

Professor Peter H. Siegel

Abstract:

The Terahertz frequency regime, roughly spanning 300-3000 GHz, has moved to the forefront of recent expansion and innovative use of the RF spectrum. This short class will introduce the science and applications that gave rise to the field some 40 years ago, and review some of the more interesting application areas being pursued today. Particular attention will be devoted to cross-disciplinary investigations and the advantages and pitfalls facing those who wish to apply the technology to commercial enterprises.

Biography:

Peter H. Siegel (BA 1976, Astronomy, Colgate Univ., MS 1978, Physics, Columbia Univ., PhD, 1983, Electrical Eng., Columbia Univ.) has held appointments as Faculty Associate in Electrical Engineering and Senior Scientist in Biology at the California Institute of Technology; and Senior Research Scientist and Technical Group Supervisor for Submillimeter Wave Advanced Technology (SWAT) at the NASA Jet Propulsion Laboratory, both in Pasadena California. He has been working in the areas of millimeter and submillimeter-wave technology and applications for more than 40 years and has PI'd or co-I'd more than 75 R&D programs and been involved in delivering critical hardware for four major THz space flight instruments. He has published more than 300 articles in the THz field, and has given more than 200 invited talks in the U.S. and abroad on this subject. Among many other duties, Dr. Siegel is founding Chair, and now serves as elected General Secretary, of the International Society for Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), the oldest and largest venue devoted to the field of far IR techniques, science and applications. He also served as founding Editor-in-Chief (since 2010) of the first major journal devoted exclusively to the topic of THz – the IEEE Transactions on Terahertz Science and Technology, which he brought from concept to an Impact Factor of 4.3 in only 3 years. Dr. Siegel has been an IEEE Distinguished Microwave Lecturer, co-Chair and Chair of MTT Committee 4—THz Technology, a TPC and Speaker's bureau member, an MTTS AdCom member for 5 years and an organizer and chair of seven special THz sessions at the IEEE International Microwave Symposia. His honors include more than 75 certificates of recognition for contributions to NASA, three-time recipient of the JPL Award for Excellence, the NASA Space Act Award, 10 NASA group achievement awards, and the IRMMW-THz Exceptional Service Award. He has been an IEEE Fellow since 2001 and currently runs THz Global, a small R&D company focused on RF-bio applications. Web Pages: <http://www.thz.caltech.edu/>; www.irmmw-thz.org; www.irmmw-thz2014.org; www.thz.ieee.org; <http://www.thzglobal.com/>