NIST'S PROGRAM IN CHEMICAL METROLOGY: ADDRESSING CURRENT NEEDS AND MEETING FUTURE CHALLENGES

Speaker/Author: Willie E. May
Analytical Chemistry Division (839)
ACSL, Room A109
National Institute of Standards and Technology
100Bureau Drive, Stop 8390
Gaithersburg, MD 20899-8390
willie.may@nist.gov
Phone: (301) 975-3108; FAX: (301) 926-8671

Abstract

From its very inception, the United States established the authority of Congress to "… *fix the standard of weights and measures…*" (Constitution of the United States, Article 1, § 8). The national importance of measurement science and measurement standards in the U.S. and a commitment to a strong Federal role was again recognized in the early 20th century with the establishment of the National Bureau of Standards (NBS) in 1901.

This well-defined role for NBS was re-articulated and expanded when the Bureau was renamed the National Institute of Standards and Technology (NIST) in the Omnibus Trade and Competitiveness Act of 1988. NIST was asked to:

> *"...augment its unique ability to enhance the competitiveness of American industry while maintaining its traditional function as lead national laboratory for providing the measurement, calibrations, and quality assurance techniques which underpin U.S. commerce, technological progress, improved product reliability and manufacturing processes and public safety;"*

Although physical quantities such as length, mass, temperature, time, etc. are the first to come to mind when one thinks about NIST and measurement standards, chemical measurement research and standards have been a major activity since the establishment of NBS. Because the analytical chemistry function at NIST has a different objective than similarly named functions in industry or academia, it is carried out at NIST in a somewhat different manner.

This talk will describe how NIST's research and service programs in Chemistry Metrology are structured to provide the reference base and underpinning for chemical measurements made throughout the U.S. and on a defacto basis – much of world. Examples will be given regarding the impact of several current NIST measurement and standards activities that impact quality of life--such as Healthcare, Food and Nutrition, and the Environment. The talk will conclude with a brief discussion of NIST's measurement and standards role in areas of contemporary interest such as Nutraceuticals, Genetically Modified Foods and Global Change.