

MATHEMATICS AND ARTS

Place and time: In M106 on Thursday, Jan 4, at 10:30–12:00
Organizers: Kirsi Peltonen (Aalto University)
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Sensual Mathematics

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Abstract. We will describe some ideas and concrete openings at Aalto University to enhance interaction between science and arts. There is both a need and an opportunity for students to engage with modern mathematics not contained in the current curriculum. This includes students in not only traditional schools of science and engineering, but also programs in arts and economics. To respond to these needs, we are building a platform where not only students from diverse fields, but also teachers with different backgrounds, can share their ideas and views. The student exhibition Sensual Mathematics at Heureka Science Centre (May-Oct 2017) showed one way to share the beauty of mathematics for a broad audience. A student interview

<https://www.youtube.com/watch?v=Axj-0ZORNx4>

provides a glimpse to the outcomes of our learning environment.

Artistic Research and Four-dimensional Geometry

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Abstract. Set aside from e.g. art history and philosophy of art, artistic research is an umbrella term for projects where a scholar educated in the arts uses those methods to investigate some phenomenon outside her practice. In effect this approach often results in concentration on the sensuous aspects of the research topic.

In the context of my own doctoral studies, I have explored the visual possibilities of hyperspace. Originating in philosophy and mathematically formulated in geometry, the concept has evoked interpretations not only in theoretical physics and visual arts, but also in occultism and science fiction. Seen through the lens of artistic research, four-dimensional geometry introduces itself as confidently fictional and elusively visual phenomenon, situated as such between the disciplines of mathematics and arts.

Used as a conceptual tool in visual construction, four-dimensional geometry leads to three-dimensional depictions of regular structures that provide a sensuous access to a provokingly counter-intuitive, but nevertheless logically consistent concept rich with scientific, historical, and poetic significance.