



## Challenge-Based and Community-Based Teaching and Learning in Engineering and STEM Education

Guest Editors:

**Prof. Dr. Araceli Martinez Ortiz**

Department of Biomedical  
Engineering and Chemical  
Engineering, The University of  
Texas at San Antonio, 1 UTSA  
Circle, San Antonio, TX 78249,  
USA

**Prof. Dr. Jorge Membrillo-  
Hernández**

Tecnologico de Monterrey,  
Tlalpan, Mexico City 14380,  
Mexico

**Dr. Anthony S. Torres**

Department of Engineering  
Technology, Texas State  
University, 601 University Dr., San  
Marcos, TX 78666, USA

Deadline for manuscript  
submissions:

**1 May 2024**

### Message from the Guest Editors

Dear Colleagues,

This Special Issue encourages authors to “tell their respective stories”, i.e., provide salient details about the specifications for the implementation design(s), need and opportunity, descriptions of the consequential choices made in the projects selected, and analysis of the impact data collected, if available.

In this Special Issue, original research articles and reviews are welcome. Research areas may include (but not limited to) the following:

- Challenge-based learning experiences in various fields of engineering (industrial, biomedical, mechanical, biotechnology, etc.);
- STEM education projects with underserved communities/community-based research;
- Community-based research approaches to learning and teaching engineering design;
- Engineering for the wellbeing of communities, social justice, and sustainability;
- Community-based engineering;
- Problem-based teaching and learning in various fields of engineering;
- Project-based teaching and learning in K-12 engineering and STEM education.

We look forward to receiving your contributions.





an Open Access Journal by MDPI

## Editor-in-Chief

### **Prof. Dr. Daniel Muijs**

School of Social Sciences,  
Education and Social Work,  
Queen's University Belfast,  
Belfast BT7 1NN, UK

## Message from the Editor-in-Chief

From its first issue in 2011, *Education Sciences* (ISSN 2227-7102) has grown as a scholarly international open access journal. Its aim remains to publish extended full-length research papers that have the scope to substantively address current issues in education. As a member of the Committee on Publication Ethics (COPE), our goal has been to disseminate high quality research. Our publisher, MDPI, takes the responsibility to enforce a rigorous double-blind peer-review together with strict ethical policies and standards to ensure to add high quality scientific works to the field of scholarly publication.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, ESCI (Web of Science), Educational Research Abstracts, PsycInfo, and other databases.

**Journal Rank:** CiteScore - Q1 (*Education*)

## Contact Us

---

*Education Sciences* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/education](http://mdpi.com/journal/education)  
[education@mdpi.com](mailto:education@mdpi.com)  
[X@EducSci\\_MDPI](https://twitter.com/EducSci_MDPI)