



Brief Bio
Sekazi Kauze Mtingwa

Sekazi Kauze Mtingwa is Principal Partner at TriSEED Consultants, LLC in Hillsborough, North Carolina, having retired in 2012 from the faculties of North Carolina A&T State University and the Massachusetts Institute of Technology (MIT). He is a Fellow of the American Physical Society (APS), American Association for the Advancement of Science, and National Society of Black Physicists.

Mtingwa co-founded the National Society of Black Physicists and National Society of Hispanic Physicists. Internationally, he co-founded the African Laser Centre, which is a network of over 30 laser laboratories throughout Africa and for which he wrote the *Strategy and Business Plan*; African Physical Society; African Institute for Mathematical Sciences in Ghana; African Light Source Initiative; Lightsources for Africa, the Americas, Asia and Middle East Project (*LAAAMP*), which seeks to enhance synchrotron light source and crystallography sciences in developing countries; and African Review of Physics. He chaired the writing of the *Strategic Plan* for South Africa's synchrotron light source user community, resulting in South Africa's becoming a member in 2013 of the European Synchrotron Radiation Facility (ESRF) located in Grenoble, France. It is important to note that synchrotron light sources are the most transformative scientific instruments since the invention of computers and conventional lasers, revolutionizing many disciplines, including agriculture, art history, biology, chemistry, climate and environmental science, engineering, geology, materials science, medicine, paleontology, and physics.

Mtingwa played an important role in the design and construction of accelerator systems at Fermi National Accelerator Laboratory in the USA that were used in the discovery of the top quark. He is co-recipient with Anton Piwinski of DESY in Germany and James Bjorken of Stanford University of the *APS 2017 Robert R. Wilson Prize for Achievement in the Physics of Particle Accelerators* for the detailed theoretical description of intrabeam scattering. This phenomenon sets ultimate limitations on the performance of a wide class of accelerators, including synchrotron light sources, electron damping rings, and hadron colliders. Their work played a crucial role in the discovery of the top quark at Fermilab and the Higgs boson at CERN's Large Hadron Collider. By receiving the

Wilson Prize, Mtingwa became the first African American to be awarded an APS prize, which is the society's highest category of honors.

Mtingwa received the 2015 Distinguished Service Award from the American Nuclear Society for chairing an APS study on 21st century nuclear workforce needs. That study was an important influence leading to the USA Department of Energy's decision to allocate 20% of its nuclear fuel cycle R&D budget to university programs, resulting in \$343 million going to 97 universities in 38 states, thereby rejuvenating university nuclear science and engineering programs in the country.

For his work on mentoring generations of students, faculty and administrators, Mtingwa received the 2017 USA Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM).

Currently, Mtingwa serves as Administrative Judge with the USA Nuclear Regulatory Commission's (NRC) Atomic Safety and Licensing Board Panel, which is an independent trial-level adjudicatory body of the NRC. He serves as President of the Interdisciplinary Consortium for Research and Educational Access in Science and Engineering (INCREASE), which seeks to increase the utilization of research facilities at the national laboratories by faculty and students from USA African-, Latino- and Native-American Serving Institutions. Finally, during 2018-2020, he chaired the *LAAAMP* Executive Committee, and during 2017-2020, he chaired the International Union of Pure and Applied Physics C13 Commission on Physics for Development.

Mtingwa graduated Phi Beta Kappa with B.S. degrees in physics and mathematics from MIT in 1971 and M.A. and Ph.D. degrees from Princeton University in 1976.