Minimum points requirement for architectural category recertification delayed

At its 2023 Committee Days meeting, the Architectural Certification Subcommittee approved a short delay in implementation of the requirement for meeting the initial recertification point threshold for the new architectural certification categories.

Plants with certification in the architectural group are required to demonstrate continued capability in their certification category by achieving a minimum number of key feature points every two years. This is administered using a rolling two-year period, based on the last four regular audit cycles (semi-annual) after the initial two-year certification period.

For most plants, the initial two-year certification period ended October 1, 2023, and plants that had received four regular audits by that date were required to have the minimum number of key feature points. A possible consequence of not meeting the point threshold either at the completion of the initial certification period or on a continuous basis thereafter is the loss of architectural group certification.

As the subcommittee reviewed the status of plants that had met the two-year and four-audit threshold, it was noted that a significant number of plants did not have the required points. The committee voted to extend the initial certification period through a plant's first regular audit of 2024 (to occur from January to June). At that audit, points to be counted for recertification will include the plant's last four regular audits (the previous three and the current audit) and any special audits/evaluations that occurred within that period. Following the initial certification period, plants will need to maintain the required minimum number of points on a rolling four-regular-audit basis to maintain certification in their category.

The key features to be demonstrated for each category are listed in the respective chapters of the Architectural Certification Program Supplemental Requirements, available at https://www.pci.org/PCI_Docs/Certification/Arch/ARCH-CERT19x3716_ArchCert_Program.pdf. The preferred way to obtain the points is to be able to show products in production or storage that have the required features. Plants that are short of points and do not expect to have production that will provide the required points can construct one or more mock-up panels. There are two options for mock-up panels: construct one or more of the mock-up panels fabricated for initial certification, as shown in the Architectural Certification Program Supplemental Requirements for the plant's certification category or construct a mock-up panel of the plant's own design with appropriate key features to demonstrate the plant's continued capabilities and earn the necessary points.

In either case, the drawings and mixture designs for the mock-up panel must be submitted for review well in advance of when the panel will be constructed, just as was required with initial category certification. This will allow time for review, to ensure the panel meets the eligibility criteria and would provide the necessary points.

2024 Professors Seminar to be in Philadelphia

Universities who are part of the PCI Foundation studio program, as well as those interested in applying, are invited to attend the 2024 Professors Seminar in Philadelphia, Pa. In partnership with the University of Pennsylvania's Stuart Weitzman School of Design, the event will be May 28 through May 31. The multiday program is designed for networking, learning about precast concrete, and enhancing the precast concrete curriculum and teaching experience. For more information, visit the PCI Foundation's website at https://www.pci-foundation.org/educators.

Wildung receives 2023 T. Henry Clark Award

Gary Wildung

Gary Wildung was presented the T. Henry Clark Award in October at PCI's awards luncheon during PCI Committee Days in Tampa, Fla. This award was established to recognize an individual, group of individuals, or a firm that has delivered a resource that improves or enhances the quality of precast, prestressed concrete products or processes. T. Henry Clark was a believer of quality and quality processes; this award recognizes those who create or promote quality in a way that would have made Henry proud.

Wildung is the former vice president and owner of FDG Inc. in Colorado, which he cofounded in 1990. Since retiring in 2018, he continues to serve as the FDG-PCI liaison.

Wildung has long been an important contributor to PCI's committee work, particularly in the areas of quality assurance,

safety, and certification. In addition to membership in multiple committees, he has chaired the Quality Activities Council and the Safeguarding Impartiality Committee, vice chaired the Quality Enhancement Committee, and served on PCI's Board of Directors.

With more than 50 years of industry experience, Wildung has been a strong advocate for involving producers and erectors in PCI's work. He is widely praised by colleagues and peers for his vast expertise and his commitment to advancing both PCI and the precast concrete industry.

Project Precast 2024 breaks records for student applicants

The PCI Foundation's student design competition that brings together students majoring in architecture, engineering, and construction management has had more than 60 students from more than 20 schools apply to be chosen for its eight teams. Team sponsors grew, too, with Gate and Finfrock joining the roster with CEG, Clark Pacific, Coreslab, Metromont, Tindall, and Wells. Sika and Hamilton Form Co. continue to support the event and prize money.

Thirty-two students and two alternates will be presenting their final designs at the Denver Convention Center on Friday, February 9, 2024, with the winners being announced at the cocktail reception later that evening. For more information, visit https://www.pci-foundation.org/project-precast.

EPP Program Participants recognized at Committee Days

Eleven PCI-certified member plants were recognized for their commitment to continuous quality improvement through participation in PCI's Exceptional Precast Practices (EPP) program in October at PCI's awards luncheon during the PCI Committee Days in Tampa, Fla.

The EPP program is a voluntary, continuous quality improvement tool developed specifically for the precast concrete industry by PCI's Quality Enhancement Committee. The program offers both a road map for improvement efforts and milestones for measuring progress.

Here is how this voluntary program works. A plant fills out the self-assessment survey for each of the seven sections/modules: productivity, personnel, safety, field operations, sales and marketing, sustainable plant, and concrete. This process allows the plant not only to benchmark where it is today but also review programs of proven worth that other PCI plants find valuable.

That process allows plant personnel to decide on a roadmap for the future. If this process is managed well, that roadmap becomes the goals and programs for improvement, and it provides the basis for accountability for achievement. The plant's benchmark score allows plant personnel to actually measure progress from year to year. There is no minimum score required. This is not a contest. Scores will not be published. There is no overall winner. All participants in this voluntary

2023/24 Big Beam Contest call for entries

The PCI Student Education Committee is inviting entries from students to participate in the Engineering Student Design (Big Beam) Contest for the 2023/24 academic year.

All teams are required to submit an online application to establish their participation in the competition. Applications must identify all members of the student team and supply permanent email and mailing addresses for each team member. Please visit pci.org/bigbeam to complete the application by June 1, 2024, no later than two weeks prior to the deadline. Completed entries must be submitted digitally to PCI by June 14, 2024. The winning team will be recognized in February 2025 at the PCI Convention at The Precast Show in Indianapolis, Ind.

Registration now open for PCI's Online Academy

The PCI Basic Concrete Design Online Academy explains the basic concepts and methods of prestressed concrete design. Throughout the sessions, attendees will work through the design of a simple prestressed concrete rectangular beam. Both straight strand and harped-strand designs will be covered. The course is based on ACI 318-14, ASCE-7 (2010), and IBC (2015).

PCI's Online Academy consists of weekly, 90-minute sessions over a 6-week period. Continuing education credits are awarded after each course. Courses are taught by leading professors and industry experts in precast, prestressed concrete design. For information and to register, go to https://www.pci.org/PCI/Education/PCI_Online_Academy_-_Advancing_Professionals.aspx

program seriously win. All participating plants are provided with an annual certificate of participation and are recognized at PCI Committee Days.

This year's participants were Atlanta Structural Concrete Company of Buchanan, Ga.; Conewago Precast Building Systems of Hanover, Pa.; International Concrete Products Inc. of Germantown, Wis.; Mid-States Concrete Industries LLC of South Beloit, Ill.; Nitterhouse Concrete Products Inc. of Chambersburg, Pa., Northeast Prestressed Products, LLC of Cressona, Pa.; Prestressed Casting Co.–Springfield plant of Springfield, Mo.; Smith-Midland Corp. of Midland, Va.; Standard Concrete Products Inc. of Savannah, Ga.; Wells–Albany of Albany, Minn., and Wells–Brighton of Brighton, Co.

2024 PCI Educator of the Year Awards go to Lucier, Ross

Gregory Lucier and Brandon Ross were both named 2024 PCI Educator of the Year. The awards will be presented in February at the PCI Annual Membership Meeting and Luncheon during the PCI Convention in Denver, Colo.

Gregory Lucier

Brandon Ross

Lucier is an associate research professor in the Department of Civil, Construction, and Environmental Engineering at North Carolina State University (NCSU) in Raleigh, N.C. He also manages the Constructed Facilities Laboratory on NCSU's Centennial Campus. This award recognizes his fundamental commitment to fostering innovative education and his ability to facilitate creative exploration among his undergraduate and graduate students. At NCSU, Lucier co-teaches the PCI Foundation studio known as the Constructed Facilities Lab, specifically within the course titled "Creations in Concrete." In this integrated architecture and civil engineering instructional project course, students are exposed to the precast concrete industry, with activities including tours of precast concrete plants, casting and testing of architectural precast concrete elements, and the design of structures using precast concrete elements. Lucier also acts as an advisor/mentor to NCSU students participating in PCI's Big Beam competition, and provides guidance to master's and doctoral students working on research in precast concrete, which includes Jenny Fellowship projects. As a mentor and adviser, Lucier advocates for rational and simplified approaches to design, stressing the need for research to be accessible and useful to those implementing designs.

Lucier's students note that they are inspired by his unwavering belief in the adage "there's always a way" to find solutions to challenging research questions. Lucier has demonstrated this belief as a contributor to several significant precast concrete research projects. Findings from those projects have been published in the *PCI Journal* and other peer-reviewed publications, implemented in the *PCI Design Handbook: Precast and Prestressed Concrete*, and referenced in the American Concrete Institute's *Building Code Requirements for Structural Concrete and Commentary*.

Lucier has been a PCI member for nearly 20 years and has served on the FRP Composites Committee since 2021. He previously served on the PCI Blue Ribbon Committee that reviewed the eighth edition of the *PCI Design Handbook*.

Ross is the Cottingham Associate Professor of Civil Engineering in the Glenn Department of Civil Engineering at Clemson University in Clemson S.C., where he is involved in the PCI Foundation Precast Studio and teaches courses on reinforced concrete design, prestressed concrete design, structural adaptability, and other topics. Ross is widely praised for his teaching skills and has twice been named Outstanding Teacher of the Year in the Clemson Civil Engineering Department, in 2014 and 2018. He excels in translating complex theoretical engineering concepts into practical knowledge, thereby preparing Clemson graduates for success in the precast concrete industry and other careers. His former students express appreciation for his enthusiastic, even lighthearted teaching style and his generosity as a mentor. Industry colleagues value his outreach efforts, noting that he regularly facilitates presentations by industry experts to Clemson classrooms, arranges student tours of precast concrete plants and projects,

2024 T. Henry Clark Award call for nominations

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Nominations for the T. Henry Clark Award, to be presented in September at the 2024 PCI Committee Days in Nashville, Tenn., should be submitted to qualityprograms@pci.org by June 1, 2024. The T. Henry Clark Award nomination form is available at https://www.pci.org/PCI/About/Awards/Clark.

The T. Henry Clark Award was established to recognize an individual, group of individuals, or firm that has delivered a resource that improves or enhances the quality of precast concrete products or processes.

T. Henry Clark believed in quality and quality processes, and this award is to recognize those who create or promote quality in a way that would have made him proud.

For more information, contact Mike Wolff, the Quality Activities Council chair, at m.wolff@msprecast.com or Jacques Cattan, PCI managing director of quality programs, at jcattan@pci.org.

and encourages students to attend the PCI Convention and other industry events.

Ross is also an accomplished researcher, who has published more than a dozen articles for *PCI Journal*, *ACI Structural Journal*, *ASCE Journal of Structural Engineering*, and other peer-reviewed publications. He joined PCI while working on his doctorate and has since served on the Research and Development Council, the Industry Handbook Committee, and the UHPC Bridge Subcommittee. As a member of the Research and Development Council, he has acted as a liaison for several fellowship projects, providing direct and useful input to help the fellowship recipients determine research objectives and move their projects forward. Ross has a BS in architectural engineering and an MS in civil engineering from the University of Wyoming. He earned his PhD in civil engineering from the University of Florida in 2012.

2023 Korn award goes to Jung, Kang, Lee, Kim, LaFave

The 2023 Martin P. Korn Award was presented to Donghyuk Jung, Thomas H.-K. Kang, Dong Joo Lee, Sanghee Kim, and James M. LaFave for their paper "Seismic Performance of a Ductile Rod Exterior Connection System for Precast Concrete Industrial Buildings," published in the January–February 2023 issue of *PCI Journal*. The Martin P. Korn award recognizes an author or authors for the best design, research, or state-of-the-art paper on precast concrete in the area of buildings and other structures appearing in *PCI Journal* during a single year.


Donghyuk Jung


Thomas H.-K. Kang


Dong Joo Lee


Sanghee Kim


James M. LaFave

The paper describes the fabrication and lateral cyclic load testing of five full-scale concrete beam-to-column subassemblies connected with ductile rods. Results showed that prestressing tendons were effective at enhancing moment and shear strengths of the precast concrete connections, as well as in reducing slip of the ductile rods. The results also demonstrated that careful consideration is required in the design of ductile rods and high-strength threaded bars to induce stable flexural responses of the precast concrete connections.

Jung is an assistant professor at Korea University in Seoul, Korea; Kang is a professor of structural engineering and director of the Engineering Education Innovation Center at Seoul National University in Korea and former adjunct professor at the University of Illinois Urbana-Champaign; Lee is a designer/engineer at Hanssem Co. Ltd. in Korea; Kim is an assistant professor at Kyonggi University in Suwon, Korea; and LaFave is a professor in the Department of Civil and Environmental Engineering at the University of Illinois Urbana-Champaign.

2023 Zollman award goes to CFRP paper

The winners of the 2023 Charles C. Zollman Award are Nabil F. Grace, Mohamed E. Mohamed, and Mena R. Bebawy for their paper "Evaluating Fatigue, Relaxation, and Creep Rupture of Carbon-Fiber-Reinforced Polymer Strands for Highway Bridge Construction," which was published in the May–June 2023 issue of *PCI Journal*. The Zollman Award honors an author or authors for the best design, research, or state-of-the-art paper on precast concrete in the area of transportation infrastructure appearing in *PCI Journal* during a single year.


Nabil F. Grace


Mohamed E. Mohamed

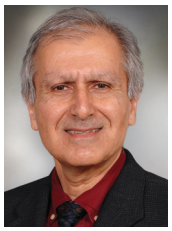

Mena R. Bebawy

In their paper, the authors evaluated fatigue strength, relaxation, and creep rupture strength of carbon-fiber-reinforced polymer (CFRP) strands in the context of concrete bridge beam design. Test results showed that fatigue strength of CFRP strands is superior to that of low-relaxation steel and stainless steel prestressing strands.

Grace is the vice president for research, the dean of the College of Engineering, and a university distinguished professor at Lawrence Technological University in Southfield, Mich.; Mohamed is a structural bridge engineer at Michael Baker International in Detroit, Mich., and a former research associate at the Nabil Grace Center of Innovative Material Research, Lawrence Technological University; and Bebawy is a professor in the Civil and Architectural Engineering Department at Lawrence Technological University.

Lyman Award goes to paper on partially debonded strands


Mathew W. Bolduc


Bahram M. Shahrooz


Kent A. Harries


Richard A. Miller


Henry G. Russell


William A. Potter

The 2023 Robert J. Lyman Award was presented to Mathew W. Bolduc, Bahram M. Shahrooz, Kent A. Harries, Richard A. Miller, Henry G. Russell, and William A. Potter for their paper "Experimental Background behind New AASHTO LRFD Specifications for Partially Debonded Strands." The paper was published in the March–April 2023 issue of *PCI Journal*. The Robert J. Lyman Award recognizes the paper offering the greatest contribution to the advancement of plant production, site erection, or general construction of precast concrete structures.

This paper examined the effects of strand debonding in prestressed concrete highway bridge girders. The results from testing full-scale I- and U-shaped girders show that partially debonding strands does not result in deleterious performance if adequate reinforcement is provided to resist the longitudinal tension due to bending and shear. As a result of the research presented in this paper, the requirements for debonded strands were revised significantly in the ninth edition of the AASTHO LRFD specifications.

Bolduc is a former graduate student at the University of Cincinnati in Cincinnati, Ohio; Shahrooz is a professor of structural engineering at the University of Cincinnati; Harries is a professor of structural engineering and mechanics at the University of Pittsburgh in Pittsburgh, Pa.; Miller is a professor of civil engineering and department head at the University of Cincinnati; Russell is an engineering consultant who has been involved with applications of concrete for bridges for about 50 years; and Potter is the Florida state structures design engineer.

2023 Nasser Award goes to Kessler, Conway, Redmond, Pataky


Hannah Kessler


Kaitlynn Conway


Laura Redmond


Garrett Pataky

The 2023 George D. Nasser Award goes to Hannah D. Kessler, Kaitlynn M. Conway, Laura M. Redmond, and Garrett J. Pataky for the paper "Design and Cyclic Testing of a Gusset Plate Connection for Precast Concrete Buckling-Restrained Braced Frames." This paper is based on research supported by PCI's Daniel P. Jenny Fellowship program. It was published in the March–April 2023 issue of *PCI Journal*. The George D. Nasser Award is given to a young author, or authors, for the best design, research, or state-of-the-art paper on precast concrete appearing in *PCI Journal* during a single year.

This paper documents the design and testing of a partial system under representative seismic loads used to determine the applicability of the uniform force method (UFM) for connection interface force distribution. A quasi-static cyclic test showed that the UFM alone does not accurately predict

Irwin J. Speyer Young Professional Engineer Award call for nominations

The Irwin J. Speyer Young Professional Engineer Award honors the legacy of Irwin J. Speyer by recognizing young professional engineers who have made significant contributions to PCI during their early careers and who demonstrate their intent to continue serving the precast concrete industry as Speyer did during his career. The awards will be presented in September at the 2024 PCI Committee Days in Nashville, Tenn.

Complete award details and the official nomination form are available at http://www.pci.org/PCI/About/Awards/Speyer-Award. Nominations must be submitted by May 1, 2024.

interface forces for this system because the method does not account for frame action but also showed that there is some change in column base fixity as the frame undergoes larger horizontal displacements.

Kessler is a PCI student member and PhD student in civil engineering at Georgia Institute of Technology in Atlanta; Conway completed her PhD in mechanical engineering at Clemson University and is currently in a postdoctoral position at Sandia National Laboratories in Albuquerque, N.Mex; Redmond is a PCI member and assistant professor in the Glenn Department of Civil Engineering at Clemson University; and Pataky is an assistant professor in the Department of Mechanical Engineering at Clemson University.

Concrete materials committee receives 2023 Martin Award

Members of the PCI Concrete Materials Technology Committee, which authored *Guidelines for the Use of Ultra-High-Performance Concrete (UHPC) in Precast and Prestressed Concrete* (PCI TR-9-22), received the 2023 Leslie D. Martin Certificate of Merit Award, which recognizes a PCI-published document judged to be technically outstanding and worthy of special commendation.

Ultra-high-performance concrete (UHPC) is a new class of concrete that uses particle packing theory and fiber reinforcement to achieve high compressive and tensile strengths along with excellent toughness and durability. To accelerate the adoption of UHPC in precast, pretensioned concrete products in the United States, the PCI Concrete Materials Technology Committee identified the need to provide guidelines to precast concrete designers and producers regarding nonproprietary UHPC mixture development, qualification and acceptance testing, and production practices.

Members were committee chair Kyle A. Riding, Neal S. Anderson, J. P. Binard, Amir Bonakdar, Marc Boudreau Mi Geum Chorzepa, Fouad H. Fouad, Mostafa Gad Alla, Brett Harris, Venkatesh S. Iyer, John S. Lawler, Lee Lawrence, Richard A. Miller, Ghulam Mujtaba, Charles Nmai, Steven E. Qualls, Paul Ramsburg, Henry G. Russell, Cameron West, and Miloslav Zeman. Researchers were Elizabeth I. Wagner and Maher Tadros.

The award was presented in October at the 2023 PCI Committee Days in Tampa, Fla.

Oregon State wins 2022/23 Big Beam Contest

Oregon State University has won the 2022/23 PCI Engineering Student Design Competition, also known as the Big Beam Contest.

The national competition, which is in its 22nd year, teaches college students important structural engineering skills in an applied learning environment.

The competition involves teams of students and their faculty advisors designing, building, and testing a 20 ft (6 m) long precast, prestressed concrete beam. Local precast concrete producers provide students with ongoing mentorship. Project entries are judged on a variety of criteria, including the beam's performance in stress tests that simulate real-life conditions, as well as the quality of the teams' analyses and reports, and a video overview of their project.

2024 Sidney Freedman Craftsmanship Award call for entries

PCI is accepting entries for the 2024 Sidney Freedman Craftsmanship Award. Launched in 2012, the award recognizes PCI-certified plants for excellence in manufacturing and craftsmanship of architectural precast or glass-fiber-reinforced concrete structures and individual components. Any kind, size, or type of structure and/or element may be entered. Judging is based on success in overcoming obstacles to production, solutions to formwork or finishing challenges, and quality of individual units. Therefore, entries should include source documents, shop drawings, production photos as well as finished project photos to fully demonstrate the complex solutions implemented for the project. For more information, visit http://www.pci.org/SFCA. The deadline for all entries is July 19, 2024.

Norman L. Scott Professional Engineer Award call for nominations

The Norman L. Scott Professional Engineer Award honors the legacy of Norman L. Scott by recognizing professional engineers who have made significant contributions to PCI, the American Concrete Institute, the precast concrete industry, and the engineering profession at large. The award will be presented in September at the 2024 PCI Committee Days in Nashville, Tenn. Complete award details and the official nomination form are available at http://pci.org/PCI/About/Awards/Norman_L_Scott. Nominations must be submitted by May 1, 2024.

The following are the 2022/23 Big Beam Contest winners:

First place: Oregon State University
Faculty advisor: Tanarat Potisuk
PCI producer: Knife River Corp.–Northwest; Harrisburg, Ore.
Student team: Kobe Wagner, Sean Freitag, and Nicholas Peterson

Second place: University of Minnesota–Duluth
Faculty advisor: Brock Hedegaard
PCI producer: Molin Concrete Products Co., Lino Lakes, Minn.
Student team: Justin Entinger, Eric Gibson, Abby Norman, and Kate McCabe

Third place: Iowa State University
Faculty advisor: Hartanto Wibowo
PCI producer: Rinker Materials, Davenport, Iowa
Student team: Anisha Karki, Gata Milla, Lucas Reidel, and Chandra Shekhar Lakavat

Best Video: Lehigh University
Faculty advisor: Clay Naito
Student team: Constantine Patmanidis, Urinrin Otite, T. J. Briscoe

Keith Kaufman Award for Best Report: Oregon State University
Faculty advisor: Tanarat Potisuk
PCI producer: Knife River Corp.–Northwest, Harrisburg, Ore.
Student team: Kobe Wagner, Sean Freitag, and Nicholas Peterson

PCI's Calendar

Events

PCI event details are subject to change. For the most current information, visit https://www.pci.org/events.

PCI West 2024 Annual Board Meeting World of Concrete, Las Vegas, Nev.	January 24, 2024
Florida Prestressed Concrete Association Winter Meeting Orlando, Fla.	January 30–31, 2024
2024 PCI Convention at The Precast Show Denver, Colo.	February 6–10, 2024
2024 PCI Mid-Atlantic Winter Meeting Hanover, Md.	March 7–8, 2024
2024 PCI Productivity Tour King of Prussia, Pa.	April 30–May 2, 2024
PCI West 2024 Summer Board Meeting Woodland, Calif.	May 22, 2024
2024 PCI Board of Directors Meeting Jackson Hole, Wyo.	June 4–7, 2024
2024 PCI Marketing and Sales School Chicago, Ill.	June 27–28, 2024
2024 PCI Mid-Atlantic Summer Meeting Annapolis, Md.	August 1–2, 2024
2024 PCI Committee Days Conference Nashville, Tenn.	September 23–27, 2024
2025 PCI Convention at The Precast Show Indianapolis, Ind.	February 3–7, 2025
2025 PCI Committee Days Conference Loews Chicago O'Hare, Chicago, Ill.	September 16–20, 2025
2026 PCI Convention at the Precast Show Loews Kansas City, Kansas City, Mo.	February 2–6, 2026
2027 PCI Convention at The Precast Show Marriott, Salt Lake City, Utah	February 1–5, 2027
2027 PCI Committee Days Conference Loews Chicago O'Hare, Chicago, Ill.	September 21–25, 2027

PCI personnel training and certification schools

Quality Control School event details are subject to change. If you have any questions about the Quality Control School schedule or need help completing a registration form, please contact PCI's continuing education coordinator, education@pci.org. Registration forms are available at https://www.pci.org/qc_schools.

Levels I and II	January 22–24, 2024 February 26–29, 2024 May 15–17, 2024 June 17–20, 2024 August 19–22, 2024 October 23–25, 2024 November 11–14, 2024	Las Vegas, Nev. online Chicago, Ill. online online Nashville, Tenn. online
Level III	March 4–7, 2024 May 14–17, 2024 July 15–18, 2024 October 22–25, 2024 December 9–12, 2024	online Chicago, Ill. online Nashville, Tenn. online
CFA	January 22–24, 2024 April 8–11, 2024 September 9–12, 2024	Las Vegas, Nev. online online
CCA	April 12, 2024 September 13, 2024	online online

Compiled by K. Michelle Burgess (mburgess@pci.org)