Virtual Frictions
Louisiana State University
School of Architecture
FEB 13 FEB 14 FEB 15
OPEN TO PUBLIC
KICK-OFF LECTURE
BRANDON CLIFFORD
7 WORKSHOPS

"Virtual craft still seems like an oxymoron; any fool can tell you that a craftsperson needs to touch [their] work. This touch can be indirect—indeed no glassblower lays a hand on molten material—but it must be physical and continual, and it must provide control of whole processes ... more abstract endeavors such as conducting an orchestra or composing elegant software have often been referred to as craft, this has always been in a more distant sense of the word ... Our digital practices seem more akin to traditional handicrafts, where a master continuously coaxes a material."1

Digital technologies have provided watershed moments for innovation and progress (promised and realized). Innovations in computer have offered exciting new possibilities for the construction, consideration, and design of the built world. Architects tackling this new area of expertise have long grappled with the challenge of reconciling the new languages of scripting, software, and virtual environments with the established traditions of material craft, physical drafting and measure, and tactile response.

At the same time that the discipline has seen digital fabrication shift from niche specialization towards a new status quo, some architects and designers have shifted their investigations from exploring the potentials new computational and fabrication technologies present towards possible reciprocities between computational processes and traditional crafts or insights.

How can digital technologies learn from physical craft? This is the sincere and challenging question which Virtual Frictions proposes as a launching point for a series of investigations exploring the reciprocities between digital craft and physical materials and tools. Seven invited workshop instructors will lead investigations into timely questions in digital fabrication. Through their work, students will learn new skills, explore new aspects of technologies, and be introduced to making in new and exciting ways. The three-day event will be kicked-off with a lecture by Brandon Clifford, of Matter Matter Design, and will culminate in a roundtable and reception to share the results of the workshops.


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[INTER-DIMENSIONAL NARRATIVES]
VR designed 3D forms
Olga Mesa
Roger Williams University

In pairs, students will respond to prompts to construct a spatial inter-dimensional narrative within a virtual environment. They will examine the frictions and reciprocities inherent in traveling between physical and digital space, and the spatial perception and physical sensations triggered by visual stimuli. Participants are encouraged to test the connection between the body and its movements to measure, model, and control phenomena. A portion of their scenes will be translated into 3D printed objects that embody their spatial constructs and appeal to our imagination.

[ROBOTIC “AUGMENTED” VISION]
robotically captured AR videos
Ebrahim Poustinchi
Kent State University

RAV investigates a possible medium to establish a workflow between a custom-made AR application and a curated robotic motion. Enhanced through the lens of the existing contemporary discourse about representation, students use RAV workflow to develop a hybrid actual/virtual video, that is half digital and half physical. As an outcome of the workshop, students will develop a robotic videography path for the UR5 robot arm to capture a curated video of the AR scene.

[GRAVITY-ASSISTED CASTING]
variable parametric casting molds
Lavender Tessmer
Massachusetts Institute of Technology

The workshop will focus on casting as a scalable form of production, examining the trade-offs between geometric complexity, variation, and timing. Projects will investigate a "gravity-assisted" casting technique, using multiple possible orientations of a partially filled casting mold to generate different geometric permutations. Each team will produce a mold that is capable of producing more than one geometry using gravity-assisted variation—a casting "machine" for producing an array of unique geometries. Using digital modeling to maximize the potential of geometric relationships in the mold design, students will explore the interior and exterior mold geometries along with different volumes of casting material and number of separate material deposits.