Biographical Sketch for Winser E. Alexander

Professor Emeritus of ECE, North Carolina State University, Raleigh, NC

Education:

1964 - B. S. in Electrical Engineering, North Carolina Agricultural and Technical State University.

1966 - M. S. in Engineering, The University of New Mexico.

1974 - Ph. D. in Electrical Engineering, The University of New Mexico.

Employment Record:

[7/2017 – Present] Professor Emeritus of Electrical and Computer Engineering, North Carolina State University.

[8/1982 – 6/2017:] Professor of Electrical and Computer Engineering, North Carolina State University.

[8/88 to 5/97 and 7/2001 to 6/2002:] Director of Graduate Programs for the Department of Electrical and Computer Engineering.

[7/2011 – 6/2013:] Interim Provost and Vice Chancellor for Academic Affairs, North Carolina A&T State University.

[7/2009 – 6/2011:] Interim Dean of the College of Engineering, North Carolina Agricultural and Technical State University.

[8/1999 – 6/2009] Visiting Professor of Electrical and Computer Engineering, North Carolina Agricultural and Technical State University.

[7/1976 - 7/1982:] Professor and Chairman of the Department of Electrical Engineering at North Carolina Agricultural and Technical State University.

[1/1976 - 6/1976:] Associate Professor of Electrical Engineering and Assistant to the Dean, School of Engineering, North Carolina Agricultural and Technical State University.

[1/1970 - 1/1976:] Member of Technical Staff, Sandia Laboratories.

[7/1966 - 12/1969:] Electronics Officer, (Highest rank of Captain) U. S. Air Force.

[7/1964 - 6/1966:] Member of Technical Staff, Sandia Laboratories, Albuquerque, New Mexico.

Research and Teaching Interest:

Dr. Alexander's research and teaching interests span the areas of digital signal processing, genomic signal processing, parallel algorithms, and parallel computer architecture for applications in digital signal processing, image processing and digital communications.

Ten Relevant Publications (From a list of 132):

1. Winser Alexander and Cranos Williams, *Digital Signal Processing: Principles, Algorithms and System Design*, ISBN: 978-0-12-804547-3, Academic Press, 2016.
2. Ramsey Hourani, Ravi Jenkal , W. Rhett Davis and Winser Alexander, "Automated Design Space Exploration for DSP Applications", *The Journal of VLSI Signal Processing Systems*, SSN 1939--8018, Springer, 2009.
3. Ramsey Hourani, Winser Alexander and Tamir Raithatha, “A Hardware Performance Analysis Framework for Architectural Exploration of DSP Systems”, *Proceedings of the Global Signal Processing Expo (GSPx)*, October 2005.
4. Sung Yoon, Ji Hyun Lee, Jung Kim and Winser Alexander, “Medical Image Compression Using a Post-Segmentation Approach”, Proceedings of the International Conference on Acoustics, Speech and Signal Processing, pp. V609-V612, vol. 5, May 2004.

5. Ante Deng and Winser Alexander, "Another Way to Do Flexible ASIC/FPGA Design", *Proceedings of The GSPx Technology Conference*, September 2004.
6. Winser E. Alexander, Douglas Reeves and Clay Gloster, Jr., "Parallel Image Processing with the Block Data Parallel Architecture", *Proceedings of the IEEE*, vol. 84, no. 7, pp. 947-968, 1996.
7. Kwanghoon Sohn, Jung H. Kim, and Winser E. Alexander, "A mean field annealing approach to robust corner detection", *IEEE Transactions on Systems, Man, and Cybernetics*, vol. 28, no. 1, pp. 82-90, 1998.
8. Sung H. Yoon, Jung H. Kim, Winser E. Alexander, Seong M. Park, and Kwang H. Sohn, "An optimum solution for scale--invariant object recognition based on the multiresolution approximation", *Pattern Recognition*, vol. 31, no. 7, pp. 889-908, 1998.
9. Kwanghoon Sohn, Winser E. Alexander, Jung H. Kim and Wesley Snyder, "Constrained regulation for boundary point detection", *IEEE Transactions on Systems, Man and Cybernetics*, vol. 24, no. 5, pp. 820--828, 1994.
10. Jung H. Kim and Winser E. Alexander, "A multiprocessor architecture for two dimensional digital filters", *IEEE Transactions on Computers*, vol. C-36, no. 7, 1987, pp. 876-884.

Ph. D. Dissertation Direction (N. C. State University):

1. Directed or co-directed the dissertation research for 23 Ph. D. graduates in electrical engineering (EE). Six of these Ph. D. graduates were African American and four were female.

2. Directed or co-directed the dissertation research for 9 Ph. D. graduates in computer engineering (CPE). Two of these Ph. D. graduates were African American and one was female.

Research Collaborators:

1. Cranos M. Williams, North Carolina State University.
2. Clay S. Gloster, North Carolina Agricultural and Technical State University.
3. Youngsoo Kim, San Jose State University.

Patents:

1. Winser E. Alexander, *System for Enhancing Fine Detail in Thermal Photographs*, U. S. Patent Number 3,541,333, November 17, 1970.
2. Jens P. Dybwad, Winser E. Alexander and Carl P. Zinnow, *A Microbalance System,* U. S. Patent Number 3,753,472, August 21, 1973.

Awards, Honors, and Recognition:

1. National Society of Black Engineers (NSBE) 2000 Dr. Janice A. Lumkin Educator of the Year Award, Golden Torch Awards Ceremony, March 24, 2000.
2. Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring, White House Office of Science and Technology and National Science Foundation, September 1998.
3. American Society for Engineering Education (ASEE) Minorities in Engineering Award for Leadership in the Conception, Organization and Operation of Precollege and College Activities to Increase Participation of Minorities in Engineering, June 1993.
4. Alumni Achievement Award, School of Engineering, North Carolina Agricultural and Technical State University, May 1993.
5. Office of Aerospace Research Technical Achievement Award for "Unique and Distinguished Contributions to Aerospace Research and Development" Awarded in October, 1968 by Office of Aerospace Research, U. S. Air Force.