A Time for Change at AMSE

(As published in *The Oak Ridger's Historically Speaking* column on January 26, 2015)

One of the most exciting things for Oak Ridge to happen recently, in my opinion, is the passage of the Manhattan Project National Historical Park bill by Congress and it being signed into law by the President. Now, we in Oak Ridge need to keep pace with Los Alamos, NM, and Hanford, WA, as the three communities prepare for that major change. Central to the planning for the park in Oak Ridge is the American Museum of Science and Energy.

As you may realize, there is substantial effort being placed to determine how to improve AMSE and better position it for the future. Ideas are coming from many directions. Excitement is growing. Exhibits are changing there. New approaches are being taken and even more being planned.

I am pleased to bring Historically Speaking column readers an insightful update on the status of the American Museum of Science and Energy written by the museum Director, David Moore.
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Throughout the recent series of four public meetings, the staff at AMSE has appreciated the enthusiasm and ideas on how to make the Museum a better visitor experience. After listening to these thoughts about preserving our important Manhattan Project heritage while upgrading our exhibits and bringing the Lab's modern-day research into the Museum, we are making some changes.

Work is continuing on a number of new exhibits. Some are already operating and some are planned for opening in the upcoming weeks.

An exhibit from the SNS facility (Spallation Neutron Source) explains the operation of that Oak Ridge National Laboratory facility to our visitors. Basically it deals with the fact that neutrons, when released from the nucleus of an atom, can travel inside other materials without damaging or changing that substance. Once inside the new "host' the neutrons allow scientists to focus upon the neutrons and see the internal structure of the new material.

Because everything in the known world is made up of atoms, which contain neutrons, neutron research can benefit every aspect of our lives ranging from medicine to energy.

Another new exhibit will highlight ORNL's work with Plutonium power units or RTGs (radioisotope thermoelectric generator) that are powering long-term NASA spacecraft.

This new exhibit will feature the current Cassini-Saturn mission, in orbit around Saturn since 2004. (Now that is exciting – Ray)

The 12 RTG-powered instruments aboard the Cassini spacecraft are returning some spectacular images and data from the ringed planet and its Moons. We became a NASA Affiliate Museum in August, 2014, and are receiving free educational materials as well as technical assistance for the exhibit from NASA. We have arranged to borrow an RTG for the display. (Wow, I can't wait to see that! – Ray)

We will be developing educational materials to enhance the STEM (Science, Technology, Engineering and Math) aspects of this exhibit. Also planned is an art day for young adults built around the results from this spacecraft

Another new exhibit will feature a Tiny Titan—a working demonstration of the Lab's supercomputer, Titan.

Now being programmed, our Tiny Titan demonstration computer will show how a supercomputer works. A number of collateral activities will be featured including the CRAY-built Titan's work in such fields as environmental studies and molecular scale physics. Other collateral materials accompanying this exhibit with feature ORNL's computing capabilities.

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Other new exhibits are currently being discussed. They include:

In the very early planning stages a possible exhibit may feature environmental studies at ORNL. Since biological, climate and environmental topics are major ORNL and DOE research interests, we think it may be worthwhile to look at ways to feature this research. Educational follow-on programs may also be developed.

We're also taking a look at our "Energy Room" and are studying possible upgrades to the exhibits there to better portray current thinking within the DOE/ORNL research vision.

And at some point, we hope to welcome a joint ORNL- Local Motors 3-D printed car into the Museum.

This exhibit will feature one of the World's first 3-D printed cars, one of which was featured several months ago on the Today Show and has appeared in numerous national publications.

Some of the other changes that you'll see include:

A stronger and more active Docent Program – In addition to expanding our Docent numbers, we will also be expanding their role in the Museum.

The Docents are attending a training program designed and presented by our current Educators that will allow them to conduct the Van de Graff presentation as well as active tours and demonstrations throughout the Museum. Our current plan is train them in operating the Tiny Titan exhibit as well. Docents that prefer to be stationed as a resource at our information desk will continue to do so.

If you are not volunteering we'd love to talk with you about the opportunities we offer for community service. (Here is YOUR chance to get involved – Ray)

Educators: Our Educators will also be assuming new roles including exhibit research—working with ORNL research results—to prepare new exhibits, as well as strengthening alliances and developing collaborative programs with other area Museums as well as with the area schools.

MBA Students: We have been working with the University of Tennessee regarding increasing the Museum's presence in our community. One of the initiatives that is in the offing is bringing a team of MBA students into the Museum to study ways to increase income for the Museum. We expect to host the first team of UT MBA students and their faculty advisor beginning this coming February.

Increased Community-Based Programs: We've hosted several book signings this Fall, one on the development of the bomb in WWII, and another book, which is a fictional account of life in the "Secret City" during WWII. Both publications are available in our Discovery Shop.

Other Community-based efforts include educational initiatives aimed at young adults and children and based upon such topics as the Winter Solstice in Fact and Lore.

We've also featured such events as the launch of the Orion spacecraft in early December with both live coverage and film. The Orion spacecraft is designed to carry a team of explorers to Mars and return to Earth.

In Conclusion:

Clearly, this is a time of change for our Museum. We are seeking ways to make the Museum a better visitor experience while at the same time positioning it to become more self-sufficient.

We are working with many factions within the Laboratory, DOE, the City, the AMSE Foundation and others, to become more self-sufficient and more diverse in our public presentations. In doing

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so, I expect for us to transition to a non-profit structure to provide a base to help offset Federal Budget constraints that are expected. At the same time, we are enhancing our services to the community we serve.

We plan to bring other innovative programs to the Museum and our community. All are intended to make the Museum a true community resource.

We are also preparing for our important role in the new Manhattan Project National Historical Park and look forward to participating in the planning stages with other stakeholders in the Oak Ridge area.

Clearly it is an exciting time for the Museum.

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WOW, what a report! It truly is an exciting time for AMSE and when AMSE attracts more visitors, Oak Ridge's Heritage Tourism economic development strategy takes a giant leap forward. While getting National Park status in Oak Ridge will boost our economy, we don't need to wait on that to take the obvious steps described by David above. I am pleased to see him taking a strong lead to make AMSE the most exciting visitor experience possible! Thanks David!

David Moore and the new Neutron Research exhibit

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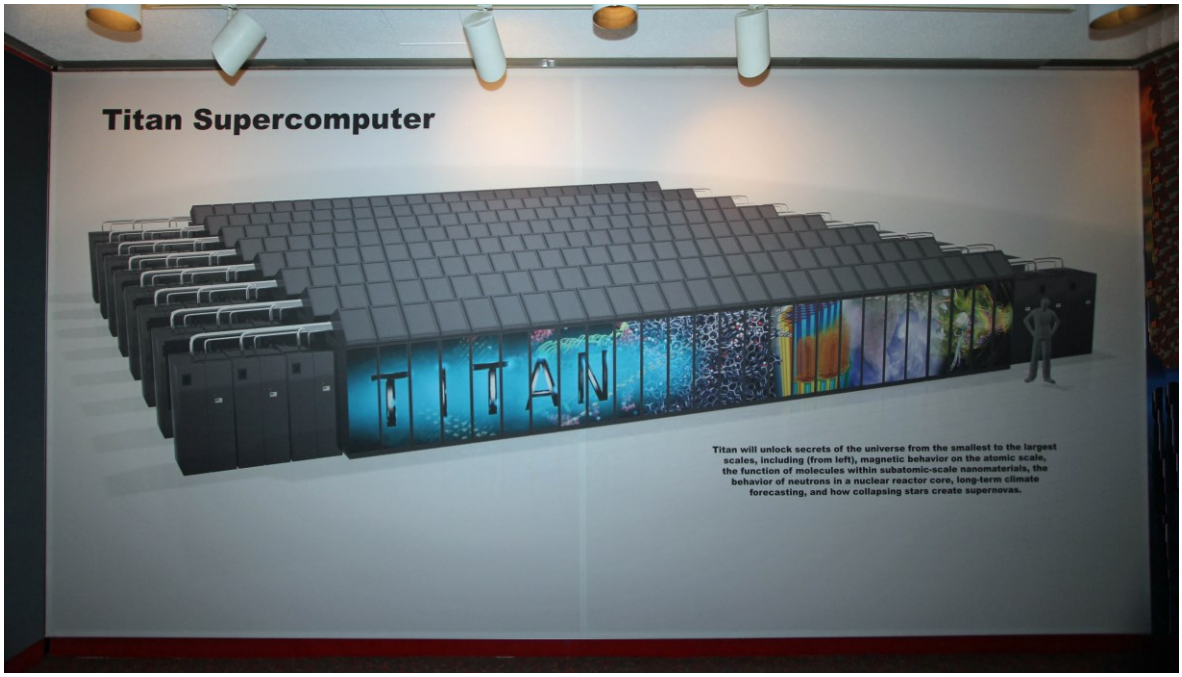
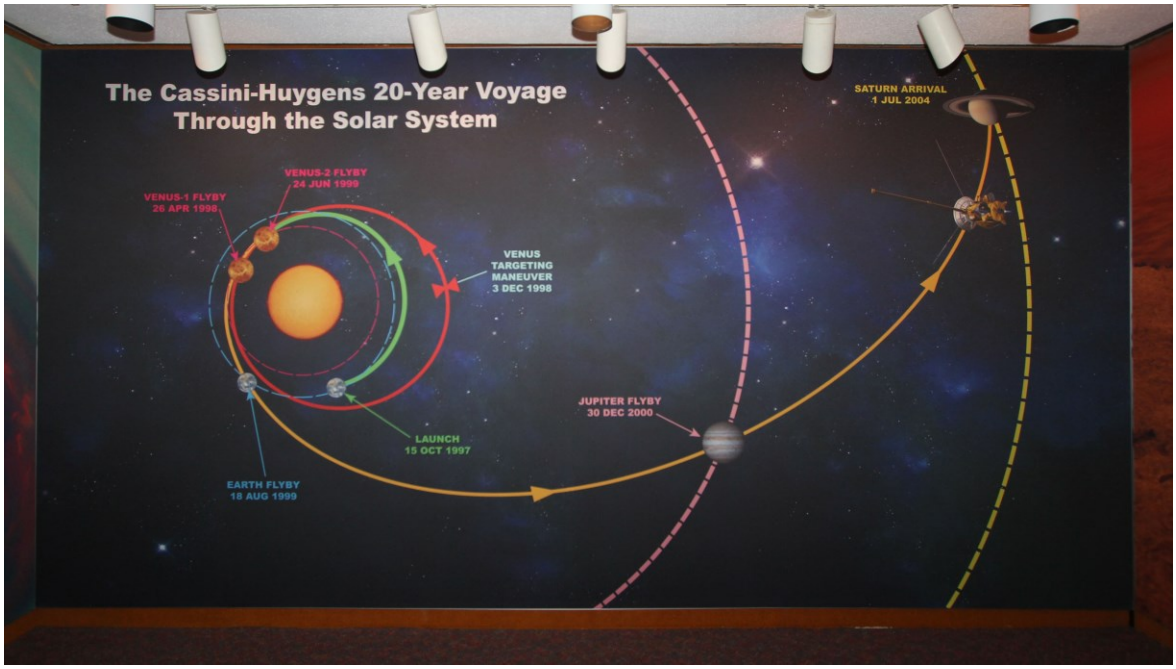


The backdrop for a soon to be installed real live Tiny Titan computer exhibit



The Cassini-Huygens 20-Year Voyage Through the Solar System Exhibit

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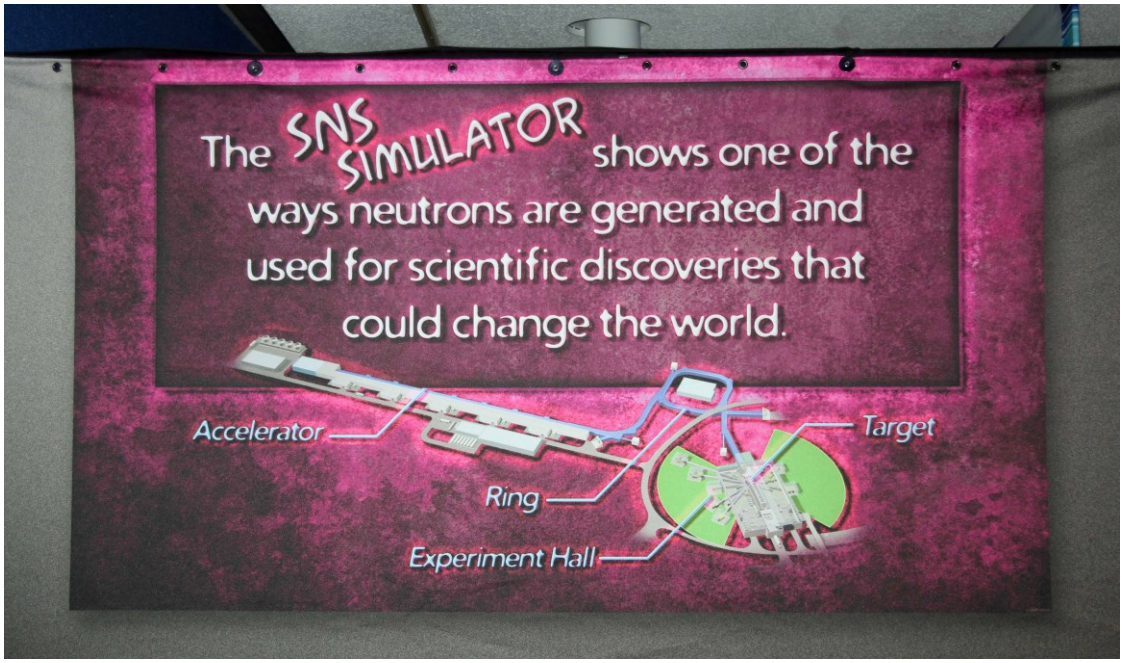

The Spallation Neutron Source simulator tells the story of the world's most powerful pulsed neutron generator located at the Oak Ridge National Laboratory

AMSE – a key element in Oak Ridge's Heritage Tourism Plan and the Manhattan Project National Historical Park