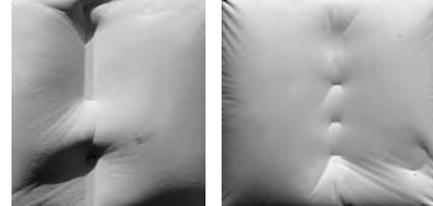


Anthony Viscardi

The architecture of PLAY and the play of ARCHITECTURE



Light drawings from the two HDS design/build projects - Plaster casts made during the soft forming



Topic: Art Architecture and Design

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Our department was handed a mandate to provide hands-on, design/build, intensive experiential learning opportunities for our majors (art, architecture and design). A new experimental design/build, seminar/studio was developed around two tracks; one, the architecture of PLAY, placed us in direct contact with material and its transformation and took the form of intensive three-day design/build workshops. Two workshops were focused on ‘fabric forming concrete’ and one workshop on stick construction. Each with its own set of parameters and procedures. The second track ran parallel to the workshops and took on a more didactic platform, as a series of public lectures on the ‘play’ of ARCHITECTURE. These talks were to demonstrate how several practitioners have employed aspects of materiality and form into playful actions in their own architectural practice demonstrating how “theory and practice” come together in great works of architecture and how architectural practice can evolve in the 21st century. With the advent of digital means of fabrication, the art and craft of design thinking and making must coincide and collude with the more traditional hand crafting of our cultural artifacts. What is the nature of ‘craft’ in this new world of construction and how does it manifest itself in the environments we make and the products we consume? These questions would be tested during each design/build workshop and verified by the each of the invited speakers.

Main References:

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“The architecture of PLAY and the play of ARCHITECTURE

www.generativeart.com



These special design/build workshops have been designed to immerse you into the ‘act of making’ as intensive material explorations (“Exploration is just curiosity acted upon”). The PLAY aspect of these experiential learning workshops will direct their evolution and outcomes.

Keywords: Architecture, Teaching

The architecture of PLAY and the play of ARCHITECTURE

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Abstract

Our department was handed a mandate to provide hands-on, design/build, intensive experiential learning opportunities for our majors (art, architecture and design). A new experimental design/build, seminar/studio was developed around two tracks; one, the architecture of PLAY, placed us in direct contact with material and its transformation and took the form of intensive three-day design/build workshops. Two workshops were focused on 'fabric forming concrete' and one workshop on stick construction. Each with its own set of parameters and procedures. The second track ran parallel to the workshops and took on a more didactic platform, as a series of public lectures on the 'play' of ARCHITECTURE. These talks were to demonstrate how several practitioners have employed aspects of materiality and form into playful actions in their own architectural practice demonstrating how "theory and practice" come together in great works of architecture and how architectural practice can evolve in the 21st century. With the advent of digital means of fabrication, the art and craft of design thinking and making must coincide and collude with the more traditional hand crafting of our cultural artifacts. What is the nature of 'craft' in this new world of construction and how does it manifest itself in the environments we make and the products we consume? These questions would be tested during each design/build workshop and verified by the each of the invited speakers.



"Creativity in architecture can be based on the process of transformation of matter. This transformation occurs in the realm of

perceptive imagination where to generate and develop new ideas means to pre-figure matter in the course of the idea's realization. In creative acts of play, a certain type imagination is provoked directly from our immediate confrontation, interpretation and manipulation of matter. These images may be assigned category by the eye but only the hand truly reveals them. They depend on visceral readings that are projected through qualities such as mass, material surface or texture, light, space and time."

Hammerschlag Design Series [H|D|S]

Fall Semester 2014/2015



[H|D|S] HAMMERSCHLAG DESIGN SERIES
[A|A|D] Mountaintop Learning Environment

WORKSHOPS	LECTURES
September 11-13, 2014 Ronnie Araya FABRIC FORMWORK FOR CONCRETE STRUCTURES AND ARCHITECTURE	September 11, 2014 Ronnie Araya ARRODESIGN REVEALING CONCRETE NATURE: FABRIC FORMING FOR ARCHITECTURE AND STRUCTURES
October 9-11, 2014 Kentaro Tsubaki PLEATED CONCRETE SURFACES	October 9, 2014 Kentaro Tsubaki KT_Studio_KT FOLDOUT DRAWING: A PROJECTIVE DRAWING FOR FABRIC FORMING
November 13-15, 2014 Richard Kroeker TIME AND MATERIAL	October 23, 2014 Andrew Kotchen & Matthew Berman WORKSHOP / APD CRAFTED MODERN: 15 YEARS OF MAKING
	November 6, 2014 Jenny Sabin JENNY SABIN STUDIO BETWEEN ARCHITECTURE & SCIENCE: ELASTICITY AND NETWORKS
	November 13, 2014 Richard Kroeker RICHARD KROEKER DESIGN TIME AND MATERIAL
	December 4, 2014 Alex Hammerschlag PARATUS CONCRETE: DISCOVERY THROUGH PROCESS

THIS SERIES IS FUNDED BY THE HAMMERSCHLAG ENDOWMENT TO THE DEPARTMENT OF ART ARCHITECTURE AND DESIGN

ALL LECTURES ARE FREE AND OPEN TO THE PUBLIC AND WILL TAKE PLACE IN CU 230 AT 6:00 PM Fall 2014

AAD Department of Art, Architecture and Design
LEHIGH UNIVERSITY

The Hammerschlag Design Series [HDS] is sponsored by a special fund bestowed upon our department to generated experiential design build opportunities for our students in particular our architecture majors. Over the last two years I, as the executor of the fund have produced a series of design/build workshops and lectures culminating with the current project to design and build an acoustical ceramic shell based on the principles of Guastavino style construction.

Beginning in the fall of 2014 a two track series of events took place as the kick off of the HDS whose focus was the architecture of Play and the play of Architecture. One was developed as a series of design build workshops and the other as a series of public lectures.

Track One acted as a series of 3-day design workshops to occur on Thursday, Friday and Saturday, the second week of September, October and November (see attached schedule). The students that were part of a special class were required to attend these intense design/build workshops as much as possible. During the regularly scheduled classes we discussed, read, scheduled and prepared for the design/build workshops. These special design/build workshops were designed to immerse you into the 'act of making' as intensive material explorations ("Exploration is just curiosity acted upon"). The PLAY aspect of these experiential learning workshops directed

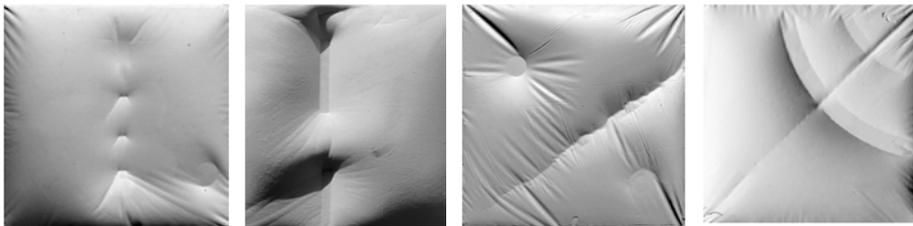
their evolution and outcomes. The manpower requirement for these design/build workshops was a crucial aspect of the success of this course and of each individual's learning experience.

Each design workshop professor also gave a talk as part of the Public Presentations on Thursday evenings at 6pm.

Track Two acted as a series of (6) six Public Presentations by Architects/Artists who have been successful incorporating the play of Architecture into their own critical practice. They occurred on Thursday evenings at 6pm in Room 230 Chandler-Ullmann. The AIA of Pennsylvania advertised the schedule of all these workshops and lectures among its members and were welcome to participate on all levels. And the AIAS student chapter at Lehigh assisted in recruiting student participation for all these exciting workshops.

General Workshop Description

Playing with materials, the design decisions based on responses from material processes are integral to the art of craft. The embodied knowledge of making is gained through the physical interaction with materials, searching for an order rooted in history, perception and materiality. How do we embrace the imperfections, the material risks and resistances always present in fabrication and making as we adopt new technologies primary intended to maximize the predictability? (1) All the workshops addressed this issue in its own form and materiality. Two workshops explored 'soft forming' techniques, where we used plaster to simulate concrete. Both visiting professors brought with them much experience in working with this technique. All of these techniques have been used in experimental forms of full-scale construction. Listed below are the workshops with some of the results.



Ronnie Araya

<http://cargocollective.com/ronniearaya/About>

Fabric Formwork For Concrete Structures And Architecture

This first design build workshop will explore through playing and making; it is about finding ideas and engaging the interactions of natural laws through physical models made with analog materials that represent full-scale concrete construction. While many improvements and innovations are being introduced in the composition of concrete, the format of its mold has not changed significantly since ancient times. In our traditional approach to concrete's formwork, we still address only solid, rigid and dry qualities of this material, ignoring the rest. However, with concrete becoming globally used in the construction of buildings, cities and infrastructure, the objective of this workshop is to rethink and reshape the potentials of this material by using the casting technology of flexible molds.

Working with concrete is a process in which the mold has crucial importance as it, essentially, originates the form. The idea of fabric formwork is quite simple: flexible membranes replace the majority of rigid parts of a traditional mold, introducing a fundamental change in design and production processes. (2)



Kentaro Tsubaki

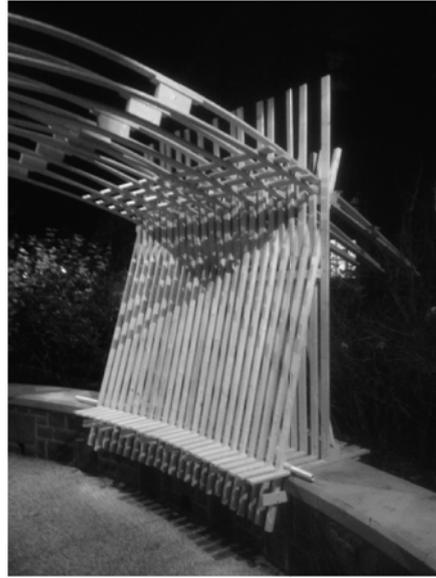
http://ktstudiokt.net/KT_Studio_KT/KT_Studio.html

Pleated Concrete Surfaces

The project intends to expose ways to negotiate the issues of risk and precision contrary to the reality of current building practices; to execute efficiently with minimum risks with computational muscles at its disposal. It attempts to harness the self-organizing tendencies of the physical materials under gravity within the fabrication process and to provoke the deeply entrenched architectural practice through questioning the obvious and the rational in a fundamental way.



The workshop investigates the potential for Smocking, a pleating technique on a fabric-formed plaster surface as a manifestation of an equilibrium reached between the surface tension and omnidirectional hydrostatic pressure. In order to stabilize the dynamic process for iterative design improvements, we will engage the laser-cutting technology to fabricate templates that control the pleated geometry of the fabric surface. Simultaneously, the relationships amongst the geometry of the templates, the pleated fabric surfaces and the plaster-cast columns will be explored in hybrid drawings. (3)



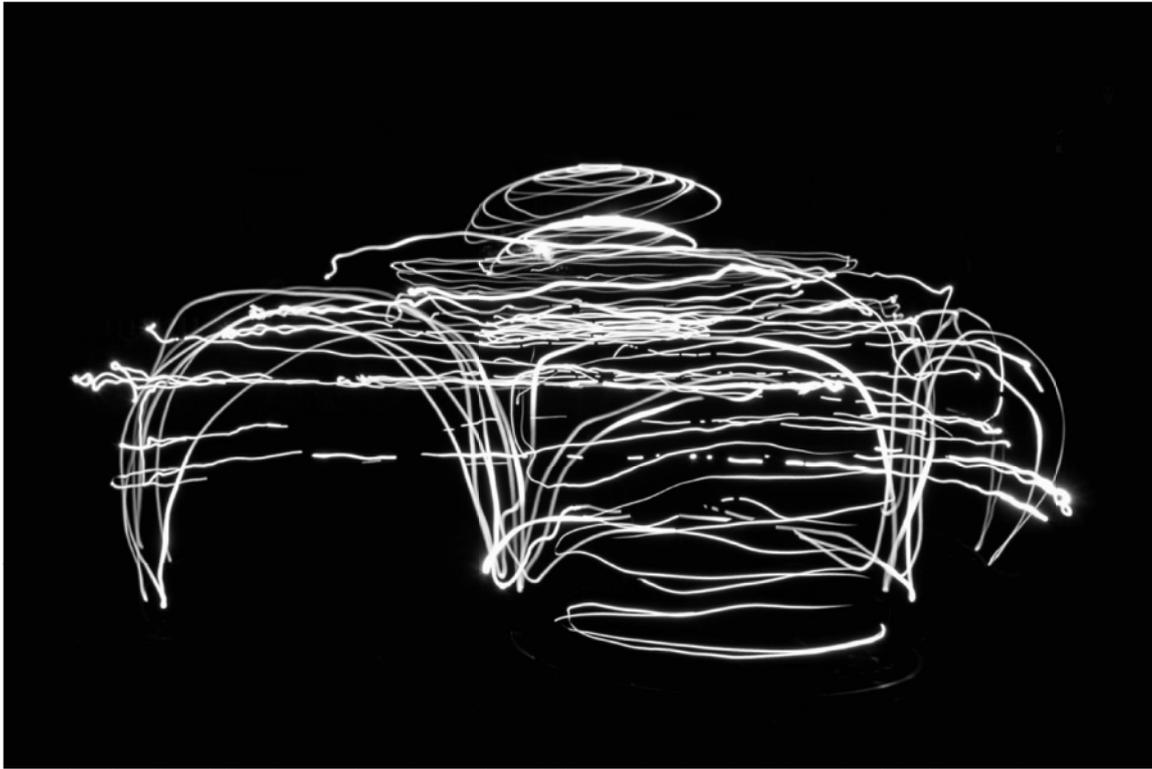
**Richard
Kroeker**

<http://www.richardkroekerdesign.com/>

TIME AND MATERIALS

“The Winged Arch”

The third workshop dealt with the properties of wood and how to employ the making of full-scale models into a complete design built structure in two days. We began with making small exercises in using small sections of 1x3 lumber to fabricate arches, trusses and bench constructions. The next day we designed as a group an installation to be placed on or near the fountain in front of Chandler-Ullmann where the Architecture Program resides. All the students working together as a group built the final constructed “winged arch” in one day. It exemplified and synopsised the complete series of workshops into a truly wonderful construction that demonstrated the idea of ‘experiential learning.’



**Richard
Kroeker**

**“Peggy’s
Bell”**

The final design build project from this first HDS is currently under construction. I asked Professor Richard Kroeker to return as a visiting professor for the 2015 Fall

semester to direct the largest and most ambitious design build project in the series.

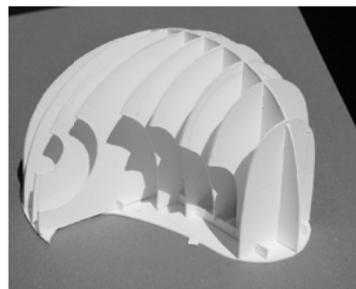
This design/build studio worked with architecture and engineering students at Lehigh to create a beautiful public space on the campus. The campus is in a park setting, with many paths connecting the various departments and their buildings. There are also sculptural works placed along many of these paths. There is still the sense that the outdoor spaces are mainly connecting interstitial space: a means for getting from one department to another. In fact, the main purpose of a university is to provide the spaces and occasions for social interactions and for reflection, between the defined institutionally defined tasks of course outlines and examinations. These public social spaces slow down some of the specific task-defined processes of a University to provide social spaces as destinations in themselves for meeting, or reflection. This interstitial

outdoor space need not just be something you get through in your way to something else, and experience only in transit, but can become the fundamental ground for our collective, democratic life that is basic to the very idea of “University”. The workshop group is designing and building a space using a ceramic tile vaulting technique to create a shell form that can be used by the public for group events, informal gathering, or individual reflection, inviting people to pause in the beauty of the campus garden.

The material palette will be primarily ceramic tile, and cement, using a Catalan vaulting method that uses a minimum of structural formwork. Students learned the history of the vault building method, brought to this region of North America by the Guastavino family in the early 20th century. They will learn the structural principles involved in shell forms, the construction method, and the nature of the materials used. (4)

The design of the shell was generated with enhanced acoustical properties in mind. “Peggie’s Bell” is an acoustic space produced by Lehigh University’s Department of Art, Architecture and Design, built by interdisciplinary students from the department and the College of Engineering under the direction of Professors Richard Kroeker, and Professor Anthony Viscard. It is one of the major design/build projects funded as part of the Hammerschlag Design Series.

The BELL is activated by the human voice. It is intended for the use of singers, singing groups, and others seeking a place of conversation, contemplation or for playing with sound. Peggie (Peggie Sisson 1922-2015) was a dance teacher whose love of music and dance inspired this singing bell.



Light Drawing

We began the project as we did “The Winged Arch” project with a series of Light Drawings.

Light drawings are done in the evening using flashlights attached to sticks of wood. We invited several photography students from Professor Anna Chupa’s class to capture the movement on film. In our first series last fall we performed around the fountain area in front of our architecture building. This spot would eventually become the site for our wooden structure, “The Winged Arch.” These type drawings allow one to see virtually how their design would appear in relation to the scale and form of the selected site. This was almost a ritualized consecration of the site as well as acting as a playful way of uniting the work group.

