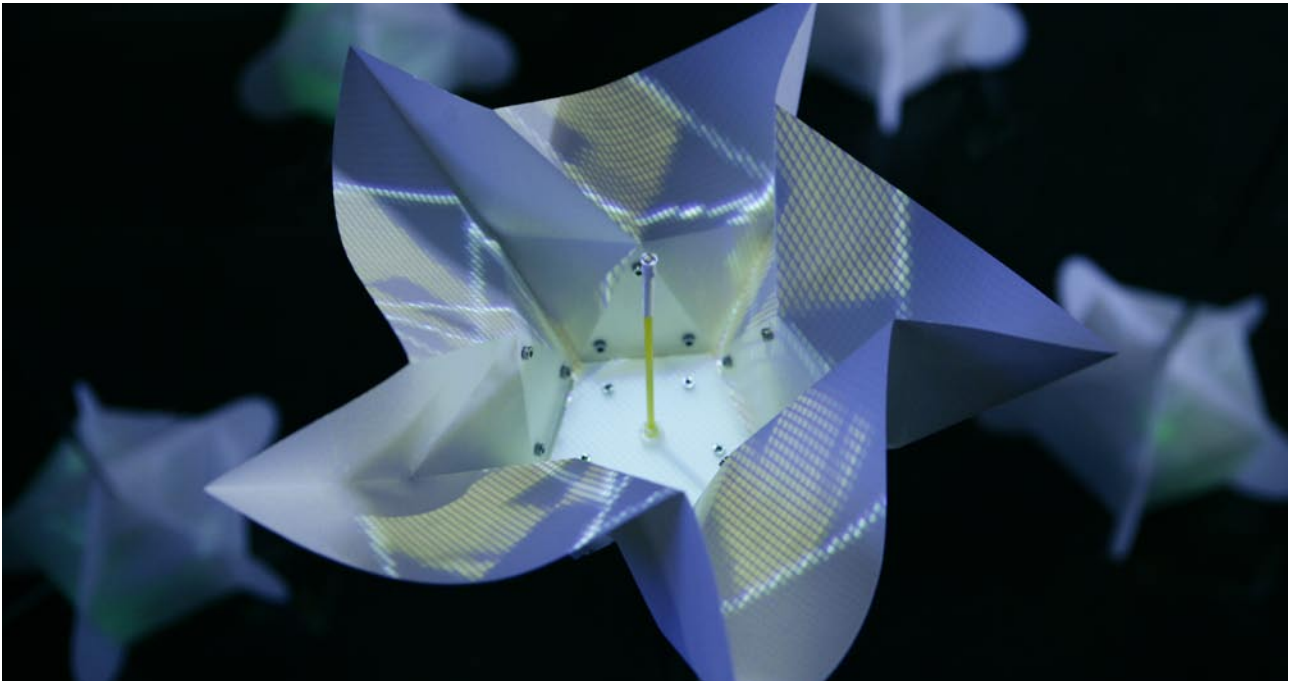


# Oribotics

## A brief history of oribotic technology.

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*Atom Generation flower from Oribotics [laboratory] 2005*

This paper will present a definition of Oribotics by way of its brief history of designs, projects, principles, and applications.

Oribotics is a technological application of origami which grew originally from an artistic concept in 2001, it has been exhibited in Australia, Holland, and Belgium. The research has received support from the Australia Council for the Arts, Arts Victoria, and the author engaged in a 3 month Studio Residency in Tokyo 2005.

Oribotics is the field of robotic origami research, specifically robotic folded planes. Oribotics research seeks for rigid and non-rigid crease patterns that have a natural folding motion. Natural folding is found in crease patterns that possess the ability to undergo repetitive shape transformation by mechanical means without compromising their folded form. Forms like the Miura Ori, flapping bird, and the oribot 'Atom Flower' possess this natural folding motion. The idea of natural folding is inspired from the unfolding of leaves and flowers.

The author makes the distinction that oribotics is not the application of robots to create origami, rather, an oribot is a robot that is a folded structure. The focus is on the folded form rather than the hand/robot that creates the form, allowing the crease pattern to become the program. While it is conceivable that, for the purposes of a self folding oribot, this distinction may be a fertile area for crossover in software, for now oribotics is concerned with mutating/hybridizing/intersecting readily available technology, such as mechanics, sensors, embedded processors and folded structures.

A potential application of oribotics is in architecture, to create dynamic, breathing buildings. The aesthetic of the 'folding form in motion' combined with environmental sensors, make an intelligent and beautiful building, as simple as a flower opening to the sun.

<http://www.oribotics.net>

Notes:

- 1) An exhibit of an oribotic flower will accompany the presentation.
- 2) A feature of the presentation will be video documentation, illustrations, and animations from oribotics projects. The presentation requires a sound system, and data projector.