

Applying Yoshimura Pattern in Large Art Installations: Ruga Interior Skins

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keywords: installation art, Yoshimura pattern, parametric design

Abstract

‘Ruga’ is the Latin word for making wrinkles and folds. Ruga Interior Skin (RIS) art installations, a series of on-going creative research projects, are inspired by the use of wrinkling and folding to create the spatial art installations that can be folded and suspended, in a way that is similar to a piece of cloth or textile. Focusing specifically on the Yoshimura pattern, the RIS art installations explores its potential for being used at an architectural scale to create artistic expressions that blur the boundaries between a human body, where it dwells, and what it wears. Through a parametric design process, the Yoshimura pattern is modified in both 2D and 3D in order to explore the artistic expressions that are founded in the malleable folded forms that resemble a human body’s gestures and in the adaptable in-between folded spaces that allow for a human body’s movements. Various material choices, fabrication tools, assembly details, and installation techniques are experimented upon in order to transform the Yoshimura pattern from that of small-scale paper origami to full-scale folded “skins” that allow the human body to move within and through. In particular, this article will focus on two 1:1 scale installations, Ruga Swan and Ruga Lumina, in order to demonstrate how the Yoshimura pattern can be used to create expressive and artistic spatial installations.



Figure 1: Installation of Ruga Swan at Juliet Art Museum, Clay Center for the Arts and Science, Charleston, West Virginia, 2016



Figure 2: Installation of Ruga Lumina at Detroit Center for Design and Technology, Lawrence Technological University, Detroit, Michigan, 2017