

OSTI and Science.gov – not your ordinary website – Part 1

Thank you for the positive feedback on the series I am writing on the history of the Y-12 National Security Complex. Many of you have indicated appreciation for the detail I have included that helped show the preliminary decisions and the difficult process to get to the decision to build the electromagnetic separation plant in East Tennessee.

I am interrupting the Y-12 history series of articles to focus on the history of the Office of Scientific and Technical Information in recognition of the 60th anniversary of OSTI scheduled for September 18, 2007. There will be special activities at the OSTI location during the day and a free community lecture event open to the public at the American Museum of Science and Energy beginning at 7 PM during the evening.

Please make your plans to enjoy the evening event ...you will be glad you did and will learn from Dr. Eugene Garfield. He will speak on "Standing on the shoulders of Giants – tracing the impacts of information retrieval system on science policy." Dr. Garfield is founding publisher/editor of *The Scientist*.

Interestingly, there is a lot of scientific and technical information about Y-12 that is available through OSTI and the earliest collection of scientific information that was the origin of OSTI had its beginning at Y-12. Colonel Nichols' direction to start a collection of scientific information from the contractors who had worked on the atomic bomb selected Y-12 information as the first to be collected.

OSTI is located at 1 Science.gov Way on the east end of Oak Ridge. This series of articles will attempt to shed light on the history of this unique Oak Ridge organization with national and even international connections.

I want to clarify the difference between OSTI and Science.gov as the terms are often confused. OSTI is a Department of Energy organization with a rich history of providing scientific and technical information to DOE researchers and through the creation and hosting of such innovative web search tools as Science.gov is now making scientific and technical information available nationally.

Other web search tools, such as the recently deployed WorldWideScience.org have international connections and are global in scope. OSTI seeks to accelerate scientific discovery through web search tools that make scientific and technical information easily accessible to every computer in the world!

Additionally, I want to introduce you to the latest innovations for searching the internet for global scientific information using the "deep web." Deep web searches refer to those areas of the internet that are not accessible by Yahoo! or Google type search engines, but are the locations where the majority of scientific information can be found.

Let's look closely at Science.gov. This is an internet search tool for government science information and research results. At this one web location a researcher can search more than 50 million pages of science information with just one query. Imagine 1,800 web sites at your finger tips with relevancy ranking. Sure beats looking through paper reports or flipping pages in books, huh. Science.gov is available to everyone with a computer.

OSTI has grown from a paper and manual data handling operation started because of the need to capture the scientific information generated during the Manhattan Project's effort to create the world's first atomic bomb to the internationally known organization with the most innovative

Internet search engines available today. They are also continuing to look to the future with even more creative approaches to accelerate scientific research.

When I asked Sharon Jordan, Assistant Director; Office of Program Integration for OSTI, to tell me what future plans OSTI had for internet research, she replied with a laugh, “to infinity and beyond.” As I have grandchildren who have all loved *Toy Story*, I immediately identified with the well-known expression of Woody’s pal, Buzz Lightyear, and I got the picture.

Jordan went on to show me a quote from a recent workshop held at OSTI, “Sharing knowledge advances science and technology – Accelerating the sharing of knowledge accelerates the advancement of science and technology.” This corollary is the theme of OSTI’s future endeavors.

From 10,000 requests a year in the early years to over 4.5 million downloads per year is quite astonishing, but it is one measure Jordan uses to show the value of OSTI’s web tools. Yet, 4.5 million downloads is only the beginning for OSTI. Sharing knowledge through online access is on an exponential curve and is expected to continue to grow as more and more information is made available online.

WorldWideScience.org is another example of OSTI’s innovative partnering and creative approach to hosting web sites with global knowledge sharing as the intended goal. It is the latest in a series of innovations and is built on the experience gained developing Science.gov.

On June, 22, 2007, the Department of Energy and the British Library, along with eight other participating countries, opened a searchable online global access to science information from 15 international sources. Much as Science.gov makes available national sources of existing scientific and technical information, WorldWideScience.org makes available international sources of such information.

WorldWideScience.org provides search capability on a global scale and gives citizens, researchers and anyone interested in science the capability to search science databases not accessible through Yahoo! and Google. WorldWideScience.org was developed and is maintained by OSTI.

Next week we will explore additional innovative applications from OSTI. We will also see how the internet has enabled advances in knowledge and just how OSTI makes available to the public a wealth of scientific and technical information.

Caption: Deep Web refers to those databases that are not normally accessible through Yahoo! or Google but contain much of the existing scientific and technical knowledge