International Conference on STEAM Education
Jerusalem, July 3rd, 2018

Zsolt Lavicza (Budapest Metropolitan University, Hungary/Johannes Kepler University, Linz, Austria): *Introduction to GeoGebra in STEAM Education*

TBA

Gabriela Uhl (Budapest Metropolitan University, Hungary):
Mechanical revue - Bauhaus reform art pedagogy and the geometry

The first decade of the 20th century brought the most radical developments in the science and technology in the Western hemisphere prior to the invention of PCs and Internet. There was not a single field of human knowledge left unchallenged. Instruments improving optical observation facilitated new perceptions and conceptualizations of the world. The reform pedagogies in that time tried to integrate the new creativity idea into the curriculum, one of them the Bauhaus school focused on the territory of art (and design).

The Bauhaus school by 1923 opposed to its earlier incarnation was the school that restored the value of design and put emphasis on those fields of creativity available to everyone with imaginative pragmatism, common sense and having technology accessible to them.

The Bauhaus school pursued a synthesis of science, technology and art to propose a happily balanced future. Anticipating the new man of a new era, the Bauhaus „masters" (professors) took science and technology to be tokens of a new humanism and social equality. Just like the students of the reform pedagogies, the new man of the utopian future had to be free of pressure and hard work – the latter to be done by machines – and revel in the pleasures of a liberated life.

Gyury Tury (Budapest Metropolitan University, Hungary): *On some connections between Arts and Science*

In this talk I want to use two very recent exhibitions as examples as to some of the possible connections and interactions between art and research; art and the sciences. Both are very much multi-layered – in terms of their execution and in terms of their possible meanings and interpretations as well. In addition, both are deeply rooted in various chronologies and historical periods, the most significant of these being the Greek antiquity, the 20th century and the present. Both present deep and relevant ethical, scientific, political, and artistic/aesthetic questions.

One is the work of George Drivas, entitled "Laboratory of Dilemmas," shown at the 57th Venice Biennale last fall. It is based on an Aeschylus play, which presents a moral dilemma, and Drivas has transformed the original artwork in a way that the literary/fictional frame becomes a scientific frame/storyline.

The other one is "Restoring the Minoans: Elizabeth Price and Sir Arthur Evans," which just closed a few months ago at the Institute for the Study of the Ancient World in New York City. It is divided into two halves, one presenting ancient artefacts from

the island of Crete, as well as early 20c impressions of the site; the other half being Elizabeth Price's video installation which reframes the entire archaeological project, documentation, and reflects on it from the present.

Diego Lieban (Johannes Kepler University, Linz, Austria): *Three touchable problems*

This workshop intends to present three non-intuitive problems sorted out to promote a short debate about the combined use of physical and digital resources in the classroom. We focus on the critical reasoning for mathematics teaching and the crucial relevance of the teacher in leading with such problems. For such approach, we will evaluate different strategies for solving these problems. In addition, we will discuss perspectives in integrating technologies current available, as GeoGebra and 3D printer, as support tools for creativity, argumentation, and proof in math.

Noah Dana-Picard (Jerusalem College of Technology) and Sara Hershkovitz (Center for Educational Technology, Tel Aviv): *Geometry and Number Theory in Jewish Artefacts*

We give a mathematical description of a sample of Judaica artefacts and European synagogues of the 19th century. They were central examples for courses in Analytic Geometry and in Differential Geometry, in a technology-rich environment, including both a Computer Algebra System and software for Dynamical Geometry. These examples provided strong learning motivation among students who were not involved in STEAM until recently. Some examples of mathematical activities will be shown.