

CONTEMPORARY MUSEUM: FROM SCIENCE RESEARCH TO ART CONTENT

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Computing programming and mathematical modeling have in recent years entered museums, art galleries and cultural institutions in a growing tendency which saw technology and science from being almost relegated to a secondary role of supporting education, learning and visitor experience, to becoming more and more central as an art discipline per se. Nowadays though [1], immersive interdisciplinary interactive events in museums are becoming a relevant medium to enhance visitor engagement, widening participation while providing an innovative experience that is immediate and entertaining.

Generative art, augmented reality, immersive projection mapping are proving to be alternative art mediums that interact with space, light, colours, materials, visitors and their movements in ways that are still being explored. These new artistic languages are characterised by the immediacy of their output in delivering content and shaping exhibition space, presenting curators with multiple choices and opportunities in creating a dynamic narrative, that is without forgetting or diminishing the value of a traditional collection, but rather enriching it.

The **Plato** fractal modeling program [2] initiated by Sviatoslav Avilov was primarily intended to describe the environmental fate of engineered nanoparticles aggregations [3]. The developed program, however, led to finding a method for quick fractal multiplication using a single iterated function system recursive algorithm, and further to the development of a novel model of crystal hierarchical structures array formation in dynamical chaos environments.

With the joint effort of multimedia artist Prof. Damiano Ascenzi these results are used as a basis for new multimedia visual art. Together with the abstract expressionist art of painter Serhat Emrullai a collage of visuals for interactive exhibitions is formed, inspired by the philosophical dilemmas and symbolism of Platonic solids, the links between music, light and form, and the importance of stressing modern environmental threats [4].

References

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3. *Avilov S., Lamon L., Hristozov D., Marcomini A.* // Improving the prediction of environmental fate of engineered nanomaterials by fractal modelling // Environment International, **99**, 2017. P. 78–86.
4. <http://www.thewhaleproject.space>