

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

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|-----------|--|
| 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

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| 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. Guttman, 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. Guttman, 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. Fairmeny, 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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