

BIOGRAPHICAL SKETCH

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NAME Seung-Schik Yoo	POSITION TITLE Associate Professor		
eRA COMMONS USER NAME ssy123			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Johns Hopkins University, Baltimore, MD	B.S	1994	Biomedical Engineering
University of Massachusetts, Boston, MA	M.B.A.	1999	Business Administration
Harvard - Massachusetts Institute of Technology, Division of Health Science and Technology, Cambridge, MA	Ph.D.	2000	Radiological Sciences

A. Positions and Honors.

Positions and Employment

1992-1993	Research Assistant, Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD
1994	Teaching Assistant, Department of Material Science, Johns Hopkins University, Baltimore, MD
1995	Teaching Assistant, Department of Nuclear Engineering, Massachusetts Institute of Technology, Cambridge, MA
1994-1999	Research Assistant, Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA
1999-2000	Consultant, Department of Neurology, Harvard Medical School, Children's Hospital, Boston, MA
2000-2001	Research Fellow, Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA
2001-2004	Instructor, Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA
2004-2006	Assistant Professor, Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA
2006-	Associate Professor, Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA

Honors and Awards

1993	Tau Beta Pi Engineering Honor Society
1994	Richard Johns Academic Achievement Award, The 5 th Annual Biomedical Research Award
1996	American Nuclear Honor Society
1997	Massachusetts Institute of Technology, Graduate Student Council Award
1998, 2000	International Society of Magnetic Resonance in Medicine, Student Stipend Award

B. Selected peer-reviewed publications (in chronological order). Do not include publications submitted or in preparation.

- 1 **S.-S. Yoo**, C.R.G. Guttman, J.R. Ives, L.P. Panych, R. Kikinis, D.L. Schomer, F.A. Jolez, "3-D Localization of surface 10-20 EEG electrodes on high resolution anatomical MR images", *EEG and Clin. Neurophys.*, 102: 335-339 (1997)
- 2 **S.-S. Yoo**, C.R.G. Guttman, and L.P. Panych, "Functional MRI using non-Fourier, spatially selective radiofrequency encoding", *Mag. Res. Med.* 41:759-766 (1999)
- 3 **S.-S. Yoo**, C.R.G. Guttman, L. Zhao, and L.P. Panych, "Adaptive functional MRI using RF encoding", *Neuroimage*, 10:596-606 (1999)
- 4 C.G. Wible, M. Kubicki, **S.-S. Yoo**, D. Kacher, D.F. Sailisbary, MC Anderson, M.E. Shenton, Y.Hirayashu, R Kikinis, F Jolesz, and R.W. McCarley, "A functional magnetic resonance imaging study of auditory mismatch in schizophrenics" *Am. J. Psychiatry*, 158:938-943 (2001)

- 5 **S.-S. Yoo**, C.W. Lee, B.S. Kim, I.H. Back, and B.G. Choi, , "Human cerebellar activation during painful cold stimulation: A functional magnetic resonance imaging study", *J. of Kor. Neuropsychiatr. Assoc.* 40:727-733 (2001)
 - 6 **S.-S. Yoo**, C.R.G. Guttmann, and L.P. Panych, "Multi-resolution data acquisition and detection in functional MRI", *Neuroimage*, 14(6):1476-85. (2001)
 - 7 **S.-S. Yoo**, B.G. Choi, Chung J.I., C.U. Lee. "Neural substrates of motor imagery: event-related functional MRI study", *J. of Kor. Neuropsychiatr. Assoc.*,40(6); 1247-1256 (2001)
 - 8 **S.-S. Yoo**, C.W. Lee, B.G. Choi, and P. Saiviroonporn, "Interactive 3-Dimensional segmentation of MRI data in personal computer environment", *Journal of Neuroscience Methods*, 112:75-82. (2001)
 - 9 **S.-S. Yoo**, C.W. Lee, B.G. Choi, "Human brain mapping of auditory imagery: Event-related functional MRI study", *NeuroReport*, 12:3045-3049 (2001).
 - 10 **S.-S. Yoo**, B.G. Choi, J.Y. Han, H.H. Kim. "Independent component analysis for the examination of dynamic contrast-enhanced breast magnetic resonance imaging data: preliminary study", *Invest Radiol.* 37(12):647-654. (2002)
 - 11 **S.-S. Yoo** and F.A. Jolesz, "Functional MRI for neurofeedback: Feasibility study on a hand motor task", *NeuroReport*, 13:1377-1381 (2002)
 - 12 B.G. Choi, H.H. Kim, E.N. Kim, B.S. Kim, J.Y. Han, **S.-S. Yoo**, S.H. Park. "New subtraction algorithms for evaluation of lesions on dynamic contrast-enhanced MR mammography", *Eur Radiol*, 12(12): 3018-3022. (2002)
 - 13 H.J. Chun, **S.-S. Yoo**, H.H. Kim, J.Y. Byun JY, B.G. Choi. "Nonbronchial collateral supply from the hepatic arteries of a patient with hemoptysis". *AJR Am J Roentgenol.* Feb;180(2):523-5. (2003)
 - 14 H.J. Chun, J.Y. Byun, **S.-S. Yoo**, B.G. Choi. "Tourniquet application to facilitate axillary venous access in percutaneous central venous catheterization. *Radiology*". Mar;226(3):918-20. (2003)
 - 15 **S.-S. Yoo**, D Freeman, J McCarthy, III, F.A. Jolesz, "Neural Substrates of Tactile Imagery: fMRI Study", *NeuroReport*, 14(4):581-585 (2003)
 - 16 M.J. Rivkin, S.J. Vajapeyam, C. Hutton, M.L. Weiler, E.K. Hall, D. Wolraich, **S.-S. Yoo**, R.V. Mulkern, P. Forbes, P.H. Wolff, D.P. Waber, "A functional magnetic resonance imaging study of paced finger tapping in young children: An application of fMRI to the study of brain development", *Pediatr Neurology*, 28(2):89-95 (2003)
 - 17 H.J. Chun, J.Y. Byun, **S.-S. Yoo**, B.G. Choi. "Added Benefit of Thoracic Aortography After Transarterial Embolization in Patients with Hemoptysis", *AJR Am J Roentgenol.* 180(6):1577-1581 (2003)
 - 18 N.K. Chen, C.C. Dickey, **S.-S. Yoo**, C.R. Guttmann, L.P. Panych. "Selection of voxel size and slice orientation for fMRI in the presence of susceptibility field gradients: application to imaging of the amygdala", *Neuroimage.* 19(3):817-825 (2003).
 - 19 **S.-S. Yoo**, I.F. Talos, A.J. Golby, P.M. Black, L.P. Panych. "Evaluating requirements for spatial resolution of fMRI for neurosurgical planning", *Hum Brain Mapp.* 21(1): 34-43 (2004).
 - 20 X. Wei, **S.-S. Yoo**, C.C. Dickey, K.H. Zou, C.R. Guttmann, L.P. Panych LP. "Functional MRI of auditory verbal working memory: long-term reproducibility analysis". *Neuroimage* 21(3):1000-8. (2004).
 - 21 **S.-S. Yoo**, E.K. Teh, R.A. Blinder, F.A. Jolesz. "Modulation of cerebellar activities by acupuncture stimulation: evidence from fMRI study". *Neuroimage.* 22(2):932-40. (2004).
 - 22 **S.-S. Yoo**, G. Paralkar, L.P. Panych. "Neural substrates associated with the concurrent performance of dual working memory tasks." *Int J Neurosci.* 114(6):613-31 (2004).
 - 23 **S.-S. Yoo**, T. Fairney, N.K. Chen, S.E. Choo, L.P. Panych, H. Park, S.Y. Lee, F.A. Jolesz. "Brain-computer interface using fMRI: spatial navigation by thoughts". *Neuroreport.* 15(10):1591-5 (2004)
 - 24 C.U. Pae, B.Y. Choe, R.H. Joo, H.K. Lim, T.S. Kim, **S.-S. Yoo**, B.G. Choi, J.J. Kim, S.J. Lee, C. Lee, I.H. Paik, C.U. Lee, "Neuronal dysfunction of the frontal lobe in schizophrenia". *Neuropsychobiology.* 50(3):211-5. (2004).
 - 25 **S.-S. Yoo**, H.J. Park, J.S. Soul, H. Mamata, H. Park, C.F. Westin, H. Bassan, A.J. Du Plessis, R.L. Robertson Jr, S.E. Maier, R.A. Ringer, J.J. Volpe, G.P. Zientara. "In vivo visualization of white matter fiber tracts of preterm- and term-infant brains with diffusion tensor magnetic resonance imaging". *Invest Radiol.* 40(2):110-5. (2005).
 - 26 M.P. Walker, R. Stickgold, F.A. Jolesz, **S.-S. Yoo**. "The Functional Anatomy of Sleep-dependent Visual Skill Learning". *Cereb Cortex.* Feb 9, Epub (2005)
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- 27 **S.-S. Yoo**, X. Wei, C.C. Dickey, C.R. Guttmann, L.P. Panych. "Long-term reproducibility analysis of fMRI using hand motor task". *Int J Neurosci*. 115(1):55-77. (2005).
 - 28 **S.-S. Yoo**, B.G. Choi, R.H. Juh, J.M. Park, C.U. Pae, J.J. Kim, S.J. Lee, C. Lee, I.H. Paik, C.U. Lee." Working memory processing of facial images in schizophrenia: fMRI investigation". *Int J Neurosci*. 115(3):351-66. (2005).
 - 29 **S.-S. Yoo**, H.M. O'leary, C.C. Dickey, X.C. Wei , C.R. Guttmann, H.W. Park, L.P. Panych. "Functional asymmetry in human primary auditory cortex: identified from longitudinal fMRI study". *Neurosci Lett*. 383(1-2):1-6. (2005).
 - 30 **S.-S. Yoo**, B.G. Choi, R. Juh, C.U. Pae, C.U. Lee. "Head motion analysis during cognitive fMRI examination: application in patients with schizophrenia". *Neurosci Res*. 53(1):84-90. (2005).
 - 31 J.S. Lee, **S.-S. Yoo**, S.Y. Cho, S.M. Ock, M.K. Lim, L.P. Panych. "Abnormal thalamic volume in treatment-naive boys with Tourette syndrome". *Acta Psychiatr Scand*. 113(1):64-67. (2006)
 - 32 **S.-S. Yoo**, H.M. O'leary, T. Fairney, N.K. Chen, L.P. Panych , H. Park, F.A. Jolesz. "Increasing cortical activity in auditory areas through neurofeedback functional magnetic resonance imaging". *Neuroreport*. 21;17(12):1273-1278. (2006)
 - 33 **S.-S. Yoo**, H.M. O'Leary, J.H. Lee, N.K. Chen, L.P. Panych, F.A. Jolesz. "Reproducibility of trial-based functional MRI on motor imagery". *Int J Neurosci*. 117(2):215-27. (2007)
 - 34 **S.-S. Yoo**, P.T. Hu, N. Gujar, F.A. Jolesz, M.P. Walker. "A deficit in the ability to form new human memories without sleep". *Nat Neurosci*. 10(3):385-92 (2007)
 - 35 S. Yun, W.E. Kyriakos, J.Y. Chung, Y. Han, **S.-S. Yoo**, H. Park. "Projection-based estimation and nonuniformity correction of sensitivity profiles in phased-array surface coils". *J Magn Reson Imaging*. 25(3):588-97. (2007)
 - 36 J.H. Lee, H.M. O'leary, H. Park, F.A. Jolesz, **S.-S. Yoo**. "Atlas-based multichannel monitoring of functional MRI signals in real-time: Automated approach". *Hum Brain Mapp*. 2007 Mar 16 epub
 - 37 H.K. Rolls, **S.-S. Yoo**, K.H. Zou, A.J. Golby, L.P. Panych. "Rater-dependent accuracy in predicting the spatial location of functional centers on anatomical MR images". *Clin Neurol Neurosurg*. 109(3):225-35. (2007)
 - 38 **S.-S. Yoo**, C.E. Kerr, M. Park, D.M. Im, R.A. Blinder, H. Park, T.J. Kaptchuk, "Neural activities in human somatosensory cortical areas evoked by acupuncture stimulation". *Complement Ther Med*.15(4):247-54 (2007)
 - 39 E.J. Sung, **S.-S. Yoo**, H.W. Yoon, S.S. Oh, Y. Han, H.W. Park, "Brain activation related to affective dimension during thermal stimulation in humans: a functional magnetic resonance imaging study". *Int J Neurosci*. 117(7):1011-27. (2007)
 - 40 **S.-S. Yoo**, J.H. Lee, H.M. O'Leary, V Lee, S.E. Choo, F.A. Jolesz. "Functional magnetic resonance imaging-mediated learning of increased activity in auditory areas". *Neuroreport*. 18(18):1915-1920. (2007)
 - 41 **S.-S. Yoo**, P.T. Hu, N. Gujar, F.A. Jolesz, M.P. Walker. "The human emotional brain without sleep--a prefrontal amygdala disconnect". *Curr Biol*.17(20):R877-8. (2007)
 - 42 J.H. Lee , T.W. Lee, F.A. Jolesz, **S.-S. Yoo**. Independent vector analysis (IVA): multivariate approach for fMRI group study. *Neuroimage*. 40(1):86-109. (2008)
 - 43 C.C. Dickey, I.A. Morocz, M.A. Niznikiewicz, M. Voglmaier, S. Toner, U. Khan, M. Dreusicke, **S.-S. Yoo**, M.E. Shenton, R.W. McCarley. Auditory processing abnormalities in schizotypal personality disorder: an fMRI experiment using tones of deviant pitch and duration. *Schizophr Res*. 103(1-3):26-39. (2008)
 - 44 H.K. Lim, R. Juh, C.U. Pae, B.T. Lee, **S.-S. Yoo**, S.H Ryu, K.R. Kwak, C Lee, C.U. Lee. Altered verbal working memory process in patients with Alzheimer's disease. An fMRI investigation *Neuropsychobiology*.57(4):181-7. (2008)
 - 45 C.U. Pae, R Juh, **S.-S. Yoo**, B.G. Choi, H.K Lim, C. Lee, I.H. Paik, S.S. Jeun, C.U. Lee. Verbal working memory dysfunction in schizophrenia: an FMRI investigation. *Int J Neurosci*. 118(10):1467-87 (2008)
 - 46 S. Moon, P.A. Lin, H.O. Keles, **S.-S. Yoo**, U. Demirci. Cell encapsulation by droplets. *J Vis Exp*. 2007;(8):316.
 - 47 J.H. Lee, T.W. Lee, F.A. Jolesz, **S.-S. Yoo**. Independent Vector Analysis (IVA) for Group fMRI Processing of Subcortical Area. *Int J Imag Syst Technol*. 18: 29–41. (2008)
 - 48 M. Marzelli, K. Fischer, Y.B. Kim, R.V. Mulkern, **S.-S. Yoo**, H.W. Park, Z.H. Cho, Composite MR Contrast Agents for Conditional Cell-Labeling *Int J Imag Syst Technol*. 18: 79–84. (2008)
 - 49 **S.-S. Yoo**, H.M. O'Leary, J.H. Lee, L.P. Panych, F.A. Jolesz, fMRI-mediated learning and consolidation of regional brain activation during motor imagery. *Int J Imag Syst Technol*.18: 69–78. (2008)
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