

Il Yong Chun

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OBJECTIVE To seek postdoctoral or full-time scientist position in the medical imaging system engineering, particularly in MRI and X-ray CT

EDUCATION

Purdue University Ph.D. Candidate in Electrical and Computer Engineering Advisors: Professor Thomas M. Talavage and Professor Ben Adcock	West Lafayette, IN, USA Aug. 2009 – Present
Korea University B.Eng. in Electrical Engineering	Seoul, South Korea Mar. 2002 – Feb. 2009
The University of Hong Kong Exchange Student in Electrical and Electronic Engineering	Hong Kong, China Aug. 2007 – May. 2008

WORK EXPERIENCE

Purdue University Research Assistant (advisor: Prof. Thomas M. Talavage) <ul style="list-style-type: none">• Compressed sensing (CS) MRI and X-ray CT• Multiple-input multiple-output (MIMO) MRI using spatial beam-forming• Diffusion tensor imaging (DTI) detection of white matter (WM) abnormalities due to accumulated head impacts (longitudinal study)• Randomization hypothesis test with complete and incomplete pairs• Fusion imaging between resting state functional MRI (rsfMRI) and DTI• Development of processing and analysis pipeline for diffusion and susceptibility weighted MR images (DWI and SWI) Teaching Assistant (advisor: Prof. Michael D. Zoltowski) <ul style="list-style-type: none">• Signals and systems (ECE301) Research Assistant (advisor: Prof. Michael G. Heinz) <ul style="list-style-type: none">• Template-based peak detection in auditory signal	West Lafayette, IN, USA Aug. 2010 – Present Jan. 2011 – May 2011 Aug. 2011 – May 2013
Samsung Advanced Institute of Technology (SAIT) Graduate Intern (supervisor: Dr. Jung-Bae Kim) <ul style="list-style-type: none">• Multi-modal (ultrasonography – MRI) image registration using multiple mutual information	Gyeonggi-do, South Korea Jun. 2013 – Jul. 2013
Neuroscience Research Institute (NRI) Research Intern and Lecturer (supervisor: Prof. Zang-Hee Cho) <ul style="list-style-type: none">• Research: High-resolution positron emission tomography (PET) image reconstruction with sparsity regularization and structural image• Lecture: An introduction to optimization	Incheon, South Korea May 2013 – Jun. 2013
Intel Labs Graduate Intern (supervisor: Dr. Willem M. Beltman) <ul style="list-style-type: none">• Real-time frequency-domain blind source separation of convolutive speech mixtures using non-stationarity in mobile environment	Hillsboro, OR, USA May 2011 – Jul. 2011
Gangnam-gu and Yeongdeungpo-gu District Office Public Interest Service Personnel <ul style="list-style-type: none">• Administrator for the traffic offense vehicle server and regulation system• Computer engineer	Seoul, South Korea Jun. 2003 – Sep. 2005

PUBLICATION Journal Articles

Il Yong Chun, Song Noh, David J. Love, and Thomas M. Talavage, “MIMO SENSE MRI Using Optimal LMMSE Spatial Beam-Forming,” submitted to *IEEE Trans. Med. Imag.*, Feb. 2015.

Il Yong Chun, Ben Adcock, and Thomas M. Talavage, “Efficient compressed sensing SENSE pMRI reconstruction with joint sparsity promotion,” submitted to *IEEE Trans. Med. Imag.*, Oct. 2014.

Il Yong Chun, Xianglun Mao, Eric L. Breedlove, Larry J. Leverenz, Eric A. Nauman, and Thomas M. Talavage, “DTI detection of longitudinal WM abnormalities due to accumulated head impacts,” submitted to *Dev. Neuropsychol. Sp. Issues Spor. Concuss.*, Jul. 2014.

Conference Papers

Sumra Bari, **Il Yong Chun**, Larry J. Leverenz, Eric A. Nauman, and Thomas M. Talavage, “DTI Detection of WM Abnormalities using Randomization Test with Complete and Incomplete Pairs,” submitted to *Proc. 21st Org. for Hum. Brain Mapp. (OHBM)*, Jan. 2015.

Ikbeom Jang, **Il Yong Chun**, Larry J. Leverenz, Eric A. Nauman, and Thomas M. Talavage, “DWI Detection of WM Abnormality and Relation with Collision Events in High School Athletes,” submitted to *Proc. 21st Org. for Hum. Brain Mapp. (OHBM)*, Jan. 2015.

Ikbeom Jang, **Il Yong Chun**, Larry J. Leverenz, Eric A. Nauman, and Thomas M. Talavage, “Robust Detection of Axonal Abnormalities in High School Collision-Sport Athletes: Longitudinal Single Subject Analysis,” *Proc. 23rd Intl. Soc. Mag. Res. Med. (ISMRM)*, Nov. 2014.

Il Yong Chun, Ben Adcock, and Thomas M. Talavage, “Efficient compressed sensing SENSE parallel MRI reconstruction with joint sparsity promotion and mutual incoherence enhancement,” *Proc. 36th IEEE Eng. Med. Biol. Soc. (EMBS)*, Chicago, IL, Aug. 2014.

Il Yong Chun, Ben Adcock, and Thomas M. Talavage, “Non-convex compressed sensing CT reconstruction based on tensor discrete Fourier slice theorem,” *Proc. 36th IEEE Eng. Med. Biol. Soc. (EMBS)*, Chicago, IL, Aug. 2014.

Il Yong Chun, Allan Diaz, Sijia Qiu, Larry J. Leverenz, Eric A. Nauman, and Thomas M. Talavage, “DTI detection of symptomatic and asymptomatic injury due to repetitive hit exposures,” *3rd IN Neuroimaging Symp.*, Bloomington, IN, Oct. 2013.

Il Yong Chun and Thomas M. Talavage, “Efficient compressed sensing statistical X-ray/CT reconstruction from fewer measurements,” *Proc. 12th Intl. Mtg. on Fully 3D Image Recon. in Rad. and Nuc. Med. (Fully 3D)*, Lake Tahoe, CA, Jun. 2013.

Il Yong Chun, Allan Diaz, Xiaodong Li, Yun Jang Jin, Larry J. Leverenz, Eric A. Nauman, and Thomas M. Talavage, “DTI detection of symptomatic and asymptomatic injury due to repetitive head blows,” *Proc. 19th Org. for Hum. Brain Mapp. (OHBM)*, Seattle, WA, Jun. 2013.

Il Yong Chun and Thomas M. Talavage, “Fast non-convex statistical compressed sensing MRI reconstruction based on approximated $L_p(0 < p < 1)$ -quasi-norm with fewer measurements than using L_1 -norm,” *Proc. 21st Intl. Soc. Mag. Res. Med. (ISMRM)*, Salt Lake City, UT, Apr. 2013.

Il Yong Chun and Thomas M. Talavage, “Edge-preserving non-iterative MAP SENSE MRI reconstruction,” *Proc. 21st Intl. Soc. Mag. Res. Med. (ISMRM)*, Salt Lake City, UT, Apr. 2013.

Il Yong Chun and Thomas M. Talavage, “Sparse Tikhonov-regularized SENSE MRI reconstruction,” *Proc. 21st Intl. Soc. Mag. Res. Med. (ISMRM)*, Salt Lake City, UT, Apr. 2013.

Il Yong Chun, Allan Diaz, Yun Jang Jin, Xiaodong Li, Larry J. Leverenz, Eric A. Nauman, and Thomas M. Talavage, “Robust detection of progressive white matter abnormalities in mTBI using DW-MRI,” *Proc. 21st Intl. Soc. Mag. Res. Med. (ISMRM)*, Salt Lake City, UT, Apr. 2013.

HONORS AND AWARDS	Travel Funds for Purdue Engineering Ph.D. Candidates , Purdue Univ.	Sep. 2014
	Travel Funds , 12 th Fully 3D	Jun. 2013
	Magna Cum Laude Merit Award , 21 st ISMRM	Apr. 2013
	Award of Trainee (Educational) Stipend , 21 st ISMRM	Apr. 2013
	Semester High Honor , Korea Univ.	Dec. 2005 – Jun. 2007
	Honors Scholarship , Korea Univ.	Feb. 2006 – Aug. 2007
ACTIVITIES	Purdue Electrical Engineering Korean Association (PEEKA) Vice President	Purdue Univ. Aug. 2011 – Aug. 2012
	Academic Society of Communication Engineering President	Korea Univ. Mar. 2006 – Jun. 2007
VISA STATUS	F-1	
MILITARY SERVICE	Republic of Korea Army	Seoul, South Korea
	Private (Mandatory in South Korea)	Jun. 2003 – Sep. 2005

**COMPUTER
SKILL**

MATLAB, C, and C++