

IMCL2021

"New Realities, Mobile Systems and Applications"

Mediterranean Palace Hotel*, Thessaloniki, 4-5 November 2021

** IMCL2021 is planned as a hybrid event (remote & onsite presentations will be supported)*

Special Session Call for Papers

Let them Innovate: Developing Digital Competencies for Mobile STEAM Learning and Teaching by Utilising Immersive and Adaptive Digital Technology (DigiCompImmersive)

Overview

The current digital and mobile educational landscape in the Science, Technology, Engineering, Arts and Mathematics (STEAM) disciplines is experiencing a rapid shift due to the dramatic vicissitudes caused by the COVID-19 pandemic. Teaching and learning modes such as distance, online or blended are not new offerings in the digital age but rather they seem to gain a reinvigorated momentum in terms of how digital teaching and learning could be designed and orchestrated. The impetus is to offer a playful, personalised and creative learning experience that amalgamates science with more design-based and artistic digital and mobile learning endeavors. There is indeed a plethora of digital learning tools, digital teaching and affective strategies and frameworks, that may help STEAM teachers to shift the focus of teaching from student teaching (e.g. focus on instruction) to student supportive (e.g. focus on knowledge construction) for enabling students to unleash their creative and resourceful learning potential. However, teachers may feel overwhelmed from the wide array of digital tools, digital pedagogies, the rigid structure of scientific inquiry and the ill-defined nature of the artistic epistemology. This could result STEM teachers' lack of self-confidence in using digital technology and subsequently aversion towards the development of digital skills that would foster engagement, creativity, and a playful attitude in learning. Indeed, there is evidence that teachers' confidence in using technology positively influences students' frequency of using technology for learning. This special session aims to present and elucidate on a series of emerging phenomena on how the development of digital teaching and learning skills may be optimised to offer creative and engaging online learning experiences to students. To achieve this, we invite authors to submit research contributions on modeling STEM teachers' digital competencies, artificial intelligence systems for facilitating teaching and learning, game like digital applications for measuring digital skills, digital competencies frameworks and models for teachers to develop and self-assess digital skills related to designing STEAM activities that encourage creative, artistic, and scientific digital learning manifestations.

Topics

- Playful and game-like digital learning tools orchestrated in a blended, online or distant mode.
- Social and Emotional Learning as a competence for developing empathy and participatory digital learning.
- Serious games that train teachers on digital skills development for science and arts digital teaching and learning.
- Gamified interventions that focus on teachers' digital pedagogical development.
- Game-based learning interventions that combine arts with science.

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- AI-based interventions, systems, theories and reviews that investigate the use of AI in teaching and learning.
- AI-specific skills and competencies for teachers to integrate AI in their digital teaching practice.
- AI-based systems that predict and recommend digital competencies for teachers to develop.
- Digital competencies that enable teachers to create digital learning activities for rhythm, dance and music.
- Open Educational Resources and open science content tools for retrieving, accessing and sharing technology enhanced learning material for STEAM.
- Ethical design competencies and skills particularly in STEAM education.
- Game design as a digital competence to sequence and orchestrate a digital learning course.
- Design thinking as a competence for making tangible learning outcomes.
- Computational thinking as a competence for creating and making.
- Ethics, equity and social inclusion as competencies and capabilities in delivering digital learning.

Contribution Types

Papers for the Special Session should have between 8 and 10 pages.

All submissions will be peer-reviewed by at least two reviewers. Accepted papers will be included in the conference proceedings if at least one author pays the registration fee AND the paper is presented. The conference proceedings will be published as IMCL2021 Proceedings in the Springer series "[Advances in Intelligent Systems and Computing](#)".

For further questions, please contact the track chair(s).

Presentation Types

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Important Dates

10 Jul 2021	Submission of complete papers for special sessions
26 Jul 2021	Notification of acceptance
06 Sep 2021	Camera-ready due & author registration deadline
04 Nov 2021	IMCL2021 Conference Opening

Submission

Please visit: <https://www.conftool.org/imcl-conference> and submit your paper by selecting the respective special session.

Program Committee

Chair(s)

Petros Lameris, School of Computing, Electronics and Mathematics and Centre of Post Digital Cultures, Coventry University, Coventry, UK, PLameris@cad.coventry.ac.uk

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