

# Former Pentagon Research Fellow Studies the Atomic Structure of Materials, at the University of Alabama, in Tuscaloosa, Alabama

NORFOLK, VA – August 29 (SEND2PRESS NEWSWIRE) – Dr. Archie W. Earl, Sr., a former United States Pentagon research fellow, spent part of his summer (2005) at the University of Alabama (UAT), in Tuscaloosa, Alabama, USA, studying the atomic, ionic, and crystallic structure of materials. The program was an intense three-week program designed to give HBCU mathematics, biology, chemistry, physics, and engineering faculty a close-up, and hands-on, look at metallurgical and materials engineering research.

The program was part of a research project spearheaded by Dr. Viola L. Acoff and Dr. Mark L. Weaver, both of the Department of Metallurgical and Materials Engineering at the University of Alabama, Tuscaloosa, Alabama, USA. It was cosponsored by the National Science Foundation and the College of Engineering at UAT.

Dr. Earl said that, “Everything is made of materials, e.g., cars, houses, airplanes, plants, even people. We eat materials. We wear materials. In metallurgical and materials engineering research, all types of materials are explored.”

The workshop included lectures and/or experiments on Atomic Structure/Bonding; Crystal Structure; Defects in Crystals; Electrical, Optical, Thermal, Mechanical, and Magnetic Properties of Materials; Phase Equilibria and Transformations; Metal Casting; Crystal Engineering; Electron Spectroscopy; Thin Film Processing; and Biomaterials. Dr. Earl attended lectures and/or conducted supervised hands-on research experiments with glass, ceramics, metals, polymers, and composites.

Computers and computer programs were an integral part of many of the research experiments. Information about the materials, used in most of the experiments were fed into computers and the computers produced numerical quantities and visualizations related to the experiment and the materials.

Dr. Earl stated that “To me, one of the most interesting topics covered at the workshop was the atomic structure of materials. I could really relate to that topic. In undergraduate school, at Norfolk State University, I conducted many research experiments in atomic and nuclear physics. I also wrote a paper entitled “Mutations Induced by Atomic Radiation.” The paper was a study of the long-term effect that the atomic radiation (produced when the atomic bomb was dropped on Japan, during WWII) had on the people of Hiroshima and Nikisaki, Japan. He further stated that “The summer research activity at UAT gave me a chance to reacquaint myself with research related to atomic and nuclear physics. I have ‘always’ been interested in nuclear reactors and

nuclear fission and fusion.”.

During the summer of 1999, Dr. Earl served as an HBCU Faculty Fellow at the Pentagon in Washington, DC, USA. His duty station was the Office of the Assistant Secretary of the Army (Financial Management and Comptroller), Deputy Assistant Secretary of the Army (Financial Operations), Room 3E588, 109 Army Pentagon, Washington, DC 20310-0109. There, he conducted a thorough analysis of the website of the Financial Operations (FO) section ASA-FM&C and developed a procedural manual for action officers to use to develop, implement, and maintain webpages on the World Wide Web.

Dr. Earl holds a BS, from Norfolk State University, in mathematics; an MA, in mathematics, from Hampton University, in Hampton, Virginia, USA; and an EdD, from the College of William and Mary in Virginia, in Williamsburg, Virginia, USA, in higher education, with an emphasis in business, finance, and budgeting. He has also done considerable study in computer programming and information systems. He is presently an Associate Professor, in the Department of Mathematics, of the School of Science and Technology, at NORFOLK STATE UNIVERSITY, in Norfolk, Virginia, USA.

To find out more about Dr. Archie W. Earl, Sr., visit his official website (click link).

News issued by: Dr. Archie W. Earl, Sr.

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Original Story ID: (714) :: 2005-08-0829-005

Original Keywords: Dr. Archie W. Earl, Sr., Pentagon Research Fellow, Atomic Structure of Materials, Tuscaloosa, Alabama, mathematics, biology, chemistry, physics, and engineering faculty, metallurgical and materials engineering research Dr. Archie W. Earl, Sr.