THIS IS WORKING

Education is Casting a Solid Future

Annual Report

I didn't know the design potential of precast. It's not all double Ts and parking garages.

- Christopher Penfold University of Southern California student



The Foundation impacts how students learn about our products in ways we never dreamed of just a decade ago.

Thomas J. D'Arcy, Johanna Nemetz and Greg Force at Clemson University.

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Letter from the Chairman

2015 was my final year as chairman of the PCI Foundation. It's been an exciting time to watch the work of the foundation grow and see how we have been able to create a new program unlike any other.

Those of us who have been in the precast prestressed concrete industry for many years understand the value that an educated customer base brings to our work—in jobs created, projects put forward, and in time saved in educating our client base. PCI Foundation created all these benefits by developing precast-centric education partnerships with schools and universities educating our key base: architects, engineers, and construction managers. Since that time, we have worked with 13 schools, 24 professors, more than 900 students, and countless PCI members and regions to create these new programs. In addition, we have evidence that the programs have produced graduates who apply their training in projects in their employers' design offices.

Now that we can look back at almost of decade of work, we are glad to see that we are making a difference or, as we like to say around here, "This is Working!"

I got a chance to see the progress of our work in action on a recent visit to the studio at Clemson University. Professor Carlos Barrios invited Johanna Nemetz, one of last year's students, to a the presentation the students were making to the PCI Foundation Board of Trustees during our annual meeting. Johanna is now a grad student at Clemson and she brought with her a project she was working on. It came as no surprise that she had built on what she learned in the studio and wanted to design her next project in precast, too. Her creative project solution showed that her understanding of precast/prestressed concrete had significantly advanced.

After a semester working with our industry, she was excited to continue learning more about precast concrete design, had really started challenging herself with more complex projects, and she looks forward to employing precast/prestressed solutions in her workplace.

This example portrayed the high caliber of students attending our studios and their enthusiasm for the application of precast/prestressed concrete.

It's been nearly 10 years of real progress working with enthusiastic trustees achieving results we can be proud of. Our goal of extending this program to more universities all across the country can only occur with the support of all the industry.

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The PCIF Trustees are a dedicated group of individuals concerned with furthering the interests of the precast concrete industry through education programs.

2015 PCI Foundation Trustees

The work of the PCI Foundation is carried out by its Board of Trustees, a dedicated group of individuals concerned with furthering the interests of the precast concrete industry through education programs. Marty McIntyre is the executive director and reports to the PCIF Board of Trustees.

2015 Officers

Chairman Thomas J. D'Arcy, The Consulting Engineers Group Inc.

Vice Chairman Patrick W. Hynes, Knife River Prestress

Secretary C. Douglas Sutton, Purdue University School of Civil Engineering

Treasurer James R. Voss, JVI Inc.

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Todd Adams, JVI Inc. Greg Force, Tindall Corp. Leon H. Grant, Coreslab Structures (CONN) Inc. Dean Gwin, Gate Precast Company Tom Kelley, Gage Brothers Robert H. Konoske, Coreslab Structures (LA) Inc. Michael W. LaNier, Berger/ABAM Engineers Robert McCormack, Encon Marianne Methven, Hamilton Form Company Ltd.

Richard Miller, University of Cincinnati

Robert Risser, Precast/Prestressed Concrete Institute

Bill Simmons



The PCI Foundation relies on members of the precast concrete industry to fund its programs. Thanks to the many generous donations we have received, we have been able to grow successful, interesting, and meaningful educational programs in conjunction with a number of prestigious universities.

We are on the brink of even greater success should we obtain more support. To make a donation to the PCI Foundation, visit our website (www.pci-foundation.org) or call Marty McIntyre at 708-386-3715.

The Clark Pacific visit counts among the most informative experiences within my time at USC.

- Sean Gowin University of Southern California student

PCIF Industry Partners-Program Participation

The key component to making PCI Foundation education programs work is the commitment of local industry partners. Financial contributions are noted elsewhere in this report, however many PCI member companies add employee time and talent, as well as materials and other resources that help make the programs we sponsor exciting and successful. Members of these firms go into classrooms to share their experience and knowledge, open their doors for tours, provide information about current and past projects, provide design details and materials, take busloads of students on road trips to explore precast design, conduct two day seminars, and even contribute samples of student work.

During 2015, the following companies provided in-kind support to the programs being

funded by the PCI Foundation:

- Blakeslee Prestress Inc. Branford, Connecticut
- Clark Pacific
 Fontana, Irwindale, West Sacramento
 & Woodland, California
- Coreslab Structures (CONN) Inc. Thomaston, Connecticut
- Coreslab Structures (LA) Inc. Perris, California
- Craig Gaulden Davis Greenville, South Carolina
- DeVita & Associates Inc. Greenville, South Carolina
- Gage Brothers
 Sioux Falls, South Dakota
- Gate Precast Company Hillsboro, Texas
- Gate Precast Company Oxford, North Carolina
- Georgia/Carolinas PCI Atlanta, Georgia
- Hamilton Form Company Ltd. Fort Worth, Texas

- JVI Inc. Lincolnwood, Illinois
- LS3P Associates Ltd. Greenville, South Carolina
- Metromont Corporation Greenville, South Carolina
- PCI Midwest Bloomington, Minnesota
- PCI Northeast Belmont, Massachusetts
- PCI West Glendale, California
- StructureCast Bakersfield, California
- Thermomass Boone, Iowa
- Tindall Corp. Spartanburg, South Carolina
- US Formliner Athens, Georgia
- Wells Concrete Wells, Minnesota



During 2015, we tracked down many of the students in our programs who are now contributing to the precast industry as clients, designers, or precast industry employees.

THIS US WORKING

Alex Koenadi, Solomon Cordwell Buenz. Photo: Sylvia Schnackenburg.

Today, **Alex Koenadi works in the Chicago office of Solomon Cordwell Buenz**, an award-winning architecture, interior design, and planning firm with offices in Chicago, Ill., and San Francisco, Calif. Since he joined the firm in 2010, he has worked on several precast concrete projects. The firm has done extensive work in commercial and institutional, multifamily residential, hospitality, retail, corporate office, higher-education, laboratory, and transportation facilities. But a few years ago, Alex was a student in the first Precast Studio sponsored by the PCI Foundation at the Illinois Institute of Technology with professor Tom Brock.

2015 in Review

When architecture student Alex Koenadi left the Illinois Institute of Technology after participating in a Precast Studio he went to work for a large architecture firm in Chicago that designs many of its projects in precast. Paula Shahery, a University of Southern California graduate, is now designing a precast project for Joshua Tree National Park that started as part of the precast studio there. Coreslab Structures (LA) hired engineering student Dane Cortes shortly after he finished school at CalPoly Pomona where he studied precast as part of a PCI Foundation program.

This is working! During 2015, we tracked down these and many other past students in our programs who are now contributing to the precast industry—as clients, designers, or precast industry employees.

With the help of our generous donors, local participants, and the ingenuity of the professors and students, we are seeing the teaching of precast design and construction grow at more universities than ever before.

This report is a snapshot of our progress in 2015. During 2015, we had active education programs or studios at six schools in their departments of architecture, engineering, or construction management. They are:

- University of Texas at Arlington (led by Bradley Bell)
- University of Southern California (led by Doug Noble and Karen Kensek)
- Rhode Island School of Design (led by Brett Schneider)
- South Dakota State University (led by Brian Rex and Federico Garcia Lammers)
- Clemson University (led by Carlos Barrios)
- Minnesota State at Mankato (led by Farhad Reza and Mohamed Diab)

More complete descriptions of these programs are printed elsewhere in this report.



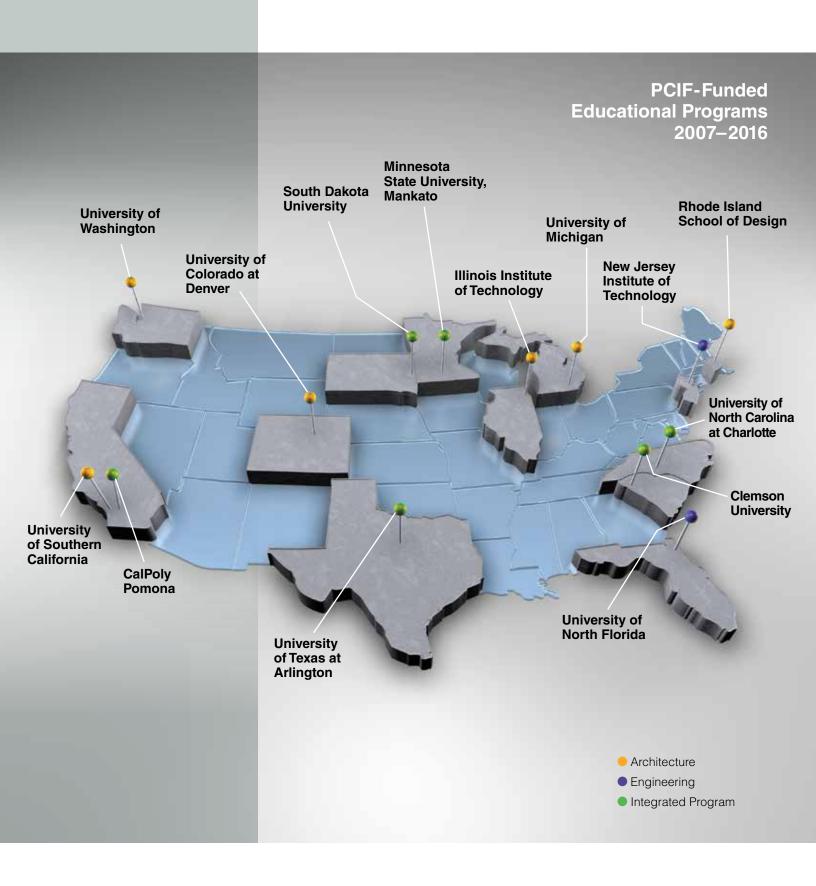
Paulina Sharery, Marmol Radziner Photo: Wesley Luna.

Paulina was one of the first students to take part in the precast studio at the University of Southern California with Doug Noble and Karen Kensek. Today, **she works for Marmol Radziner + Associates in West Los Angeles, Calif.** Additionally, she is working on a project for Joshua Tree National Park that stemmed directly from her work with the precast studio.



Dane Cortes, Coreslab Structures Photo: Bob Konoske, Coreslab Structures.

Dane Cortes took the precast concrete studio at the Cal Poly Pomona with Professional Practice Professor Mikhail Gershfeld, S.E., just prior to graduating in the fall of 2015 with a degree in civil engineering. The experience helped shape his plans for the future and started him on the **road to a career working at Coreslab Structures in Perris, Calif.,** where he is currently employed as a project engineer.



Programs Continue After Funding

PCI Foundation acts as an incubator for precast programs at the university level by working with local partners and professors to create strong programs that can eventually stand on their own. In many cases, even after the Foundation's funding is complete, the schools continue the work they began through the partnerships created with local industry. Schools where funding has finished that continue to work with local partners include:

- University of North Carolina at Charlotte
- CalPoly Pomona
- University of North Florida

In addition to helping create sustained precast programs at these schools, we also work to develop a strong relationship between the school, its professors, and the precast industry. In fact, Professor Adel ElSafty, professor of civil environmental engineering at the University of North Florida and a PCIF program instructor, was named 2015 Educator of the Year by PCI.

New Programs Ahead

During 2015, the PCIF Academic Council, headed by Doug Sutton, additionally worked with three universities who will see programs commence in 2016.

- University of Michigan
- University of Washington
- University of Colorado at Denver

PCI Foundation Educational Projects/Studios in 2015

		Program		Structu	res Studied	Partnerships				
College or University	Architecture	Engineering	Construction Management	Structures / Buildings	Transportation / Bridges	PCIF Board Liaison	Local Partner	Professor	Secondary Partners	
Clemson University Clemson, S.C. Fall 2015	1			1		Jim Voss	Georgia/Carolinas PCI	Carlos Barrios and Brandon Ross	Metromont Tindall	
Minnesota State University, Mankato Mankato, Minn. Spring/Fall 2015		1	1	1	1	Tom Kelley	Wells Concrete	Farhad Reza and Mohamed Diab	PCI Midwest	
Rhode Island School of Design Providence, R.I. Spring 2015	1			1		Leon Grant	PCI Northeast	Brett Schneider		
South Dakota State University Brookings, S.Dak. Fall 2015	1		1	1		Tom Kelley	Gage Brothers	Federico Garcia Lammers and Brian Rex	PCI Midwest	
University of Southern California Los Angeles, Calif. Spring 2015	1			1		Bob Konoske	PCI West	Doug Noble and Karen Kensek		
University of Texas at Arlington Arlington, Tex. Spring/Fall 2015	1			1	1	Methyen	Precast Concrete Manufacturers' Association of Texas	Brad Bell		

The Professors Workshop participants from around the country not only spent time learning how to teach precast in the classroom, but were also able to see first hand how precast projects are designed, fabricated, and constructed.

Professors Workshop

At the beginning of 2015, the PCI Foundation launched a new program for professors. A three day workshop was held at the University of North Carolina at Charlotte for professors and local partners who wish to learn more about teaching precast concrete as part of their curriculum.

On day one, the focus was precast pedagogy. . .professors from our programs shared information with attendees about the techniques and projects they use to teach precast concrete to their students. Almost all the programs include a hands-on component and a strong connection with the industry. Of particular importance is the project the students develop during the semester to apply what they have learned. These have varied from a high school to a community center to a home for the solar decathlon.

Day two was a "field day" where attendees get out of the classroom for the day to experience first hand how the industry works. First on the agenda was a morning visit to Metromont's Greensboro, N.C., plant. Next up was a visit with DeVita & Associates, Inc. architecture firm in Charlotte, N.C., that uses precast concrete extensively. Architects shared information on the project they were currently designing and more general information on how they use precast concrete. Last on the agenda was a visit to a construction site discussed at both of the other stops during the day.

On day three the focus was on the materials available to make it happen. Working with the Student Education Committee of PCI, the Foundation created a new "Precast in a Box" program for professors that provides many of the materials needed to teach precast to architecture students in one package. This program helps us ensure that the material being used to teach the students is accurate and reflects current industry practices.

Twenty participants from around the country not only spent time learning how to teach precast in the classroom, but were also able to see first hand how precast projects are designed, fabricated and constructed. The Professors Workshop will be repeated about every 18 months and rotate to different universities to allow new professors and partners to take part in the program.





Thanks to the many generous donations we have received, we have been able to grow successful, interesting, and meaningful educational programs in conjunction with a number of prestigious universities.

Carl Harris donated his "split the pot" winnings back to the PCI Foundation.

Leadership Circle

Individuals

Gold (\$25,000 to \$49,000)

Gary Oakes James Sorenson

Silver (\$10,000 to \$24,999)

Ned Cleland Greg Force Bruce Hartup Daniel Jenny Robert H. Konoske Clyde Poovey Donald & Ginny Raths James & Linda Voss

Bronze (\$5000 to \$9999)

Thomas & Marie D'Arcy Donald L. Faust Jr. Patrick & Rhonda Hynes Ed Knowles Michael & Ginger LaNier Robert S. McCormack Christopher & Tina Pastorius William F. Simmons III

Givers (\$1000 to \$4999)

Roger Becker Ted Coons Bill Daily Peter Finsen Skip Francies Sid Freedman Leon H. Grant Dean Gwin Carl Harris Neil M. Hawkins Dave & Jill Jablonsky Tom Kelley Michael W. Lee Chuck Magnesio Tom & Connie McEvoy Martha McIntyre Donald E. Meinheit Marianne Methven Richard Miller Leonard M. Perlmutter Chuck Prussack Anthony Sassaman Doug & Ellie Sutton Richard & Judy Taylor Helmuth & Mary Lou Wilden Gary Wildung Chuck Wynings Paul Zia

Corporate Givers

Platinum (\$500,000 plus)

Gate Precast

Gold (\$250,000 to \$499,999)

JVI Inc. Encon United The Shockey Group

Silver (\$150,000 to \$249,999)

Coreslab Holdings US Inc.

Bronze (\$50,000 to \$149,999)

BASF Construction Chemicals Inc. Blakeslee Prestress Charles Pankow Foundation Clark Pacific The Consulting Engineers Group Hamilton Form Metromont Corp. Oldcastle Precast Building Systems Pankow Foundation Ross Bryan Associates SIKA Spancrete Some of the most committed donors have stepped up from the beginning to help the PCIF become exceptional. We are grateful for their generosity and feel it is important to recognize supporters who are essential to the foundation's success. To that end, we have singled out a "Leadership Circle" to recognize the cumulative giving of the select few who have carried the largest share of the PCI Foundation through its humble beginnings to our current robust programs.

Donations Received Janurary 1, 2001–January 25, 2016



2015 Donor Roll

Individual Donors

Bronze (\$5,000 - \$9,999)

Chris & Tina Pastorius

Copper (\$1,000 - \$4,999)

Thomas & Marie D'Arcy Greg Force Dean Gwin Carl Harris Neil Hawkins Patrick & Rhonda Hynes Daniel P. Jenny Tom Kelley Ed Knowles

Corporate Donors

Patron (\$500,000 +) Gate Precast*

Partner (\$250,000 to \$499,999) JVI Inc.* Wells Concrete*

Sponsor (\$100,000 to \$149,999) Coreslab Holdings US Inc.*

Advocate (\$50,000 to \$99,999)

The Consulting Engineers Group* Gage Brothers Concrete Products* Hamilton Form*

Supporter (\$25,000 to \$49,999)

Clark Pacific Kerkstra Precast Inc.* Prestressed Casting Co.* Tindall Corp.

Leader (\$10,000 to \$24,999)

Knife River Prestress Plant Architects* Precast Services

Friend (\$5,000 to \$9,999)

FDG Universal Concrete Products Corp.

Robert H. Konoske Charles Magnesio Martha H. McIntyre Marianne Methven Anthony Sassaman William F. Simmons III Gary Wildung Chuck Wynings

Contributor (all other donations)

Todd & Cathy Adams Luis Carlos Bernal James Dampier Leon H. Grant Gregg Jacobson Michael Klinger Michael LaNier Richard Lewellyn Richard Miller John G. Nanna Don & Ginny Raths J. Seroky Douglas & Ellie Sutton Dewey Turbeville Jim & Linda Voss Helmuth & Mary Lou Wilden Donald Yarbrough Jeff Walker

Contributor

Advanced Concrete Technologies Advanced Plastics Ammon Products Co. **Brown Transport** Cemex **Dayton Superior** DCS F F Marr Endicott Tile LLC Enterprise Precast Concrete Inc. Fister Quarries Gate Precast - Ashland City Plant Gate Precast Company - Winchester Gate Precast Company Hillsboro Gate Precast Company Jacksonville Gate Precast Company Kissimmee Gate Precast Company Monroeville Gate Precast Company Oxford Gate Precast Company Texas Gott Caulking Great Western National Bank Kwik-Set Fasteners Lombard Architectural Precast Products

Mid South Prestress LLC Mid State Precast L. P. MMI Of Kentucky Molin Concrete Products MPC Enterprises Inc. The New Group Nucor Prestress of the Carolinas PRS R.B. Johnson Company RC CAst RDG Planning & Design Rustech Sofco Frectors Inc. Specialty Concrete Services Inc. StructureCast Thermomass Titan America White Cap

* Denotes a current five year pledge

More than 300 industry guests gathered together for a night of fine food and friendships as the Concrete Chefs put on their ninth dinner during the PCI Chicago Committee Days. CONCRETE

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World Wear

Fundraising Efforts

The PCI Foundation has been able to do some very exciting programs since the first studio was offered in 2007 thanks in large part to several significant donations received from key PCI members. To sustain and grow the work of the PCI Foundation, we need to continue our fundraising efforts.

During 2015, 59 corporate donors made donations that totaled \$362,798. The PCI Foundation received another 32 personal donations totaling \$29,374. While these numbers are helpful in maintaining programs at current levels, they do not allow for the growth that the PCI Foundation hopes to see in the next few years. The Foundation has relied on a few number of donors to "carry the weight" for the entire industry. Only 17% of the corporate members of PCI are supporting the work of the foundation that benefits the entire industry.

Concrete Chefs

More than 300 industry guests gathered together for a night of fine food and friendships as the Concrete Chefs put on their ninth dinner during the PCI Chicago Committee Days.

On Thursday, May 1, 2015, Jim Voss of JVI Inc. opens the doors of his Lincolnwood, III., facility to the crowd.

The chefs began preparing in the gourmet kitchen days in advance—ensuring that there would be plenty of food and drink. This year, the chefs included Denise Voss, Jim Voss of JVI, Robert Vitalli of Blakeslee Prestress, Dick Taylor of Strand-Tech Martin, Ted Coons of Spillman, Thomas D'Arcy of The Consulting Engineers Group, and Chuck Magnesio of JVI.

The dinner, originally conceived as a fun gathering, has taken on a new life in recent years as a fundraiser for the PCI Foundation. This year, about \$8000 was raised to support programs at schools of architecture, engineering, and construction management throughout the United States.

Whiskey Row Bourbon Experience

During the PCI Fall Committee Days, PCI Foundation benefitted from a party at the Evan Williams Bourbon Experience. Attendees could grab a cocktail and put on their dancing shoes in the Speakeasy for a glimpse of the fast life during Prohibition, or take a self-guided tour of Whiskey Row which is a replica of Main Street in Louisville, Ky., from the 1890s to the 1960s stopping at the different "bars" to enjoy a whiskey tasting. A portion of the cost of the ticket went to support PCIF.

Raffles

During the PCI Fall Committee Days, the PCI Foundation conducted a "Split the Pot" raffle. The program raised \$2680, which would then be split between the winner and the PCI Foundation. When Carl Harris' winning ticket was called during the luncheon, he came on stage only long enough to give back his winnings as a donation to the PCI Foundation. Carl is the president/general manager of Carl Harris Co., in Wichita, Kans.

Additionally, a raffle was held during the spring committee days which raised more than \$2000 for PCIF.





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Everyone at PCI Foundation was pleased to see plants in our industry really put forth a great effort at all the events

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- Dean Gwin 2015 PCIF Barbecue Chairman



PCIF Barbecue Competition



The PCI Foundation kicked off its first barbecue competition this year. All told, more than 2800 people took part in 13 events sponsored by eight companies. More than 2473 pounds of meat were grilled—sometimes at great personal sacrifice from cooks who stayed up all night to assure a well smoked treat or those who braved torrential rains to ensure that guests at the barbecue would be well fed and satisfied. "Everyone at PCI Foundation was pleased to see plants in our industry really put forth a

great effort at all the events," says Event Chairman Dean Gwin. "I hope that the fun that was had this year inspires more companies to participate next year. It is a great way to celebrate your employees and customers while supporting the future of our industry."

Many companies holding an event paired it with another special happening. For Molin Concrete, it was the opening of its new wall panel plant in Ramsey, Minn. They broke the celebration into two events. "On Friday September 11, we held our first open house for all employees to come and tour the plant," says John Saccoman of Molin. "Door prizes and a BBQ lunch were enjoyed by 265 employees and family members. On September 24th, we opened our doors to 436 attendees including architects, engineers, owners, city officials, developers, and vendors. Plant tours ran every seven minutes where participants were guided on a 30-minute walk through the fully automated wall panel plant."

Gage Brothers in Sioux Falls, S.Dak., celebrated the company's 100th anniversary cowboy style. The company invited workers, suppliers, customers, and local VIPs to join in the celebration that raised \$20,000 for the PCI Foundation. To reflect the company's work, the company had a cake made in the shape of the Minneapolis Convention Center, an iconic project for the company. Activities included a photo booth, rope toss, carnival games, and a silent auction.

Gate Precast used the PCI Foundation barbecue as an opportunity to celebrate camaraderie and spread cheer throughout its many plants. Each of Gate's plants hosted an individual barbecue that helped raise more than \$24,000 for the PCI Foundation. The events were as varied as the cities that hosted them. In Alabama, guests could guess the mystery meat or vote on the best meat rub. In Pearland, Tex. the employees had a chance to compete for "most dunks" in a company-sponsored dunk tank. And in Winchester, Ky., guests participated in a raffle and a bow shooting contest. At the Kissimmee, Fla., plant an extra day of vacation was raffled off.

2015 BBQ Competition Winners

Plant Name	Category	Notes		
Molin Concrete	Most Meat Grilled	475 lbs.		
Kerkstra Precast	Best Team Building Event	Safety equipment relay race		
Gage Brothers	Most Unique Menu Item	Minneapolis Convention Center Shaped Cake		
Molin Concrete	Best Employee Attendance	100% attendees from all plants came to event		
Molin Concrete	Most Attendees	701		
Gate Precast Corp.	Most Money Raised by a Single Company	\$24,491		
Gage Brothers	Most Money Raised at Single Event	\$20,000		
Gate Precast Monroeville	Most Unusual Extra Fundraiser	Guess the mystery meat		
Gate Precast Winchester	Best Event Photo	Collage Photo		
Gage Brothers	Highest Family & Friends Attendance	75% of all employees included family		



For other participants, the day was about celebrating the employee's accomplishments as well as the PCI Foundation. Kerkstra Precast dedicated the day to safety and its employee safety records. Three teams of five took part in a safety equipment relay race, each man putting on and taking off all the safety equipment as quickly as possible.

In Nebraska, Enterprise Precast organized a tailgate BBQ at a Cornhuskers game. The event was attended by all three precasters in the state (Enterprise, Coreslab Omaha, and Concrete Industries) along with architects, engineers, and family members.

This first ever program of its kind was sponsored by Endicott Thin Brick.

All companies sponsoring a barbecue were eligible to take part in a drawing for a stainless steel grill provided by Endicott. The recipient of the grand prize was Gate Precast's plant in Hillsboro, Tex.

Even the event with the most rain was deemed a success. "Under torrential rain conditions, Gate Precast's Oxford, N.C., pit masters were not deterred and began smoking 24 Boston butt roasts at midnight on September 25. For the next 10 hours the pork cooked slowly under low heat and was finished cooking at 10 am," says coordinator Chris Galde. "The barbecue was a success despite the monsoon rains that continued for another 11 days after our BBQ event. We hope to make this an annual event."

All together, the BBQ Competition raised \$52,374 for the PCI Foundation to sponsor precast education programs in schools of architecture, engineering, and construction management.

An incredible synergy develops and exposes students to complementary disciplines they'll be working with in their careers

> - Carlos Barrios Clemson University

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PCIF Educational Projects/Studios in 2016

Clemson University, Clemson, South Carolina

The precast studio at Clemson University invites both architecture and engineering students to participate. The civil-engineering students serve as consultants on the architecture students' programs, working one-on-one for one hour of the 12 hours spent each week in class work. "An incredible synergy develops and exposes students to complementary disciplines they'll be working with in their careers," says Carlos Barrios.

The fall course work featured three precast-concrete oriented class projects. The first centered on designs created by award-winning Japanese architect Tadao Ando, who creates structures primarily using cast-in-place concrete. The students were tasked with redesigning an Ando structure in precast concrete. "It teaches them about the product and provides an introduction to panelization and designing with precast concrete," Barrios says. He then has students alter one geometric element to create their own precast concrete components. The second project has become "a signature of our studio program," Barrios says. It had the students design repetitive precast concrete modules based on tessellations, a key focus for Barrios' research. They design components with repetition and create a scaled-down mold (usually from plywood or rubber) that can cast the pieces. The third project involved designing a large-scale structure using precast concrete.

Local Partner: Georgia/Carolinas PCI | Studio Leaders: Carlos Barrios & Brandon Ross

Minnesota State University, Mankato

The program at Minnesota is unlike any of the other PCIF programs because the focus is on engineering and construction management. The program kicked off in fall of 2014 and has become a showcase of collaboration, not only between the Civil Engineering and Construction Management departments, but also with the local partner, Wells Concrete. A highlight of the program in 2015 was when student James Besonen was awarded the outstanding presentation for his poster on vacuum vs. traditional erection of precast concrete.

These courses provide undergraduate civil engineering students and construction management students access and understanding of unique attributes of precast concrete and to aid in their design and construction. Another important part of the program is the introduction of BIM and how it can be shared between the engineer and contractor.

Wells Concrete in Wells, Minn. worked closely with the students and provided them with drawings and information on the Vikings Stadium building being built nearby. Lectures in the classroom were supplemented with tours to the plant and papers by students.

Local Partner: Wells Concrete, Wells, Minnesota | Studio Leaders: Farhad Reza & Mohamed Diab

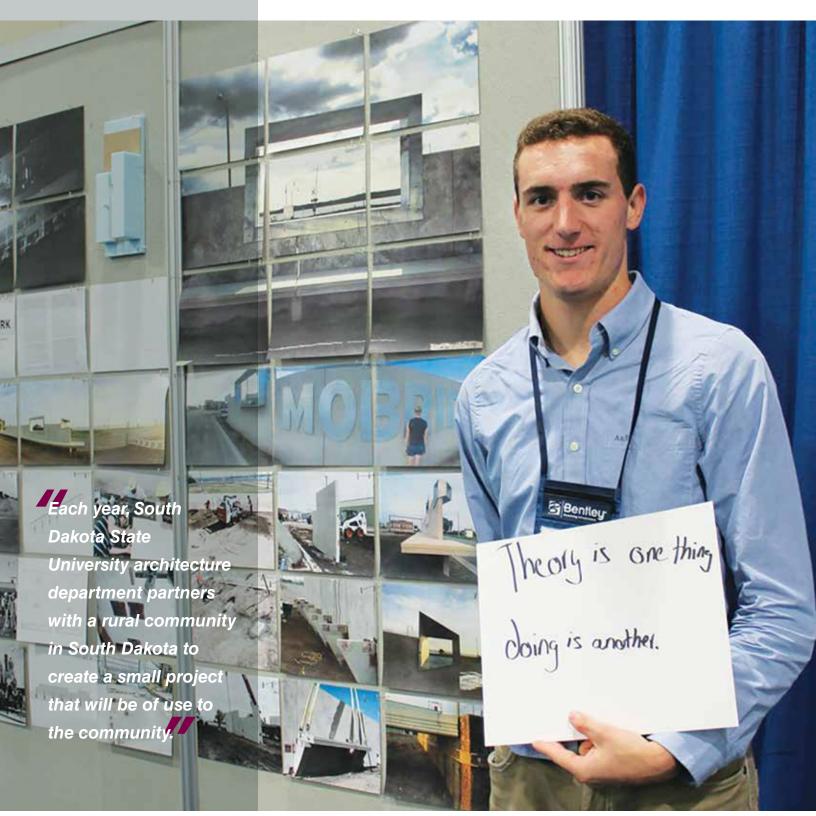
Rhode Island School of Design, Providence, Rhode Island

Professors at the Rhode Island School of Design completed its second studio during the spring of 2016. The studio included five graduate and six undergraduate students. The general framing of the studio was very similar to the first year: both academic and experimental model research followed by an in-depth design project of each student's definition intended to culminate in the fabrication of precast concrete elements as close to full scale (1:1) as possible. Compared to the first year, the methods to make and type of final element were more restricted: RISD professors acquired materials to cast a form of GFRC in order to free the students from the limitations of either pure compression elements or the more difficult use of traditional reinforcement. Additionally, students were encouraged to limit their components to a panel form. These more closely defined constraints resulted in more focused projects in comparison to the first year. Some highlights of the year included:

- Class field trip for both the studio and the RISD Concrete Structures (required technical sequence course in Architecture with 55 students) to Blakeslee Prestress in Branford, Conn., to provide introduction to design, detailing, and fabrication of precast concrete.
- Lecture by Mark West formally of the University of Manitoba. West founded the CAST laboratory for the study of methods of casting concrete—primarily using fabric forms.
- Class field trip for the studio to Coreslab Structures in Thomaston, Conn., to see their facilities for the production of architectural precast including ultra-high-performance concrete (UHPC) components.

Plans for future studios include the more comprehensive engagement with newer concrete technology—fiber reinforcement and possibly UHPC; improving our ability to fabricate full-scale components through the development of dedicated exterior space for form making and casting adjacent to the Bayard Ewing Building; and exploring a possible large-scale fabrication by the entire studio as a team in collaboration with one of our fabricator partners to exhibit at the PCI Convention.

Local Partner: PCI Northeast | Studio Leader: Brett Schneider



Ethan Millar, teaching assistant, South Dakota State University

Ethan Millar took part as a student in the first South Dakota State University (SDSU) studio as a third-year architecture student working with the town of Mobridge, S.Dak., to create a "pocket park" along the Missouri River. The students at SDSU work closely not only with a rural community but also with Gage Brothers in Sioux Falls, S.Dak., to create a small project that benefits the community. In addition to his work at school, Millar traveled to the 2014 PCI Convention in Dallas, Tex., and was part of the team that created a poster in the show hall that promoted the studio's work. Starting in 2015, Millar took on the role of teaching assistant working with other students currently in the precast concrete program at SDSU.

PCIF Educational Projects/Studios in 2016

South Dakota State University, Brookings, South Dakota

2015 was the third year of the Precast Studio at the South Dakota State University in Brookings, S.Dak. The school works closely with Gage Brothers in Sioux Falls, S.Dak., and takes a new spin on the design project. Each year, the school of architecture partners with a rural community in South Dakota to create a small project that will be of use to the community. In 2015 the partner town was Webster and the students took on the entryway to a local park.

Plans began during the spring and summer when Teaching Assistant (and former precast studio student) Ethan Millar worked to make preparations for the studio. In the fall, 15 architecture students started designing a large-scale installation that marks the gateway to a community park with sports fields. Colin Moriarty of Gage Brothers worked with the students and hosted them in the plant twice during the semester.

During 2016, five students will continue on with the project in a more intensive study that includes creating the details of the precast and preparing the products to be fabricated, shipped, and erected in Webster. In addition to the two professors teaching the program, Brian Rex and Federico Garcia Lammers, engineering professor Mostafa Tazarv has worked with the class.

Local Partner: Gage Brothers, Sioux Falls, South Dakota Studio Leaders: Brian Rex & Federico Garcia Lammers

University of Southern California, Los Angeles, California

What started as a hypothetical project for the University of Southern California precast studio in 2013 became a reality in 2016. The National Park Service is partnering with a nonprofit education group to design an Environmental Education overnight facility. It is intended for groups of elementary school students to stay in the park for two nights to learn all about this unique environment.

In 2015, the University of Southern California held its third year of a precast studio focusing on designing a structure for the extreme desert climate of Joshua Tree National Park. For the coming year, the studio will be looking to actually create a small new precast structure for the national park.

The studio involves 12 students who compete for the opportunity to be in this elite group. Because the studio only directly impacts 12 students each semester, the studio added a "precast symposium" to the curriculum to create a way to let the rest of the school know more about what we were doing, and to provide a forum for industry representatives to present work at the school. Precast was also added to the 2nd-year materials and methods course so that all students would gain a better understanding and appreciation.

Local Partner: PCI West, Glendale, California & Clark Pacific, Fontana & Irwindale, California | Studio Leaders: Karen Kensek & Doug Noble

University of Texas at Arlington, Arlington, Texas

Several new projects started in the fall of 2015 at the University of Texas at Arlington. The precast program there continues to have three courses (one in the fall and two in the spring semester). Each semester, the students involved precast classes and several others visit the Gate Precast Plant in Hillsboro, Tex. Typically that includes about 16-18 students each semester. They enjoy the exposure to precast and the students have developed a relationship with some of the plant personnel, such as Conrad Filo, QC manager at the plant and Michael Trosset, the regional sales and marketing manager. What first began as a educational and teaching project has developed to include precast testing and technology. During the next semester, some of the graduate students will be working in the civil engineering lab. Some of the research revolves around insulation and ultra-high-performance concrete. In addition to working with Gate Precast, Thermomass engineers have assisted the students. The students have fabricated several 3 ft x 3 ft panels in their lab, using specification from Gate Precast and Dr. Simon Chao from the school of civil engineering. In addition to work on wall panels, the students are exploring new forms for structural columns in robotically milled forms with repeatable casting. Some of those columns take on the shape of tree branches and use a unique concrete mix along with carbon fiber reinforcement.

Local Partner: Gate Precast Hillsboro | Studio Leader: Bradley Bell

The PCI Foundation has been able to do some very exciting programs since the first studio was offered in 2007 thanks in large part to several significant donations received from key PCI members. To sustain and grow the work of the PCI Foundation, we need to continue our fundraising efforts. OBAMA

130.970sq.ft. - EL.

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STEEL WHO?

Financial Highlights

Revenue	Unrestricted	Restricted	Total
Special Events / In Kind	\$81,910.00		\$81,910.00
Contributions - Corporate	\$320,833.00	\$10,500.00	\$331,333.00
Contributions - Personal	\$24,669.00	\$2,000.00	\$26,669.00
Investment Income	\$1,290.00		\$1,290.00

Total	\$428.702.00	\$67 760 00	\$406 462 00
Gifts in Kind / Donated Services		\$55,260.00	\$55,260.00

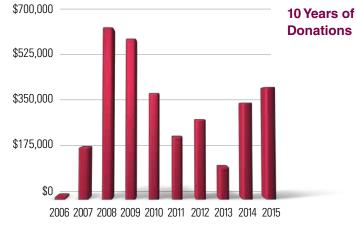
Expenses			
Support Services		\$160,581.00	\$160,581.00
Program Services		\$172,692.00	\$172,692.00
Special Events		\$8,213.00	\$8,213.00
	Total	\$341,486.00	\$341,486.00

Income in excess of expenses \$154,976.00

Revenues	Personal Contributions \$26,669 5%
Corporate	Investment
Contributions	Income
\$331,333	\$1,290
67%	1%
Special Events/	Gifts In Kind/
In Kind	Donated Services
\$81,910	\$55,260
16%	11%

Assets	Unrestricted	Restricted	Total
Cash and Cash Equivalents	\$1,429,183.00	2000.00	\$1,431,183.00

Liabilities & Fund Balances		
Accounts Payable	\$0.00	
Payroll Liability	\$433.00	\$433.00
Grants Payable (through 2019)	\$378,395.00	\$378,395.00
Total Liabilities	\$378,828.00	\$378,828.00
Total Liabilities and Net Assets	\$1,050,355.00	\$1,052,355.00



The Big Picture

The funding for the PCI Foundation comes solely from donors and not from dues to PCI. Since 2006 we have solicited donations from industry companies and individuals who have an interest in the success of our industry.

Donations	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Corporate	7000	126,600	546,906	544,880	343,199	189,675	268,295	96,195	286,071	362,798
Personal	0	52,300	56,200	17,800	27,166	26,980	8,630	13,480	50,416	29,374
Total	7000	178,900	603,106	562,680	370,365	216,655	276,925	109,675	336,487	392,172

Number of Donors	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Corporate	14	17	25	22	47	51	44	46	56	60
Personal	0	9	10	9	12	70	17	37	34	32
New Donors	14	15	10	10	34	67	9	21	22	47

PERCENT OF INDUS	STRY GIV	ING*								
Corporate	5%	6%	8%	7%	16%	17%	15%	15%	18%	20%
Personal	0%	1%	1%	1%	4%	8%	2%	4%	4%	4%

This chart reflects the donations received and the number of donors each year for the last 10 years. *percent of those giving is estimated based on industry statistics

Year	Grant Dollars	Grant Recipients
2007	20,000	1
2008	20,000	1
2009	52,000	3
2010	77,000	4
2011	91,000	4
2012	73,000	4
2013	118,395	6
2014	183,395	8
2015	148,395	6

This chart reflects the total number of schools receiving grants per year from the PCI Foundation.



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