THE INFOAGE
MARCONIGRAPH

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InfoAge Aids Local STEM Initiatives

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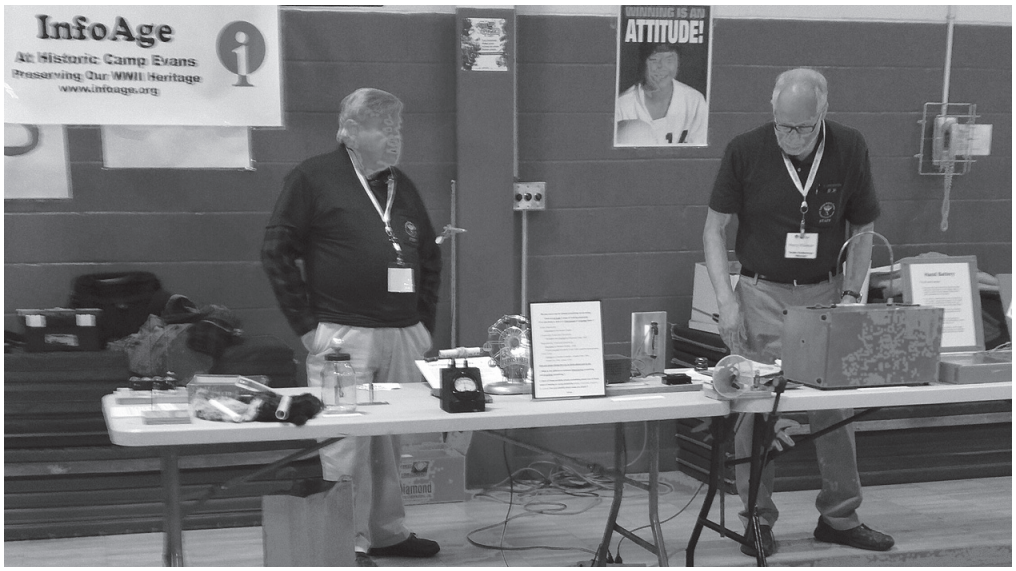

Our setup at the OTES Science Fair.

For the fourth time in as many years the NJARC Radio Technology Museum participated in the OTES PTA Science Fair at the Ocean Township Elementary School in Oakhurst. The event this year was on the evening of January 27th a bitterly cold night. During the day the schools students had set up displays of their projects in the gym and in the evening there was an open house for parents and others to see the results. InfoAge along with other local groups are invited to set up related displays in the evening to complement the students work. This school has excellent programs for science. The printed program for the event listed the following exhibits: 31 Fourth Graders, 22 Third Graders, 19 Second Graders, 7 First Graders, 10 Kindergarteners and one Pre-K entry. That's really starting them young. Obviously parental guidance assisted with the projects and some were quite amazing. Participating from RTM were Jules Bellisio, Harry Klancer and Ray Chase. We brought "hands on" displays in basic technology from the museum and received a lot of interest from the students and their parents plus we had fun as well. Brochures are made available to promote our InfoAge mission.

Another opportunity came to InfoAge on the final day of 2014 when we received a request from the Middletown Library as to whether we might be interested in participating with them in a New Jersey Makers Day event. After some research we were made aware of a New Jersey state STEM initiative

involving many libraries across the state. According to an article in MAKE magazine: “Something new is growing in the Garden State. The first New Jersey Makers Day will be held on Saturday March 21st. It’s a statewide event that celebrates the maker movement. It’s a little different then a Maker Faire; there are 150 locations doing events at the same time with 100 of them in libraries.”

;No earbuds here, kids use vintage earphones at Middletown Library.

The RTM felt that this was clearly in line with our desire to continue to be involved in outreach and the promotion of science for young people. We checked with the IXR group and found that Dan Wobster was already hooked up with the Toms River Library program so we agreed to participate with the Middletown Library. The schedule on the 21st was from 10 AM until 4 PM. This was a new venue for us and we brought an array of displays. Participating were: Ray Chase, Harry Klancer and Al Klase. We brought a circa 1924 home made 3 tube working radio to illustrate that “Makers” were active 100 years ago in the rush of amateur radio along with the advent of radio broadcasting. Several crystal set radios were shown along with other later home made radios. Al Klase set up equipment to insure that actual radio signals could be picked up by radios in the windowless community room in the library. We also had a display of Heathkit items to show the impact of the wide spread home building of electronic devices that started right after WWII. Harry Klancer brought a Raspberry Pi mini controller that is inexpensive and can be adapted and programmed to perform a multitude of common tasks. Al brought a device the size of a thumb drive that plugged into a laptop making a complete wide band searchable radio and spectrum analyzer.

New Jersey Maker Day, learning the techniques of radio tuning.

We thought that the audience would be more towards the middle school range but it was mostly a bit younger although there was a smattering of all age groups from first grade to high school seniors present. We were busy all day explaining our exhibits and helping kids and adults understand how home tinkerers or home brewers contributed much to the growth of technology and that the present “Maker” concept is a continuation of that innate quest to build and make with ones hands. It is interesting to note that external headphones or headsets are foreign to a generation used to “ear buds.” Same is true in regards to “tuning a radio”; slowly rotating a knob is alien to our “pushbutton” bred society. On the subject of vacuum tubes, who remembers them? Even the advent of transistor technology is becoming a forgotten subject so these outreach events help to keep the public aware of the importance of the history of technology and how we got to where we are today. Again, we passed out many brochures and had prominent signage promoting visitation to InfoAge.

Progress Report – TPS-1D Radar

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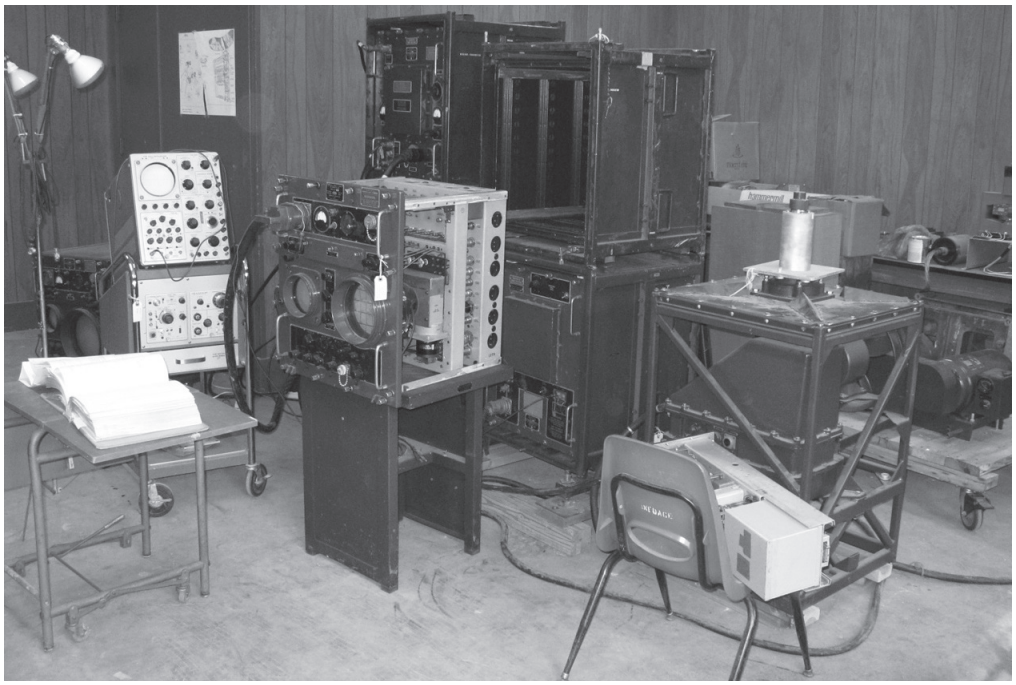

Our setup at the OTES Science Fair.

Since setting up the TPS-1D radar in Bldg. 9010A progress on getting it operational has been sporadic but now with a working HVAC system in this section more time has been dedicated to it. While the heating system is only set to 55 degrees, that has been a major comfort improvement during the cold winter months. When I originally set the system up, we had four spare units plus the six that make up the set so I selected the six units that were of the latest configuration and that appeared to be in the best physical condition. That did not turn out to be the best choice. The six units were set up in a mechanical configuration that would approximate the arrangement we hope to eventually have in one of the semi trailers outside of 9010A. This radar requires 400 cycle primary power and it was not until the summer of last year that I had completed the wiring of a motor generator set to supply this power. I then completed the inter unit cabling of the six units so that initial power-up could be started. While this 400 cycle power source is not sufficient to operate the set at full transmit power it should be able to carry it through all the low level checks. Since we do not yet have the full antenna array, energizing the transmitter is not an immediate concern. I also brought in a previously donated working Tektronix oscilloscope to aid in troubleshooting and alignment.

Initial power-on attempts disclosed that the original choice of the Power Supply unit was not the best. The main power contactor relay in it was frozen and is in a difficult location to remove. The Power Supply unit is the central point for all inter unit cabling hence would be difficult to replace with the spare Power Supply. It turned out to be easier to remove the main chassis from the spare unit and change it rather than the entire unit itself. After making that change, it was found that its cooling fan was inoperative. This is a small 400 cycle ac motor and the fan in the spare unit was also bad. As previously related these units were military surplus and had endured years of less than desirable storage conditions so it is not surprising that they have problems. Since 400 cycle fan motors would be difficult and expensive to find, a work around was done by use of a common 28 volt DC fan and the installation of a small power supply to feed it from the 400 cycle power line.

Once this was accomplished and after replacing about eight of its tubes that were missing or broken, the main Power Supply was activated. This unit supplies five various DC voltages to the over 110 vacuum tubes throughout the set and fortunately all the voltages came on correctly. Other circuits were sequentially energized while looking for signs of signal activity. The Main Control and Radar Indicator unit did not evidence any visible signals and investigation found that an internal wiring harness had some burnt wiring. The indicator unit has two radar scopes and this one was a later version with a larger PPI scope that I hoped to use. Well, these are surplus units so some technician years ago simply put it aside as unrepairable. We have an earlier version spare that was substituted and it showed more signs of life although more troubleshooting needs to be done. The later model unit was put aside and will be investigated at another time.

At this point, we have all the circuits energized save the transmitter high voltages and no fuses have blown. We have the Antenna Base and its drive mechanisms connected so I next tried activating the antenna rotational controls. No joy here as the drive motor will not budge. This Antenna Base is allegedly new right out of its crate and so far in troubleshooting no major problems have been uncovered, I believe that there is a missing connection in one of the several interlocking relay circuits. This illustrates an overriding system difficulty in that since most of these units have varying pedigrees from different manufacturers we do not know if they have compatible field changes and revision history. Fortunately we have good technical documentation so it is just a matter of dogging it out through the various circuits. Work will be continued in between our many other projects but I feel confident in that we have come this far without any serious problems.

Marconi Era Labor Relations

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I am currently in the midst of reading a book titled: A History Of The Marconi Company by W. J. Baker. It basically covers the creation and growth of the Marconi industrial/commercial empire. It is interesting and accurate except at one point the author cited the Tuckerton, NJ site as the receiving station for the New Brunswick transmitter. But that aside, the comment I wanted to make here relates to Marconi's relationship to his workers and managers. At several points in the story the author refers to Marconi as being a hard taskmaster and expecting those immediately working for him to work whatever hours and under whatever conditions prevailed to meet his demands, to expedite his projects and accomplish results. Yet in one section the author presents a more liberal side of the man. Quoting as follows: - "in those far off days when exploiting of the working class was the rule rather than the exception, we find that in April 1913 the Company established a retiring age and a Contributory Pension Fund, in association with a Benevolent Fund."

A further instance is shown by the specifications for the housing of engineers at the Belmar (New York station) where a 45-bedroom hotel was built to accommodate the unmarried employees, equipped with a luxurious lounge and smoking-room, and a number of private-sitting rooms. A 12-acre vegetable garden supplied fresh produce and a French chef was in charge of the catering arrangements, in a kitchen equipped with the latest devices including refrigeration. The married operators had four-bedroom cottages and the senior engineers and their families lived in spacious bungalows.

The grounds were landscaped, with ornamental gardens overlooking a river and the Atlantic; woodlands provided shooting facilities and the streams an abundance of good fishing. In short, the managerial policy was years ahead of its time, which is perhaps one reason why the Company has an astonishing record in long-service employees, with a strong family tradition in which it is not uncommon to find three generations at work in the organization.

Well, the preceding paragraphs may have been "lifted' from an issue of the Wireless Age, a Marconi house organ but from what we know from many sources, I guess Marconi was a pretty good guy to work for. At least he left us with a very substantial facility here. Now all we have to do is find those "ornamental gardens overlooking a river and the Atlantic."

NPS Honors Infoage Site as National Historic Landmark

Preview of New Space Exploration Center at TIROS Site

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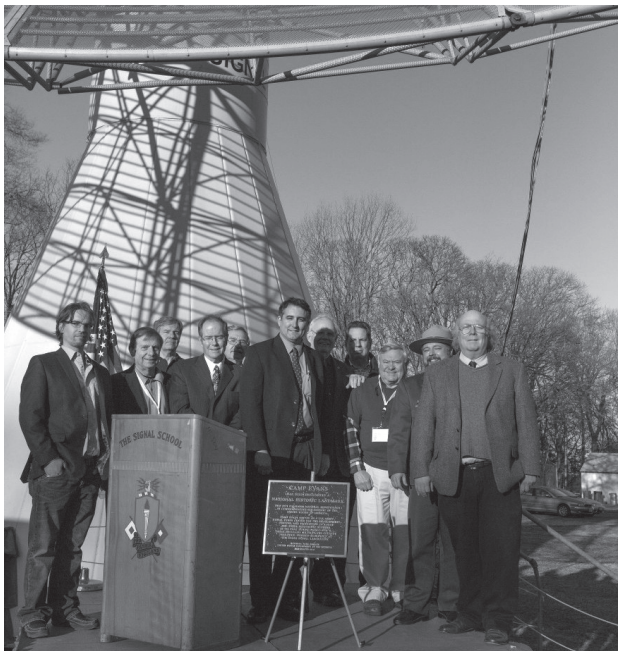
On Wednesday, April 1st the National Park Service presented Infoage Science History Museum a plaque for the Camp Evans site recently achieving WWII National Historic Landmark status.

The plaque was presented by Thomas Ross, NPS representative and Superintendent of the Thomas Edison National Historic Park. "There are only 2,500 historic sites that hold this distinction" Mr. Ross said of the Camp Evans' National Historic Landmark status, emphasizing the site's significance.



The National Historic Landmark plaque ceremony.

The occasion also celebrated the 55th anniversary of the launching of the world's first Earth-Observing weather satellite TIROS-I. The site's accomplishments with the TIROS program were remembered by several speakers including Infoage director Fred Carl, Infoage Board Chairman Mike Ruane, Harris Corp representative Lane Cohee and Princeton Professor of Physics Dr. Dan Marlow.

Following the ceremony, attendees were allowed a preview of the upcoming Infoage Space Exploration Center (iSEC). The new space features a TIROS dish operations classroom and an interactive exhibit on the site's history.

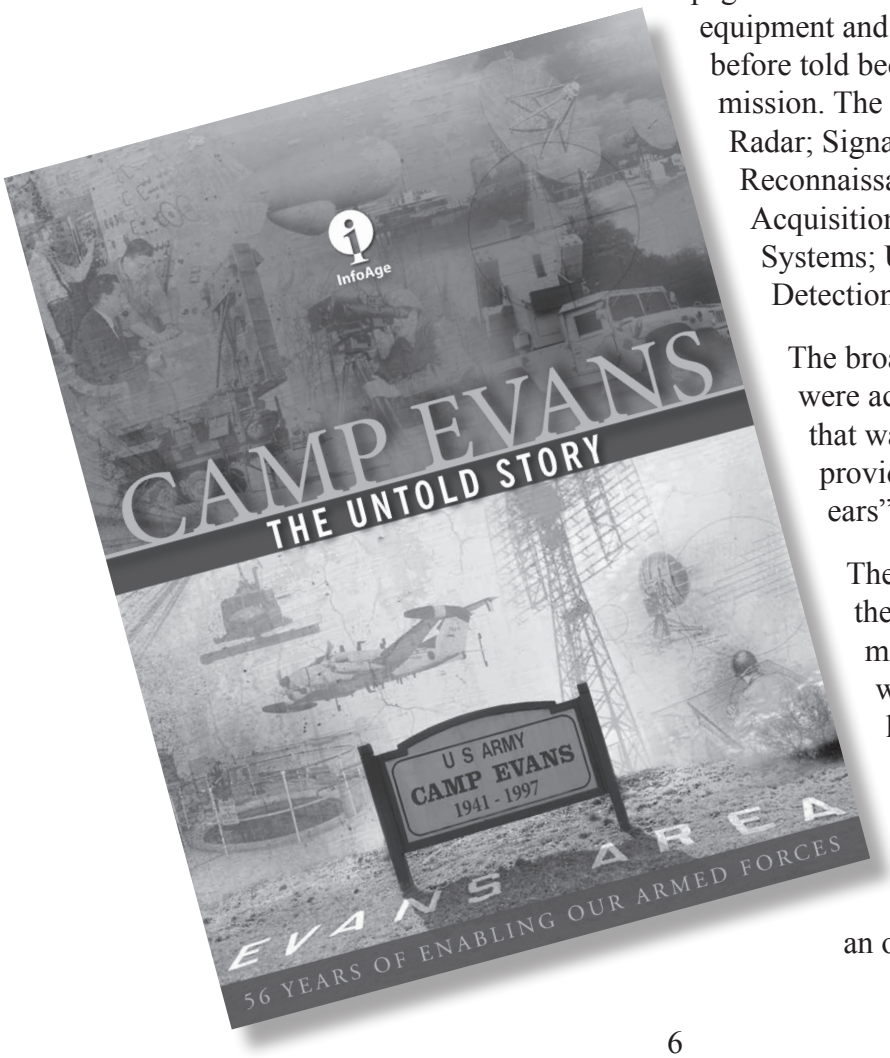
Previewing the InfoAge Space Exploration Center

Infoage Creative Director Stephen Fowler hopes to have the first stage of the new space open in late summer, shortly before school goes back into session. The space has been undergoing renovations coordinated by Princeton University, Infoage and OMARC with additional donations by product sponsors like CDW, a leading global technology distributor.

Camp Evans: The Untold Story

InfoAge is proud to sponsor the book, "Camp Evans: The Untold Story," in recognition of the significant contributions made by men and women, both military, civilian, and contractors who served at Camp Evans, Wall Township, New Jersey and who left a legacy of innovation that had enabled and continues to enable our Armed Forces.

The InfoAge Science History Learning Center and Museum at Camp Evans is a focal point for the preservation and interpretation of New Jersey's rich communications, computer, and electronics history, providing a specialized learning center for all visitors. The area is especially significant in history, serving as the site of the Marconi Wireless Telegraph Company of America. During World War I the Navy operated the station under the authority of the Radio Act of 1912. The message announcing that World War I had ended and the Armistice had been signed was received at the Marconi Station and retransmitted to Washington.



Camp Evans' U.S. Army Signal Corps provided America's first World War II radar systems. In 1946, Camp Evans under Project Diana opened the "space age" by reflecting radar signals off the moon. During the 1950s, innovative and far reaching technologies were developed at Camp Evans.

It is appropriate that InfoAge, as a science and technology learning center, has its start at such an historic location. The intent of InfoAge is to provide visitors a dynamic and evolving interactive atmosphere, rich in specialized history, technologies, and basic science, and similarly, to invoke an appreciation for the vital contributions of the many engineers and scientists who developed the technology.

We ask that you consider purchasing this important book which captures the tremendous heritage of technological innovation at this historic site.

"Camp Evans: The Untold Story" has over 200 pages and 100s of photographs showing the actual equipment and technology developed in a story never before told because of the classified nature of the mission. The breadth of the work described covers Radar; Signals Intelligence; Electronic Warfare; Reconnaissance and Surveillance Sensors; Target Acquisition Systems; Identification Friend or Foe Systems; Unattended Sensor Systems; Radiation Detection Systems; and Meteorology Systems.

The broad spectrum of accomplishments were achieved with an assembled workforce that was considered the best in the country, providing products that were the "eyes and ears" on the battlefield.

The legacy of Camp Evans will live on in the hearts and minds of those who helped make that history. Their contributions will hopefully be better appreciated by having been recounted in this book.

To order your copy of "Camp Evans: The Untold Story," contact InfoAge at 732-280-3000, or contact us via e-mail at rfginc@optonline.net and an order form will be forwarded.

The New Jersey Historical Divers Association, Inc. presents our twelfth

New Jersey Shipwreck Symposium

Shipwrecks: Governments, Archaeologists and the Private Sector – All Working Together

Starboard Paddle Wheel of the "Robert J. Walker" (photo courtesy of NOAA)

Friday, May 1, 2015 – 8 PM to 10:30 PM
at the InfoAge Science History Learning Center and Museum
2201 Marconi Road, Wall, New Jersey

Admission is $15 per person ($10 for NJHDA Subscriber Members).

Reservations required – seating is limited. Light refreshments available.
(advanced payment guarantees seating)

The symposium will be hosted by
Captain Steve Nagiewicz

Presentations

The Maritime Archaeology of the New Jersey Coast: Lessons from Superstorm Sandy
Lauren Cook and Christopher Morris

Mapping the Wreck of the ROBERT J. WALKER
Dan Lieb

TITANIC AT 100: Deep Sea Mapping and Survey of the TITANIC Wreck Site
Jim Delgado

For reservations, directions and more information, please call 732-776-6261 or e-mail info@njhda.org
Send checks payable to NJHDA, 107 Wilson Road, Neptune, NJ, 07753

Alterations and substitutions to the schedule may occur without notice.
NJHDA, Inc. is a 501(c)(3) nonprofit charitable historical research organization. All donations are tax deductible.

InfoAge
Science/History Center
at Camp Evans, Wall, NJ

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The Newsletter of InfoAge

Inside this issue...

Save The Dates

Vintage Computer Festival East 10.0

"VCFeX"

Friday, April 17 - Sunday, April 19, Wall, New Jersey

Vintage Computer Festival East is a hands-on, family-friendly celebration of computer history. It offers a book sale, classes, consignment sale, exhibit hall, food, lectures, museum tours, prizes, vendors, workshops, and more.

The event is produced by Mid-Atlantic Retro Computing Hobbyists (MARCH), is hosted by the InfoAge Science Center, and was founded by VintageTech.

This edition's keynoters are Ted Nelson and Bob Frankston.

For more information about these events, such as admission costs and times,
***call 732-280-3000** or visit us online at **www.infoage.org**.*

The Information Age Learning Center (InfoAge) received a General Operating Support grant from the New Jersey Historical Commission, a division of the Department of State.