VITA

CHARLES D. CREUSERE

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DISSERTATION TITLE

"Perfect Reconstruction Modulated Polyphase Filter Banks Using Reverse-Time Subfilters."

ACADEMIC TRAINING

1980-1985: University of California at Davis, B.S. in Electrical and Computer Engineering.

1989-1990: University of California at Santa Barbara, M.S. in Electrical and Computer Engineering.

1990-1993: University of California at Santa Barbara, Ph.D. in Electrical and Computer Engineering.

PROFESSIONAL EXPERIENCE

2010 Selected for the Frank Carden Endowed Chair in January and advanced to the rank of full professor in August. Current research interests include compressive sensing/sparse reconstruction for LIDAR and streaming sensor data as well as EEG brain analysis for audiovisual perceptual quality assessment and modeling.

October 2008 Selected for the International Foundation for Telemetering Endowed Professorship.

Jan. 2000-2008 Associate professor in the Klipsch School of Electrical & Computer Engineering. My teaching areas include digital signal processing, image processing, pattern classification, and source coding (signal compression). I have done past research in areas of image, video, and audio compression as well as feature vector extraction for pattern classification. Currently, my research interests include distributed compression, polarmetric image processing for scene analysis, and nonstationary signal denoising.

1993-1999: Researcher & Team Leader, Naval Air Warfare Center, China Lake. My research efforts have focused on high speed image and video compression technologies which offer unique capabilities such as robustness to transmission errors and regional localization. My team (2 other people) and I have implemented a real-time (3 to 15 frames/second with 240x512 frames) 320C80-based system which uses a wavelet transform along with embedded coding techniques to compress a video input and stream it through the Internet via TCP/IP protocols. Our recent research focus has been to add more intelligence to the encoder so that the space-frequency information in the image that is most useful for image analysis is received with the highest fidelity. While most of my recent research has been in the area of embedded compression, I am still very much interested in other applications of time/space-frequency

decompositions and of multirate digital signal processing concepts in general.

1999, Spring Quarter: Instructor at the University of California at Santa Barbara. Taught graduate class in Multirate Digital Signal Processing, ECE 258B.

1990-1993: Research Assistant, Department of Electrical and Computer Engineering, University of California, Santa Barbara. Worked under Prof. S.K. Mitra on subband coding and multirate filter bank theory. Also implemented real-time filter banks on a Motorola 56001 digital signal processor.

1992: Summer Employee, AT&T Bell labs, Murray Hill, NJ. Developed and simulated new methods of extremely low bit rate video coding for video telephone applications.

1985-1989: Design Engineer, Naval Weapons Center, China Lake. Designed, built, and tested the guidance electronics for the Laser Guided Training Round. This project included mixed analog and digital circuit design as well as the programming of an embedded DSP. Also developed software for an advanced video processor and studied ground target tracking.

FUNDED RESEARCH

•(2000) Office of Naval Research, *Compression of Digital Elevation Maps Using Non-linear Wavelets*, 2000-2003, $94K

•(2001) Sandia National Labs, *Intelligent Compression for Remote Sensing*, 2001-2003, $70K.

•(2002) National Science Foundation (Early Career Grant), *Efficient Audio Compression with Perceptually Embedded Scalability*, 2002-2007, $350K.

•(2004) National Geospatial-Intelligence Agency, *Passive Polarimetric Imagery Classification Study*, 2004-2006, $160K (joint with Dr. David Voelz).

•(2005) Los Alamos National Laboratories, *Signal Detection via Adapted Filter Banks and Geometric Dimensionality Reduction*, 2005-2006, $15K (unburdened).

•(2006) Los Alamos National Laboratories, *Signal Detection via Adapted Filter Banks and Geometric Dimensionality Reduction*, 2006-2007, $50K (unburdened).

•(2006) National Geospatial-Intelligence Agency, *Exploiting Polarization in Imaging Systems*, 2006-2009, $304K (joint with Dr. David Voelz).

•(2006) Army Research Office, *Distributed Source Coding Using Bitstream-based Detection and Classification*, 2006-2009, $326K.

•(2006) DARPA (Subcontract from LANL), *ADAM Project*, 2006-2007, $104K (joint with Dr. Joe Lakey and Dr. Jaime Ramirez)

•(2009) NMSU IRG, *Perceptual audio quality evaluation by direct measurement of human brain responses*, 2009-2010, $39K (joint with Dr. Jim Kroger, Psychology)

•(2011) National Science Foundation, *CIF:Medium:Assessment and modeling of temporal variation in perceived audio and video quality using direct brainwave measurement*, 2011-2015, $917K (lead PI with Dr. Jim Kroger and Dr. Joerg Kliwer as co-PIs)

•(2011) NASA EPSCOR, *Proximity Operations for Near Earth Asteroid Exploration*, 2011-2014, $750K (co-PI, with Dr. Eric Butcher (lead), others)

•(2012) National Geospatial Intelligence Agency (NGA), *Pulse Complexity Based LIDAR*

Scene Modeling for Sparse Reconstruction and Super-Resolution, 2012-2013 (plus 3 1 year options), $150K ($75K/option year), co-PI Dr. David Voelz.

OTHER DISTINCTIONS

• Awarded the International Foundation for Telemetering Professorship, October 2008.

• Received an educational fellowship from the Department of Defense, 1989-1992.

• Certificate of Merit for the outstanding technical paper awarded at the AIAA Missile Sciences Conference for the paper "Automatic target recognition directed image compression," Nov. 1998.

• Patent (classified) titled, "Microcontroller-Based Laser Pulse Decoder," awarded 1991.

• Patent titled "Parallel digital image compression system which exploits zerotree redundancies in wavelet coefficients," Patent Number 6,148,111.

• Patent titled "Efficient embedded image and video compression using lifted wavelets," Number: 6,466,698, granted October 15, 2002.

• Associate editor for IEEE Trans. on Image Processing, 2002-2005, 2010-2014

• Associate editor for IEEE Trans. on Multimedia , 2008-2013.

• Guest Editor, "Issue on Advances in Hyperspectral Data Processing and Analysis", IEEE Journal of Selected Topics in Signal Processing, Vol. 5, Numbers: 5 & 6, August-September 2015,

• Co-general chair, IEEE Digital Signal Processing Workshop, August 2004, Taos, NM.

• Co-technical chair for the 2012 and 2014 Southwest Symposium on Image Analysis and Interpretation.

• Student Paper Contest Chair, 40th Asilomar Conf. on Signals, Systems, and Computers, October 2006.

• Organized special session entitled "Applications of Multirate DSP" at the 40th Asilomar Conf. on Signals, Systems, and Computers, October 2006.

• Member of technical program committees for the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), the IEEE International Conference on Image Processing (ICIP), and the IEEE Data Compression Conference (DCC).

CONSULTING ACTIVITIES

- Video compression systems (technology consultant), Abba Tech, Albuquerque, NM, 2000.
- Expert witness in laser rangefinding technology, Asia Optical Inc. (through NY law firm of Osterlenk, Faber, Gerb & Soffen), Case: LTI versus Nikon/AOI, July 2001-2003. Case went to trial/ testified in court.
- Technical expert for defense; Case: Real-Time v. AT&T (byte.mobile), 2011-2012, case settled June 2012.
- Technical expert for defense; Case: Princeton Digital v. Dell, 2014-2015, case dismissed June 2015.

JOURNAL PUBLICATIONS

1. **C.D. Creusere and S.K. Mitra**, "A simple method for designing high-quality prototype filters for M-band pseudo-QMF banks," *IEEE Trans. on Signal Processing*, Vol. 43, No. 4, April 1995, pp. 1005-1007.

2. **C.D. Creusere and S.K. Mitra**, "Efficient audio coding using perfect reconstruction noncausal IIR filter banks," *IEEE Trans. on Speech and Audio Processing*, Vol. 4, No. 2, March 1996, pp. 115-123.

3. **C.D. Creusere and S.K. Mitra**, "Image coding using wavelets based on perfect reconstruction IIR filter banks," *IEEE Trans. on Circuits and Systems for Video Technology*, Vol. 6, No. 5, Oct. 1996, pp. 447-458.

4. **C.D. Creusere**, "A new method of robust image compression based on the embedded zerotree wavelet algorithm," *IEEE Trans. on Image Processing*, Vol 6, No. 10, Oct. 1997, pp. 1436-1442.

5. **C.D. Creusere and A. Van Nevel**, "ATR-directed image and video compression," *Journal of Aircraft*, Vol. 36, No. 4, pp. 626-31, July-August 1999.

6. **C.D. Creusere**, "Fast embedded compression for video," *IEEE Trans. on Image Processing*, Vol. 8, No. 12, pp. 1811-16, December 1999.

7. **C.D. Creusere**, "Motion compensated video compression with reduced complexity encoding for remote transmission," *Signal Processing: Image Communications*, Vol. 16, pp. 627-42, April 2000.

8. **C.D. Creusere**, "Understanding perceptual distortion in MPEG scalable audio coding," *IEEE Trans. on Speech and Audio Processing*, Vol. 13, No. 3, pp. 422-431, May 2005.

9. **L. E. Boucheron and C.D. Creusere**, "Lossless wavelet-based compression of digital elevation maps for fast and efficient search and retrieval," *IEEE Trans. on Geoscience and Remote Sensing,* Vol. 43, No. 5, pp. 1210-1214, May 2005.

10. **V. Thilak, D. Voelz, and C.D. Creusere**, "Polarization-based index of refraction and reflection angle estimation for remote sensing applications," *Applied Optics*, Vol. 46, Bo. 30, pp. 7427-7536, Oct. 2007.

11. **C.D. Creusere, K. Kallakuri, and R. Vanam**, "An Objective Metric of Human Subjective Audio Quality Optimized for a Wide Range of Audio Fidelities," *Audio, Speech, and Language Processing, IEEE Transactions on [see also Speech and Audio Processing, IEEE Transactions on]* , vol.16, no.1, pp.129-136, Jan. 2008

12. **S. Kandadai and C.D. Creusere**, "Scalable Audio Compression at Low Bitrates," *Audio, Speech, and Language Processing, IEEE Transactions on [see also Speech and Audio Processing, IEEE Transactions on]* , vol.16, no.5, pp.969-979, July 2008

13. **S. Kandadai and C.D. Creusere**, "Reverse engineering and repartitioning vector quantizers using training set synthesis," *Signal Processing,* August 2008.

14. **V. Thilak, C.D. Creusere, and D. Voelz**, "Passive Polarimetric Imagery-Based Material Classification Robust to Illumination Source Position and Viewpoint," *Image Processing, IEEE Transactions on* , vol.20, no.1, pp.288-292, Jan. 2011.

15. **C.D. Creusere and J. Hardin**, "Assessing the Quality of Audio Containing Temporally Varying Distortions," *Audio, Speech, and Language Processing, IEEE Transactions on* , vol.19, no.4, pp.711-720, May 2011.

16. **Castorena, J.; Creusere, C.D.**, "The Restricted Isometry Property for Banded Random Matrices," *Signal Processing, IEEE Transactions on* , vol.62, no.19, pp.5073-5084, Oct.1, 2014 doi: 10.1109/TSP.2014.2345350.

17. **Castorena, J.; Creusere, C.D.**, "Sampling of Time-Resolved Full-Waveform LIDAR Signals at Sub-Nyquist Rates," *Geoscience and Remote Sensing, IEEE Transactions on* , vol.53, no.7, pp.3791-3802, July 2015. doi: 10.1109/TGRS.2014.2383839.

18. **Castorena, J.; Creusere, C.D.,** "FRI Signal Reconstruction From Structured Nonuniform Samples and Application to Super-Resolved Optical Image Reconstruction," I*EEE Signal Processing Letters*,

status: Accepted, October 2015.

REFEREED CONFERENCE PUBLICATIONS

1. **H. Babic, S.K. Mitra, C.D. Creusere, and A. Das**, "Perfect reconstruction recursive QMF banks for image subband coding," *Proc. Asilomar Conf. Signals, Systems, and Computers*, Pacific Grove, CA, Nov. 1991, pp. 746-750.

2. **S.K. Mitra, C.D. Creusere, and H. Babic**, "A novel implementation of perfect reconstruction QMF banks using IIR filters," *Proc. IEEE Int. Symposium on Circuits and Systems*, San Diego, CA, May 1992, pp. 2312-2315.

3. **S.K. Mitra, C.D. Creusere, and H. Babic**, "Design of transmultiplexers using IIR filter banks," *Signal Processing VI: Theories and Applications*, Elsevier Science Publishers, 1992, pp. 223-226.

4. **C.D. Creusere and S.K. Mitra**, "Efficient image scrambling using polyphase filter banks," *Proc. International Conference on Image Processing*, Austin, TX, Nov. 1994, pp. 81-85.

5. **C.D. Creusere and G. Hewer**, "Wavelet-based nearest neighbor pattern classification using scale sequential matching," *Proc. Asilomar Conf. Signals, Systems and Computers*, Pacific Grove, CA, Nov. 1994, pp. 1123-1127.

6. **C.D. Creusere**, "Embedded zerotree image coding using low complexity IIR filter banks," *Proc. Int. Conf. on Acoustics, Speech, and Signal Processing*, Detroit, MI, May 1995, pp. 2213-16.

7 **C.D. Creusere and Gary Hewer**, "Digital video compression for weapons control and bomb damage indication," *AGARD Conference Proceedings 576*, Chapter 16, Sept. 1995.

8. **C.D. Creusere**, "Image coding using parallel implementations of the embedded zerotree wavelet algorithm," *Proc. of the Digital Video Compression Conference (Algorithms and Technologies 1996)*, San Jose, CA, Jan. 28-Feb. 2, 1996, pp. 82-93.

9. **C.D. Creusere**, "A family of image compression algorithms which are robust to transmission errors," *Proceedings of the SPIE*, Vol. 2825, Denver, CO, August, 1996, pp. 890-900.

10. **C.D. Creusere**, "Perfect reconstruction time-varying IIR filter banks," *Conf. Rec. Asilomar Conf. Signals, Systems, and Computers*, Pacific Grove, CA, Nov. 1996, pp. 1319-23.

11. **C.D. Creusere**, "Out-of-loop motion compensation for reduced complexity video encoding," *Proc. of the Data Compression Conf.* (pp. 428) & *Data Compression Industry Workshop* (pp.28-37), March 1997, Snowbird, UT.

12. **C.D. Creusere**, "Periodic pan compensation for reduced complexity video compression," *Proc. Int. Conf. on Acoustics, Speech, and Signal Processing*, Vol IV, pp. 2889-92, April 1997, Munich, Germany.

13. **C.D. Creusere**, "A new approach to global motion compensation which reduces video encoding complexity," *Proc. Int. Conf. on Image Processing*, Vol. III, pp. 634-7, October 1997, Santa Barbara, CA.

14. **C.D. Creusere**, "Spatially partitioned lossless image compression in an embedded framework," *Conf. Rec. 31st Asilomar Conf. on Signals, Systems, and Computers*, Nov. 1997, Pacific Grove, CA.

15. **C.D. Creusere**, "Adaptive embedding for reduced complexity image and video compression," *Proc. of the SPIE*, Vol 3309 (Visual Communications and Image Processing), pp. 48-57, Jan. 1998, San Jose, CA.

16. **C.D. Creusere**, "Successive coefficient refinement for embedded lossless image compression," *Proc. of the Data Compression Conf*., pp. 539, March 1998, Snowbird, UT.

17. **C.D. Creusere**, "Subband coding of speech and audio," *Proc. of the European Signal Processing Conf*. (invited paper), Sept. 1998, Isle of Rhodes, Greece.

18 **C.D. Creusere**, "Fast embedded video compression using cache-based processing," *Proc. of the European Signal Processing Conf*., Sept. 1998, Isle of Rhodes, Greece.

19. **C.D. Creusere**, "Successive coefficient refinement for embedded lossless image compression," *Proc. Int. Conf. on Image Processing*, Oct. 1998, Chicago, IL.

20. **C.D. Creusere** and A. Van Nevel, "Autonomous target recognition directed image compression,"

Proc. of the AIAA, Nov. 1998.

21. **C.D. Creusere**," Improved successive refinement for wavelet-based embedded image compression," *Proc. of the SPIE*, Denver, CO, July 1999.

22. A. Van Nevel and **C.D. Creusere**, "Intelligent Bandwidth Compression," *Proc. of the SPIE*, Denver, CO, July 1999.

23. **C.D. Creusere,** "Optimal refinement/significance map tradeoffs in SPIHT-based image compression," *Conf. Rec., 34th Asilomar Conf. on Signals, Systems, & Computers, pp. 1026-30, Oct. 2000.*

24. **C.D. Creusere,** "Compression of digital elevation maps using nonlinear wavelets," *Proc. Int. Conf. on Image Processing*, pp. 824-7, October 2001.

25. **C.D. Creusere and G. Dahman**, "Object detection and localization in compressed video," *Conf. Rec. 35th Asilomar Conf. on Signals, Systems, and Computers*, Nov. 2001, Pacific Grove, CA.

26. **C.D. Creusere**, "An analysis of perceptual artifacts in MPEG scalable audio coding," *Proceedings of the Data Compression Conference*, pp. 152-161, April 2002, Snowbird, UT.

27. **C.D. Creusere and N. Tolk**, "Combining wavelets and GLICBAWLS to achieve resolution-progressive lossless compression," *Proc. of the International Conference on Image Processing*, pp. III-229-32, October 2002.

28. **L. Boucheron and C.D. Creusere**, "Compression of digital elevation maps for fast and efficient search and retrieval," *Proc. of the International Conference on Image Processing*, pp. 629-32, September 2003.

29. **S. Kandadai and C.D. Creusere**, "An experimental study of object detection in the wavelet domain," *Conf. Rec. 37th Asilomar Conf. on Signals, Systems, and Computers*, pp. 1620-4, Nov. 2003, Pacific Grove, CA.

30. **C.D. Creusere**, "Quantifying perceptual distortion in scalably compressed MPEG audio," *Conf. Rec. 37th Asilomar Conf. on Signals, Systems, and Computers*, pp. 265-9, Nov. 2003, Pacific Grove, CA.

31. **C.D. Creusere and L. Zhou**, "Spatial object detection and classification in JPEG bitstreams ," *Proceedings 11th Digital Signal Processing Workshop*, pp. 115-9, August 2004, Taos Ski Valley, NM,

32. **L. Zhou and C.D. Creusere**, "Spatial object detection in JPEG bitstreams," *Proceedings European Conference on Signal Processing*, pp. 949-52, September 2004, Vienna, Austria.

33. **V. Thilak and C.D. Creusere**, "Tracking of extended size targets in H.264 compressed video using the probabilistic data association filter," *Proceedings European Conference on Signal Processing*, pp. 281-4, September 2004, Vienna, Austria.

34. **S. Kandadai and C.D. Creusere**, Reverse engineering vector quantizers by training set synthesis," *Proceedings European Conference on Signal Processing*, pp. 789-92, September 2004, Vienna, Austria.

35. **V. Thilak, J. Saini, D. G. Voelz, C. D. Creusere** , "Pattern recognition for passive polarimetric data using nonparametric classifiers," *Proc. of the SPIE Vol. 5888*, p. 337-344, Polarization Science and Remote Sensing II; Joseph A. Shaw, J. Scott Tyo; Eds.

36. **R. Vanam and C.D. Creusere**, "Evaluating low bitrate scalable audio quality using advanced version of PEAQ and energy equalization approach ," *Proc. IEEE Int. Conf. on Acoustics, Speech, and Signal Processing*, Vol. III, pp. 189-92, March 2005.

37. **S. Kandadai and C.D. Creusere**, "Reverse engineering vector quantizers for repartitioned signal spaces," *Proc. 39th Asilomar Conference on Signals, Systems, and Computers*, pp. 1208-12, Pacific Grove, CA, Nov. 2005.

38. **R. Vanam and C.D. Creusere,** "Scalable perceptual metric for evaluating audio quality," *Proc. 39th Asilomar Conference on Signals, Systems, and Computers*, pp. 319-23, Pacific Grove, CA, Nov. 2005.

39. **S. Kandadai and C.D. Creusere**, "Perceptually-weighted audio coding that scales to extremely low bitrates," *Proc. IEEE Data Compression Conference*, pp. 382-391, Snowbird, UT, March 2006.

40. **V. Thilak, D. Voelz, C. Creusere, S. Damarla,** "Estimating the refractive index and reflected zenith angle of a target using multiple polarization measurements," Proc. SPIE Vol. 6240, 624004, Polarization: Measurement, Analysis, and Remote Sensing VII; Dennis H. Goldstein, David B. Chenault; Eds., May 2006.

41. **V.M. Prasad and C.D. Creusere**, "Analyzing reversible lapped transformations using Reng probing," *Proc. 40th Asilomar Conference on Signals, Systems, and Computers*, pp. 873-877, Oct. 2006.

42. **N. Balachandran and C.D. Creusere**, "Chirp classification using hidden Markov models," *Proc. 40th Asilomar Conference on Signals, Systems, and Computers*, pp. 545-549, Oct. 2006.

43. **V. Thilak and C.D. Creusere**, "Estimating the complex index of refraction and view angle of an object using multiple polarization measurements," *Proc. 40th Asilomar Conference on Signals, Systems, and Computers*, pp. 1067-1071, Oct. 2006.

44. **V. Thilak, C.D. Creusere, and D.G. Voelz**, "Material classification using passive polarmetric imagery," Proc. IEEE Int. Conf. on Image Proc., Vol. 4, pp. IV-121-124, Sept., 2007.

45. **A. Pamba, V. Thilak, D. G. Voelz, C. D. Creusere** "Estimation of incidence and reflection angles from passive polarimetric imagery: extension to out-of-plane scattering," Proc. SPIE Vol 6682, 66820O, Polarization Science and Remote Sensing III, Joseph A. Shaw; J. Scott Tyo, Editors, September 2007.

46. **V. Thilak, D. G. Voelz, C. D. Creusere**, "Image segmentation from multi-look passive polarimetric imagery, Proc. SPIE 6682, 668206, Polarization Science and Remote Sensing III, Joseph A. Shaw; J. Scott Tyo, Editors, October 2007.

47. **S. Kandadai and C.D. Creusere**, "Optimal Bit Layering for Scalable Audio Compression Using Objective Audio Quality Metrics," *Signals, Systems and Computers, 2007. ACSSC 2007. Conference Record of the Forty-First Asilomar Conference on* , pp.560-564, 4-7 Nov. 2007.

48. **C.D. Creusere and I. Mecimore**, "Bitstream-based overlap analysis for multi-view distributed video coding," *Proc. IEEE Southwest Symposium on Image Analysis and Interpretation*, pp. 93-96, March 2008.

49. **V. Thilak, C.D. Creusere, and D.G. Voelz**, "Passive Polarimetric Imagery Based Material Classification For Remote Sensing Applications," *Proc. IEEE Southwest Symposium on Image Analysis and Interpretation*, pp. 153-156 March 2008.

50. **V. Thilak, Q. Wang, D. G. Voelz, C. D. Creusere**, "Estimation of target geometry from Mueller matrix imagery," *Proc. SPIE 6972*, March 2008.

51. **C.D. Creusere and I. Mecimore**, "Bitstream-based correlation detector for multi-view distributed video coding applications," *Proc. Int. Conf. on Accoustics, Speech, and Signal Processing*, pp. 1001-1004, April 2008, Las Vegas, NV.

52. **S. Kandadai, J. Hardin, and C.D. Creusere**, "Audio quality assessment using the mean structural similarity measure," *Proc. Int. Conf. on Accoustics, Speech, and Signal Processing*, pp. 221-224, April 2008, Las Vegas, NV.

53. **S. Matta and C.D. Creusere**, "Efficient correlation extraction for distributed audio coding," *Signals, Systems and Computers, 2008 42nd Asilomar Conference on* , vol., no., pp.1272-1276, 26-29 Oct. 2008 .

54. **J.C. Hardin and C.D. Creusere**, "Objective analysis of temporally varying audio quality metrics," *Signals, Systems and Computers, 2008 42nd Asilomar Conference on* , vol., no., pp.1245-1249, 26-29 Oct. 2008 .

55. **S. Matta and C.D. Creusere**, "Distributed audio coding with efficient source correlation extraction," *Proceedings 13th Digital Signal Processing Workshop*, pp. 16-20, January 2009, Marco Island, FL.

56. **I. Mecimore and C.D. Creusere**, "Unsupervised bitstream based segmentation of images," *Proceedings 13th Digital Signal Processing Workshop*, pp. 642-647, January 2009, Marco Island, FL.

57. **Q. Wang, C.D. Creusere, V. Thilak, and D.G. Voeltz**, "Active polarimetric imaging for estimation of scene geometry," *Proceedings 13th Digital Signal Processing Workshop*, pp. 659-663, January 2009, Marco Island, FL.

58. **J.C. Hardin and C.D. Creusere**, "A temporally varying objective audio quality metric,"

Proceedings 13th Digital Signal Processing Workshop, pp. 21-25, January 2009, Marco Island, FL.

59. **I. Mecimore, W. Fahrenkrog, and C.D. Creusere**, "On bitstream based edge detection techniques," ITEA Conference, January 2009, El Paso, TX (best graduate student paper award).

60. **Mecimore, Ivan; Creusere, Charles D.**; , "Low complexity multi-view distributed video coding based on JPEG," *Image Analysis & Interpretation (SSIAI), 2010 IEEE Southwest Symposium on* , vol., no., pp.165-168, 23-25 May 2010.

61. **Creusere, C.D.; Mehta, K.; Voelz, D.G.**; , "Model-based estimation of surface geometry using passive polarimetric imaging," *Geoscience and Remote Sensing Symposium (IGARSS), 2010 IEEE International* , vol., no., pp.4557-4560, 25-30 July 2010.

62. **Castorena, J.; Creusere, C.D.; Voelz, D.**; , "Modeling lidar scene sparsity using compressive sensing," *Geoscience and Remote Sensing Symposium (IGARSS), 2010 IEEE International* , vol., no., pp.2186-2189, 25-30 July 2010.

63. **Castorena, J.; Creusere, C.D.; Voelz, D.**; , "Using finite moment rate of innovation for LIDAR waveform complexity estimation," *Signals, Systems and Computers (ASILOMAR), 2010 Conference Record of the Forty Fourth Asilomar Conference on* , vol., no., pp.608-612, 7-10 Nov. 2010

64. **Creusere, C.D.; Siddenki, S.; Hardin, J; Kroger, J**; , "Early investigations into subjective audio quality assessment using brainwave responses," *Signals, Systems and Computers (ASILOMAR), 2011 Conference Record of the Forty Fifth Asilomar Conference on* , vol., no., pp., Nov. 2011.

65. **Castorena, J.E.; Creusere, C;**, "Remote-sensed LIDAR using random sampling and sparse reconstruction," *Proc. International Telemetering Conference*, Las Vegas, NV, October 2011.

66. **Davis, P; Creusere, C.**; "Quantifying the gains of compressive sensing for telemetering application," *Proc. International Telemetering Conference*, Las Vegas, NV, October 2011.

67. **Creusere, C.D.; Kroger, J.; Siddenki, S.R.; Davis, P.; Hardin, J.**; , "Assessment of subjective audio quality from EEG brain responses using time-space-frequency analysis," *Signal Processing Conference (EUSIPCO), 2012 Proceedings of the 20th European* , vol., no., pp.2704-2708, 27-31 Aug. 2012.

68. **Castorena, J.; Creusere, C.D.;** , "Compressive sampling of LIDAR: Full-waveforms as signals of finite rate of innovation," *Signal Processing Conference (EUSIPCO), 2012 Proceedings of the 20th European* , vol., no., pp.984-988, 27-31 Aug. 2012.

69. **Castorena, J.; Creusere, C.D.;** "Random impulsive scan for LIDAR sampling," Proc. IEEE Int. Conf. on Image Proc., October 2012.

70. **Creusere, C. ,Nelson, E., Critz, T., Butcher, E.**; "Analysis of communication interconnectedness in the proximity of near-earth asteroids," *Proc. International Telemetering Conference*, San Diego, CA, October 2012.

71. **Castorena, J.E.; Creusere, C;**, "Remote-sensed LIDAR using random impulsive scans," *Proc. International Telemetering Conference*, San Diego, CA, October 2012.

72. **Castorena, J.; Creusere, C.D.**, "Sub-spot localization for spatial super-resolved LIDAR," *Acoustics, Speech and Signal Processing (ICASSP), 2013 IEEE International Conference on* , vol., no., pp.2227,2231, 26-31 May 2013.

73. **Charles D. Creusere ; Juan Castorena**, "A unified framework for 3rd generation lidar pulse processing based on finite rate of innovations," *Proc. SPIE 8858, Wavelets and Sparsity XV*, 88580T (September 26, 2013); doi:10.1117/12.2022447.

74. **Nelson, E., Creusere, C., Critz, T., Butcher, E.**; "Analysis of communication rates in the proximity of near-earth asteroids," *Proc. International Telemetering Conference*, Las Vegas, NV, October 2013.

75. **Castorena, J.E.; Creusere, C;**, "Full-waveform LIDAR recovery at sub-Nyquist rates," *Proc. International Telemetering Conference*, Las Vegas, NV, October 2013.

76. **Davis, P.; Creusere, C.D.; Kroger, J.**, "EEG and the human perception of video quality: Impact of channel selection on discrimination," *Global Conference on Signal and Information Processing (GlobalSIP), 2013 IEEE* , vol., no., pp.9,12, 3-5 Dec. 2013, doi: 10.1109/GlobalSIP.2013.6736798.

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