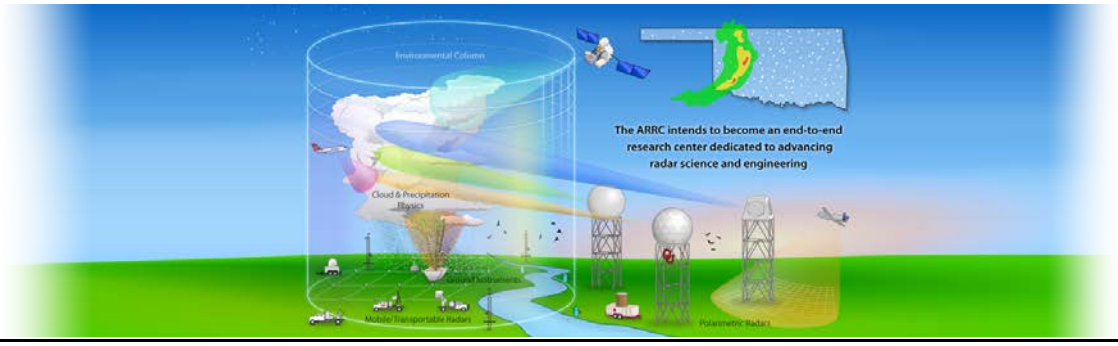
Radar Science and Engineering at the University of Oklahoma in the USA
The Advanced Radar Research Center

Robert D. Palmer

Based on a foundation of research and development at NOAA and the University of Oklahoma (OU) in the USA, in 2005 the university established the Advanced Radar Research Center (ARRC) with the goal of becoming a leading academic force in the field of radar meteorology. After more than a decade, the ARRC has become the largest academic research program in the USA focused on advancements in radar and applied electromagnetics. With 18 faculty members, a strong engineering staff, and over 100 interdisciplinary graduate students from meteorology and engineering, the ARRC has become a major force in the international field of radar. For example, OU hosted the 2015 American Meteorological Society's Radar Meteorology Conference with its largest-ever attendance. In addition, the ARRC's radar program in defense applications has also been recognized by the community and will host the most important conference in the field with the 2018 IEEE Radar Conference. This presentation will provide an overview of the research currently underway in the ARRC, including the development of several advanced weather radars, signal processing algorithms, and resulting scientific studies. An important goal of the visit is to inform students of interdisciplinary research opportunities in both the engineering and meteorology disciplines at OU.

https://arrc.ou.edu/research.html



Biography – R. D. Palmer

Prof. Robert D. Palmer was born in Fort Benning, GA on June 3, 1962. He received the Ph.D. degree in electrical engineering from the University of Oklahoma, Norman, in 1989. From 1989 to 1991, he was a JSPS Postdoctoral Fellow with the Radio Atmospheric Science Center, Kyoto University, Japan, where his major accomplishment was the development of novel interferometric radar techniques for studies of atmospheric turbulent layers. After his stay in Japan, Dr. Palmer was with the Physics and Astronomy Department of Clemson University, South Carolina. From 1993 to 2004, he was a part of the faculty of the Department of Electrical Engineering, University of Nebraska, where his interests broadened into areas including wireless communications, remote sensing, and pedagogy. Soon after moving to the University of Oklahoma (OU) as the Tommy C. Craighead Chair in the School of Meteorology in 2004, Dr. Palmer established the interdisciplinary Advanced Radar Research Center (ARRC). He currently serves as the Executive Director of the ARRC and OU's Associate Vice President for Research. While at OU, his research interests have focused on the application of advanced radar signal processing techniques to observations of severe weather, particularly related to phased-array radars and other innovative system designs. He has published widely in the area of radar remote sensing of the atmosphere, with an emphasis on generalized imaging problems, spatial filter design, and clutter mitigation using advanced array/signal processing techniques. Prof. Palmer is a Fellow of the American Meteorological Society and has been the recipient of several awards for both his teaching and research accomplishments.