CONNECT

CONsortium of Nuclear sECurity Technologies

CONNECT Undergraduate Research Experience

Tommy Rockward

Los Alamos National Laboratory

Tuesday, 23 July 2024
2:00PM - 3:30PM
BSB 3.03.02

An Overview of On-Going Research in the Materials, Physics and Applications Group

Tommy Rockward is currently a Research Scientist in the Materials, Physics, and Applications Group at Los Alamos National Laboratory. He received his B.S in Physics in 1994 and M.S. in Applied Physics from Southern University in December 1998. His theses focused on optimizing polymer electrolyte membrane fuel cell performance in the presence of reformate gas. His work has continued over 25 years at LANL and expanded to include cathodes, bi-polar plates, and contaminants issues. He has actively participated in the USFCC Materials and Components Working Group to establish a standardized testing protocol for fuel cells. Tommy served as the U.S. international representative to establish a hydrogen fuel standard for the Department of Energy's Safety, Codes, and Standards sub-program. Tommy was responsible for conducting experiments and with different contaminants to probe their impact on an operating fuel cell using various operating conditions. To date, Tommy has disseminated results to a broad audience that included international collaborators such as Japan, Korea, Germany, and France to name a few. His efforts were instrumental in developing an international fuel quality standard, ISO-14687-2 for road vehicles. In addition, Tommy also served as sub-committee chair for the ASTM D03.14 group. A group formed to establish standard test methods to detect trace contaminants in gaseous hydrogen fuel for the DOE's Safety, Codes, and Standards Program. He currently involved

More recently, Tommy led a successful effort to launch a new collaboration with Minority Serving Institutes (MSI) that includes Southern University A. & M. (Baton Rouge), Allen University, Prairie View A. & M., Tennessee State University, Interamerican University of Puerto Rico, and Morehouse College and numerous other institutions. His efforts have expanded work scopes that include, but are not limited to, additive manufacturing, sensors, material characterization, and energy systems. Tommy expects that this effort will help improve the core capabilities at each institute both experimentally and analytically. This will improve students' employment opportunities at National Laboratories. Tommy has co-authored several publications and received five patents.

Los Alamos NATIONAL LABORATORY

UTSA The University of Texas at San Antonio™