# Ph. D. THESES SUPERVISED

1.  S. K. MULLICK, "Compatibility of Immittance Matrices," Cornell University, Ithaca, New York, June 1965- DECEASED.

2.  M. A. SODERSTRAND, "New Contributions to the Analysis and Design of Active RC Networks," University of California, Davis, California, September 1972 – Fellow, IEEE

3.  R. J. SHERWOOD, "Digital Filter Realization Techniques," University of California, Davis, California, March 1973.

4.  M. T. AHMED, "Active RC Synthesis of Single and Multivariable Network Functions Using Operational Amplifiers," Indian Institute of Technology, New Delhi, India, November 1974 (Co-Supervised with Professor S. C. Dutta Roy of the Indian Institute of Technology, New Delhi).

5.  A. BHUMIRATANA, "Realization of Two-Variable Networks," University of California, Davis, California, June 1976.

6.  J. SZCZUPAK, "On the Realization of Optimum Recursive Digital Filters," University of California, Davis, California, September 1976 – Fellow, IEEE

7.  D. C. HUEY, "A Unified Approach to the Realization of Digital Filters in Both Ladder and Lattice Forms," University of California, Davis, California, June 1977.

8.  R. E. TWOGOOD, "Design and Implementation Techniques for Two-Dimensional Digital Filters," University of California, Davis, California, December 1977.

9.  R. GNANASEKARAN, "Block Implementation of One-Dimensional Recursive Digital Filters," University of California, Santa Barbara, California, May 1978.

10. K. MONDAL, "Recursive Digital Filters: State-Structures and Low Noise Realizations," University of California, Santa Barbara, California, May 1978.

11. J. FADAVI, "Extended State-Space Model: A New Description of Discrete-Time Linear Systems," University of California, Santa Barbara, California, December 1980 – DECEASED.

12. G. A. CLARK, "Block Adaptive Filtering and Its Application to Seismic Event Detection," University of California, Santa Barbara, California, April 1981– Fellow, IEEE

13. P. RAMESH, "A General Theory of Block Digital Filters and Low Noise Realizations," University of California, Santa Barbara, California, July 1981.

14. N. S. RAMESH, "Block Kalman Filtering and Applications," University of California, Santa Barbara, California, February 1982.

15. P. P. VAIDYANATHAN, "A General Theory and Synthesis of Low Sensitivity Digital Filter Structures," University of California, Santa Barbara, California, July 1982 – Fellow, IEEE

16. A. KUNDU, "Efficient Algorithms for Removal of Impulse Noise from Image and Speech Data," University of California, Santa Barbara, California, March 1985.

17. H-S. PYI, "Computer-Aided Algorithms for Multiplierless FIR Filter Design," University of California, Santa Barbara, California, January 1986.

18. K. MENSA-ABABIO, "Design of All Digital N-Path Filters," Kobe University, Kobe, Japan (Co-Supervisor with Professor K. Hirano of the Kobe University).

19. W. Y. SUNG, "Multi- and Vector-Processor Implementation of Digital Filtering Algorithms," University of California, Santa Barbara, California, August 1987.

20. J. KOLANEK, "Block Processing for Applications in Closed Loop Systems," University of California, Santa Barbara, California, September 1987.

21. M. GROSEN, "New FIR Structures for Fixed and Adaptive Filtering," University of California, Santa Barbara, California, December 1987.

22. G. RAJAN, "Design of Computationally Efficient FIR Digital Filters," University of California, Santa Barbara, California, December 1987.

23. P. A. REGALIA, "Allpass Decompositions and Sensitivity Properties of Digital Transfer Functions and Matrices," University of California, Santa Barbara, California, August 1988– Fellow, IEEE

24. P. JARSKE, "Non-recursive Systems for Signal Processing," Tampere University of Technology, Tampere, Finland, 1988 (Co-supervised with Dr. Yrjö Neuvo).

25. Y. WANG, "Image Representation Using Block Pattern Models and Its Applications in Image Processing," University of California, Santa Barbara, California, June 1990– Fellow, IEEE

26. V. S. SOMAYAZULU, "Adaptive Filtering in the Subbands," University of California, Santa Barbara, California, October 1990.

27. O. SHENTOV, "Fast Approximate Computation of a Class of Discrete Transform Calculation Using Subband Decomposition," University of California, Santa Barbara, California, August 1991.

28. A. PETRAGLIA, "Mixed Analog/Digital Structures for High-Speed A/D Conversion

and Signal Processing," University of California, Santa Barbara, California, September 1991.

29. M. R. PETRAGLIA, "Structural Subband Implementation of Adaptive Filters," University of California, Santa Barbara, California, December 1991.

30. T-H YU, "Nonlinear Algorithms for Image Enhancement and Analysis," University of California, Santa Barbara, California, December 1992.

31. C. D. CREUSERE, "Perfect Reconstruction QMF Banks Using IIR Filters and Their Applications in Signal Compression and Scrambling," University of California, Santa Barbara, California, September 1993.

32. H. LI, "Multisensor Image Registration and Fusion," University of California, Santa Barbara, California, December 1993.

33. I-S LIN, "Overlapped Block Filtering," University of California, Santa Barbara, California, January 1994.

34. S. BAGCHI, "The Nonuniform Discrete Fourier Transforms and Its Applications in Signal Processing," University of California, Santa Barbara, California, October 1994.

35. S. THURNHOFER, "Quadratic Volterra Filters for Edge Enhancement and Their Applications in Image Processing," University of California, Santa Barbara, California, January 1995 – DECEASED.

36. M. LIGHTSTONE, "Perceptually Based Image and Image Sequence Coding," University of California, Santa Barbara, California, June 1995.

37. E. ABREU, "Noncausal Filters in Multipath Channel Shaping," University of California, Santa Barbara, California, January 1996.

38. N. STROBEL, "Multiresolution Based Storage, Browsing and Retrieval for Digital Image Libraries," University of California, Santa Barbara, California, January 1998.

39. D. MUKHERJEE, "Vector Set Partitioning and Successive Refinement for VQ for Wavelet Image and Video Compression," University of California, Santa Barbara, California, June 1999.

40. R. GANDHI, "Filter Bank Design and Quantization Techniques for Subband Coding," University of California, Santa Barbara, California, March 2000.

41. Z. HE, "A Unified Approach to Rate-Distortion Analysis and Rate Control for Video Coding and Communication," University of California, Santa Barbara, California, April 2001.

42. S. HATIPOGLU, "Adaptive Image Analysis Using Complex Wavelet Packet Transform," University of California, Santa Barbara, California, November 2001.

43. M. S. MOORE, "Psychophysiological Measurement and Prediction of Digital Video Quality," University of California, Santa Barbara, California, May 2002.

44. M. C. Q. FARIAS, "No-Reference and Reduced Reference Video Quality Metrics: New Contributions," University of California, Santa Barbara, California, September 2004.

45. J.G.R.C. GOMES, "Mixed-Signal Multilayer Perceptron Implementation of Low-Complexity Vector Quantizers for Image Compression," University of California, Santa Barbara, California, September 2004.

46. C. ADSUMILLI, "Watermark-Based Error Concealment Algorithms for Low Bit Rate Video Communications," University of California, Santa Barbara, California, August 2005.

47. J. BERGER, "A General Framework for Functionally Analyzing Microarray Data," University of California, Santa Barbara, California, October 2005.

48. C.C. KOH, "Perceived Color Quality and Its Effects on Video: Modeling and Prediction," University of California, Santa Barbara, California, September 2007.

49. H-H HO, "Best Basis Algorithms for Tree-Structured Haar Transforms and Their Application," University of California, Santa Barbara, California, January 2010.

## M. S. THESE SUPERVISED

1. D. L. LOSEE, "RC-Tunnel-Diode Transfer Function Synthesis," Cornell University, New York, June 1963.

2. G. HURTIG, III., "Transfer Function Realization Using Nonideal Negative Impedance Converters," Cornell University, Ithaca, New York, June 1964.

3. J. DELANSKY, "Polynomial Decomposition in Passive and Active One-Port Synthesis," Cornell University, Ithaca, New York, June 1964.

4. E. M. BUTLER, "The Operational Amplifier as a Network Element," Cornell University, Ithaca, New York, June 1965.

5. W. G. HOWARD, JR., "Transfer Function Synthesis Using Nonideal Gyrators," Cornell University, Ithaca, New York, June 1965.

6. B. L. HUTTON, "Synthesis of Inductorless Filters," University of California, Davis, California, June 1968.

7.  D. L. LARIMER, "Generation of RC Impedance Functions and Their Applications," University of California, Davis, California, June 1969.

8.  M. A. SODERSTRAND, "Sensitivity Analysis of Multi-Loop Active RC Filters," University of California, Davis, California, September 1969.

9.  B. H. SHANTA PAI, "Active RC Filters Using Non-Ideal Amplifiers Having Frequency Dependent Gain Characteristics," University of California, Davis, California, June 1970.

10. K. RAMACHANDRAN, "Sensitivity Analysis of Digital-to-Analog Conversion Ladder Networks," University of California, Davis, California, June 1970.

11. R. J. SHERWOOD, "Design of a High Speed Analog-to-Digital Converter," University of California, Davis, California, June 1971.

12. R. M. HAMILTON, "Computer-Aided Design of Active Filters Using Operational Amplifiers Having Frequency Dependent Gain Characteristics," University of California, Davis, California, June 1971.

13. M. SUK, "Computer-Aided Design of Digital Filters with Finite Word-Length," University of California, Davis, California, June 1972.

14. A. J. DAMONTE, "Tunable Active Crossover Networks," University of California, Santa Barbara, California, October 1984.

15. F. R. KOENIG, "An Impulse Response Measurement Instrument for Audio-Bandwidth Linear Systems," University of California, Santa Barbara, California, June 1985.

16. C.Y. TSENG, "New Local Search Method for Finite Word-Length Digital FIR Filter Design," University of California, Santa Barbara, California, June 1986.

17. P. A. REGALIA, "Tree-Structured Complementary Filter Banks," University of California, Santa Barbara, California, April 1987.

18. J. BAUMGARTNER, JR., "On Software Platforms for Image Processing", University of California, Santa Barbara, California, June 1988.

19. C-H. CHEN, "Automated Detection of Chromosome Aberration," University of California, Santa Barbara, California, April 1989.

20. D. BJARVIN, "A Development System for the TMS320C25 Signal Processor and Its Applications," University of California, Santa Barbara, California, May 1990.

21. P. AMBATIPUDI, "A New QMF Bank and Its Application to Image Coding," University of California, Santa Barbara, California, June 1991.

22. A. M. TARANGO, "A Tunable Active Filter for the Telephone to Compensate for Hearing Loss," University of California, Santa Barbara, California, June 1991.

23. M. LIGHTSTONE, "Efficient Frequency Sampling Design of One- and Two-Dimensional FIR Filters Using Structural Subband Decomposition," University of California, Santa Barbara, California, March 1992.

24. I. BALASINGHAM, "Efficient Adaptive Filtering Based on New Structures and Techniques," The Norwegian Institute of Technology, Trondheim, Norway, April 1993.

25. T. HAEGH, "Low Bit Rate Image Coding," Norwegian University of Technology, Trondheim, Norway, April 1994.

26. N. STROBEL, "Quadratic Filters for Image Contrast Enhancement," University of California, Santa Barbara, California, June 1994.

27. E. G. BOYE, "Lossless Compression of Images Based on Bit-plane Encoding," The Norwegian University of Science & Technology, Trondheim, Norway, April 1997.

28. K. HOLM, "Computationally Efficient Filter Design Based on Cascaded Sparse Filters," The Norwegian University of Science & Technology, Trondheim, Norway, March 2000.

29. L. CONTINI, "Tile-Based Sub-Region Retrieval of Wavelet Compressed Images," University of Cagliari, Cagliari, Italy, June 2001.

30. T. A. TROITE, "Nonlinear Algorithms for Video Signal Processing," Norwegian University of Science and Technology, Trondheim, Norway, February 2002.

31. M. FRIEBE, "Nonlinear Algorithms for Color Video Processing," Georg-Simon-Ohm University of Applied Science, Nuremberg, Germany, September 2002.

32. H. SINGER, "Nonlinear Algorithms for Enhancement of Color Video Signals," Georg-Simon-Ohm University of Applied Science, Nuremberg, Germany, September 2002.

33. A. IMSIROVIC, "Supervised Speech Segmentation and Speaker Identification," Georg-Simon-Ohm University of Applied Science, Nuremberg, Germany, February 2003.

34. C.C. KOH, "Compression of Bayer Patterned Color Filter Array Data," University of California, Santa Barbara, California, March 2003.

35. J.C. SCHMIDT, "Resizing of Full Color Images Derived from a Color Mosaic," University of California, Santa Barbara, California, June 2003.

36. F. TONCI, "Rate-Distortion Based Approach for Video Transmission Over Mobile Network," University of Rome 'TRE', Rome. Italy, December 2004.

37. F. GASTALDI, "Compression of Videos Caputured via Bayer-patterned Color Filter Arrays," University of Rome 'TRE', Rome. Italy, December 2004.

38. T. WOLFF, "H.264 Coding Artifacts and Their Relation to Perceived Annoyance: A Granularity Based Approach," Institute for Communication Engineering, Technical University of Darmstadt, Darmstadt, Germany, December 2005.

39. M. AMORE, "Image Enhancement in the Compressed Domain," University of Rome 'TRE', Rome. Italy, December 2006.

40. N. CONCI, ""Interpolation Techniques Based on Non-Uniform Sampling: Application on Geological Models," University of Rome 'TRE', Rome. Italy, December 2006.

41. N. TRIPATHI, "An Online Digital Library for Research and Development Applications," University of California, Santa Barbara, California, August 2008.