

Oribotics
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ORIBOTICS

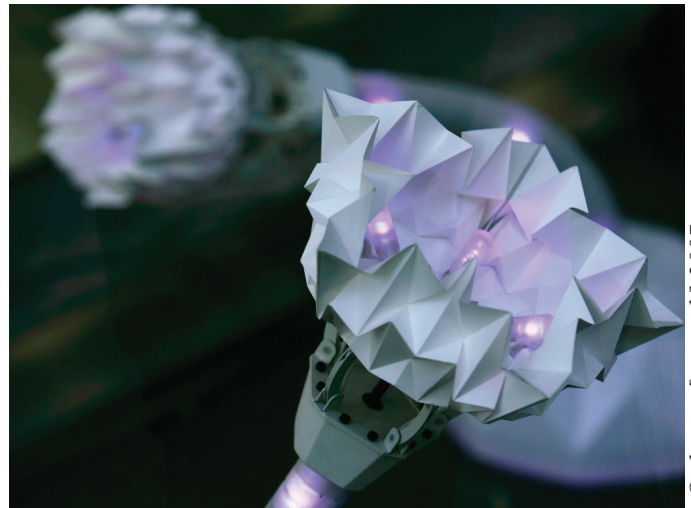
<http://www.oribotics.net>

Oribotics is the study of robotic origami. As a field of practical research it mixes the disciplines of art, origami, industrial design, engineering, science, and programming. This interdisciplinary approach causes ideas to flow from one area to another, and it's only natural that words like 'program' are used to describe a crease pattern, that my art works are sometimes referred to as 'experiments', and that I spend a lot of time 'designing' the 'mechanics' of my art work.

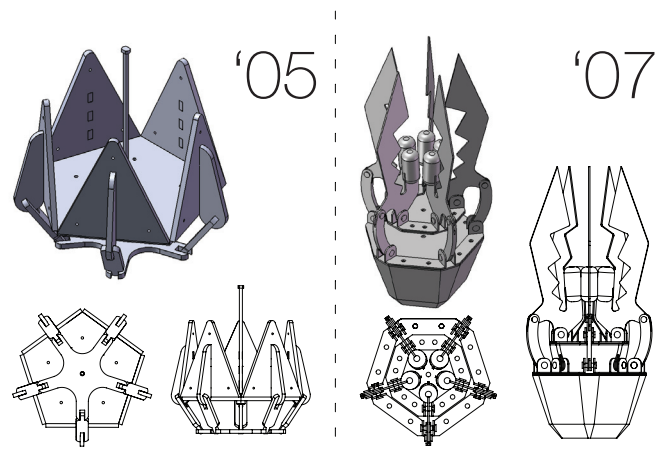
My experiments to date, presented as finished art works, have been mechanical actuation of origami, and should be considered primitive—in the biological sense—as they possess no 'intelligence' at the level of fold making. The folds are pre-programmed and moved by a single actuator.

Since the presentation of my paper at 4OSME, I have continued to develop Oribotics, with the most significant step being a work titled *Oribotics [network] 2007*. This paper will discuss the most recent developments in the latter generations of Oribots; showing new crease pattern designs, revised mechanics and materials.

An area of ongoing development has focussed on the delicate and sensitive folded membrane. Damage to the membrane shortens the lifespan of the robot. The programmed slow and continuous movement of the robot ages the paper and weakens the fibres, especially in the corners. My research has often dwelled upon how to increase the longevity of the folded membrane. The paper will present the outcomes of the research in the form of the 2010 generation of oribot and an artistic residency at the Ars Electronica Future Lab, in Linz Austria.



Oribotics [network] 2007



2005 - 2007 Robotic Development



Oribotics [Dublin] Arbots 2008