Robert Broadwater, Electrical Distribution and Design, Inc.

Robert Broadwater has been developing software for over 30 years. He designed the Distribution Engineering Workstation for the Electric Power Research Institute. He developed real-time, power plant simulations for Babcock & Wilcox and the Tennessee Valley Authority. He holds software patents related to electric power plant controls, and has experience working on nuclear, fossil, and hydro plants. In electric power system operations his software has been used to prevent power outages in St. Louis. He developed the Discrete Ascent Optimal Programming algorithm that rapidly solves large, constrained systems. He has developed a new approach to system analysis based on generic programming and iterator concepts. This approach has been used to solve models containing several million objects and naturally distributes to multiple processors. He has published chapters in several engineering handbooks and has directed over 40 PhD students. Software that he has helped develop is used by electric utilities, universities, and national labs in the United States, South America, and Asia. Three trade papers related to software applications that he has helped design are: 1. "PEVs in the Motor City," H. Asgeirsson, N. Carlson, Transmission and Distribution World, May 2011. 2. “Virtual SCADA Tracks the System,“ C. Scirbona, Transmission and Distribution World, January 2009. 3.“Three Utilities Implement Packaged Distribution System,“ A. Sugg, R. Seguin, and C. Scirbona, Transmission & Distribution World, September 2002, pp. 52-58.