

2014-2015 ACSA/AISC  
**LIBRARY & OPEN**

Images | 2012-13 Steel Competition Honorable Mention *Quilt of enLIGHTenment*  
Student: Danielle Asptz, Faculty Sponsor: Thomas Fowler, California Polytechnic State U.

student design  
**STEEL COMPETITION**

## **INTRODUCTION**

The Association of Collegiate Schools of Architecture (ACSA) is pleased to announce the fifteenth annual steel design student competition for the 2014-2015 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.

## **ADVANTAGES OF STEEL**

Structural steel offers a number of benefits in building design including the capacity to bear great loads in tension and compression, high resiliency and performance under harsh and difficult conditions, (e.g., earthquakes and hurricanes) and the ability to span great distances with minimum material. Steel can be shaped by many processes, ranging from standard rolled sections to custom castings and digitally generated components. It can be prefabricated and delivered for site assembly, and it can be erected quickly under almost any weather condition to meet tight construction schedules. Similarly, steel's wide use for building cladding highlights its durability, technical capabilities and aesthetic versatility.

Steel can be easily modified during the life cycle of a building to accommodate changing occupant requirements. As the most recycled material in the world, steel is an environmentally sound building material choice. Today, structural steel is 97% recycled with the primary source being automobiles. Architects praise the natural beauty of steel and are excited about exposing it in the design of their structures to emphasize grace, slenderness and strength, and in their building envelopes to enhance environmental performance and aesthetic character.

## **THE OPPORTUNITY**

The 2014-2015 Steel Design Student Competition will offer architecture students the opportunity to compete in two separate categories.

### **Category I LIBRARY**

Challenges students to envision a library that is an open source exchange for all forms of information and entertainment, serving a diverse public, and playing a critical role as a cultural agent in the community.

*“Our ambition is to redefine the Library as an institution no longer exclusively dedicated to the book, but as an information store where all potent forms of media – new and old – are presented equally and legibly. In an age where information can be accessed anywhere, it is the simultaneity of all media and, more importantly, the curatorship of their contents that will make the Library vital.” -- Rem Koolhaas*

### **Category II OPEN**

Challenges students to select a site and building program using steel as the primary material.

# Competition ORGANIZERS

## **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 90 years of service to the steel construction industry providing timely and reliable information.

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](http://www.aisc.org/universityprograms) under memberships.

## **ADMINISTRATIVE ORGANIZATION**

The **Association of Collegiate Schools of Architecture** (ACSA) 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 members 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.

# DESIGN GUIDELINES

## **USE OF STEEL**

Steel must be used as the primary structural material. Design proposals must contain at least one space/element that requires long-span steel structure, with special emphasis placed on innovation in steel design. The most compelling proposals will inevitably integrate the use of steel into the design of the project at multiple levels, from primary structure to building envelope and tectonic details.

## **INTEGRATED DESIGN**

Design proposals must reflect a clear conceptual strategy, which is resolved in built form at a detailed level. The project should be developed with an integrative approach to the innovative use of building materials and systems—spatial, structural, environmental and enclosure.

Participants will develop a selected physical area of the project in greater detail considering the building's systems through larger scale drawings showing structure, environmental strategies, building envelope and interior spaces. Through rendered perspectives and elevations, the proposals should demonstrate surface qualities including material, color, texture, and light.

Together with the integrated resolution of structural, tectonic and technical issues, projects should be designed in a socially and environmentally responsible manner. Design proposals should respond to the physical context (geography, topography and latitude), climate (sun, wind, light and water), and culture (patterns of interaction rising from human occupation). Projects should demonstrate reduced dependency on non-renewable resources and the integration of environmental responsibility with the architectural vocabulary of the proposal.

## **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. All proposals must be designed to meet requirements for accessibility; for guidelines, refer to the Americans with Disabilities Act and the principles of Universal Design.

## **CRITERIA FOR JUDGING**

Submissions must clearly represent the selected program. 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 – deployed with maximum innovative potential
- A strong conceptual strategy translated into a coherent integrated design proposal
- An articulate mastery of formal concepts and aesthetic values
- A compelling response to the physical and cultural context of the scheme
- A mature awareness and innovative approach to environmental issues
- A thorough appreciation of human needs and social responsibilities

## REQUIRED SUBMISSION DOCUMENTS

Submissions must include (but are not limited to) the following required drawings:

- Three-dimensional representations - in the form of axonometrics, perspectives showing the proposal in its context, montages and/or physical model photographs – to illustrate the character of the project
- Site plan showing proposal in its context of surrounding buildings and topography, together with details of access/circulation
- Building/site sections sufficient to show site context and major spatial and program elements
- Floor plans to show program elements, spatial adjacencies and navigation strategies
- Large scale drawing(s), either orthographic or three dimensional, illustrating:
  - the use and detailing of steel for building structure and/or envelope
  - integrated design

Final submissions must contain the following:

- **Up to four 20"x20" boards** uploaded individually as a high resolution PDF or JPEG files
- **A design essay/abstract** (300 words maximum)  
A brief essay describing the most important concepts of the design project. Keep in mind that the presentation should graphically convey the design solution and context, 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.
- **A program summary** (1,000 words maximum) is optional for Category I, but required for Category II. This should list all interior and exterior spaces and areas. Include total net and gross areas calculations.

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. The site plan should include a north arrow.

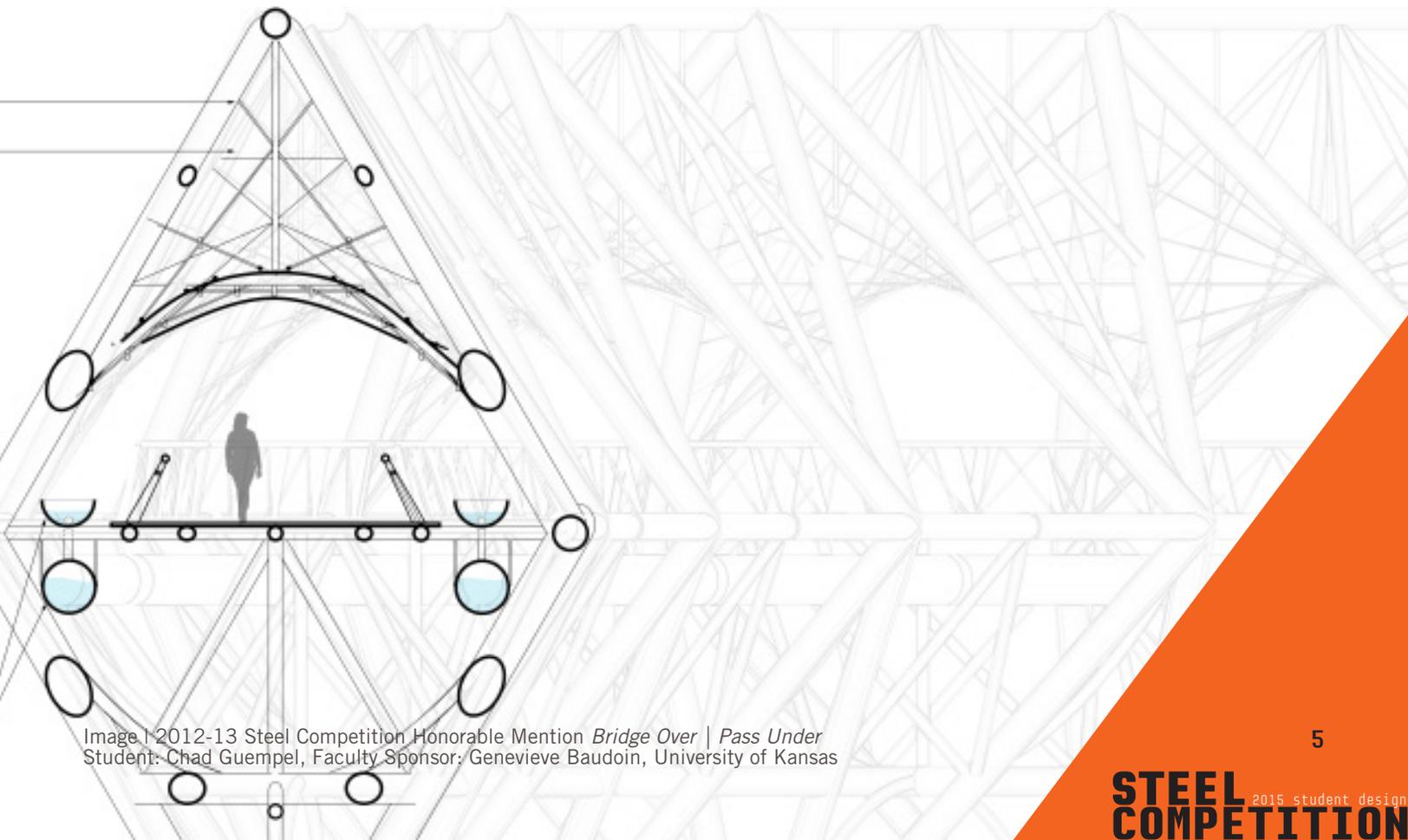


Image | 2012-13 Steel Competition Honorable Mention *Bridge Over | Pass Under*  
Student: Chad Guempel, Faculty Sponsor: Genevieve Baudoin, University of Kansas

# Category I **LIBRARY**

## **OVERVIEW**

The library – a place where knowledge is collected, curated and disseminated - is one of the oldest and most distinguished of building types. Ancient civilizations around the world painstakingly recorded and stored information on stone tablets, papyrus scrolls and animal skins. These collections of information were managed by the privileged and powerful – emperors, kings, generals, priests and scholars.

The mechanical printing press replaced highly prized handmade artifacts with mass produced documents on paper. This technological development enabled the unrestricted circulation of information and ideas, which in turn spurred political revolutions and religious reformations. Expanding literacy gave birth to the public library. Free public libraries, which provide services to all and feature open stacks that allow people to choose books for themselves, have contributed significantly to political and economic progress.

The library continues to evolve and embrace new forms of mass communication, which are reshaping our world. Like the building type, the book itself has changed dramatically – from treasured work of art to virtual electronic formats. In addition, libraries collect music, film and other audiovisual media. To reinforce local on-site resources, they have digital access to collections worldwide.

The library today is an open source exchange for all forms of information and entertainment. Serving an increasingly diverse public, the library must now accommodate many forms of social interaction, both face-to-face and digital. Despite the ability to download all forms of media anywhere and at any time, the library, through the social and information networks it fosters, continues to play a critical role as cultural agent in the community.

## **THE DESIGN**

The design of the library should be guided by the principles of innovation, creativity, identity, sustainability, functionality and efficiency. Your proposal should take a strong conceptual position about the changing nature of the library as a building type and as a mirror of contemporary culture.

## **THE SITE**

Your proposal is to be a central library for a population of your choosing. It may be located in a city, town, suburb or university. The choice of site should position the library to play a central functional and symbolic role in the life of its community.

## **THE PROGRAM**

The total area of the program may range between **30,000 – 100,000 square feet** and should be compatible with the needs of the population served.

The circulation systems of the library should be designed to accommodate the differing needs of staff, patrons and the general public. Library staff should be able to circulate between offices and workrooms in private. Open access to collections for library users must be balanced with the need for all patrons to pass through security screening before leaving the building. Facilities for the general public must be able to operate both when the library is open as well as independently outside library hours.

## **PROGRAMMATIC SPACES**

### **Entrance**

Reception/information; reference and periodicals; secure return accessible from outside; public cloakroom/lockers/restrooms

### **Collections**

Spaces for storage, display and checking out of books, music, film and other relevant media

### **Active Spaces**

Spaces for individual and group use of collections and digital media; acoustically isolated classroom(s); meeting room(s)

### **Library Staff Facilities**

Reception area and offices; circulation workroom for sorting and repairing returned materials; staff lockers and lounge

### **General Public Facilities**

Café; forum for readings, talks and/or performances with relevant support spaces

### **Building Support**

Public/staff parking as appropriate for the context; loading dock for library materials, building supplies and trash; furniture/equipment/supplies storage; building maintenance staff office(s), lockers and lounge

### **Exterior Spaces**

Secure exterior space for library users and/or outdoor space for the general public

# Category II OPEN

## THE CHALLENGE

The ACSA/AISC 2014-2015 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. The selected program should be at a minimum of equal complexity as the Category I Library program.

The design should be guided by the principles of innovation, creativity, identity, sustainability, functionality and efficiency.

*\* Students may not enter both categories of the competition.*

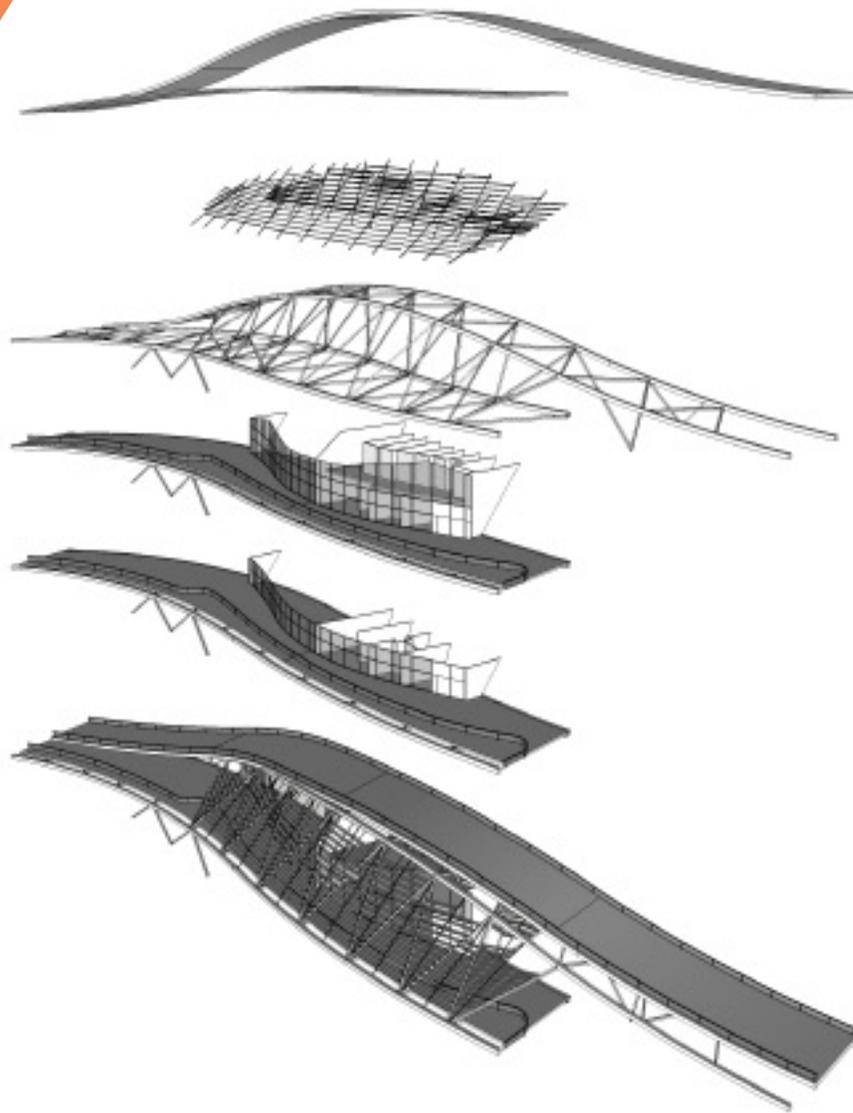


Image | 2012-13 Steel Competition First Place *Stream\_Line*  
Students: Christopher Garrow, Heather Martin, Kaitlin Shenk  
Faculty Sponsor: Donald Dunham, Brian Johnston, Thomas Kirchner, Lisa Philips & Barbara Macaulay  
Philadelphia University

# Category I & II RESOURCES

## RESOURCES

An intention of all ACSA competitions is to make students aware that research is a fundamental element of any design solution. Students are encouraged to research material properties and methods of steel construction, as well as precedent projects that demonstrate innovative use of structural steel.

## STEEL CONSTRUCTION REFERENCES

1. AISC website: [www.aisc.org](http://www.aisc.org)
2. 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](http://www.modernsteel.com) to view them
3. Terri Meyer Boake. Understanding Steel Design: An Architectural Design Manual. (Birkhäuser 2013)
4. John Fernandez. Material Architecture. (Spon Press, 2006)
5. Victoria Bell and Patrick Rand. Materials for Design 2. (Princeton Architectural Press, 2014)
6. Shulitz, Habermann, Sobek. Steel Construction Manual. (Birkhäuser Basel 2000)
7. Annette LeCuyer. Steel and Beyond. (Birkhäuser Basel 2003)

# Category I & II RULES

## SCHEDULE

**March 25, 2015** Registration Deadline  
**May 20, 2015** Submission Deadline  
**August 2015** Winners Announced  
**Fall 2015** Publication of Summary Book

## AWARDS

First, second, and third prizes will be awarded in each of the two categories, in addition to a selected number of honorable mentions, at the discretion of the jury. 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](http://www.acsa-arch.org) and the AISC web site at [www.aisc.org](http://www.aisc.org). A total of \$14,000 will be distributed in the following manner:

### Category I LIBRARY

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

## ELIGIBILITY

Because the support of AISC is largely derived from steel companies whose markets are mainly in the U.S., the competition is open to students from ACSA Full and Candidate Member Schools from the U.S. and Canada, as well as ACSA Affiliate Members Schools from 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 teams. 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.

## REGISTRATION

Students must register by March 25, 2015. There is no entry or submission fee to participate in the competition. Individual students may register themselves. If you are working on a team, nominate a single team member to complete registration.

- To register, students must have an ACSA account. If you do not, create one here: <http://www.acsa-arch.org/forms/applications/NewUserPublic/>
- Click “Register Now” on the steel competition website. You will be asked to sign in with your ACSA username and password to begin the registration process.
- If you are working on a team, add your teammates to your registration by clicking “Add Members.”
- To confirm that you are working with a faculty advisor at an ACSA member school, let us know their name and email address, and they will automatically be sent an email to confirm your competition registration.
- You will receive confirmation emails from [competitions@acsa-arch.org](mailto:competitions@acsa-arch.org). Make sure to check your spam box just in case! Please add us to your safe sender list so that you don’t miss any communication from us.

## 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 2014-2015 academic year. 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.

## ONLINE SUBMISSION INSTRUCTIONS

Students are required to submit final entries by 5:00 pm, Eastern Time, on May 20, 2015. You may “save” your submission and return to complete, however once you submit, no additional changes can be made. You will receive a confirmation email upon receipt of your final submission.

- To submit your final project, click “Submit Now” on the steel competition website. You will be asked to sign in with your ACSA username and password if you are not already logged in.
- Complete all required text fields and upload your submission boards.
- Reminder that submissions must remain anonymous. **Never include your name or school name on your boards, in title of your project, or in the description of your project.**

Final submission must contain the following:

- **Up to four 20”x20” boards** uploaded individually as a high resolution PDF or JPEG files
- **A design essay/abstract** (300 words maximum)  
A brief essay describing the most important concepts of the design project. Keep in mind that the presentation should graphically convey the design solution and context, 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.
- **A program summary** (1,000 words maximum) is optional for Category I, but required for Category II. This should list all interior and exterior spaces and areas. Include total net and gross areas calculations.

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/competitions](http://www.acsa-arch.org/competitions).

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

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202.785.2324

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Competition Program written and developed by: Annette W. LeCuyer, University at Buffalo, SUNY; Eric Wayne Ellis, ACSA; Angela DeGeorge, ACSA & Nancy Gavlin, AISC.

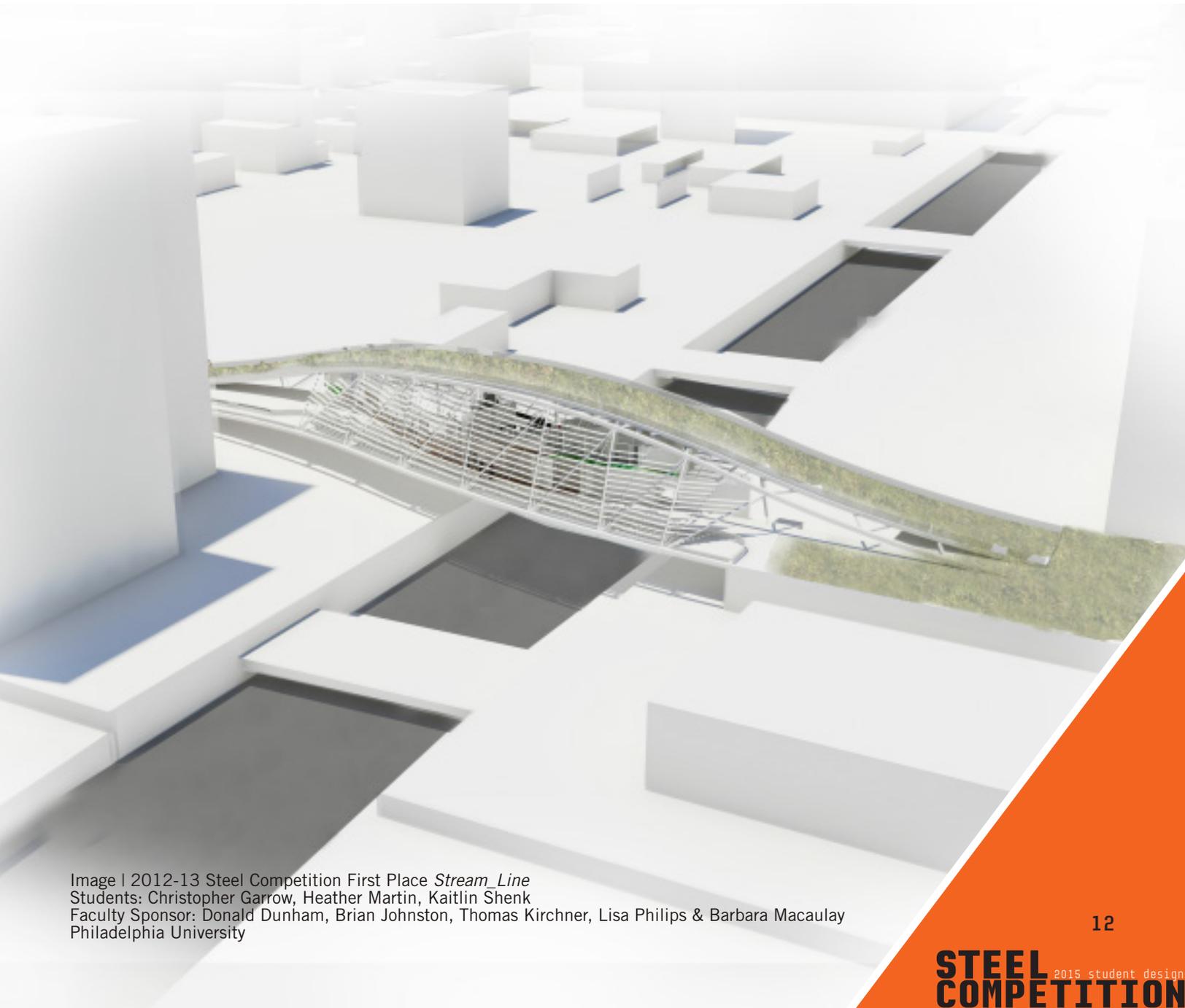


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