WG1:
Technology and Arts in Mathematics Education (TAME)
Workgroup/Workshop
www.techartmathedu.tk

at the

7th CADGME Conference on Digital Tools in Mathematics Education

June 26-29, 2018
Coimbra, Portugal

Organizers

• Kristof Fenyvesi (fenyvesi.kristof@gmail.com), University of Jyväskylä, Finland; Bridges Organization, USA - Experience Workshop Math - Art Movement.

• Zsolt Lavicza (lavicza@gmail.com) Johannes Kepler University, STEM), Education Centre, Linz, Austria; Budapest Metropolitan University, Budapest, Hungary; University of Cambridge, Faculty of Education, Queens' College, U.K.

• Penousal Machado (machado@dei.uc.pt) Coordinator of the Cognitive and Media Systems group and Scientific Director of the Computational Design and Visualization Lab. of the Centre for Informatics and Systems of the University of Coimbra.

• Tomás Recio (tomas.recio@unican.es), Universidad de Cantabria, Santander, Spain.

• Carlota Simões (carlota@mat.uc.pt), Directora del Museu da Ciência da Universidade de Coimbra, Portugal.

Aim and scope

Discussions on the connections between mathematics, art and technology are active and pertinent today. Various experts working in different scientific and technological fields are inspired by phenomena that combine mathematical and artistic qualities. Respectively, several contemporary artists, graphic designers, craftsmen, and craftswomen are fascinated by scientific discoveries,

mathematics, and geometry and use the formulas and principles of each in different ways in their artistic and creative work. These can hold great potentials for teachers to enrich their teaching content and provide more motivation and engagement for their students. Schools are offered with various technological solutions, which can present mathematics & art connections on stimulating ways. Several educational projects and methodologies are implementing different interpretations of the relationship between these areas: teachers, education researchers and artists share a common interest in combining creative thinking, intellectual curiosity, and aesthetic sensibility in the learning process.
In the *Technology and Arts in Mathematics Education (TAME) Workgroup* we would like to explore these connections through examining each others' good practices in the field and by fostering a didactical, theoretical exchange of ideas.

Contributions

1) ***Short Talks***

WG1 - 26/06 - (14h) - Chair: Zsolt Lavicza
-- Daniela Ferrarello, Maria Flavia Mammana and Eugenia Taranto -- Non-Euclidean Geometry with art by means of GeoGebra

-- Eleonora Stettner -- Traditional Patterns of Easter Eggs in the Carpathian Basin and Spherical Symmetries (Illustrating Spherical Symmetries in GeoGebra)

-- Alvaro Martínez Sevilla -- Hyperbolic Escher GeoGebra

WG1-27/06 - (8h30) - Chair: Carlota Simoes
-- Zsolt Lavicza, Kristóf Fenyvesi, Philip Collett, Thierry Dana-Picard, Sara Hershkowitz, Werner Olivier, Gyorgy Tury, Gabriella Uhl and Diego Lieban -- STEAM for the Future - Integrating Hungarian, Israeli and South African Arts into Mathematics Teaching

-- Daniel Lakos and Eszter Losonczi -- Jump from paper

-- Penousal Machado and Tiago Martins -- Evolved Artificial Ants Paintings on Instagram

-- Alvaro Martínez Sevilla -- Book Presentation: around the "Paseos Matemáticos por Granada"

-- Tomas Recio -- Exploring artwork through Voronoi/Delaunay diagrams

WG1-28/06 - (9h) - Chair: Vanda Santos

-- Alla Stolyarevska -- DeepDream reveals the connection between art and mathematics

-- Valentyna Pikalova, Oksana Hrytsenko and Iryna Rusina -- Exploring Ukrainian Embroidery with GeoGebra and Python

-- Diego Lieban and Zsolt Lavicza -- Moving to Spatial Thinking through Geometric Modeling: an approach among prospective teachers combining Physical and Digital Resources

2) Conferences

27/06

13h45-14h45. Keynote Speaker: Kristof Fenyvesi

14h45-15h15. Keynote Speaker: TAME - Pedro Freitas

15h15-15h45. Keynote Speaker: TAME - Robert Fathauer

15h45-16h. Coffee Break

16h-19h. Social Programme

Invited Talk ; Visit to the Science Museum; Visit to the University; Walk Downtown

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See more details at the CADGME 2018 conference web page https://www.uc.pt/en/congressos/cadgme2018