

## Development of automation mechanisms for dynamical Muxarabis. Desenvolvimento de mecanismos de automação para Muxarabis dinâmicos.

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### Abstract

This research is part of the CNPq research group "Research Nucleus in the Development of Architectonic Elements" and closely bound to the Studies of the Architectonical Figure (LaForma) laboratory of the School of Civil Engineering, Architecture and Urban Design (FEC), UNICAMP. This research complements and continues with others that are ongoing so as to develop mechanisms for better use of sunlight without jeopardizing the building's sustainability. The hollow architectonic elements for facades such as Muxarabis (Mashrabiya) and COBOGÓS are put forward as possibilities that allow the exploration and a certain control in a natural way of the incidence of light. For a long time many possibilities have been observed and researched in architectural constructions more and more, aiming at allowing more control over the incidence of natural light. The holders of scholarships of this project were directed to studies of: Surface Design; Modulation; Kinetic Architecture and Models and Automation production techniques. The main objective was to transfer concepts related to the theme which would allow them to create, develop and produce with autonomy and aesthetic quality, modular geometric elements that could possibly be transformed into automation systems for modular and dynamic structures for building facades (dynamic Muxarabis). To achieve this, they worked with theory and practice, making full use of the available techniques at FEC, such as software for geometric modeling; development and automation of physical models using laser cutting and a platform of electronic prototyping, bringing up some very interesting products. Besides, they underwent collaborative work with other under-graduate and post-graduate scholarship carriers in a LaForma creation workshop. The more assiduous scholarship holders attain the objective and, besides the acquired knowledge, take along with them the experience of being part of the university's life..

*Key words: Mashrabiya; surface design; pattern; facade; kinetic.*

### Introdução

Esta pesquisa está inserida no grupo CNPq: "Núcleo de Pesquisa em Desenvolvimento de Elementos Arquitetônicos" e vinculada LaForma – FEC – UNICAMP. O objetivo principal foi transferir conceitos básicos aos bolsistas, de modo a capacitá-los a criar, desenvolver e produzir com qualidade estética, modelos para Muxarabis dinâmicos.

### Conclusões

O interesse e a dedicação dos bolsistas mais assíduos fizeram-nos alcançar o objetivo e levar consigo, além dos conhecimentos adquiridos, que poderão ser transferidos aos seus pares, a experiência de vivência e convivência no meio universitário da UNICAMP, permitindo-lhes um acréscimo significativo às suas impressões sobre tal.

### Resultados e Discussão

Para isso, desenvolveram atividades teóricas e práticas sobre Arquitetura Cinética, Design de Superfície; Modularidade; Produção de Modelos Reduzidos e Automação, Figura 1.

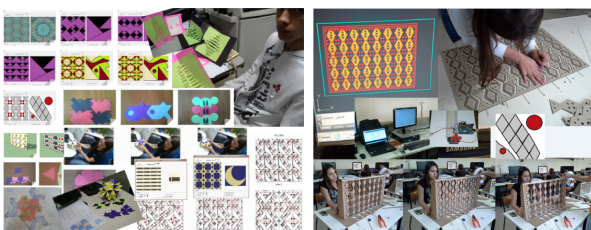


Figura 1. Exemplos de atividades desenvolvidas

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