

The Scientist of Y-12 – Dr. Googin

Dr. John M. Googin had already established himself as a valuable asset to Y-12 well before the COLEX (column exchange) process to separate Lithium 6 was developed and installed into Buildings 9201-5 (January 1955) and 9201-4 (June 1955). Dr. Googin was so much a key part of this COLEX process design and implementation that I feel now is the time to introduce “The Scientist of Y-12.”

Dr. Googin’s middle name was Melvin, but to many he might well have been better named, “Merlin,” as much of what he did certainly seem magical. He was born in Lewiston, Maine, on May 2, 1922, and earned his B.S. degree in chemistry in March 1944 from Bates College in his hometown. In May 1944 he came to work in Oak Ridge at Y-12, having been placed in 4F category for the military and thus accepted by Tennessee Eastman Company as a Junior Chemist.

While working at Y-12 as a chemist John completed his graduate work at the University of Tennessee and went on to obtain a Ph.D. in Physical Chemistry in 1953. Dr. Googin’s career at Y-12 spanned 49 years and eight months and was spent providing technical assistance and guidance on ALL major Y-12 production processes as well as many of those at K-25.

He was awarded an honorary Doctor of Science degree by Bates College in 1968, was made a Fellow of the American Society for Metals in 1974. He was made a Research Fellow of Union Carbide Corporation in 1976, received the Industrial Research Magazine’s IR-100 award several times and was awarded McGraw-Hill’s Chemical Engineering Magazine’s Award for Outstanding Personal Achievement in Chemical Engineering in 1982.

Dr. Googin was made a Corporate Fellow of Martin Marietta Energy Systems, Inc., in 1984 and a Senior Corporate Fellow in 1987, given the 1987 William J. Kroll Zirconium Medal of the W. J. Kroll Institute for Extractive Metallurgy in 1988 and also made a member of the National Academy of Engineering in 1988.

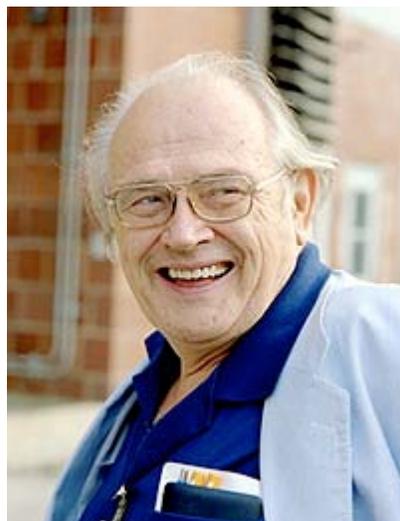
He was given the American Society of Materials International Gold Medal for life-long contributions to the field of Materials Technology in 1989.

In 1991, Dr. Googin, a member of the United States Office of Technology Assessments’ Advisory Panel, was asked to assist in the review of inspection data, photographs and presentations to the International Atomic Energy Agency on the potential implications of the Iraqi program for enriched uranium production by electromagnetic techniques. Dr. Googin quickly identified locations where attempts were being made to construct electromagnetic separation plants similar to what Y-12 had used to separate the uranium 235 for Little Boy during the Manhattan Project. Missiles were subsequently used to destroy all the sites John identified.

In August, 1993, Dr. Googin participated in the preparation of the United States Office of Technology Assessments’ *Proliferation of Weapons of Mass Destruction: Assessing the Risks* report as a member of the Advisory Panel. He was the holder of a dozen patents.

Dr. Googin’s long career at Y-12 saw him engaged in everything from the chemistry associated with the electromagnetic separation of uranium 235 using calutrons, to zirconium and hafnium separation, to lithium 6 separation, to the various other chemical processes throughout Y-12 and over all programs including many at other sites such as K-25.

His interactions with the people doing the work are legendary. His ability to ask the key question in a manner which caused you to think through the situation more thoroughly could not have been better



Dr. John M. Googin, Y-12 Scientist, 1922–1994, who came to Y-12 in 1944 and became one of the most valued contributors to Y-12’s long history of accomplishments.

executed by a person well trained in counseling. He did it naturally because he genuinely cared about the people. That did not mean his questions were not pointed, they certainly were. His uncanny ability to cut to the very heart of any technical situation and even some managerial issues were well known by all who interacted with him.

During his time at Y-12, he was, without a doubt, the most respected technical mind on the site. George Jasny said of him, "There was a common element to all of his accomplishments: the ability to combine a profound understanding of materials and their behavior with an unerring sense of what might work in the factory." Jasny went on to say that John was the best bridge between the thinkers and the doers, had the best feel for the elegant, practical solution, and was firmly ensconced in the feedback loop that connected the physicists' dreams with the realities of production.

When John died unexpectedly on January 16, 1994, many tributes were written to his long-standing career at Y-12 approaching 50 years. He truly was "THE" scientist for Y-12's many processes. A *Biography of Dr. John M. Googin* was published as a special issue of *For Your Information*, the Development Division's publication where he had published many informative articles.

Next we will examine John's role as the Y-12 Scientist in more detail. We will look at his arrival at Y-12, his early years during the Manhattan Project and his eventual interaction with all production processes at Y-12 as well as his relationship with the people who ran them.