ACSA Distinguished Professor

2016-2017 Winner Submission Materials

CHRISTINE THEODOROPOULOS
California Polytechnic State University

Christine Theodoropoulos

Transforming Architectural Education

As a board member serving the ACSA, the NAAB, and the AIAS, and as founding president of the BTES, I have volunteered for initiatives that led to positive change. We have increased the quality of education that prepares architecture students for careers, and helped educators and employers support student success. We have advanced international and interdisciplinary collaborations, and enhanced the value of accreditation. Collaborating with faculty, students and practitioners on projects concerning the future of architectural education has been deeply rewarding, both professionally and personally.

Transforming Schools of Design

I am Dean of the College of Architecture and Environmental Design at California Polytechnic State University, San Luis Obispo where it is my privilege to steward five nationally recognized accredited programs in architecture, landscape architecture, planning, engineering and construction. Previously, I served for nine years as Head of the University of Oregon Architecture Department. In collaboration with colleagues and inspired by students, I have led curricular innovations, launched new programs, supported research initiatives, and realized opportunities for partnerships and recognition that have advanced the missions and increased the visibility of schools of design.

Transforming Building for Resilience

As an architect-engineer working in the realm of structural design, I have explored ways to integrate architecture and engineering practice to improve earthquake-resistant design, address environmental implications of structural systems, and develop teaching materials that advance architects' understanding of structures. As an advisor on building stock data development that informs decisions made by state and local governments, and as an international delegate at post-earthquake planning exchanges with China, Taiwan and Japan, I raise awareness about seismic risk and advocate for design practices that ensure safer, more resilient communities.

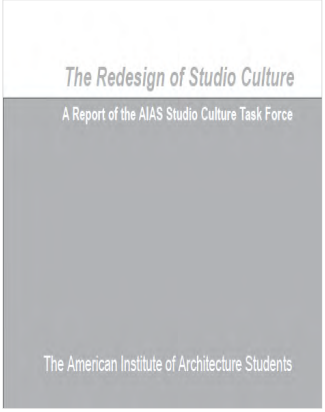
Transforming Architectural Education
Service to the ACSA

TREASURER

Financial planning and implementation of budget at a time of transition for the association. Assumed key financial management responsibilities and led the board in discussions of budgetary aspects of strategic planning. Assisted with the executive director search and selection committee;

FACULTY LIAISON ON THE AIAS BOARD

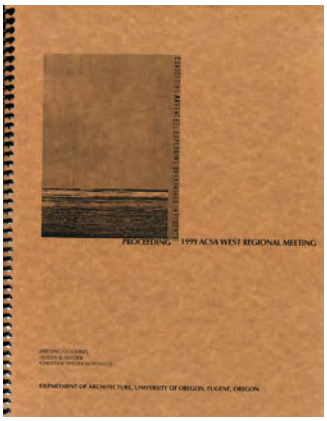
Contributed a faculty perspective to board discussions and served on the executive committee as an advisor to the officers and executive director. Advised on the development of conference and event programs, student competitions and awards programs. Helped to launch the Studio Culture Initiative.



PROGRAMS AND INITIATIVES

Women's Leadership Group Member, Mentor, Session Organizer
Topic Chair, Session Moderator for Annual Meetings
Presenter Administrators Meetings, New Administrators Workshop
Reviewer of Manuscript, Papers and Session Proposals
Juror for Faculty Awards
Member of Task Forces

ACADEMIC CONFERENCES

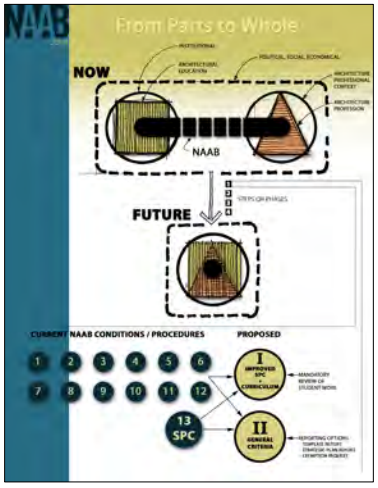


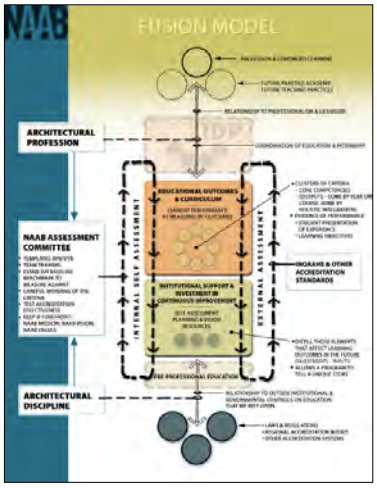
West Region Meeting Co-Chair
University of Oregon
West Region Meeting
Contested Absences

Technology & Housing Meeting Co-Chair
University of British Columbia
University of Oregon

Annual Meeting Host
University of Oregon
97th Annual Meeting:
The Value of Design

Transforming Architectural Education
Service to the NAAB





images: NAAB ARC 2008 report

OBJECTIVES: FROM PARTS TO WHOLE

Maximize flexibility in both requirements and reporting options so that accredited schools and schools seeking accreditation are better positioned to offer innovative programs.

Enable schools to pursue unique missions and alternative formats that can increase the accessibility of an architectural education and promote diversity in the schools and the profession.

Reaffirm the success of NAAB's performance-based approach to student educational outcomes by emphasizing educational outcomes assessment in the accreditation review process.

BOARD MEMBER

Contributed to deliberations about accreditation processes and the terms of accreditation for schools; developed guiding policies and plans; assisted with outreach to the ACSA.

TREASURER & EXECUTIVE COMMITTEE MEMBER

Chaired the operations committee; proposed revisions to NAAB's data collection procedures; served on the executive director search and selection committee; presented orientation sessions for new visiting team members and school administrators preparing for accreditation reviews.

CO-CHAIR: ACCREDITATION MODELS TASK FORCE

Developed and evaluated accreditation models with input from collateral organizations; author of the Parts to Whole Model and co-author of the Fusion Model; helped to create the conceptual framework that formed the basis for the 2009 Conditions.

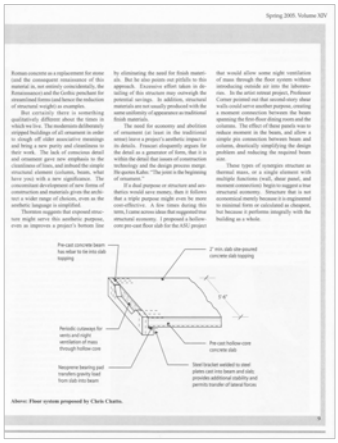
TASK FORCES MEMBER

Recommended improvements to accreditation processes and contributed to national and international dialogs on the future of architectural accreditation.

VISITING TEAM MEMBER & CHAIR

For over a dozen visits, reviewed APRs, planned and completed on-site reviews, trained teams, prepared and presented team reports.

Transforming Architectural Education
Service to the BTES



CONNECTOR 2000-2006

University of Maryland
Launch Symposium

University of New Mexico
Inaugural Conference

www.btesonline.org

Collaborators:
Edward Allen
Diane Armpriest
Robert Dermody
Dana Gulling
Deborah Oakley
Ryan Smith
Gil Snyder

CONNECTOR:
A Forum for Teachers of Technology in Schools of Architecture

Founded by Edward Allen, *Connector* served as an exchange about teaching approaches and philosophies. As editor I added the new voices of early career faculty and graduate students. In 2006 the forum transitioned to the BTES Conference.

FOUNDING PRESIDENT

Contributed to the creation of the BTES, development of the biennial conference hosted by schools of architecture, and the Building Technology Teaching Award for Emerging Faculty.

BTES MISSION

"The Building Technology Educators' Society (BTES) is an organization of architectural educators, passionate about teaching the technology of building design and construction. The mission of the BTES is to promote and publish the best pedagogic practices, relevant research, scholarship, and other creative activity to facilitate student learning, advance innovation, and enhance the status of our disciplines in the profession at large."

TEACHING AWARD FOR EMERGING FACULTY

Co-author of a national award program created to recognize demonstrated excellence in teaching performance and innovation during the formative years of an architectural teaching career in building technology education.

Transforming Architectural Education
Service to the AIA

District analysis for seismic risk

Build-a-Beacon: stability checkpoint

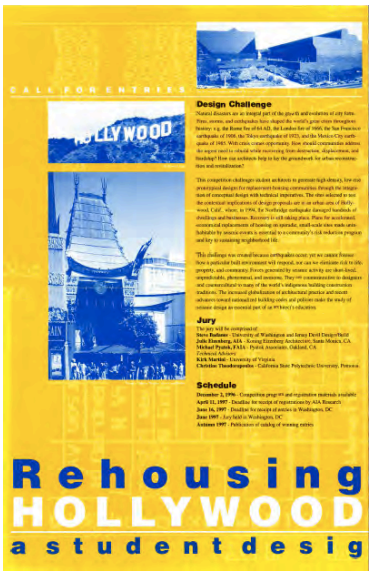
SEISMIC DESIGN/BUILD CHARRETTE
a curriculum demonstration

Program developer, instructor, host

Faculty-student teams from participating schools conducted rapid visual screening surveys of buildings in Old Town Pasadena, assessing potential seismic hazards, and developed site specific earthquake scenarios to describe impacts and propose sites and structures for emergency response.

Collaborators:
Deane Evans
Kirk Martini
Sigrid Miller Pollin
Stephanie Vierra

Sponsor: FEMA



REHOUSING HOLLYWOOD
a student design competition

Author, juror

The competition challenged students to propose high-density low-rise prototypical designs for replacement housing in the aftermath of the Northridge Earthquake. The brief included a guide for developing a preliminary assessment of seismic feasibility.

Collaborators:
Deane Evans
Kirk Martini
Stephanie Vierra

Sponsor: FEMA

Preparing for Seismic Certainty
an AIA Portland FRED Symposium

SEISMIC DESIGN SYMPOSIUM

Presenter: Regulation of Non-structural Design
Panelist: Investing in our City's Resilience

Transforming Architectural Education
Service to International Programs

CURRICULUM DESIGN
for a new school in Saudi Arabia

Bachelor of Architecture Study Plan Flow Chart

	1st Year		summer	2nd Year		summer	3rd Year		summer	4th Year		summer	5th Year		
	Fall	Spring		Fall	Spring		Fall	Spring		Fall	Spring		Fall	Spring	
DESIGN STUDIOS	2D + 3D DESIGN 4	SPATIAL DESIGN 4		BEGINNING ARCHITECTURAL DESIGN 1 5	BEGINNING ARCHITECTURAL DESIGN 2 5		INTERMEDIATE ARCHITECTURAL DESIGN 1 5	INTERMEDIATE ARCHITECTURAL DESIGN 2 5		INTERMEDIATE ARCHITECTURAL DESIGN 3 6	INTERMEDIATE ARCHITECTURAL DESIGN 4 6		INTEGRATED ARCHITECTURAL DESIGN 8	ARCHITECTURE CAPSTONE DESIGN 8	
STUDIO SUPPORT	GLOBAL ARCHITECTURAL TRADITIONS I 4	GLOBAL ARCHITECTURAL TRADITIONS 2 4		DESIGN FOR USE 2	DESIGN FOR CULTURE 2		DESIGN FOR SETTLEMENT 2	DESIGN FOR LANDSCAPE 2		BUILDING INFORMATION MODELING 1	BUILDING PERFORMANCE MODELING 1		COLLABORATIVE DESIGN METHODS 1		
SCIENCE AND TECHNOLOGY	COMPUTER SKILLS 2				BUILDING PHYSICS LAB 1								PROFESSIONAL PRACTICE 4		
	CALCULUS 3	CHEMISTRY 3		BIOLOGY 3	PHYSICS 3		BUILDING CONSTRUCTION 4	BUILDING CLIMATE 4		STRUCTURAL SYSTEMS 4	ENCLOSURE SYSTEMS 4		CAPSTONE PRE-DESIGN 2	TECHNOLOGY ELECTIVE 4	
HUMANITIES		ISLAMIC STUDIES 1 2		ISLAMIC STUDIES 2 2				ISLAMIC STUDIES 3 2		ISLAMIC STUDIES 4 2					
	STUDY SKILLS 2	ARABIC 1 2		ARABIC 2 2	ENGLISH 1 4		ENGLISH 2 4	COLLEGE ELECTIVE 2		COLLEGE ELECTIVE 2	FREE GENERAL ELECTIVE 4			DESIGN ARTS ELECTIVE 4	
CREDITS	15	15		14	15		15	15	5	15	15	5	15	16	160 TOTAL CREDIT HOURS

Remedial Studies If Needed to Attain 2nd Year Prerequisites

Remedial Studies If Needed to Attain 3rd Year Prerequisites

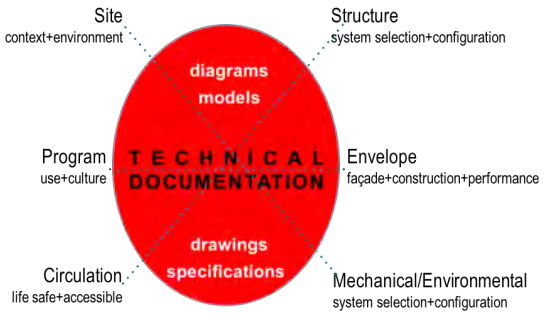
Study Abroad

Professional Internship

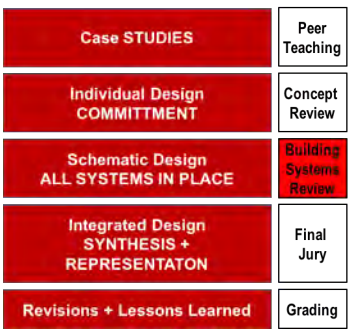
ACADEMIC SCHEDULE RECOMMENDATIONS
Limit the number of courses per semester to 5 and the number of credit hours per semester to 16 to allow sufficient time for design studio work.
15 weeks of instruction per semester plus one week for final examinations or projects for non-studio courses. Studio work should be completed by the end of the 15th week.
Design studios meet 3 times per week. Total contact hours are at least twice the number of hours as credits assigned to the studio (more if enrollment exceeds 16 students per studio section).
2nd, 3rd, 4th and 5th year design studios are linked to studio support courses and should be taken concurrently.
3rd and 4th year building technology courses meet 5 hours weekly (3 lecture hours-theory + 2 activity hours-practice).
Building Physics Lab, Building Information Modeling and Building Performance Modeling meet 2 hours weekly for an activity. All other courses have the same number of contact hours as credits.

37 GENERAL EDUCATION REQUIREMENTS
8 GENERAL EDUCATION ELECTIVES
87 PROFESSIONAL REQUIREMENTS
28 PROFESSIONAL ELECTIVES

The Building Systems Review



A Studio Framework



The Integrated Design Studio:
Cal Poly Methods

CURRICULUM + ACCREDITATION EXCHANGE
University of Dammam
College of Architecture & Planning

Program Advisor

Sharing US approaches to architectural education, accreditation review, and teaching practice at Cal Poly.

Collaborator:
Thomas Fowler

PROGRAM REVIEW + CURRICULUM DEVELOPMENT
Qatar University
College of Engineering

Program Advisor

Sharing US approaches to architectural education and accreditation review.

Transforming Schools of Design
National Recognition

NATIONAL UNDERGRADUATE RANKINGS

2016		2015	2014	2013
2	Cal Poly San Luis Obispo	2	1	5

REGIONAL RANKINGS

TOP ARCHITECTURE SCHOOLS IN THE **WEST**

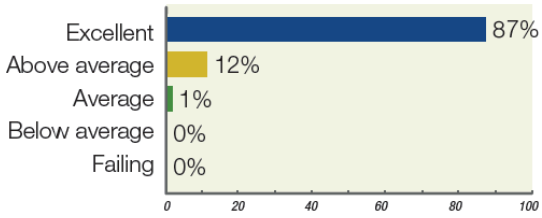
UNDERGRADUATE

1. Cal Poly San Luis Obispo

STUDENT SURVEY

CAL POLY SAN LUIS OBISPO

Quality of program



99% *Believe they'll be well prepared for their profession upon graduation*

ARCHITECTURE SKILLS ASSESSMENT

CONSTRUCTION METHODS & MATERIALS

1. Cal Poly San Luis Obispo

SUSTAINABLE DESIGN PRACTICES & PRINCIPLES

1. Cal Poly San Luis Obispo

CROSS-DISCIPLINARY TEAMWORK

2. Cal Poly San Luis Obispo

COMPUTER APPLICATIONS

4. Cal Poly San Luis Obispo

COMMUNICATIONS SKILLS

5. Cal Poly San Luis Obispo

ARCHITECTURE DEANS SURVEY

Most admired undergraduate architecture programs

2. Cal Poly San Luis Obispo
For its dedicated faculty and balance of theory and practice with an emphasis on technology

MOST ADMIRED EDUCATORS FOR 2016

CHRISTINE THEODOROPOULOS

A visionary dean challenging the status quo, Christine Theodoropoulos epitomizes and champions Cal Poly's "Learning by Doing" philosophy, preparing graduates to be effective and productive contributors early in their professional lives.

Transforming Schools of Design
Solar Cal Poly

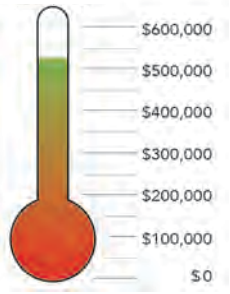
photo: Josef Kasperovich

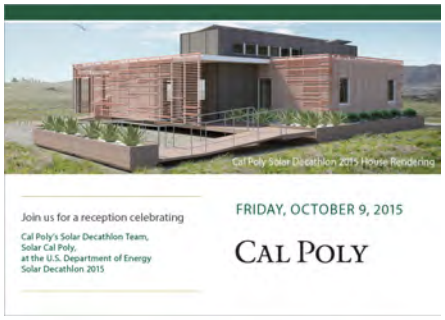
Administrative and External Relations Lead for SOLAR CAL POLY

The Solar Decathlon is a competition sponsored by the U.S. Department of Energy, which challenges collegiate teams from across the nation to design, engineer and construct a net zero home. An interdisciplinary team of more than 100 Cal Poly students and faculty across 12 majors and five colleges participated, with the College of Architecture and Environmental Design taking the lead on organizing and fundraising for the award-winning project.

3RD PLACE

2nd place Market Appeal
2nd place Home Life
3rd place Architecture
4th place Engineering





Collaborators:
Kevin Dong
Natalie Schaefer
Solar Cal Poly Team

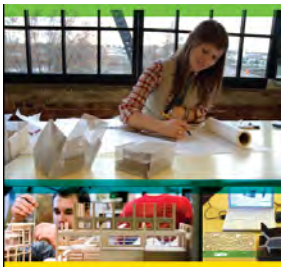
Transforming Schools of Design
UO Portland

SCHOOL OF ARCHITECTURE AND ALLIED ARTS IN PORTLAND

NEW FACILITIES

Lead tenant for development of a university center in the White Stag Building
Building Selection, Programming, Design Review
Revitalizing + Expanding Architecture Studies in Portland
New Studios, Shops, Exhibit Spaces, Classrooms, Library, Infrastructure, Faculty, Staff

Collaborators:
Terri Warpinski
Rob Thallon
Hajo Neis
User Group Members
Fletcher Farr Ayotte Inc.
Walsh Construction



ENHANCED PROGRAMS

Transit Oriented
Sustainable Cities
Performance Studies

Urban Design Focus
Practitioners Teach
Small School Quality

Collaborators:
Portland Architecture Faculty

NEW COLLABORATORS + PUBLIC PRESENCE

Career Discovery
Internships
Community Service
Summer Session
Professional Education
Public Education
Public Events
Public Exhibits
Public Dialog

Images:
architecture.uoregon.edu/PDX
pdx.uoregon.edu
aaa.uoregon.edu/portland

Transforming Schools of Design
New Programs

Administrative Lead for development of a unique
PH.D. IN ARCHITECTURE

Advanced research
focusing on multidisciplinary integration
to create knowledge that advances sustainability

Applied research
meeting the needs of the profession and society
related to environmental impacts of
building materials, buildings and cities

Preparation for careers
at universities and entities engaged in
sustainable design research

Collaborators:
Howard Davis
Alison Kwok
Graduate Studies Committee

image: UO Product Design

Interdisciplinary Leadership Team
for development of a new curricular area:
BA, BS, BFA, MINOR IN PRODUCT DESIGN

Interdisciplinary connections and shared courses
between design, art, architecture, interior architecture,
and business

Emphasis on making to explore materials, use,
manufacture and aesthetics

Preparation for careers through
internships in the Pacific Northwest's
leading design companies

Collaborators:
Alison Snyder
Kate Wagle
Linda Zimmer

Administrative Lead for development of a:
GRADUATE CERTIFICATE IN ECOLOGICAL DESIGN

Interdisciplinary design practice for the integration of
the built environment with natural systems

Collaborators:
Brook Muller
Graduate Studies Committee

Image: architecture.uoregon.edu

Transforming Schools of Design
Student-Civic Collaboration

NCARB PRIZE

Police Station
Salem, Oregon

Sustainable City Year
University of Oregon

Students collaborated with architects and municipal officials as part of a yearlong sustainability partnership with the city of Salem. Student teams worked with professional design teams to produce site analyses, precedent studies and conceptual designs that informed city council decision-making for a municipal bond measure to fund the station.

The NCARB Prize Jury commended the project for giving students insight into civic processes, which are seldom experienced before entering practice.

Collaborators
Nico Larco
Josh Hilton
Garth Brandaw, CB Two
Mark Foster, ZGF Architects
Debbie Munson, ZGF Architects
Kirk Sund, CB Two

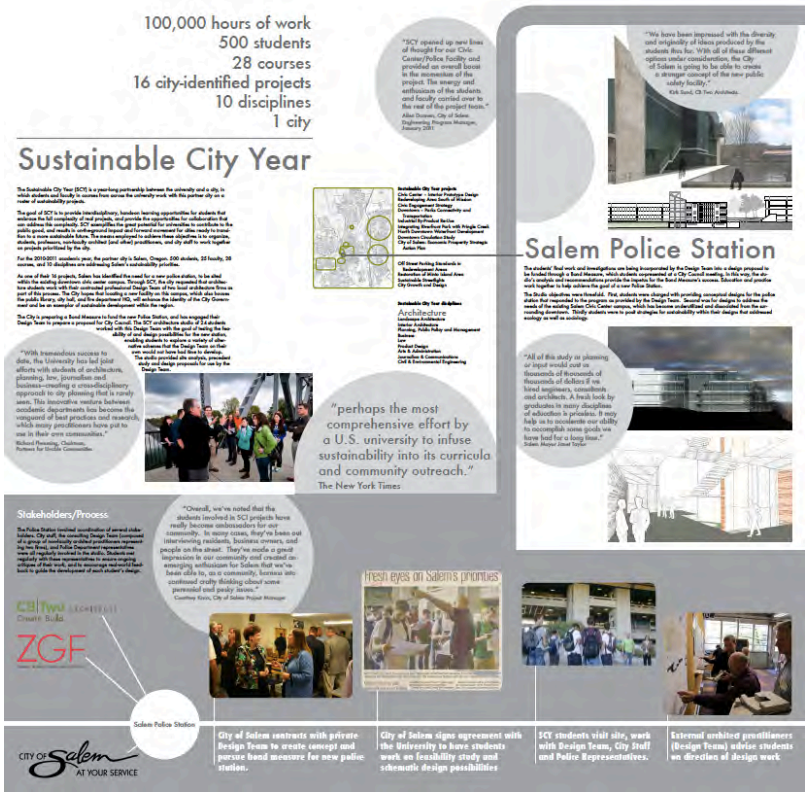
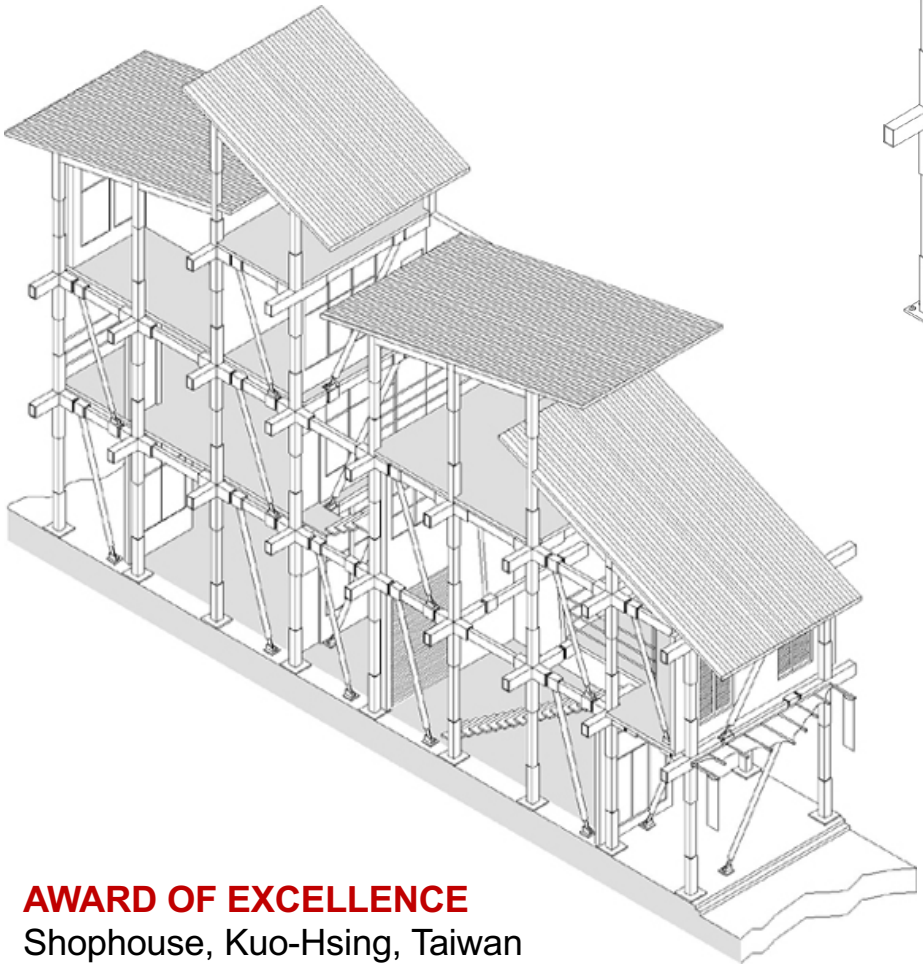
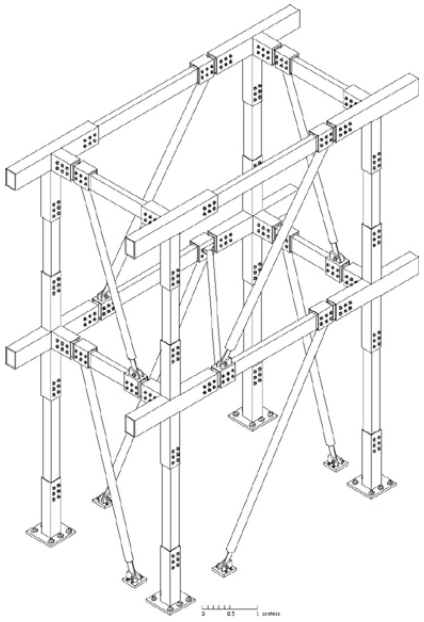


Image: Josh Hilton, student design team

Transforming Schools of Design
Learning from Earthquakes Studio

ACSA/STEEL TUBE INSTITUTE
HSS DESIGN & ENGINEERING CHALLENGE

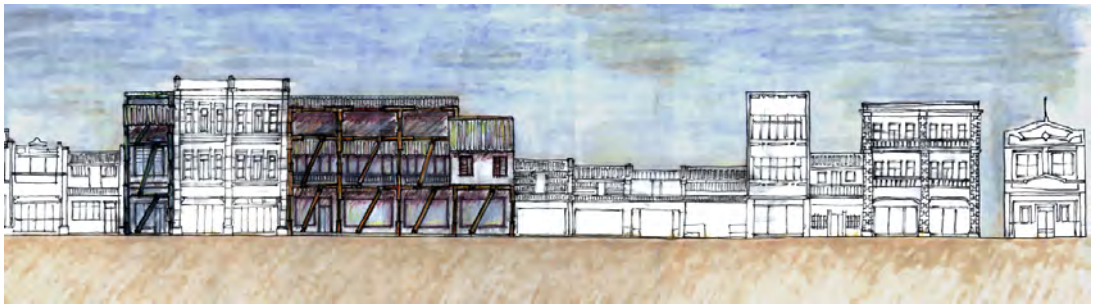




AWARD OF EXCELLENCE
Shophouse, Kuo-Hsing, Taiwan

The studio examined the effects of the 1999 Chi Chi earthquake on vernacular shophouses in the village of Kuo-Hsing, Taiwan and proposed earthquake resistant replacement structures.

The Challenge called for students in architecture, structural engineering, industrial design, and other engineering and design disciplines to work individually or as a team to explore aesthetic and technical issues related to the use of hollow structural sections.



Images: Emily Richardson

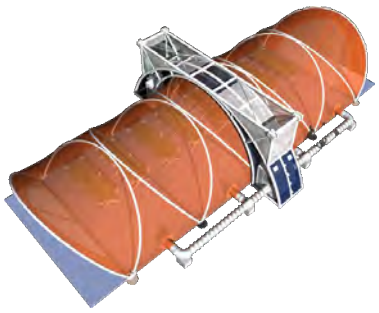
Transforming Schools of Design
Tensile Structures Studio

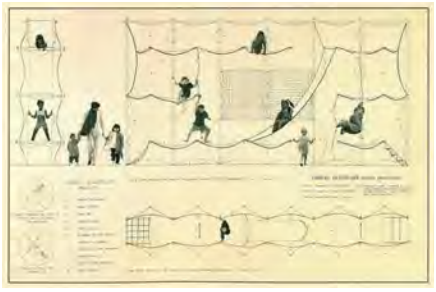
FABRIC ARCHITECTURE
Student Design Challenge

Shelters for Disaster Relief

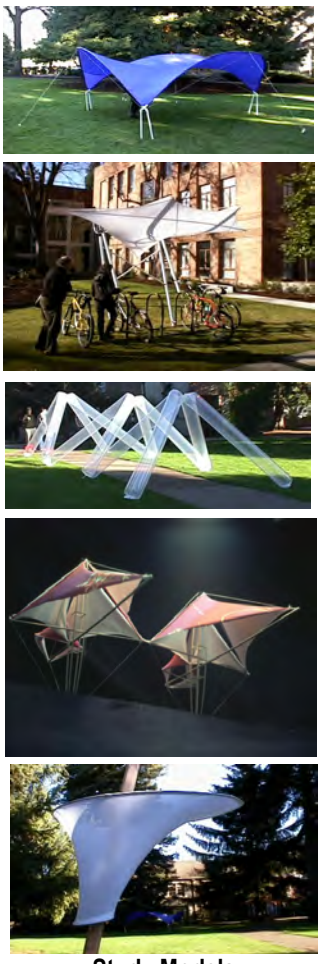
Collaborator
A. Scott Howe

First Place: Stability Shelter for Disaster Relief





First Place: Fabric Playscape



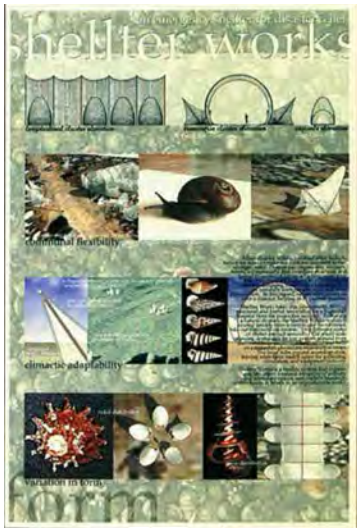
Study Models

Students created tensile structural models and full scale installations to study membrane behavior, techniques for form finding, and methods for constructing tensile connections.

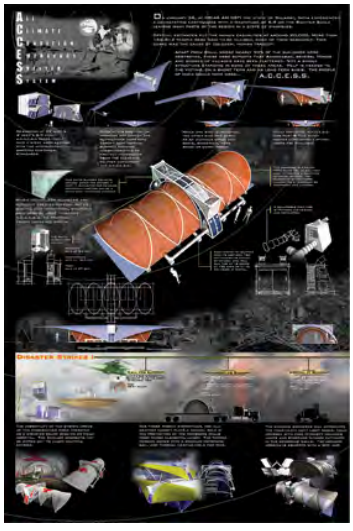
This informed the development of design concepts for fabric architecture shelters for disaster relief and experimental environments.

The *Fabric Architecture* Student Design Challenge Jury recognized projects for creativity, viability and design communications.

Images:
Fabric Architecture Magazine



Honorable Mention: Shelterworks



Honorable Mention:Relief Shelter

Transforming Schools of Design
Faculty-Student Collaboration

HOUSING THE NEXT 10 MILLION: ENVISIONING CALIFORNIA'S CENTRAL VALLEY

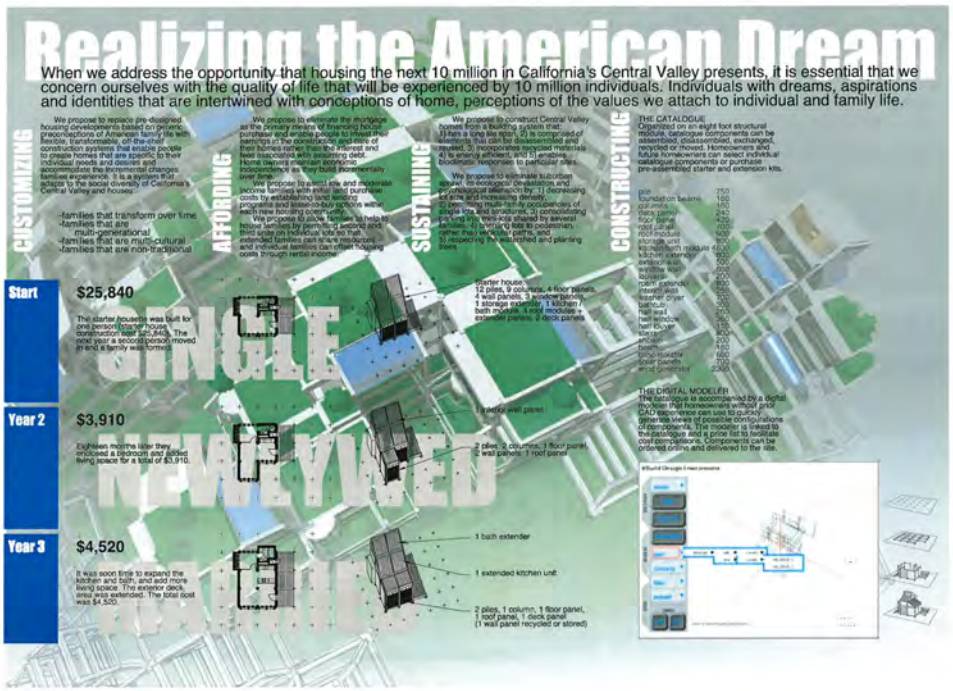
AIA CALIFORNIA COUNCIL

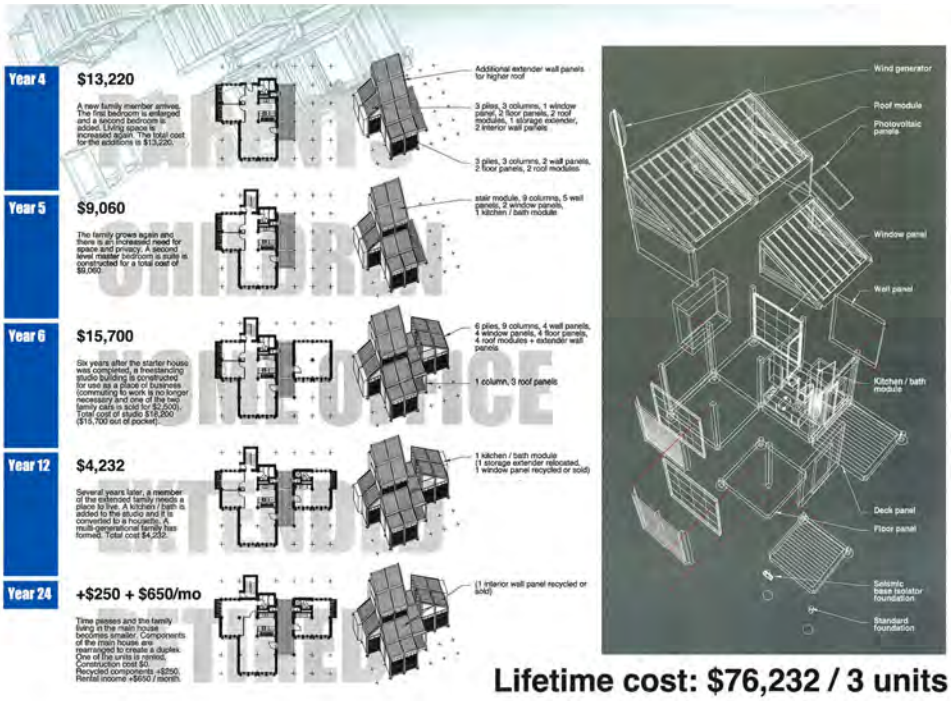
Honorable Mentions:

RURAL AGRICULTURAL COMMUNITY

HOUSING DEVELOPMENT

Collaborators:
A. Scott Howe
Undergraduate student assistants



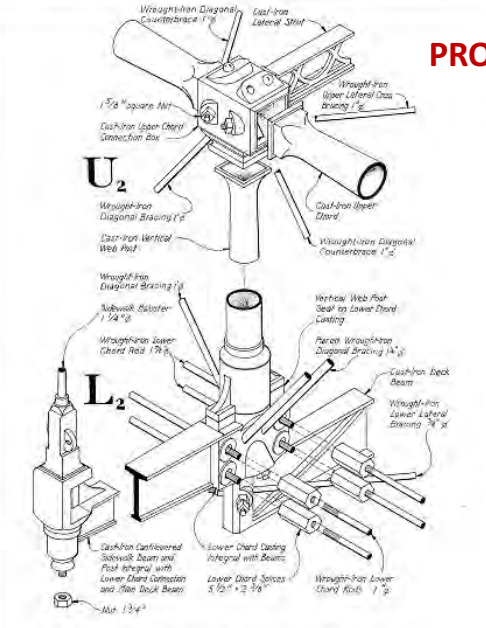


Lifetime cost: $76,232 / 3 units

Transforming Schools of Design
Faculty-Student Collaboration

PROJECTS FOR THE HISTORIC AMERICAN ENGINEERING RECORD

CAST AND WROUGHT IRON BRIDGES (1850-1870)

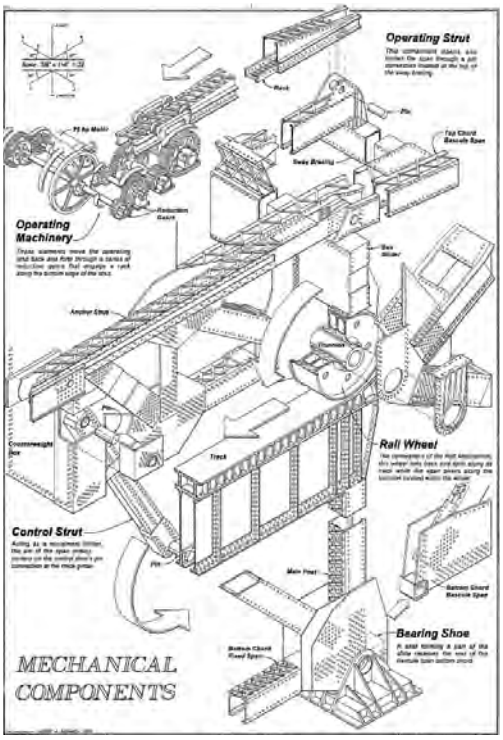


Walnut Street Bridge
(1860) Hellertown, PA

Rush's Mill Bridge
(1869) Berks County, PA

Collaborators:
Eric Delony
Emory Kemp
William Chamberlin
Christine Ussler
Wayne Chang
Joseph E. B. Elliott
Robert W. Hadlow
Monika Korsos

WILLAMETTE RIVER BRIDGES, PORTLAND, OREGON (1910-1969)



Broadway Bridge (1913)

Collaborators:
Eric Delony
Richard O'Connor
Joseph Boquiren
Judith McGaw
Sharon Wood Wortman
Linda Dodds
Eric Kenyan
Manuel Hernandez
Shannon Sardell
Nicholas A. Zydycryn
James P. Norman

Images:
Library of Congress
Prints & Photographs
HAER

Risk Management Series

Designing for Earthquakes

A Manual for Architects

FEMA 454 / December 2006

FEMA

nehrp

Transforming Building for Resilience Integrating Architecture & Engineering Practice

Chapter Author, Steering Committee Member
Principal investigator

SEISMIC DESIGN EDUCATION FOR ARCHITECTS

CURRENT PRACTICES AND FUTURE NEEDS

a project of:
The Earthquake Engineering Research Institute

Sponsors: FEMA, NSF.

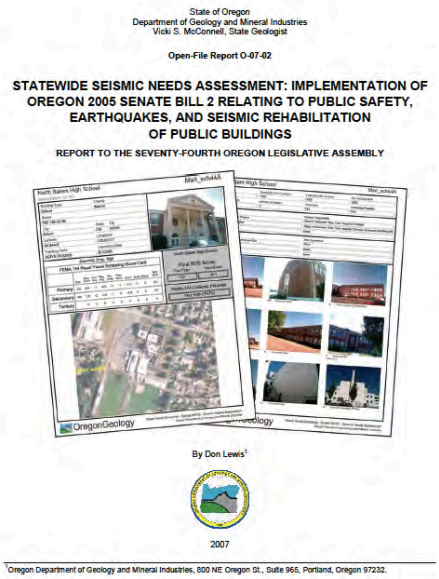
CHAPTER 6
THE REGULATION OF SEISMIC DESIGN

New insights are emerging, particularly the recognition that seismic design regulations affect all stakeholders concerned with the built environment. For architects, codes and the performance-based concepts behind them will require more involvement in seismic design decisions. As architects collaborate with owners and engineers to investigate options for the feasibility of building projects in earthquake country, they will need to understand the interactions between design decisions and seismic performance.

Effects of Architectural Design Decisions on Seismic Code Applications

IBC SEISMIC DESIGN PARAMETERS	ARCHITECTURAL DESIGN DECISIONS	SEISMIC DESIGN REQUIREMENTS
• Ground motion acceleration	• Site selection (national, regional)	• Affects design earthquake forces
• Site classes (soils properties) combined with ground motion accelerations determine the site coefficient	• Site selection (regional, local) • Building placement on a site	• Failure-prone soils require site-specific geotechnical investigation • Site coefficient affects design earthquake forces • Soils properties affect building response to ground motion
• Fundamental period of the structure	• Building height • Structural system selected	• Affects design earthquake forces • Affects building response to ground motion
• Seismic use groups • Occupancy importance factors	• Assignment of program spaces to buildings	• Affects eligibility for simplified analysis methods • Can require more stringent code requirements
• Seismic design category that relates structure importance to design accelerations	• Site selection for particular building uses	• Used to identify appropriate code procedures
• Building configuration classification	• Building size • Footprint geometry and massing • Organization of interior spaces • Structural framing patterns	• Used to modify analysis procedures specified by the code • Can require more extensive analysis requirements
• Response modification factor • System over strength factor • Deflection amplification factor • Redundancy coefficient	• Lateral load resisting system type • Materials of construction of the lateral load resisting system	• Affects design earthquake forces • Affects building response to earthquake forces

Transforming Building for Resilience
Building Stock Data Development



State of Oregon
Department of Geology and Mineral Industries
Vicki S. McConnell, State Geologist

Open-File Report O-07-02

STATEWIDE SEISMIC NEEDS ASSESSMENT: IMPLEMENTATION OF OREGON 2005 SENATE BILL 2 RELATING TO PUBLIC SAFETY, EARTHQUAKES, AND SEISMIC REHABILITATION OF PUBLIC BUILDINGS

REPORT TO THE SEVENTY-FOURTH OREGON LEGISLATIVE ASSEMBLY

By Don Lewis[1]

2007

[1]Oregon Department of Geology and Mineral Industries, 800 NE Oregon St., Suite 965, Portland, Oregon 97232.

OREGON STATEWIDE SEISMIC NEEDS ASSESSMENT

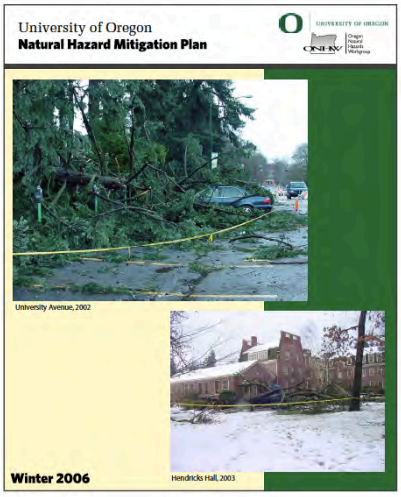
Oregon Department of Geology

Eastern Oregon Building Data Lead, Screening Methods Trainer

Summary of Seismic Risk for all Qualifying Sites & Buildings

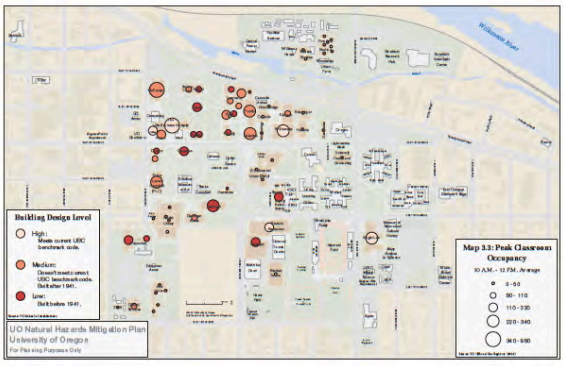
Seismic Needs Assessment District	# of Districts	# of Schools	# of Buildings	Score <0.0 FEMA 154-Based Collapse Potential: Very High	0.1-1.0: High	1.1-2.0: Moderate	>2.0: Low
Education:							
K12 Public School Districts & ESD	170	1101	2185	273	745	501	666
Community College Districts	17	179	184	20	73	33	58
Sum Education	*187*	*1280*	*2369*	*293*	*818*	*534*	*724*
Emergency:							
City Districts (Police & Fire Departments)	143		327	26	78	75	148
Rural Fire Protection Districts	191		440	13	62	62	303
County Sheriff's Offices	34		73	5	24	18	26
Oregon State Police	1		26	0	5	4	17
Port of Portland	1		1	0	0	0	1
Acute Care Hospitals	58		116	10	26	10	70
Sum Emergency	*428*		*983*	*54*	*195*	*169*	*565*
SUM ALL:			3352	347	1013	703	1289
				10%	30%	21%	38%

Collaborators:
Yumei Wang
Don Lewis
Carol Hasenberg
Tom Miller
Bill Burns
Natalie Richards
Sam Jensen
Henry Pierce
John Mikkelsen
Jared Fischer
Nathan Wallace
Andrew Tibbetts
Juan Hernandez



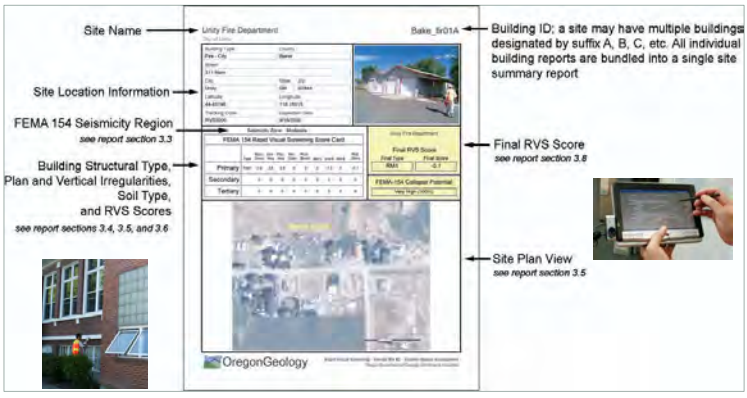
NATURAL HAZARDS MITIGATION PLAN
UNIVERSITY OF OREGON

Buildings Studies Lead



Collaborators:
Andre LeDuc
Bethany Johnson
Ken Kato
Erik Steiner
Steering Committee

Sponsor: FEMA



RAPID VISUAL SCREENING METHODS

Oregon Department of Geology

Principal Investigator

"Development of a New Methodology to Improve Building Inventory Collection"

Applied Technology Council

Review Panelist

FEMA 154: Rapid Visual Screening

Sponsors: FEMA, State of Oregon

Transforming Building for Resilience
International Outreach

"Implementation of Seismic Regulations for Nonstructural Components in Essential and Important Buildings in the United States"
pp. 171-180

ARCHITECTURAL TOPICS EXPERT

China-USA Symposium
for Advancement of Earthquake Sciences and Hazard Mitigation

Sponsors: NSF
Architectural Society of China
China Academy of Building Research
China Academy of Urban Planning & Design

China-USA Symposium
For the Advancement of
Earthquake Sciences and Hazard Mitigation Practices

The Conference Center of the National People's Congress
Beijing, China
October 19, 2010

China Academy of Sciences
President Lu Yongxiang and Members of the China Organizing Committee

Wenchuan Earthquake Memorial

Contributor at participatory planning workshops serving as a resource on best practices for seismic deign of buildings

Restoring Indigenous Identity

WORKSHOPS CONSULTANT

Post-Earthquake Planning
for Rural Taiwan
in the Aftermath of the
Chi-Chi Earthquake

A project of the National Taiwan University Building and Planning Research Foundation

Symposium speaker on US seismic design practice in Tokyo for practitioners, scholars, students and government agency representatives.

Contributor to study tour workshops hosted by the Japan Institute of Architects in Kobe.

Symposium respondent in Washington DC with presentations by Japanese Architects to an audience of US architects and government agency representatives.

ARCHITECTURAL EDUCATION EXPERT

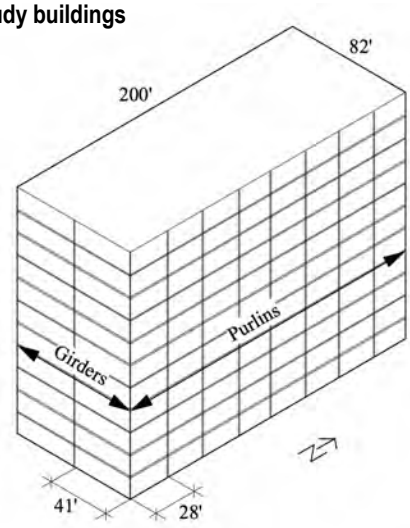
Japan-USA
Research & Practice Exchange

Architectural & Planning Lessons
from the Great Hanshin-Awaji
Earthquake

Sponsors: NSF
AIA
The Japan Institute of Architects

Transforming Building for Resilience Integrating Architecture & Engineering Practice

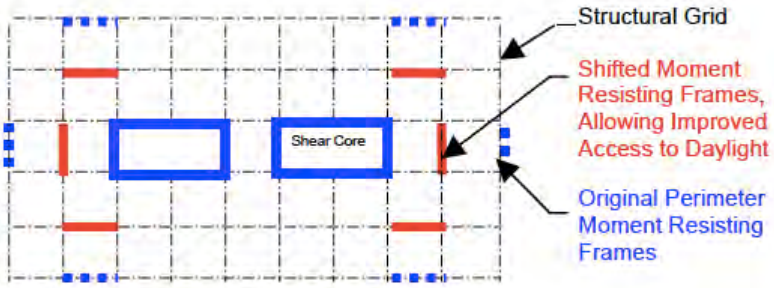
10 case study buildings



Principal Investigator

CONFIGURING STRUCTURE TO IMPROVE DAYLIGHT ACCESS IN MULTISTORY BUILDINGS

A project of
the University of Oregon
Energy Studies in Buildings Laboratory

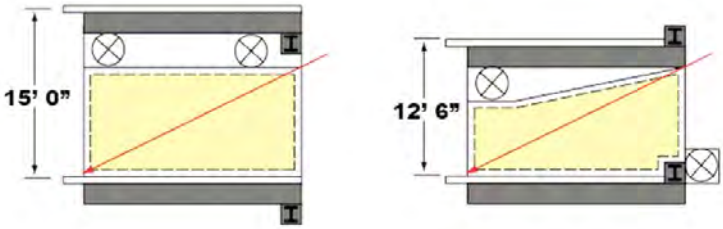


Move lateral load resisting systems from perimeters to interiors

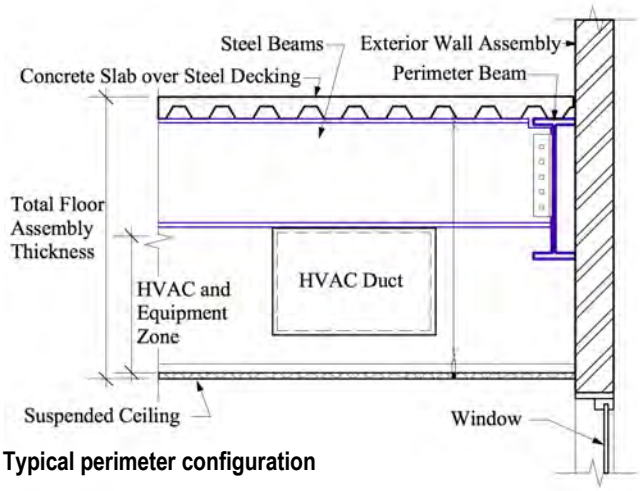
Using an interdisciplinary approach that treats daylighting as a system, we can generate economically viable alternatives to the structural and HVAC systems in multistory buildings that increase daylight in the building interior.

Collaborators:
G.Z. Brown
Arthur Johnson
Michael Hatten
Christopher Flint Chatto
Jeff Kline
Dale Northcutt

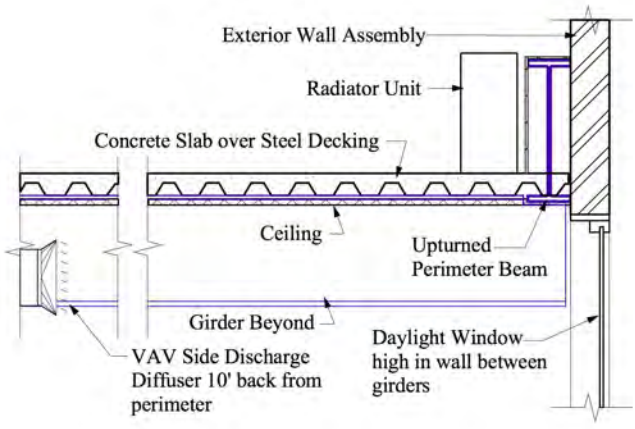
Sponsor:
Northwest Energy Efficiency Alliance



Shape perimeter zone ceilings, reconfigure spandrel beams, eliminate perimeter ducts



Typical perimeter configuration



Proposed reconfiguration

Transforming Building for Resilience Integrating Architecture & Engineering Practice

GREENING BUILDING STRUCTURES

GAP ANALYSIS RESEARCH IN SUPPORT OF PROFESSIONAL AND GRADUATE EDUCATION

Principal Investigator

Collaborators:
Chris Knowles
Jennifer Allen
Corey Griffin
Brian Lockyear
Kate Kamke

Sponsors:
Oregon Built Environment and Sustainable Technologies
Oregon Forest Research Institute

GREEN STRUCTURAL MATERIALS GAPS

PERCEIVED INCREASE IN COST

REGULATIONS THAT DO NOT RECOGNIZE NEW MATERIALS AND SYSTEMS

LACK OF AVAILABILITY OF GREEN MATERIALS

LACK OF READILY ACCESSIBLE, RELIABLE INFORMATION COMPARING MATERIALS AND SYSTEMS

NEED FOR MORE EFFECTIVE COLLABORATION AMONG GREEN MATERIALS EXPERTS AND STAKEHOLDERS

Due to their perceived higher cost, many green structural materials are currently eliminated from projects before the real costs are understood. Increased costs in the structural system could be offset by using less material elsewhere or reducing the size of other systems. Consequently, analysis should include structural system impacts on other aspects of the project. Barriers in the supply chain can be addressed by product manufactures to ensure availability as this study indicates there is clearly green materials demand in Oregon that is not currently being met.

Focus groups frequently responded that stakeholders need to know how work in an integrated design process where the different technical systems are more dependent on one another can increase the performance of the building and reduce the resources required to construct it. This would include a better understanding of how different stakeholders approach the design and construction process where current educational and professional models isolate stakeholders from one another.

GREEN MATERIALS CURRICULUM

1. **Principles of Green Building Materials**
2. **Economics of Green Building Materials**
3. **Regulation of Green Building Materials**
4. **Role of Materials in the Optimization of Green Building Design**
5. **Green Building Materials Leadership**
6. **Green Building Materials Research and Development**

A series of hybrid courses combine distance learning with a low residency immersion experience. By scheduling meetings during intersession periods, courses would be accessible to students in programs throughout Oregon without scheduling conflicts. Each course provides 4 graduate level quarter credits and requires approximately 120 hours of engagement, 40 of which would be completed during the on-site portion of the program. Courses would be offered by members of BEST(Portland State University, Oregon Institute of Technology, Oregon State University and the University of Oregon), with the objective of engaging faculty and graduate students in programs at all four schools.

To encourage students enrolled in programs in architecture, product design, engineering, materials science, business and other fields to consider participating, academic departments will be asked to review the courses for inclusion in their degree programs. After a two year period testing pilot courses, a refined cluster of green materials courses could form a 24 credit Green Building Materials Certificate Program for students enrolled in OUS degree programs and building industry professionals.