

Mathematics and Art III

Proceedings of the Second ESMA Conference, held in Cagliari, September 18-20, 2013

The deepening of mutual relations between mathematics and the arts today knows a new development, more and more appreciated both by artists and scientists, mathematicians in particular.

This volume, the proceedings of the Cagliari Conference organized by the European Society for Mathematics and the Arts (ESMA) in 2013, is the third of a series of books devoted to the links between mathematics and art. The proceedings of the Conferences on the subject held in Maubeuge in 2000, and in Paris in 2010 were presented in the first two books.

Mathematical tools and software for the creation of artistic scientific visualizations, analysis of artistic works from the mathematical point of view, pedagogical uses of scientific artistic works were the three main themes of the Conference.

The reader will discover the important role that mathematical models have played in the pedagogy of mathematics since the nineteenth century, why and how modern artistic mathematical works are an efficient tool for a penetrating initiation into mathematics, which can be adapted to all audiences.

In this spirit, the reader will find several artistic creations from a few classical mathematical objects, and quite new visualizations as well using Minkowski's device. A broad theory of cones also appears in the volume. It could be developed by mathematicians or by artists to create new works.



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Visual Art and Diffusion of Mathematics

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