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#### III CONVEGNO INTERNAZIONALE E INTERDISCIPLINARE SU IMMAGINI E IMMAGINAZIONE

INTERNATIONAL AND INTERDISCIPLINARY CONFERENCE ON IMAGES AND IMAGINATION





3rd INTERNATIONAL AND INTERDISCIPLINARY CONFERENCE ON IMAGES AND IMAGINATION IMAGE LEARNING

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# **SIMAGE LEARNING**

IMG2021 IMAGE LEARNING book of abstracts

edited by/a cura di: Daniele Villa Franca Zuccoli Alessandra De Nicola Virginia Vecchi

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## When the Artifact Becomes Image: Representing Geometrical Query with Tangible Tools. Catalogues Physical Models at the Turn of 1900

#### Abstract

Traditionally, communication in mathematics passes through symbolic representations and visual ones, whether they are images, models or other artifacts, both in the theoretical speculation phase and in the transmission of knowledge with educational and disseminative aims. This dichotomy of representations has its roots in the epistemology of the discipline. In the European context, during the second half of the 19th century, a set of Catalogues of models for the study of geometry born. The contribution analyses their structures based on visual operations of a mathematical nature, with an indisputable aesthetic content, realized following the developments of mathematics at that time and the foundational studies by Monge, which explicitly identified the educational use of models for the geometry of surfaces. Catalogues are therefore tools for the promotion of visual artifacts of great impact, designed for the materialization of complex mathematical queries. Therefore, we propose a critical analysis of the images used in such Catalogues, of the modalities of model interpretation and of the possible repercussions in the current context of interdisciplinary studies.

#### Keywords

representation, geometry, algebraic surfaces, didactic, models