**CURRICULUM VITAE**

**Seong-Gi Kim**

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Institute for Basic Science

Sungkyunkwan University

Suwon, Korea

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**EDUCATION AND TRAINING**

Undergraduate:

1976-1980Kyungpook National B.A., 1980 Applied Chemistry

University, Taegu, Korea

Graduate:

1984-1988 Washington University Ph.D., 1988 Physical Chemistry

St. Louis, MO

Post Graduate:

1988-1989 Washington University Postdoctoral Fellow

St. Louis, MO under Joseph J.H. Ackerman

1989-1991 University of Washington Postdoctoral Fellow

Seattle, WA under Brian R. Reid

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**APPOINTMENTS AND POSITIONS**

Academic

1984-1988 Washington University Research Assistant

St. Louis, MO

1991-1994 Center for Magnetic Resonance Research

University of Minnesota, Minneapolis, MN Research Associate

1994-1998 Department of Radiology Assistant Professor

University of Minnesota

1998-2001 Department of Radiology Associate Professor

University of Minnesota

2000-2002 Department of Neuroscience Adjunct Associate

University of Minnesota Professor of Neuroscience

2001-6/2002 Department of Radiology Professor

University of Minnesota

7/2002 – 2015 Department of Neurobiology Professor

University of Pittsburgh

Pittsburgh, PA

2002 – 2015 McGowan Institute of Regenerative Medicine Faculty

Center for Neuroscience at Pitt (CNUP)

Magnetic Resonance Research Center (MRRC)

University of Pittsburgh

Center for Neural Basis of Cognition (CNBC)

Pittsburgh NMR Center for Biomedical Research

University of Pittsburgh and Carnegie Mellon University

2004 – 2005 Brain Imaging Research Center Technical Director

University of Pittsburgh

Pittsburgh, PA

1/2006 – Present Department of Radiology Professor

University of Pittsburgh

2006 – 2013 Multi-modal Neuroimaging Training Program co-Director

University of Pittsburgh/Carnegie Mellon University

2009 – 2015 Paul C. Lauterbur Chair in Imaging Research

2010 – 2015 Department of Bioengineering Professor

University of Pittsburgh

2013, July 1 – Center for Neuroscience Imaging Center Director

Present Institute for Basic Science (IBS)

Suwon, Korea

2013, July 1 – Department of Biological Sciences Professor

Present Sungkyunkwan University

Suwon, Korea

2015, March 1 – Department of Biomedical Engineering Professor

Present Sungkyunkwan University

Suwon, Korea

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**MEMBERSHIPS and EDITORIAL BOARDS IN SCIENTIFIC SOCIETIES/JOURNALS**

**Membership**

Society for Neuroscience 1993-present

International Society for Magnetic Resonance in Medicine 1992-present

International Society for Cerebral Blood Flow and Metabolism

Organization for Human Brain Mapping

**Scientific Board**

The Lundbeck Foundation Center for Neurovascular Signaling (PI: Jes Olesen) –

international scientific advisory board (2006 - 2014)

**Editorial Board**

Journal of Cerebral Blood Flow & Metabolism – editorial board

Frontier in Neuroenergetics – reviewing editor

International Journal of Imaging Systems and Technology – editorial board

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**HONORS**

University Fellowship at Washington University 1987

Whitaker Foundation Award 1996

1999 NAMI Olmested County Investigator 1999

NARSAD Independent Investigator Award 1999

Picchione Visiting Scholar of the Dalhousie Medical 2001

Research Foundation

McKnight Neuroscience Technological Innovation Award 2001

Editors-in-Choice Award (NeuroImage) 2006

Paul C. Lauterbur Chair in Imaging Research 2009

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**RESEARCH IMPACT**

(based on ISI Web of Science; July in 2015)

Total Number of Citations: >13,900

Average Citation per Paper: >90

H-factor: 60

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**PUBLICATIONS**

1. Refereed Articles:

1. Ackerman, J.J.H., Ewy, C.S., Kim, S.-G. and Shalwitz, R.A. “Deuterium Magnetic Resonance In Vivo: The Measurement of Blood Flow and Tissue Perfusion,” *Ann. N.Y. Acad. Sci.,* **508**:89-98, 1987.
2. Kim, S.-G. and Ackerman, J.J.H., “Quantitative Determination of Tumor Blood Flow and Perfusion via Deuterium Nuclear Magnetic Resonance Spectroscopy in Mice”, *Cancer Res.*, **48**:3449-3453, 1988.
3. Kim, S.-G. and Ackerman, J.J.H., “Multicompartment Analysis of Blood Flow and Tissue Perfusion Employing D2O as a Freely Diffusible Tracer: A Novel Deuterium NMR Technique Demonstrated via Application with Murine Tumor”, *Magn. Reson. Med.,* **8**:410-426, 1988.
4. Kim, S.-G. and Ackerman, J.J.H. “Quantification of Regional Blood Flow by Monitoring of Exogenous Tracer via Nuclear Magnetic Resonance Spectroscopy”, *Magn. Reson. Med.*, **14**:266-282, 1990.
5. Hwang, Y.C., Kim, S.-G., Evelhoch, J.L., Seyedsadr, M., and Ackerman, J.J.H., “Modulation of Murine Radiation-induced Fibrosarcoma-1 Tumor Metabolism and Blood Flow In Situ via Glucose and Mannitol Administration Monitored by 31P and 2H Nuclear Magnetic Resonance Spectroscopy”, *Cancer Res.*, **51**: 3108-3118, 1991.
6. Chuprina, V.P., Lipanov, A.A., Fedoroff, O.Y., Kim, S.-G., Kintanar, A. and Reid, B.R. “Sequence Effects on Local DNA Topology”, *Proc. Natl. Acad., Sci.,* USA, **88**: 9087-9091, 1991.
7. Kim, S.-G., Lin, L.-J. and Reid, B.R., “Determination of Backbone Structure in Nucleic Acids by Proton NMR”, *Biochemistry*, **31**: 3564-3574, 1992.
8. Wang, A.C., Kim, S.-G., Flynn, P.F., Chou, S.-H., Orban, J., and Reid, B.R., “Errors in RNA NOESY Distance Measurements in Chimeric and Hybrid Duplexes: Differences in RNA and DNA Proton Relaxation”, *Biochemistry*, **31**: 3940-3946, 1992.
9. Hwang, Y.C., Kim, S.-G., Evelhoch, J.L. and Ackerman, J.J.H., “Nonglycolytic Acidification of Murine Radiation-induced Fibrosarcoma-1 Tumor via 3-O-Methyl-D-Glucose Monitored by 1H, 2H, 13C, and 31P Nuclear Magnetic Resonance Spectroscopy'”, *Cancer Res.*, **52**: 1259-1266, 1992.
10. Ogawa, S., Tank, D.W., Menon, R., Ellermann, J.M., Kim, S.-G., Merkle, H. and Ugurbil, K. “Intrinsic Signal Changes Accompanying Sensory Stimulation: Functional Brain Mapping with Magnetic Resonance Imaging”, *Proc. Natl. Acad. Sci.* USA, **89**: 5951-5955, 1992.
11. Kim, S.-G. and Reid, B.R. “Automated NMR Structure Refinement via NOE Peak Volumes: Application to a Dodecamer DNA Duplex”, *J. Magn. Reson.,* **100**: 382-390, 1992.
12. Wang, A.C., Kim, S.-G., Flynn, P.F., Sletten, E. and Reid, B.R. “Considerations in the Application of Orientation-dependent Analysis of NOE Intensities to DNA Oligonucleotides”, *J. Magn. Reson.*, **100**: 358-366, 1992.
13. Kim, S.-G. and Garwood, M. “Double DEPT Using Adiabatic Pulses: Indirect Heteronuclear T1 Measurement with B1 Insensitivity”, *J. Magn. Reson.*, **99**: 660-667, 1992.
14. Menon, R.S., Ogawa, S., Kim, S.-G., Ellermann, J.M., Merkle, H., Tank, D.W. and Ugurbil, K. “Functional Brain Mapping using MRI: Signal Changes Accompanying Visual Stimulation”, *Invest. Radiol.,* **27**: S47-S53, 1992.
15. Kim, S.-G. and Reid, B.R. “Solution Structure of TnAn Duplex GCCGTTAACGGC Containing The Hpa I Restriction Site”, *Biochemistry,* **31**: 12103-12116, 1992.
16. Kim, S.-G., Ashe, J., Georgopoulos, A., Merkle, H., Ellermann, J.M., Menon, R.S., Ogawa, S. and Ugurbil, K. “Functional Imaging of Human Motor Cortex at High Magnetic Field”, *J. Neurophysiol.*, **69**: 297-302, 1993. (see also Cover)
17. Ogawa, S., Menon, R.S., Tank, D.W., Kim, S.-G., Merkle, H., Ellermann, J.M., and Ugurbil, K., “Functional Brain Mapping by blood oxygenation level-dependent contrast magnetic resonance imaging: A comparison of signal characteristics with a biophysical model”, *Biophys. J*., **64:** 803-812, 1993.
18. Hinke, R.M., Hu, X., Stillman, A.E., Kim, S.-G., Merkle, H., Salmi, R. and Ugurbil, K. “Functional Magnetic Resonance Imaging of Broca's Area During Internal Speech”, *NeuroReport,*  **4**: 675-678, 1993.
19. Kim, S.-G., Ashe, J., Hendrich, K., Ellermann, J.M., Merkle, H., Ugurbil, K. and Georgopoulos, A.P. “Functional Magnetic Resonance Imaging of Motor Cortex: Hemispheric Asymmetry and Handedness”, *Science*, **261:** 615-617, 1993.
20. Hu, X. and Kim, S.-G. “A New T2\* Weighting Technique for Magnetic Resonance Imaging”, *Magn. Reson. Med.,* **30**: 512-517, 1993.
21. Ugurbil, K., Garwood, M., Ellermann, J., Hendrich, K., Hinke, R., Hu, X., Kim, S.-G., Menon, R., Ogawa, S. and Salmi, R., “Imaging at High Magnetic Fields: Initial Experiences at 4 Tesla”, *Magn. Reson. Quart.*, **9**: 259-277, 1993.
22. Kim, S.-G., Hendrich, K., Hu, X., Merkle, H. and Ugurbil, K. “Potential Pitfalls of Functional MRI using Conventional Gradient-Recalled Echo Techniques”, *NMR in Biomedicine*, **7**: 69-74, 1994.]
23. Ellermann, J., Flament, D., Kim, S.-G., Fu, Q.-G., Merkle, H. and Ugurbil, “Spatial Patterns of Functional Activation of the Cerebellum investigated using High Field Magnetic Resonance Imaging”, *NMR in Biomedicine*, **7:** 63-68, 1994.
24. Kim, S.-G., Hu, X. and Ugurbil, K. “Accurate Determination of T1 from Inversion Recovery Images: Application to Human Brain at 4T”, *Magn. Reson. Med.*, **31**: 445-449, 1994.
25. Hu, X. and Kim, S.-G. “Reduction of Signal Fluctuation in Functional Imaging Using Navigator Echo”, *Magn. Reson. Med.*, **31**: 495-503, 1994.
26. Hendrich, K., Xu, Y., Kim, S.-G. and Ugurbil, K. “Surface Coil Cardiac Tagging and 31P Spectroscopic Localization with B1-Insensitive Adiabatic Pulses”, *Magn. Reson Med.*, **31**: 541-545, 1994.
27. Kim, S.-G., Ugurbil, K. and Strick, P. “Activation of a Cerebellar Output Nucleus during Cognitive Processing”, *Science*, **265**: 949 - 951, 1994.
28. Hu, X., Erhard, P., Kim, S.-G., Menon, R., Andersen, P., Adriany, G., Strupp, J.P., Andersen, P. and Ugurbil, K. “A Comparison of T2\* weighted Sequences for Functional MRI”, *Int. J. Imaging Sys. Tech.,* **6**: 184-190, 1995.
29. Kim, S.-G., Jennings, J.E., Strupp, J.P., Andersen, P. and Ugurbil, K. “Functional MRI of Human Motor Cortices during Overt and Imaged Finger Movements”, *Int. J. Imaging Sys. Tech*., **6**: 271-279, 1995.
30. Kim, S.-G. “Quantification of Relative Cerebral Blood Flow Change by Flow-sensitive Alternating Inversion Recovery (FAIR) Techniques: Application to Functional Mapping”, *Magn. Reson. Med.,* **34:** 293-301, 1995.
31. Tagaris, G.A., Kim, S.-G., Strupp, J.P., Andersen. P., Ugurbil, K. and Georgopoulos, A.P., “Quantitative Relations between Parietal Activation and Performance in Mental Rotation”, *NeuroReport,* **7**: 773-776, 1996.
32. Kim, S.-G., Hu, X., Adriany, G., and Ugurbil, K., “Fast Interleaved Echo-Planar Imaging with Navigator: High Resolution Anatomic and Functional Images at 4 Tesla”, *Magn. Reson. Med*., **35**: 895-902, 1996.
33. Flament, D., Ellermann, J.M., Kim, S.-G., Ugurbil, K. and Ebner, T.J., “Temporal changes in cerebellar activation during motor errors and the learning of a visuomotor dissociation task, revealed using high-field functional magnetic resonance imaging”, *Human Brain Mapping*, **4**: 210-226, 1996.
34. Kim, S.-G., Richter, W. and Ugurbil, K., “Limitations of Temporal Resolution in Functional MRI”, *Magn. Reson. Med*., **37**: 631-636, 1997.
35. Kim, S.-G. and Tsekos, N., “Perfusion Imaging by a Flow-sensitive Alternating Inversion Recovery (FAIR) Technique: Application to Functional Brain Imaging”, *Magn. Reson. Med.*, **37**: 425-435, 1997.
36. Tagaris, G.A., Kim, S.-G., Strupp, J.P., Andersen. P., Ugurbil, K. and Georgopoulos, A.P., “Mental Rotation studied by Functional Magnetic Resonance Imaging at High Field (4 Tesla): Performance and Cortical Activation”, *J. Cognitive Neuroscience*, **9**: 419-432, 1997.
37. Kim, S.-G. and Ugurbil, K., “Comparison of Blood Oxygenation and Cerebral Blood Flow Effects in fMRI: Estimation of Relative Oxygen Consumption Change”, *Magn. Reson. Med*., **38**: 59-65, 1997.
38. Richter, W., Andersen, P.M., Georgopoulos, A.P. and Kim, S.-G. “Sequential activity in human motor areas during a delayed cued finger movement task studied by time-resolved fMRI”, *NeuroReport*, **8**: 1257-1261, 1997.
39. Kim, S.-G. and Ugurbil, K., “Functional Magnetic Resonance Imaging of the Human Brain”, *J. Neuroscience Methods,***74**: 229-243, 1997.
40. Tagaris, G.A., Richter, W., Kim, S.-G. and Georgopoulos, A.P., “Box-Jenkins intervention analysis of functional magnetic resonance imaging data”, *Neuroscience Research*, **27**: 289-294, 1997.
41. Kim, S.-G., Tsekos, N. and Ashe, J., “Multi-slice Perfusion-based Functional MRI using the FAIR Technique: Comparison of CBF and BOLD effects”, *NMR in Biomedicine*, **10**: 191-196, 1997.
42. Richter, W., Ugurbil, K., Georgopoulos, A. and Kim, S.-G., “Time-Resolved fMRI of Mental Rotation”, *NeuroReport,* **8**: 3697-3702, 1997.
43. Dassonville, P., Zhu, X.-H., Ugurbil, K., Kim, S.-G. and Ashe, J., “Functional activation in motor cortex reflects the direction and the degree of handedness”, *Proc. Natl. Acad. Sci., USA*., **94**: 14015-14018, 1997.
44. Tsekos, N.V., Zhang, F., Merkle, H., Nagayama, M., Iadecola, C. and Kim, S.-G., “Quantitative Cerebral Blood Flow Measurement in Rats using the FAIR Technique: Correlation with Previous Iodoantipyrine Autoradiographic Studies”, *Magn. Reson. Med*., **39**: 564-573, 1998.
45. Ogawa, S., Menon, R.S., Kim, S.-G. and Ugurbil, K., “On the characteristics of functional MRI of the brain”, *Annual Review of Biophysics* *and Biomolecular Biology*, **27**: 447-74, 1998.
46. Dassonville, P., Lewis, S.M., Zhu, X.-H., Ugurbil, K., Kim, S.-G. and Ashe, J., “Effects of stimulus predictability on cortical motor activation”, *Neuroscience Research*, **32**(1):65-74, 1998.
47. Zhu, X.-H., Kim, S.-G., Andersen, P., Ogawa, S., Ugurbil, K. and Chen, W., “Simultaneous Oxygenation and Perfusion Imaging Study of Functional Activity in Primary Visual Cortex at Different Visual Stimulation Frequency: Quantitative Correlation between BOLD and CBF Changes”, *Magn. Reson. Med*., **40**: 703-711, 1998.
48. Tagaris, G.A., Richter, W., Kim, S.-G., Pellizzer, G., Andersen, P., Ugurbil, K. and Georgopoulos, A.P., “Functional magnetic resonance imaging of mental rotation and memory scanning: a multidimensional analysis of brain activation patterns”, *Brain Research Reviews*, **26**: 106-112, 1998.
49. Kim, S.-G., Rostrup, E., Larsson, H.B.W., Ogawa, S. and Paulson, O.B., “Determination of Relative CMRO2 from CBF and BOLD changes: Significant oxygen consumption rate during visual stimulation”, *Magn. Reson. Med*., **41**: 1152-1161, 1999.
50. Silva, A.C., Lee, S.-P., Yang, G., Iadecola, C. and Kim, S.-G., “Simultaneous BOLD and CBF functional MRI during forepaw stimulation in rat”, *J. Cerebral Blood Flow & Metabolism*, **19**: 871-879, 1999.
51. Tegeler, C., Strother, S.C., Anderson, J.R. and Kim, S.-G., “Reproducibility of BOLD based functional MRI obtained at 4 T”, *Human Brain Mapping*, **7**: 267-283, 1999.
52. Menon, R.S. and Kim, S.-G., “Spatial and temporal limits in cognitive neuroimaging with fMRI”, *Trends in Cognitive Sciences*, **3**: 207-216, 1999.
53. Zaini, M.R., Strother, S.C., Anderson, J.R., Liow, J.S., Kjems, U., Tegeler, C. and Kim, S.-G., “Comparison of matched BOLD and FAIR 4.0T-fMRI with [15O] water PET brain Volumes”, *Medical Physics*, **26**: 1559-1567, 1999.
54. Silva, A.C. and Kim, S.-G., “A pseudo-continuous arterial spin labeling technique for measuring CBF dynamics with high temporal resolution”, *Magn. Reson. Med*., 42: 425-429, 1999.
55. Lee, S.-P., Silva, A.C., Ugurbil, K. and Kim, S.-G., “Diffusion-weighted Spin-echo fMRI at 9.4T: Microvascular/tissue Contribution to BOLD Signal Changes”, *Magn. Reson. Med*., **42**: 919-928, 1999.
56. Ugurbil, K., Hu, X., Chen, W., Zhu, X.-H., Kim, S.-G. and Georgopoulos, A.P., “Functional mapping in the human brain using high magnetic fields”, *Phil. Trans. R. Soc. London B,* **354**: 1195-1213, 1999.
57. Richter, W., Somorijai, R., Summers, R., Jarmasz, M., Menon, R.S., Gati, J.S., Georgopoulos, A.P., Tegeler, C., Ugurbil, K. and Kim, S.-G., “Motor area activity during mental rotation studied by time-resolved single-trial fMRI”, *J. Cogn. Neurosci*., **12**(2): 310-320, 2000.
58. Silva, A.C., Lee, S.-P., Iadecola, C. and Kim, S.-G., “Early Temporal Characteristics of CBF and Deoxyhemoglobin Changes during Somatosensory Stimulation”, *J. Cerebral Blood Flow & Metabolism*, **20**: 201-206, 2000*.*
59. Duong, T.Q. and Kim, S.-G., “In vivo MR measurements of regional arterial and venous blood volume fractions in intact rat brain”, *Magn. Reson. Med*., **43**: 393-402, 2000.
60. Duong, T.Q., Silva, A.C., Lee, S.-P. and Kim, S.-G., “Functional Imaging of Calcium-Dependent Synaptic Activity: Cross Correlation with CBF and BOLD measurements”, *Magn. Reson. Med*., **43**: 383-392, 2000*.*
61. Kim, D.-S., Duong, T.Q. and Kim, S.-G., “High resolution imaging of Iso-Orientation Columns using fMRI”, *Nature Neuroscience*, **3**: 164-169, 2000 (see also Cover, and News and Views).
62. Silva, A.C., Kim, S.-G., and Garwood, M., “Imaging blood flow in brain tumors using arterial spin labeling”, *Magn. Reson. Med*., **44**: 169-173, 2000
63. Duong, T.Q., Kim, D.-S., Ugurbil, K. and Kim, S.-G., “Spatio-temporal Dynamics of the BOLD fMRI Signals: Toward Mapping Columnar Structures Using the Early Negative Response”, *Magn. Reson. Med*., **44**: 231-242, 2000.
64. Ugurbil, K., Adriany, G., Andersen, P., Chen, W., Gruetter, R., Hu, X., Merkle, H., Kim, D.-S., Kim, S.-G., Strupp, J., Zhu, X.-H. and Ogawa, S., “Magnetic resonance studies of brain function and neurochemistry” *Ann Rev Biomed Eng*, **2**: 633-660, 2000.
65. Georgopoulos, A.P., Whang, K., Georgopoulos, M.-A., Tagaris, G.A., Amirikian, B., Richter, W., Kim, S.-G. and Ugurbil, K., “Functional magnetic resonance imaging of visual object construction and shape discrimination: Relations among tasks, hemispheric lateralization and gender, *J. Cogn. Neurosci*., **13**(1):72-89, 2001.
66. Duong, T.Q., Iadecola, C. and Kim, S.-G., “Effect of hyperoxia, hypercapnia and hypoxia on cerebral interstitial oxygen tension and cerebral blood flow ”, *Magn. Reson. Med*., **45**: 61-70, 2001.
67. Lee S.-P., Duong T.Q., Yang G., Iadecola C., Kim S.-G., “Relative Changes of Cerebral Arterial and Venous Blood Volumes during Increased Cerebral Blood Flow: Implications for BOLD fMRI”, *Magn. Reson. Med*., **45**: 791-800, 2001.
68. Barbier, E.L., Silva, A.C., Kim, S.-G. and Koretsky, A.P., “Perfusion imaging using dynamic arterial spin labeling (DASL)”, *Magn. Reson. Med*., **45**(6): 1021-1029, 2001.
69. Ito, H., Takahashi, K., Kim, S.-G. and Kanno, I., “Changes in Regional Cerebral Blood Flow and Cerebral Blood Volume during Visual Stimulation in Humans Measured by Positron Emission Tomography”, *J. Cereb. Blood Flow & Metab*., **21**(5): 608-612, 2001.
70. Dassonville, P., Lewis, S.M., Zhu, X.-H., Ugurbil, K., Kim, S.-G. and Ashe, J., "The effect of stimulus-response compatibility on cortical motor activation", *Neuroimage*, **13**(1):1-14, 2001.
71. Ronen, I. and Kim, S.-G., "Measurement of Intravascular Sodium during increased CBF using 23Na NMR with a shift agent", *NMR in Biomedicine*, **14**(7-8): 448-452, 2001.
72. Duong, T.Q., Kim, D.-S., Ugurbil, K. and Kim, S.-G., "Localized Cerebral Blood Flow Response at Sub-millimeter Columnar Resolution", *Proc. Natl. Acad. Sci., USA,* **98**(19): 10904-10909, 2001.
73. I.-Y. Choi, S.-P. Lee, S.-G. Kim, and R. Gruetter, "In vivo Measurements of Brain Glucose Transport using Reversible Michaelis-Menten Model and Simultaneous Measurements of Cerebral blood flow changes during hypoglycemia", *J. Cereb. Blood Flow & Metab*., **21**: 653-663, 2001.
74. Lee, S.-P., Silva, A.C. and Kim, S.-G., “Comparison of Diffusion-weighted CBF and Spin-echo BOLD fMRI at 9.4T”, *Magn. Reson. Med*., **47**(4): 736-741, 2002.
75. T.Q. Duong, S.-C. Ngan, K. Ugurbil, & S.-G. Kim, "Functional Magnetic Resonance Imaging of the Retina", *Invest. Ophthamology & Visual Sci*., **43**: 1176-1181, 2002.
76. Seidler R.D., Purushotham A., Kim S.-G., Ugurbil K., Willingham D., and Ashe J., “Cerebellum Activation Associated with Performance Change but not Motor Learning”, *Science*, **296**: 2043-2046, 2002.
77. Harel N., Lee S.-P., Nagaoka T., Kim D.-S. and Kim S.-G., “Origin of Negative Blood Oxygenation Level Dependent fMRI Signals”, *J. Cerebral Blood Flow & Metabolism*, **22**: 908-917, 2002.
78. Cohen E.R., Ugurbil K., and Kim S.-G., "Effect of basal conditions on the magnitude and dynamics of the BOLD fMRI response", *J. Cerebral Blood Flow & Metabolism*, 22: 1042-1053, 2002.
79. Duong T.Q., Yacoub E., Adriany G., Hu X., Ugurbil K., Vaughan J.T., Merkle H., and Kim S-G., “High-Resolution, Spin-echo BOLD and CBF fMRI at 4 and 7 T”, *Magn. Reson. Med,* 48: 589-593, 2002.
80. S.-G. Kim and S. Ogawa, “Insights into new techniques for high resolution functional MRI”, Current Opinion in Neurobiology, **12**: 607-615, 2002.
81. S.-G. Kim, and T.Q. Duong, “Mapping Cortical Columnar Structures using fMRI”, Physiology and Behavior, 77, 641-644, 2002.
82. S.-G. Kim and K. Ugurbil, “High Resolution Functional MRI of the Animal Brain”, Methods*,* 28 – 41, 2003.
83. A. Stancak Jr., E.R. Cohen, R.D. Seidler, T.Q. Doung, and S.-G. Kim. “The size of corpus callosum correlates with functional activation of medial motor cortical areas in bimanual and unimanual movements,” *Cerebral Cortex*, **13**, 475-485, 2003.
84. E. Yacoub, T.Q. Duong, P.F. Van De Moortele, M. Lindquist, G. Adriany, S.-G. Kim, K. Ugurbil, and X. Hu, “Spin-echo fMRI in humans using high spatial resolutions and high magnetic fields”, *Magn. Reson. Med,* **49**(4): 655-664, 2003.
85. T.Q. Duong, E. Yacoub, G. Adriany, X. Hu, K. Ugurbil, S-G. Kim, “Microvascular BOLD contribution at 4 and 7 Tesla in the human brain: Gradient-echo and spin-echo fMRI with suppression of blood effects, *Magn. Reson. Med,* **49**: 1019-1027, 2003.
86. A.C. Silva and S.-G. Kim, “Perfusion-based functional magnetic resonance imaging”, Concept Magn. Reson, **16A**, 16-27, 2003.
87. Lewis, S.M., Tzagarakis, C., Georgopolulos, M.A., Tsekos, N., Amirikian B., Kim, S.G., Ugurbil, K., Georgopoulos, A.P. “Cerebellar activation during copying geometrical shapes”, *J. Neurophysiol.,*  **90**(6):3874-87, 2004.
88. Zhao F, Wang P & Kim S-G, “Cortical depth-dependent gradient-echo and spin-echo BOLD fMRI at 9.4T”, *Magn Reson Med*., **51**: 518-524, 2004.
89. Kim, D.S., Ronen, I, Olman, C., Kim, S.-G., Ugurbil, K, "Spatial relationship between neuronal activity and BOLD functional MRI", *Neuroimage*, **24**(1):876-885, 2004.
90. Cohen ER, Rostrup E, Sidaros K, Lund TE, Paulson OB, Ugurbil K, Kim SG. Hypercapnic normalization of BOLD fMRI: comparison across field strengths and pulse sequences. *Neuroimage*, **23**(2):613-24, 2004.
91. Duong T.Q., Yacoub E., Adriany G., Hu X., Andersen P., Vaughan J.T., Ugurbil K., and Kim S-G., “Spatial specificity of high-resolution, spin-echo BOLD and CBF fMRI at 7 T”, *Magn. Reson. Med,* 51: 646-647, 2004.
92. Zhao F, Wang P, Hendrich K & Kim S-G, "Spatial specificity of cerebral blood volume-weighted fMRI responses at columnar resolution", *Neuroimage*, **27**:416-424, 2005.
93. Kim T, Kim SG. “Quantification of cerebral arterial blood volume and cerebral blood flow using MRI with modulation of tissue and vessel (MOTIVE) signals”, *Magn Reson Med.* 2005 Aug;54(2):333-42.
94. Lewis SM, Jerde TA, Tzagarakis C, Gourtzelidis P, Georgopoulos MA, Tsekos N, Amirikian B, Kim SG, Ugurbil K, Georgopoulos AP. Logarithmic transformation for high-field BOLD fMRI data. *Exp Brain Res.* 2005 Sep;165(4):447-53.
95. R.D. Seidler, A. Purushotham, S.-G. Kim, K. Ugurbil, D. Willingham, J. Ashe, “Neural correlates of encoding and expression in implicit sequence learning”, *Exp Brain Res,* 165(1): 114-24, 2005
96. Fukuda M, Wang P, Moon CH, Tanifuji M, Kim SG. “Spatial specificity of the enhanced dip inherently induced by prolonged oxygen consumption in cat visual cortex: Implication for columnar resolution functional MRI”, *Neuroimage*. 2006;30(1):70-87
97. [Nagaoka T](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Nagaoka+T%22%5BAuthor%5D), [Zhao F](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Zhao+F%22%5BAuthor%5D), [Wang P](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Wang+P%22%5BAuthor%5D), [Harel N](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Harel+N%22%5BAuthor%5D), [Kennan RP](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Kennan+RP%22%5BAuthor%5D), [Ogawa S](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Ogawa+S%22%5BAuthor%5D), [Kim SG](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Kim+SG%22%5BAuthor%5D). Increases in oxygen consumption without cerebral blood volume change during visual stimulation under hypotension condition. J Cereb Blood Flow Metab. 2006;26(8):1043-51
98. [Zhao F](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Zhao+F%22%5BAuthor%5D), [Wang P](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Wang+P%22%5BAuthor%5D), [Hendrich K](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Hendrich+K%22%5BAuthor%5D), [Ugurbil K](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Ugurbil+K%22%5BAuthor%5D), [Kim SG](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Kim+SG%22%5BAuthor%5D). “Cortical layer-dependent BOLD and CBV responses measured by spin-echo and gradient-echo fMRI: Insights into hemodynamic regulation”, *Neuroimage*. 2006 May 1;30(4):1149-60 (see also Cover)
99. [Kim T](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Kim+T%22%5BAuthor%5D), [Kim SG](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Search&itool=pubmed_Abstract&term=%22Kim+SG%22%5BAuthor%5D). “Quantification of cerebral arterial blood volume using arterial spin labeling with intravoxel incoherent motion-sensitive gradients”, *Magn Reson Med.* 2006 May;55(5):1047-57.
100. [Jin T, Wang P, Tasker M, Zhao F, Kim SG.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16700023&query_hl=9&itool=pubmed_docsum) “Source of nonlinearity in echo-time-dependent BOLD fMRI”, *Magn Reson Med*. 2006 Jun;55(6):1281-90.
101. Vazquez AL, Cohen ER, Gulani V, Hernandez-Garcia L, Zheng Y, Lee GR, Kim SG, Grotberg JB, Noll DC, “Vascular dynamics and BOLD fMRI: CBF level effects and analysis considerations”. *Neuroimage*. 2006 Oct 1;32(4):1642-55.
102. [Masamoto K, Kim T, Fukuda M, Wang P, Kim SG.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16731882&query_hl=9&itool=pubmed_docsum) “Relationship between Neural, Vascular, and BOLD Signals in Isoflurane-Anesthetized Rat Somatosensory Cortex”, *Cerebral Cortex*. 2007 Apr;17(4):942-50.
103. Jin T, Zhao F & Kim S-G, "Sources of functional apparent diffusion coefficient changes investigated by diffusion-weighted spin-echo fMRI ", *Magn Reson Med,* 56: 1283-1292, 2006
104. Fukuda M, Moon C-H, Wang P, & Kim S-G, " Mapping iso-orientation columns by contrast agent-enhanced functional magnetic resonance imaging:  reproducibility, specificity and evaluation by optical imaging of intrinsic signal", *J of Neuroscience,* 26(46):11821–11832, 2006.
105. Kim T, Masamoto K, Hendrich K & Kim S-G, "Arterial versus Total Blood Volume Changes during Neural Activity-induced Cerebral Blood Flow Change: Implication for BOLD fMRI", *J. Cerebral Blood Flow and Metabolism,* 2007 Jun;27(6):1235-47.
106. Zhao F, Jin T, Wang P & Kim S-G, "Improved spatial localization of post-stimulus BOLD undershoot relative to positive BOLD", *NeuroImage,* 34(3):1084-92, 2007.
107. Zhao F, Jin T, Wang P  Hu X & Kim S-G, "Sources of phase changes in BOLD and CBV-weighted fMRI" *Magn Reson Med,* 57(3):520-7, 2007.
108. Rooney WD, Johnson G, Li X, Cohen ER, Kim SG, Ugurbil K, Springer CS Jr, "Magnetic field and tissue dependencies of human brain longitudinal (1)H(2)O relaxation in vivo", *Magn Reson Med.* 2007 Feb;57(2):308-18.
109. Moon C-H, Fukuda M, Park S-H, & Kim S-G, “Neural interpretation of blood oxygenation level-dependent fMRI maps at submillimeter columnar resolution”, *J of Neuroscience.* 2007 Jun 27;27(26):6892-902.
110. Zhao F, Jin T, Wang P & Kim S-G, "Isoflurane anesthesia effect in functional imaging studies” NeuroImage, 38(1):3-4, 2007.
111. Kim S.-G. & Fukuda H. “Lessons from fMRI about Mapping Cortical Columns”, *Neuroscientist*, 14(3):287- 99, 2008.
112. Jin T & Kim S-G, “Improved cortical-layer specificity of Vascular Space Occupancy fMRI with slab inversion relative to spin-echo BOLD at 9.4 T”, *Neuroimage*, 2008 Mar 1;40(1):59-67.
113. [Masamoto K, Vazquez A, Wang P, & Kim SG.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16731882&query_hl=9&itool=pubmed_docsum) “Trial-by-Trial Relationship between Neural Activity, Oxygen Consumption, and Blood Flow Responses”, *Neuroimage*, 2008 Apr 1;40(2):442-50.
114. Park SH, [Masamoto K, Hendrich K, Kanno K, & Kim SG.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16731882&query_hl=9&itool=pubmed_docsum) ”Imaging brain vasculature with BOLD 3D microscopy: MR detection limits determined by *in vivo* two-photon microscopy”, *Magn Reson Med.,* 2008 Apr;59(4):855-65.
115. Vazquez A, [Masamoto K & Kim SG.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16731882&query_hl=9&itool=pubmed_docsum), “Dynamics of Oxygen Delivery and Consumption During Evoked Neural Stimulation Using a Compartment Model and CBF and Tissue PO2 Measurements”, *NeuroImage*, 2008, 42(1):49-59..
116. Jin T & Kim S-G, “Functional changes of apparent diffusion coefficient during visual stimulation investigated by diffusion-weighted gradient-echo fMRI’,*NeuroImage*, 2008, 41(3):801-12.
117. Jin T & Kim S-G, “Cortical layer-dependent dynamic blood oxygenation, cerebral blood flow and cerebral blood volume responses during visual stimulation”,*NeuroImage*, 2008, 43(1):1-9.
118. Kim T, Hendrich K & Kim S-G, "Functional MRI with Magnetization Transfer Effects: Determination of BOLD and Arterial Blood Volume Changes”,*Magn Reson Med.*, 2008, 60(6): 1518-1523, 2008.
119. [Masamoto K, Vazquez A, Wang P, & Kim SG.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16731882&query_hl=9&itool=pubmed_docsum), “Brain tissue oxygen consumption and supply induced by neural activation: determined under suppressed hemodynamic response conditions in the anesthetized rat cerebral cortex”, *Adv. Exp. Med. Biol.,* 645:287-92, 2009.
120. [Masamoto K, Fukuda M, Vazquez A, & Kim SG.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16731882&query_hl=9&itool=pubmed_docsum), “Dose-dependent effect of isoflurane on neurovascular coupling in rat somatosensory cortex”, *European Journal of Neuroscience,* 30: 242-250, 2009
121. Vazquez A, Fukuda M, Tasker ML, [Masamoto K & Kim SG.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16731882&query_hl=9&itool=pubmed_docsum) “Changes in Cerebral Arterial, Tissue and Venous Oxygenation with Evoked Neural Stimulation: Implications for Hemoglobin-based Functional Neuroimaging”, *Journal of Cerebral Blood Flow and Metabolism*, 30(2):428-39, 2010.
122. Kim T & Kim S-G, " Cortical layer-dependent arterial blood volume changes: Improved spatial specificity relative to BOLD fMRI”,*Neuroimage,* 49: 1340-1349, 2010.
123. Tai C, Wang J, Jin T, Wang P, Kim S-G, Roppolo JR, & de Groat WC, “Brain switch for reflex micturition control detected by fMRI in rats”, *J of Neurophysiology*, 102(5):2719-30, 2009.
124. Swisher JD, Gatenby JC, Gore JC, Wolfe BA, Moon CH, Kim S-G, and Tong F, “Multiscale pattern analysis of orientation-selective activity in the primary visual cortex”, *J of Neuroscience,* 30(1):325-30, 2010.
125. Jin T & Kim S-G, “Change of the cerebrospinal fluid volume during brain activation investigated by T1ρ-weighted fMRI”, *NeuroImage*, 51(4):1378-83, 2010.
126. Kim T, Masamoto K, Fukuda M, Vazquez A & Kim S-G, “Frequency-dependent Neural Activity, CBF, and BOLD fMRI to Somatosensory Stimuli in Isoflurane-anesthetized Rats”, *NeuroImage*, Aug 1;52(1):224-33, 2010.
127. Vazquez A, [Masamoto K, Fukuda M & Kim SG.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16731882&query_hl=9&itool=pubmed_docsum) “Cerebral Oxygen Delivery and Consumption During Evoked Neural Activity”, *Frontiers in Neuroenergetics*, Jun 18;2:11, 1-12, 2010.
128. Kim T & Kim SG. “Temporal dynamics and spatial specificity of arterial and venous blood volume changes during visual stimulation: implication for BOLD quantification”, *J Cereb Blood Flow Metab.* May;31(5):1211-22, 2011
129. Jin T, Autio J, Obata T &Kim SG, “Spin-locking versus chemical exchange saturation transfer MRI for investigating chemical exchange process between water and labile metabolite protons”, *Magn Reson Med*. 65(5):1448-60, 2011
130. Kim T & Kim SG, “Quantitative MRI of Cerebral Arterial Blood Volume”, *Open NeuroImaging Journal*, 5: 136-145, 2011.
131. Yen CC, Fukuda M, Kim SG, “BOLD responses to different temporal frequency stimuli in the lateral geniculate nucleus and visual cortex: Insights into the neural basis of fMRI”, *Neuroimage*, Sep 1;58(1):82-90, 2011.
132. Park SH, Kim T, Wang P, Kim SG, “Sensitivity and specificity of high-resolution balanced steady-state free precession fMRI at high field of 9.4T”, *Neuroimage*, Sep 1;58(1):168-76, 2011
133. Tanaka S, Moon CH, Fukuda M, Kim S-G, “Three-dimensional visual feature representation in the primary visual cortex”, *Neural Networks*, 24: 1022-1035, 2011
134. Jin T, Wang P, Zong X, and Kim S-G, “Magnetic resonance imaging of the Amine-Proton EXchange (APEX) dependent contrast”, NeuroImage, Jan 16;59(2):1218-27, 2012 doi:10.1016/j.neuroimage.2011.08.014
135. Kim S-G, “Perfusion MR Imaging: Evolution from Initial Developments to Functional Studies”, *NeuroImage*, 62: 672-675, 2012. 10.1016/j.neuroimage.2012.01.015.
136. Meng Y, Wang P and Kim S-G, “Simultaneous measurement of cerebral blood flow and transit time with Turbo dynamic arterial spin labeling (Turbo-DASL): Application to functional studies”, *Magn. Reson. Med*, 68:762–771, 2012, DOI: 10.1002/mrm.23294.
137. Vazquez A, [Fukuda M & Kim S-G.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=16731882&query_hl=9&itool=pubmed_docsum), “Evolution of the dynamic changes in functional cerebral oxidative metabolism from tissue mitochondria to blood oxygen”, *J Cereb Blood Flow Metab.* Apr;32(4):745-58, 2012.
138. Kim S-G & Ogawa S “Biophysical and Physiological Origins of Blood Oxygenation Level-Dependent fMRI Signals”, *J of Cerebral Blood Flow and Metabolism,* 32: 1188-1206, 2012.
139. Zong XP, Kim T & Kim S-G, “Contributions of dynamic venous blood volume versus oxygenation level changes to BOLD fMRI”, *NeuroImage*, May 1;60(4):2238-46, 2012. doi:10.1016/j.neuroimage.2012.02.052.
140. Jin T & Kim S-G “Quantitative chemical exchange sensitive MRI using irradiation with toggling inversion preparation”, *Magnetic Resonance in Medicine,* 68: 1056-1064, 2012.
141. Kozai TDY, Vazquez AL, Weaver CL, Kim S-G & Cui XT “In vivo two photon microscopy reveals immediate microglial reaction to implantation of microelectrode through extension of processes”, *Journal of Neural Engineering,* 6: 066001, 2012.
142. Moon CH, Fukuda M & Kim S-G “Spatiotemporal characteristics and vascular sources of neural-specific and -nonspecific fMRI signals at submillimeter columnar resolution”, *NeuroImage,* 64: 91–103, 2013.
143. Jin T, Wang P, Zong XP & Kim S-G “MR imaging of the Amide-Proton Transfer effect and the pH-insensitive Nuclear Overhauser Effect at 9.4 T”, *Magnetic Resonance in Medicine,* 69: 760-770, 2013.
144. Fukuda M, Vazquez AV, Zong, XP & Kim S-G “Effects of the α2-adrenergic receptor agonist dexmedetomidine on neural, vascular and BOLD fMRI responses in the somatosensory cortex”, *Eur J Neurosci,* 37:80-95, 2013.doi:10.1111/ejn.12024.
145. Kim S-G, Harel N, Jin T, Kim T, Lee P & Zhao F “Cerebral Blood Volume MRI with Intravascular Superparamagenetic Iron Oxide Nanoparticles”, *NMR In Biomedicine,* 26: 949–962, 2013*.*
146. Zong XP, Wang P, Kim S-G & Jin T “Sensitivity and Source of Amine Proton EXchange (APEX) and Amide Proton Transfer (APT) MRI in Cerebral Ischemia”, *Magnetic Resonance in Medicine,* 71: 118-132, 2014.
147. Kim T, Shin WY & Kim S-G “Fast Magnetization Transfer and Apparent T1 Imaging using a Short Saturation Pulse with and without Inversion Preparation”, *Magnetic Resonance in Medicine,* 71: 1264-1271, 2014.
148. Jin T & Kim S-G “Characterization of non-hemodynamic functional signal measured by spin-lock fMRI”, *NeuroImage,*78: 385–395, 2013.
149. Vazquez AV, Fukuda M, Crowley JC & Kim S-G “Neural and hemodynamic responses elicited by forelimb and photo-stimulation in Channelrhodopsin-2 mice: Insights into the hemodynamic point-spread function”, *Cerebral Cortex,* 24 (11): 2908-2919, 2014.
150. Devor A et al., “The Challenge of Connecting the Dots in the B.R.A.I.N”,*Neuron*, 80: 270-274, 2013. DOI: 10.1016/j.neuron.2013.09.008
151. Poplawsky AJ & Kim S-G, “Layer-Dependent BOLD and CBV-weighted fMRI Responses in theRat Olfactory Bulb”, *NeuroImage*, 91: 237-251, 2014.
152. Kim T, Jennings JR & Kim S-G, “Regional Cerebral Blood Flow and Arterial Blood Volume and their Reactivity to Hypercapnia in Hypertensive and Normotensive Rats”, *Journal of Cerebral Blood Flow and Metabolism*, 34: 408–414, 2014.
153. Zong XP, Lee JY, Poplawsky AP, Kim S-G & Ye JC, “Compressed Sensing fMRI using Gradient-recalled Echo and EPI Sequences”, *NeuroImage*, 92: 312–321, 2014.
154. Jin T, Mehrens H, Hendrich KS & Kim S-G “Mapping brain glucose uptake with chemical exchange-sensitive spin-lock magnetic resonance imaging”, *Journal of Cerebral Blood and Metabolism,*34(8):1402-10, 2014.
155. Ho LC, Conner IP, Do CW, Kim SG, Wu EX, Wollstein G, Schuman JS, & Chan KC “In vivo assessment of aqueous humor dynamics upon chronic ocular hypertension and hypotensive drug treatment using gadolinium-enhanced MRI”, *Invest Ophthalmol Vis Sci,*55(6):3747-57, 2014.
156. Ho LC, Sigal IA, Jan NJ, Squires A, Tse Z, Wu EX, Kim SG, Schuman JS, & Chan KC “Magic Angle-Enhanced MRI of Fibrous Microstructures in Sclera and Cornea with and without Intraocular Pressure Loading”, *Invest Ophthalmol Vis Sci,*55(9):5662-72, 2014.
157. Jin T & Kim S-G “Advantages of chemical exchange-sensitive spin-lock (CESL) over chemical exchange saturation transfer (CEST) for hydroxyl– and amine–water proton exchange studies”, *NMR in Biomedicine,*27: 1313–1324, 2014 doi: 10.1002/nbm.3191
158. Vazquez AV, Murphy M & Kim S-G, “Neuronal and Physiological Correlation to Hemodynamic Resting-State Fluctuations in Health and Disease”, Brain Connectivity, 4(9): 727-740, 2014
159. Iordanova B, Vazquez AL, Poplawsky AJ, Fukuda M, and Kim SG, “Neural and hemodynamic responses to optogenetic and sensory stimulation in the rat somatosensory cortex”, *Journal of Cerebral Blood and Metabolism,* 35(6), 922-932, 2015.
160. Ho LC, Wang B, Conner IP, van der Merwe Y, Bilonick RA, Kim SG, Wu EX, Sigal IA, Wollstein G, Schuman JS, Chan KC, “In Vivo Evaluation of White Matter Integrity and Anterograde Transport in Visual System After Excitotoxic Retinal Injury With Multimodal MRI and OCT”, Invest Ophthalmol Vis Sci. 56(6):3788-800, 2015
161. Han PK, Park SH, Kim SG, Ye JC, “Compressed Sensing for fMRI: Feasibility Study on the Acceleration of Non-EPI fMRI at 9.4T”, Biomed Res Int. 2015:131926, 2015.
162. Murphy MC, Nau AC, Fisher C, Kim SG, Schuman JS, Chan KC, “Top-down influence on the visual cortex of the blind during sensory substitution”, 125:932-940, 2015.
163. Poplawsky AJ, Fukuda M, Murphy M & Kim S-G, “Layer-specific fMRI responses to excitatory and inhibitory neuronal activities in the olfactory bulb”, *J of Neurosci*, 35(46):15263-75, 2015.

2. Reviews, Invited Papers, Proceedings of Conferences, Book Chapters:

1. Kim, S.-G., Hwang, Y.C. and Ackerman, J.J.H. “Measurement of Tumor Blood Flow by Deuterium Nuclear Magnetic Resonance Spectroscopy”, Magnetic Resonance in Experimental and Clinical Oncology (eds. J.L. Evelhoch, W. Negendank, F.A. Valeriote, L.H. Baker), 59-94, Kluwer Acad. Pub., Boston, 1990.
2. Kim, S.-G., Salazar, M. and Reid, B.R. “Automatic NOE Back-calculation: Application to DNA and DNA-RNA Hybrid-Chimeric Duplexes”, *Bull. Magn. Reson.,* **15**: 29-34, 1993.
3. Ugurbil, K., Ogawa, S., Menon, R., Kim, S.-G., Hu, X., Hinke, R., Ellermann, J., Hendrich, K., Merkle, H., Andersen, P., Salmi, R., Adriany, G. and Strupp, J. “Mapping Human Brain Activity Noninvasively by Nuclear Magnetic Resonance”, New Horizons in Neurophychology (ed. M. Sugishita), 3-22, Elsevier, NY, 1994.
4. Ellermann, J., Garwood, M., Hendrich, K., Hinke, R., Hu, X., Kim, S.-G., Menon, R., Merkle, H., Ogawa, S. and Ugurbil, K. “Functional Imaging of the Brain by Nuclear Magnetic Resonance”, NMR in Physiology and Biomedicine (ed. R.J. Gillies), 137-150, Academic Press, NY, 1994.
5. Menon, R.S., Kim, S.-G., Hu, X., Ogawa, S. and Ugurbil, K. “Functional MRI using the BOLD approach: Field Strength and Sequence Issues”, Diffusion and Perfusion Magnetic Resonance Imaging (ed. D. Le Bihan), 327-334, Raven Press, NY, 1995.
6. Hu, X., Le, T.H., Kim, S.-G., and Ugurbil, K., An overview of functional magnetic resonance imaging, in Microscopy and microanalysis, (ed.: M.G. Baily), p. 886-887, San Francisco Press: San Francisco, 1996.
7. Ugurbil, K., Ogawa, S., Kim, S.-G., Hu, X., Chen, W. and Zhu, X-H., “Imaging brain activity using nuclear spins”, Proc. of Int. School of Physics, Enrico Fermi, Magnetic Resonance and Brain Function: Approaches from Physics, (ed: B. Maraviglia); North-Holland Elsevier (Amsterdam), pp-261-310.
8. Kim, S.-G., Lee, S.-P., Goodyear, B. and Silva, A., “Spatial Resolution of BOLD and Other Functional MRI Techniques”, in Medical Radiology - Diagnostic Imaging and Radiation Oncology, Volume Functional MRI (eds. C. Moonen and P.A. Bandettinni), Springer-Verlag, pp 195-203, 1999.
9. Ogawa, S., Chen, W., Kim, S.-G., Kato, T., Zhu, X.-H., Menon, R.S. and Ugurbil, K., “Recent topics in functional MRI”, in Current Progress in Functional Brain Mapping: Sciences and Applications, eds.: T. Yuasa, J.W. Prichard, and S. Ogawa, pp. 9-13, Nishimura/Smith-Gordon, 1998.
10. Iadecola, C. and Kim, S.-G. Editorial Comment, *Stroke*, **30**: 2204-2205, 1999.
11. Ugurbil K., Chen W., Hu X, Kim S-G, Zhu XH, and Ogawa, S., “Functional MRI at High Fields: Practice and Utility”. Encyclopedia on Magnetic Resonance Imaging, Published Online: 15 MAR 2007, DOI: 10.1002/9780470034590.emrstm0179
12. Kim, D.-S., Duong, T.Q. and Kim, S.-G., “Reply to can current fMRI techniques reveal the micro-architecture of the cortex?” *Nature Neuroscience*, **3**: 414, 2000.
13. S-G. Kim, T.Q Duong, D.-S. Kim, T. Nagaoka, & N. Harel, "Spatial Specificity of CBF and BOLD Responses induced by Neural Activity", in Brain Activation and Cerebral Blood Flow Control (ed., M. Tomita), Brain Activation and CBF Control, 39-48, 2002.
14. Kim, D.S., T.Q Duong, D.-K. Ugurbil, S.G. Kim, "Functional Mapping in the Cat Primary Visual Cortex Using High Magnetic Fields”, (ed., B.R.Payne), The Cat Primary Visual Cortex, 195-220, 2002
15. L.K. Hansen, A. Purushotham, S.G. Kim, "Testing Competing Hypotheses about Single Trial fMRI", (ed., F.T. Sommer), Exploratory Analysis and Data Modeling in Functional Neuroimaging, 43-62, 2003.
16. S-G. Kim, “Progress in understanding functional imaging signals”, Proc. Natl. Acad. Sci., USA, Commentary, **100**(7) 3550 – 3552, 2003.
17. Ugurbil K, Adriany G, Andersen P, Chen W, Garwood M, Gruetter R, Henry PG, Kim SG, Liu H, Tkac I, Vaughan T, Van De Moortele PF, Yacoub E, Zhu XH. Ultrahigh field magnetic resonance imaging and spectroscopy. Magn Reson Imaging, 21(10):1263-81. Review, 2003
18. Ugurbil K, Kim DS, Duong T, Hu X, Ogawa S, Gruetter R, Chen W, Kim S-G, Zhu H-H, Yacoub E, Van De Moortele PF, Shmuel A, Pfeffer J, Merkle H, Andersen P & Adriany G. Magnetic resonance imaging of brain function and neurochemistry. Proc of IEEE, Magn Reson Imaging, 89(7): 1093 - 1106. Review, 2001
19. S.-G. Kim and S.-P. Lee, "Cortical Depth dependent CBF changes induced by neural activity", in International Congress Series "Quantification in Biomedical Imaging with PET and MRI (ed., H. Iida, N.J. Shah, T. Hayashi, H. Watabe), Elseiver, 201-210, 2004.
20. S.-G. Kim and P.A. Bandettini, "Principles of functional MRI", in Functional MRI Basic Principles and Clinical Applications (ed., S.H. Faro and F.B. Mohamed), Springer-Verlag, Chapter 1, 3-23. 2006 & 2010
21. Jin T & Kim S-G, “Spatial dependence of CBV-fMRI: a comparison between VASO and contrast agent based methods”, Proceedings of the 28th IEEE EMBS Annual International Conference, pp 25-28, New York City, USA, Aug 30-Sept 3, 2006.
22. Kim S-G, Jin T and Fukuda M, Chapter 3, “Spatial Resolution of fMRI Techniques”, in fMRI – Basics and Clinical Applications (S Ulmer, O. Jansen eds), Springer-Verlag, 2010
23. Kim S-G & Park SH, Chapter 34, “High-Resolution Venographic BOLD MRI of Animal Brain at 9.4 T: Implications for BOLD fMRI” in Susceptibility Weighted Imaging in MRI: Basic Concepts and Clinical Applications (Haacke EM & Reichenbach JR eds), Wiley-Blackwell, 2011 DOI: 10.1002/9780470905203.ch34
24. Kim SG, Jin T, Kim T, Vazquez A & Fukuda M, Chapter 19. ”Animal Model Studies” in fMRI

(Uludag K & Ugurbil K eds)

**PROFESSIONAL ACTIVITIES**

**Training/mentoring**

Ph.D. Graduate Students:

Sang-Pil Lee, U. of Minn., Medical Physics, 1996-2000

Archana Purushatham, U. of Minn., Biomedical Engineering, 1996-2004

Eric Cohen, Upstate NY Medical School 1999-2002

Tae Kim, U. of Minn., Medical Physics, 2000 - 10/04

Sung-Hong Park Bioengineering, University of Pgh 2005 – 2007

Cecil Yen Bioengineering, University of Pgh 2006 – 2011

David Whitney Biological sciences, CMU 2011-2013

Hunter Mehrens Physics, Pitt 2012-present

*Past Postdoctoral Fellows and Research Associates:*

Nikolaos V. Tsekos, Postdoc & Research Associate 1996-1998

Assistant Professor of Radiology, Washington Univ.

Associate Professor of Computer Science, University of Houston

Wolfgang Richter, Postdoc & Research Associate 1996-1998

Assistant Professor of Chemistry, Princeton Univ

Carola Tegeler, Postdoc 1997-1998

Industry, Germany

Afonso C. Silva, Postdoc & Research Associate 1997-1999

Tenure-tract Scientist, NINDS, National Institutes of Health

Dae-Shik Kim Research Associate 1998-2000

Assistant Professor of Radiology, Univ. of Minn

Associate Professor of Anatomy and Physiology, Univ. of Boston

Professor, KAIST, Korea

Itamar Ronen, Postdoc 1998-2000

Assistant Professor, Univ. of Boston

Associate Professor, Leiden University Medical Center

Timothy Q. Duong, Postdoc & Research Associate 1998-2001

Assistant Professor of University of Massachusetts

Associate Professor of Emory U

Endowed Chair Professor, University of Texas, San Antonio

M. Thiyagarajan Postdoc 2000-2001

Postdoc, Univ. of Alabama

Noam Harel Postdoc 2000-2003

Assistant Professor, Univ. of Minnesota 2003 - current

Tsukasa Nagaoka Postdoc 2000-2001

Assistant Professor at Albert Einstein University

Assistant Professor, Emory University

Sang-Pil Lee Postdoc 2000-2001

Tenure-tract Scientist, Nathan Kline Institute

University of Kansas

Jicheng Wang Postdoc 7/04-12/2005

Fuqiang Zhao Postdoc 11/00- 9/2005

Research Assistant Professor, Emory University

Merck Pharmaceutical

Mitsuhiro Fukuda Postdoc 9/02 - 8/06

Research Assistant Professor, University of Pittsburgh 9/06 – 1/07

Assistant Professor, University of Pittsburgh 2/07 - present

Kazuto Masamoto Postdoc 10/03-10/06

Assistant Professor, College of Electrical Engineering and Communication, Japan – 11/06 - present

Tao Jin Postdoc 2003-1/07

Research Assistant Professor, University of Pittsburgh 1/07 – current

Chan Hong Moon Postdoc 2002-2007

Research Assistant Professor, University of Pittsburgh 5/07 – current

Tae Kim, Postdoc 11/04 – 6/09

Research Instructor, University of Pittsburgh 7/09 – current

Toshihiro Hayashi Postdoc 04-07

Assistant Professor, University of Tokyo, Japan 2008 - current

Alberto Vazquez Postdoc 09/05 – 09/09

Research Assistant Professor, University of Pittsburgh 10/09 – current

Yuguang Meng Postdoc 2008 – 2011

Yerkes Regional Primate Center, Emory U

Xiaopeng Zong Postdoc 2011-2013

University of North Carolina

Ping Wang Postdoc 1999 – present

Alex Poplawski Postdoc 2001-present

Bistra Iordanova Postdoc 2012-present

**Research**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Grant Number | Title | Role | Period | Direct Funding |
| NIH S10  RR026503 | 9.4T MR Instrument Console Upgrade | PI | 1/28/10 -6/27/12 | $496,719 |
| NIH RO1 EB003375 | Physiological Basis of Functional MRI Signals | PI | 05/15/99 -04/30/14 | $216,270/yr |
| NIH RO1 EB003324 | Functional MRI at Columnar Resolution | PI | 12/1/00-03/31/16 | ~$225,000/yr |
| NIH RO1 NS44589 | Neural Correlate of Perfusion Based fMRI | PI | 09/10/02 – 01/31/13 | $214,375/yr |
| NIH R21 EB012140 | Noninvasive MR imaging of cerebral arterial blood volume in humans | PI | 07/01/10 – 06/30/13 | $120.150/yr |
| NIH R90 DA023420 | Multimodal Neuroimaging Training Program - Research | PI | 09/30/06 – 07/31/16 | $299,155/yr |
| NIH T90 DA022761 | Multimodal Neuroimaging Training Program - NRSA | PI | 09/30/06 – 07/31/16 | ~$100,000/yr |
| NIH 1R01DK091253 | Central Projections and Functions of Lower Urinary Tract Symoathetic Afferent | Co-Inv  (PI-de Groat) | 08/01/11 – 07/31/16 | $42,866 |
| NIH R01 DK077783 | Neuroplasticity of Urinary Tract Disorders after SPI | Co-Inv  (PI-de Groat) | 05/01/07 – 4/30/13 | $47,066 |
| NIH K01 NS066131 | Functional relationship between neural, metabolic and hemodynamic responses | Mentor  (PI: Vazquez) | 7/1/10 – 6/30/15 |  |
| NIH P30 NS076405 | Center for neuroscience research in non-human primates (CNRN) | Co-inv  (PI: Strick) | 9/29/12-11/30/17 |  |
| NIH R21NS079143 | Direct Physiological Assessment of the BOLD Calibration Methods | Co-inv (PI: Fukuda) | 06/01/12 – 05/31/14 |  |
| NIH R01DK094905 | Central Sites of Action for Bladder Neuromodulation | Co-Inv (PI: Tai) | 05/01/12 – 03/31/17 |  |
| Ethicon Endo-Surgery Inc |  | Co-Inv (PI: Tai) | 08/01/2012 – 7/31/2013 |  |

*Prior Grant Support:*

NS-93-002 Functional MRI of Co-Invest. May 1994- NIH

Cognitive Processes April 1997 $631,838

NS-32437 Functional Magnetic Co-PI Apr 1995- NIH

J. Ashe Resonance Imaging of Mar 1998 $472,084

Human Motor Cortex

16647 Development of Regional PI Jul 1995- Univ. Minnesota

Grant-In-Aide Cerebral Blood Flow-based Dec 1996 $18,767

Functional MRI Techniques

P20 EB002013 Spatial and Temporal Pattern PI of Proj 1 Sept 1996- NIH

D.A. Rottenberg in Functional Neuroimaging 17% Aug 2006 $1,016,803

Project 1: Temporal Resolution of fMRI

17393 Physiological Basis of PI Jul 1997- Univ. Minnesota

Graduate School Functional MRI Signals Dec 1998 $18,390

Development of Perfusion- PI Apr 1996- Whitaker Found

based Functional MRI Mar 2000 $205,135

Techniques

Development of CBF-based PI Apr 1999- Whitaker Found

fMRI Mar 2000 $66,631

(ret. unused funds 5/15/00)

PPG RR08079 NMR Imaging and Localized PI of Core 2 Jun 1998- NIH

Spectroscopy at High 15% May 2002 $447,965

Magnetic Fields, Core 2: Quantitative Perfusion Imaging

RO1 NS32919 Functional MRI of Cognitive Co-Invest. Jul 1998- NIH

A. Georgopoulos Processes 5% Jun 2002 $1,307,961

Graduate School Real-time 3D Visualization Co-PI Jul 1998- Univ. Minnesota

of Brain Areas activated in Chronic Pain Dec 1999 $22,009

Mapping orientation column PI Feb 1999- Minnesota

in the visual cortex using MRI Dec 1999 Medical Found.

$12,869

SBR-9807956 Functional MRI Investigations Co-PI Oct 1998- NSF

P. Dassonville of Visual Perception Sep 2001 $213,660

K. Ugurbil Multi-user biological Co-PI Apr 1999- NIH and

Instrumentation Program: Mar 2000 NSF

7 Tesla 90 cm bore MRI/ $800,000

Spectroscopy System

NS-10930 Training Grant Sponsor Jun 1999- NIH post-doc

Tim Doung June 2000 $31,720/yr

(ret. unused funds 6/21/00)

NARSAD Coupling between CBF and PI Sep 1999- NARSAD

Oxygen Consumption during Sep 2001 $92,546

Neural Activity

RO3 MH60724 Mapping Columnar PI Dec 1999- NIH

Organization of Visual Cortex Nov 2001 $99,557

using MRI (terminate grant 11/30/00)

R01 NS38672 Dynamic MRI and MRS Studies Co-Invest. Mar 2000- NIH

Gruetter of Focal Neural Activation 5% June 2002 $184,612

RO1 NS40106 Learning in the Human Motor Co-PI Apr 2000- NIH

Ashe Cortex 5% June 2002 $268,126

RO1 MH61937 Functional MRI of layer-specific Co-PI Aug 2000- NIH

D-S. Kim cortical images 5% June 2002 $200,000

NARSAD Electrophysical correlate of Co-PI Sep 2000- Whitaker Found

ultra-high resolution functional 3% June 2002 $238,596

S10 RR17239 9.4T/31 cm Bore MR Instrument PI Sept 2002- NIH

Aug 2006 $2,000,000

R01 NS44837 Research Network in Multimodal Co-Invest. Oct 2002- NIH

Integration in Cog. Neuroscience 5% June 2005 $445,506

RO1 NS44589 Neural Correlate of Cerebral PI Sept 2002- NIH

Blood Flow Change 17% June 2007 $1,275,869

McKnight Fd. Development of In Vivo PI Aug 2001- McKnight

Perfusion-based Columnar Resolution fMRI July 2008 $200,000

9P41EB001977-16 Quantitative Perfusion Imaging Co-Invest. Sept 2003 NIH

Chien Ho-PI 5% Aug 2008 $372,289

MPC 06-02-1 Development of Metabolism Based Co-Invest. Jan 2006 MPC

Optical Imaging 5% Dec 2009 $40,000

R03 DA025986 Cerebral Blood Flow in HIV/AIDS Co-inv Sept 2008 NIH

and Drug Abuse Detected by CASL 3% Aug 2010 $38,713

MRI (PI: J Becker)

**2. Seminars and Invited Lectures**

1. Univ. of Minnesota, Dept. of Physiology, Oct. 1993
2. Henry Ford Hospital, Dept. of Neurology, Detroit, March, 1994.
3. New York University, Dept. of Radiology, New York, June, 1994.
4. 16th International Conference on Magnetic Resonance in Biological Systems, (Veldohoven, Netherlands), Plenary Lecture, August 18, 1994
5. The Zanvyl Krieger Mind/Brain Institute, John Hopkins University, Plasticity and Recovery of the Nervous System, Feb. 17, 1995.
6. Korean Magnetic Resonance in Medical Sciences Symposium (Seoul, Korea), Nov. 4, 1995, Plenary Lecture,
7. Kyung-Pook National University (Taegu, Korea), Commemorative symposium for 50th Anniversary, July 29, 1996, “Visualization of human mind on the brain”
8. 9th Asian Oceanian Congress of Neurology (Seoul, Korea), Sep. 3, 1996, “Cortical Activation using Functional MRI”
9. Biomedical Engineering Research Center in Korea, Commemorative symposium for 3rd Anniversary, Sep 6, 1996, “Visualization of Human Brain Function”
10. University of Rochester, Radiology Department Seminar, Oct. 21, 1996
11. Minnesota Workshop on Principles and Applications of High Field Magnetic Resonance Imaging and Spectroscopy, Univ. of Minn., Faculty, March 7, 1997.
12. Minnesota Workshop on Magnetic Resonance Imaging of Brain Function, Univ. of Minn. Faculty, March 8, 1997.
13. Hands on Training in Functional Magnetic Resonance Imaging, Univ. of Minn., Faculty, March 10, 1997.
14. Georgetown University, Department Seminar, Mar. 21, 1997
15. McDonnell-Pew Cognitive Neuroscience Annual Meeting, Oxford, U.K., June 28, 1997, “Different Roles of Motor Cortical Areas during Motor Preparation and Execution”
16. University of London, Institute of Neurology, London, U.K., June 30, 1997
17. Perfusion Imaging Workshop, National Institutes of Health, Oct. 20, 1997, “FAIR Perfusion Imaging”
18. University of Minnesota, Biomedical Engineering, Nov. 22, 1997
19. Electotechnical Laboratory, Tsukuba, Japan, March 2, 1998
20. Akita Research Institute of Brain and Blood Vessels, Akita, Japan, March 4, 1998
21. Shonan Workshop 98, Japan, Organized by Drs. Kanno, Tanaka and Iijima, March 7, 1998, “Vascular and Metabolic Basis of fMRI”
22. RIKEN Institute, Japan, March 9, 1998
23. Northwestern University, Physiology, July 1, 1998
24. Institute for Biodiagnostics, National Research Council, Canada, March 26, 1999
25. Carnegie Mellon University, Biological Sciences, April 22, 1999
26. California Institute of Technology, Biology Division, June 8, 1999
27. Northwestern University, Radiology, August 26, 1999
28. University of Minnesota, Neuroscience, September 8, 1999
29. University of Minnesota, Biophysics, September 9, 1999
30. Minnesota Workshop on Magnetic Resonance Imaging of Brain Function, Univ. of Minn. Faculty, Oct. 17-18, 1999.
31. Hands on Training in Functional Magnetic Resonance Imaging, Univ. of Minn., Organizer & Faculty, Oct. 14-15, 1999.
32. Yale University, NISTP, Dec. 10, 1999
33. Medical College of Wisconsin, Biophysics, April 14, 2000.
34. Human Brain Mapping Courses, San Antonio, June 12, 2000.
35. RIKEN, BSI, Japan, June 26, 2000
36. Kyungpook National University Medical School, July 3, 2000
37. Yonsei University, Radiology, July 6, 2000
38. Asan Medical Center, Radiology and Neurology, July 7, 2000
39. University of Pittsburgh, Neurobiology, Oct. 3, 2000
40. Institute for Mathematics and its Applications, Univ. of Minnesota, Minisymposium: Brain Imaging, Oct 13, 2000.
41. BOLD workshop: Understanding the BOLD Phenomena and its Applications, Chapel Hill, North Carolina, Organizer & Faculty, Oct 26-28, 2000.
42. The 3rd Annual Meeting of the Korean Society for Brain and Neural Science, "Neural Correlate of fMRI", Dec. 1, 2000, Seoul, Korea.
43. Medical College of Wisconsin, Biophysics, Dec. 13, 2000
44. Phamacia Corporation, Jan. 12, 2001
45. Dalhousie University, Jan 15-19, 2001
46. 2001 Joint Conference of the Karolinska Institute and the University of Minnesota, May 2-4, 2001
47. Satellite Symposium of Brain 01 - Brain Activation and CBF Control, June 6-8, 2001; Tokyo, Japan
48. The 2nd Annual Molecular Imaging Workshop - Techniques for probing genomic function and dysfunction, August 24-25, 2001; East Lansing, Michigan
49. Brainerd 2001, Conference to honor the life and career of Carlo Terzuolo, September 26-30, 2001; Brainerd, MN
50. Minnesota Workshop – High Fields, fMRI, and Hands-on Training workshops, October 5-8, 2001; Minneapolis, MN
51. Yale University, December 2001
52. Human Brain Mapping Symposium – Neural Activity and Vascular Effects: Bridging the Gap, June 4, 2002; Sendai, Japan
53. Upstate NY Medical University, June 13, 2002
54. University of Alabama Birmingham, Functional Neuroimaging symposium, Nov. 8-9, 2002; Birmingham, Alabama
55. Brain Edema 2002 - Brain Edema and Brain Tissue Injury, Nov 10-13, 2002; Hakone, Japan
56. NIPS 2002 – Two-day workshop: foundations and modeling in neuroimaging,“Columnar and Laminar Specificity of fMRI” Dec. 12-14, 2002; Whistler, British Columbia
57. Founders Series Inaugural Lecture, Vanderbilt University, Jan 31, 2003
58. Brain ’03, Plenary lecture, Calgory, June 30, 2003, “Functional magnetic resonance imaging and intrinsic optical imaging signals”
59. ISMRM Dynamic Spectroscopy Workshop, Orlando FL, September 6-8, 2003
60. University of Rochester, Seminar Series, September 22, 2003, Rochester, NJ
61. Science 2003, University of Pittsburgh, Imaging, Microscopy and Sensor Technologies, Sept. 24, 2003, Pittsburgh, PA
62. University of Minnesota Workshop, High Field, MR Imaging & Spectroscopy &MRI of Brain Function, October 17 – 22, 2003, Minneapolis, MN
63. Mt. Sinai School of Medicine, November 14, 2003 ,New York, NY
64. University of Michigan fMRI Speaker Series, How Accurately Does fMRI Detect Neural Activity, January 13, 2004, Ann Arbor, MI
65. International Workshop on Quantitation in Biomedical Imaging with PET and MRI, January 26 – 27, 2004, Osaka, Japan,
66. West Virginia University, Neuroscience Speaker Series, February 18, 2004, Morgantown, WV
67. Ohio State University, Statistical & mathematical modeling of fMRI data, March 18, 2004
68. ENC Conference, High-resolution Functional MRI at High Fields, April 18 – 23, 2004
69. University of Montreal, International Symposium, Functional Neuroimaging: Methods & Clinical Applications, May 2-4, 2004
70. 2004 Gordon Research Conference, Mechanisms of BOLD-based fMRI, July 25 – 30, 2004,
71. NIDA, What Can We Learn From Animal fMRI, November 30 – December 1, 2004, Baltimore, MD
72. Copenhagen, The Lundbeck Foundation Center, International Advisory Board meeting, January 11 – 13, 2005, Denmark
73. Brain Session, 4th Annual Imaging Network Ontario Symposium, February 28 – March 1, 2005, Toronto, Canada
74. Medical College of Wisconsin, Biophysics Seminar, September 14 – 16, 2005, Milwaukee, WI
75. Science 2005, University of Pittsburgh, How Accurately Functional Imaging Can Detect Neural Activities, October 6 – 7, 2005, Pittsburgh, PA
76. Minnesota Workshop – High Fields, fMRI, and Hands-on Training workshops, October 11 - 16, 2005; Minneapolis, MN
77. Copenhagen, The Lundbeck Foundation Center, International Advisory Board meeting, January 8 – 13, 2006, Denmark
78. Seiji Owaga’s laboratory, Symposium, High Resolution Functional Map, February 25 – 26, 2006, Tokyo, Japan
79. Frontiers in Neuroimaging Program, Oct. 19-20, 2006 Birmingham, Univ. of Alabama
80. East Asian Biophysics Symposium, Nov. 12-16, 2006, Okinawa, Japan
81. Copenhagen, The Lundbeckfondcenter for Neurovaskulaer Signaling (LUCENS), International Advisory Board meeting, February, 2007, Denmark
82. Seminar at the University of Nottingham, Feb. 21 - 27, 2007 Nottingham, UK
83. The Japanese HBM in Akita, Tokyo, Japan, March , March 16 – 17, 2007
84. ISMRM Workshop on Advances in High Field MR, Pacific Grove, CA, March 25 – 28, 2007
85. Max Planck Institute Symposium from molecular imaging to system neuroscience, Tubingen, July 12-13, 2007.
86. RIKEN seminar, Oct. 9, 2007
87. Seiji Ogawa’s laboratory seminar, Oct. 10, 2007
88. Korean Society for Molecular and Cellular Biology Annual Meeting, invited speaker, Oct. 18, 2007.
89. RIKEN Mini-school, Feb 11-Feb 15
90. NIH, Bethesda, seminar, Dec 14, 2007
91. Department of Neurology seminar, University of Tokyo, Tokyo, Feb. 13, 2008
92. Department of Electrical Engineering, University of Hong Kong, February 15 – 19, 2008
93. Washington University, Radiology Department Seminar, St. Louis, MO, April 20 – 23, 2008
94. ISMRM, Spatiotemporal Dynamics of BOLD and CBV Responses at submillimeter columnar resolution, Toronto, Canada, May 5, 2008
95. 12th Asian Oceanian Congress of Radiology, Seoul, Korea, October 24 – 28, 2008.
96. University of Minnesota, Center for Magnetic Resonance in Medicine, seminar, November 2-25, 2008
97. ISMRM, Varian User meeting, Hawaii, April 19, 2009.
98. Inauguration Symposium of Brain and Cognitive Sciences Department, Seoul National University, Korea, May 15, 2009.
99. Korean Human Brain Mapping Meeting, Plenary Talk, Seoul, Korea, May 22, 2009
100. Distinguished Lecture, Seoul National University, Nov. 11, 2009
101. Thomas Jefferson University Hospital, Radiology, Seminar, April 21, 2010
102. Talk, Brain Imaging Meeting, National Institute of Radiological Sciences, Chiba, Japan, September 3, 2010.
103. Plenary Talk, 14th Oxygen Dynamics Conference, Tokyo, Japan, September 4, 2010
104. Seminar, Tohoku University, Institute of Development, Aging and Cancer (IDAC), Sendai, Japan, September 6, 2010
105. Speaker, Symposium in Japan Society for Magnetic Resonance in Medicine, 2010 meeting, Tsukuba, Japan, September 29, 2010.
106. Seminar, Gachon university of Medicine and Science, Neuroscience Research Institute, Korea, September 13, 2010
107. Seminar, Samsung Medical Center, Neuroscience Center, Seoul, Korea, September 15, 2010
108. Seminar, University of Pittsburgh, Bioengineering, Pittsburgh, September 21, 2010
109. Seminar, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, Jan 18, 2011.
110. Seminar, Copenhagen University Hospital Hvidovre, Danish Research Center for Magnetic Resonance, Copenhagen, Denmark, Feb. 28, 2011.
111. Distinguished Lecture, Samsung Medical Center, Seoul, Korea, April 1, 2011
112. Seminar, Oregon Health & Science University, Advanced Imaging Research Center, Portland, Oregon, July 19, 2011
113. Invited symposium speaker, 2011 Korean Society for Brain and Neural Science meeting, Session of "Visual Cognition Resolved at Multiple Levels of Neural Activity", Seoul National University, September 19-20, 2011
114. Department Seminar, Seoul National University, Department of Brain and Cognitive Science, Sep. 21, 2011
115. Symposium speaker, NRI-UPENN joint symposium, Neuroscience Research Institute, Gachon University of Medicine and Science, Incheon, Korea, September 28-28, 2011
116. Workshop invited speaker, 8th biannual 2011 Minnesota Workshop on high field and ultrahigh field imaging, Oct. 14-16, 2011, Title of talk: “Arterial CBV-based fMRI”
117. Inaugural Lecture of Paul C. Lauterbur Chair Professorship, University of Pittsburgh, Jan. 17, 2012. Title: Functional Brain Mapping with MRI
118. Korea Human Brain Mapping, Daejun, Korea, May 4, 2012. Title: 20th year Human fMRI anniversary: History and Future.
119. Institute for Basic Sciences (Korea), Symposium speaker, August 29, 2012, Integrative Systems Neuroscience Research
120. University of Pennsylvania, Department of Radiology, Grand Round, November 6, 2012, Chemical Exchange-sensitive MRI of Amide and Amine Protons.
121. Vision Science Society, Symposium speaker, May 10, 2013
122. RIKEN Seminar, September 2, 2013
123. University of Minnesota, Department of Bioengineering, September 5, 2013.
124. Vanderbilt University, Imaging Institute Seminar, November 1, 2013
125. Pennsylvania State University, Neuroscience Seminar, February 5, 2014
126. DGIST, Department of Brain Sciences Seminar, March 26, 2014
127. 16th Kuopio Bio-NMR Workshop: From basics to advanced functional MRI, Kuopio, Finland, June 11-13, 2014
128. IBS-Royal Society Symposium, Seoul, Korea, Oct 20-21, 2014
129. Nagoya University – Sungkyunkwan University Joint Symposium 2014, SKKU, Suwon, Korea, Nov. 26, 2014
130. International Scientific Symposium celebrating the 10th Year Anniversary of Institut Pasteur Korea, “What technology can achieve to help public health in Korea and globally”, Institut Pateur Korea, Dec 8, 2014
131. Physics Department Colloquium, SKKU, Suwon, Korea Dec. 10, 2014
132. 1st DGIF Preclinical in vivo imaging symposium, Daegu, Korea, Dec. 11, 2014
133. Plenary talk, the 27th Image Processing and Image Understanding (IPIU) conference, Jeju Island, Korea Feb. 4- Feb. 6, 2015
134. Plenary talk, The 3rd International Congress on Magnetic Resonance Imaging & 20th Annual Scientific Meeting of KSMRM (ICMRI2015), Seoul, Korea March 27 to 28, 2015
135. *NeuroFutures2015*: Exploring Spatial and Temporal Scales in Brain Mapping and Modulation, Portland, Oregon, USA, July 15-17, 2015

**Community Services (starting from 2011)**

1. **NIH Study Sections:**
2. Ad hoc member of SBIB-W (30), Special Emphasis Panel, June 21, 2011
3. Mail reviewer of SBIB-W (56) Special Emphasis Panel, 11/01/2011
4. reviewer of Mentored Career Development Award Panel, 2/27/2013
5. **Organizing Meetings or Symposia:**
6. The Multimodal Neuroimaging Symposium on Resting State MRI, July 14 - July 15, 2011, Carnegie Mellon University/University of Pittsburgh
7. The symposium on "Visual Cognition Resolved at Multiple Levels of Neural Activity" at KSBNS 2011 (Seoul National University, September 19-20, 2011)
8. Multimodal Neuroimaging Symposium on Traumatic Brain Injury, July 11 - July 12, 2013, Carnegie Mellon University/University of Pittsburgh
9. IBS Center for Neuroscience Imaging Research Workshop, Oct 18, 2013, SKKU
10. 12th Korea=UK Neuroscience Workshop, Oct 21-12, KAIST, Daejun