education in a diverse democracy, highly globalized societies, and interdependent world. The world is constantly changing and global challenges require immediate action: the stakes for STEM education and research are high.

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