**Luz Martinez-Miranda**

Professor of Materials Science and Engineering

University of Maryland

A. James Clark School of Engineering

B.S. Physics and Piano Performance- University of Puerto Rico

M.S. Physics – University of Puerto Rico, San Juan, Puerto Rico

Ph.D. Physics – Physics, Massachusetts Institute of Technology (MIT),

Cambridge, Massachusetts, 1985

**Biography**

Dr. Martinez-Miranda was born in Bethesda, Maryland in the early 1960’s, but at the age of five, she moved with her twin brother and parents to Puerto Rico. She grew up with a love for chemistry and science, as both of her parents were chemists. Unlike the United States, women with careers in science is common in Puerto Rico, so Dr. Martinez-Miranda grew up confident in her ability to become a physicist. In high school, she became fascinated with lenses and optics in her science class at University High in Rio Piedras, Puerto Rico and as a result decided to pursue her education in physics.

Right after high school, Dr. Martinez-Miranda entered the University of Puerto Rico and earned both her bachelor and master degree in physics. She returned to the United States to continue her physics education at MIT in the early 1980’s, since Puerto Rico did not offer any higher degrees in physics. Unlike her experience in Puerto Rico, Dr. Martinez-Miranda found very few minorities and women in the fields of science in the United States. For the first time in her life, she experienced discrimination as a woman and minority while pursuing her doctorate. Because of these experiences, she has become very involved in encouraging women and minorities to enter science fields of study.

**Research Area and Description**

Luz began her study in physics in the area of lenses, but has since moved to exploring ferroelectric liquid crystals, amorphous carbon films and nanocrystalline materials. She also has researched the effect of order of the transfer of changes within the liquid crystals in photovoltaics. In addition, Luz has studied X-ray scattering techniques of liquid crystals. Currently, Dr. Martinez-Miranda is conducting research on liquid crystals’ reaction to their container. Liquid crystals are found in electronic displays, Global Positioning Systems (GPS), visors for Air Force pilots, and cell membranes. She has applied for funding to pursue research with collagen to study biological aspects of her crystalline research. Her research could potentially help other scientists mimic bone production and allow for more reconstruction.

**Awards, Honors, and Special Recognitions**

* President of National Society of Hispanic Physicists (NSHP), 2010-2016
* Fellow, American Physical Society (APS), 2007
* Visiting Faculty Appointment to the Centre de Recherche Paul Pascal, 2006
* Fellow, American Society for the Advancement of Science (AAAS), 2004
* Boricua College Professional Achievement Award in Science, 2004
* NSF Career Advancement Award, 1997
* W.M. Keck Foundation, Engineering Excellence Teaching Award, 1995
* Fellow, American Ceramic Society, 1994
* NSF Visiting Professorship for Women, 1994-1996.

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