

Douglas H. Werner received the B.S., M.S., and Ph.D. degrees in electrical engineering and the M.A. degree in mathematics from the Pennsylvania State University (Penn State), University Park, in 1983, 1985, 1989, and 1986, respectively. He holds the John L. and Genevieve H. McCain Chair Professorship in the Pennsylvania State University Department of Electrical Engineering. He is the director of the Computational Electromagnetics and Antennas Research Lab (CEARL: <http://cearl.ee.psu.edu/>) as well as a member of the Communications and Space Sciences Lab (CSSL). He is also a faculty member of the Materials Research Institute (MRI) at Penn State. Prof. Werner was presented with the 1993 Applied Computational Electromagnetics Society (ACES) Best Paper Award and was also the recipient of a 1993 International Union of Radio Science (URSI) Young Scientist Award. In 1994, Prof. Werner received the Pennsylvania State University Applied Research Laboratory Outstanding Publication Award. He was a co-author (with one of his graduate students) of a paper published in the *IEEE Transactions on Antennas and Propagation* which received the 2006 R. W. P. King Award. He received the inaugural *IEEE Antennas and Propagation Society Edward E. Altshuler Prize Paper Award* and the *Harold A. Wheeler Applications Prize Paper Award* in 2011 and 2014 respectively. In 2018, he received the *DoD Ordnance Technology Consortium (DOTC) Outstanding Technical Achievement Award*. He also received the *2015 ACES Technical Achievement Award*, the *2019 ACES Computational Electromagnetics Award*, and the *IEEE Antennas and Propagation Society 2019 Chen-To Tai Distinguished Educator Award*. He was the recipient of a College of Engineering PSES Outstanding Research Award and Outstanding Teaching Award in March 2000 and March 2002, respectively. He was also presented with an IEEE Central Pennsylvania Section Millennium Medal. In March 2009, he received the PSES Premier Research Award. He is a Fellow of the IEEE, the IET, the OSA, and the ACES. He is also a Senior Member of the National Academy of Inventors (NAI).

Prof. Werner is a former Associate Editor of *Radio Science*, a former Editor of the *IEEE Antennas and Propagation Magazine*, an Editorial Board Member of *Scientific Reports* (a *Nature* subjournal), an Editorial Board Member for *EPJ Applied Metamaterials*, Editor for the *IEEE Press Series on Electromagnetic Wave Theory & Applications*, a member of URSI Commissions B and G, Eta Kappa Nu, Tau Beta Pi and Sigma Xi. He holds 20 patents, has published over 850 technical papers and proceedings articles, and is the author of 30 book chapters with several additional chapters currently in preparation. He has published several books including *Frontiers in Electromagnetics* (Piscataway, NJ: IEEE Press, 2000), *Genetic Algorithms in Electromagnetics* (Hoboken, NJ: Wiley/IEEE, 2007), *Transformation Electromagnetics and Metamaterials: Fundamental Principles and Applications* (London, UK: Springer, 2014), *Electromagnetics of Body Area Networks: Antennas, Propagation, and RF Systems* (Hoboken, NJ: Wiley/IEEE, 2016), and *Broadband Metamaterials in Electromagnetics: Technology and Applications* (Pan Stanford Publishing, 2017). He has also contributed chapters for several books including *Electromagnetic Optimization by Genetic Algorithms* (New York: Wiley Interscience, 1999), *Soft Computing in Communications* (New York: Springer, 2004), *Antenna Engineering Handbook* (New York: McGraw-Hill, 2007), *Frontiers in Antennas: Next Generation Design and Engineering* (New York: McGraw-Hill, 2011), *Numerical Methods for Metamaterial Design* (New York: Springer, 2013), *Computational Electromagnetics* (New York: Springer, 2014), *Graphene Science Handbook: Nanostructure and Atomic Arrangement* (Abingdon, Oxfordshire, UK: CRC Press, 2016), *Handbook of Antenna Technologies* (New York: Springer, 2016), and *Transformation Wave Physics: Electromagnetics, Elastodynamics and Thermodynamics* (Boca Raton, FL: CRC Press, 2016).

His research interests include computational electromagnetics (MoM, FEM, FEBI, FDTD, DGTD, CBFM, RCWA, GO, GTD/UTD, *etc.*) antenna theory and design, phased arrays (including ultra-wideband arrays), microwave devices, wireless and personal communication systems (including on-body networks), wearable and e-textile antennas, RFID tag antennas, conformal antennas, reconfigurable antennas, frequency selective surfaces, electromagnetic wave interactions with complex media, metamaterials, electromagnetic bandgap materials, zero and negative index materials, transformation optics, nanoscale electromagnetics (including nanoantennas), fractal and knot electrodynamics, and nature-inspired optimization techniques (genetic algorithms, clonal selection algorithms, particle swarm, wind driven optimization, and various other evolutionary programming schemes).