

# ACSA/AIAS New Faculty Teaching Award

2016-2017 Winner Submission Materials

LANCE WALTERS

University of Hawaii At Manoa



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The studio has long been the focus of architectural discourse and pedagogical exploration. Increasingly however, design learning is being shaped by information and experiences external to the studio. I believe this means an effective pedagogy must extend to teaching roles outside of the classroom and that the studio- which still holds the majority of design learning- needs to engage or confront these experiences. My approach to education is a direct reflection of these observations, both deeply influenced by broad teaching responsibilities and the incorporation of external perspectives.

By far the most common question I have from individual students at the University of Hawaii is “what are other schools like?”. Being the only architecture school in the state, thousands of miles in either direction from another school or even land, it at first seemed like a straightforward question related to Hawaii’s remoteness. However I have come to realize the question is actually about a search for context, a reflection of students interest in simply understanding how their school and their work fit into the broader design and education community.

Helping students make these connections for themselves is an important theme in my work out side of the classroom, and I have been able to directly support opportunities that open them up to new experiences and insights. In 2013 I brought a group of UH architecture students to Shanghai for a year to study and learn with Tongji Architecture students and I have helped students connect on many other exchange opportunities since then. Through my work with the AIAS as faculty advisor I have also been able to support connections with other schools and students by encouraging and helping many of our students to attend all of the regional and national events.

Even more important than connections to outside communities, even the local one, has been to generate a shared culture with in the school and promote communication within an already diverse and engaged student body. Under my leadership the AIAS bid and hosted the West Quad conference. They have also developed a monthly event in which students present their work and experiences, all of which has helped cultivate a strong architecture culture within the school.

In the class room my projects help generate an awareness of the local design environment. Often this means drawing attention to overlooked design elements, such as breezeblocks which appear in Honolulu the greater density than anywhere else in the world. Other projects confronting design pre-conceptions, and promote critical inquiry of other prominent but overlooked conditions, including most recently the mass produced lifeguard towers found on every beach around the island, a project which has not only engaged local life guards but city and elected officials who also have tied to these projects.

My role as a teacher is to help students critically explore, create and innovate. At the same time, as an educator focused on beginning design, many of the courses I teach are defined (in the curriculum) by the new tools they introduce. Utilizing diverse design projects and fostering an engaging school wide design culture in which students learn and develop from each other, I have been able to bring together many of the diverse and complex facets of what architecture is today and connect students with their search for a design context.

//Second-year Design Studio: Intro to Digital Mediums

Premise

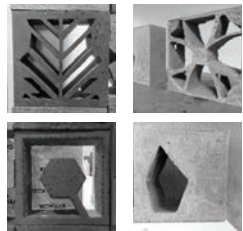
The built environment is comprised of pieces and modules. From the very large to the very small, everything we construct is an assembly of other designed components. An architect must understand the nuances of each of these elements, individually and how they work together, in order to make effective choices in the pursuit of a design. This studio is organized around this premise, starting with the investigation of a single element, an exploration of site and programming, and finishing with an experiential investigation of form and space.

Course Overview

This studio will introduce and develop new design skills in support of design communication and the design process. Multiple opportunities to practice and experiment with the design process will reinforce new and previously learned design skills. Specific lessons from first year will be used as a foundation for all work with software and digital fabrication tools. The majority of the software and digital fabrication equipment will be introduced during the first project, and each subsequent project will develop new capabilities and competency with these tools while focusing primary on the design project itself.

Framework

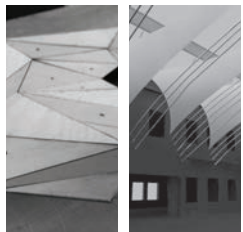
Projects: p1 ELEMENTS (5wk)    p2 SITE and PROGRAM (5wk)    p3 SPACE and FORM (5wk)  
Components: x.1 research   x.2 question   x.3 concept   x.4 iteration and refinement   x.5 communication



VENTURE-IN | RE-CREATE | ITERATE | PROTOTYPE | SERIALTYPE

breezeblock is the latest incarnations of the worlds oldest fabricated building components. As a sub-category of the modern concrete masonry unit (CMU) these blocks have been adapted for their functional (thermodynamic, environmental, structural) properties as well as aesthetic qualities.

research/resources | diagramming | intention | materiality | concepts in practice



VENTURE-OUT | PROGRAM | PURSUE | ANSWER | EVALUATE

save for any modifications made by their users, the overlooked lifeguard towers around Oahu are poorly functioning mass-produced clones of eachother. this building typology is incredibly sensitive to site, almost singular in function, and crucially important for public safety.

site | response | programming | schematics | structure | skin



DISCOVERIES | MATERIALS | MECHANICS | POTENTIALS | PNEUMATICS

pneumatics: influential but short lived in architectural and cultural history pneumatics are an incredibly engaging and approachable architecture that also offer a unique opportunity to study the complex relationships between form, space and material.

design drivers | material possibilities | fabrication | circulation | space vs form



To the ACSA New Faculty Teaching committee,

Teaching ability and development

In the past 4.5 years I have taught over 500 students in classroom setting, and had the opportunity to teach and work with many more while chairing thesis committees and through outside advisory roles. My teaching evaluations highlight my teaching excellence and growth as an educator. I consistently rank above both the School of Architecture and University of Hawaii averages. The graphs to the right reflect this, summarizing a few of my latest course outcomes. The top-left graph demonstrates continued teaching development, showing year to year course improvement in my primary studio. The data contained in all of these charts is part of University wide student evaluations, which I voluntarily make public online.

As a dedicated architectural educator who has pursued teaching as a career goal since my own education I am deeply interested in the beginning design curriculum. My primary course has been the second year design studio for which I am the sole instructor. Comprised of the entire second year it averages 45 students per year and is tasked with not only continuing first year design lessons but with introducing nearly all of the digital media and fabrication tools. I am continually develop my projects and course framework in order to make it as strong as possible, growth which can be seen in the increasingly strong student evaluations and work produced. I invest heavily in my other courses and activities as well. My seminars maintain a strong framework geared towards new investigations related to technology and are routinely wait listed. Over the last four years I have written and presented papers dealing with my developing course framework and pedagogy at ACSA and National Conference of the Beginning Design Student conferences.

Pedagogy

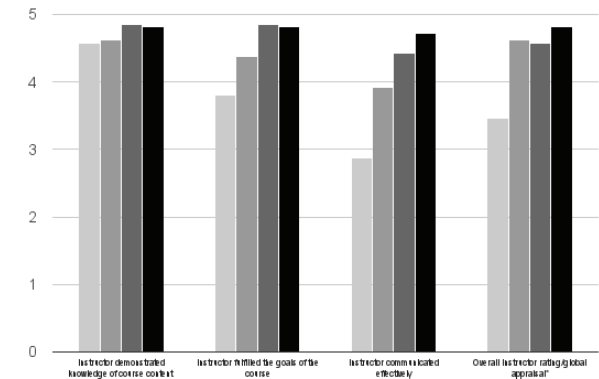
My pedagogy is driven by my own learning experiences. A long relationship with activities external to architecture has and continues to inform nearly every aspect of my work as a design educator. Inseparable from my design education, my time as an active pilot and aircraft builder has shaped my perspective on everything from the environment to designing, learning and skill development.

The ability to use all available resources to understand the current circumstance is known as Situational Awareness. It is the defining quality of a pilot. In the changing and complex endeavour of flight maintaining situational awareness requires second nature proficiency with a wide range of instruments and skills. You don’t stare at any single instrument, you quickly and constantly scan in order to gather and assemble as much information as you can. In the equally complex endeavour of design, the ability to utilize a wide range of information and resources has a profound impact on the designers ability to make critical inquiry and form critical questions- traits which I believe are the defining characteristics of a good designer, and which I work hard to instill in each of my students.

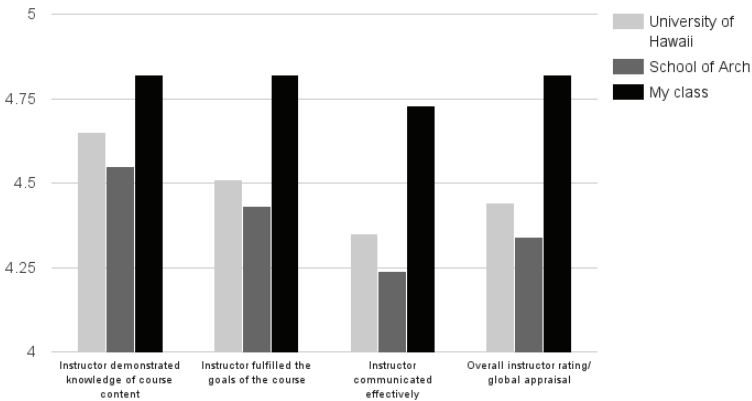
Sincerely,

Lance Walters  
Assistant Professor, University Of Hawaii Manoa School of Architecture

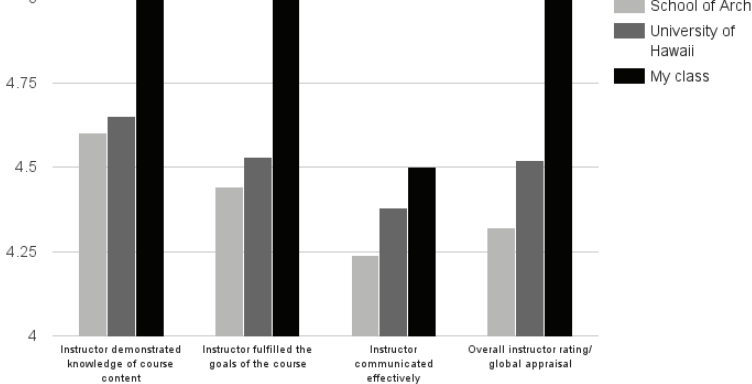
Second-year Studio Year to Year Development



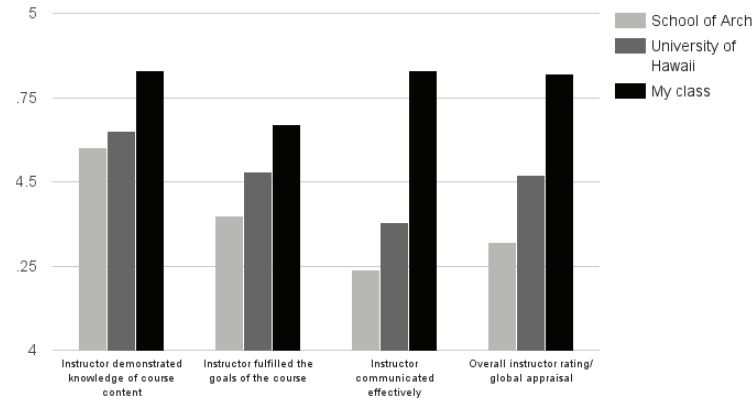
Second-year Studio f2016 Evaluations



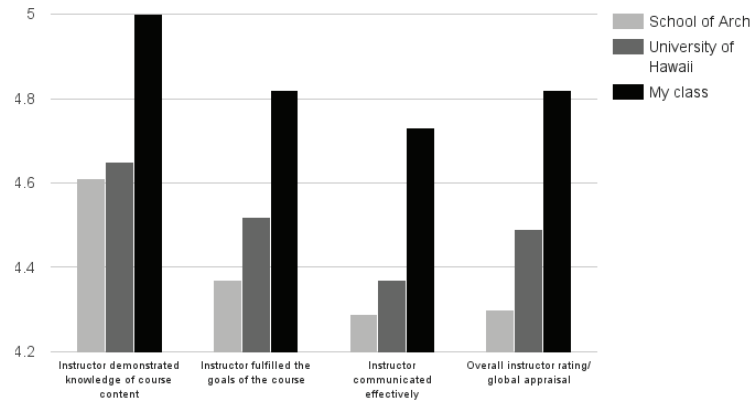
Graduate Seminar s2016 Evaluations



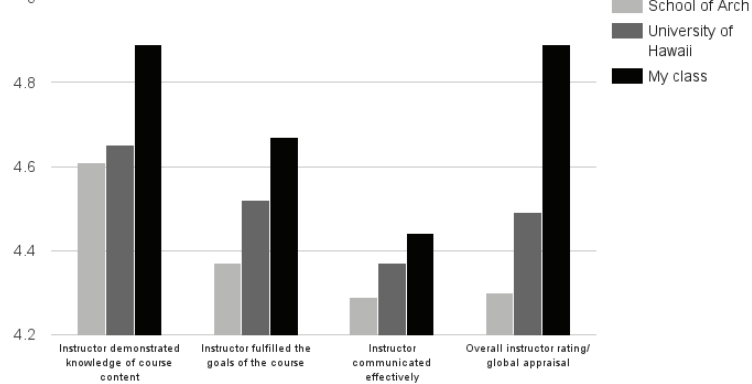
Third-year Studio s2016 Evaluations

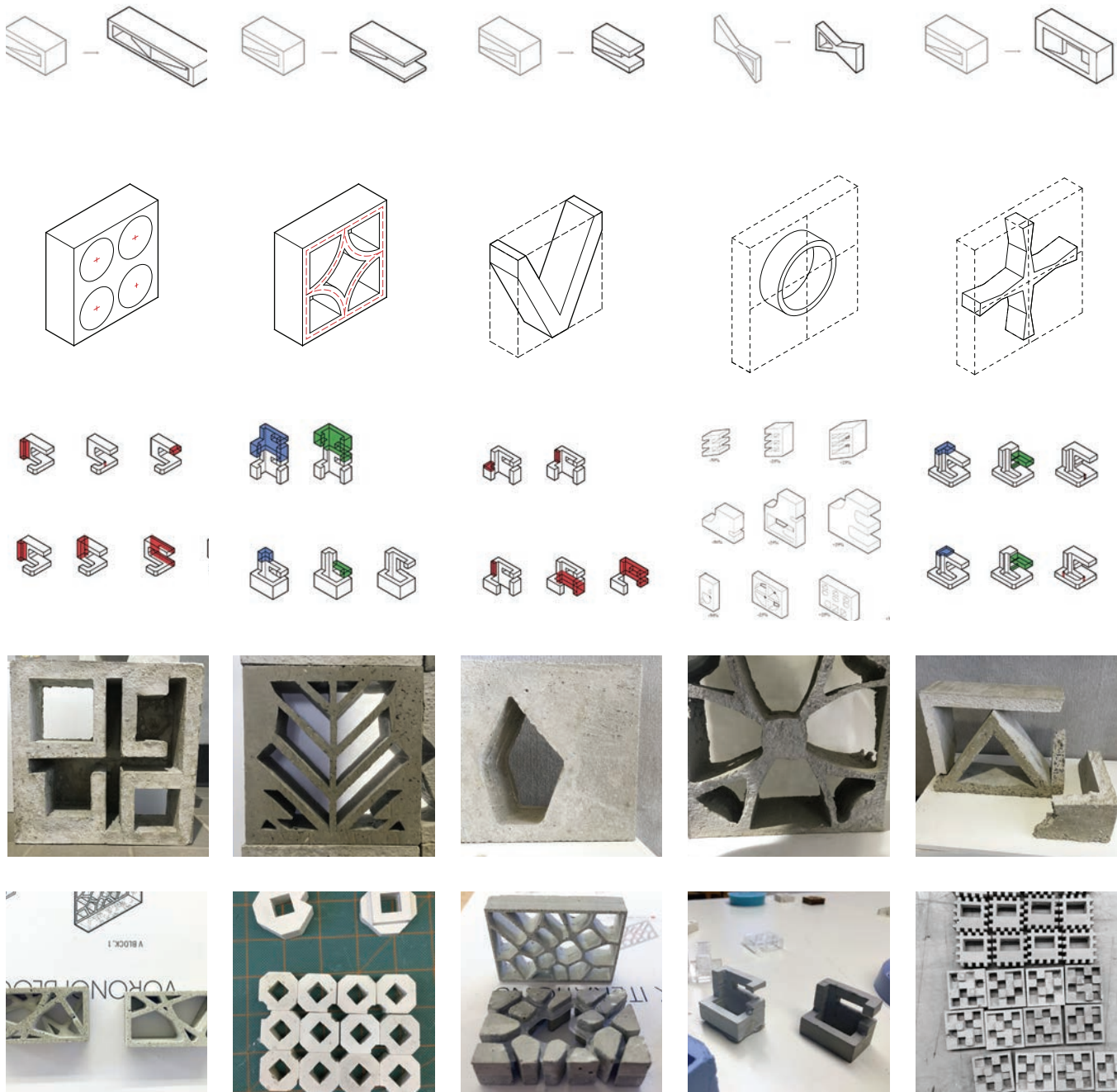


Third-year Studio s2015 Evaluations



Undergrad Seminar f2015 Evaluations





Work Featured: Omar Mirza(opposite), Veronica Brockschmidt, Janica Domingo, Riley Josephson, Shane Matsunaga, Jonathan Quach, Charissa Yamada, Christina Holcom, Brysen Kumabe

"Lance's expertise comes through in his teaching on the programs and topics covered in class. he is very knowledgeable about a range of subjects in the field and he incorporates these things into the assignments, or sometimes by just by mentioning them. He is always easy to approach and very easy to talk to about any questions, ideas, or any type of situations. he is also one of the younger-age professors in the program and is evidently very aware of the current things in the field and encourages his students to get involved. he's technologically-savvy, very organized, a great resource and asset to the architecture program."

[Student evaluation comments]

# breezeblock

Second-year undergraduate studio 2015 + 2016 | Studio Instructor  
Project 1, research, design and fabrication of an individual building element.



Object: breezeblocks  
Subject: Research | Analysis | Diagram | Iteration | Materiality | 1:8 + 1:1 Casting

The second year first semester studio focuses on design communication while introducing software and digital fabrication tools to the design process. The first project of second year design studio explores an individual building component while introducing design software and fabrication techniques to explore how they can support design and design communication.





All work from ARCH235 Fall 2012 (24 students) + Fall 2014 (41 students) + 2015 (43 students)

"Lance Walters lived up to the hype. Such an amazing professor with such a wide set of knowledge that made class truly enjoyable. also had us do projects that were engaging and interesting. A teacher that gives honest feedback and defiantly pushed us, design and problem solving wise this whole semester."

"The most valuable thing about Lance Walters is his dedication to his students and his willingness to help outside of class."

"It was the best studio I've ever had"

[Student evaluation comments]

# pneumaticnomadic

Second-year undergraduate studio 2012 + 2014 +2015 | Studio Instructor  
Final project, Design and fabrication of large scale, inhabitable spaces



Object: pneumatic architecture  
Subject: Scale | Materiality + Intention | 1:1 Space

The final project of second year design studio explores the complex relationships between form, space and material with the design and construction of large scale pneumatic architecture. The material demands that fluid space not hard form drive the design. Rapid development between drawing and construction allows design intentions to be evaluated through direct interaction and experience.





Sailshades designed, partially fabricated and installed by second year design students in 2012.

"The best studio I have had so far. Lance made it very clear on what he wanted us to develop during the time of this course and guided us individually to improve."

"Lance is one of the best and coolest professors that I have taken out of the entire University of Hawaii and I would highly recommend him to any oncoming students."

[Student evaluation comments]

# sailshade

Second-year undergraduate studio 2012 | Studio Instructor  
Sail shade design-build project.



Object: Sail-shades  
Subject: Design + build | Fabrication | Concept

Sets of cords deconstruct the catenary curves of each of the 4 unique sails through a series of fixed control points. Installation designed to highlight digital concepts learned in second year studio while providing shade and a provocative atmosphere in the school of architecture courtyard.





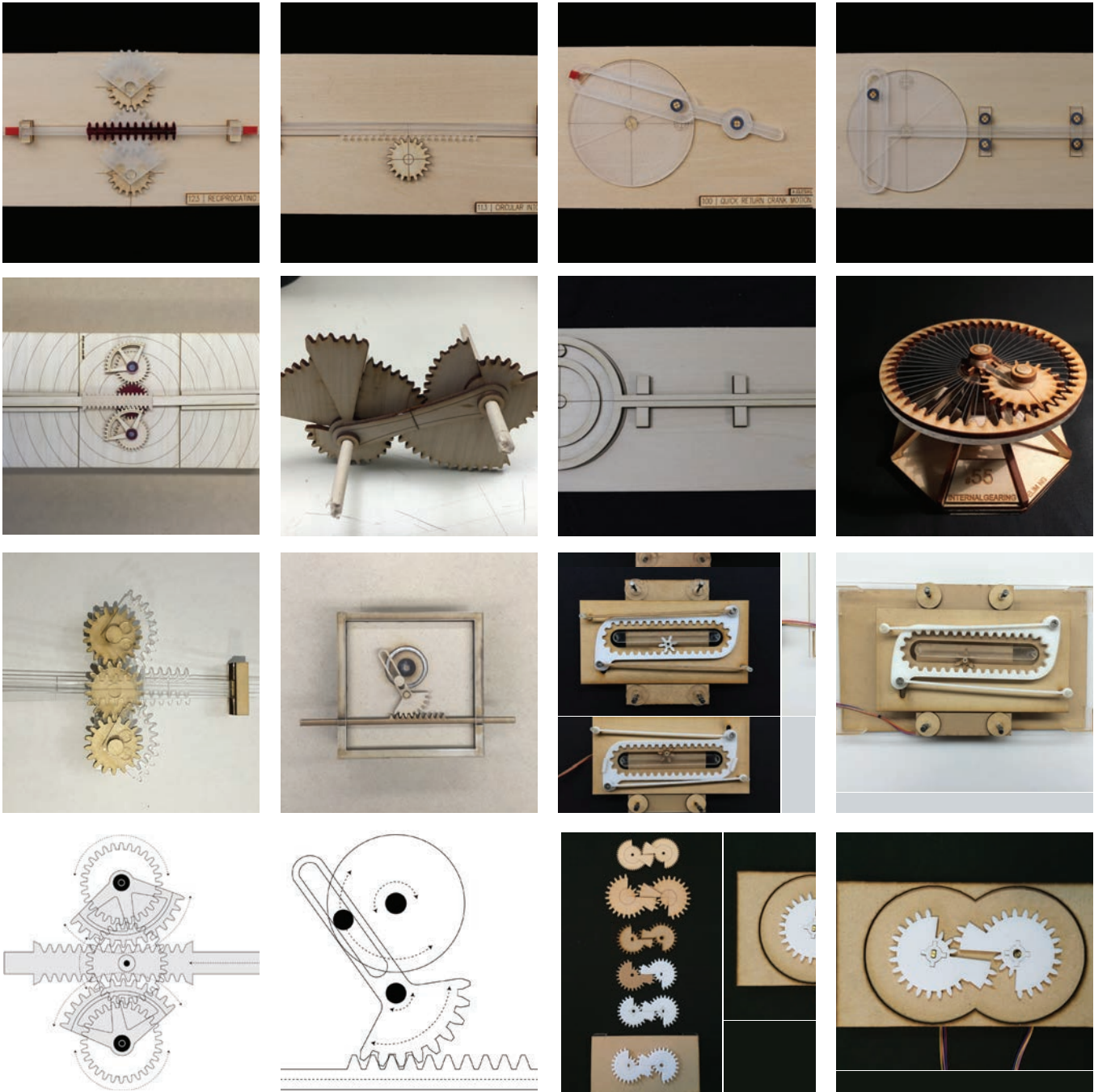
All work from the 2016 AA Visiting School Hawaii: Flying Machines studio. Directors Lance Walters and Costa Desambuy with teaching assistants Benjamin Albrecht and Borja Muguero

# flyingmachines

AA Visiting School Hawaii | Codirector  
Students investigated architectures long standing history with aviation while designing, constructing and flying a wide range of kite typologies. Each embedded with their unique structural and mechanical complexities, the kites were designed to fly in specific environments around Oahu.







Work shown: Elim Ng, Joey Valenti, Aira Inglasias, Nekoba, Melise M. Silvia, Chelsea J.

"Professor Lance Walters has incredible insight into architectural design, and knows how to share it well. The process of learning was extremely helpful."

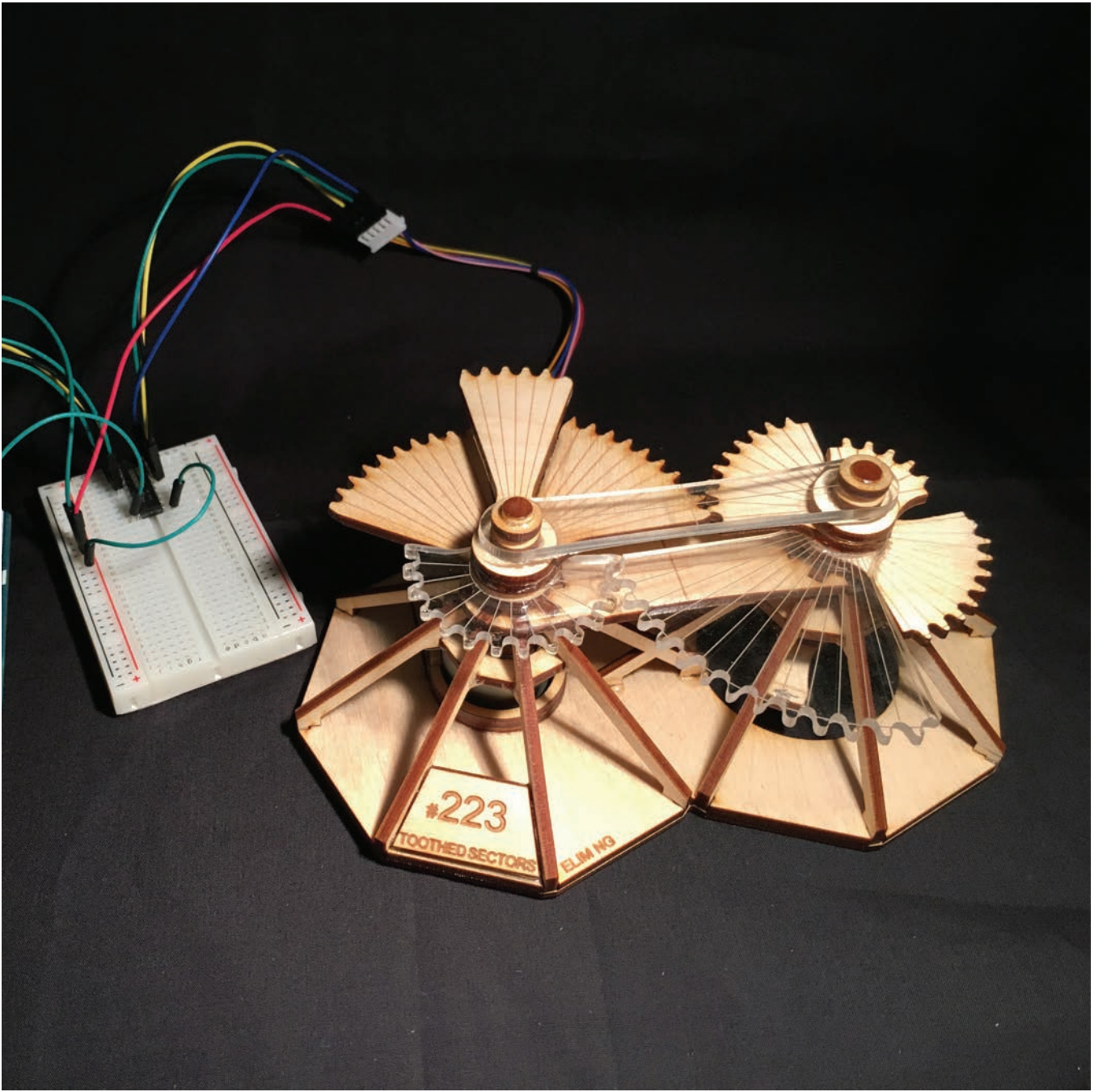
"His friendliness and knowledge on the subject really helped my understanding. Also, I wasn't "afraid to approach him if there were problems."

"He is pretty open minded and I appreciate that he is available for consult."

[Student evaluation comments]

# mechanismsmachines

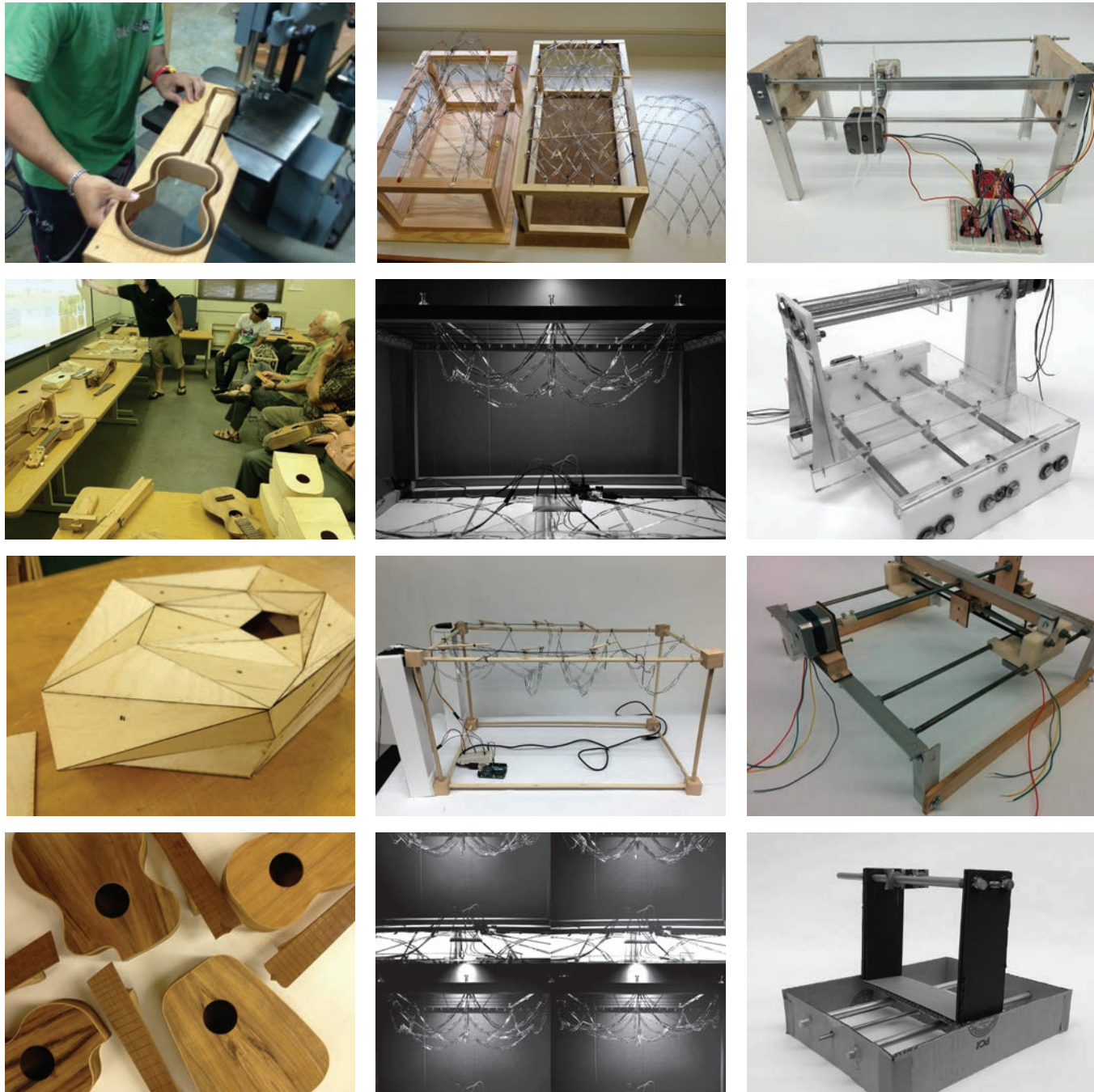
Undergraduate and Graduate Seminars, Project A | Instructor  
The design and construction of pre-digital devices that translate rotational motion using only mechanical means



Object: Analog Mechanisms  
Subject: Analog Mechanisms | Motion conversion | Control and Systems Exploration

The first project of this technology elective explores analog mechanisms which convert simple rotational motion to linear, reciprocating motion with variable speed and acceleration using HVAC motors and other components found in every building mechanical system. Pre-digital concepts of motion control are introduced, explored and fabricated prior to working with their digital counterparts (stepper motors and computers ) in the final project where students scratch build 2 axis cnc machines.





All work associated with Make Your Method Arch 490 and 690 courses. Selected projects from Mead, Richard E. Shishido, Joshua E. Short, Keith M. Wadu Thanthrige, Chamindanie T. Yang, Hong Joon

"Lance Walters sacrifices his time to help us with our project. He cares for the student when he/she is having a difficult time, as shown during our final project."

"I loved how you walked us through one step at a time though each program and had extra help sessions outside of class to help us understand the programs more." "Approachable and understanding"

[Student evaluation comments]

# architecturalanalog

Graduate Design Seminar | Instructor  
Exploration, design and construction of devices and systems.



Object: (L to R) Instruments, Automated Form finding, CNC platforms  
Subject: Design process | Digital + hand fab techniques | Materiality

Defined by its form factor and traditionally constructed with materials typically considered acoustically sub-optimal the ukulele is a uniquely modern instrument. Students confronted material and functional realities while first designing a classic ukulele by hand and then designing and constructing their own version using digital tools. Students considered portability, tessellation and mono-coque construction with respect to standard volume and chord arrangements.



activitiesevents
Advisor, Lecture Committees, School Culture



Selection of the monthly AIAS Paper Architecture Night and event posters over the past five years.

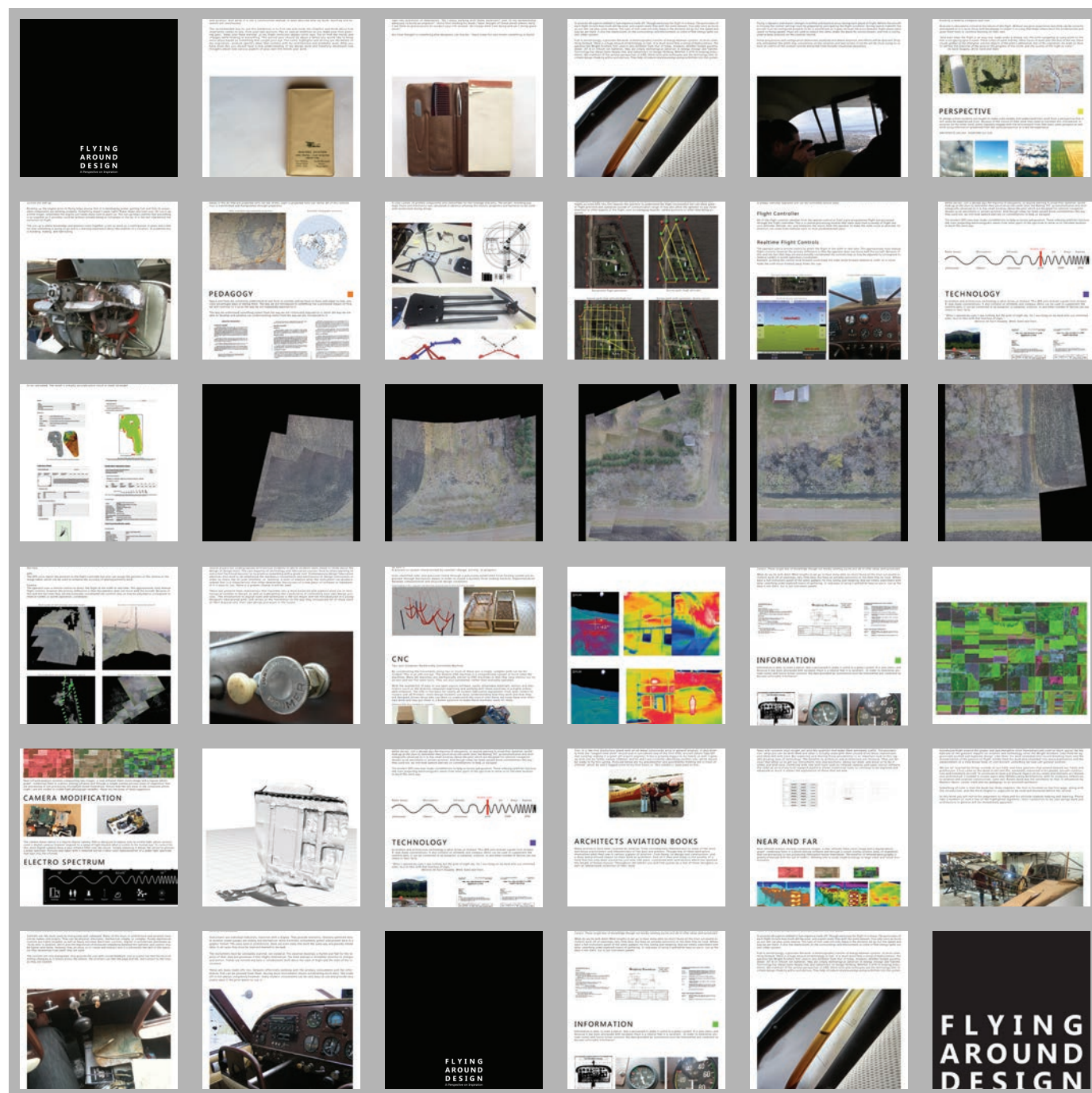
JAN	16	KIEL MOE	ASSISTANT PROFESSOR OF ARCHITECTURAL TECHNOLOGY HARVARD GSD ENERGY ENVIRONMENTS AND DESIGN RESEARCH ADVANCEMENT
	23	MONIKA WITTIG	LIVE ARCHITECTURE NETWORK DESIGN COLLECTIVE GLOBAL FABRICATION TECHNOLOGY WORKSHOPS LIVEARCHITECTURE.NET
FEB	06	CRITTER THOMPSON	SYSTEMS ECOLOGY DESIGN CITYLAB7 DECISION COMMONS RESEARCH UNIVERSITY OF WASHINGTON SEATTLE, WA
	20	HIROSHI JACOBS	INFORMATION PRAMETRICS TECHNOLOGY CHAMELEON DESIGN CATHOLIC UNIVERSITY+ STUDIOS ARCHITECTS WASHINGTON DC
	27	AIAS PAN	PAPER ARCHITECTURE NIGHT HAWAII AMERICAN INSTITUTE OF ARCHITECTURE STUDENTS PETCHA KUTCHA EVENT AND RECEPTION
MAR	06	TOM SMITH	ASLA JOINT LECTURE. LANDSCAPE ARCHITECT AND SENIOR DIRECTOR AECOM + AA SCHOOL OF ARCH LONDON AND RIO OLYMPICS
	13	CHARLIE OGEEN	PROFESSOR OF ARCHITECTURE LAWRENCE TECH DESIGN 99 CONCRETE MATERIAL ENERGY DESIGN FABRICATION DETROIT, MI
	20	LISA IWAMOTO	IWAMOTOSCOTT ARCHITECTS UC BERKLEY ARCHITECTURE DIGITAL FABRICATION MATERIAL TECH SAN FRANCISCO, CA
APR	03	ROBERT MCCARTER	RUTH AND NORMAN PROFESSOR OF ARCHITECTURE ARCHITECT AUTHOR WASHINGTON U. ST LOUIS, MO
	10	CHITRA GOPALAKRISHNAN	GRAPHIC DESIGN MEDIA KARA WEAVES HANDLOOM REVIVAL CAMBRIDGE, MA
	17	CHRIS KEANE	PRINCIPLE DKARCH DEAF SPACE DESIGN GUIDELINE DEVELOPMENT URBAN DESIGN SCIENCE TECH PORTLAND, OR WASHINGTON DC
MAY	01	MONA EL KHAFIF	CCA CALIFORNIA COLLEGE OF THE ARTS ARCHITECTURE AND URBAN DESIGN COORDINATOR URBANLAB SAN FRANCISCO

UNIVERSITY OF HAWAII MANOA  
ARCHITECTURE LECTURE SERIES

(Above) As 2013-2014 lecture committee chair I organized and hosted an 11 person lecture series for the school, featuring a wide range of speakers and presenters.

(Left) As the AIAS Faculty Advisor. Paper Architecture Night (PAN), a monthly event which brings students from all levels together with community members and faculty. 3 students or local professionals present in the courtyard on themes created around design, architecture and student experiences. AIAS HNL also hosts a yearly pumpkin carving event in the fall and a 30 year running castle carve in the spring- typically half of the aprox 20 participating teams are local professionals/firms.





Flying Around Design is an exhibit about teaching, work and perspective. It highlighted the outcome of a year long remote-sensing research project along side other research that explored the rich history and intersections of aviation and architecture. First on display at the Shen Gallery, it has since been displayed in the Bishop street gallery space in downtown Honolulu.

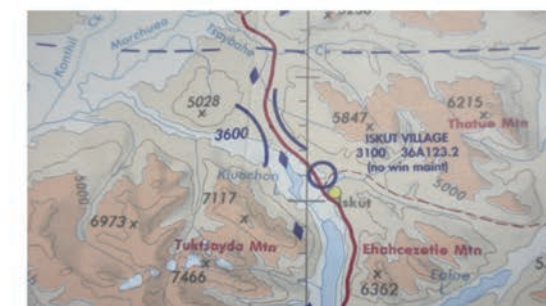
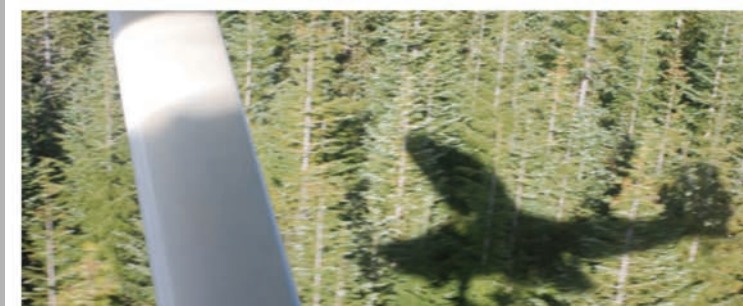
# aviationarchitecture

Exhibit and research

## PILOTAGE

Navigation by a direct, visual reference- often with the aid of a chart or map- is know as pilotage. Other forms of navigation which do not require visual reference include radio, radar, GPS and dead-reckoning which involves knowing a heading (compass) and time.

How one is educated is critical to the nature of the flight. Without any prior experience very little can be correctly anticipated so it is up to those with knowledge to impart it in a way that helps others learn the fundamentals and



## PERSPECTIVE

In design school students are taught to make scale models and understand their work from a perspective that it will rarely be experienced from. Because of the nature of their work they need to translate this information. In aviation on the other hand, pilots regularly engage with the environment from that exact same perspective and work using information presented from the same perspective as it will be experience.

ARCHITECTS 105,000 AVIATORS 617,128

