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Larry Owen is a senior R&D staff member in the Modeling and Simulation Group in the Computational Sciences and Engineering Division at Oak Ridge National Laboratory. He has a B.S in physics from Virginia Polytechnic Institute and State University and a Ph.D. in physics from University of Tennessee. He authors/coauthors more than one hundred reports, papers, and conference presentations. He invented a toroidal plasma confinement configuration, termed the ELMO bumpy square, that utilized high field toroidal solenoids at the corners of linked linear magnetic mirror sections and that significantly improved confinement in the class of microwave heated bumpy tori.

Areas of expertise include plasma and fluid dynamics, modeling and simulation of large scale experiments, system and subsystem optimization, numerical solution of systems of ordinary and partial differential equations, plasma-materials interactions, industrial and space applications of plasmas, nuclear and atomic reaction theory and neutral transport simulations using Monte Carlo techniques. Recently his work has focused on data-constrained analyses of the edge region of tokamak discharges with the SOLPS (B2.5-Eirene) code suite, and on benchmarking two of the plasma/neutrals edge transport codes (UEDGE and SOLPS) that are widely used by the international fusion community for device design and interpretative modeling.