

CURRICULUM VITAE

Ali Bilgin

ADDRESS: Thomas R. Keating Building
University of Arizona
1657 E. Helen Street
Tucson, AZ 85721

TELEPHONE: +1-520-626-8943

EMAIL: bilgin@email.arizona.edu

URL: <http://www.ece.arizona.edu/~bilgin>

EDUCATION

2002 Ph.D. Electrical Engineering, University of Arizona.

1995 M.S. Electrical Engineering, San Diego State University.

1992 B.S. Electronics and Telecommunications Engineering, Istanbul Technical University.

EMPLOYMENT

2015 – present Associate Professor, Department of Biomedical Engineering, Department of Electrical and Computer Engineering, Department of Medical Imaging (Radiology), The University of Arizona, Tucson, AZ.

2009 – 2015 Assistant Professor, Department of Biomedical Engineering, Department of Electrical and Computer Engineering, Department of Medical Imaging (Radiology), The University of Arizona, Tucson, AZ.

2004 – 2009 Research Assistant Professor, Department of Radiology, The University of Arizona, Tucson, AZ.

2003 – 2009 Research Assistant Professor, Department of Electrical and Computer Engineering, The University of Arizona, Tucson, AZ.

2004 – 2008 Co-founder, DTS AZ Research LLC, Tucson, AZ.

1995 – 2002 Graduate Research Associate, Department of Electrical and Computer Engineering, The University of Arizona, Tucson, AZ.

2001 – 2002 Graduate Research Associate, Department of Radiology, The University of Arizona, Tucson, AZ.

Summer 1997, 2000 Staff Research Assistant, Theory Division, Los Alamos National

Laboratory, Los Alamos, NM.

- 1993 – 1995 Graduate Research Assistant, Department of Electrical and Computer Engineering, San Diego State University, San Diego, CA.
- 1992 – 1995 Graduate Teaching Assistant, Department of Electrical and Computer Engineering, San Diego State University, San Diego, CA.

TECHNICAL PUBLICATIONS

Book Chapters

1. B. P. Berman, S. Mandava, A. Bilgin “On Compressed Sensing Reconstruction for Magnetic Resonance Imaging” in Computer Vision in Medical Imaging, C. H. Chen, Ed., World Scientific Publishing, 2013.
2. P. Kulkarni, A. Bilgin, M. W. Marcellin, J. C. Dagher, J. H. Kasner, T. J. Flohr, J. C. Rountree, “Compression of Earth Science Data with JPEG2000” in Hyperspectral Image Compression, G. Motta, F. Rizzo, and J. Storer, Eds., Springer, 2006.
3. A. Bilgin, M. W. Marcellin, “JPEG2000: Highly Scalable Image Compression,” in Handbook on Lossless Compression, K. Sayood, Ed., Academic Press, 2002.

Journal Articles

1. F. Liu, N. A. Goodman, M. W. Marcellin, A. Bilgin, "Compressive Sampling for Detection of Frequency-Hopping Spread Spectrum Signals," to appear in IEEE Transactions on Signal Processing.
2. J. F. Brand, L. R. Furenlid, M. I. Altbach, JP Galons, A. Bhattacharyya, P. Sharma, T. Bhattacharyya, A. Bilgin, and D. R. Martin, “Task-based Optimization of Flip Angle for Texture Analysis in MRI,” to appear in Journal of Medical Imaging.
3. H. Oh, A. Bilgin, M. Marcellin, “Visually Lossless JPEG2000 for Remote Image Browsing,” Information, Vol. 7, Issue 3, July 2016.
4. B. P. Berman, A. Pandey, Z. Li, L. Jeffries, T. Trouard, I. Oliva, F. Cortopassi, D. R. Martin, M. I. Altbach, and A. Bilgin, “Volumetric MRI of the Lungs during Forced Expiration,” Magnetic Resonance in Medicine, Vol. 75, Issue 6, pp. 2295-2302, June 2016.
5. Y. Kim, H. Oh, A. Bilgin, “Super Resolution Reconstruction Based on Block Matching and Three-Dimensional Filtering with Sharpening,” IET Image Processing, Vol. 9, Issue 12, p. 1048 – 1056, December 2015.
6. C. Huang, J.-P. Galons, C. G. Graff, E. W. Clarkson, A. Bilgin, B. Kalb, D. R. Martin, and M. I. Altbach, “Correcting Partial Volume Effect in Bi-exponential T2 Estimation of

Small Lesions,” *Magnetic Resonance in Medicine*, Vol. 73, Issue 4, pp. 1632–1642, April 2015.

7. H.-S. Feng, M. W. Marcellin, and A. Bilgin, “A Methodology for Visually Lossless JPEG2000 Compression of Monochrome Stereo Images,” *IEEE Transactions on Image Processing*, Vol. 24, No. 2, pp.560-572, February 2015.
8. J. Dagher, T. Reese, A. Bilgin, “High resolution, large dynamic range field map estimation,” *Magnetic Resonance in Medicine*, Vol. 71, Issue 1, pp. 105–117, January 2014.
9. C. Huang, A. Bilgin, T. Barr, M. I. Altbach, “T2 Relaxometry with Indirect Echo Compensation from Highly Undersampled Data,” *Magnetic Resonance in Medicine*, Vol. 70, Issue 4, pp. 1026–1037, October 2013.
10. Y. Kim, H. Oh, A. Bilgin, “Video Compressed Sensing Using Iterative Self-similarity Modeling and Residual Reconstruction,” *Journal of Electronic Imaging*, Vol. 22, No. 2, pp. 021005, February 2013.
11. H. Oh, A. Bilgin, M. W. Marcellin, “Visually Lossless Encoding for JPEG2000,” *IEEE Transactions on Image Processing*, Vol. 22, No. 1, pp. 189-201, January 2013.
12. Y. Kim, M. S. Nadar, A. Bilgin, “Wavelet-based Compressed Sensing using a Gaussian Scale Mixtures Model,” *IEEE Transactions on Image Processing*, Vol. 21, No. 6, pp. 3102-3108, June 2012.
13. C. Huang, C. Graff, E. W. Clarkson, A. Bilgin, and M. I. Altbach, “T2 Mapping from Highly Undersampled Data by Reconstruction of Principal Component Coefficient Maps (REPCOM) Using Compressed Sensing,” *Magnetic Resonance in Medicine*, Vol. 67, pp. 1355-1366, 2012.
14. F. Auli-Llinas, A. Bilgin, M. W. Marcellin, “FAST Rate Allocation through Steepest Descent for JPEG2000 Video Transmission,” *IEEE Transactions on Image Processing*, Vol. 20, No. 4, pp. 1166-1173, July 2011.
15. H. G. Lalgudi, M. W. Marcellin, A. Bilgin, and M. S. Nadar, “View Compensated Compression of Volume Rendered Images for Efficient Remote Visualization,” *IEEE Transactions on Image Processing*, Vol. 18, No. 7, pp. 1501-1511, July 2009.
16. Z. Li, C. Graff, A. F. Gmitro, S. W. Squire, A. Bilgin, E. Outwater, and M. I. Altbach, “Rapid Water and Lipid Imaging with T2 Mapping Using a Radial IDEAL-GRASE Technique,” *Magnetic Resonance in Medicine*, Vol. 61, No. 6, pp. 1415-1424, June 2009.
17. R. Raguram, M. W. Marcellin and A. Bilgin, “Improved Resolution Scalability for Bi-Level Image Data in JPEG2000,” *IEEE Transactions on Image Processing*, Vol. 18, No. 4, pp. 774-782, April 2009.
18. 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.

19. M. I. Altbach, A. Bilgin, I. Ata, V. L. Sorrell, "A double-inversion radial FSE and GRASE methods for the evaluation of cardiac masses," *Journal of Cardiovascular Magnetic Resonance*, Vol. 10, Suppl 1, A209, 2008.
20. Z. Wu, A. Bilgin, 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.
21. 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.
22. Z. Li, A. F. Gmitro, A. Bilgin, M. I. Altbach, "Fast Decomposition of Water and Lipid Using a GRASE Technique with the IDEAL Algorithm," *Magnetic Resonance in Medicine*, Vol. 57, No. 6, pp.1047-1057, June 2007.
23. 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.
24. M. W. Marcellin and A. Bilgin, "Layered Rate Allocation for Digital Cinema," *SMPTE Motion Imaging Journal*, pp. 80-86, Feb/March 2007.
25. L. Pu, Z. Wu, A. Bilgin, M. W. Marcellin, 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.
26. K. Krishnan, M. W. Marcellin, A. Bilgin, M. S. Nadar, "Efficient Transmission of Compressed Data for Remote Volume Visualization", *IEEE Transactions on Medical Imaging*, Vol. 25, No. 9, pp. 1189-1199, September 2006.
27. M. I. Altbach, Z. Li, A. Bilgin, F. I. Marcus, V. Sorrell, A. F. Gmitro, and D. A. Bluemke, "Interleaved Acquisition of Lipid and Water Images of the Heart Using a Double Inversion Fast Spin-Echo Method," *Magnetic Resonance in Medicine*, Vol. 54, No. 6, pp. 1562-1568, December 2005.
28. Z. Wu, A. Bilgin, M. W. Marcellin, "Joint Source/Channel Coding for Multiple Images," *IEEE Transactions on Communications*, Vol. 53, No. 10, pp. 1648-1654, October 2005.
29. M. I. Altbach, A. Bilgin, Z. Li, E. W. Clarkson, T. P. Trouard, and A. F. Gmitro, "Post-processing Methods for Obtaining T2 Estimates from a Single Radial Fast-spin Echo K-space Data Set," *Magnetic Resonance in Medicine*, Vol. 54, pp. 549-559, September 2005.
30. Z. Wu, A. Bilgin, M. W. Marcellin, "Joint Source/Channel Coding for Image Transmission with JPEG2000 over Memoryless Channels," *IEEE Transactions on Image Processing*, Vol. 14, No. 8, pp. 1020-1032, August 2005.

31. M. W. Marcellin and A. Bilgin, "JPEG 2000 For Digital Cinema," SMPTE Motion Imaging Journal, Vol. 114, No. 5-6, pp. 202-209, May/June 2005.
32. J. C. Dagher, A. Bilgin, M. W. Marcellin, "Resource-Constrained Rate Control for Motion JPEG2000," IEEE Transactions on Image Processing, Vol. 12, No. 12, pp. 1522-1529, December 2003.
33. A. Bilgin, M. W. Marcellin, M. I. Altbach, "Compression of Electrocardiogram Signals using JPEG2000," IEEE Transactions on Consumer Electronics, Vol. 49, No. 4, pp. 833-840, November 2003.
34. M. W. Marcellin, M. A. Lepley, A. Bilgin, T. J. Flohr, T. T. Chinen, J. H. Kasner, "An Overview of Quantization in JPEG-2000," (**invited paper**), Signal Processing: Image Communications, Special Issue on JPEG-2000, Vol. 17, Issue 1, pp. 73-84, January 2002.
35. M. W. Marcellin, A. Bilgin, "Quantifying the Parent-Child Coding Gain in Zero-tree Based Coders," IEEE Signal Processing Letters, Vol. 8, No. 3, pp. 67-69, March 2001.
36. A. Bilgin, P. J. Sementilli, F. Sheng, M. W. Marcellin, "Scalable Image Coding Using Reversible Integer Wavelet Transforms," IEEE Transactions on Image Processing, Vol. 9, No. 11, pp. 1972-1977, November 2000.
37. A. Bilgin, G. Zweig, M. W. Marcellin, "Three-Dimensional Image Compression using Integer Wavelet Transforms," (**invited paper**), Applied Optics: Information Processing, Special Issue on Information Theory in Optoelectronic Systems, Vol. 39, No. 11, pp. 1799-1814, 10 April 2000.
38. D. G. Sheppard, K. Panchapakesan, A. Bilgin, B. R. Hunt, M. W. Marcellin, "Lapped Nonlinear Interpolative Vector Quantization and Image Super-Resolution," IEEE Transactions on Image Processing. Vol. 9, No. 2, pp. 295-298, February 2000.
39. A. Bilgin, P. J. Sementilli, M. W. Marcellin, "Progressive Image Coding Using Trellis Coded Quantization," IEEE Transactions on Image Processing, Vol. 8, No. 11, pp. 1638--1643, November 1999.
40. D. G. Sheppard, A. Bilgin, M. S. Nadar, B. R. Hunt, M. W. Marcellin, "A Vector Quantizer for Image Restoration," IEEE Transactions on Image Processing, Vol. 7, No. 1, pp. 119--124, January 1998.

Conference Papers/Presentations

1. F. Liu, Y. Lin, E. Ahanonu, M. W. Marcellin, A. Ashok, E. A. Krupinski, A. Bilgin, "Visibility Thresholds for Visually Lossy JPEG2000," to appear in Proc. of SPIE, Applications of Digital Image Processing XXXIX, San Diego, CA, August 2016.
2. A. Pandey, U. Yoruk, P. Sharma, D.R. Martin, M.I. Altbach, A. Bilgin, M. Saranathan, "Multiresolution imaging using golden angle stack-of-stars and compressed sensing," in Proc. of 2016 Meeting of the International Society for Magnetic Resonance in Medicine, Singapore, May 2016.

3. Z. Li, B. P. Berman, JP Galons, A. Bilgin, M. I. Altbach and D. R. Martin, "Rapid High-Resolution T1 Mapping Using Highly Accelerated Radial Steady-State Free-Precession Acquisition," in Proc. of 2016 Meeting of the International Society for Magnetic Resonance in Medicine, Singapore, May 2016.
4. M. B. Keerthivasan, S. Mandava, K. Johnson, D.R. Martin, A. Bilgin, M. I. Altbach, "Slice accelerated Double-Inversion Radial Fast-Spin-Echo for myocardial black-blood MRI with T2 mapping," in Proc. of 2016 Meeting of the International Society for Magnetic Resonance in Medicine, Singapore, May 2016.
5. M.B. Keerthivasan, L. Jeffries, D. Blew, JP Galons, P. Sharma, A. Bilgin, D.R. Martin, M.I. Altbach, "Fast reconstruction of T2 maps with indirect echo compensation using highly undersampled radial Fast Spin Echo data," in Proc. of 2016 Meeting of the International Society for Magnetic Resonance in Medicine, Singapore, May 2016.
6. S. Mandava, M. B. Keerthivasan, K. Johnson, D. R. Martin, A. Bilgin, M. I. Altbach, "Simultaneous multi-slice carotid vessel wall MRI with DIR-FSE," to appear in Proc. of Meeting of the International Society for Magnetic Resonance in Medicine, Singapore, May 2016.
7. J. B. Cushing, E. W. Clarkson, S. Mandava, and A. Bilgin, "Estimation and Detection Information Tradeoff for X-ray System Optimization," in Proc. of SPIE, Compressive Sensing, SPIE Defense, Security, and Sensing, Baltimore, MD, April 2016.
8. J. F. Brand, L. R. Furenlid, M. I. Altbach, J.-P. Galons, P. Sharma, A. Bhattacharyya, T. Bhattacharyya, A. Bilgin, D. R. Martin, "Task-based optimization of flip angle for texture analysis in MRI," Proc. of SPIE Medical Imaging, San Diego, CA, February 2016.
9. BP Berman, MB Keerthivasan, Z Li, DR Martin, MI Altbach, A Bilgin, "Dictionary learning for compressive parameter mapping in magnetic resonance imaging", Proc. of SPIE Optical Engineering+ Applications, pp. 959707-959707-9, San Diego, CA, August 2015.
10. S. Mandava, M. B. Keerthivasan, A. Bilgin, M. I. Altbach, "Simultaneous Multi-Slice imaging in cardiac gated DIR-RADFSE," to appear in Proc. of ISMRM Workshop on Simultaneous Multi-Slice Imaging: Neuroscience & Clinical Applications, Pacific Grove, CA, July 2015.
11. S. Mandava, Z. Li, A. Bilgin, "Simultaneous Multi-Slice Imaging in Balanced SSFP Sequences with Non-Cartesian Trajectories and RF Phase Encoding," to appear in Proc. of ISMRM Workshop on Simultaneous Multi-Slice Imaging: Neuroscience & Clinical Applications, Pacific Grove, CA, July 2015.
12. B. P. Berman, M. D. Keerthivasan, Z. Li, D. R. Martin, Maria I. Altbach, A. Bilgin, "Dictionary Learning for Compressive T2 Mapping with Non-Cartesian Trajectories and Parallel Imaging," in Proc. of 2015 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada, May 2015.
13. Z. Li, B. P. Berman, D. R. Martin, Maria I. Altbach, A. Bilgin, "Efficient Dictionary Design for MR Fingerprinting using Tree-Structured Vector Quantization," in Proc. of 2015

Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada, May 2015.

14. M. B. Keerthivasan, A. Bilgin, D. R. Martin, Maria I. Altbach, "Isotropic T2 Mapping using a 3D Radial FSE (or TSE) pulse sequence," in Proc. of 2015 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada, May 2015.
15. S. Mandava, M. B. Keerthivasan, D. R. Martin, A. Bilgin, Maria I. Altbach, "Improved Slice Coverage In DBIR-FSE With Multi-Band Encoding," in Proc. of 2015 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada, May 2015.
16. J. F. Brand, L. R. Furenlid, M. I. Altbach, JP Galons, T. Bhattacharyya, A. Bhattacharyya, A. Bilgin, Z. Li, D. R. Martin, "Autocorrelation Analysis of Hepatic Fibrosis," in Proc. of 2015 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada, May 2015.
17. L. Pu, M. W. Marcellin, A. Bilgin, and A. Ashok, "Compression based on a Joint Task-Specific Information Metric," in Proceedings of the IEEE Data Compression Conference, April 2015.
18. J. Dagher, K. Nael, A. Bilgin "Maximum likelihood MR phase measurement from multiple receive coils," in 3rd International Workshop on. MRI Phase Contrast & Quantitative Susceptibility Mapping, Durham, NC, October 2014.
19. J. Dagher, S. Hess, A. Bilgin "The effect of GRAPPA on reconstructed phase images," in 3rd International Workshop on. MRI Phase Contrast & Quantitative Susceptibility Mapping, Durham, NC, October 2014.
20. R. Crandall and A. Bilgin, "Lossless Image Compression Using Causal Block Matching and 3D Transform-Domain Collaborative Filtering," in Proc. of the IEEE International Conference on Image Processing (ICIP), Paris, France, October 2014.
21. L. Pu, M. W. Marcellin, A. Bilgin, A. Ashok, "Image Compression Based on Task Specific Information," in Proc. of the IEEE International Conference on Image Processing (ICIP), Paris, France, October 2014.
22. K. Nael, R. Khan, W. Erly, M. Lemole, B. Stea, A. Bilgin, "Whole Brain Dynamic Contrast-Enhanced MR Perfusion for Posttreatment Evaluation of Brain Tumors: Use of 'Stack-of-Stars' Scheme and k-Space Weighted Image Contrast," American Society of Neuroradiology (ASNR) 52nd Annual Meeting, Montréal May 20, 2014 Paper # O-405.
23. J. Dagher, K. Nael, A. Gmitro, and A. Bilgin, "A framework for MR phase reconstruction from multi-channel RF coils," in Proc. of 2014 Meeting of the International Society for Magnetic Resonance in Medicine, Milan, Italy, May 2014.
24. Z. Li, A. Bilgin, J.P. Galons, P. Sharma, D. Martin, M. Altbach, "Wavelet Analysis of Liver Fibrosis," in Proc. of 2014 Meeting of the International Society for Magnetic Resonance in Medicine, Milan, Italy, May 2014.

25. B. P. Berman, A. Pandey, Z. Li, T. Trouard, I. Oliva, D. R. Martin, M. Altbach, and A. Bilgin, "Very Rapid 4D Compressed Sensing MR for Lung Imaging during Forced Expiration," in Proc. of 2014 Meeting of the International Society for Magnetic Resonance in Medicine, Milan, Italy, May 2014.
26. S. Mandava, Z. Li, and A. Bilgin, "Accelerated Time Resolved Multi-Band Radial MRI," in Proc. of 2014 Meeting of the International Society for Magnetic Resonance in Medicine, Milan, Italy, May 2014.
27. R. Crandall, B. Dong, A. Bilgin, "Image Reconstructions with Improved 3D Block Matching," in 2014 SIAM Conference on Imaging Science (SIAM-IS14).
28. R. Crandall, B. Dong, A. Bilgin, "Sparse Approximations with Randomized Iterative Hard Thresholding," in Proc. of 2014 IEEE Data Compression Conference.
29. F. Liu, M. W. Marcellin, N. A. Goodman, A. Bilgin, "Compressive Detection of Multiple Frequency-Hopping Spread Spectrum Signals," in Proc. of 2014 IEEE Data Compression Conference.
30. F. Liu, M. W. Marcellin, N. A. Goodman, A. Bilgin, "Compressive Sensing of Direct Sequence Spread Spectrum Signals", in Proc. of Compressive Sensing, SPIE Defense, Security, and Sensing 2014.
31. Y. Kim, H. Oh, A. Bilgin, "Video Compressed Sensing Using Iterative Self-similarity Modeling and Residual Reconstruction," Visual Information Processing and Communication, Proc. of SPIE, Electronic Imaging, San Francisco, CA, February 2014.
32. K. Nael, R. Khan, W. Erly, M. Lemole, B. Stea, A. Bilgin, "Whole Brain Dynamic Contrast-Enhanced MR Perfusion Using 3D Radial VIBE and KWIC in Evaluation of Brain Tumors: A Feasibility Study," in Proc. of 45th Annual Meeting of the Western Neuroradiological Society, Waikoloa, HI, October 2013.
33. F. Liu, M. W. Marcellin, N. A. Goodman, A. Bilgin, "Spread Spectrum Signal Detection from Compressive Measurements," in Proc. of 2013 International Telemetering Conference, Las Vegas, NV, October 2013.
34. H.C. Feng, A. Bilgin, M. W. Marcellin, "Validation for Visually Lossless Compression of Stereo Images," in Proc. of 2013 International Telemetering Conference, Las Vegas, NV, October 2013.
35. S. Mandava, JP Galons, and A. Bilgin, "Accelerating Encoded Simultaneous Multi Slice MRI with Compressed Sensing," in Proc. of 2013 Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, UT, April 2013.
36. C. Huang, A. Pandey, T. Barr, A. Bilgin, and M. I. Altbach, "An Indirect Echo Compensated Reconstruction Algorithm for T2 Mapping of The Liver from Highly Undersampled Radial FSE Data," in Proc. of 2013 Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, UT, April 2013.

37. T. Barr, C. Huang, A. Bilgin, A. Abidov, and M. I. Altbach, "Indirect Echo Corrected Fast T2 mapping of the Heart from Highly Undersampled Radial FSE Data Using the CURLIE Reconstruction," in Proc. of 2013 Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, UT, April 2013.
38. B. P. Berman, Z. Li, M. I. Altbach, JP Galons, D. R. Martin, B. Dong, P. Sharma, B. T. Kalb, and A. Bilgin, "How to stack the stars: a variable center-dense k-space trajectory for 3D MRI," in Proc. of 2013 Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, UT, April 2013.
39. Z. Li, B. P. Berman, M. I. Altbach, JP Galons, D. R. Martin, B. Dong, P. Sharma, N. Raghunand, and A. Bilgin, "Highly Accelerated 3D Dynamic Imaging with Variable Density Golden Angle Stack-of-Stars Sampling," in Proc. of 2013 Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, UT, April 2013.
40. M. B. Keerthivasan, JP Galons, P. Sharma, D. R. Martin, A. Bilgin, and M. I. Altbach, "A Variable Bandwidth Radial Gradient and Spin-Echo (VB-radGRASE) Method for Improved T2 and Fat-Water Parameter Estimation," in Proc. of 2013 Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, UT, April 2013.
41. A. Pandey, A. Bilgin, S. Cumar, B. Kalb, D. R. Martin, M.I. Altbach, "Automated Segmentation of Liver Parenchyma and Blood Vessel with in-vivo Radial Gradient and Spin-Echo (GRASE) Datasets for Characterization of Diffuse Liver Disease," in Proc. of 2013 Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, UT, April 2013.
42. H.C. Feng, M. W. Marcellin. A. Bilgin, "Visually Lossless Compression of Stereo Images," in Proc. of 2013 IEEE Data Compression Conference, Snowbird, UT, March 2013.
43. T. Leung, M. W. Marcellin. A. Bilgin, "Visually Lossless Compression of Windowed Images," in Proc. of 2013 IEEE Data Compression Conference, Snowbird, UT, March 2013.
44. F. Liu, M. W. Marcellin. N. A. Goodman, A. Bilgin, "Compressive Detection of Frequency-Hopping Spread Spectrum Signals", in Proc. of SPIE, Compressive Sensing, SPIE Defense, Security, and Sensing 2013.
45. H.C. Feng, A. Bilgin, M. W. Marcellin, "Measurement of Visibility Thresholds for Compression of Stereo Images," in Proc. of 2012 International Telemetering Conference, San Diego, CA, October 2012.
46. J. Dagher, A. Bilgin, T. Reese, G. El Fakhri, "A method for efficient and robust estimation of low noise, high dynamic range B0 maps," in Proc. of 2012 Meeting of the International Society for Magnetic Resonance in Medicine, Melbourne, Australia, May 2012.
47. C. Huang, A. Bilgin, M. I. Altbach, "Indirect Echo Compensated T2 Mapping from Highly Undersampled Radial FSE Data with SERENADE," in Proc. of 2012 Meeting of

the International Society for Magnetic Resonance in Medicine, Melbourne, Australia, May 2012.

48. F. Liu, Y. Kim, N. A. Goodman, A. Ashok, A. Bilgin, "Compressive Sensing of Frequency-Hopping Spread Spectrum Signals," in Proc. of Compressive Sensing, SPIE Defense, Security, and Sensing 2012, April 2012.
49. J. Dagher, A. Bilgin, "A Field Map Estimation Strategy without the Noise-Bandwidth Tradeoff," in Proc. of 2012 SPIE Medical Imaging, San Diego, CA, February 2012.
50. H. Oh, Y. Kim, M. W. Marcellin, A. Bilgin, "Low-Complexity Perceptual JPEG2000 Encoder for Aerial Images," in Proc. of 2011 International Telemetering Conference, Las Vegas, NV, October 2011.
51. Y. Kim, M. S. Nadar, A. Bilgin, "Dynamic Compressive Magnetic Resonance Imaging Using a Gaussian Scale Mixtures Model," in Proc. of 2011 IEEE International Conference on Image Processing, Brussels, Belgium, September 2011.
52. H. Oh, A. Bilgin, M. W. Marcellin, "Visually Lossless JPEG2000 at Fractional Resolutions," in Proc. of 2011 IEEE International Conference on Image Processing, Brussels, Belgium, September 2011.
53. L. Pu, T. P. Trouard, L. Ryan, C. Huang, M. I. Altbach, A. Bilgin, "Model-Based Compressive Diffusion Tensor Imaging" in Proc. of 2011 IEEE International Symposium on Biomedical Imaging (ISBI 2011), March 2011, Chicago, Illinois.
54. A. Bilgin, R. Sundaresan, C. G. Graff, C. Huang, T. Barr, and M. I. Altbach, "Automated Liver Parenchyma And Vessel Segmentation In Radial Gradient And Spin-Echo (GRASE) Datasets For Characterization Of Diffuse Liver Disease," in Proc. of 2011 Meeting of the International Society for Magnetic Resonance in Medicine, Montreal, Canada, May 2011.
55. C. Huang, C. G. Graff, A. Bilgin, M. I. Altbach, "Evaluation of Principal Component Model-based algorithm for T2 estimation of small objects," in Proc. of 2011 Meeting of the International Society for Magnetic Resonance in Medicine, Montreal, Canada, May 2011.
56. C. Huang, C. G. Graff, E. W. Clarkson, A. Bilgin, M. I. Altbach, "Region Based Joint Bi-exponential T2 Fitting for Small Lesions," in Proc. of 2011 Meeting of the International Society for Magnetic Resonance in Medicine, Montreal, Canada, May 2011.
57. H. Oh, M. W. Marcellin, A. Bilgin, "Visually Lossless Compression Based on JPEG2000 for Efficient Transmission of High Resolution Color Aerial Images," in Proc. of 2010 International Telemetering Conference, San Diego, CA, October 2010. [Best Student Paper Award]
58. Y. Kim, M. S. Nadar, A. Bilgin, "Compressed Sensing Using a Gaussian Scale Mixtures Model in Wavelet Domain," Proc. of 2010 IEEE International Conference on Image Processing, pp. 3365-3368, Hong Kong, September 2010.

59. H. Oh, A. Bilgin, M. W. Marcellin, "Multi-resolution Visually Lossless Image Coding using JPEG2000," in Proc. of 2010 IEEE International Conference on Image Processing, pp. 2581-2584, Hong Kong, September 2010.
60. R. Sundaresan, Y. Kim, M. S. Nadar, A. Bilgin, "Motion-Compensated Compressed Sensing for Dynamic Imaging," in Proc. of 2010 Applications of Digital Image Processing, SPIE, San Diego, CA, August 2010.
61. A. Bilgin, Y. Kim, F. Liu, M. S. Nadar, "Dictionary Design for Compressed Sensing MRI," in Proc. of 2010 Meeting of the International Society for Magnetic Resonance in Medicine, Stockholm, Sweden, May 2010.
62. Y. Kim, M. S. Nadar, A. Bilgin, "Wavelet-based Compressed Sensing Reconstruction using Gaussian Scale Mixtures," in Proc. of 2010 Meeting of the International Society for Magnetic Resonance in Medicine, Stockholm, Sweden, May 2010.
63. C. Huang, C. Graff, A. Bilgin, M. I. Altbach, "Fast MR parameter mapping from highly undersampled data by Direct Reconstruction of Principal Component Coefficient Maps using Compressed Sensing," in Proc. of 2010 Meeting of the International Society for Magnetic Resonance in Medicine, Stockholm, Sweden, May 2010.
64. Y. Kim, M. S. Nadar, and A. Bilgin, "Exploiting Wavelet-Domain Dependencies in Compressed Sensing," in Proc. of 2010 Data Compression Conference, Snowbird, UT, March 2010.
65. Y. Kim, M. S. Nadar, A. Bilgin, "Wavelet-based Compressed Sensing using Gaussian Scale Mixtures," invited poster presented at Southwest Conference on Integrated Mathematical Methods in Medical Imaging (SCIMM), February 2010.
66. C. Huang, C. Graff, A. Bilgin, M. I. Altbach, "Fast MR parameter mapping from highly undersampled data by Direct REconstruction of Principal COmponent coefficient Map (DIREPCOM) using Compressed Sensing," invited poster presented at Southwest Conference on Integrated Mathematical Methods in Medical Imaging (SCIMM), February 2010.
67. F. Auli-Llinas, H. Oh, A. Bilgin, M. W. Marcellin, "Hill Climbing Algorithm for the Transmission of Layered JPEG2000 Video under Multiple Rate Constraints," in Proceedings of 2009 IEEE International Conference on Image Processing, Cairo, Egypt, November 2009.
68. A. Bilgin, "Compressed Sensing in Magnetic Resonance Imaging," (**invited presentation**), in 2009 Annual Meeting Institute for Operations Research and the Management Sciences (INFORMS), San Diego, California, October 2009.
69. H. Oh, A. Bilgin, M. W. Marcellin, "Perceptual JPEG2000 using Adaptive Visibility Thresholds and Visual Masking," (**invited paper**), in Proc. of 2009 Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, California, November 2009.

70. H. Oh, Y. Kim, M. W. Marcellin, A. Bilgin, "Visually Lossless Coding for Color Aerial Images using JPEG2000," in Proc. of 2009 International Telemetering Conference, Las Vegas, NV, October 2009.
71. H. Oh, A. Bilgin, M. W. Marcellin, "Visibility Thresholds for Quantization Distortion in JPEG2000," in Proc. of First International Workshop on Quality of Multimedia Experience (QOMEX 2009), pp. 228-232, San Diego, CA, July 2009.
72. A. Bilgin, O. Guleryuz, T. P. Trouard, M. I. Altbach, "SPARSe Reconstruction using a ColLEction of bases (SPARCLE)," in Proc. of 2009 Meeting of the International Society for Magnetic Resonance in Medicine, pp. 381, Honolulu, HI, April 2009.
73. A. Bilgin, Y. Kim, V. Abraham, T. P. Trouard, and M. I. Altbach, "Compressed Sensing with Phase Constrained Partial Radial k-space," in Proc. of 2009 Meeting of the International Society for Magnetic Resonance in Medicine, pp. 2823, Honolulu, HI, April 2009.
74. Y. Kim, M. I. Altbach, T. P. Trouard, and A. Bilgin, "Compressed Sensing using Dual-Tree Complex Wavelet Transforms," in Proc. of 2009 Meeting of the International Society for Magnetic Resonance in Medicine, pp. 2814, Honolulu, HI, April 2009.
75. C. Huang, A. Bilgin, C. Graff, and M. I. Altbach, "T2 Estimation for Small Lesions using a Model-Based Reconstruction with Sparsifying Penalty Functions and Highly Undersampled Radial FSE Data," in Proc. of 2009 Meeting of the International Society for Magnetic Resonance in Medicine, pp. 2740, Honolulu, HI, April 2009.
76. C. Graff, Z. Li, E. W. Clarkson, C. Huang, A. Bilgin, and M. I. Altbach, "Simultaneous Estimation of Water-T2 and Fat Fraction Using a Single Breath Hold Radial GRASE Method," in Proc. of 2009 Meeting of the International Society for Magnetic Resonance in Medicine, pp. 202, Honolulu, HI, April 2009.
77. H. Oh, H. G. Lalgudi, M. W. Marcellin, A. Bilgin, "Scalable Perceptual Image Coding for Remote Sensing Systems," in Proc. of 2008 International Telemetering Conference, San Diego, CA, October 2008.
78. K. Jagiello, Z. Aydin, W.-R. Ng, W. E. Ryan, M. W. Marcellin, A. Bilgin, "Joint JPEG2000/LDPC Code System Design for Image Telemetry," in Proc. of 2008 International Telemetering Conference, San Diego, CA, October 2008.
79. A. Bilgin, Y. Kim, H. G. Lalgudi, T. P. Trouard, M. I. Altbach, "Parallel Magnetic Resonance Imaging Using Compressed Sensing," in Proc. of 2008 Applications of Digital Image Processing, SPIE, Vol. 7073, pp. 70731G-1 70731G-10, San Diego, CA.
80. H. G. Lalgudi, M. W. Marcellin, A. Bilgin, M. S. Nadar, "Scalable Low Complexity Image Coder for Remote Volume Visualization," in Proc. of 2008 Applications of Digital Image Processing, SPIE, Vol. 7073, pp. 707317-1 707317-8, San Diego, CA.
81. A. Bilgin, T. P. Trouard, A. F. Gmitro, M. I. Altbach, "Randomly Perturbed Radial Trajectories for Compressed Sensing MRI," in Proc. of 2008 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada.

82. M. I. Altbach, Z. Li, S. W. Squire, A. F. Gmitro, A. Bilgin, C. Graff, and E. Outwater, "Rapid T2 and lipid-water imaging of the liver with radial IDEAL GRASE," in Proc. of 2008 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada.
83. T. P. Trouard, J. W. Totenhagen, A. Bilgin, "Compressed Sensing in Diffusion-Weighted Radial-FSE," in Proc. of 2008 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada.
84. A. Bilgin, T. P. Trouard, M. I. Altbach, N. Raghunand, "Three-Dimensional Compressed Sensing for Dynamic MRI," in Proc. of 2008 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada.
85. H. G. Lalgudi, A. Bilgin, M. W. Marcellin, and M. S. Nadar, "Multi-Dimensional Compression Using JPEG2000," in Proc. of 2008 Data Compression Conference, p. 528, Snowbird, UT.
86. H. G. Lalgudi, M. W. Marcellin, A. Bilgin, and M. S. Nadar, "Lifting-based View Compensated Compression of Volume Rendered Images for Efficient Remote Visualization," in Proc. of 2008 Data Compression Conference, pp. 442-451, Snowbird, UT.
87. M. I. Altbach, A. Bilgin, I. Ata, V. L. Sorrell, "A double-inversion radial FSE and GRASE methods for the evaluation of cardiac masses". Annual Meeting of the Society for Cardiovascular Magnetic Resonance, Los Angeles, California, January 2008.
88. H. G. Lalgudi, M. W. Marcellin, A. Bilgin, and M. S. Nadar, "Scalable Low Complexity Coder for High Resolution Airborne Video," in Proceedings of 2007 International Telemetering Conference, Las Vegas, NV, October 2007.
89. A. Bilgin, A. Krishnan, M. I. Altbach "Rapid Imaging using Undersampled Radial Trajectories and L1 Reconstruction," in Proceedings of 2007 Meeting of the International Society for Magnetic Resonance in Medicine, Berlin, Germany, May 2007.
90. M. I. Altbach, Z. Li, A. Bilgin, K. L. Weiss, "Fast Parametric Imaging of the Spine with Radial IDEAL-GRASE," in Proceedings of 2007 Meeting of the International Society for Magnetic Resonance in Medicine, Berlin, Germany, May 2007.
91. Z. Li, A. F. Gmitro, A. Bilgin, and M. I. Altbach, "Fast Decomposition of Water and Lipid Using a GRASE Technique with the IDEAL Algorithm," in Proceedings of 2007 Meeting of the International Society for Magnetic Resonance in Medicine, Berlin, Germany, May 2007.
92. R. Raguram, M. W. Marcellin, A. Bilgin, "Improved Resolution Scalability for Bi-Level Image Data in JPEG2000," in Proceedings of 2007 Data Compression Conference, Snowbird, UT, March 2007.
93. L. Pu, M. W. Marcellin, I. B. Djordjevic, B. V. Vasic, and A. Bilgin, "Joint source-channel rate allocation in parallel channels," in Proceedings of 2007 SPIE Visual Communications and Image Processing, San Jose, CA, February, 2007.

94. M. W. Marcellin and A. Bilgin, "Variable Bit Rate Encoding using JPEG2000," presented at IBC2006, Sept. 2006.
95. A. Bilgin, C. Graff, Z. Li, A. F. Gmitro, E. W. Clarkson, M. I. Altbach, "Improved T2 Estimation from Highly Undersampled Radial Fast Spin-Echo Data," presented at Sixth Arizona Biosciences Research Symposium, June 2006.
96. M. I. Altbach, Z. Li, A. Bilgin, V. Sorell, "Novel MRI Methods for the Characterization of Cardiac Pathologies," presented at Sixth Arizona Biosciences Research Symposium, June 2006.
97. A. Bilgin, Z. Li, M. I. Altbach, "T2 Estimation Using a Half Fourier Radial Fast Spin-Echo Method," in Proceedings of 2006 Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, WA, May 2006.
98. A. Krishnan, Z. Li, A. Bilgin, M. I. Altbach, "View Ordering in GRAPPA Fast Spin-Echo Methods," in Proceedings of 2006 Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, WA, May 2006.
99. C. Graff, Z. Li, A. Bilgin, M. I. Altbach, A. F. Gmitro, E. W. Clarkson, "Iterative T2 Estimation from Highly Undersampled Radial Fast Spin-Echo Data," in Proceedings of 2006 Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, WA, May 2006.
100. A. Bilgin and M. W. Marcellin, "JPEG2000 for Digital Cinema," in Proceedings of 2006 International Symposium on Circuits and Systems (ISCAS), (**invited paper**), May 2006.
101. Z. Wu, A. Bilgin, M. W. Marcellin, "Joint Source/Channel Coding for Transmission of Multiple Sources," in Proceedings of 2005 International Telemetering Conference, Las Vegas, NV, October 2005.
102. H. G. Lalgudi, A. Bilgin, M. W. Marcellin, M. S. Nadar, T. P. Trouard, "Compression of fMRI and Ultrasound images using 4D SPIHT," in Proceedings of 2005 International Conference on Image Processing, Genova, Italy, September 2005.
103. L. Atzori, A. Bilgin, M. W. Marcellin, "Error Concealment for Motion JPEG2000," in Proceedings of 2005 International Conference on Image Processing, Genova, Italy, September 2005.
104. L. Pu, M. W. Marcellin, B. Vasic, A. Bilgin, "Progressive Decoding and Unequal Error Protection for JPEG2000 Images," in Proceedings of 2005 International Conference on Image Processing, Genova, Italy, September 2005.
105. A. Bilgin, A. F. Gmitro, W. F. Block, M. I. Altbach, "A Half Fourier Radial Fast Spin-Echo Method Using a Bent Radial Trajectory," in Proceedings of 2005 Meeting of the International Society for Magnetic Resonance in Medicine, Miami, FL, May 2005.
106. Z. Li, E. W. Clarkson, A. Bilgin, A. F. Gmitro, M. I. Altbach, "A "Variable Flip Angle" Radial Steady-State Free Precession Technique with Slice Profile Correction," in

Proceedings of 2005 Meeting of the International Society for Magnetic Resonance in Medicine, Miami, FL, May 2005.

107. M. I. Altbach, Z. Li, A. Bilgin, D. A. Bluemke, F. I. Marcus, "An Interleaved Lipid/Water Acquisition Method for Improved Detection of Lipid Infiltration in the Heart," in Proceedings of 2005 Meeting of the International Society for Magnetic Resonance in Medicine, Miami, FL, May 2005.
108. A. Tabesh, A. Bilgin, K. Krishnan, and M. W. Marcellin, "JPEG2000 and Motion JPEG2000 Content Analysis Using Codestream Length Information," in Proceedings of 2005 Data Compression Conference, pp. 329-337, Snowbird, UT, March 2005.
109. Z. Wu, R. Jandhyala, A. Bilgin, M. W. Marcellin, "Joint Source/Channel Coding for Multiple Video Sequences with JPEG2000," Proceedings of 2005 Data Compression Conference, pp. 489, Snowbird, UT, March 2005.
110. H. G. Lalgudi, A. Bilgin, M. W. Marcellin, A. Tabesh, M. S. Nadar, T. P. Trouard, "Four-Dimensional Compression of fMRI using JPEG2000," in Proceedings of SPIE, Medical Imaging, San Diego, California, February 2005.
111. K. Krishnan, M. W. Marcellin, A. Bilgin, M. S. Nadar, "Prioritization of Compressed Data by Tissue Type using JPEG2000," in Proceedings of SPIE, Medical Imaging, San Diego, California, February 2005.
112. E. Siegel, K. Siddiqui, J. Johnson, O. Crave, Z. Wu, J. Dagher, A. Bilgin, M. W. Marcellin, M. Nadar, B. Reiner, "Compression of multi-slice CT: 2D vs. 3D JPEG 2000 and effects of slice thickness," in Proceedings of SPIE, Medical Imaging, San Diego, California, February 2005.
113. M. W. Marcellin and A. Bilgin, "JPEG 2000 for Digital Cinema," in VidTrans and Advanced Motion Imaging 2005 Joint Conference, Atlanta, GA, January 2005.
114. P. Kulkarni, A. Bilgin, M. W. Marcellin, J. C. Dagher, T. Flohr, and J. Rountree, "Reduced Memory Multi-Layer Multi-Component Rate Allocation for JPEG2000," in Proceedings of SPIE, Image & Video Communications and Processing (IVCP'05), San Jose, CA, January 2005.
115. L. Pu, Z. Wu, A. Bilgin, M. W. Marcellin, B. Vasic, "LDPC-based iterative joint source-channel decoding scheme for JPEG2000," in Proceedings of 2004 International Telemetering Conference, San Diego, CA, October 2004.
116. Z. Wu, A. Bilgin, M. W. Marcellin, "Joint Source/Channel Coding for Multiple Images," in Proceedings of IEEE GLOBECOM 2004, Dallas TX, November 2004.
117. K. M. Siddiqui, E. L. Siegel, B. I. Reiner, O. Crave, J. P. Johnson, Z. Wu, J. C. Dagher, A. Bilgin, M. W. Marcellin, M. Nadar, "Improved Compressibility of Multi-Slice CT Datasets using 3D JPEG2000 Compression," in 2004 Computer Assisted Radiology and Surgery, June 2004, Chicago, IL.

118. A. Bilgin, A. F. Gmitro, M. I. Altbach, "A Partial Fourier Reconstruction Method for Radially Acquired Data with Variable TE," in Proceedings of 2004 Meeting of the International Society for Magnetic Resonance in Medicine, Tokyo, Japan.
119. A. Bilgin, M. W. Marcellin, M. I. Altbach, "Wavelet Compression of ECG Signals by JPEG2000," in Proceedings of 2004 Data Compression Conference, pp. 527, Snowbird, UT, March 2004.
120. M. I. Altbach, Z. Li, A. Bilgin, F. I. Marcus, T. P. Trouard, A. F. Gmitro, "A Novel Radial MRI Technique for Obtaining High-resolution Images of the Heart with Variable Contrast from a Single k-Space Data Set," in Society for Cardiovascular Magnetic Resonance (SCMR) Annual Scientific Sessions, Barcelona, Spain, February 2004.
121. K. Krishnan, M. W. Marcellin, A. Bilgin, M. S. Nadar, "Compression/Decompression Strategies for Large Volume Medical Imagery," in Proceedings of SPIE, Medical Imaging 2004: PACS and Imaging Informatics, Vol. 5371, pp. 152-159, San Diego, California, February 2004.
122. Z. Wu, A. Bilgin, L. Pu, M. W. Marcellin, "Robust Transmission of JPEG2000 Codestreams over Packet Erasure Channels," in Proceedings of Visual Communications and Image Processing, SPIE, Vol. 5308, pp. 608-616, San Jose, California, January 2004.
123. L. Pu, Z. Wu, A. Bilgin, M. W. Marcellin, B. Vasic, "Iterative Joint Source-Channel Decoding for JPEG2000," (**invited paper**), in Proceedings of 2003 Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, California, November 2003.
124. Z. Li, A. Bilgin, A. F. Gmitro, M. I. Altbach, "Novel Radial MRI Technique for Obtaining High Resolution Black Blood Images of the Heart with and without Fat Suppression from a Single k-space Data Set," presented at the 2003 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada, July 2003.
125. M. I. Altbach, A. Bilgin, Z. Li, E. W. Clarkson, A. F. Gmitro, "A Post-processing Method for Obtaining Accurate T2 Estimates from a Single Radial Fast-spin Echo K-space Data Set," presented at the 2003 Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada, July 2003.
126. Z. Wu, A. Bilgin, M. W. Marcellin, "An Efficient Joint Source-Channel Rate Allocation Scheme for JPEG2000 Codestream," in Proceedings of 2003 Data Compression Conference, pp. 113-122, Snowbird, Utah, March 2003.
127. A. Bilgin, Z. Wu, M. W. Marcellin, "Decompression of Corrupt JPEG2000 Codestreams," in Proceedings of 2003 Data Compression Conference, pp. 123-132, Snowbird, Utah, March 2003.
128. A. Bilgin, Z. Wu, M. W. Marcellin, "On Transmission of JPEG2000 Codestreams over Packet Erasure Channels," in Image and Visual Communications Processing, SPIE, January 2003.

129. Z. Wu, A. Bilgin, M. W. Marcellin, "Unequal Error Protection for Transmission of JPEG2000 Codestreams over Noisy Channels," in Proc. of IEEE International Conference on Image Processing, Vol. 1, pp. 213-216, September 2002.
130. A. Bilgin, Z. Wu, M. W. Marcellin, "On Packetization of JPEG2000 Codestreams," in Visual Communications and Image Processing, SPIE, Vol. 4671-2, pp. 614-625, January 2002.
131. J. C. Dagher, A. Bilgin, M. W. Marcellin, "Rate Control for Multisequence Video Streaming," in Visual Communications and Image Processing, SPIE, Vol. 4671-1, pp. 209-220, January 2002.
132. J. C. Dagher, A. Bilgin, M. W. Marcellin, "Efficient Rate Control for Video Streaming," in Applications of Digital Image Processing, SPIE, Vol. 4472, pp. 258-266, July 2001.
133. M. W. Marcellin, A. Bilgin, "JPEG2000: Highly Scalable Image Compression," (**invited paper**), in Proceedings of 2001 International Conference on Information Technology: Coding and Computing (ITCC2001), pp. 268-272, Las Vegas, Nevada, April 2001.
134. A. Bilgin, M. W. Marcellin, "On Parent-Child Coding Gain in Zero-tree Based Coders," in Proceedings of 2001 Data Compression Conference, pp. 485, Snowbird, Utah, March 2001.
135. J. H. Kasner, A. Bilgin, M. W. Marcellin, A. Lan, B. V. Brower, S. S. Shen, T.S. Wilkinson, "JPEG-2000 compression using 3D wavelets and KLT with application to HYDICE data," in Imaging Spectrometry VI, Proceedings of SPIE, Vol. 4132, July 2000.
136. M. W. Marcellin, M. J. Gormish, A. Bilgin, M. P. Boliek, "An Overview of JPEG-2000," (**invited paper**), in Proc. of 2000 Data Compression Conference, pp. 523-541, Snowbird, Utah, March 2000.
137. F. Sheng, A. Bilgin, P. J. Sementilli, M. W. Marcellin, "Lossy and Lossless Image Compression Using Reversible Integer Wavelet Transforms," in Proc. of 1998 International Conference on Image Processing, Chicago, Illinois, October 1998.
138. A. Bilgin, M. W. Marcellin, "Applications of Reversible Integer Wavelet Transforms to Lossless Compression of Medical Image Volumes," in Proc. of 1998 International Symposium on Information Theory, pp. 411, August 1998.
139. P. J. Sementilli, A. Bilgin, J. H. Kasner, M. W. Marcellin, "Wavelet TCQ: Submission to JPEG 2000," (**invited keynote paper**), in Proc. of Applications of Digital Image Processing, SPIE, pp. 2-12, July 1998.
140. K. Panchapakesan, A. Bilgin, D. G. Sheppard, M. W. Marcellin, B. R. Hunt, "Combined Compression and Denoising of Images Using Vector Quantization," in Proc. of Applications of Digital Image Processing, SPIE, pp. 523-529, July 1998.

141. K. Panchapakesan, A. Bilgin, D. G. Sheppard, M. W. Marcellin, B. R. Hunt, "Simultaneous Compression and Denoising of Imagery using Non-linear Interpolative Vector Quantization," in Proc. of Eighth IEEE Digital Signal Processing Workshop, Bryce Canyon National Park, Utah, August 1998.
142. A. Bilgin, P. J. Sementilli, M. W. Marcellin, "Asamali Kafes Kodlu Nicemleme ile Imge Kodlama," (in Turkish), in Proc. of 6. Sinyal Isleme ve Uygulamalari Kurultayi, pp. 236-241, Vol. 1, May 1998, Kizilcahamam, Turkey.
143. K. Panchapakesan, A. Bilgin, M. W. Marcellin, B. R. Hunt, "Joint Compression and Restoration of Images using Wavelets and Non-Linear Interpolative Vector Quantization," in Proc. of 1998 International Conference on Acoustics, Speech, and Signal Processing, pp. 2649-2652, Vol. 5, May 1998, Seattle, Washington.
144. D. G. Sheppard, K. Panchapakesan, A. Bilgin, B. R. Hunt, M. W. Marcellin, "Removal of Image Defocus and Motion Blur Effects with a Nonlinear Interpolative Vector Quantizer," in Proc. of 1998 IEEE Southwest Symposium on Image Analysis and Interpretation, pp. 1-5, 6-7 April 1998, Tucson, Arizona.
145. A. Bilgin, G. Zweig, M. W. Marcellin, "Efficient Lossless Coding of Medical Image Volumes Using Reversible Integer Wavelet Transforms," in Proc. of 1998 Data Compression Conference, pp. 428-437, March 1998, Snowbird, Utah.
146. A. Bilgin, P. J. Sementilli, M. W. Marcellin, "Progressive coding of TCQ," (**invited paper**), in Proc. of 1998 IEEE Information Theory Workshop, February 1998, San Diego, CA.
147. P. J. Sementilli, A. Bilgin, F. Sheng, M. W. Marcellin, J. C. Kieffer, "Progressive Transmission in Trellis Coded Quantization-Based Image Coders," in Proc. of 1997 IEEE International Conference on Image Processing, pp. 588-591, Vol. 1, October 1997, Santa Barbara, CA.
148. D. G. Sheppard, K. Panchapakesan, A. Bilgin, B. R. Hunt, M. W. Marcellin, "Lapped Nonlinear Interpolative Vector Quantization and Image Super-Resolution," in Proc. of Thirty First Asilomar Conference on Signals and Computers, pp. 224-228, Vol. 1, 1997.
149. D. G. Sheppard, A. Bilgin, M. S. Nadar, B. R. Hunt, M. W. Marcellin, "A Vector Quantizer for Image Restoration," in Proc. of 1996 IEEE International Conference on Image Processing, Vol. III, pp. 439-441 Lausanne, Switzerland.
150. A. Bilgin, M. W. Marcellin, H. Abut, "Variable Size Finite-State Motion Vector Quantization," in Proc. of 1996 Int. Conf. on Acous., Speech, and Signal Processing, Vol. IV, pp. 2017-2020, May 1996, Atlanta, GA.
151. A. Bilgin, H. Abut, M. W. Marcellin, "A Novel Vector Quantizer Based Architecture for Block-Matching Motion Estimation," in Proc. of Twenty Ninth Asilomar Conference on Signals and Computers, October 1995, pp. 1403-1407, Vol. 2, Pacific Grove, CA.
152. H. Abut, A. Bilgin, R. M. Bernardi, L. A. Wherry, "A Case Study in IVHS Implementation: An Image Processing Application for I-15 HOV Lanes," (**invited**

paper), Proc. of 1995 Int. Conf. on Acous., Speech, and Signal Processing, Vol. V, pp. 2979-2982, May 1995, Detroit, MI.

Other Presentations/Publications

1. M. I. Altbach, C. Huang, A. Bilgin, "Extending the capabilities of quantitative MRI," SPIE Newsroom, Biomedical Optics & Medical Imaging, 23 September 2013, DOI: 10.1117/2.1201309.005136.
2. B. P. Berman, A. Pandey, Z. Li, T. P. Trouard, I. Oliva, F. Franco, D. R. Martin, M. I. Altbach, A. Bilgin "Compressed Sensing for Magnetic Resonance Imaging of the Lungs during Forced Expiration, Third SIAM Gators Student Conference, March 2014.
3. A. Bilgin, T. P. Trouard, A. F. Gmitro, M. I Altbach, "Randomly Perturbed Radial Trajectories for Compressed Sensing MRI," Arizona Alzheimer's Consortium Annual Meeting, May 2008.
4. T. P. Trouard, J. W. Totenhagen, A. Bilgin, "Compressed Sensing in Diffusion-Weighted Radial-FSE," Arizona Alzheimer's Consortium Annual Meeting, May 2008.
5. V. L. Sorrell, M. I. Altbach, E. Panczyk, R. Attaran, I. Ata, A. Bilgin, M. Habibzadeh, "Lipomatous Hypertrophy of the Interatrial Septum (LHIAS)". <http://www.scmr.org/caseoftheweek/Case08-09.cfm>.
6. M. I. Altbach, A. Bilgin, I. Ata, V. L. Sorrell, "A double-inversion radial FSE and GRASE methods for the evaluation of cardiac masses". J Cardiovascular Magn Reson 2008, 10(Suppl 1) :A209doi.
7. A. Bilgin, C. Graff, J. Totenhagen, T. P. Trouard, and M. I. Altbach, "A New Sampling and Reconstruction Method for Magnetic Resonance Imaging," Arizona Health Sciences Center Frontiers in Biomedical Research Forum, October 2007.
8. M. I. Altbach, A. Bilgin, Z. Li, A. F. Gmitro, E. K. Outwater, V. L. Sorrell, A. T. Stopeck, F. I. Marcus, "Novel MRI Methods for Improved Diagnosis of Abdominal and Cardiothoracic Disorders," Arizona Health Sciences Center Frontiers in Biomedical Research Forum, September 2004.
9. K. Krishnan, A. Bilgin, M. W. Marcellin, M. S. Nadar, "Remote Browsing of Medical Images," Arizona Health Sciences Center Frontiers in Biomedical Research Forum, September 2004.

Standard Contributions

1. J. H. Kasner, S. S. Shen, T. S. Wilkinson, A. Bilgin, M. W. Marcellin, A. Lan, B. V. Brower, "Application of JPEG-2000 to Hyperspectral Image Compression," ISO/IEC JTC1/SC29/WG1, JPEG2000, WG1N1832, August 16, 2000.

2. M. W. Marcellin, A. Bilgin, J. M. Heermans, "Hyperspectral Image Compression with JPEG 2000," ISO/IEC JTC1/SC29/WG1, JPEG2000, WG1N1559, December 16, 1999.
3. M. W. Marcellin, T. Flohr, A. Bilgin, D. Taubman, E. Ordentlich, M. Weinberger, G. Seroussi, C. Chrysafis, T. Fischer, B. Banister, M. Rabbani, R. Joshi, "Report on Core Experiments CodEff4, CodEff5, CodEff7: Reduced Complexity Entropy Coding," ISO/IEC JTC1/SC29/WG1, JPEG2000, WG1N1312, June 30, 1999.

Patents

1. A. Bilgin, Y. Kim, M. S. Nadar, "Method for Exploiting Structure in Sparse Domain for Magnetic Resonance Image Reconstruction", US Patent No 8760572, June 24, 2014.
2. A. Bilgin, Y. Kim, M. S. Nadar, "Method for Reconstruction of Magnetic Resonance Images", US Patent No 8582907, November 12, 2013.
3. A. Bilgin, Y. Kim, M. S. Nadar, R. Sundaresan, "System and method for motion-compensated compressed sensing for dynamic imaging", US Patent No 8520928, August 27, 2013.
4. M. W. Marcellin, A. Bilgin, H. Lalgudi, M. S. Nadar, "Lifting-based view compensated compression and remote visualization of volume rendered images," US Patent No 8126279, February 28, 2012.
5. M. W. Marcellin, A. Bilgin, H. Lalgudi, "Methods and systems for remotely visualizing images," US Patent No 8064708, November 22, 2011.
6. M. W. Marcellin and A. Bilgin, "Digital Intermediate (DI) Processing and Distribution with Scalable Compression in The Post-Production of Motion Pictures," New Zealand Patent No 560236, August 12, 2010.
7. M. W. Marcellin and A. Bilgin, "Digital Intermediate (DI) Processing and Distribution with Scalable Compression in The Post-Production of Motion Pictures," US Patent No 7724964, May 25, 2010.
8. M. W. Marcellin and A. Bilgin, "Rate Control of Scalably Coded Images," US Patent No 7668380, February 23, 2010.
9. M. W. Marcellin, A. Bilgin, Z. Wu, "Decompression of Corrupt JPEG2000 Codestreams," US Patent No 7580582, August 25, 2009.
10. M. W. Marcellin and A. Bilgin, "Digital Intermediate (DI) Processing and Distribution with Scalable Compression in The Post-Production of Motion Pictures," US Patent No 7110605, September 19, 2006.
11. J. Dagher, A. Bilgin, "System and Method for Combining Phase Measurements from Multiple Receiver Channels in Magnetic Resonance Imaging," provisional patent application filed.

12. A. Bilgin and R. Crandall "Lossless Image Compression using Causal Block Matching and 3D Collaborative Filtering," invention disclosure filed, February 2014.
13. M. I. Altbach, C. Huang, A. Bilgin, "T2 Relaxometry with Indirect Echo Compensation from Highly Undersampled Data," invention disclosure filed, April 2012.
14. M. I. Altbach, C. Huang, A. Bilgin, C. Graff, "A Joint Fitting Algorithm for Partial Volume Correction," invention disclosure filed, January 2011.
15. J. Dagher and A. Bilgin "Grid-Based Robust MR Field Map Estimation without the Noise-Bandwidth Tradeoff," invention disclosure filed, August 2011.
16. A. Bilgin, Y. Kim, M. S. Nadar, "Reconstruction of Images Using Prior Knowledge Associated with Transform Domain Coefficients," patent pending.
17. H. Lalgudi, M. W. Marcellin, A. Bilgin, M. S. Nadar, T. Stingly, "Low Complexity Coder for Smart Data Access and Efficient Volumetric Visualization," patent pending.
18. A. Bilgin, Y. Kim, M. S. Nadar, "Reconstruction of Dynamic Images using Prior Knowledge Associated with Transform Domain Coefficients," provisional patent application filed.
19. A. Bilgin, Y. Kim, M. S. Nadar, "Method for reconstruction of magnetic resonance images," provisional patent application filed.
20. A. Bilgin, Y. Kim, M. S. Nadar, "Method for exploiting structure in sparse domain for magnetic resonance image reconstruction," provisional patent application filed.
21. H. Lalgudi, M. W. Marcellin, A. Bilgin, M. S. Nadar, "Compression of Multi-Dimensional Images using JPEG2000," provisional patent application filed.
22. R. Raguram, M. W. Marcellin, A. Bilgin, "Improved Resolution Scalability for Bi-Level Image Data in JPEG2000," provisional patent application filed.
23. M. I. Altbach, Z. Li, A. Bilgin, A. F. Gmitro, "A Magnetic Resonance Imaging Method for Imaging Chemical Components with Insensitivity to Flow," provisional patent application filed.
24. L. Atzori, A. Bilgin, M. W. Marcellin, "Error Concealment for Intra-coded Video," provisional patent application filed.
25. A. Tabesh, A. Bilgin, K. Krishnan, M. W. Marcellin, "Methods for Making Inferences about the Content of JPEG2000 and Motion JPEG2000 Codestreams in the Compressed Domain," invention disclosure filed.
26. Z. Wu, A. Bilgin, M. W. Marcellin, L. Pu, "Methods for Decompressing JPEG2000 and Motion JPEG2000 Codestreams that Contain Errors," provisional patent application filed.

27. M. W. Marcellin, A. Bilgin, P. Kulkarni, J. C. Dagher, "Multi-Layer Reduced Memory Rate Allocation for JPEG2000 and Motion JPEG2000," provisional patent application filed.
28. A. Bilgin, M. W. Marcellin, "Object Based Editing of JPEG2000 and Motion JPEG2000 Codestreams," provisional patent application filed.
29. B. R. Hunt, M. W. Marcellin, D. Sheppard, A. Bilgin, "A Quantizer Methodology to Implement Signal Processing Algorithms," invention disclosure filed.

Technical Reports

1. M. W. Marcellin, A. Bilgin, "Hyperspectral Image Compression," Signal Processing and Coding Laboratory Final Report, Dept. of E.C.E, University of Arizona, December 14, 1999.
2. H. Abut, L. A. Wherry, R.M. Bernardi, Y. Öztürk, M. D. Callaghan, A. Bilgin, D. S. Erickson, A. P. Yznaga, P. A. Powell, "System Manual Draft: Visual Image Verification for I-15 Reversible High-Occupancy Vehicle Lanes," Digital Signal Processing and Communications Laboratories Progress Report, Department of E.C.E., SDSU, June 22, 1993.

Dissertation

A. Bilgin, "Scalable Compression of Imagery," Ph.D. Dissertation, Department of Electrical and Computer Engineering, University of Arizona, 2002.

Thesis

A. Bilgin, "Image Processing and Compression for Intelligent Vehicle/Highway Systems," Master's Thesis, Department of Electrical and Computer Engineering, San Diego State University, 1995.

RESEARCH SUPPORT

Active

"Task-Specific Compression for Biomedical Big Data," National Institutes of Health/National Cancer Institute, June 2016-May 2018, \$1.3M, Role: PI.

"MRI of Non-Alcoholic Steatohepatitis (NASH) Biomarkers," Arizona Biomedical Research Commission, January 2015-December 2017, \$749K, Role: Co-I.

"Task-Specific Information for Analysis and Design of Advanced X-ray Explosive Threat Detection," Department of Homeland Security, January 2014 – August 2015, \$2.2M, Role: Co-PI.

Completed

“Lung Imaging and Volumetry using Magnetic Resonance Imaging,” Department of Imaging Seed Grant, August 2013 – September 2014, \$50K, Role: PI.

“Task-specific Post-measurement Compression,” Defense Advanced Research Projects Agency (DARPA), September 2012 – August 2013, \$546K, Role: Co-PI (Seedling effort funded as supplement to KECOM).

“Knowledge Enhanced Compressive Measurement,” Defense Advanced Research Projects Agency (DARPA), September 2010 – November 2013, \$3.6M, Role: Co-PI.

“Video QoE Improvement in Video Conferencing Systems,” Futurewei Technologies, Inc., September 2012 – September 2013, \$50K, Role: PI.

“Compressed Sensing for Dynamic Magnetic Resonance Imaging,” Siemens Corporate Research, November 2010 – August 2011, \$55K, Role: PI.

Equipment Support, Siemens Corporate Research, November 2010, \$4K, Role: PI.

“Detection of Lipid Infiltration in the Heart with MRI,” NIH – National Heart Lung and Blood Institute, April 2007 – March 2011 (no-cost-extension), \$1.5M, Role: Co-Investigator.

“Compressed Sensing for Magnetic Resonance Imaging,” Siemens Corporate Research, August 2009 – July 2010, \$53K, Role: PI.

Equipment Support, Siemens Corporate Research, October 2009, \$6K, Role: PI.

“Compression for Wide Area Persistent Surveillance,” National Geospatial-Intelligence Agency/Booz Allen Hamilton, \$185K, November 2008 – November 2009, Role: Co-PI (w/ M. W. Marcellin).

“Sampling and Reconstruction Methods for Magnetic Resonance Imaging of the Brain,” The Arizona Alzheimer’s Disease Core Center Consortium, July 2007- June 2008, \$45K, Role: PI.

“Improved Characterization of Small Lesions using T2-Weighted MRI,” Arizona Cancer Center, July 2007 – June 2008, \$30K, Role: PI.

“Reconfigurable Compressed Sensing Tools,” Faculty Small Grant, April 2007 – March 2008, \$10K, Role: Co-PI (w/ A. Akoglu).

“Compression/decompression strategies for large volume medical imagery,” Siemens Corporate Research, September 2002 – June 2008, \$274K, Role: Co-PI (w/ M. W. Marcellin).

CURRENT POST-DOCTORAL ASSOCIATES

Feng Liu, Ph.D.

CURRENT GRADUATE STUDENTS

Robert Crandall, Ph.D. Student, Applied Math

Zhiyang Fu, Ph.D. Student, ECE
Mahesh Bharath Keerthivasan, Ph.D. Student, ECE (w/Maria Altbach)
Zhitao Li, Ph.D. Student, ECE (w/Maria Altbach)
Sagar Mandava, Ph.D. Student, ECE
Abhishek Pandey, Ph.D. Student, ECE (w/Maria Altbach)

CURRENT UNDERGRADUATE STUDENTS

Eze L. Ahanonu, BME

POST-DOCTORAL ASSOCIATES ADVISED

Lingling Pu, Ph.D.

GRADUATE STUDENTS SUPERVISED

Benjamin P. Berman, Ph.D., Applied Math
Hsin-Chang Feng, Ph.D., ECE (w/Michael Marcellin)
Feng Liu, Ph.D., ECE
Yookyung Kim, Ph.D., ECE
Hariharan G. Lalgudi, Ph.D., ECE (w/ M. W. Marcellin)
Han Oh, Ph.D., ECE (w/Michael Marcellin)
Mahesh Bharath Keerthivasan, M.S, ECE
Anantharaman Krishnan, M.S., ECE (w/ M. I. Altbach)
Hariharan G. Lalgudi, M.S., ECE (w/ M. W. Marcellin)
Tony Leung, M.S. Student, ECE
Sagar Mandava, M.S. Student, ECE
Rajagopalan Sundaresan, M.S. Student, ECE

INTRAMURAL SERVICE

- Member, Arizona Cancer Center, 2015-present.
- Member, Applied Mathematics Graduate Interdisciplinary Program, Executive Committee, 2014-present.
- Chair, Biomedical Engineering Graduate Interdisciplinary Program, Resources Committee, 2013-present.
- Member, Electrical & Computer Engineering, Graduate Recruiting and Awards Committee, 2014-present.
- Member, Biomedical Engineering Graduate Interdisciplinary Program, Executive Committee, 2013-present.
- Reviewer, Office for Research and Discovery, Pilot Interdisciplinary Project Grants.
- Member, College of Engineering, Post Tenure Review Audit Committee, 2015-2016.
- Member, University Imaging Cluster Faculty Search Committee, 2015.
- Member, College of Engineering, University Fellow Award Nomination Committee, 2015.
- Member, Imaging Strategic Planning Workshop, Executive Committee, 2015.
- Member, Biomedical Engineering, Promotion and Tenure Committee, 2015.
- Chair, Biomedical Engineering, Faculty Search Committee, 2015.
- Member, Biomedical Engineering, Academic Program Review Committee, 2015.

- Member, Magnetic Resonance Imaging Operations Committee, 2014 – present.
- Member, UA Astronaut Scholarship Nomination Committee, 2013.
- Member, Applied Mathematics Graduate Interdisciplinary Program, 2013-present.
- Chair, Biomedical Engineering, Awards Committee, 2010-present.
- Member, Electrical & Computer Engineering, Computer Policy Committee, 2012-2013.
- Member, Electrical & Computer Engineering, Instructional Equipment & Software Planning Committee, 2012-2013.
- Member, Biomedical Engineering Program Committee, 2009 – 2013.
- Mentor, Arizona Assurance Scholars Program, 2009 – 2014.
- Member, Biomedical Engineering Graduate Interdisciplinary Program, 2009-present.
- Member, BIO5 Institute, 2009-present.
- Member, Advanced Research Institute for Biomedical Imaging (ARIBI), 2009-present.
- Affiliate Member, Applied Mathematics Graduate Interdisciplinary Program, 2009-2013.
- Member, UA Astronaut Scholarship Nomination Committee, 2012.
- Member, Electrical & Computer Engineering, Graduate Studies Committee, 2010-2012.

EXTRAMURAL SERVICE

- Associate Editor, IEEE Transactions on Computational Imaging, 2014 – present.
- Associate Editor, IEEE Transactions on Image Processing, 2010 – 2014.
- Associate Editor, IEEE Signal Processing Letters, 2010 – 2012.
- Technical Program Co-Chair, 2013-2017 IEEE Data Compression Conference, Snowbird, UT.
- Member, Program Committee, 2017 Anomaly Detection and Imaging with X-Rays (ADIX), SPIE Defense+Security, Baltimore, MD.
- Member, Program Committee, 2016 Anomaly Detection and Imaging with X-Rays (ADIX), SPIE Defense+Security, Baltimore, MD.
- Session Chair, 2014 IEEE Data Compression Conference, Snowbird, UT.
- Area Chair, 2014 International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Florence, Italy.
- Area Chair, 2013 IEEE International Conference on Image Processing (ICIP), Melbourne, Australia.
- Area Chair, 2013 International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Vancouver, Canada.
- Area Chair, 2012 IEEE International Conference on Image Processing (ICIP), Orlando, Florida.
- Area Chair, Image, Video, and Multidimensional Signal Processing, 2012 International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Kyoto, Japan.
- Session Chair, 2012 IEEE Data Compression Conference, Snowbird, UT.
- Technical Program Committee Member, 2012 IEEE Data Compression Conference, Snowbird, UT.
- Area Chair, 2011 IEEE International Conference on Image Processing (ICIP), Brussels, Belgium.

- Technical Program Committee Member, 2011 European Conference on Signal Processing (EUSIPCO), Barcelona, Spain.
- Technical Program Committee Member, 2011 IEEE International Conference on Multimedia and Expo (ICME 2011), Barcelona, Spain.
- Guest Co-Editor, IEEE Communications Society Multimedia Communication Technical Committee E-letter, Special Issue on "Compression Technologies for Medical Applications," July 2011.
- Session Chair, 2011 IEEE Data Compression Conference, Snowbird, UT.
- Technical Program Committee Member, 2011 IEEE Data Compression Conference, Snowbird, UT.
- Session Chair, 2010 IEEE International Conference on Image Processing (ICIP), Hong Kong.
- Session Chair, 2010 IEEE Data Compression Conference, Snowbird, UT.
- Technical Program Committee Member, 2010 European Conference on Signal Processing (EUSIPCO), Aalborg, Denmark.
- Technical Program Committee Member, 2010 IEEE Data Compression Conference, Snowbird, UT.
- Member, Visual Communications and Image Processing (VCIP) Conference Advisory Board, 2010.
- Session Chair, 2009 IEEE Data Compression Conference, Snowbird, UT.
- Technical Program Committee Member, 2009 European Conference on Signal Processing (EUSIPCO), Glasgow, Scotland.
- Technical Program Committee Member, 2009 IEEE Data Compression Conference, Snowbird, UT.
- Technical Program Committee Member, 2009 SPIE Visual Communications and Image Processing (VCIP) Conference, San Jose, CA.
- Session Chair, 2008 IEEE International Conference on Image Processing (ICIP), San Diego, CA.
- Member, Best Paper Award Jury, 2008 IEEE International Conference on Image Processing (ICIP), San Diego, CA.
- Session Chair, 2008 IEEE Data Compression Conference, Snowbird, UT.
- Technical Program Committee Member, 2008 European Conference on Signal Processing (EUSIPCO), Lausanne, Switzerland.
- Technical Program Committee Member, 2008 SPIE Visual Communications and Image Processing (VCIP) Conference, San Jose, CA.
- Technical Program Committee Member, 2008 IEEE Data Compression Conference, Snowbird, UT.
- Session Co-Organizer, 2007 Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA.
- Session Chair, 2007 IEEE International Conference on Image Processing (ICIP), San Antonio, TX.
- Member, Best Paper Award Jury, 2007 IEEE International Conference on Image Processing (ICIP), San Antonio, TX.
- Session Chair, 2007 IEEE Data Compression Conference, Snowbird, UT.
- Technical Program Committee Member, 2007 IEEE Data Compression Conference, Snowbird, UT.
- Member, Best Paper Award Jury, 2006 IEEE International Conference on Image Processing (ICIP), Atlanta, GA.

- Technical Program Committee Member, 2006 IEEE International Conference on Image Processing (ICIP), Atlanta, GA.
- Technical Program Committee Member, 2005 IEEE International Conference on Image Processing (ICIP), Italy.
- Technical Program Committee Member, 2004 IEEE International Conference on Image Processing (ICIP), Singapore.
- Publicity Co-chair, 2006 Mobile Multimedia Communications Conference (MobiMedia), Alghero, Italy.
- Exhibits Co-chair, 2000 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Istanbul, Turkey.
- External Peer Reviewer for Promotion and Tenure.
- Grant reviewer for National Institutes of Health.
- Grant reviewer for Arizona Alzheimer Consortium.
- Grant reviewer for Qatar National Research Fund.
- Grant reviewer for Engineering and Physical Sciences Research Council (EPSRC), United Kingdom.
- Journal Peer Reviewer for
 - ACM Multimedia Systems Journal.
 - BMC Bioinformatics.
 - Computer Methods and Programs in Biomedicine.
 - Computers in Biology and Medicine.
 - Digital Signal Processing.
 - Electronic Letters on Computer Vision and Image Analysis.
 - EURASIP Journal on Advances in Signal Processing.
 - EURASIP Journal on Applied Signal Processing.
 - EURASIP Journal on Image and Video Processing.
 - IEE Electronic Letters.
 - IEE Proceedings on Vision, Image and Signal Processing.
 - IEEE Communications Letters.
 - IEEE Geoscience and Remote Sensing Letters.
 - IEEE Signal Processing Letters.
 - IEEE Transactions on Biomedical Engineering.
 - IEEE Transactions on Circuits and Systems I.
 - IEEE Transactions on Circuits and Systems II.
 - IEEE Transactions on Circuits and Systems for Video Technology.
 - IEEE Transactions on Communications.
 - IEEE Transactions on Geoscience and Remote Sensing.
 - IEEE Transactions on Image Processing.
 - IEEE Transactions on Medical Imaging.

- IEEE Transactions on Signal Processing.
- Image and Vision Computing.
- Integrated Computer-Aided Engineering.
- Journal of Biomedical Science and Engineering.
- Journal of Digital Imaging.
- Journal of Electronic Imaging.
- Journal of Medical Imaging.
- Magnetic Resonance in Medicine.
- Physical Communication.
- PLOS ONE.
- Signal Processing.
- X-Ray Optics and Instrumentation.
- Conference Peer Reviewer for
 - 2016 IEEE Data Compression Conference, Snowbird, UT, March 2016.
 - 2016 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Shanghai, China.
 - 31st Picture Coding Symposium, Cairns, Australia, June 2015.
 - 2015 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Brisbane, Australia.
 - 2014 Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Milan, Italy, May 2014.
 - 2014 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Florence, Italy.
 - 2014 IEEE Data Compression Conference, Snowbird, UT, March 2014.
 - 30th Picture Coding Symposium, San Jose, CA, December 2013.
 - 2013 IEEE International Conference on Image Processing (ICIP), Melbourne, Australia.
 - 2013 Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Salt Lake City, UT, May 2013.
 - 2013 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Vancouver, Canada.
 - 2013 IEEE Data Compression Conference, Snowbird, UT, March 2013.
 - 2012 European Signal Processing Conference (EUSIPCO), Bucharest, Romania.

- 2012 IEEE International Conference on Image Processing (ICIP), Orlando, Florida, September 2012.
- 29th Picture Coding Symposium, Krakow, Poland, May 2012.
- 2012 Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Melbourne, Australia, May 2012.
- 2012 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Kyoto, Japan, March 2012.
- 2011 Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Montreal, Canada, May 2011.
- 2011 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Prague, Czech Republic, May 2011.
- 2010 IEEE International Conference on Image Processing (ICIP), Hong Kong, September 2010.
- 2010 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Honolulu, HI, July 2010.
- 2010 Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Stockholm, Sweden, May 2010.
- 2010 IEEE International Symposium on Circuits and Systems (ISCAS), Paris, France, May 2010.
- 2010 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Dallas, TX, March 2010.
- 16th International Conference on Digital Signal Processing (DSP2009), Santorini, Greece, July 2009.
- 2009 Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Honolulu, Hawaii, April 2009.
- 2009 IEEE International Conference on Image Processing (ICIP), Cairo, Egypt, November 2009.
- 2009 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Cape Town, South Africa.
- 2009 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Taipei, Taiwan, April 2009.
- 2008 IEEE International Conference on Image Processing (ICIP), San Diego, CA.

- 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Boston, MA, July 2008.
- 2008 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Las Vegas, NV, March 2008.
- 2007 European Signal Processing Conference (EUSIPCO), Poznan, Poland.
- 2007 IEEE International Conference on Image Processing (ICIP), San Antonio, TX.
- 2007 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Honolulu, HI, May 2007.
- 2006 Fifth International Symposium on Communications Systems, Networks and Digital Signal Processing (CSNDSP), Patras, Greece, July 2006.
- 2006 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Toulouse, France, May 2006.
- 2006 IEEE International Symposium on Circuits and Systems (ISCAS), Kos, Greece, May 2006.
- 2005 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Philadelphia, PA, March 2005.

MEMBERSHIPS

- Senior Member, The Institute of Electrical and Electronics Engineers (IEEE).
- Member, The International Society for Magnetic Resonance in Medicine (ISMRM).
- Member, International Society for Optical Engineering (SPIE).
- Member, Society of Motion Picture and Television Engineers (SMPTE).
- Member, International Organization for Standardization (ISO)/ International Electrotechnical Commission (IEC)/ Joint Technical Committee (JTC) 1 /Subcommittee (SC) 29/ Working Group (WG) 1: Joint Photographic Experts Group (JPEG)/ Joint Bi-level Image experts Group (JBIG).

HONORS AND AWARDS

- Excellence at the Student Interface Award, Most Supportive Senior Faculty, 2016.
- Excellence at the Student Interface Award, Most Supportive Junior Faculty, 2015.

- ISMRM Merit Award, Summa Cum Laude, for the paper “Improved Slice Coverage in DBIR-FSE with Multi-Band Encoding,” 2015.
- ISMRM Merit Award, Summa Cum Laude, for the paper “Isotropic T2 Mapping using a 3D Radial FSE (or TSE) Pulse Sequence,” 2015.
- Biomedical Engineering Graduate Interdisciplinary Program, Builder’s Day Award, 2015.
- Top 10% Paper Recognition for the paper “Lossless Image Compression Using Causal Block Matching and 3D Transform-Domain Collaborative Filtering,” at IEEE International Conference on Image Processing, 2014.
- Excellence at the Student Interface Award, 2013.
- ISMRM Merit Award, Summa Cum Laude, for the paper “Accelerating Encoded Simultaneous Multi Slice MRI with Compressed Sensing,” 2013.
- ISMRM Merit Award, Magna Cum Laude, for the paper “A Variable Bandwidth Radial Gradient and Spin-Echo (VB-radGRASE) Method for Improved T2 and Fat-Water Parameter Estimation,” 2013.
- ISMRM Merit Award, Magna Cum Laude, for the paper “Automated Segmentation of Liver Parenchyma and Blood Vessel with in-vivo Radial Gradient and Spin-Echo (GRASE) Datasets for Characterization of Diffuse Liver Disease,” 2013.
- Excellence at the Student Interface Award, 2012.
- Invited Afternoon (Keynote) Speaker, 2012 Data Compression Conference, Snowbird, Utah, April 2012.
- Faculty Advisor (w/ Michael W. Marcellin) to Han Oh who was awarded ECE Department Outstanding Graduate Student Award, Fall 2011.
- Invited to participate in National Academies Keck Futures Initiative, 2010.
- Faculty Advisor (w/ Michael W. Marcellin) for First Place Graduate Student Paper Award at 2010 International Telemetry Conference: Han Oh, "Visually Lossless Compression Based on JPEG 2000 for Efficient Transmission of High Resolution Color Aerial Images."
- Faculty Advisor (w/ Michael W. Marcellin) for Best Student Paper Finalist at First International Workshop on Quality of Multimedia Experience (QOMEX 2009) Han Oh, “Visibility Thresholds for Quantization Distortion in JPEG2000.”
- Elected Senior Member of the IEEE in 2008.

- Faculty Advisor (w/ Michael W. Marcellin and William E. Ryan) for First Place Award for Undergraduate Student Paper at 2008 International Telemetry Conference: Kristin Jagiello, Mahmut Zafer Aydin and Wei-Ren NG, "Joint JPEG2000/LDPC Code System Design for Image Telemetry."
- Best Student Paper Award, 1998 SIU.
- Meritorious Service Award, Istanbul Technical University Alumni Association.