



# PRAIRIE VIEW A&M UNIVERSITY

A Member of the Texas A&M University System

## *Executive Summary 2007-2008 Annual Report*

Since the 2002-2003 academic year when CECSTR was officially approved by the Texas A & M University (TAMU) System Board of Regents until this present 2007-2008 academic year, we have continued to make steady progress towards our stated organizational goals and purpose. Our grants revenue for 2007-2008 shows total awards of about \$736,599.00 and a total expenditure of about \$580,059.96 in industrial support for our work on communications systems and other related research areas.

The Center's mission is to establish a comprehensive research program with the capabilities of seeking an understanding of selected aspects of communication systems, Wavelets and Wavelet Transforms, Compressed Sensing/Compressive Sampling Systems, DSP Solutions, Signal/Image/Video Processing, Mixed Signal Systems, and High Speed (Broadband) Communication Systems by way of algorithm developments, modeling, simulation, analysis, design, testing, and performance evaluation. The center seeks to answer relevant questions concerning various strategic enterprises and explores the means to use the knowledge acquired to benefit mankind and increase the economic competitiveness of the State of Texas and the Nation.

Within the State of Texas and the Nation, a similar center with similar mission, goals and objectives as CECSTR does not exist within an academic setting. CECSTR has been trying to fill the gap in educating the State's and the Nation's future leaders in these emerging highly technological areas necessary for our industries, institutions, and for the economic growth of the State of Texas and the Nation.

The CECSTR has been instrumental in enhancing teaching, research, and service in the area of communications systems. Within the Department of Electrical Engineering, students follow three tracks to the Master's and PhD degree: Communication Systems and Signal Processing, Microelectronics, and Computer Engineering. CECSTR specifically supports the Master's and Ph.D. degree students and has continued to train and support undergraduate students as well.

CECSTR has a Center Advisory Board (CAB) and a Technical Advisory Committee (TAC). In our recent CECSTR Board meeting, the issue of sustainability was discussed and the board empowered the Director of the Center and the Vice President for Research and Development to seek new ways to seek necessary funding to support the research and operational activities of the center in a sustained basis. The actions taken on this issue will be discussed in the next meeting of the Board members and will be monitored thereafter to review progress.

CECSTR in 2007-2008 published 26 journal papers, presented 43 conference papers, wrote 15 technical papers and submitted 15 proposal of which 10 was awarded. One Ph.D. and 3 Masters students completed their studies. There were 9 graduate students and 10 undergraduate students supported by CECSTR. The researchers that number about 14 attended 15 conferences world-wide to disseminate research information. Drs. Akujuobi and Sadiku published 2 books entitled "*Introduction to Broadband Communication Systems*", Pub. Chapman & Hall/CRC and Sci-Tech Publication, Boca Raton, Florida, 2008; and "*Solution Manual for Introduction to Broadband Communication Systems*", Pub. Chapman & Hall/CRC and Sci-Tech Publication, Boca Raton, Florida, 2008. Several book chapters were also published.

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