



**Frances Sheehan**

**11th Annual  
Rebecca Lukens  
Award Recipient**

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## Our Mission

The National Iron & Steel Heritage Museum is a not-for-profit educational institution whose mission is to promote an understanding of the iron and steel history of Coatesville, Chester County, Southeastern Pennsylvania and the region to audiences of all ages and interests by collecting, preserving, exhibiting and interpreting iron and steel's history and its relationship to the region and nation beyond.

Front Cover:  
Frances Sheehan,  
the 11th Recipient of  
the Rebecca Lukens  
Award.

Photo by:  
Robert Williams

# PRESIDENT'S MESSAGE

A few months ago, the National Iron & Steel Heritage Museum acquired property from ArcelorMittal, Inc. Two buildings included in the acquisition are known as the 120" rolling mill building and motor house, built during World War II to support the American war effort. Once again, I would like to thank ArcelorMittal, Ed Frey, General Manager of the eastern plate division, and the entire team who made the transfer possible.

This acquisition adds immense exhibit space to our museum, which will allow us to showcase large-scale exhibits (including products and process technology) and provide a home for the World Trade Center steel in our collection. Visitors will learn about the history and science of the American steel industry – the people, process, and products; the

past, present, and future.

Now, more than ever, it is INDIVIDUALS LIKE YOU that make a difference here.

You will be the ones to help make our bright future a success. Not only by keeping in touch and being updated on museum news, but also by becoming a member.

Our membership program is a main method of financial support for our educational and preservation efforts. For those of you that are members, THANK YOU... we could not do it without you!

We extend our congratulations to Frances Sheehan, the 2017 Rebecca Lukens Award recipient, who has done so much for the Lukens National Historic District, and for the community.



Scott G. Huston



Jim Ziegler

# EXECUTIVE DIRECTOR'S REPORT

Each year the National Iron & Steel Heritage Museum presents the Rebecca Lukens Award to an individual that demonstrates

the characteristics of Rebecca Lukens. Our 2017 honoree is Ms. Frances Sheehan, formerly of the Brandywine Health Foundation. Frances has given her time and expertise and has acted as an inspiration to the community.

In 2016, Pennsylvania celebrated 300 years of iron and steel making. "Pennsylvania Iron & Steel: 300 Years of Industrial Might", our

current exhibit, which is extended through August 2017, celebrates this long and rich history. From its origin in 1716 at Rutter's Bloomery to the more than thirty steel sites in operation today, the state is considered to be a top iron and steel making location in the world.

Black History and Women's History Month panel discussions were the kickoff for our 2017 Lecture Series. At "COATESVILLE STEEL: THE BLACK EXPERIENCE." and "COATESVILLE STEEL: THE WOMEN'S EXPERIENCE." former and current steelworkers took a trip down memory lane and shared their working experiences at the Coatesville steel site.

The National Iron & Steel Heritage Museum is a project of the Graystone Society, a 501(c)3 public charity registered with the Pennsylvania Bureau of Charitable Organizations. Contributions are tax deductible to the extent permitted by law.



Photo by: Robert Williams

## FRANCES SHEEHAN - 11TH REBECCA LUKENS AWARD RECIPIENT

The National Iron & Steel Heritage Museum, along with Coatesville Savings Bank, is pleased to announce the eleventh annual Rebecca Lukens Award, to be presented to Ms. Frances Sheehan. The award was established to honor local individuals who exemplify the qualities of Rebecca Lukens our nation's first female industrialist. These qualities include courage, resilience, leadership, and strategic outlook. The award will be presented to Ms. Sheehan on May 10th at a reception in the Lukens National Historic District (5:30 - 8:30pm).

A long-time resident of the Philadelphia area, Ms. Sheehan has been heavily involved in philanthropic efforts and organizations, especially in Coatesville and Chester County. Her interest and support covered a wide range of local organizations including Planned Parenthood of Chester County, the Chester County Women's Commission, the Coatesville Weed and Seed Program, Philanthropy

Matters, and others. Her experience with those groups ranged from founder, to board member, to president.

In 2002, with the sale of Brandywine Hospital, Frances became President and CEO of Brandywine Health Foundation. Under her guidance the foundation supported non-profits with \$14 million in grants, built Brandywine Center (health and housing center), and launched the Coatesville Youth Initiative to address the needs of local middle and senior high school students. In January 2017, Frances became president of Crozer-Keystone Community Foundation in Media. It is clear that Frances and Rebecca have demonstrated the same dedication to work and community.

### **Rebecca Lukens Award Recipients**

2007 - Mary Sullivan	2012 - Tammy Cansler Miles
2008 - Jane Davidson	2013 - Regina Horton Lewis
2009 - Barbara Travaglini	2014 - Molly Morrison
2010 - Gladys Flamer	2015 - Mary Ann Rossi
2011 - Nancy Hannum	2016 - Barbara Cohen

*In Memoriam:*



*Barbara Travaglini  
Rebecca Lukens Award  
Honoree  
2009*

**Congratulations Frances M. Sheehan!**

**Thank you for all your work and support on behalf of the City of Coatesville and the surrounding area.**



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**Proud Partners of the National Iron & Steel Museum**

**Congratulations Frances M. Sheehan**



Your resilience, leadership, courage, and strategic outlook as exhibited by Rebecca Lukens have left a mark on our community and in our hearts for years to come.

We are so proud of you and congratulate you on this award!  
~BHF Board & Staff

[www.brandywinefoundation.org](http://www.brandywinefoundation.org)

**MacElree Harvey, Ltd.**

is proud to support the National Iron & Steel Heritage Museum and its mission to promote Chester County's iron and steel history and heritage.

**Congratulations to Frances Sheehan!**



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## BRANDYWINE MANSION

Restoration of Brandywine Mansion, Rebecca Lukens' home, will continue this spring with the second phase of the roof restoration (Left side of the picture). The project includes reconstruction of the east chimney as an interpretive element (built of wood framing and stucco), restoration of roof framing, and reconstruction of roof cornice, wood shingle roofing, gutters and downspouts and painting of the cornice. This \$100,000 project is funded by Historic Huston Properties, the endowment set up by the Huston Foundation and the Stewart Huston Charitable Trust to care for Brandywine Mansion and Terracina.



## 120" Mill Motor House

The 120" mill and motor house project will begin soon. Next steps include a review of the perimeter fencing to allow access to tour visitors as soon as possible, but maintain building visitor security and safety.

The museum plans to move into the motor house and erect the World Trade Center steel memorial, comprised of the trident columns of Tower One (the North Tower), as phase one of the expansion.

We are currently seeking funding to

1. Secure the property
2. Assess the physical condition
3. Remediate the property
4. Make it available to tours on a limited access basis.



## GRAYSTONE MANSION



Graystone Mansion kitchen cupboard doors have been replaced to their original stature. During the years that the mansion served as Coatesville's City Hall, the doors had been removed and placed in the basement storage area.

In March, the doors replaced the drapery cover shown in the photo to the left.

This project is just one of the many restoration efforts at the museum. Not every project is large and visible, but even small projects like replacing doors show that every bit we do matters!



## MINING CAP

Long-time member and supporter Earl Dering donated a canvas mining cap and carbide lamp (invented around 1910). A miner's light was essential to his labor, but that light could also be dangerous. The acetylene gas that powered the carbide lamps burned cleanly and brighter than oil-wick cap lamps. The reflector brightened the flame, giving the miner a wider range of light. The open flame was still capable, however, of igniting gas in mines. NISHM is thrilled to add this treasure to our collection!

Interesting objects that are found in your home might make a great display. Give us a call!





*Dawn Schaeffer*



*Stacey Jones*



*David Williams*



*Waddell Tucker*



*Michael Brown*



*John Griffy*



*Robert Hanna*

## EXHIBITS & LECTURES

Our events in 2017 so far have included "Rebecca Lukens' Birthday: A Living History Celebration," "Coatesville Steel: the Black Experience," and "Coatesville Steel: the Women's Experience." In the steel programs, former and current black and women steelworkers shared their experiences of working at the Coatesville steel site. You can find videos of all three programs on our website.

Due to the success of our current exhibit, "Pennsylvania Iron and Steel: 300 Years of Industrial Might," we are extending it through the summer. In this exhibit, you can learn about the history of iron and steel in Pennsylvania, as well as the state's most significant iron and steel sites.



*Lois Hinderling*



*Carolyn Scott*



*Rose Terriman*



*Susannah Brody*



## CHUCK HOSSACK

Twenty years after retiring from Lukens in 1996, Chuck decided to volunteer at NISHM and was promptly put to work showing visitors around the museum and its historic homes. When not taking visitors through the museum property, you can usually find him online researching the history of the many iron furnaces, forges, iron works, and steel plants that operated in Pennsylvania since the 1700s.

Chuck, a journalism graduate of Temple University and former newspaper reporter and trade magazine editor, joined Lukens in July 1961 as *Lukens Life* editor. He spent most of his Lukens career in Public Relations/Public Affairs before joining C.L. (Skip) Huston III in Government Relations in 1989 and, after "Skip" retired, represented Lukens in both Harrisburg and Washington until his own retirement. In 2000, Chuck joined the staff of the late Senator Robert Thompson as policy director - a position he held until the senator passed away in 2006.

Chuck enjoys volunteer opportunities and, in addition to helping at NISHM, he volunteers at Tel Hai and as a trustee at 7 Glen Moore United Methodist Church.



*Editor of Lukens Life, September 1961*



## 300 YEARS OF IRON AND STEEL IN PENNSYLVANIA

### A STEEL GIANT - 1870S TO TODAY

#### **The Age of Steel Begins**

Prior to the 1870s, steel was expensive, difficult to produce in quantity, and was reserved for the best types of tools and weapons. This began to change in 1856 when Henry Bessemer invented the Bessemer process, which used a converter to melt and refine pig iron and allowed for the production of large quantities of steel at lower cost. Due to its strength and the ability to mass-produce quality steels at lower costs, steel began to replace iron as the metal of choice in the late 1800s.



*Open Hearth Tap*

*National Iron & Steel Heritage Museum*

The innovation of the open hearth process also occurred in the 1860s. The process achieved higher temperatures and took hours to produce a batch of steel, which allowed for testing the composition of the steel. Because the process also allowed for the recycling of scrap metals and the production of larger batches of steel, open hearth furnaces became the process of choice for American steelmakers by the 1890s.

By 1900, the U.S. produced 10,000,000 tons of steel annually, the most in the world. In 1914, the U.S. produced 23,513,000 tons of steel. Pennsylvania was the leading state in steel production and emerged as "the steel capital of the world," a title the state would hold for a century.

#### **Consolidation and Labor**

The 1890s and early twentieth century were marked by consolidation, capitalization, and organization of industry. Men and companies established monopolies over their regional steel industries. In 1892, Andrew Carnegie established a regional monopoly in the Pennsylvania steel industry with the formation of Carnegie Steel Company.



*Shift Change, c1950*

*United States Steel*

The greatest merger of all was the formation of the United States Steel Corporation in 1901. U.S. Steel was headquartered in New York City, but its iron and steel works centered in and around Pittsburgh. The ten companies that were a part of United States Steel Corporation owned 149 steel plants, 84 blast furnaces, 1,000 miles of railroad, 112 Great Lakes vessels, and thousands of acres of land for iron ore, coal, and limestone.

The creation of such large corporations also changed labor relations. The friendly relationship between the employer and employee disappeared. This led to misunderstandings which resulted in strikes and bitter industrial warfare between workers and their employers.

During the early 1900s, growth of the American labor force occurred because of the wave of immigration that came from Europe. Like the creation of large corporations, the influx of immigrants also greatly impacted labor relations. A divide grew between skilled and unskilled laborers. Skilled jobs often went to Americans or English, Welsh, Scotch, and German immigrants, while Poles, Hungarians, Czechs, Italians, and others made up the unskilled labor force.

### ***From Technological Advances to War***

In the first half of the twentieth century, important technological changes occurred. The steel industry began to mechanize, as exemplified by the introduction of the continuous strip mill, which allowed for the mass production of automobiles, tin cans, and home appliances. Research became a focus and companies opened their own laboratories to improve steel products and processes.

The electric furnace was also invented. Electric furnaces produced superior specialty steels compared to open hearth furnaces because they allowed for more regulation. The first large-scale development of the electric furnace was by United States Steel Corporation at its South Works in Chicago in 1909-1910. In 1913, the U.S. had just 19 electric furnaces. That number increased to 784 in World War II. Following World War II, the electric furnace supplanted the open hearth furnace as the process of choice for steelmaking in the United States.



*Punch Shop Workers, 1908 National Iron & Steel Heritage Museum*



*"C" Furnace Tap*

*National Iron & Steel Heritage Museum*

Mechanization and the electric furnace helped the United States meet the demands of World War II (1939-1945). The steel industry evolved and production greatly increased to support American involvement in the war. New plants and products were developed for specific war purposes, like heavier and more resistant armor. Record breaking production was achieved in all types of steel, guns, airplanes, tanks, and battleships. In 1950, the American steel capacity reached 100,000,000 tons, or about half of the steel produced in the world. Pennsylvania remained the leading state.

### ***Steel: The Essence of American Industry***

In the mid-1900s, steel began to touch the everyday lives of American citizens in railroads, automobiles, bridges, appliances, skyscrapers, military defense,

and more. Steelmaking facilities were established throughout the United States and located near a significant percentage of the population. In 1954, 45% of Pennsylvania's population lived in a community with some type of iron or steel producing facility.

The United States had six steelmaking districts: Eastern, Pittsburgh-Youngstown, Cleveland-Detroit, Chicago, Southern, and Western. Pittsburgh-Youngstown was the top producing district. In the 1950s, Pennsylvania was the top steel producing state, with a steel capacity of more than one-quarter of the nation's whole. Steel had been woven into the fabric of American life, and Pennsylvania had played a significant role in the advancement and expansion of the United States as a steel giant.



Strand Caster

National Iron &amp; Steel Heritage Museum

### ***A Stifled Steel Industry***

By the 1960s, the United States began to experience strong competition from foreign steel markets. Germany, Japan, and other nations adopted new technologies: the basic oxygen furnace and continuous casting, which greatly built up their steelmaking capacity. These new technologies out-performed the open hearth furnaces and ingot casting that many American steel mills continued to use.

Foreign competition and out-of-date steel plants helped lead to the collapse of the American steel industry. In the 1980s, industry employment shrank from 400,000 to 200,000 jobs, devastating many Pennsylvania mill towns. In the 1990s and 2000s, many American steel companies filed for bankruptcy protection and restructured by combining jobs and eliminating layers of management.

Companies that adopted the new technologies and implemented conservative financial and employment policies made it through the collapse of the American steel industry. Two examples in Pennsylvania are United States Steel Corporation and Coatesville's steel site, formerly Lukens Steel Company and presently ArcelorMittal USA.



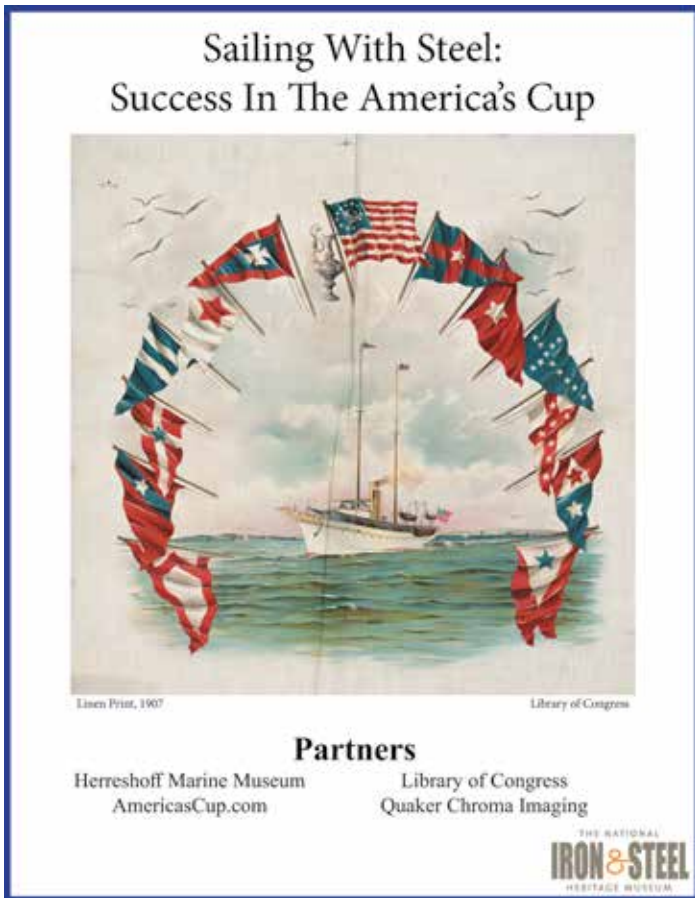
"A" Furnace

National Iron &amp; Steel Heritage Museum

### ***The Steel Effect Continues***

Although Pennsylvania's iron and steel industry is reduced, it remains a crucial part of the state's economy. The Pennsylvania steel industry continues to generate wealth and economic activity and employ a significant number of people. The state's current steel producers include more than twenty companies operating more than thirty sites.

Pennsylvania's steel industry has withstood decades of closures and the influence of foreign steel and the overcapacity crisis. Steel continues to be a vital part of the state's economy and Pennsylvania continues to have a strong influence on the American and the world steel industries, and will for many years to come. (See page 13 for sources)



Volunteer Ron Echhoff

## AMERICA'S CUP EXHIBIT

Did you know that Lukens Steel is in racing yachts? Going on display in May is our next exhibit, "Sailing with Steel: Success in the America's Cup."

Viewed as the most difficult trophy in sports to win, the America's Cup has awed the world for more than 150 years with fast yachts and close races. The sailing sport and the steel industry have a unique relationship, due to steel's properties and use in important parts of sailing vessels like hulls and masts.

This exhibit will celebrate the history of the America's Cup, examine the materials used to make vessels, make known the famous owners and sailors, and reveal the yachts that were made with product from Lukens Steel Company.

Be sure to stop by and see it!

## CALL FOR VOLUNTEERS

NISHM needs your help! We are looking for volunteers to help with tours, collections, office work, and events. Museum hours are 10:00am to 4:00pm, Monday through Saturday (with evening events).

Available opportunities include:

- Rebecca Lukens Award (5/10, 5:30pm) – set up, clean up, silent auction donations.
- Collections (Tues., Wed., and Thurs.) – organize rooms, accession process, etc.
- Tour Guides (any day) – tour visitors through steel exhibits and historic homes.
- Saturday Office Help – answer phones, greet visitors when staff is unavailable.

If interested, please contact LeAnne Zolovich, Educational Services Manager, at [education@steelmuseum.org](mailto:education@steelmuseum.org). Thank you!

**SPRING/SUMMER****Steel, Stories & Spirits: Thorndale Inn  
Featuring Eugene DiOrio****April 27** | 6:00pm | Free AdmissionA portion of your food & drink proceeds  
will be donated to NISHM**Volunteer Day****April 29** | 10am to 3pm

| Free Event | Lunch Provided

**Rebecca Lukens Award Presentation  
& Spring Exhibit Premiere****May 10** | 5:30pm to 8pm

| \$65 Admission

**Terracina Behind-the-scenes Tour****May 13** | 10 am & 11am Tours

| \$20 Per Person | RSVP Required

**Lukens Through The Years  
Hosted By: Freedom Village****June 1** | 9:30am to 11:30am

| Free Event | RSVP Requested

**Bus Trip: Steamtown National Historic Site  
& Lackawanna Coal Mine****June 8** | 7:30am to 6:30pm

| \$100 /Person, \$90/Members | RSVP Required

**2017  
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THANK YOU TO ALL OF OUR MEMBERS  
WHO JOINED OR RENEWED FROM  
NOVEMBER 1, 2016 TO FEBRUARY 28, 2017

NEW MEMBERS

Christine Arasin  
Francis Cooper  
Thomas Killingsworth  
Albert Nunn

Paul Backenstose  
Dale Frens  
Karl Marking

Viola Bird  
Jim Jackson  
Steven Nunn

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(\* DONATES 5+ CONSECUTIVE YEARS)

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Lindsay Brinton  
Robert & Josephine Coulter  
Dorothy DiOrio  
Paul Givler & Kathryn Trotta  
Mary Holleran & David Proctor\*  
Carol Holloway\*  
Peggy & Ken Kistler  
Joan Levenite\*  
Barry Rabin  
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Earl & Eliza Dering\*  
Larry Freeman\*  
Herbert Hoffman  
Robert Holliday  
James Kauffman  
Edward Lawrence\*  
Nancy Pitcherella  
Mary Ann Shumway  
Donald Van Horn\*

WE ARE GREATLY APPRECIATIVE OF ALL OF OUR  
MEMBERS' SUPPORT!  
WE COULDN'T DO IT WITHOUT YOU!

(Continued from Page 10)

Dates and numerical statistics found in the history article came from the following source:

Bining, Arthur C.  
"Pennsylvania's Iron and Steel History."  
Pennsylvania History Studies No. 5, the Pennsylvania Historical Association, 1954.



LUKENS ALUMNI CELEBRATION  
LOOKING BACK: LUKENS THROUGH THE YEARS

THURSDAY, JUNE 1ST, 2017  
9:30 - 11:30 A.M.

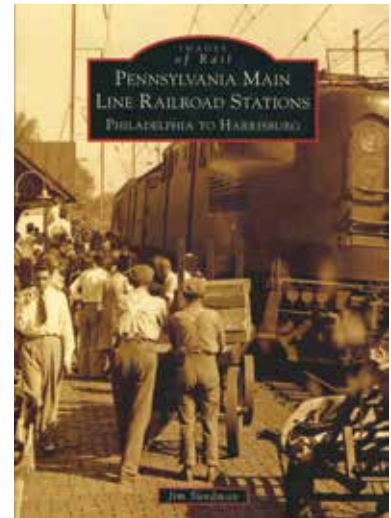
The National Iron & Steel Heritage Museum will present *Looking Back: Lukens through the Years* to honor all in attendance. A Chef inspired brunch will be provided courtesy of our sponsors Freedom Village. Alumni are encouraged to bring a guest.

RSVP to 484-288-2200 by May 24th



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## PENNSYLVANIA MAIN LINE RAILROAD STATIONS: PHILADELPHIA TO HARRISBURG



**Images of Rail series, Jim Sundman, \$25.00**

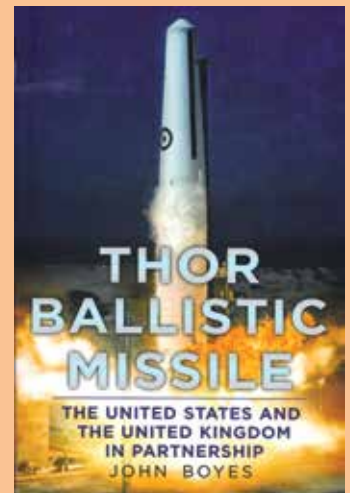
Jim Sundman is a local historian, researcher, and regular commuter on the main line. In this book, his photographs and research are used to document the passenger stations of the Pennsylvania Railroad, from Philadelphia to Harrisburg. Many of those stations are gone, but some still stand and are in use today.

## THOR ROCKET MODEL KIT & "THOR BALLISTIC MISSILE: THE UNITED STATES AND THE UNITED KINGDOM IN PARTNERSHIP"



**(1/87 scale, HO scale)  
\$45.00**

The steel industry provided various products for America's space program. In the 1950s, the U.S. Air Force and Royal Air Force collaborated to keep up with Soviet missile technology. American personnel built and commissioned bases in the United Kingdom and 1,300 RAF personnel came to the U.S. to learn the Thor system and make launches. The book examines this relationship and the model kit allows the Thor missile to come to life.



**John Boyes  
\$45.00**

## CLEARANCE SECTION AVAILABLE!



The museum store now has a clearance section, with items as low as \$3.00, including books, mugs, and other steel-related collectibles. Stop by and check it out!

THE NATIONAL  
**IRON & STEEL**  
HERITAGE MUSEUM



*Spring arrived in Coatesville just before our last big snowstorm. That did not stop our daffodils from growing and looking beautiful!*