

CHSA is a forum for scholars and professionals to meet and exchange ideas and research. Membership is open to a wide range of construction related disciplines involved in the planning, development, design, construction, operation and preservation of buildings and engineering infrastructure.



SEE YOU IN SEATTLE!

Leading construction historians and independent scholars will address the theme of *Construction History on the Frontier* – exploring the innovative construction history of the American west coast, with particular focus on Seattle and the Pacific Northwest. The Construction History Society's Members' Meeting runs from July 20-22, 2017 and will be held on the campus of the University of Washington, Seattle.

With the region shaped first by pioneering families and resource extraction economies and later transportation networks and local urban growth, presentations of this conference reflect this evolution.

With topics of interest to architects, engineers, and construction historians as well as subcontractors and suppliers, this multi-track program begins Thursday afternoon, July 20, and runs to 1:00 pm on Saturday, July 22.

**REGISTER NOW for the 10th Anniversary Conference and Members' Meeting
University of Washington at Seattle - July 20-22, 2017**

www.constructionhistorysociety.org
look for the REGISTER button

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CORPORATE
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10th ANNIVERSARY MEMBERS' MEETING HIGHLIGHTS
Construction History on the Frontier

SESSION TOPICS	Aluminum and Power
	Buildings
<i>Only two sessions in each time block!</i>	Materials and Assemblies
	Wood
	Infrastructure
	Bridges
KEYNOTES	Jeffrey Ochsner
	<i>Architectural / Technological History of Seattle and Environs</i>
	Mike Lombardi
	<i>Making Dreams into Reality: The Epochal Stories that Define the Boeing Company</i>
	Knute Berger
	Jon Magnusson
	<i>Civic History of Construction</i>
	<i>Six Decades Living Northwest Engineering and Construction</i>
WE BUILT SEATTLE	Moderator
	Len Holm, University of Washington
	Introduction
	Dean John Schaufelberger, University of Washington
	Panelists
	Rick Redman, Sellen Construction
	Jim Crutcher, Lease Crutcher Lewis
	Bill Bain, NBBJ
	Terry Deeny, Deeny Construction (emeritus)
	John Holmes, Manson Construction
TOURS - one free tour included in your registration fee	Boeing Assembly Plant
	Fairground for the 1962 Seattle World's Fair
	Pioneer Square
	Downtown Seattle Landmarks

Join us in Seattle - Register today!

KEEP IT WEIRD SEATTLE!

Living Computer Museum

Interactive retro
experience thanks to
restored vintage computers.
2245 1st Avenue South
Tue – Sun 10a - 5p

Seattle Pinball Museum

Pinball games from 1934 –
that you can play!
508 Maynard Ave S
Sun and Mon 12 - 5p,
Wed – Sat 12 – 10p

**Last Resort
Fire Department Museum**

Historic trucks and artifacts
dating back to the 1800s.
301 2nd Ave S
Wed / Thur 11a – 3p

Giant Shoe Museum

Stop by if you are at
Pike Place Market
1501 Pike Pl #424
Open daily 10a – 5p

**Seattle's Official Bad Art
Museum of Art**

University District
at Café Racer
5828 Roosevelt Way NE
Open daily 10a – 2p

EMP Museum

Pop culture history and
interesting architecture
325 5th Ave N
Open daily 10a – 7p



INVITED SPEAKERS - SEATTLE

The keynote speakers will anchor the conference, with presentations on central historical themes. **Jeffrey Ochsner**, professor in the Department of Architecture at the UW, will discuss the architectural history of the region, through the lens of construction history. In the Northwest, changing styles often accompanied a change in building material, charting the progression of architecture from the 19th century to today. **Knute Berger**, journalist and historian, will speak on the history of the Seattle Space Needle - the iconic, sky-line defining monument of the city. Berger will discuss how the Space Needle enabled Seattle to be perceived as being on the cutting edge of technology, a high-tech branding that continues today. **Jon Magnusson**, former CEO of Magnusson Klemencic Associates, comes from a long family history of construction in the Northwest. Magnusson went from walking around construction sites as a boy to leading a world-renown structural engineering firm responsible for iconic works in the Northwest and around the world. Projects include the Seattle Public Library, Safeco Field, Century Link Field and others. **Mike Lombardi**, historian at Boeing, will present the history of the most important company in the early northwest. Boeing's innovation has driven the Northwest economy for decades, providing a highly-trained work force, and continuing to innovate with new materials and processes in creating airplanes.



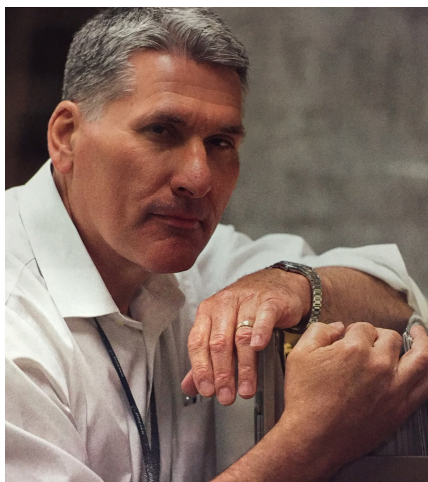
Jeffrey Ochsner



Knute Berger



Jon Magnusson



Mike Lombardi

A BIG THANK YOU TO OUR ORGANIZING COMMITTEE

Tyler Sprague

Jeffrey Beard

Brian Bowen

Melanie Feerst

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The Erie Canal – the 363 mile man-made waterway in Upstate New York – began construction 200 years ago. Sited in the Mohawk Valley, the waterway resides in only one of two valleys that fully bisects the Appalachian Mountains north of Alabama. By far the longest canal in the world at the time of its construction, the completed waterway connected a series of shorter canals and locks begun in the late 18th century and broke new ground with the sheer number of locks and aqueducts needed along its route. When completed, the Erie Canal provided the vast American interior with an inexpensive means of transporting raw materials to markets on the Atlantic and finished goods inland from coastal cities and Europe. Its construction guaranteed that New York City would dominate trade in the decades following the Revolutionary War.

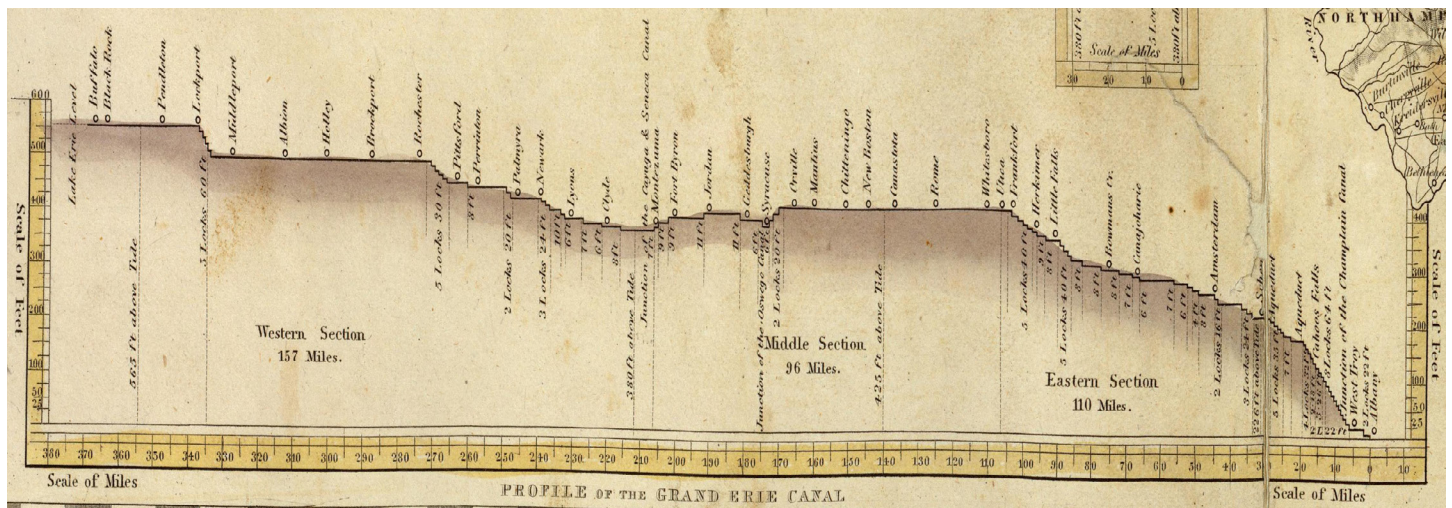


Fig. 1 Profile of Canal – Public Domain United States

After the war, a canal was proposed in the Mohawk River Valley at the national level. Efforts at securing federal funding ended, however, when in 1800 President Thomas Jefferson rejected the last of several proposals, calling it “a little short of madness”. He, like Washington before him, preferred a route to the interior along either the Potomac or James Rivers. Following Jefferson’s rejection, political efforts focused on the New York legislature.

Besides the sheer length of the canal, engineering challenges included a 600 foot rise in elevation between the Hudson River and Lake Erie, the need to cross several significant river gorges, and the vast amount of virgin forest that would need to be cleared. To move tree and earth a stump puller – which included a pair of huge wheels and long chain – and a “slip scraper” – a human powered early version of a bulldozer – were developed as the work progressed. Equally challenging was the need to waterproof the canal. Local lime cement quickly degraded in the first few years and necessitated a constant relining of the canal’s stone bottom and sides. Importing Roman cement from Italy would have been prohibitively expensive. In 1819 it was discovered that a limestone in the vicinity of Syracuse would not “slack” when wet. A series of experiments were conducted and it was found that the cement was indeed waterproof. Over the next six years 500,000 bushels of this cement was used to waterproof the canal and was later exported throughout the United States following completion of the canal.

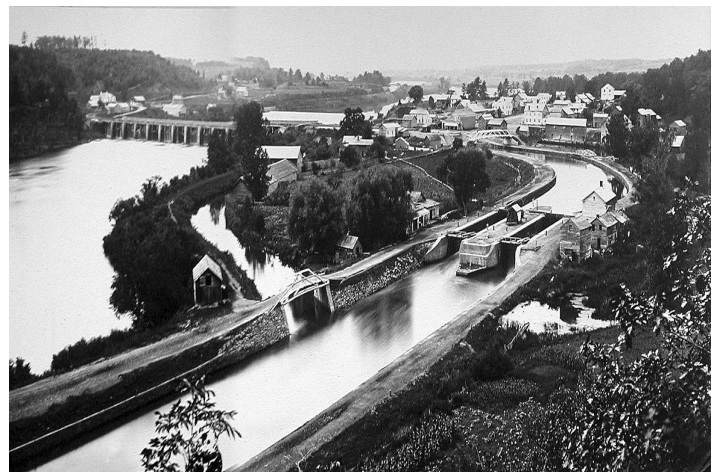


Fig.2 Clifton Park Collection - "Historic Erie Canal Photo: Aqueduct over the Mohawk River." National Scenic Byways Online., Public Domain

The center portion of the canal opened to traffic in 1820 while the greatest challenges – crossing the Genesee River

THE ERIE CANAL TURNS 100 (continued)

and climbing the Niagara Escarpment to reach Lake Erie lay ahead. A 1300 foot long embankment and 950 long aqueduct carried the canal around the rivers and creeks near Rochester. In 1826, a series of cannon between Buffalo and New York City marked the “great celebration” of the canal’s completion. The booming cannon carried the news 363 miles in only 90 minutes, travelling faster than any prior human communication. Over the next ten days, Governor Dewitt Clinton travelled the length of the canal and poured a keg of water from Lake Erie into New York Harbor to mark the “Wedding of the Waters” (incidentally the title of the best book on the subject). The canal reduced the cost of overland transportation by some 90% and was enlarged and expanded until the early 1900s. Today, the canal comprises one of 30 federally designated “national heritage areas” intended to preserve and interpret historical, natural, scenic, and recreational resources.

Sources

Bernstein, Peter (2005). *Wedding of the Waters: The Erie Canal and the Making of a Great Nation*. WW Norton & Company. New York.

National Parks Brochure (2006). *Erie Canalway*.

Figure 2: <https://commons.wikimedia.org/w/index.php?curid=705191>

Author Ben Hays grew up in the Mohawk Valley along the route of the original Erie Canal outside of Little Falls, New York.

MEMBER NEWS

Quentin Collette, PhD, recently published a research article “*Investigation of the Reinforced-concrete Construction of the Dotremont House in Brussels*,” in the latest issue of the APT Bulletin / Association for Preservation Technology

Volume 48, Issue #1 (*special issue on concrete*), 2017

On April 28th, Zach Rice presented an invited paper, “*Faith in the Future: Planning for Heritage Church Repair and Maintenance*,” at the 10th Biennial National Convention of Church Heritage Workers in Tagbilaran City, Bohol, Philippines.



1932-34 Dotremont house designed by modern architect L.H. De Koninck (Brussels, Belgium)

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CORPORATE MEMBERS!

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Technology

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Lovell Chen Architects &
Heritage Consultants

Building Conservation
Associates

Texas A & M

The Space Needle
Corporation

WE BUILT SEATTLE

A highlight of the Members Meeting is the 'We Built Seattle' panel discussion on Thursday evening, July 20th, celebrating the specific firms who have contributed to the history of construction in the Northwest.

Dean John Schaufelberger opens the event which is moderated by Len Holm (both of the University of Washington). The panel is composed of representatives from significant legacy firms, including Rick Redman (Sellen Construction), Jim Crutcher (Lease Crutcher Lewis), Bill Bain (NBBJ), Terry Deeny (Deeny Construction) and John Holmes (Manson Construction). These builders and their firms have shaped the Seattle landscape through their innovative projects for over 60 years.

This panel discussion will be an opportunity to share knowledge forward and engage a new generation in rich history of construction in Seattle.

The Construction History Society of America is grateful to AGC of Washington for their generous sponsorship.

This event is free and open to the public.

**THIS EVENT IS FREE AND
OPEN TO THE PUBLIC**



**THANK YOU
TO OUR
SPONSOR!**



Len Holm

Len received bachelor degrees in both Building Construction and Economics, and a Master's degree in Construction Management, all from the University of Washington. Previously with Bechtel and the Baugh Construction Company (now Skanska), he founded Holm Construction Services in 1994. Len has taught construction management classes for the University of Washington since 1993, and conducts in-house training seminars for private construction firms, clients, and associations. Len has authored ten books on project management, estimating, and dispute resolution which receive world-wide popularity. He has been active in Cost Engineering and the Disputes Resolution Board Foundation and has served as a member on DRBs for major projects such as the University of Washington's indoor practice facility.



John Schaufelberger

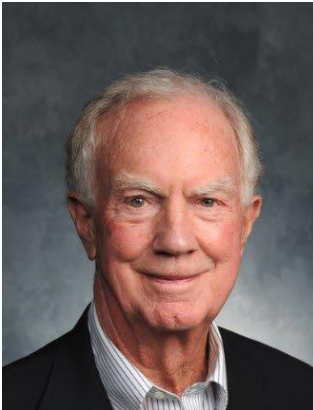
John is the Dean of the College of Built Environments, where he has taught since 1994. A licensed professional engineer, he served thirty years as an officer in the US Army Corps of Engineers prior to joining the University of Washington faculty. John has managed major public works construction projects all over the world and has represented the United States in negotiations with foreign governments. He is the author of *Construction Business Management* and *Construction Equipment Management*, both works published by Prentice-Hall. He is co-author of *Construction Cost Estimating: Process and Practices*, *Construction Project Safety*, and *Professional Ethics for the Construction Industry*, and *Management of Construction Projects: A Constructor's Perspective*.

WE BUILT SEATTLE (continued)



Bill Bain

A graduate of Cornell University — where he studied under Phillip Johnson, Buckminster Fuller, Paul Rudolph and Aldo Giurgola — Bill won the university's York Prize and Charles Goodwin Sands Memorial Medal. After serving with the Army Corps of Engineers, he returned to Seattle and joined the nascent firm of NBBJ, which was cofounded by his father. Bill is a past president of both the Seattle Chapter and the Washington State Council of the American Institute of Architects. He has lectured or taught design at Cornell, NYU, Harvard, University of Washington, Washington State University, and the Technology Transfer Institute of Japan and has served on a number of AIA and other design award juries. He has received the AIA Seattle Chapter Medal, the highest honor the Chapter can bestow, and was recently presented with the Filley Award for Excellence by the honorary land-economics society Lambda Alpha International.



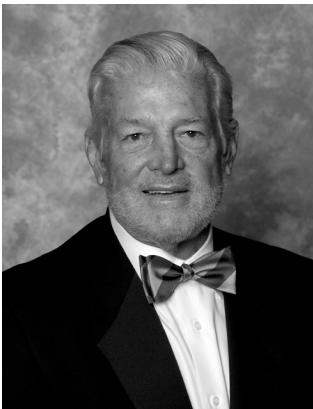
Jim Crutcher

Jim Crutcher joined his father-in-law at Lease Company in 1957, a company founded in Great Falls, Montana in 1886, and has held many different positions over the years, most recently Chairman Emeritus. Jim has been very active with the AGC, serving as president of the AGC of Washington, president of the AGC Education Foundation, and member of the National AGC Executive Committee. Jim notes there have been many changes in the field over the years: in the early days, all the work was lump sum competitive bid; there were no copy machines or computers, only slide rules and adding machines.



Terry Deeny

Founded by Terry Deeny's father John in 1938, Deeny Construction Co. is a third generation family-owned underground utility contractor. Boeing and the University of Washington are two places that the firm has laid many miles of pipe over the last 79 years. His construction career ended in 1999 when his son Jon took over, and he changed his license plate from I DIG to DUNDIGN. He was curious about the Associated General Contractors at an early age, having no idea that it would lead to a lifelong involvement leading to the presidency of AGC of Washington and then president of ACC of America. In retirement he spent many days involved with the Construction Management program at the University of Washington.



Rick Redman

Rick Redman received his degree in Business Administration from the University of Washington in 1965. After a distinguished football career at the University of Washington and nine years in the NFL, Rick joined his stepfather, John Sellen, at Sellen Construction in 1975 as the director of marketing. He was named president and chief operating officer in 1982; chief executive officer in 1988; chairman of the board in 1993; and chairman emeritus in 2008. Rick has served as officer and board member of many community and professional organizations in the Puget Sound over the years, including United Way, the US Bank Community Board, the Downtown Seattle Association, the University of Washington Alumni Association, Safe Crossings Foundation, the Pacific Northwest Ballet and the Washington Athletic Club.

SEATTLE TOURS

In addition to eight academic sessions, CHSA offers four guided tours led by local expert historians the afternoon of Friday July 21st in Seattle and the surrounding region.

Tour #1: Boeing Assembly Plant

The Future of Flight Aviation Center & Boeing Tour is located in Mukilteo, 25 miles north of Seattle. The Everett facility is home to the 747, 767, 777 and 787 Dreamliner production lines and is the world's largest building by volume. Visitors will see airplanes being built for our worldwide base of airline customers. This tour offers the only publicly available opportunity to tour a commercial jet assembly plant in North America.



Boeing Plant

Tour #2: 1962 Seattle World's Fair

The Century 21 Exposition – also known as the Seattle World's Fair – was held in 1962 and drew 10 million visitors, with architect Paul Thiry designing the fairgrounds and pavilions. The theme was modern science, space exploration and the progressive future, for which an ultra-modern Monorail line was developed to ferry tourists from downtown Seattle to the fairgrounds. The visual centerpiece of the fair, the Space Needle, a 605 foot \$6.5 million rotating restaurant tower, was considered a risky investment but was wildly popular among fairgoers. This tour will include the US Science Pavilion (Minoru Yamasaki), the Washington State Coliseum (Paul Thiry), and the Seattle Space Needle (John Graham Company).

Trivia: Elvis Presley shot the film *It Happened at the World's Fair* on location during the Fair's 6 month run.



Space Needle

Tour #3: Pioneer Square

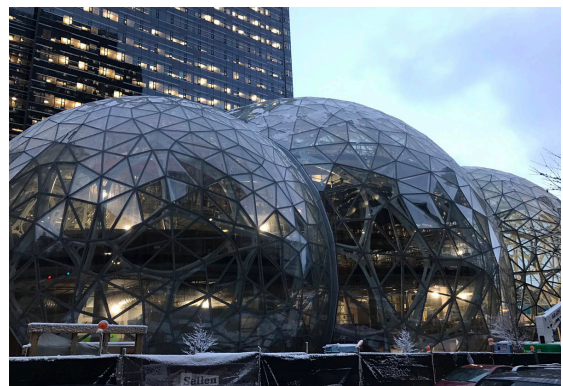
This tour will look at Seattle's historic downtown, constructed after the fire of 1889. The primarily stone and brick facades were built in the Richardsonian Romanesque style, with rounded arches and heavy timber interiors. As time advanced, the buildings transitioned to steel giving birth to Seattle's first skyscrapers in the 1910s. This tour will include the six-story Pioneer Building (1892), and the 38-story Smith Tower (1914) – the tallest building outside of New York City when it was completed.

Tour #4: Downtown Seattle landmarks

This tour will visit Seattle's contemporary downtown core including the Pike Place Market and renovation (Miller Hull), the Seattle Public Library (OMA/LMN), and the Amazon Spheres (NBBJ, under construction). While the Spheres won't be in use until early 2018, when completed they will hold a lush concentration of 3000 plant species from 30 countries and have an average temperature of 72 degrees with 60% humidity.



Smith Tower



Amazon Spheres

SEATTLE LODGING

CHSA has not reserved any hotel room blocks – we suggest you book reservations at these hotels within walking distance of the University of Washington campus:

Hotel Deca

4507 Brooklyn Ave NE, Seattle; 800.917.1145 or 206.634.2000

<http://www.hoteldeca.com/seattle-hotel-room.aspx>

Historic 1930's art deco hotel, free wireless

2 queens \$259/night; Studio single \$130/night (prices will probably rise in the summer)

Watertown Hotel

4242 Roosevelt Way Northeast Seattle; 855.580.8614

reservations@staypineapple.com

2 queens – (no single rooms), July 20-23 - \$230 / night double; free wireless, free bicycle rental

University Inn

4140 Roosevelt Way Northeast Seattle; 855.614.8286

info@universityinnseattle.com

July 20-23 - \$275 /night one queen, free wireless, outdoor pool, free bicycle rental

Silvercloud Inn – University District

5036 25th Ave NE Seattle; 206.526.5200

<https://www.silvercloud.com/university/>

July 20-23 - \$249 -259 /night for one king or two queens, free wireless, indoor pool

BOOK REVIEW by Brian Bowen

Cool: How Air Conditioning Changed Everything
Salvatore Basile, New York 2014, 278 pages

This is not a scholarly book – the author is a social commentator and one that traces the history of the search for cool air in America from the 1830's to more recent times. The focus is on the struggle to perfect a cooling device, and also the effort to persuade the public that they actually needed it.

Multiple ingenious systems were devised in the 19th century, especially for theaters and the like, which invariably did not work. Then in 1902 an engineer barely out of college, Willis Carrier, creates a solution for the Sackett-Williams Lithographic and Publishing Company, to provide cooled air at reduced humidity to their printing presses. It still took another 50 years to perfect the ubiquitous window air conditioner suitable for residential use and on up to the present where Forbes reported in 2008 that 20 million air conditioners were sold in China that year.

While this is not a book to engage a mechanical engineer, it makes an entertaining and accessible read for the average construction historian on a subject rarely addressed in the field.

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**Please send current research articles, books,
opportunities, or travelogue pieces for future Newsletters**

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