

STEEL COMPETITION

2011-2012 ACSA/AISC STEEL DESIGN STUDENT COMPETITION
CULINARY ARTS COLLEGE

Image
Category I: HOMELESS ASSISTANCE CENTER
1st Place, Homeless Assistance Help Center...mobile
Student: Igor Bialorucki, Warsaw University of Technology/University of Detroit Mercy
Faculty Sponsor: Anthony C. Martinico, University of Detroit Mercy

INTRODUCTION

The Association of Collegiate Schools of Architecture (ACSA) is pleased to announce the twelfth annual steel design student competition for the 2011-2012 academic year. Administered by the Association of Collegiate Schools of Architecture (ACSA) and sponsored by the American Institute of Steel Construction (AISC), the program is intended to challenge students, working individually or in teams, to explore a variety of design issues related to the use of steel in design and construction. Steel must be used as the primary structural material and contain at least one space that requires long-span steel structure, with special emphasis placed on innovation in steel design.

THE OPPORTUNITY

The 2011-2012 Steel Design Student Competition will offer architecture students the opportunity to compete in two separate categories.

Category I CULINARY ARTS COLLEGE challenges architecture students to design a Culinary Arts College in an urban setting. Steel construction offers students great benefits in this endeavor, as it is ideal for covering long-spans without sacrificing flexibility and aesthetic lightness, multi-story buildings, quick delivery and assembly in congested urban environments.

Category II OPEN submission design option will permit the greatest amount of flexibility for any building type.

CRITERIA FOR JUDGING

Criteria for the judging of submissions will include: steel as the primary structural material, at least one space that requires long-span steel structure, creative and innovative use of structural steel in the design solution, successful response of the design to its surrounding context, and successful response to basic architectural concepts such as human activity needs, structural integrity, and coherence of architectural vocabulary.

CONTENTS

Introduction/Challenge	2
Competition Organizers	3
Structural Steel	4
Category I CULINARY ARTS COLLEGE	5
Category II OPEN	7
Steel Resources	8
Competition Guidelines	9

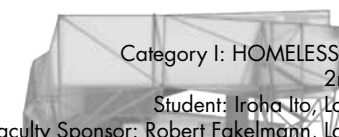


Image
Category I: HOMELESS ASSISTANCE CENTER
2nd Place, Resource Tent

Student: Iroha Ito, Louisiana Tech University
Faculty Sponsor: Robert Fakelmann, Louisiana Tech University

COMPETITION ORGANIZERS

ADMINISTRATIVE ORGANIZATION

The **Association of Collegiate Schools of Architecture** is a nonprofit, membership association founded in 1912 to advance the quality of architectural education. The school membership in ACSA has grown from 10 charter members to over 250 schools in several membership categories. These include full membership for all accredited programs in the United States and government-sanctioned schools in Canada, candidate membership for schools seeking accreditation, and affiliate membership for schools for two-year and international programs. Through these schools, over 5,000 architecture faculty are represented. In addition, over 500 supporting members composed of architecture firms, product associations and individuals add to the breadth of interest and support of ACSA goals. ACSA provides a major forum for ideas on the leading edge of architectural thought. Issues that will affect the architectural profession in the future are being examined today in ACSA member schools.

SPONSOR

American Institute of Steel Construction (AISC), headquartered in Chicago, is a non-profit technical institute and trade association established in 1921 to serve the structural steel design community and construction industry in the United States. AISC's mission is to make structural steel the material of choice by being the leader in structural-steel-related technical and market-building activities, including: specification and code development, research, education, technical assistance, quality certification, standardization, and market development. AISC has a long tradition of more than 80 years of service to the steel construction industry providing timely and reliable information.

STRUCTURAL STEEL

Steel should be used as the primary structural material with special emphasis placed on innovation in steel design. Structural steel offers a number of strengths in building design including high resiliency and performance under harsh and difficult conditions, (e.g., earthquakes and hurricanes) and offers the ability to span great distances with slenderness and grace. Steel can be shaped to achieve curved forms and can be erected quickly to meet tough construction schedules under almost any weather condition. Steel can be easily modified to satisfy the life cycle of a building including changing occupant requirements. Steel is the most recycled material in the world. Today structural steel is 97% recycled with the primary source of material being automobiles. It is the environmentally sound choice for a building material. Architects have praised the natural beauty of steel and are excited about exposing it in the design of their structures to emphasize grace, slenderness, strength and transparency of frame.

Membership to AISC is free to university faculty and full time students and AISC membership provides valuable benefits. Information can be found at www.aisc.org/universityprograms under membership.

Category I CULINARY ARTS COLLEGE

THE CHALLENGE

This project category is to develop a design for a Culinary Arts College. Steel construction offers students great benefits in this endeavor, as it is ideal for covering long-spans without sacrificing flexibility and aesthetic lightness, multi-story buildings, and quick delivery and assembly in congested urban environments. Steel must be used as the primary structural material and contain at least one space that requires long-span steel structure, with special emphasis placed on innovation in steel design.

The project will concentrate on formulating specific thoughtful concepts and designs and carrying these ideas to a detailed level. The project should be developed with an integrative approach to building materials and systems—structural, environmental, enclosure, etc.—while maintaining an overall design concept. Participants will develop a selected physical area of the project in greater detail considering the building's structural and technical issues (lighting, acoustics, sanitary facilities, mechanical, and environmental controls) through larger-scale drawings showing structure, mechanical systems, facades, fenestration, etc. Through rendered perspectives and elevations, the proposals should demonstrate surface qualities including material, color, texture, and light.

Along with structural, tectonic and technical issues above, designs should respond to context (larger regional influences of geography, topography and latitude), climate (sun, wind, light and water), and culture (patterns of interaction rising from human occupation of place). Projects should be designed in a socially and environmentally responsible manner. Additionally projects should demonstrate the manner by which they reduce dependencies on non-renewable resources.

The Culinary Arts College will draw from local restaurants for some of its faculty and will use them to provide externships for students. "On-location" sessions and walking tours will allow its students to experience everything from the behind-the-scenes action in the cities kitchens to the bustle of seasonal and farmers markets. Students will need to conduct research in the design of culinary arts educational facilities.

The general program is outlined below. The program should guide development of a rich sequence of spaces and uses, including integration of some type of outdoor space within the building related to your concept, the program, the site, or these in some combination.



Category I CULINARY ARTS COLLEGE

PROGRAM

Teaching Kitchens Professionally equipped teaching kitchens with top-quality, energy efficient commercial cooking equipment including ranges and ovens, refrigerators and mixers.	6 @	1250 sf each
Pastry Kitchen Professional pastry kitchen with steam-injected triple-deck ovens, and a professional-quality dough sheeter.		1250 sf
Classrooms	2 @	450 sf each
Demonstration Laboratory Kitchen arranged for faculty-conducted demonstrations for groups of students.		900 sf
Lecture Hall For lectures, exhibits, and audio-visual presentations. The lecture hall is an ideal space to highlight the use of long-span steel structure.		1500 sf
Library Reference library with computer terminals available to all students seven days a week.		1800 sf
Wine Room Must have full ventilation (so cooking odors from the pastry kitchens don't intrude), bright incandescent light and white tabletops (for accurate wine viewing), and ample bottle storage space (including temperature-controlled Sub-Zero refrigeration and built-in cabinetry).		650 sf
Student Lounge		450 sf
Bake Shop Must be accessible when school areas are closed and includes: seating area (250sf), service counter (75sf), kitchen area (175sf), food storage (50sf), and garbage / delivery area (50sf).		600 sf
Restaurant Student-run restaurant with its own kitchen (approximately one-third the areas of the restaurant) and a seating capacity for 80 people. The dining area of the restaurant is an ideal space to highlight the use of long-span steel structure.		3000 sf
Public Restrooms Must be handicapped accessible.		As Required by Code
Receiving Area Main storage area including walk-in refrigerator and freezer as well as dry storage space. Ingredients are distributed from this area to the individual kitchens.		900 sf
Trash Area		300 sf
Administrative Offices Director's Suite Including an office for the director and workspace for assistants, this suite supports the administrative business of the Institute (finances, planning, personnel, programming, public relations and building maintenance).		400 sf
Admissions Office		350 sf
Career Services		300 sf
Staff Room Provide a pleasant relaxing area for staff breaks.		250 sf
Faculty Area		400 sf
Outdoor Space(s)		TBD by Participant
Total Program Area (not including circulation, toilets and mechanical)		21,250 net square feet
Total Building Area		+/- 27,625 gross square feet

Category I CULINARY ARTS COLLEGE

SITE

The Culinary Arts College should be sited on a city lot to be chosen by the faculty sponsor and/or the student. The criteria for site selection include the following:

Size: the site should be no larger than a single city block

Context: the site should be located in an easily reached area of the city

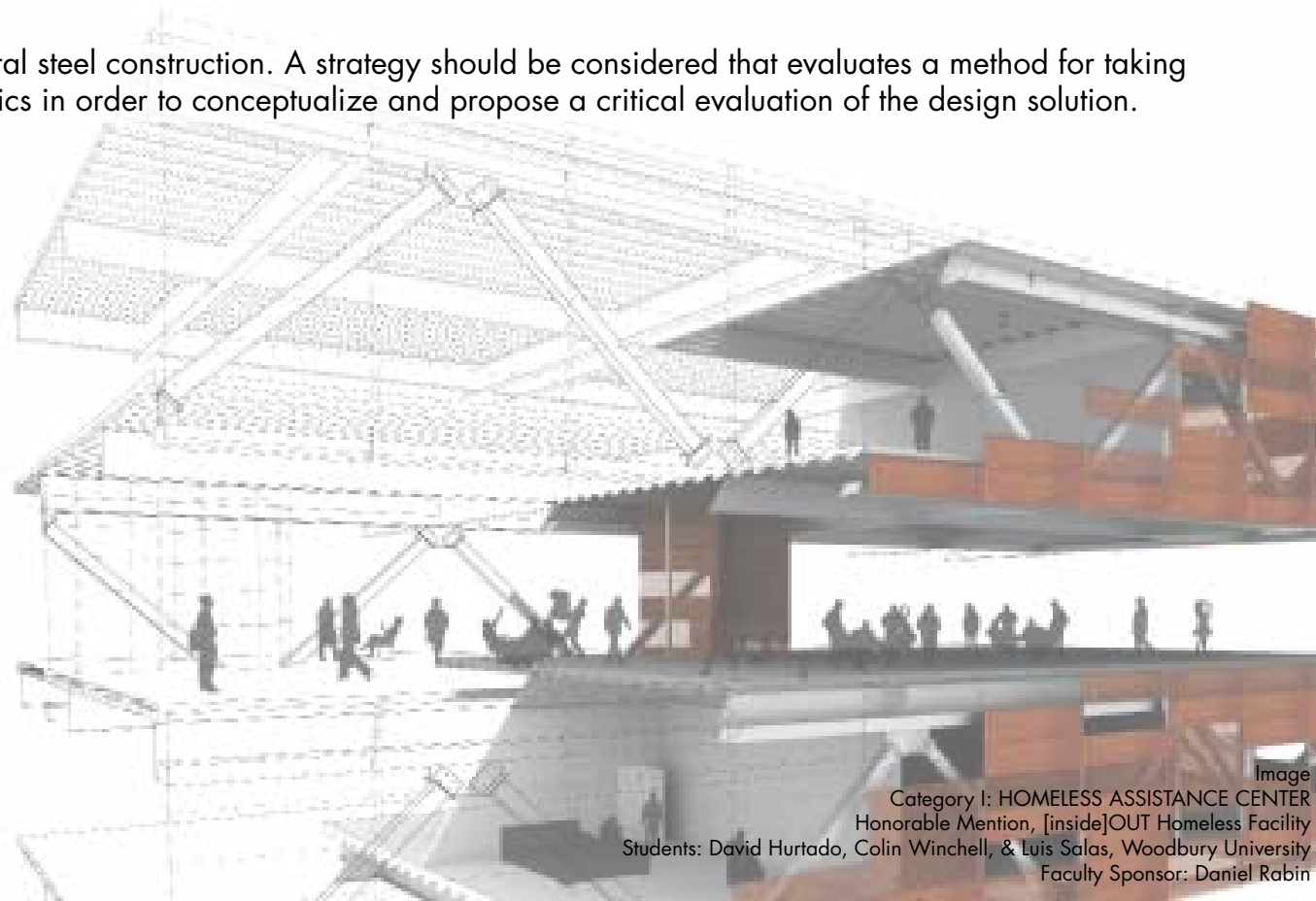
Access: the site should have access to public transportation such as light rail, commuter rail, subway, or bus

CODE INFORMATION

Refer to the International Building Code and the local zoning ordinance for information on parking requirements, height restrictions, set backs, easements, flood, egress, and fire containment. Accessibility guidelines need to be followed; refer to the Americans with Disabilities Act, along with the principals of Universal Design.

CONSTRUCTION TYPE

The design project must be conceived in structural steel construction. A strategy should be considered that evaluates a method for taking advantage of steel's properties and characteristics in order to conceptualize and propose a critical evaluation of the design solution.



Category II OPEN

THE CHALLENGE

The ACSA/AISC 2011-2012 Steel Design Student Competition offers architecture students the opportunity to participate in an open competition category with limited restrictions. This category will allow the students (with the approval of a faculty sponsor) to select a site and building program. Steel must be used as the primary structural material and contain at least one space that requires long-span steel structure, with special emphasis placed on innovation in steel design.

The Category II program should be of equal complexity as the Category I program.

Students entering Category II must submit a written building program along with the final submission.

RESTRICTIONS

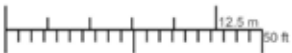
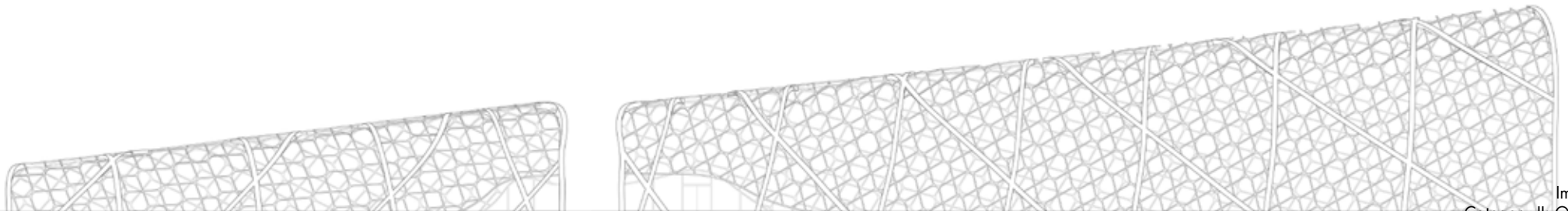
To enter the open competition students may select any building occupancy other than an educational facility. The structure must have at least one space requiring long-span steel structure. Students may not enter both categories of the competition.

CODE INFORMATION

Refer to the International Building Code and the local zoning ordinance for information on parking requirements, height restrictions, set backs, easements, flood, egress, and fire containment. Accessibility guidelines need to be followed; refer to the Americans with Disabilities Act, along with the principals of Universal Design.

CONSTRUCTION TYPE

The design project must be conceived in structural steel construction. A strategy should be considered that evaluates a method for taking advantage of steel's properties and characteristics in order to conceptualize and propose a critical evaluation of the design solution.



1st Place, Lacing the Gaze: Public Library and Cultural Centre for NGD, Montreal, Canada

Student: Yekaterina Artemchuk, McGill University
Faculty Sponsor: Martin Bressani, McGill University

Image

Category II: OPEN

STEEL RESOURCES (Category I & Category II)

Students are encouraged to research references that are related to both the topic of the competition and precedent projects that demonstrate innovative use of structural steel such as those listed below. An intention of all ACSA competitions is to make students aware that research is a fundamental element of any design solution.

STEEL CONSTRUCTION REFERENCES

AISC website. – www.aisc.org –

Modern Steel Construction: This authoritative monthly magazine is made available free of charge to architectural students taking steel design courses. This magazine covers the use of fabricated structural steel in the variety of structural types. It presents information on the newest and most advanced applications of structural steel in a wide range of structures.

- Issues of Modern Steel Construction (1996 - Present) are available online.
- Visit – www.modernsteel.com – to view them.
- John Fernandez. *Material Architecture*. (Spon Press, 2006)
- Victoria Bell and Patrick Rand. *Materials for Design*. (Princeton Architectural Press, 2006)
- Shulitz, Habermann, Sobek. *Steel Construction Manual*. (Birkhauser Basel 2000)
- Annette LeCuyer. *Steel and Beyond*. (Birkhauser Basel 2003)

Image
Category II: OPEN

2nd Place, Milwaukee Industrial Exhibition Center

Student: James Hinze, University of Wisconsin-Milwaukee

Faculty Sponsors: Gil Snyder, Frankie Flood, & Kyle Talbott, University of Wisconsin-Milwaukee

COMPETITION GUIDELINES (Category I & Category II)

SCHEDULE

February 15, 2012	Registration Deadline (free registration)
May 24, 2012	Submission Deadline
July 2012	Prize winners chosen by the design jury
Fall 2012	Competition Summary Publication

AWARDS

Winning students and their faculty sponsors will receive cash prizes totaling \$14,000. The design jury will meet in July 2012 to select winning projects and honorable mentions. Winners and their faculty sponsors will be notified of the competition results directly. A list of winning projects will be posted on the ACSA web site at www.acsa-arch.org and the AISC web site at www.aisc.org.

Winning students and their faculty sponsors will receive cash prizes totaling \$14,000 with distribution as follows:

Category I Culinary Arts College

First Prize	
Student	\$2,500
Faculty Sponsor	\$1,000
Second Prize	
Student	\$1,500
Faculty Sponsor	\$750
Third Prize	
Student	\$750
Faculty Sponsor	\$500

Category II Open

First Prize	
Student	\$2,500
Faculty Sponsor	\$1,000
Second Prize	
Student	\$1,500
Faculty Sponsor	\$750
Third Prize	
Student	\$750
Faculty Sponsor	\$500

A limited number of honorable mentions may also be awarded at the jury's discretion. ACSA reserves the right to alter prize categories and designate special awards per discretion of the competition jury. Prize winning submissions will be exhibited at the 2013 ACSA Annual Meeting and at the 2013 AIA National Convention and will be published in a competition summary catalog.

ELIGIBILITY

Because the support of AISC is largely derived from steel organizations in the U.S., the competition is open to students from ACSA member schools in the U.S., Canada and Mexico only. The competition is open to upper level students (third year or above, including graduate students). All student entrants are required to work under the direction of a faculty sponsor. Entries will be accepted for individual as well as team solutions. Teams must be limited to a maximum of five students. Submissions should be principally the product of work in a design studio or related class.

COMPETITION GUIDELINES (Category I & Category II)

REGISTRATION

A faculty sponsor is required to enroll students by completing an online registration form (available at www.acsa-arch.org) by February 15, 2012. Complete a form for your entire studio or for each individual student or team of students participating. Students or teams wishing to enter the competition on their own must have a faculty sponsor, who should complete the form. There is no entry or submission fee to participate in the competition. Each registered student and faculty sponsor will receive a confirmation email that will include information on how the student(s) will upload final submissions online. Please add the email address competitions@acsa-arch.org to your address book to ensure that you receive all emails regarding your submission.

During registration the faculty will have the ability to add students, add teams, assign students to teams, and add additional faculty. Registration is required by February 15, 2012, but can be changed, edited, and added to until a student starts a final submission; then the registration is no longer editable. Faculty may assign a "Faculty Representative" to a registered student. This "Faculty Representative" will have access to change, edit, and add to the registration.

FACULTY RESPONSIBILITY

The administration of the competition at each institution is left to the discretion of the faculty within the guidelines set forth in this document. Work on the competition should be structured over the course of one semester during the 2011-2012 academic year.

EVALUATION CRITERIA

Each faculty sponsor is expected to develop a system to evaluate the students' work using the criteria set forth in this program. The evaluation process should be an integral part of the design process, encouraging students to scrutinize their work in a manner similar to that of the jury. The final result of the design process will be a submission of up to four presentation boards describing the design solution. In addressing the specific issues of the design challenge, submissions must clearly demonstrate the design solution's response to the following requirements:

- An elegant expressive understanding of the material – Steel;
- A strength of the argument and the proposal's ability to support the concept for the design (Category I);
- An articulate mastery of formal concepts and aesthetic values;
- A mature awareness and innovative approach to environmental issues;
- A thorough appreciation of human needs and social responsibilities;
- A capability to integrate functional aspects of the problem in an architectural manner, and
- A capacity to derive a design, using steel, with the maximum innovation and possibility.

COMPETITION GUIDELINES (Category I & Category II)

REQUIRED DRAWINGS

Each presentation must directly address the criteria outlined in the Design Challenge and Criteria for Judging and must include (but are not limited to) the following required drawings: site plan showing the surrounding buildings, topography, and circulation patterns; floor plans; elevations and building sections sufficient to show site context and major program elements; large scale drawing(s), either orthographic or three dimensional, illustrating the use of structural steel; a three dimensional representation in the form of either an axonometric, perspective, or model photographs, one of which should illustrate the character of the project. Submission must include:

- 4 digital boards at 20" x 20";
- illustrate graphically or otherwise the use of steel construction;
- a design essay or abstract.

Submissions that do not adhere to the program criteria outlined must provide a program brief (required for all entrants in Category II – OPEN). Incomplete or undocumented entries will be disqualified. All drawings should be presented at a scale appropriate to the design solution and include a graphic scale and north arrow.

DIGITAL PRESENTATION FORMAT

Submissions must be designed on no more than four 20" x 20" digital boards. The names of student participants, their schools, or faculty sponsors, must NOT appear on the boards.

All boards are required to be uploaded through the ACSA website in Portable Document Format (PDF) or image (JPEG) files. Participants should keep in mind that, due to the large number of entries, preliminary review does not allow for the hanging end-to-end display of presentation boards. Accordingly, participants should not use text or graphics that cross over from board to board. The names of student participants, their schools, or faculty sponsors, must NOT appear on any of the submitted material.

DESIGN ESSAY or ABSTRACT

A brief essay, 500 words maximum, (in English) is required as part of the submission describing the most important concepts of the design project. Keep in mind that the presentation should graphically convey the design solution and context as much as possible, and not rely on the design essay to convey a basic understanding of the project. The names of student participants, their schools, or faculty sponsors, must NOT appear in the design essay. This abstract is included in the final online submission, completed by the student(s) in a simple copy/paste text box.

COMPETITION GUIDELINES (Category I & Category II)

ONLINE PROJECT SUBMISSION

The student is required to submit the final entries that must be uploaded through the ACSA Competition website at www.acsa-arch.org by 5:00 pm, Eastern Time, on May 24, 2012. If the Submission is from a team of students all student team members will have the ability to upload the digital files. Once the final submit button is pressed no additional edits, uploads, or changes can be made. Once the final Submission is uploaded and submitted each student will receive a confirmation email notification. You may "save" your submission and return to complete. Please note, the submission is not complete until the "complete this submission" button has been pressed. For team projects: each member of team projects may submit the final project.

A final Submission upload must contain the following:

- Completed online registration including all team members and faculty sponsors;
- Each of the four 20"x20" boards uploaded individually as a high resolution Portable Document Format (PDF) or image (JPEG) files;
- A design essay or abstract (simple copy/paste text box completed during submission);
- A competition program (2,000 word max in a simple copy/paste text box during submission).

Winning projects will be required to submit high resolution original files/images for use in competition publications and exhibit materials.

FOR MORE INFORMATION

Program updates, including information on jury members as they are confirmed, may be found on the ACSA web site at www.acsa-arch.org.

Additional questions on the competition program and submissions should be addressed to:

Eric W. Ellis, Director of Operations and Programs
Association of Collegiate Schools of Architecture
1735 New York Avenue NW
Washington, DC 20006
Tel: 202.785.2324
email: eellis@acsa-arch.org

Competition Program written and developed by: Ann Pitt, Wentworth Institute of Technology; Carol Burns, Taylor & Burns Architects/Wentworth Institute of Technology; Eric Ellis, ACSA; & Nancy Gavlin, AISC.



Image
Category II: OPEN
Honorable Mention, PULSE,
Student: Thomas Fagan, California Polytechnic State University, SLO
Faculty Sponsor: Thomas Fowler IV, California Polytechnic State University, SLO