

Dr. Sandra L. Cruz Pol

Dr. Cruz-Pol obtained her Ph.D. in Electrical Engineering from the Pennsylvania State University, University Park, PA 16802 at the Communications and Space Sciences Lab. There she concentrated in the area of microwave remote sensing, specifically in the Microwave Atmospheric Absorption near the 22 GHz water vapor resonance line, and studies of the microwave sea surface brightness temperature seen from space over calm ocean.

Her MS degree was from the University of Massachusetts at Amherst, while working at the Microwave Remote Sensing Laboratory where she worked with Phase errors for Polarimetric Radars. She designed and implemented hardware modifications to a C-band radar system that measured ocean wind surface currents. She also developed software to analyze polarimetric data from the HP8510B Network Analyzer Based scatterometer and for an FM-CW 35 GHz radar.

She is a faculty member at UPRM, where she is currently a Professor. UPRM is the largest Hispanic Engineering College and the seventh largest Engineering College in the US. With close to 40% women, UPRM has the highest percentage of female undergraduate engineering student in the nation.

Dr. Cruz-Pol is currently working in various projects sponsored by NSF, NASA, IBM and IAP within the microwave remote sensing area including an Engineering Research Center (ERC) for Subsurface Sensing and Image Systems in collaboration with Northeastern University. This last project includes the development of physical-based atmospheric correction algorithms for hyperspectral images using microwave sensors ancillary data. In the project sponsored by NASA under the Tropical Center for Earth and Space Sciences (TCESS), she is working in the radio path delay algorithm calibration using Topex/Poseidon satellite data together with ancillary data. In addition, she is working in the retrieval of multidimensional cloud liquid water content images using a dual-frequency millimeter-wave Cloud Profiling Radar System (CPRS) in a joint project with the University of Massachusetts (UMass) Microwave Remote Sensing Laboratory (MIRSL).

She teaches courses in the area of Applied Electromagnetics including Antenna Theory, Electromagnetic Theory, Microwave Engineering and a graduate course on Microwave Remote Sensing. Her research interests include Microwave Remote Sensing of natural phenomena, Modeling of the Microwave Atmospheric Absorption and the Microwave Sea Surface Emissivity, and stratus cloud studies using W and Ka-Bands.

Dr. Cruz Pol is a member of the Institute of Electrical and Electronic Engineers (IEEE), the IEEE Geoscience and Remote Sensing Society, and of the Tau Beta Pi and Phi Kappa Phi Honor Societies. She is currently the Associate Editor for University Affairs for the IEEE GR&S Newsletter. She was the counselor for the student chapter of the IEEE in UPRM, the largest in Region 9. She has been recipient of NASA, GEM, NFS-GEE and GTE Fellowships. She has been researcher of AT&T Laboratories, Lincroft, NJ, and Middletown, NJ.