# *Jong Chul Ye, Ph.D.*

**KAIST Endowed Chair Professor**
**Professor of Dept. of Bio and Brain Engineering**
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## Research Interests

- **Current research focus**
  - ultra-fast, high-resolution/high sensitivity imaging technique development from algorithmic and system design aspects
  - Statistical tool box development for neuro-image data analysis
- **Broader areas of expertise/interest**
  - Machine learning, compressed sensing, statistical signal processing, harmonic analysis, optimization
  - Image reconstruction algorithm development, statistical analysis tool development for neuro-imaging data (fNIRS, fMRI, etc)
  - Mathematical tools for advanced signal processing and machine learning
- **Imaging modality specific expertise/interest**
  - MRI, CT, PET, ultrasound, DBT (digital breast tomosynthesis), neuroimaging (fMRI/fNIRS), super-resolution microscopy, diffuse optical tomography, quantitative phase microscopy, MEG/EEG-signal processing, inverse scattering (wave, elastic imaging)

## Education

- June 1999-Jan. 2001: Postdoctoral Researcher, Coordinate Science Lab, Univ. of Illinois at Urbana-Champaign
  Advisor: Yoram Bresler, Pierre Moulin
- Sep.1996 - May. 1999 : Ph.D. Electrical Engineering
  - Purdue University, Advisor : Kevin Webb (co-advisor: Charles Bouman)
- Mar.1993 - Feb. 1995 : M.S. Control and Instrumentation Engineering (currently Electrical Engineering)
  - Seoul National University, Korea, Advisor : Sang-Uk Lee
- Mar.1988 - Feb.1993 : B.S. Control and Instrumentational Engineering (currently Electrical Engineering)
  - Seoul National University, Korea

## Work Experiences

- March 2016~ : **KAIST Endowed Chair Professor**
- Aug. 2004 - current Assistant, Associate, and Full Professor (tenured), Department of Bio and Brain Engineering, KAIST
- March 2017 – current Adjunct Professor, Department of Mathematical Sciences, KAIST
- July 2014 - Aug. 2015 **Interim Department Head**, Dept. of Bio and Brain Engineering, KAIST
- 2016 **Beckman Senior Fellow**, University of Illinois at Urbana-Champaign, USA
- Mar. 2007 - Marh 2013 Adjunct Professor, Department of Electrical Engineering, KAIST, Daejon, Korea
- 2003. - 2004. Senior Researcher, X-ray CT Technology Group, GE Global Research Center, New York
- 2001. - 2003. Senior Member Research Staff, Philips Research Center, Briarcliff Manor, New York

## Professional Activities

- **Editorial Activities**
  - Mar. 2017: Guest Editor for IEEE Trans. Medical Imaging for Special Issue on "Machine Learning for Image Reconstruction"
  - 2016- 2017 : IEEE EMBS 2017, Imaging Theme Co-chair
  - Jan. 2017- Jan. 2019 : International Advisory Board, Physics in Medicine and Biology
  - Jan. 2013 - Dec. 2015 : Associate Editor, *IEEE Transactions on Image Processing*
  - Jan. 2015 - Dec. 2018 : Editorial Board Member, *Magnetic Resonance in Medicine*
  - Sept. 2014 - Current: Associate Editor / Technical Liaison Committee, *IEEE Transactions on Computational Imaging*
  - Area Chair, 2015 IEEE International Conference on Image Processing (ICIP)
  - Associate Editor, 2015 IEEE Sym. on Biomedical Imaging (ISBI)

- **Technical Committees**
  - 8/2015-current: IEEE Signal Processing Society (SPS) Special Interest Group (SiG) on Computational Imaging
  - 1/2013–current: IEEE Signal Processing Society (SPS) Technical Committee on Bioimaging and Signal Processing (BISP)
  - 7/2012–current: IEEE Engineering in Biology &Medicine Society (EMBS) Technical Committee on Biomedical Imaging and Image Processing (BIIP)
  - Sept 2015 - current: Member of IEEE SPS Special Interest Group (SiG) on Computational Imaging

- **Reviewing Activities**
  - IEEE Trans. on Information Theory, IEEE Trans. on Image Processing, IEEE Trans. on Signal Processing, IEEE Trans. on Medical Imaging, IEEE Trans. on Biomedical Engineering, IEEE Signal Processing Letters, IEEE Journal of Quantum Electronics, NeuroImage, PlosOne, Nature Scientific Reports, Inverse Problems, Inverse Problems and Imaging, SIAM Imaging Science and Technology, Magnetic Resonance inMedicine, BMC Medical Imaging, Biomedical Engineering Online, Optics Letters, Optics Express, Journal of Biomedical Optics, Journal of X-ray Science and Technology, International Journal of Biomedical Imaging, New Journal of Physics, IEEE International Conf. on Image Processing (ICIP), IEEE International Symp. on Biomedical Imaging (ISBI), IEEE InternationalConf. on Acoustics, Speech, and Signal Processing (ICASSP), Annual Conference of the IEEE Engineering inMedicine and Biology Society (EMBS), European Signal Processing Conference (EUSIPCO), Neural Information Processing Systems (NIPS), Asian Conference on Computer Vision (ACCV)

## Awards

- **International Challenge Awards**
  - 2017:3rd Place Award, CVPR NTIRE (New Trends in Image Restoration and Enhancement workshop) on Super-Resolution Imaging Challenge
  - 2016: 2nd Place Award, AAPM (American Association of Physicist in Medicine) Low-Dose CT Grand Challenge
  - 2009: 1st place winner of Reconstruction Challenge, ISMRM Workshop on Data Sampling and Image Reconstruction
- **Best Paper Awards**
  - 2013: Best student papers (1st) from IEEE International Symp. on Biomedical Imaging (ISBI)
  - 2016: Best student papers (runner up) from IEEE International Symp. on Biomedical Imaging (ISBI)
- **Personal Awards**
  - 2016: KAIST Endowed Chair Professorship

- 2012: Beckman Senior Fellowship Award, Univ. of Illinois at Urbana-Champaign
- 2012: KAIST Research Excellence Award
- 1996: OSA New Focus Travel Grant Award
- 1994: Korean Government Fellowship for Studying Abroad

## Research Grants (active)

- **National Research Foundation of Korea**
  - Principal investigator for "A missing link between compressed sensing and analytic reconstruction in biomedical imaging" (2016-2020, $1,200,000 USD).
  - Principal investigator for "Mesoscale 3-D brain connectivity software development" (2017-2021, $900,000 USD)
  - Principal investigator for "*Sampling theory and applications for inverse scattering problems*" (2016-2020. $250,000 USD).
  - Co-principal investigator for "Super-resolution microscopy software development" (2015-2018, $160,000 USD)

- **Other Korean Government Ministries**
  - Principal investigator for "Artificial intelligence PACS systems for radiologists" (2016-2020, $2,000,000 USD)
  - Co-principal investigator for "Research and development of emotional intelligence technology that can infer and judge the emotions of the other person" (2016-2020, $500,000 USD)
  - Co-principal investigator for "Development of dual energy CBCT and MAR (Metal Artifact Reduction) technology to improve the quality of CBCT image" (2017-2019, $160,000 USD)
  - Co-principal investigator for "3D image reconstruction algorithm based on geometry" (2013-2018, $400,000 USD)
  - Co-principal investigator for "DBT-DOT fusion reconstruction algorithm development" (2013-2018, $380,000 USD

## Academic Activities

- **Mentorship**
  - **Postdoc fellows (past and present):** Sharad Gupta (Assistant Prof, IIT, India), Jongmin Kim (Prof. at Korea Science Academy of KAIST), Abdul Wahab
  - **Former Ph.D Students:** Minji Lee, Jun Hong Min (Samsung), Okkyun Lee (Research Associate, Johns Hopkins University), Huisu Yoon (Samsung), Kyungsang Kim (Lecture, MGH, Harvard Medical School), Jiyoung Choi (Samsung), Jaeduck Jang (Samsung), Jinwook Jang (Samsung), Sungho Tak (KBSI), Hong Jung (CTO at HDX/Will)
  - **Former MS Students:** Yeong Sik Kim (venture}, Joo Won Lim (Ph.D. student, EPFL), Paul Han (postdoc, MGH, Harvard), Jeonghyeon Lee (Korea Hydrology Research Lab), Maryam Ghahremani (Ph.D student, University Western Ontario), Sehi Lee (medical student, Catholic University of Medicine), Jaehyn Nam (venture), Hua Li (Ph.D. student, UC Davis), Yohan Lee (venture), Kangjoo Lee (Ph.D. student, MNI, McGill University), Kwangeun Jang (Ph.D. student, Stanford), Finn Wolfreys (Ph.D. student, University of Oxford), Suyeon Lee (medical student, Yonsei University School of Medicine), Liu Yu (Lenova, USA), Younghan Oh (venture), Jaeheung Yoo (MD, Samsung Medical Center), Hyunjoo Ahn (Ph.D. student, SNU), Minwoo Kim (Ph.D. student, University of Illinois Urbana-Champaign)
  - **Current Ph.D. Students**: Jaejun Yoo, Jungyoung Lee, Dongwook Lee, Eunhee Kang, Yoseob Han, Jawook Gu, Enju Cha, Byung-Hoon Kim
  - **Current MS Students:** Yeohun Yoon, Woong Bae, Hyoryang Kim, Yongrae Cho, Boah Kim

- **Teaching**
  - Bio-Signal Processing, Dept. of Bio/Brain Engineering 3rd year (bachelor), spring semester, 3credits, yearly since 2005

- Digital Bio-medical Signal Processing, Dept. of Bio/Brain Engineering, Graduate course, fall semester, 3credits, bi-annually since 2005
- Biomedical Imaging Systems, Dept. of Bio/Brain Engineering, Graduate course, fall semester, 3credits, bi-annually since 2004-2014
- Methods for NeuroImaging, Dept. of Bio/Brain Engineering 4th year (bachelor), fall semester, 3credits, bi-annually since 2015
- Introduction to Bioengineering, Dept. of Bio/Brain Engineering 1st year (bachelor), fall semester, 3credits, 2013

## Book Contributions

1. **(Book)** Jong Chul Ye and Yoram Bresler, *Sparse and Low-Rank Appraoches for Bio-medical Imaging,* Wiley Co. (currently under writing)
2. **(Book Chapter)** J. C. Ye, "Parametric Shape Reconstruction in Inverse Problems: Fundamental Performance Bounds and Algorithms", Book Chapter contribution in International volumes on Medical Imaging Systems,World Scientific Publishing Co. 2006

## Submitted Manuscripts under Review

1. Yoseob Han and Jong Chul Ye, "Framing U-net via deep convolutional framelets: application to sparse-view CT", *IEEE Trans. on Medical Imaging Special Issue on Machine learning for Image Reconstruction,* 2017 (arXiv preprint arXiv:1708.08333)
2. Jong Chul Ye and Yoseob Han, "Deep Convolutional Framelets: A General Deep Learning for Inverse Problems", *SIAM Journal on Imaging Sciences*, 2017. (arXiv preprint arXiv:1707.00372)
3. Kiryung Lee, Yanjun Li, Kyong Hwan Jin, and Jong Chul Ye, "Unified Theory for Recovery of Sparse Signals in a General Transform Domain", *IEEE Trans. on Information Theory*, 2016 (arXiv preprint arXiv:1612.09565).
4. Eunhee Kang, Jaejun Yoo and Jong Chul Ye, "Wavelet Residual Network for Low-Dose CT via Deep Convolutional Framelets", *IEEE Trans. on Medical Imaging Imaging Special Issue on Machine learning for Image Reconstruction*, 2017. (arXiv preprint arXiv:1707.09938)
5. Dongwook Lee, Jaejun Yoo, Sungho Tak and Jong Chul Ye," Deep Residual Learning for Accelerated MRI using Magnitude and Phase Networks", *IEEE Trans. on Biomedical Engineering*, 2017 (Invited paper for Special Section on Deep Learning).
6. Yo Seob Han, Jaejun Yoo, Hak Hee Kim, Hee Jung Shin, Kyunghyun Sung, and Jong Chul Ye," Deep Learning with Domain Adaptation for Accelerated Projection Reconstruction MR", *Magnetic Resonance in Medicine*, 2017
7. Junhong Min, Kyong Hwan Jin, Michael Unser and Jong Chul Ye, "Grid-Free Localization Algorithm Using Low-rank Hankel Matrix for Super-Resolution Microscopy", *IEEE Trans. on Image Processing*, 2017

## Journal Publications (Google Citation no. =4157, h-index=31 as of Sept 9th, 2017)

8. Kyong Hwan Jin and Jong Chul Ye," Sparse and Low Rank Decomposition of Annihilating Filter-based Hankel Matrix for Impulse Noise Removal", *IEEE Trans. on Image Processing*, 2017 (accepted with minor revision)
9. Eunhee Kang, Junhong Min and Jong Chul Ye, " A Deep Convolutional Neural Network using Directional Wavelets for Low-dose X-ray CT Reconstruction", Medical Physics (in press), 2017.
10. Jawoo Gu, Woong Bae, and Jong Chul Ye, "Translational Motion Correction Algorithm for Truncated Cone-Beam CT using Opposite Projections", Journal of X-ray Science and Technology (in press), 2017.

11. Jaejun Yoo, Younghoon Jung, Mikyoung Lim, Jong Chul Ye and Abdul Wahab, "A Joint Sparse Recovery Framework for Accurate Reconstruction of Inclusions in Elastic Media", SIAM Journal on Imaging Sciences (in press), 2017
12. T. Abbas and H. Ammari and G. Hu and A. Wahab and J.C. Ye, "Two-Dimensional Elastic Scattering Coefficients and Enhancement of Nearly Elastic Cloaking", Journal of Elasticity, 2017 (in press)
13. Jong Chul Ye, Jong Min Kim, Kyong Hwan Jin and Kiryung Lee, "Compressive sampling using annihilating filter-based low-rank interpolation", *IEEE Trans. on Information Theory, 2016* (in press).
14. S. Sabir, C. Kim, S. Cho, D. Heo, K. Kim, J. C. Ye, S. Cho, "Sampling scheme optimization for diffuse optical tomography based on data and image space rankings", *J. Biomed. Opt.*, 2016 (in press)
15. Kyong Hwan Jin, Dongwook Lee, and Jong Chul Ye. "A general framework for compressed sensing and parallel MRI using annihilating filter based low-rank hankel matrix," *IEEE Trans. on Computational Imaging,* vol 2, no. 4, pp. 480 - 495, Dec. 2016.
16. Kyong Hwan Jin, Ji-Yong Um, Dongwook Lee, Juyoung Lee, Sung-Hong Park and Jong Chul Ye, " MRI artifact correction using sparse + low-rank decomposition of annihilating lter-based Hankel matrix", *Magnetic Resonance in Medicine (in press),* 2016
17. Jaejun Yoo, Eun Young Kim, Yong Min Ahn, Jong Chul Ye," Topological Persistence Vineyard Approach for Dynamic Functional Brain Connectivity during Resting and Gaming Stages", *Journal of Neurscience Methods*, vol. 267, pp. 1-12, 2016.
18. Paul Kyu Han, Jong Chul Ye, Eung Yeop Kim, Seung Hong Choi, and Sung-Hong Park, "Whole Brain Perfusion Imaging with Balanced Steady-State Free Precession Arterial Spin Labeling", *NMR in Biomedicine,* 2016 Mar 1;29(3):264-74.
19. Juyoung Lee, Kyong Hwan Jin, and Jong Chul Ye, "Reference-free single-pass EPI Nyquist ghost correction using annihilating filter-based low rank Hankel matrix (ALOHA)", *Magnetic Resonance in Medicine*, 10.1002/mrm.26077, Feb. 17, 2016.
20. Young-Beom Lee, Jeonghyeon Lee, Sungho Tak, Kangjoo Lee, Duk L. Na, Sangwon Seo, Yong Jeong, and Jong Chul Ye, "Sparse SPM: Group sparse-dictionary learning in SPM framework for resting-state functional connectivity MRI analysis", *NeuroImage*, vol 125, 15 January 2016, Pages 1032–1045
21. Dongwook Lee,, Kyong Hwan Jin, Eung Yeop Kim, Sung-Hong Park and Jong Chul Ye, "Acceleration of MR parameter mapping using annihilating filter-based low rank Hankel matrix (ALOHA)", *Magnetic Resonance in Medicine,* 10.1002/mrm.26081, Jan. 1, 2016.
22. Jong Chul Ye, Jong Min Kim, and Yoram Bresler, "Improving M-SBL for joint sparse recovery using a subspace penalty", *IEEE Trans. on Signal Processing*, 2015 Dec 15;63(24):6595-605
23. Kyong Hwan Jin and Jong Chul Ye, "Annihilating filter based low rank Hankel matrix approach for image inpainting", *IEEE Trans. Image Processing,* 2015 Nov;24(11):3498-511.
24. Minji Lee, Yoseop Han, John Paul Ward, Michael Unser, and Jong Chul Ye, "Interior tomography using 1D generalized total variation -- Part II: multiscale implementation", *SIAM Journal on Imaging Sciences,* 2015 Oct 27;8(4):2452-86.
25. Kyungsang Kim, Taewon Lee, Younghun Seong, Jongha Lee, Kwang Eun Jang, Jaegu Choi, Young Wook Choi, Hak Hee Kim, Hee Jung Shin, Joo Hee Cha, Seungryong Cho and Jong Chul Ye, "Fully Iterative Scatter Corrected Digital Breast Tomosynthesis using GPU-based Fast Monte Carlo Simulation and Composition Ratio Update", *Medical Physics,* 2015 Sep 1;42(9):5342-55.
26. Okkyun Lee, Sungho Tak, and Jong Chul Ye, "A Unified Sparse Recovery and Inference Framework for Functional Diffuse Optical Tomography using Random Effect Model', *IEEE Trans. on Medical Imaging,* 2015 Jul;34(7):1602-15.
27. JooWon Lim, KyeoReh Lee, Kyong Hwan Jin, Seungwoo Shin, SeoEun Lee, YongKeun Park,and Jong Chul Ye, "Comparative study of iterative reconstruction algorithms for missing cone problems in optical diffraction tomography", *Optics Express,* 2015 Jun 29;23(13):16933-48.
28. Ok Kyun Lee, Hyeonbae Kang, Jong Chul Ye, Mikyoung Lim, "A non-iterative method for the electrical impedance tomography based on joint sparse recovery", *Inverse Problems* 2015 May 19;31(7):075002
29. Dae-Su Yee, Kyong Hwan Jin, Ji Sang Yahng, Ho-Soon Yang, Chi Yup Kim, and Jong Chul Ye, "High-speed terahertz reflection threedimensional imaging using beam steering", *Optics Express.* 2015 Feb 23;23(4):5027-34.

30. Kyungsang Kim, Young Don Son, Yoram Bresler, Zang Hee Cho, Jong Beom Ra, and Jong Chul Ye,"Dynamic PET reconstruction using temporal patch-based low rank penalty for ROI-based brain kinetic analysis", *Physics in Medicine and Biology*, 2015 Feb 12;60(5):2019.
31. Kyungsang Kim, Jong Chul Ye, William Worstell, Jinsong Ouyang, Yothin Rakvongthai, Georges El Fakhri and Quanzheng, Li, "Sparse-view spectral CT reconstruction using spectral patch-based low-rank penalty", *IEEE Trans. on Medical Imaging vol 34, no.3, pp. 748-760*, 2015.
32. John Paul Ward, Minji Lee, Jong Chul Ye, and Michael Unser, "Interior Tomography using 1D Generalized Total Variation -- Part I: Mathematical Foundation", *SIAM Journal on Imaging Sciences*, 2015 Jan 22;8(1):226-47.
33. Paul Kyu Han, Sung-Hong Park, Seong G. Kim and Jong Chul Ye, "Compressed Sensing for fMRI: Feasibility Study on the Acceleration of Non-EPI fMRI at 9.4T", *BioMed Research International,* 2015 Aug 27;2015.
34. Junhong Min, Seamus J. Holden, Lina Carlini, Michael Unser, Suliana Manley,and Jong Chul Ye, "3D high-density localization microscopy using hybrid astigmatic/ biplane imaging and sparse image reconstruction" *Biomedical Optics Express,* Vol. 5, Issue 11, pp. 3935-3948, 2014.
35. Arshi Khalid, Byung Sun Kim, Moo K. Chung, Jong Chul Ye, Daejong Jeon,"Tracing the evolution of multi-scale functional networks in a mouse model of depression using persistent brain network homology", *NeuroImage,* 101 (2014): 351-363.
36. Huisu Yoon, Kyung Sang Kim, Daniel Kim, Yoram Bresler, and J.C. Ye "Motion Adaptive Patch-Based Low-Rank Approach for Compressed Sensing Cardiac Cine MRI", *IEEE Trans. Medical Imaging,* Vol. 33, No. 11, pp.2069-2085, Nov. 2014.
37. J. Min C. Vonesch, H.Kirshner, L. Carlini, N. Olivier, S. Holden, S. Manley, J.C. Ye, M. Unser, "FALCON: fast and unbiased reconstruction of high-density super-resolution microscopy data," *Scientific Reports 4* , Article no 4577, Apr. 2014.
38. X. Zong, J.Y. Lee, A. Poplawsky, S.G. Kim, J.C. Ye , "Compressed sensing fMRI using gradient-recalled echo and EPI sequences ," *NeuroImage* 92 (2014): 312-321.
39. K.S. Kim, Y.D. Son, Z.H. Cho, J.B. Ra, J.C. Ye , "Ultra-Fast Hybrid CPU-GPU Multiple Scatter Simulation for 3D PET ," *IEEE Journal of Biomedical and Health Informatics*, vol. 18 , No. 1 , pp. 148-156 , 2014.01.
40. K. Kim, K.S. Kim, H. Park, J.C. Ye, Y.K. Park , "Real-time visualization of 3-D dynamic microscopic objects using optical diffraction tomography ," *Optics Express*, vol. 21 , No. 26 , pp. 32269-32278 , 2013.12.
41. O.K. Lee, J.C. Ye , " Joint sparsity-driven non-iterative simultaneous reconstruction of absorption and scattering in diffuse optical tomography ," *Optics Express*, vol. 21 , No. 22 , pp. 26589-26604 , 2013.11.
42. J.Y. Choi, D.G. Kang, S. Kang, Y. Sung, J.C. Ye , " A unified statistical framework for material decomposition using multienergy photon counting x-ray detectors ," *Medical Physics*, vol. 40 , No. 9 , pp. , 2013.09.
43. J.M. Kim, J.C. Ye , " Corrections to Compressive MUSIC: Revisiting the Link Between Compressive Sensing and Array Signal Processing ," *IEEE Transactions on Information Theory*, vol. 59 , No. 9 , pp. 6148-6149 , 2013.09.
44. J. Min, J.D. Jang, D. Keum, S. Ryu, C. Choi, K.H. Jeong, J.C. Ye " Fluorescent microscopy beyond diffraction limits using speckle illumination and joint support recovery ," *Scientific Reports*, vol. 3 , No. 2075, , 2013.06.
45. S.H. Tak, J.C. Ye , " Statistical analysis of fNIRS data: A comprehensive review ," *Neuroimage* , vol. 85 , No. 15 , pp. 72-91 , 2013.06.
46. H.S. Park, J.K. Choi, K.R. Park, K.S. Kim, S.H. Lee, J.C. Ye, J.K. Seo , " Metal artifact reduction in CT by identifying missing data hidden in metals ," *Journal of X-ray Science and Technology*, vol. 21 , No. 3 , pp. 357-372 , 2013.00.
47. K.H. Jin, Y.G. Kim, S.H. Cho, J.C. Ye, D.S. Yee , " High-speed terahertz reflection three-dimensional imaging for nondestructive evaluation ," *Optics Express*, vol. 20 , No. 23 , pp. 25432-25440 , 2012.11.
48. J.M. Kim, O.K. Lee, J.C. Ye , " Improving Noise Robustness in Subspace-Based Joint Sparse Recovery ," *IEEE Transactions on Signal processing*, vol. 60 , No. 11 , pp. 5799-5809 , 2012.11.
49. M. Yi, H, Kim, K.H. Jin, J.C. Ye, J. Ahn , " Terahertz substance imaging by waveform shaping ," *Optics Express*, vol. 20 , No. 18 , pp. 20783-20789 , 2012.08.
50. J.W. Jung, O.K. Lee, J.C. Ye , " Source localization approach for functional DOT using MUSIC and FDR control ," *Optics Express*, vol. 20 , No. 6 , pp. 6267-6285 , 2012.03.
51. S.G. Park, K.H. Jin, M. Vi, J.C. Ye, J. Ahn, K.H. Jeong , " Enhancement of Terahertz Pulse Emission by Optical Nanoantenna ,"*ACS NANO*, vol. 6 , No. 3 , pp. 2026-2031 , 2012.03.

52. H. Li, S.H. Tak, J.C. Ye , " Lipschitz-Killing curvature based expected Euler characteristics for p-value correction in fNIRS ," *Journal of Neuroscience Methods*, vol. 204 , No. 1 , pp. 61-67 , 2012.02.
53. J.M. Kim, O.K. Lee, J.C. Ye , " Compressive MUSIC: Revisiting the Link Between Compressive Sensing and Array Signal Processing ," *IEEE Transactions on Information Theory*, vol. 58 , No. 1 , pp. 278-301 , 2012.01.
54. K.S. Kim, J.C. Ye , " Fully 3D iterative scatter-corrected OSEM for HRRT PET using a GPU ," *Physics in Medicine and Biology*, vol. 56 , No. 15 , pp. 4991-1669 , 2011.08.
55. L. Feng, R. Otazo, H. Jung, J.H. Jensen, J.C. Ye, D.K. Sodickson, D. Kim , " Accelerated Cardiac T2 Mapping using Breath-hold Multiecho Fast Spin-Echo Pulse Sequence with k-t FOCUSS ," *Magnetic Resonance in Medicine*, vol. 65 , No. 6 , pp. 1661-1669 , 2011.06.
56. K. Lee, S.H. Tak, J.C. Ye , " A Data-Driven Sparse GLM for fMRI Analysis Using Sparse Dictionary Learning With MDL Criterion ,"*IEEE Transactions on Medical Imaging*, vol. 30 , No. 5 , pp. 1176-1089 , 2011.05.
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58. S.H. Tak, S.J. Yoon, J.D. Jang, K. Yee, Y, Jeong, J.C. Ye , " Quantitative analysis of hemodynamic and metabolic changes in subcortical vascular dementia using simultaneous near-infrared spectroscopy and fMRI measurements ," *Neuroimage*, vol. 55 , No. 1 , pp. 176-184 , 2011.03.
59. Y. Kim, K.H. Jin, J.C. Ye, J. Ahn, D.S. Yee , " Wavelet Power Spectrum Estimation for High-resolution Terahertz Time-domain Spectroscopy ," *Journal of the Optical Society of Korea*, vol. 15 , No. 1 , pp. 103-108 , 2011.03.
60. J.Y. Choi, K.S. Kim, M.W. Kim, W. Seong, J.C. Ye , " Sparsity driven metal part reconstruction for artifact removal in dental CT ,"*Journal of X-ray Science and Technology*, vol. 19 , No. 4 , pp. 457-475 , 2011.00.
61. S.H. Tak, J.D. Jang, K. Lee, J.C. Ye , " Quantification of CMRO2 without hypercapnia using simultaneous near-infrared spectroscopy and fMRI measurements ," *Physics in Medicine and Biology*, vol. 55 , No. 11 , pp. 3249-3269 , 2010.06.
62. J.D. Jang, C.Y. Bae, J.K. Park, J.C. Ye , " Self-reference quantitative phase microscopy for microfluidic devices ," *Optics Letters*, vol. 35 , No. 4 , pp. 514-516 , 2010.02. ( Also selected for publication in the Virtual Journal for *Biomedical Optics*, vol. 5, iss. 5, March 2010 )
63. K. Lee, K.H. Jin, J.C. Ye , " Coherent optical computing for T-ray imaging ," *Optics Letters* , vol. 35 , No. 4 , pp. 508-510 , 2010.02.
64. H. Jung, J. Park, J. Yoo, J.C. Ye , " Radial k-t FOCUSS for High-Resolution Cardiac Cine MRI ," *Magnetic Resonance in Medicine*, vol. 63 , No. , pp. 68-78 , 2010.01.
65. H. Jung, J.C. Ye , " Motion Estimated and Compensated Compressed Sensing Dynamic Magnetic Resonance Imaging: What We Can Learn From Video Compression Techniques ," *International Journal of Imaging Systems and technology*, vol. 20 , No. , pp. 81-98 , 2010.00.
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70. J.C. Ye , " Compressed sensing shape estimation of star-shaped objects in Fourier imaging ," *IEEE Signal Processing Letters*, vol. 14 , No. , pp. 750-753 , 2007.10.
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72. K.E. Jang, J.C. Ye , " Single channel blind image deconvolution from radially symmetric blur kernels ," *Optics Express*, vol. 15 , No. , pp. 3791-3803 , 2007.04.
73. J. C. Ye, S. H. Tak, Y. J. Han, and H. W. Park, "Projection Reconstruction MR Imaging using FOCUSS", *Magnetic Resonance in Medicine*, vol. 57, pp. 764-775, April 2007.

74. J.C. Ye, P. Moulin, Y. Bresler , " Asymptotic global confidence regions for 3-D parametric shape estimation in inverse problems ,"*IEEE Transactions on Image Processing*, vol. 15 , No. , pp. 2904-2919 , 2006.10
75. J.C. Ye, Y. Bresler, P. Moulin , " Cramer-Rao bounds for parametric shape estimation in inverse problems ," *IEEE Transactions on Image Processing*, vol. 12 , No. 1 , pp. 71-84 , 2003.01.
76. J.C. Ye , " A self-referencing level-set method for image reconstruction from sparse Fourier samples ," *International Journal of Computer Vision*, vol. 50 , No. 3 , pp. 253-270 , 2002.12.
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Reference is provided upon request.