

Gratitude to the Wullenweber for the books it made happen



The "ring of poles" you see above is a large-aperture radio direction finding system known as a Wullenweber array. It is an elaborate radio antenna system that was developed for the U.S. Navy in the 1950's and 60's by the Electrical Engineering Department of the University of Illinois in the farmland a few miles southwest of Bondville, about five miles west of Champaign, Illinois. Following the completion of the University's development work, the Bondville installation, known as the Bondville Road Field Station (BRFS), was abandoned in approximately 1980, partially dismantled in the 1990's, and in 2003, was completely dismantled.

The Wullenweber Array at the BRFS (about 2-1/2 times the size of its German progenitor) was patterned after one developed in Germany during World War II. The array used 120 vertical monopole antennas and operated over the frequency range 4 to 16 MHz. The tall wood poles supported a 1000 foot diameter circular screen of vertical wires located within the ring of monopoles. The project supported research for more than 25 years, and based on this system, the U. S. Navy constructed operational systems at many locations around the world. The program on RDF (Radio Direction Finding) was one of the earliest postwar research programs to be established in the department, and one of the two research programs on the campus sponsored by the Office of Naval Research (ONR).

An interesting fact related to this Wullenweber is that the author of the books (1972, 1977, 1987, 1991, 1994, 2000, 2004, 2006, 2009) you see, who joined the faculty of the department in 1965 and retired in May 2007 as the Edward C. Jordan Professor Emeritus of Electrical and Computer Engineering, was granted a waiver of the required two-year abroad residency rule for J-1 Visa holders, based on a request by Professor Edward C. Jordan, then department head, citing Professor Rao's indispensability to the scientific program of the RDF Laboratory, later known as the Radiolocation Research Laboratory and still later known as the Radio research Laboratory, and hence was able to continue on the faculty of the department.

The inset in the upper right corner is a picture taken by Professor Rao upon discovery of a Wullenweber (too faint to be seen in the picture) on the island of Oahu, Hawaii, while riding the Pineapple Express at the Dole Pineapple Plantation near Wahiawa on June 4, 2005 (before it was dismantled later in 2005), which reminded him of the gratitude he owed to the existence of a Wullenweber at the BRFS and of his work, in the early years of his tenure at the University of Illinois.