Yuichi Tanaka

Associate Professor
Graduate School of BASE
Tokyo University of Agriculture and Technology
Koganei, Tokyo, 184-8588 Japan

Phone & Fax: +81 42 388 7150
Email: ytnk@cc.tuat.ac.jp
Website: http://tanaka.msp-lab.org/

Academic Backgrounds

- B.E. Electrical Engineering, Keio University, Mar. 2003.

- M.E. Electrical Engineering, Keio University, Mar. 2005.

- Ph.D. Electrical Engineering, Keio University, Sep. 2007.

- Postdoctoral Visiting Scholar at Video Processing Group (led by Prof. T. Q. Nguyen) in the Department of Electronics and Computer Engineering, University of California, San Diego, 2006 & 2007–2008.

Employment

- Research Assistant, COE (Center of Excellence) Program at Keio University: Apr. 2005–Mar. 2007.

- Research Assistant, Global COE Program at Keio University: Sep. 2007–Nov. 2008.

- Research Fellow, Japan Society for the Promotion of Science (JSPS): Apr. 2007–Nov. 2008.

- Assistant Professor, Graduate School of Engineering, Utsunomiya University: Dec. 2008–Mar. 2012.

- Associate Professor, Institute of Engineering, Tokyo University of Agriculture and Technology: Apr. 2012–present.

- Researcher, PRESTO Program, Japan Science and Technology Agency: Dec. 2016–present.

Awards

1. IEEE Signal Processing Society Japan Best Paper Award, IEEE SPS Tokyo Joint Chapter, Nov. 2016 (for the paper "M-channel oversampled graph filter banks," published in *IEEE Transactions on Signal Processing*, co-authored with A. Sakiyama).

2. Best Paper Award, *APSIPA ASC 2015*, 2015 (for the paper "Subspace-constrained multilinear discriminant analysis for ERP-based brain computer interface classification," co-authored with H. Higashi, T. Rutkowski, and T. Tanaka).

3. Ando Incentive Prize for the Study of Electronics, 2015 (from the Foundation of Ando Laboratory).

4. Best Paper Award, *APSIPA ASC 2014*, 2014 (for the paper "Smoothing of spatial filter by graph Fourier transform for EEG signals," co-authored with H. Higashi and T. Tanaka).

5. TELECOM System Technology Award, 2011 (from the Telecommunication Advancement Foundation).

6. Yasujiro Niwa Outstanding Paper Award, 2010 (from Tokyo Denki University).

Professional Activities

- Technical society membership and editorial work (present)

  - Associate Editor, *IEEE Transactions on Signal Processing*, 2016–.
  - Member, APSIPA Image, Video, and Multimedia (IVM) Technical Committee, 2015–.
  - Member of IEEE, APSIPA and IEICE.

- Technical society membership and editorial work (past)

  - Associate Editor, *IEICE Transactions on Fundamentals*, 2013–2016.
  - Special Session Organizer (with Prof. Gene Cheung), Graph Signal Processing for Advanced Imaging Problems, in *APSIPA ASC 2016*, 2016.
  - Co-Guest Associate Editor, Special Section on Special Section on Recent Advances in Image Sampling and Reconstruction, *IEICE Transactions on Fundamentals*, 2015.
  - Co-Guest Associate Editor, Special Section on Signal Processing for Sensing and Diagnosis, *IEICE Transactions on Fundamentals*, 2014.
  - Special Session Organizer (with Prof. Masahiro Okuda), Recent Advances in High Fidelity Digital Imaging, in *APSIPA ASC 2012*, 2012.

- Reviewer experience

  - APSIPA Transactions on Signal and Information Processing.
  - IEEE
    * Trans. on Circuits and Systems I: Regular Papers.
    * Trans. on Circuits and Systems II: Express Briefs.
    * Trans. on Circuits and Systems for Video Technology.
    * Trans. on Image Processing.
    * Trans. on Multimedia.
    * Trans. on Neural Networks and Learning Systems.
    * Trans. on Signal and Information Processing over Networks.
    * Trans. on Signal Processing (Appreciated Reviewer, 2008).
    * Signal Processing Letters.
  - IEICE
    * Trans. on Fundamentals.
    * Trans. on Communications.
    * Trans. on Information and Systems.
  - Circuits, Systems and Signal Processing.
  - Computational Intelligence and Neuroscience.
  - Image and Vision Computing.
  - Information Fusion.
  - Journal of Visual Communication and Image Representation.
  - Neural Processing Letters.
  - Signal Processing.
  - Signal Processing: Image Communication.
  - Optical Review.
  - Many international conferences; including ICASSP, ICIP, GlobalSIP, and ISCAS.

- Invited Speaker

  - (TBD), at *SITA 2017*, Niigata, Japan, Nov. 2017.

- Graph Signal Processing: Signal and Information Processing over Networks, at *IEICE Society Conference 2017*, Tokyo, Japan, Sep. 2017.
- Graph Signal Processing: Recent Progress and Applications, at *ITC-CSCC 2017*, Busan, Korea, Jul. 2017.
- Graph wavelets and filter banks: Designs in graph spectral domain, at *Graph Signal Processing Workshop 2017*, Pittsburgh, PA, May 2017.
- Graph Signal Processing: Towards Sparse Representations of "Big" Spatio-Temporal Data, at *28th RAMP Symposium*, Niigata, Japan, Oct. 2016.
- Fundamentals of Graph Signal Processing, at *Acoustical Society Japan 2016 Autumn Meeting*, Toyama, Japan, Sep. 2016.
- Graph Signal Processing: Fundamentals and Applications, at *SCI'16*, Kyoto, Japan, May, 2016.
- Graph Signal Processing: Extracting information from signals on networks, at *7th International Conference on Knowledge and Systems Engineering*, Ho Chi Minh City, Vietnam, Oct. 2015.
- Graph Signal Processing: Complex and Large-Scale Information Processing, at *28th Workshop on Circuits and Systems*, Hyogo, Japan, Aug. 2015.
- Signal Processing on Graphs: Recent Results, Challenges and Applications, at *PCSJ/IMPS 2014*, Shizuoka, Japan, Nov. 2014 (with Prof. Antonio Ortega).
- Recent Advances on Signal Processing on Graphs, at *28th Signal Processing Symposium*, Yamaguchi, Japan, Nov. 2013.

Publications (Reverse Chronological Order)

Journal Articles

1. K. Yamamoto, M. Onuki, and **Y. Tanaka**, "Non-blind deconvolution of point cloud attributes in graph spectral domain," *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, accepted.

2. D. B. H. Tay, **Y. Tanaka**, and A. Sakiyama, "Almost tight spectral graph wavelets with polynomial filters," *IEEE Journal of Selected Topics in Signal Processing*, accepted.

3. T. Suzuki, S. Kyochi, **Y. Tanaka**, and M. Ikehara, "Multiplierless lifting-based fast X transforms derived from fast Hartley transform factorization," *Multidimensional Systems and Signal Processing*, accepted.

4. A. Hamamoto, M. Onuki, and **Y. Tanaka**, "Higher order feasible building blocks for lattice structure of multi-dimensional linear phase biorthogonal filter banks," *Multidimensional Systems and Signal Processing*, vol. 28, no. 2, pp. 637–655, 2017.

5. D. B. H. Tay, **Y. Tanaka**, and A. Sakiyama, "Critically sampled graph filter banks with polynomial filters from regular domain filter banks," *Signal Processing*, vol. 131, pp. 66–72, 2017.

6. H. Higashi, T. Rutkowski, T. Tanaka, and **Y. Tanaka**, "Multilinear discriminant analysis with subspace constraints for single-trial classification of event-related potentials," *IEEE Journal of Selected Topics in Signal Processing*, vol. 10, no. 7, pp. 1295–1305, 2016.

7. A. Sakiyama, K. Watanabe, and **Y. Tanaka**, "Spectral graph wavelets and filter banks with low approximation error," *IEEE Transactions on Signal and Information Processing over Networks*, vol. 2, no. 3, pp. 230–245, 2016.

8. S. Yagyu, A. Sakiyama, and **Y. Tanaka**, "Deforming pyramid: Multiscale image representation using pixel deformation and filters for non-equispaced signals," *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, vol. E99-A, no.9, pp. 1646–1654, 2016.

9. M. Onuki, S. Ono, M. Yamagishi, and **Y. Tanaka**, "Graph signal denoising via trilateral filter on graph spectral domain," *IEEE Transactions on Signal and Information Processing over Networks*, vol. 2, no. 2, pp. 137–148, 2016.

10. D. B. H. Tay, **Y. Tanaka**, and A. Sakiyama, "Near orthogonal oversampled graph filter banks," *IEEE Signal Processing Letters*, vol. 23, no. 2, pp. 277–281, 2015.

11. A. Sakiyama and **Y. Tanaka**, "Oversampled graph Laplacian matrix for graph filter banks," *IEEE Transactions on Signal Processing*, vol. 62, no. 24, pp. 6425–6437, 2014.

12. M. Onuki and **Y. Tanaka**, "Design of optimized prefilters for time-domain lapped transforms with various down-sampling factors," *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, vol. E97-A, no. 9, pp. 1907–1917, 2014.

13. **Y. Tanaka** and A. Sakiyama, "M-channel oversampled graph filter banks," *IEEE Trans. on Signal Processing*, vol. 62, no. 14, pp. 3578–3590, 2014.

14. S. Kyochi and **Y. Tanaka**, "General factorization of conjugate-symmetric Hadamard transforms," *IEEE Trans. on Signal Processing*, vol. 62, no. 13, pp. 3379–3392, 2014.

15. V. H. Le, K. Shinoda, M. Hasegawa, S. Kato, and **Y. Tanaka**, "Modified high-order edge-directed interpolation for distributed video coding based on selective data pruning," *IIEEJ Transactions on Image Electronics and Visual Computing*, vol. 2, no. 1, pp. 26–36, 2014.

16. **Y. Tanaka**, T. Yoshida, M. Hasegawa, S. Kato, and M. Ikehara, "Rate-dependent seam carving and its application to content-aware image coding," *APSIPA Trans. on Signal and Information Processing*, vol. 2, no. e1, 15 pages, 2013.

17. **Y. Tanaka**, M. Hasegawa, and S. Kato, "Flexible combination of time-domain lapped transforms with various downsampling factors," *IEICE Trans. on Fundamentals*, vol. E95-A, no. 11, pp. 2049–2058, 2012.

18. **Y. Tanaka**, M. Hasegawa, S. Kato, M. Ikehara, and T. Q. Nguyen, "Adaptive directional wavelet transform based on directional prefiltering," *IEEE Trans. on Image Processing*, vol. 19, no. 4, pp. 934–945, 2010.

19. **Y. Tanaka**, M. Ikehara, and T. Q. Nguyen, "Higher-order feasible building blocks for lattice structure of over-sampled linear-phase perfect reconstruction filter banks," *Signal Processing*, vol. 89, no. 9, pp. 1694–1703, 2009.

20. S. Kyochi, S. Higaki, **Y. Tanaka**, and M. Ikehara, "A bottom-up design approach of critically sampled contourlet transform for efficient image representation," *IEICE Trans. on Fundamentals*, vol. E92-A, no. 3, pp.762-771, 2009.

21. **Y. Tanaka**, M. Ikehara, and T. Q. Nguyen, "Multiresolution image representation using combined 2-D and 1-D directional filter banks," *IEEE Trans. on Image Processing*, vol. 18, no. 2, pp. 269–280, 2009.

22. **Y. Tanaka**, M. Ikehara, and T. Q. Nguyen, "A lattice structure of biorthogonal linear-phase filter banks with higher order feasible building blocks," *IEEE Trans. on Circuits and Systems I: Regular Papers*, vol. 55, no. 8, pp. 2322–2331, 2008.

23. S. Iwamura, T. Suzuki, **Y. Tanaka**, and M. Ikehara, "Design of M-channel perfect reconstruction filter banks with IIR-FIR hybrid building blocks," *IEICE Trans. on Fundamentals*, vol. E90-A, no. 8, pp. 1636–1643, 2007.

Proceedings of International Conferences

1. T. Nishikawa and **Y. Tanaka**, "Colors in multimodal data: Dominant line extraction inspired by computer vision techniques," *IGARSS 2017*, Fort Worth, TX, Jul. 2017, to be presented.

2. **Y. Tanaka** and A. Sakiyama, "A 'polyphase' structure of two-channel spectral graph wavelets and filter banks," *ICASSP 2017*, New Orleans, LA, Mar. 2016.

3. A. Sakiyama, **Y. Tanaka**, T. Tanaka, and A. Ortega, "Accelerated sensor position selection using graph localization operator," *ICASSP 2017*, New Orleans, LA, Mar. 2016.

4. M. Onuki, **Y. Tanaka**, and M. Okuda, "Improved eigenvalue shrinkage using weighted Chebyshev polynomial approximation," *ICASSP 2017*, New Orleans, LA, Mar. 2016.

5. T. Ichita, S. Kyochi, T. Suzuki, and **Y. Tanaka**, "Directional discrete cosine transforms arising from discrete cosine and sine transforms for directional block-wise image representation," *ICASSP 2017*, New Orleans, LA, Mar. 2016.

6. **Y. Tanaka**, S. Yagyu, A. Sakiyama, and M. Onuki, "Mesh-based image retargeting with spectral graph filtering," *APSIPA ASC 2016*, Jeju, Korea, Dec. 2016.

7. H. Higashi, T. Rutkowski, T. Tanaka, and **Y. Tanaka**, "Smoothing of xDAWN spatial filters for robust extraction of event-related potentials," *APSIPA ASC 2016*, Jeju, Korea, Dec. 2016 (**Invited Paper**).

8. A. Sakiyama and **Y. Tanaka**, "Construction of undersampled graph filter banks via row subset selection," *GlobalSIP 2016*, Washington, D.C., Dec. 2016 (**Invited Paper**).

9. M. Onuki and **Y. Tanaka**, "ℓ_1-regularized optimization of undersampled prefilters for image coding," *PCS 2016*, Nuremberg, Germany, Dec. 2016.

10. S. Yagyu, A. Sakiyama, and **Y. Tanaka**, "Pyramidal image representation with deformation: Reformulation of domain transform and filter designs," *ICIP 2016*, Phoenix, AZ, Sep. 2016.

11. K. Yamamoto, M. Onuki, and **Y. Tanaka**, "Deblurring of point cloud attributes in graph spectral domain," *ICIP 2016*, Phoenix, AZ, Sep. 2016 (**Invited Paper**).

12. T. Tanaka, T. Uehara, and **Y. Tanaka**, "Dimensionality reduction of sample covariance matrices by graph Fourier transform for motor imagery brain-machine interface," *SSP 2016*, Palma de Mallorca, Spain, Jun. 2016.

13. **Y. Tanaka**, "Design of graph spectral filters and graph signal restoration," *Graph Signal Processing Workshop 2016*, Philadelphia, PA, May 2016.

14. A. Sakiyama, **Y. Tanaka**, T. Tanaka, and A. Ortega, "Efficient sensor position selection using graph signal sampling theory," *Graph Signal Processing Workshop 2016*, Philadelphia, PA, May 2016.

15. K. Watanabe, A. Sakiyama, and **Y. Tanaka**, "Spectral graph filter banks with low approximation error," *Graph Signal Processing Workshop 2016*, Philadelphia, PA, May 2016.

16. M. Onuki, S. Ono, K. Shirai, and **Y. Tanaka**, "Image colorization based on ADMM with fast singular value thresholding by Chebyshev polynomial approximation," *ICASSP 2016*, Shanghai, China, Mar. 2016.

17. A. Sakiyama, **Y. Tanaka**, T. Tanaka, and A. Ortega, "Efficient sensor position selection using graph signal sampling theory," *ICASSP 2016*, Shanghai, China, Mar. 2016.

18. H. Higashi, T. Rutkowski, T. Tanaka, and **Y. Tanaka**, "Subspace-constrained multilinear discriminant analysis for ERP-based brain computer interface classification," *APSIPA ASC 2015*, Hong Kong, Dec. 2015 (**Invited Paper, Best Paper Award**).

19. K. Suwabe, M. Onuki, Y. Iizuka and **Y. Tanaka**, "Globalized BM3D using fast eigenvalue filtering," *GlobalSIP 2015*, Orlando, FL, Dec. 2015, to be presented.

20. S. Yagyu, A. Sakiyama and **Y. Tanaka**, "Edge preserving multiscale image decomposition with customized domain transform filters," *GlobalSIP 2015*, Orlando, FL, Dec. 2015, to be presented.

21. R. Morita, K. Shirai, and **Y. Tanaka**, "Performance analysis of retargeting pyramid and its applications," *ICIP 2015*, Quebec City, Canada, Sep. 2015, to be presented.

22. M. Onuki, S. Ono, K. Shirai, and **Y. Tanaka**, "Non-local/local filters using fast eigenvalue filtering for image denoising," *ICIP 2015*, Quebec City, Canada, Sep. 2015, to be presented.

23. A. Sakiyama and **Y. Tanaka**, "Oversampled bipartite graphs with controlled redundancy," *EUSIPCO 2015*, Nice, France, Sep. 2015, to be presented (**Invited Paper**).

24. A. Sakiyama and **Y. Tanaka**, "Critically sampled graph wavelets converted from linear-phase biorthogonal wavelets," *ICASSP 2015*, Brisbane, Australia, Apr. 2015.

25. H. Higashi, T. Tanaka, and **Y. Tanaka**, "Smoothing of spatial filter by graph Fourier transform for EEG signals," *APSIPA ASC 2014*, Siem Reap, Cambodia, Dec. 2014 (**Invited Paper, Best Paper Award**).

26. E. Hosogai and **Y. Tanaka**, "Iterative edge-directed image upscaling with high directionality," *APSIPA ASC 2014*, Siem Reap, Cambodia, Dec. 2014.

27. Y. Iizuka and **Y. Tanaka**, "Depth map denoising using collaborative graph wavelet shrinkage on connected image patches," *ICIP 2014*, Paris, France, Oct. 2014.

28. M. Onuki and **Y. Tanaka**, "Trilateral filter on graph spectral domain," *ICIP 2014*, Paris, France, Oct. 2014.

29. A. Sakiyama and **Y. Tanaka**, "Edge-aware image graph expansion methods for oversampled graph Laplacian matrix," *ICIP 2014*, Paris, France, Oct. 2014.

30. A. Hamamoto, M. Onuki, and **Y. Tanaka**, "Multidimensional linear-phase perfect reconstruction filter banks with higher order feasible building blocks," *ICIP 2014*, Paris, France, Oct. 2014.

31. A. Sakiyama and **Y. Tanaka**, "Oversampled graph Laplacian matrix for graph signals," *EUSIPCO 2014*, Lisbon, Portugal, Sep. 2014.

32. **Y. Tanaka** and A. Sakiyama, "M-channel oversampled perfect reconstruction filter banks for graph signals," *ICASSP 2014*, Florence, Italy, May 2014.

33. R. Morita, K. Shirai, and **Y. Tanaka**, "Retargeting pyramid using direct decimation," *ICASSP 2014*, Florence, Italy, May 2014.

34. S. Kyochi, T. Suzuki, and **Y. Tanaka**, "A two-dimensional non-separable implementation of dyadic-valued cosine-sine modulated filter banks for low computational complexity," *APSIPA Annual Summit and Conference 2013*, Kaohsiung, Taiwan, Oct. 2013 (**Invited Paper**).

35. K. Yamato, M. Hasegawa, K. Shinoda, S. Kato, and **Y. Tanaka**, "Image restoration using similar region search and digital watermark," *APSIPA Annual Summit and Conference 2013*, Kaohsiung, Taiwan, Oct. 2013 (**Invited Paper**).

36. M. Onuki and **Y. Tanaka**, "Design of optimized prefilters for time-domain lapped transforms with various down-sampling factors," *ICIP 2013*, Melbourne, Australia, Sep. 2013.

37. H. V. Le, K. Shinoda, M. Hasegawa, S. Kato, and **Y. Tanaka**, "Selective data pruning based distributed video coding with modified high-order edge-directed interpolation," *ICIP 2013*, Melbourne, Australia, Sep. 2013.

38. **Y. Tanaka** and K. Shirai, "Scalable image representation using improved retargeting pyramid," *ICASSP 2013*, Vancouver, Canada, May 2013.

39. Y. Miyashita, M. Hasegawa, S. Kato, and **Y. Tanaka**, "Improved adaptive color embedding and recovery using DC level shifting," *ICASSP 2013*, Vancouver, Canada, May 2013.

40. T. Suzuki, S. Kyochi, **Y. Tanaka**, M. Ikehara, and H. Aso, "Multiplierless lifting based FFT via fast Hartley transform," *ICASSP 2013*, Vancouver, Canada, May 2013.

41. **Y. Tanaka** and K. Shirai, "Directional image decomposition using retargeting pyramid," *APSIPA ASC 2012*, Hollywood, CA, Dec. 2012 **(Invited Paper)**.

42. Y. Miyashita, **Y. Tanaka**, M. Hasegawa, and S. Kato, "Adaptive color-to-gray mapping using directional transform," *ICIP 2012*, Orlando, FL, Sep. 2012.

43. T. Yoshida, **Y. Tanaka**, M. Hasegawa, S. Kato, and M. Ikehara, "Wavelet-based content-aware image coding with rate-dependent seam carving," *ICIP 2012*, Orlando, FL, Sep. 2012.

44. S. Kyochi, **Y. Tanaka**, and M. Ikehara, "On factorizations of conjugate symmetric Hadamard transform and its relationship with DCT," *ICASSP 2012*, Kyoto, Japan, Mar. 2012.

45. T. Suzuki, **Y. Tanaka**, M. Ikehara, H. Aso, "Multiplierless fast algorithm for DCT via fast Hartley transform," *ICASSP 2012*, Kyoto, Japan, Mar. 2012.

46. M. Hoshi, A. Yoshinari, **Y. Tanaka**, M. Hasegawa, and S. Kato, "Variable block size-based MCFI with fixed block size motion estimation," *45th Annual Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Nov. 2011.

47. K. Takahashi, M. Hasegawa, **Y. Tanaka**, and S. Kato, "A structural similarity assessment for generating hybrid images," *45th Annual Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Nov. 2011.

48. T. T. Phan, **Y. Tanaka**, M. Hasegawa, and S. Kato, "Mixed-resolution Wyner-Ziv video coding based on selective data pruning," *MMSP 2011*, Hangzhou, China, Oct. 2011.

49. **Y. Tanaka**, M. Hasegawa, and S. Kato, "Generalized selective data pruning for video sequence," *ICIP 2011*, Brussels, Belgium, Sep. 2011.

50. T. Miyachi, K. Takahashi, M. Hasegawa, **Y. Tanaka**, and S. Kato, "A Study on memorability and shoulder-surfing robustness of graphical password using DWT-based image blending," *SOUPS 2011*, Pittsburgh, PA, Jul. 2011.

51. M. Hasegawa, D. Someya, **Y. Tanaka**, and S. Kato, "A study on user authentication based on arm movements using acceleration sensor," *SOUPS 2011*, Pittsburgh, PA, Jul. 2011.

52. D. Azuma, **Y. Tanaka**, M. Hasegawa, and S. Kato, "SSIM based image quality assessment applicable to resized images," *ITC-CSCC 2011*, Gyeongju, Korea, Jun. 2011.

53. **Y. Tanaka**, M. Hasegawa, and S. Kato, "Seam carving with rate-dependent seam path information," *ICASSP 2011*, Prague, Czech Republic, May 2011.

54. **Y. Tanaka**, M. Hasegawa, and S. Kato, "Flexible combination of time-domain lapped transforms with various downsampling factors," *APSIPA ASC 2010*, Singapore, Dec. 2010 (Invited Paper).

55. H. Igarashi, **Y. Tanaka**, M. Hasegawa, and S. Kato, "VQ based data hiding method for still images by tree-structured links," *PCS 2010*, Nagoya, Japan, Dec. 2010.

56. T. Miyachi, K. Takahashi, M. Hasegawa, **Y. Tanaka**, and S. Kato, "A Study on memorability and shoulder-surfing robustness of graphical password using DWT-based image blending," *PCS 2010*, Nagoya, Japan, Dec. 2010.

57. **Y. Tanaka**, M. Hasegawa, and S. Kato, "Improved image concentration for artifact-free image dilution and its application to image coding," *ICIP 2010*, Hong Kong, Sept. 2010.

58. M. Hasegawa, D. Someya, **Y. Tanaka**, and S. Kato, "A study on user authentication based on arm movements," *ITC-CSCC 2010*, Pattaya, Thailand, Jul. 2010.

59. **Y. Tanaka**, M. Hasegawa, S. Kato, T. Suzuki, and M. Ikehara, "Direction scalability of adaptive directional wavelet transform: An approach using block-lifting based DCT and SPIHT," *ISCAS 2010*, Paris, France, May 2010 (Invited Paper).

60. **Y. Tanaka**, M. Hasegawa, and S. Kato, "Image coding using concentration and dilution based on seam carving with hierarchical search," *ICASSP 2010*, Dallas, TX, Mar. 2010.

61. **Y. Tanaka**, M. Hasegawa, and S. Kato, "Image concentration and dilution for video coding," *IIEEJ Image Electronics and Visual Computing Workshop 2010*, Nice, France, Mar. 2010.

62. M. Hasegawa, T. Miyachi, **Y. Tanaka**, and S. Kato, "A graphical password using discrete wavelet transform and its evaluation," *IIEEJ Image Electronics and Visual Computing Workshop 2010*, Nice, France, Mar. 2010.

63. N. Tanano, **Y. Tanaka**, M. Hasegawa, and S. Kato, "Depth order estimation from single still image using frequency characteristics of local regions," *IIEEJ Image Electronics and Visual Computing Workshop 2010*, Nice, France, Mar. 2010.

64. **Y. Tanaka**, M. Hasegawa, and S. Kato, "Texture image retrieval using adaptive directional wavelet transform," *ISPACS 2009*, Kanazawa, Japan, Dec. 2009 (Invited Paper).

65. M. Hasegawa, **Y. Tanaka**, and S. Kato, "A study on an image synthesis method for graphical passwords," *ISPACS 2009*, Kanazawa, Japan, Dec. 2009 (Invited Paper).

66. **Y. Tanaka**, M. Hasegawa, S. Kato, M. Ikehara, and T. Q. Nguyen, "Adaptive directional wavelet transform using pre-directional filtering," *ICIP 2009*, Cairo, Egypt, Nov. 2009.

67. **Y. Tanaka**, M. Ikehara, and T. Q. Nguyen, "An adaptive extension of combined 2D and 1D-directional filter banks," *ISCAS 2009*, Taipei, Taiwan, May 2009.

68. **Y. Tanaka**, M. Hasegawa, and S. Kato, "Highpass-filtering based adaptive directional wavelet transform," *PCS 2009*, Chicago, IL, May 2009.

69. **Y. Tanaka**, M. Ikehara, and T. Q. Nguyen, "A new combination of 1D and 2D filter banks for effective multiresolution image representation," *ICIP 2008*, San Diego, CA, Oct. 2008.

70. S. Higaki, S. Kyochi, **Y. Tanaka**, and M. Ikehara, "A novel design of critically sampled contourlet transform and its application to image coding," *ICIP 2008*, San Diego, CA, Oct. 2008.

71. **Y. Tanaka**, M. Ikehara, and T. Q. Nguyen, "Oversampled linear-phase perfect reconstruction filter banks with higher-order feasible building blocks: structure and parameterization," *ISCAS 2008*, Seattle, WA, May 2008.

72. J. Aoyama, **Y. Tanaka**, and M. Ikehara, "A non-expansive convolution in image coding with smooth extension matrices for NLPPUFBs," *2007 International Workshop on Smart Info-Media Systems in Bangkok*, Bangkok, Thailand, Nov. 2007.

73. T. Yoshida, **Y. Tanaka**, and M. Ikehara, "A generalized lapped transform with unequal length filters based on first-order linear-phase filter banks," *41st Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Nov. 2007.

74. **Y. Tanaka**, M. Ikehara, and T. Q. Nguyen, "A lattice structure of biorthogonal linear-phase filter banks with higher-order feasible building blocks," *EUSIPCO 2007*, Poznan, Poland, Sept. 2007.

75. **Y. Tanaka**, M. Ikehara, and T. Q. Nguyen, "A simplified lattice structure of first-order linear-phase filter banks," *EUSIPCO 2007*, Poznan, Poland, Sept. 2007.

76. S. Kyochi, **Y. Tanaka**, and M. Ikehara, "A novel image coding scheme by using two-channel complex-valued filter banks," *EUSIPCO 2007*, Poznan, Poland, Sept. 2007.

77. **Y. Tanaka**, M. Ikehara, and T. Q. Nguyen, "Unequal length first-order linear-phase filter banks for efficient image coding," *ICIP 2007*, San Antonio, TX, Sept. 2007.

78. S. Iwamura, **Y. Tanaka**, and M. Ikehara, "An efficient lifting structure of biorthogonal filter banks for lossless image coding," *ICIP 2007*, San Antonio, TX, Sept. 2007.

79. T. Suzuki, **Y. Tanaka**, and M. Ikehara, "Lifting-based paraunitary filterbanks for lossy/lossless image coding," *EUSIPCO 2006*, Florence, Italy, Sept. 2006.

80. S. Iwamura, T. Suzuki, **Y. Tanaka**, and M. Ikehara, "Design of M-channel perfect reconstruction filterbanks with IIR-FIR hybrid building blocks," *EUSIPCO 2006*, Florence, Italy, Sept., 2006.

81. S. Kyochi, **Y. Tanaka**, and M. Ikehara, "Theory and design of two-channel complex linear-phase pseudo-orthogonal filterbanks," *ICASSP 2006*, Toulouse, France, May, 2006.

82. **Y. Tanaka**, A. Ochi, and M. Ikehara, "A non-expansive convolution for nonlinear-phase paraunitary filter banks and its application to image coding," *39th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Oct., 2005.

83. **Y. Tanaka**, A. Ochi, and M. Ikehara, "Design of unequal-length linear-phase filter banks without redundancy," *EUSIPCO 2005*, Antalya, Turkey, Sept., 2005.

Last updated: July 18, 2017