

Mathematical Art Galleries

Krystyna Burczyk

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I graduated from Jagiellonian University in Krakow, Poland in 1983 in pure mathematics. I am a math teacher with more than 20 years experience.

I started my interest in origami in 1995. My mathematical background pushed me towards geometric models. A mathematical structure of origami model and folding process as well as relation of origami to mathematics have been in the center of my interest from that time. I am also interested in educational applications of origami. I had lectures and workshops on educational and technical aspects of origami at KOTe, Poland and Didaktik des Papierens in Freiburg, Germany, and OSME (Origami, Science, Mathematics and Education), USA and Singapore

I am an author of five origami books and several booklets.
I participated in the large international origami exhibition "Masters of Origami" in Salzburg 2005 and Hamburg 2007.



Geostars 2
15 cm x 40 cm x 30 cm
origami, paper, no glue
2010

I played with different shapes of paper generated by a graph of a polynomial function. Region bounded by a polynomial graph is a starting shape of a paper sheets folded in a model. These three models are exactly the same except shape of paper used.



Duality
13 cm x 40 cm x 30 cm
origami, paper, no glue
2011

My origami models base on regular polyhedra structure. These two models are exactly the same, except that they are based on two dual polyhedra, dodecahedron and icosahedron.



Sidons
20 cm x 45 cm x 45 cm
origami, paper, no glue
2005

This set of models is based on different regular polyhedra structures. "Legs" growing out of the central polyhedron resulted in the name of such models. From mathematical point of view these model illustrate groups of symmetry in the space.

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