

CURRICULUM VITAE

MICHAEL W. MARCELLIN

Department of Electrical and Computer Engineering
The University of Arizona
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Birthdate: July 1, 1959
Birthplace: Bishop, California
Citizenship: USA

PROFESSIONAL INTERESTS

Image and Video Compression
Digital Communication and Data Storage Systems
Image Processing
Digital Signal Processing

EDUCATION

Ph.D., Electrical Engineering, Texas A&M University, December 1987
GPA=4.0/4.0

M.S., Electrical Engineering, Texas A&M University, May 1985
GPA=4.0/4.0

B.S., Electrical Engineering, San Diego State University, May 1983
Graduated summa cum laude
Named most outstanding in College of Engineering

EMPLOYMENT

8/07 – Present

Regents' Professor
Department of Electrical and Computer Engineering
The University of Arizona

8/98 – 8/07

Professor
Department of Electrical and Computer Engineering
The University of Arizona

8/93 – 8/98

Associate Professor
Department of Electrical and Computer Engineering
The University of Arizona

8/88 – 8/93

Assistant Professor
Department of Electrical and Computer Engineering
The University of Arizona

8/87 – 8/88

Lecturer
Department of Electrical Engineering
Texas A&M University

1/87 – 8/87

Graduate Assistant Non-Teaching
Department of Electrical Engineering
Texas A&M University

1/84 – 12/86

General Electric Graduate Fellow
Department of Electrical Engineering
Texas A&M University

8/83 – 5/84

Graduate Assistant Teaching
Department of Electrical Engineering
Texas A&M University

5/83 – 8/83

Research Assistant
Department of Electrical Engineering
San Diego State University

HONORS AND AWARDS

Plenary Speaker, 4th International Conference on Broadband Communications, Information Technology, and Biomedical Applications, Wroclaw, Poland, July 2009.

Keynote Speaker, 2008 International Telemetry Conference, San Diego, California, October 2008.

Undergraduate Student Paper Award, First Place, K. Jagiello, Z. Aydin, W.-R. Ng (students), W.E. Ryan, M.W. Marcellin, and A. Bilgin (advisors), “Joint JPEG2000/LDPC code system design for image telemetry,” *Proceedings*, International Telemetry Conference, San Diego, California, October 2008.

Undergraduate Student Paper Award, Second Place, A. Chaves, B. Mayoral, H.-J. Park, M. Tsang, S. Tunell (students), M.W. Marcellin, and H. Xin (advisors), “Wireless sensor networks: A grocery

store application,” *Proceedings*, International Telemetry Conference, San Diego, California, October 2008.

Plenary Speaker, 2007 International Conference on Image Processing, San Antonio, Texas, September 2007.

Named Regents’ Professor of Electrical and Computer Engineering at the University of Arizona, August 2007.

Named the International Foundation for Telemetry Professor at the University of Arizona, May 2007.

Invited Afternoon (Keynote) Speaker, 2007 Data Compression Conference, Snowbird, Utah, March 2007.

Public lecture, “Digital cinema,” Cosmo Caxia (Museum of Science), Barcelona, Spain, December 2006.

Distinguished Faculty Presentation, College of Engineering Annual da Vinci Circle Dinner, April 2006.

Recipient of the University of Arizona Technology Innovation Award, March 2006.

Keynote Speaker, International Workshop on Very Low Bit-Rate Video Coding (VLBV), Costa Rey, Sardinia, Italy, September 2005.

Keynote Speaker, IASTED International Conference on Communications, Internet and Information Technology, Scottsdale, Arizona, November 2003.

Graduate Student Paper Award, Second Place, J.C. Dagher (student), M.W. Marcellin, and M.A. Neifeld (advisors), “Compression for Transmission and Storage of Laser Radar Measurements,” International Telemetry Conference, Las Vegas, Nevada, October 2003.

Student Paper Award, J.C. Dagher (student), M.W. Marcellin, and M.A. Neifeld (advisors), “Compression of LADAR Imagery,” Visual Communications and Image Processing Conference, SPIE, Lugano, Switzerland, July 2003.

Named the 2003 San Diego State University Distinguished Engineering Alumnus.

Recipient of the InterNational Committee for Information Technology Standards (INCITS) 2002 Technical Excellence Award.

Named “Top Instructor” by UCLA Extension for the Short Course “JPEG2000: Second-Generation Standard for Image Compression,” July 2002.

Recipient of ISO/IEC Certificate for Special Contributions in the Development of International Standard ISO/IEC 15444-1:2000, Information Technology – JPEG2000 Image Coding System, May 2002.

Elected IEEE Fellow, January 2002.

Recipient of the 2000-01 Outstanding Teacher Award from National Technological University.

Keynote Speaker, IEEE International Conference on Information Technology: Coding and Computing, Las Vegas, Nevada, April 2001.

Named the Litton Industries John M. Leonis Distinguished Professor, College of Engineering, University of Arizona, March 2001.

Recipient of the Outstanding Teacher Award from the College of Engineering, University of Arizona, May 2000.

Invited Afternoon (Keynote) Speaker, 2000 Data Compression Conference, Snowbird, Utah, March 2000.

Keynote Address, Applications of Digital Image Processing XXI, SPIE International Symposium on Optical Science, Engineering, and Instrumentation, San Diego, California, July 1998.

Student Paper Award, A. Bilgin (student), P.J. Sementilli, and M.W. Marcellin (advisor), "Asamali Kafes Kodlu Nicemleme ile Imge Kodlama," (in Turkish), Sinyal Isleme ve Uygulamalari Kurultayi, Kizilcahamam, Turkey, May 1998.

Recipient of the 1996-97 Outstanding Teacher Award from the University of Arizona Eta Kappa Nu Branch and IEEE Student Section, May 1997.

Invited Afternoon (Keynote) Speaker, 1997 Data Compression Conference, Snowbird, Utah, March 1997.

Corecipient of the IEEE Signal Processing Society 1993 Senior (Best Paper) Award for the paper "Predictive trellis coded quantization of speech," *IEEE Transactions on Acoustics, Speech, and Signal Processing*, Vol. 38.

Recipient of the National Science Foundation Young Investigator Award, July 1992.

Recipient of the 1989-90 Outstanding Teacher Award from National Technological University.

Corecipient of Best Paper Award at the 1989 IEEE Phoenix Conference on Computers and Communications.

Recipient of the General Electric Graduate Fellowship at Texas A&M University, January 1984 – December 1986.

Named Most Outstanding Student in the College of Engineering, San Diego State University, May 1983.

Member: Tau Beta Pi, Eta Kappa Nu, and Phi Kappa Phi Academic Honor Societies.

INTRAMURAL SERVICE

- Member, ECE Department Committee on Committees, 08-09 Academic Year.
- Member, Organizing Committee, ECE Department Alumni Dinner, October 2008.
- Member, ECE Department Faculty Status Committee (Promotion and Tenure), 8/08-8/10.
- Member, ECE Department Academic Program Review Committee, 07-08 Academic Year.
- Member, ECE Department Writing Portfolio Assessment Committee, 5/07.
- Member, ECE Department Ad Hoc Budget Committee, October 2006 – Present.
- Chair, ECE Department Faculty Status Committee (Promotion and Tenure), 06-07 Academic Year.
- Member, ECE Department Writing Portfolio Assessment Committee, 12/05.
- Chair, ECE Department Faculty Status Committee (Promotion and Tenure), 05-06 Academic Year.
- Member, ECE Department Writing Portfolio Assessment Committee, 12/04.
- Member, ECE Department Faculty Status Committee (Promotion and Tenure), 8/04 – 8/07.
- Chair, ECE Department Signals and Systems Group, 8/04 – Present.
- Member, ECE Department Executive Advisory Committee, 8/04 – Present.
- Member, ECE Department Head Search Committee, 03-04 Academic Year.
- Member, ECE Department Writing Portfolio Assessment Committee, 05/03.
- Member, ECE Department Prop 301 Optics Faculty Search Committee, 02-03 Academic Year.
- Chair, ECE Department Faculty Status Committee (Promotion and Tenure), 02-03 Academic Year.
- Member, ECE Department Prop 301 Information Technology Ad Hoc Committee, 1/01– 5/03.
- Chair, ECE Department Faculty Search Committee, 01-02 Academic Year.
- Member, University of Arizona Intellectual Property Committee, 8/01 – Present.
- Member, ECE Department Faculty Status Committee (Promotion and Tenure), 8/00 – 8/03.
- Chair, ECE Department Signals and Systems Group, 8/99 – 8/03.
- Member, College of Engineering and Mines Development Officer Search Committee, 99-00 Academic Year.

Member, ECE Department Executive Advisory Committee, 8/99 – 8/03.

Member, ECE Department Faculty Search Committee, 99-00 Academic Year.

Member, University of Arizona Applied Mathematics Program, 1/99 – Present.

Member, Search Committee for Office of Technology Transfer — Senior Licensing Associate, 98-99 Academic Year.

Member, University of Arizona High Performance Computing Policy Committee, 1/98 – 8/01.

Member, ECE Department Ad Hoc Committee on Workloads, 8/97 – 5/01.

Member, College of Engineering and Mines Dean Search Committee, 97-98 Academic Year.

Chair, ECE Department Faculty Search Committee, 97-98 Academic Year.

Member, ECE Department Ad Hoc Committee on Continuing Review, 97-98 Academic Year.

Member, ECE Department Computer Policy Committee, 8/97 – 8/03.

Member, ECE Department Faculty Search Committee, 96-97 Academic Year.

Member, ECE Department Head Search Committee, 96-97 Academic Year.

Affiliate Member, University of Arizona Applied Mathematics Program, 1/97 – 12/98.

Member, University of Arizona Technology Transfer Committee, 8/96 – 8/01.

Member, University of Arizona Committee on Graduate Study, 8/96 – 8/03.

Member, ECE Department Faculty Search Committee, 95-96 Academic Year.

Member, Search Committee for Office of Technology Transfer — Senior Licensing Associate, 95-96 Academic Year.

Member, ECE Department Faculty Search Committee, 94-95 Academic Year.

Member, ECE Department Peer Review Committee, 94-95 Academic Year.

Member, ECE Department Strategic Planning Committee, 1/95 – 8/95.

Member, ECE Department Graduate Studies Committee, 94-95 Academic Year.

Faculty Advisor, IEEE Student Section, 8/90 – 5/95.

Member, College of Engineering and Mines Awards and Recognition Committee, 2/94 – 8/95.

Speaker, President Pacheco's "Walk, Don't Run" Tour Series, 9/94.

Member, ECE Department Curriculum Committee Subgroup on Undergraduate Computing Courses, 2/92 – 8/92.

Member, Committee for the Five-Year Review of the ECE Department Head, 91-92 Academic Year.

Chairman, Ad Hoc Committee on Excellence in Teaching, CCSP Group of ECE Department, 91-92 Academic Year.

Presentation at the Eta Kappa Nu Technical Elective Forum, 4/91.

Spoke on "A Career in Engineering" at Santa Rita High School During Engineers Week, 2/91.

Chairman, Communication Subgroup of Departmental Communication, Control, and Signal Processing Group, 12/90 – 8/91.

Mentor for the Flinn Scholar Program, 8/89 – 6/91.

Member of ECE Department Curriculum Committee, 89-90 Academic Year.

Honors Forum Participant, 10/89.

Speaker, University of Arizona Pre-Engineering Workshop for Minority and Women High School Students, 7/89.

Chairman of the ECE Communication, Control, and Signal Processing Group Seminar Committee, 1/89 – 1/90.

EXTRAMURAL SERVICE

Session Organizer and Chair, Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, California, November 2009.

Session Chair, 2009 International Conference on Broadband Communication, Information Technology, and Biomedical Applications, Wroclaw, Poland, July 2009.

Member, Program Committee, 2009 International Conference on Broadband Communication, Information Technology, and Biomedical Applications, Wroclaw, Poland, July 2009.

Chair, Program Committee, 2009 Data Compression Conference, Snowbird, Utah, March 2009.

Session Chair, 2009 Data Compression Conference, Snowbird, Utah, March 2009.

Member, Program Committee, Visual Communications and Image Processing Conference, SPIE, San Jose, California, January 2009.

Short Course Instructor, "Image Compression with JPEG2000," International Telemetering

Conference, San Diego, California, October 2008.

Organizer and Host, 2008 Spring Board Meeting, International Foundation for Telemetry, Tucson, Arizona, April 2008.

Chair, Program Committee, 2008 Data Compression Conference, Snowbird, Utah, March 2008.

Session Chair, 2008 Data Compression Conference, Snowbird, Utah, March 2008.

Member, Program Committee, Visual Communications and Image Processing Conference, SPIE, San Jose, California, January 2008.

Session Co-Organizer and Chair, Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, California, November 2007.

Short Course Instructor, "Image Compression with JPEG2000," International Telemetry Conference, Las Vegas, Nevada, October 2007.

Session Chair, 2007 IEEE International Conference on Image Processing, San Antonio, Texas, September 2007.

Member, Program Committee, 2007 IEEE Information Theory Workshop, Lake Tahoe, California, September 2007.

Finance Chair, 2007 IEEE International Conference on Image Processing, San Antonio, Texas, September 2007.

Session Chair, 2007 IEEE Information Theory Workshop, Lake Tahoe, California, September 2007.

Chair, Program Committee, 2007 Data Compression Conference, Snowbird, Utah, March 2007.

Session Chair, 2007 Data Compression Conference, Snowbird, Utah, March 2007.

Session Chair, Visual Communications and Image Processing Conference, SPIE, San Jose, California, January 2007.

Short Course Instructor, "Image Compression with JPEG2000," International Telemetry Conference, San Diego, California, October 2006.

Member, Program Committee, 2006 IEEE International Conference on Image Processing, Atlanta, GA, October 2006.

Member, Program Committee, Communication Theory Symposium, 2006 IEEE International Conference on Communications, Istanbul, Turkey, June 2006.

Session Chair, 2006 Data Compression Conference, Snowbird, Utah, March 2006.

Member, Program Committee, 2006 Data Compression Conference, Snowbird, Utah, March 2006.

Short Course Instructor, "Image Compression with JPEG2000," International Telemetering Conference, Las Vegas, Nevada, October 2005.

Member, Program Committee, 2005 IEEE International Conference on Image Processing, Genoa, Italy, September 2005.

Session Chair, 2005 IEEE International Conference on Image Processing, Genoa, Italy, September 2005.

Conference Chair, The Seventh IASTED International Conference on Signal and Image Processing, Honolulu, Hawaii, August, 2005.

Session Chair, The Seventh IASTED International Conference on Signal and Image Processing, Honolulu, Hawaii, August, 2005.

Session Chair, 2005 Data Compression Conference, Snowbird, Utah, March 2005.

Member, Program Committee, 2005 Data Compression Conference, Snowbird, Utah, March 2005.

Short Course Instructor, "Image Compression with JPEG2000," International Telemetering Conference, San Diego, California, October 2004.

Member, Program Committee, 2004 IEEE International Conference on Image Processing, Singapore, October 2004.

Session Chair, 2004 Data Compression Conference, Snowbird, Utah, March 2004.

Member, Program Committee, 2004 Data Compression Conference, Snowbird, Utah, March 2004.

Short Course Instructor, "Image Compression with JPEG2000," International Telemetering Conference, Las Vegas, Nevada, October 2003.

Session Chair, Visual Communications and Image Processing Conference, SPIE, Lugano, Switzerland, July 2003.

Member, Scientific Committee, Visual Communications and Image Processing Conference, SPIE, Lugano, Switzerland, July 2003.

Member, Program Committee, 2003 IEEE International Conference on Image Processing, Barcelona, Spain, September 2003.

Short Course Instructor, "JPEG 2000: Second Generation Standard for Image Compression," UCLA Extension, May 2003.

Session Organizer and Chair, 2003 IEEE Communication Theory Workshop, Phoenix, Arizona, April 2003.

Publicity Chair, 2003 IEEE Communication Theory Workshop, Phoenix, Arizona, April 2003.

Member, Program Committee, 2003 Data Compression Conference, Snowbird, Utah, March 2003.

Short Course Instructor, "Image Compression with JPEG2000," International Telemetering Conference, San Diego, California, October 2002.

Member, Program Committee, 2002 IEEE International Conference on Image Processing, Rochester, New York, September 2002.

Short Course Instructor, "JPEG 2000: Second Generation Standard for Image Compression," UCLA Extension, May 2002.

Member, Program Committee, SPIE Conference on Hybrid Image and Signal Processing, Orlando, Florida, April 2002.

Session Chair, 2002 Data Compression Conference, Snowbird, Utah, March 2002.

Member, Program Committee, 2002 Data Compression Conference, Snowbird, Utah, March 2002.

Session Chair, Visual Communications and Image Processing Conference, SPIE, San Jose, California, January 2002.

Short Course Instructor, "JPEG2000: Highly Scalable Still Image Compression," International Telemetering Conference, Las Vegas, Nevada, October 2001.

Delegate, International Standards Organization Working Group for JPEG Image Compression (ISO/IEC JTC1/SC 29/WG 1), June 1996 – Present.

Chair, ISO/IEC JTC1/SC 29/WG 1 Verification Model Ad Hoc Group, March 1998 – May 2002.

Member, U.S. InterNational Committee for Information Technology Standards (INCITS/L3.2), January 1996 – Present.

Major contributor of technology to JPEG2000, the next generation international standard for image compression.

Member, Program Committee, SPIE Conference on Hybrid Image and Signal Processing, Orlando, Florida, April 2001.

Session Chair, 2001 Data Compression Conference, Snowbird, Utah, March 2001.

Member, Program Committee, 2001 Data Compression Conference, Snowbird, Utah, March 2001.

Member, Program Committee, IEEE International Geoscience and Remote Sensing Symposium, Waikiki, Hawaii, July 2000.

Member, Program Committee, 2000 Data Compression Conference, Snowbird, Utah, March 2000.

Session Chair, 2000 Data Compression Conference, Snowbird, Utah, March 2000.

Member, Program Committee, SPIE Conference on Hybrid Image and Signal Processing, Orlando, Florida, April 2000.

Invited Participant and Session Chair, NSF Workshop on Source-Channel Coding, San Diego, California, October 1999.

Member, Program Committee, 1999 Data Compression Conference, Snowbird, Utah, March 1999.

Associate Editor for Image Coding, IEEE Transactions on Image Processing, November 1994 – October 1998.

Session Chair, 1998 International Conference on Image Processing, Chicago, Illinois, October 1998.

Session Chair, 1998 IEEE International Symposium on Information Theory, Boston, Massachusetts, August 1998.

Session Chair, 1998 Data Compression Conference, Snowbird, Utah, March 1998.

Vice Chair, Technical Program Committee, 1997 IEEE Global Telecommunications Conference, GLOBECOM '97, Phoenix, Arizona, December 1997.

Technical Area Chair, Program Committee, Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, California, November 1997.

Program Committee Member, 1997 IEEE International Conference on Image Processing, Santa Barbara, California, October 1997.

Secretary, Signal Processing for Recording Technical Committee, IEEE Communications Society, December 1992 – December 1995.

Session Chair, 1994 IEEE Global Telecommunications Conference, GLOBECOM '94, San Francisco, California, December 1994.

Invited Participant, National Academy of Engineering Workshop, "Academic Engineering Research in a Changing World: Issues, Problems, and Solutions," The Academies' Beckman Center, Irvine, California, February 1994.

Session Organizer and Chair, "Source Coding: Speech and Video," 1993 IEEE Global Telecommunications Conference, GLOBECOM '93, Houston, Texas, December 1993.

Program Committee Member, 1992 IEEE Global Telecommunications Conference, GLOBECOM '92, Orlando, Florida, December 1992.

Session Organizer and Chair, "Signal Processing and Coding for Recording Channels," GLOBECOM '92, Orlando, Florida, December 1992.

Session Co-Organizer and Chair, "Image Coding," 1991 IEEE Global Telecommunications Conference, GLOBECOM '91, Phoenix, Arizona, December 1991.

Session Chair, "Channel Modeling," 1990 International Symposium on Information Theory and its Applications, Honolulu, Hawaii, November 1990.

Reviewer for:

IEEE Transactions on Communications,
IEEE Journal on Selected Areas in Communications,
IEEE Transactions on Information Theory,
IEEE Transactions on Circuits and Systems for Video Technology,
IEEE Transactions on Image Processing,
IEEE Transactions on Signal Processing,
IEEE Signal Processing Letters,
IEEE Transactions on Speech and Audio Processing,
IEEE Transactions on Pattern Analysis and Machine Intelligence,
IEEE Transactions on Geoscience and Remote Sensing,
Applied Optics,
Electronics Letters,
The National Science Foundation,
Kluwer Academic Publishers,
Morgan Kaufman Publishers.

OTHER

Fellow, Institute of Electrical and Electronics Engineers, 2002 – Present.

Member, Society of Motion Picture and Television Engineers, 2004 – Present.

Member, American Society for Engineering Education, 1997 – Present.

Member, International Society for Optical Engineering, 1992 – Present.

Senior Member, Institute of Electrical and Electronics Engineers, 1993 – 2001.

Member, Institute of Electrical and Electronics Engineers, 1987 – 1993.

Student Member, Institute of Electrical and Electronics Engineers, 1981 – 1987.

Treasurer, IEEE Student Section, 82-83 Academic Year.

President, California Xi Chapter of Tau Beta Pi, 80-81 Academic Year.

Member, Associated Engineering Student Council, 80-81, 81-82 Academic Years.

CURRENT GRADUATE STUDENTS

Yookyung Kim, Ph.D. Student

Han Oh, Ph.D. Student

Haiyong Zhang, Ph.D. Student

GRADUATE STUDENTS SUPERVISED

Hariharan Lalgudi, Ph.D., December 2008.

Dissertation: Efficient compression techniques for multi-dimensional images.

Lingling Pu, Ph.D., August 2007.

Dissertation: Joint source/channel coding for JPEG2000.

Rahul Raguram, M.S., May 2007.

Thesis: Improved resolution scalability for bi-level imagery in JPEG2000.

Joseph Dagher, Ph.D., August 2006.

Dissertation: Collaborative compression and transmission of distributed sensor imagery.

Ali Tabesh, Ph.D., August 2006.

Dissertation: Compression and classification of imagery.

Zhenyu Wu, Ph.D., May 2005.

Dissertation: Joint source/channel coding for image and video transmission.

Hariharan Lalgudi, M.S., May 2005.

Thesis: Four dimensional compression of medical data.

Karthik Krishnan, M.S., December 2004.

Thesis: Efficient transmission of compressed data for remote volume visualization.

Radhika Jandhyala, M.S., May 2004.

Thesis: Buffer constrained multi-layer multi-component rate allocation for motion JPEG2000.

Prajit Kulkarni, M.S., December 2003.

Thesis: Reduced memory multi-layer multi-component rate allocation for JPEG2000.

Tracy Smith, M.S., December 2003.

Thesis: Complex wavelet-based compression.

Ali Bilgin, Ph.D., December 2002.

Dissertation: Scalable compression of imagery.

Joseph Dagher, M.S., May 2002.

Thesis: Efficient rate control for video streaming.

Fatma Arslan, M.S., December 2001.

Thesis: Adaptive bit rate allocation in compression of SAR images with JPEG2000.

- Kannan Panchapakesan, Ph.D., May 2000.
Dissertation: Image processing through vector quantization.
- Karl Bauer, Ph.D., December 1999.
Dissertation: Projection based image restoration, super-resolution, and error correction codes.
- Fang Sheng, M.S., August 1998.
Thesis: Lossy and lossless bit plane coding of imagery using integer wavelets.
- James Owens, Ph.D., December 1997.
Dissertation: Compression of synthetic aperture radar phase history data.
- David Walsh, Ph.D., May 1997.
Dissertation: Restoration of coherent signals and images from incomplete Fourier data.
- Dongchang Yu, M.S., August 1996.
Thesis: A fixed-rate quantizer using block-based entropy-constrained quantization and run-length coding.
- Gongsan Yu, Ph.D., August 1996.
Dissertation: Error concealment for packet video.
- James Kasner, Ph.D., December 1995.
Dissertation: Adaptive wavelet compression of imagery.
- Ligang Ke, Ph.D., December 1995.
Dissertation: Near-lossless image compression and multi-track (d,k) modulation codes.
- Glen Abousleman, Ph.D., May 1994.
Dissertation: Entropy-constrained predictive trellis coded quantization and compression of hyperspectral imagery.
- Eric Gifford, Ph.D., December 1993.
Dissertation: Image coding using adaptive recursive interpolative DPCM with entropy constrained trellis coded quantization.
- Parthasarathy Sriram, Ph.D., December 1993.
Dissertation: Low bit-rate transform and wavelet image coding.
- Wayne Erxleben, M.S., August 1993.
Thesis: Error-correcting two-dimensional modulation codes.
- Edward Orcutt, Ph.D., August 1992.
Dissertation: Encoding of multi-track (d,k) modulation codes.
- Eric VonColln, M.S., August 1991.
Thesis: Subband coding of images using trellis coded quantization.

Michael Fox, M.S., May 1991.

Thesis: The viability of shaped BPSK modulation techniques with 5kHz UHF SATCOM channels.

Alan Ma, M.S., May 1991.

Thesis: Timing recovery for two-dimensional modulation codes.

Kai-Loong Tong, M.S., May 1991.

Thesis: Transform coding of monochrome and color imagery using trellis coded quantization.

Parthasarathy Sriram, M.S., August 1990.

Thesis: Noisy channel performance of trellis coded quantization.

PATENTS

K. Krishnan, M.W. Marcellin, M. Nadar, and A. Krishnan, "Prioritized image visualization from scalable compressed data," US Patent 7,324,695, January 29, 2008.

A. Krishnan and M.W. Marcellin, "Efficient ordering of data for compression and visualization," US Patent 7,190,836, March 13, 2007.

M.W. Marcellin and A. Bilgin, "Digital intermediate (DI) processing and distribution with scalable compression in the post-production of motion pictures," US Patent 7,110,605, September 19, 2006.

PUBLICATIONS

Books

D.S. Taubman and M.W. Marcellin, "JPEG2000: Image compression fundamentals, standards and practice," Kluwer Academic Publishers, Boston, 2002, ISBN 0-7923-7519-X, 795 pages. This book is intended to serve as a graduate level textbook on image compression fundamentals, as well as the definitive reference on JPEG2000.

D.S. Taubman and M.W. Marcellin, "JPEG2000: Image compression fundamentals, standards and practice," (Chinese Translation), Publishing House of Electronics Industry, Beijing, 2004, ISBN 7-5053-9814-8.

Edited Books

J. Storer and M.W. Marcellin, Editors, *Proceedings*, 2009 Data Compression Conference, Snowbird, Utah, March 2009.

J. Storer and M.W. Marcellin, Editors, *Proceedings*, 2008 Data Compression Conference, Snowbird, Utah, March 2008.

J. Storer and M.W. Marcellin, Editors, *Proceedings*, 2007 Data Compression Conference, Snowbird,

Utah, March 2007.

M.W. Marcellin, Editor, *Proceedings*, Seventh IASTED International Conference on Signal and Image Processing, Honolulu, Hawaii, August 2005.

Book Chapters and Monographs

M. Lepley, S. Houchin, J. Kasner, and M.W. Marcellin, “Extensions (Part 2),” in *The JPEG2000 Suite of Standards*, Wiley, to be published.

P. Kulkarni, A. Bilgin, M.W. Marcellin, J.C. Dagher, J.H. Kasner, T.J. Flohr, and J.C. Rountree, “Compression of earth science data with JPEG2000” in *Hyperspectral Image Compression*, G. Motta, F. Rizzo, and J. Storer, Eds., Springer, 2006.

J.C. Dagher, M.W. Marcellin, and M.A. Neifeld, “Power-constrained distributed transmission of sensor-network measurements,” in *SPIE Optics in Information Systems*, special issue on Computational Imaging, Vol. 14, No. 2, August 2003.

A. Bilgin and M.W. Marcellin, “JPEG2000: Highly scalable image compression,” in *Handbook on Lossless Compression*, K. Sayood, Ed., Academic Press, 2003.

M.W. Marcellin and T.R. Fischer, “A trellis-searched 16 kbit/sec speech coder with low delay,” in *Advances in Speech Coding*, B.S. Atal, V. Cuperman, A. Gersho, Eds., Kluwer Academic Publishers, 1991.

Journal Articles

A. Tabesh, M.W. Marcellin, and M.A. Neifeld, “Optimal rate allocation for entropy-coded scalar quantization of dependent sources in nonbinary hypothesis testing,” *IEEE Transactions on Communications*, to appear.

F. Auli-Llinas and M.W. Marcellin, “Distortion estimators for bitplane image coding,” *IEEE Transactions on Image Processing*, to appear.

H.G. Lalgudi, M.W. Marcellin, A. Bilgin, H. Oh, and M.S. Nadar, “View compensated compression of volume rendered images for remote visualization,” *IEEE Transactions on Image Processing*, Vol.18, No. 7, pp. 1501–1511, July 2009.

P. Sliwinski, J. Rozenblit, M.W. Marcellin, and R. Klempous, “Wavelet amendment of polynomial models in Hammerstein systems identification,” *IEEE Transactions on Automatic Control*, Vol. 54, No. 4, pp. 820–825, April 2009.

R. Raguram, M.W. Marcellin, and A. Bilgin, “Improved resolution scalability for bi-level image data in JPEG2000,” *IEEE Transactions on Imaging Processing*, Vol. 18, No. 4, pp. 774–782, April 2009.

H.G. Lalgudi, A. Bilgin, M.W. Marcellin, and M.S. Nadar, “Compression of multi-dimensional images using JPEG2000,” *IEEE Signal Processing Letters*, Vol. 15, pp. 393–396, 2008.

Z. Wu, A. Bilgin, and M.W. Marcellin, “Error resilient decoding of JPEG2000,” *IEEE Transactions*

- on Circuits and Systems for Video Technology*, Vol. 17, No. 12, pp. 1752–1757, December 2007.
- L. Pu, M.W. Marcellin, I. Djordjevic, B. Vasic, and A. Bilgin, “Joint source-channel rate allocation in parallel channels,” *IEEE Transactions on Image Processing*, Vol. 16, No. 8, pp. 2016–2022, August 2007.
- L. Pu, M.W. Marcellin, B. Vasic, and A. Bilgin, “Unequal error protection and progressive decoding for JPEG2000,” *Signal Processing: Image Communication, Special Issue on Mobile Video*, Vol. 22, No. 3, pp. 340–346, March 2007.
- M.W. Marcellin and A. Bilgin, “Layered rate allocation for digital cinema,” (invited), *SMPTE Motion Imaging Journal*, Vol. 116, No. 2 & 3, pp. 80–86, February/March 2007.
- J.C. Dagher, M.W. Marcellin, and M.A. Neifeld, “A theory for maximizing the lifetime of sensor networks,” *IEEE Transactions on Communications*, Vol. 55, No. 2, pp. 323–332, February 2007.
- L. Pu, Z. Wu, A. Bilgin, M.W. Marcellin, and B. Vasic, “LDPC-based iterative joint source-channel decoding for JPEG2000,” *IEEE Transactions on Image Processing*, Vol. 16, No. 2, pp. 577–581, February 2007.
- J.C. Dagher, M.W. Marcellin, and M.A. Neifeld, “Cooperative multi-hop transmission of distributed sensor imagery,” *Applied Optics: Information Processing*, Vol. 45, No. 28, pp. 7353–7364, October 2006.
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