

Minh N. Do  
Professor  
Department of Electrical and Computer Engineering  
University of Illinois at Urbana-Champaign  
Office: 113 Coordinated Science Laboratory  
Tel: (217) 244-4782  
Email: [minhdo@illinois.edu](mailto:minhdo@illinois.edu)

### Biography

Minh N. Do was born in Thanh Hoa, Vietnam in 1974. He received the B.Eng. degree in Computer Engineering from the University of Canberra, Australia in 1997, and the Dr.Sci. degree in Communication Systems from the Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland in 2001. Since 2002, he has been on the faculty at the University of Illinois at Urbana-Champaign, where he is currently a Professor in the Department of Electrical and Computer Engineering, and holds joint appointments with the Coordinated Science Laboratory, the Beckman Institute for Advanced Science and Technology, the Advanced Digital Sciences Center, and the Department of Bioengineering.

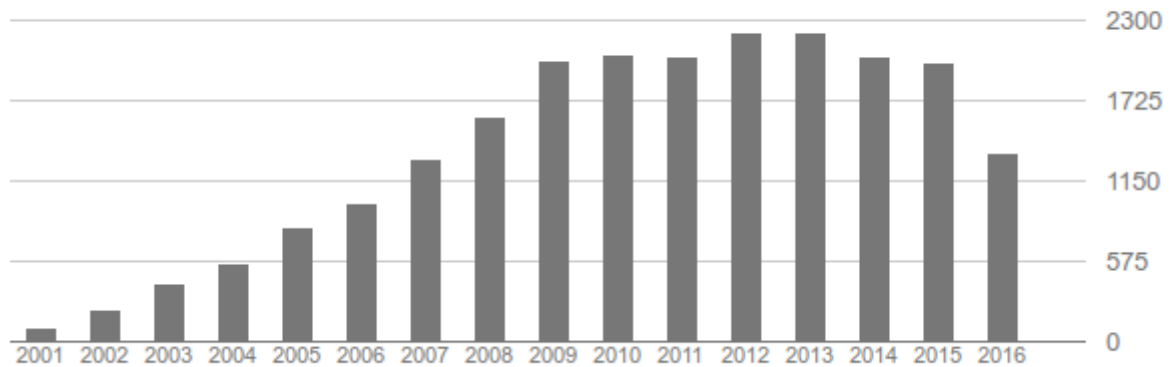
His current research interests include signal processing, computational imaging, geometric vision, and data science.

He received a Silver Medal from the 32nd International Mathematical Olympiad in 1991, a University Medal from the University of Canberra in 1997, a Doctorate Award from the Swiss Federal Institute of Technology Lausanne in 2001, and a CAREER Award from the National Science Foundation in 2003. He co-authored on two papers with Arthur L. da Cunha and Ha T. Nguyen that received Best Student Paper Awards at the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) in 2005, a paper with Yue Lu that received a Most Innovative Paper Award at the IEEE International Conference on Image Processing (ICIP) in 2006, and a paper with Yue Lu that received a Student Paper Award at ICIP in 2007. He received a Young Author Best Paper Award from the IEEE Signal Processing Society in 2008 for a paper with Martin Vetterli.

He was named a Beckman Fellow at the Center for Advanced Study, UIUC in 2006, and received a Xerox Award for Faculty Research, College of Engineering, UIUC, in 2007. He was a member of the IEEE Signal Processing Theory and Methods and Image, Video, and Multidimensional Signal Processing Technical Committees, and an Associate Editor of the IEEE Transactions on Image Processing. He was elevated as an IEEE Fellow in 2014 for contributions to image representation and computational imaging.

Total citations: 22156  
h-index: 44

Citations per year



### Selected publications:

#### Book Chapters

1. M. N. Do and M. Vetterli, [Contourlets](#), *Beyond Wavelets*, G. V. Welland ed., Academic Press, 2003. [PDF](#) | [Postscript](#)

#### Journal Papers

1. L. Wang, D. Tang, Y. Guo, and M. N. Do, [Common visual pattern discovery via nonlinear mean shift clustering](#), *IEEE Transactions on Image Processing*, vol. 24, no. 12, pp. 5442-5454, Dec. 2015.
2. V.-A. Nguyen, J. Lu, S. Zhao, D. T. Vu, H. Yang, D. L. Jones, and M. N. Do, [ITEM: Immersive Telepresence for Entertainment and Meetings - A Practical Approach](#), *IEEE Journal of Selected Topics in Signal Processing*, vol.9, no.3, pp.546-561, April 2015.
3. H. Q. Bui, C. N. H. La, and M. N. Do, [A fast tree-based algorithm for compressed sensing with sparse-tree prior](#), *Signal Processing*, pp. 628-641, vol. 108, Mar. 2015.
4. H. Q. Nguyen and M. N. Do, [Downsampling of signals on graphs via maximum spanning trees](#), *IEEE Transactions on Signal Processing*, pp. 182-191, vol. 63, Jan. 2015.
5. H. Q. Nguyen and M. N. Do, [Inverse rendering of Lambertian surfaces using subspace methods](#), *IEEE Transactions on Image Processing*, pp. 5545-5558, Dec. 2014.
6. D. Min, S. Choi, J. Lu, B. Ham, K. Sohn, and M. N. Do, [Fast global image smoothing based on weighted least squares](#), *IEEE Transactions on Image Processing*, pp. 5638-5653, Dec. 2014.
7. V. A. Nguyen, J. Lu, S. Zhao, D. L. Jones, and M. N. Do, [Teleimmersive audio-visual communication using commodity hardware](#), *IEEE Signal Processing Magazine*, Nov. 2014.

8. S. D. Babacan, S. Nakajima, and M. N. Do, [Bayesian group-sparse modeling and variational inference](#), *IEEE Transactions on Signal Processing*, vol. 62, no. 11, pp. 2906-2921, Nov. 2014.
9. D. T. Vu, B. Chidester, H. Yang, M. N. Do, and J. Lu, [Efficient hybrid tree-based stereo matching with applications to postcapture image refocusing](#), *IEEE Transactions on Image Processing*, vol. 23, no. 8, pp. 3428-3442, Aug. 2014.
10. A. L. N. Targino da Costa and M. N. Do, [A retina-based perceptually lossless limit and a Gaussian foveation scheme with loss control](#), *IEEE Journal of Selected Topics in Signal Processing*, vol. 8, no. 3, pp. 438-453, 2014.
11. B. Ham, D. Min, C. Oh, M. N. Do, and K. Sohn, [Probability-based rendering for view synthesis](#), *IEEE Transactions on Image Processing*, vol. 23, no. 2, pp. 870-884, 2014.
12. D. Min, J. Lu, and M. N. Do, [Joint histogram-based cost aggregation for stereo matching](#), *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 35, no. 10, pp. 2539-2545, 2013.
13. H. M. Nguyen, X. Peng, M. N. Do, and Z.-P. Liang, [Denoising MR spectroscopic imaging data with low-rank approximations](#), *IEEE Trans. on Biomedical Engineering*, vol. 60, no. 1, pp. 78-89, 2013.
14. V.-A. Nguyen, D. Min, and M. N. Do, [Efficient techniques for depth video compression using weighted mode filtering](#), *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 23, no. 2, pp. 189-202, 2013.
15. M. N. Do and Y. M. Lu, [Multidimensional filter banks and multiscale geometric representations](#), *Foundations and Trends in Signal Processing*, vol. 5, issue. 3, pp. 157-264, 2012.
16. M. Mir, S. D. Babacan, M. Bednarz, M. N. Do, I. Golding, and G. Popescu, [Visualizing Escherichia coli sub-cellular structure using sparse deconvolution spatial light interference tomography](#), *PLoS ONE*, vol. 7, June 2012.
17. D. Min, J. Lu, and M. N. Do, [Depth video enhancement based on weighted mode filtering](#), *IEEE Transactions on Image Processing*, vol. 21, no. 3, pp. 1176-1190, Mar. 2012.
18. M. N. Do, D. Marchand-Maillet, and M. Vetterli, [On the bandwidth of the plenoptic function](#), *IEEE Transactions on Image Processing*, vol. 21, no. 2, pp. 708-717, Feb. 2012.
19. S. D. Babacan, Z. Wang, M. Do, and G. Popescu, [Cell imaging beyond the diffraction limit using sparse deconvolution spatial light interference microscopy](#), *Biomedical Optics Express*, vol. 2, no. 7, pp. 1815-1827, July 2011.
20. H. Pham, H. Ding, N. Sobh, M. Do, S. Patel, and G. Popescu, [Off-axis quantitative phase imaging processing using CUDA: toward real-time applications](#), *Biomedical Optics Express*, vol. 2, no. 7, pp. 1781-1793, July 2011.

21. A. J. Dapore, M. R. King, J. Harter, S. Sarwate, M. L. Oelze, J. A. Zagzebski, M. N. Do, T. J. Hall, and W. D. O'Brien, [Analysis of human fibroadenomas using three-dimensional impedance maps](#), *IEEE Transactions on Medical Imaging*, vol. 30, no. 6, pp. 1206-1213, June 2011.
22. M. N. Do, Q. H. Nguyen, H. T. Nguyen, D. Kubacki, and Sanjay J. Patel, [Immersive visual communication with depth cameras and parallel computing](#), *IEEE Signal Processing Magazine*, vol. 28, pp. 58-66, Jan. 2011.
23. K. L. Law and M. N. Do, [Multidimensional filter bank signal reconstruction from multichannel acquisition](#), *IEEE Transactions on Image Processing*, vol. 20, pp. 317-326, Feb. 2011.
24. M. Maitre and M. N. Do, [Depth and depth-color coding using shape-adaptive wavelets](#), *Journal of Visual Communication and Image Representation, Special Issue on Multicamera Imaging*, pp. 513-522, July 2010.
25. A. L. Cunha, M. N. Do, and M. Vetterli, [On the information rates of the plenoptic function](#), *IEEE Transactions on Information Theory*, vol. 56, pp. 1306-1321, Mar. 2010.
26. D. Lin, X. Huang, Q. Nguyen, J. Blackburn, C. Rodrigues, T. Huang, M. N. Do, S. Patel, and W.-M. Hwu, [Parallelization of video processing: from programming models to applications](#), *IEEE Signal Processing Magazine*, pp. 103-112, Nov. 2009.
27. K. L. Law, R. M. Fossum, and M. N. Do, [Generic invertibility of multidimensional FIR filter banks and MIMO systems](#), *IEEE Transactions on Signal Processing*, vol. 57, no. 11, pp. 4282-4291, Nov. 2009.
28. Y. M. Lu, M. N. Do, and R. S. Laugesen, [A computable Fourier condition generating alias-free sampling lattices](#), *IEEE Transactions on Signal Processing*, vol. 57, no. 5, pp. 1768-1782, May 2009.
29. R. L. Morrison, M. N. Do, and D. C. Munson, [MCA: a multichannel approach to SAR autofocus](#), *IEEE Transactions on Image Processing*, vol. 18, no. 4, pp. 840-853, Apr. 2009.
30. H. T. Nguyen and M. N. Do, [Error analysis for image-based rendering with depth information](#), *IEEE Transactions on Image Processing*, vol. 18, no. 4, pp. 703-716, Apr. 2009.
31. H. M. Nguyen, B. P. Sutton, R. L. Morrison, and M. N. Do, [Joint estimation and correction of geometric distortions for EPI functional MRI using harmonic retrieval](#), *IEEE Transactions on Medical Imaging*, vol. 28, no. 3, pp. 423-434, Mar. 2009.
32. H. T. Nguyen and M. N. Do, [Hybrid filter banks with fractional delays: Minimax design and application to multichannel sampling](#), *IEEE Transactions on Signal Processing*, vol. 56, no. 7, pp. 3180-3190, July 2008.
33. M. Maitre, Y. Shinagawa, and M. N. Do, [Wavelet-based joint estimation and encoding of depth-image-based representations for free-viewpoint rendering](#), *IEEE*

*Transactions on Image Processing*, vol. 17, no. 6, pp. 946-957, June 2008.

34. Y. M. Lu and M. N. Do, [A theory for sampling signals from a union of subspaces](#), *IEEE Transactions on Signal Processing*, vol. 56, no. 6, pp. 2334-2345, June 2008.
35. Y. M. Lu and M. N. Do, [A mapping-based design for nonsubsampled hourglass filter banks in arbitrary dimensions](#), *IEEE Transactions on Signal Processing*, vol. 56, no. 4, pp. 1466-1478, Apr. 2008.
36. Y. M. Lu and M. N. Do, [Sampling signals from a union of subspaces](#), *IEEE Signal Processing Magazine*, Special Issue on Compressive Sampling, vol. 25, no. 2, pp. 41-47, Mar. 2008.
37. R. L. Morrison, M. N. Do, and D. C. Munson, [SAR image autofocus by sharpness optimization: a theoretical study](#), *IEEE Transactions on Image Processing*, vol. 16, no. 9, pp. 2309-2321, Sep. 2007.
38. A. L. Cunha and M. N. Do, [On two-channel filter banks with directional vanishing moments](#), *IEEE Transactions on Image Processing*, vol. 16, no. 5, pp. 1207-1219, May 2007.
39. Y. M. Lu and M. N. Do, [Multidimensional directional filter banks and surfacelets](#), *IEEE Transactions on Image Processing*, vol. 16, no. 4, pp. 918-931, Apr. 2007. [Surfacelet movie](#) (Animated GIF file showing surfacelet atoms in 3D as videos).
40. D. Xu and M. N. Do, [On the number of rectangular tilings](#), *IEEE Transactions on Image Processing*, vol. 15, no. 10, pp. 3225-3230, Oct. 2006.
41. J. Zhou and M. N. Do, [Multidimensional multichannel FIR deconvolution using Grobner bases](#), *IEEE Transactions on Image Processing*, vol. 15, no. 10, pp. 2998-3007, Oct. 2006.
42. A. L. Cunha, J. Zhou, and M. N. Do, [The nonsubsampled contourlet transform: Theory, design, and applications](#), *IEEE Transactions on Image Processing*, vol. 15, no. 10, pp. 3089-3101, Oct. 2006.
43. Y. Huang, I. Pollak, M. N. Do, and C. A. Bouman, [Fast search for best representations in multitree dictionaries](#), *IEEE Transactions on Image Processing*, vol. 15, no. 7, pp. 1779-1793, July 2006.
44. D. D.-Y. Po and M. N. Do, [Directional multiscale modeling of images using the contourlet transform](#), *IEEE Transactions on Image Processing*, vol. 15, no. 6, pp. 1610-1620, June 2006.
45. Y. Huang, I. Pollak, C.A. Bouman, and M. N. Do, [Best basis search in lapped dictionaries](#), *IEEE Transactions on Signal Processing*, vol. 54, no. 2, pp. 651-664, Feb. 2006.
46. J. Zhou, M. N. Do, and J. Kovacevic, [Special paraunitary matrices, Cayley transform, and multidimensional orthogonal filter banks](#), *IEEE Transactions on Image Processing*, vol. 15, no. 2, pp. 511-519, Feb. 2006.

47. M. N. Do and M. Vetterli, [The contourlet transform: an efficient directional multiresolution image representation](#), *IEEE Transactions Image on Processing*, vol. 14, no. 12, pp. 2091-2106, Dec. 2005. [Contourlet toolbox](#) (Matlab source code that implements the contourlet transform and its utility functions). [Contourlet movie](#) [QuickTime video compares non-linear approximations using wavelets (DWT2) and contourlets (PDFB)].
48. J. Zhou, M. N. Do, and J. Kovacevic, [Multidimensional orthogonal filter bank characterization and design using the Cayley transform](#), *IEEE Transactions on Image Processing*, vol. 14, no. 6, pp. 760-769, June 2005.
49. R. Shukla, P. L. Dragotti, M. N. Do and M. Vetterli, [Rate-distortion optimized tree structured compression algorithms for piecewise smooth images](#), *IEEE Transactions on Image Processing*, vol. 14, pp. 343-359, Mar. 2005.
50. C. Xu, D. L. Marks, M. N. Do, and S. A. Boppart, [Separation of absorption and scattering profiles in spectroscopic optical coherence tomography using a least-squares algorithm](#), *Optics Express*, vol. 12, no. 20, pp. 4790-4803, Oct. 2004.
51. M. N. Do and M. Vetterli, [Framing pyramids](#), *IEEE Transactions on Signal Processing*, vol. 51, pp. 2329-2342, Sep. 2003. [PDF](#) | [Postscript](#) [Laplacian pyramid toolbox](#) [Matlab source code that implements the Laplacian pyramid (in any dimension) with the new reconstruction method in the paper].
52. M. N. Do, [Fast approximation of Kullback-Leibler distance for dependence trees and hidden Markov models](#), *IEEE Signal Processing Letters*, vol. 10, pp. 115-118, Apr. 2003. [PDF](#) | [Postscript](#)
53. M. N. Do and M. Vetterli, [The finite ridgelet transform for image representation](#), *IEEE Transactions on Image Processing*, vol. 12, pp. 16-28, Jan. 2003. [PDF](#) | [Postscript](#) [FRIT Toolbox](#) (Matlab source code that implements the transforms in the paper). [FRIT movie](#) (QuickTime video compares non-linear approximations using wavelets and ridgelets).
54. M. N. Do and M. Vetterli, [Rotation invariant texture characterization and retrieval using steerable wavelet-domain hidden Markov models](#), *IEEE Transactions on Multimedia*, vol. 4, pp. 517-527, Dec. 2002. [PDF](#) | [Postscript](#)
55. M. N. Do and M. Vetterli, [Wavelet-based texture retrieval using generalized Gaussian density and Kullback-Leibler distance](#), *IEEE Transactions on Image Processing*, vol. 11, pp. 146-158, Feb. 2002. [PDF](#) | [Postscript](#) [WaveTex](#) (Matlab source code that implements the algorithms and experiments in the paper).

### Selected Conference Papers

1. J. Lu, H. Yang, D. Min, and M. N. Do, [PatchMatch filter: Efficient edge-aware](#)



- [filtering meets randomized search for fast correspondence field estimation](#), *IEEE Int. Conf. Computer Vision and Pattern Recognition (CVPR)*, Portland, 2013.
2. S. D. Babacan, S. Nakajima, and M. N. Do, [Probabilistic low-rank subspace clustering](#), *Neural Information Processing Systems (NIPS)*, Lake Tahoe, 2012.
  3. S. D. Babacan, R. Molina, M. N. Do, and A.K. Katsaggelos, [Bayesian blind deconvolution with general sparse image priors](#), *European Conference on Computer Vision (ECCV)*, Firenze, 2012.
  4. J. Lu, K. Shi, D. Min, L. Lin, and M. N. Do, [Cross-based local multipoint filtering](#), *IEEE Int. Conf. Computer Vision and Pattern Recognition (CVPR)*, Providence, 2012.
  5. D. Min, J. Lu, and M. N. Do, [A revisit to cost aggregation in stereo matching: How far can we reduce its computational redundancy?](#), *IEEE International Conference in Computer Vision (ICCV)*, Barcelona, 2011.
  6. H. M. Nguyen, Z. J. Gahvari, J. P. Haldar, M. N. Do, and Z.-P. Liang, [Cramer-Rao bound analysis of echo time selection for 1H-MR spectroscopy](#), *Proc. of IEEE Engineering in Medicine and Biology Society Conference (EMBC)*, Minneapolis, 2009.
  7. K. L. Law, R. Fossum, and M. N. Do, [Multidimensional signal acquisition from multichannel acquisition](#), *Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Taipei, Taiwan, 2009.
  8. K. L. Law, R. Fossum, and M. N. Do, [Generic invertibility of multidimensional FIR multirate systems and filter banks](#), *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Taipei, Taiwan, 2009.
  9. M. Maitre and M. N. Do, [Joint encoding of the depth image based representation using shape-adaptive wavelets](#), *IEEE International Conference on Image Processing*, San Diego, 2008.
  10. H. T. Nguyen and M. N. Do, [Robust multichannel sampling](#), *IEEE International Conference on Image Processing*, San Diego, 2008.
  11. M. Maitre, Y. Shinagawa, and M. N. Do, [Symmetric multi-view stereo reconstruction from planar camera arrays](#), *IEEE Conference on Computer Vision and Pattern Recognition*, Anchorage, Alaska, 2008.
  12. M. N. Do and C. N. H. La, [Tree-based majorize-minimize algorithm for compressed sensing with sparse-tree prior](#), *Computational Advances in Multi-Sensor Adaptive Processing*, U.S. Virgin Islands, 2007.
  13. C. Nguyen, R. L. Morrison, and M. N. Do, [Reduction of spatial sampling requirement in sound-based synthesis](#), *Computational Advances in Multi-Sensor Adaptive Processing*, U.S. Virgin Islands, 2007.
  14. Y. Lu and M. N. Do, [A computational procedure for finding minimum sampling](#)

- [lattices of a given frequency support in multidimensions](#), *IEEE International Conference on Image Processing*, San Antonio, 2007 (Student Paper Award).
- 15.M. Maitre, Y. Shinagawa, and M. N. Do, [Rate-distortion optimal depth maps in the wavelet domain for free-viewpoint rendering](#), *IEEE International Conference on Image Processing*, San Antonio, 2007.
- 16.R. L. Morrison, M. Jacob, and M. N. Do, [Multichannel estimation of coil sensitivities in parallel MRI](#), *IEEE International Symposium on Biomedical Imaging*, Arlington, 2007.
- 17.A. L. da Cunha, M. N. Do, and M. Vetterli, [A stochastic model for video and its information rates](#), *IEEE Data Compression Conference*, Snowbird, 2007.
- 18.N. Mueller, Y. Lu, and M. N. Do, [Image interpolation using multiscale geometric representations](#), *SPIE Symposium on Electronic Imaging*, San Jose, 2007.
- 19.H. T. Nguyen and M. N. Do, [Signal reconstruction from a periodic nonuniform set of samples using  \$H\_\infty\$  optimization](#), *SPIE Symposium on Electronic Imaging*, San Jose, 2007.
- 20.Y. Lu and M. N. Do, [A new contourlet transform with sharp frequency localization](#), *IEEE International Conference on Image Processing*, Atlanta, 2006 (Most Innovative Paper Award).
- 21.A. L. da Cunha, M. N. Do, and M. Vetterli, [On the information rate of the plenoptic function](#), *IEEE International Conference on Image Processing*, Atlanta, 2006.
- 22.R. L. Morrison, Jr. and M. N. Do, [Multichannel autofocus algorithm for synthetic aperture radar](#), *IEEE International Conference on Image Processing*, Atlanta, 2006.
- 23.H. T. Nguyen and M. N. Do, [Error analysis for image-based rendering with depth information](#), *IEEE International Conference on Image Processing*, Atlanta, 2006.
- 24.C. La and M. N. Do, [Tree-based orthogonal matching pursuit algorithm for signal reconstruction](#), *IEEE International Conference on Image Processing*, Atlanta, 2006.
- 25.H. M. Nguyen, R. L. Morrison, Jr., B. P. Sutton, and M. N. Do, [Joint estimation in MRI using harmonic retrieval methods](#), *IEEE International Symposium on Biomedical Imaging*, Arlington, USA, 2006.
- 26.R. L. Morrison, Jr., and M. N. Do, [A multichannel approach to metric-based SAR autofocus](#), *IEEE International Conference on Image Processing*, Genoa, Italy, Sep. 2005.
- 27.M. N. Do, D. Marchand-Maillet, and M. Vetterli, [On the bandlimitedness of the plenoptic function](#), *IEEE International Conference on Image Processing*, Genoa, Italy, Sep. 2005.
- 28.Y. Huang, I. Pollak, M.N. Do, and C.A. Bouman, [Optimal representations in multitree dictionaries with application to compression](#), *Proc. of IEEE International Conference on Image Processing*, Genoa, Italy, Sep. 2005.



- 29.J. Zhou, A. L. da Cunha, and M. N. Do, [Nonsubsampled contourlet transform: construction and application in enhancement](#), *IEEE International Conference on Image Processing*, Genoa, Italy, Sep. 2005.
- 30.A. L. da Cunha, J. Zhou, and M. N. Do, [Nonsubsampled contourlet transform: filter design and application in image denoising](#), *IEEE International Conference on Image Processing*, Genoa, Italy, Sep. 2005.
- 31.Y. Lu and M. N. Do, [3-D directional filter banks and surfacelets](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing XI*, San Diego, USA, Jul. 2005.
- 32.C. La and M. N. Do, [Signal reconstruction using sparse tree representations](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing XI*, San Diego, USA, Jul. 2005.
- 33.A. L. da Cunha and M. N. Do, [Linear-phase filter design for directional multiresolution decompositions](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing XI*, San Diego, USA, Jul. 2005.
- 34.J. Zhou and M. N. Do, [Two-dimensional orthogonal filter banks with directional vanishing moments](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing XI*, San Diego, USA, Jul. 2005.
- 35.J. Zhou and M. N. Do, [Multidimensional oversampled filter banks](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing XI*, San Diego, USA, Jul. 2005.
- 36.A. L. da Cunha and M. N. Do, [Biorthogonal filter banks with directional vanishing moments](#), *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Philadelphia, March 2005 (Best Student Paper Award).
- 37.H. T. Nguyen and M. N. Do, [Image-based rendering with depth information using the propagation algorithm](#), *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Philadelphia, March 2005 (Best Student Paper Award).
- 38.Y. Lu and M. N. Do, [The finer directional wavelet transform](#), *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Philadelphia, March 2005.
- 39.J. Zhou and M. N. Do, [Multichannel FIR exact deconvolution in multiple variables](#), *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Philadelphia, March 2005.
- 40.M. N. Do, [Toward sound-based synthesis: the far-field case](#), *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Montreal, Canada, May 2004.
- 41.Y. Lu and M. N. Do, [A geometrical approach to sampling signals with finite rate of innovation](#), *IEEE International Conference on Acoustics, Speech, and Signal*

*Processing (ICASSP)*, Montreal, Canada, May 2004.

- 42.Y. Huang, I. Pollak, C. A. Bouman, and M. N. Do, [New algorithms for best local cosine basis search](#), *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Montreal, Canada, May 2004.
- 43.Y. Huang, I. Pollak, M. N. Do, and C. A. Bouman, [Optimal tilings and best basis search in large dictionaries](#), *the 37th Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, USA, Nov. 2003.
- 44.R. L. Morrison, Jr., D. C. Munson, Jr., and M. N. Do, [Avoiding local minima in entropy-based SAR autofocus](#), *IEEE Workshop on Statistical Signal Processing*, St. Louis, USA, Sep. 2003.
- 45.M. N. Do, [Contourlets and sparse image representations](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing X*, San Diego, USA, August 2003.
- 46.Y. Lu and M. N. Do, [CRISP-contourlets: a critically sampled directional multiresolution image representation](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing X*, San Diego, USA, August 2003.
- 47.J. Zhou, M. N. Do, and J. Kovacevic, [New design of orthogonal filter banks using the Cayley transform](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing X*, San Diego, USA, August 2003.
- 48.D. Xu and M. N. Do, [Anisotropic 2-D wavelet packets and rectangular tiling: theory and algorithms](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing X*, San Diego, USA, August 2003.
- 49.D. D.-Y. Po and M. N. Do, [Directional multiscale statistical modeling of images](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing X*, San Diego, USA, August 2003.
- 50.I. Atkinson, F. Kamalabadi, D. L. Jones, and M. N. Do, [Adaptive wavelet thresholding for multichannel signal estimation](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing X*, San Diego, USA, August 2003.
- 51.M. N. Do and M. Vetterli, [Contourlets: A Directional Multiresolution Image Representation](#), *Proc. of IEEE International Conference on Image Processing (ICIP)*, Rochester, September 2002. [PDF](#) | [Postscript](#)
- 52.M. N. Do, P. L. Dragotti, R. Shukla, and M. Vetterli, [On compression of two-dimensional piecewise smooth functions](#), *IEEE International Conference on Image Processing (ICIP)*, Thessaloniki, Greece, October 2001 (invited paper). [PDF](#) | [Postscript](#)
- 53.M. N. Do and M. Vetterli, [Pyramidal directional filter banks and curvelets](#), *IEEE International Conference on Image Processing (ICIP)*, Thessaloniki, Greece, October 2001. [PDF](#) | [Postscript](#)

- 54.M. N. Do and M. Vetterli, [Frame reconstruction of the Laplacian pyramid](#), *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Salt Lake City, USA, May 2001. [PDF](#) | [Postscript](#)
- 55.Z. Pecenovic, M. N. Do, M. Vetterli and P. Pu, [Integrated browsing and searching of large image collections](#), *4th International Conference on Visual Information Systems*, Lyon, France, November 2000. [PDF](#) | [Postscript](#)
- 56.M. N. Do and M. Vetterli, [Orthonormal finite ridgelet transform for image compression](#), *IEEE International Conference on Image Processing (ICIP)*, Vancouver, Canada, September 2000. [PDF](#) | [Postscript](#)
- 57.M. N. Do and M. Vetterli, [Texture similarity measurement using Kullback-Leibler distance on wavelet subbands](#), *IEEE International Conference on Image Processing (ICIP)*, Vancouver, Canada, September 2000. [PDF](#) | [Postscript](#)
- 58.M. N. Do and M. Vetterli, [Image denoising using orthonormal finite ridgelet transform](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing VIII*, San Diego, USA, August 2000. [PDF](#) | [Postscript](#)
- 59.M. N. Do, A. C. Lozano and M. Vetterli, [Rotation invariant texture retrieval using steerable wavelet-domain hidden Markov models](#), *SPIE Conference on Wavelet Applications in Signal and Image Processing VIII*, San Diego, USA, August 2000. [PDF](#) | [Postscript](#)
- 60.M. N. Do, S. Ayer and M. Vetterli, [Invariant image retrieval using wavelet maxima moment](#), *3rd International Conference on Visual Information Systems*, Amsterdam, The Netherlands, June 1999. [PDF](#) | [Postscript](#)
- 61.Z. Pecenovic, M. N. Do, S. Ayer and M. Vetterli, [New methods for image retrieval](#), *ICPS'98 Congress on Exploring New Tracks in Imaging*, pp. 242-246, Antwerp, Belgium, September 1998. [PDF](#) | [Postscript](#)
- 62.D. Tran, M. N. Do, M. Wagner and T.V. Le, [A proposed decision rule for speaker identification based on a posteriori probability](#), *Speaker Recognition and Its Commercial and Forensic Applications*, pp. 85-88, Avignon, France, April 1998. [PDF](#) | [Postscript](#)
- 63.M. N. Do and M. Wagner, [Speaker recognition with small training requirements using a combination of VQ and DHMM](#), *Speaker Recognition and Its Commercial and Forensic Applications*, pp. 169-172, Avignon, France, April 1998. [PDF](#) | [Postscript](#)