CURRICULUM VITAE

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Current Employment: Unit Chief: Functional Imaging Methods
Director: NIH Functional Neuroimaging Facility

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Birth Date and Place: January 17, 1966, Milwaukee, Wisconsin

Education:

1989	B.S., Physics, Marquette University
1994	Ph.D., Medical College of Wisconsin

Ph.D. Dissertation Title: Magnetic Resonance Imaging of Human Brain Activation using Endogenous Susceptibility Contrast. [document]

Postgraduate Training:

1994-96	MGH-NMR Center / Harvard Medical School, Boston, MA

Other Employment:

1996-98	Assistant Professor, Medical College of Wisconsin, Biophysics Research Institute
1998-	Adjunct Professor, Medical College of Wisconsin, Biophysics Research Institute
1997-	Adjunct Professor, Marquette University Department of Biomedical Engineering

Awards, Honors:

1984-88	MU Academic Scholarship.
1984-88	MU Athletic Scholarship.
1987	NSF Fellowship recipient.
1989	Research Fellowship, MCW.
1990	McCahill award for Academic and Athletic Leadership at MU
2001	NIH Directors Award

Memberships in Professional Societies:

International Society of Magnetic Resonance in Medicine
Organization for Human Brain Mapping
Cognitive Neuroscience Society

Professional Activities:

Council (secretary), Organization for Human Brain Mapping (OHBM), 1999-2001

Program Committee for OHBM meetings in Copenhagen '97, Duesseldorf '99, San Antonio '00, Brighton '01, and Sendai '02

Chair, Education Committee, OHBM, 2000 and 2001
-Organized educational program for the Human Brain Mapping Meetings in San Antonio and Brighton

Chair, Nominating Committee, OHBM, 2000

Chair, Scientific Program Committee, OHBM, 2002 in Sendai

International Society of Magnetic Resonance in Medicine (1991-present)
-Young Investigator Award Committee (2001,2)

Ph.D. Thesis Committee for:

Rasmus Birn, Medical College of Wisconsin
Ziad Saad, Marquette University
John Agnew, Georgetown University
Anthony Liu, University of Texas, San Antonio

NIH Biosketch

Papers

1. F. L. Pedrotti, P. A. Bandettini, Faraday rotation in the undergraduate advanced laboratory. *American Journal of Physics* **58**, 542-545 (1990). [document]

2. P. A. Bandettini, E. C. Wong, R. S. Tikofsky, R. S. Hinks, J. S. Hyde, Time course EPI of human brain function during task activation. *Magn. Reson. Med.* **25**, 390-397 (1992). [document] [Perspective document] [History of fMRI at MCW]

3. J. T. Eells, P. A. Bandettini, P. A. Holman, J. M. Propp, Pyrethroid insecticide induced alterations in mammalian synaptic membrane potential. *Journal of Pharmacology and Experimental Theraputics* **262**, 1173-1181 (1992). [document]

4. P. A. Bandettini, A. Jesmanowicz, E. C. Wong, J. S. Hyde, Processing strategies for time-course data sets in functional MRI of the human brain. *Magn. Reson. Med.* **30**, 161-173 (1993). [document]

5. J. T. Eells, J. L. Rasmussen, P. A. Bandettini, J. M. Propp, Differences in neuroexcitatory actions of pyrethroid insecticides and sodium channel specific neurotoxins in rat and trout brain synaptosomes. *Toxicology and Applied Pharmacology* **123**, 107-119 (1993). [document]

6. S. M. Rao, J. R. Binder, P. A. Bandettini, T. A. Hammeke, Z. A. Yetkin, J. Jesmanowicz, L. M. Lisk, G. L. Morris, W. M. Mueller, L. D. Estkowski, E. C. Wong, V. M. Haughton, J. S. Hyde, Functional magnetic resonance imaging of complex human movements. *Neurology* **43**, 2311-2318 (1993). [document]

7. P. A. Bandettini, E. C. Wong, A. Jesmanowicz, R. S. Hinks, J. S. Hyde, Spin-echo and gradient-echo EPI of human brain activation using BOLD contrast: a comparative study at 1.5 Tesla. *NMR in Biomedicine* **7**, 12-20 (1994). [document]

8. J. J. Sychra, P. A. Bandettini, N. Bhattacharya, Q. Lin, Synthetic images by subspace transforms I: principal components images and related filters. *Med. Phys.* **21**, 193-201 (1994). [document]

9. J. R. Binder, S. M. Rao, T. A. Hammeke, F. Z. Yetkin, A. Jesmanowicz, P. A. Bandettini, E. C. Wong, L. D. Estkowski, M. D. Goldstein, V. M. Haughton, J. S. Hyde, Functional magnetic resonance imaging of human auditory cortex. *Ann. Neurol.* **35**, 662-672 (1994). [document]

10. J. R. Binder, S. M. Rao, T. A. Hammeke, J. A. Frost, P. A. Bandettini, J. S. Hyde, Effects of stimulus rate on signal response during functional magnetic resonance imaging of auditory cortex. *Cogn. Brain Res.* **2**, (1994). [document]

11. G. L. Morris, W. M. Meuller, F. Z. Yetkin, H. V. M., T. A. Hammeke, S. Swanson, S. M. Rao, A. Jesmanowicz, L. D. Estkowski, P. A. Bandettini, E. C. Wong, J. S. Hyde, Functional magnetic resonance imaging in partial epilepsy. *Epilepsia* **35**, (1994). [document]

12. E. A. DeYoe, P. A. Bandettini, J. Nietz, D. Miller, P. Winas, Methods for functional magnetic resonance imaging (FMRI). *J. Neuroscience Methods* **54**, 171-187 (1994). [document]

13. J. R. Binder, T. A. Rao, J. A. Hammeke, J. A. Frost, P. A. Bandettini, A. Jesmanowicz, J. S. Hyde, Lateralized human brain language systems demonstrated by task subtraction functional magnetic resonance imaging. *Arch. Neurol.* **52**, 593-601 (1995). [document]

14. J. L. Boxerman, P. A. Bandettini, K. K. Kwong, J. R. Baker, T. L. Davis, B. R. Rosen, R. M. Weisskoff, The intravascular contribution to fMRI signal change: monte carlo modeling and diffusion - weighted studies in vivo. *Magn. Reson. Med.* **34**, 4-10 (1995). [document]

15. P. A. Bandettini, E. C. Wong, The effects of biophysical and physiologic parameters on brain activation - induced R2* and R2 changes: simulations using a deterministic diffusion model. *International Journal of Imaging Systems and Technology* **6**, 133-152 (1995). [document]

16. S. M. Rao, J. R. Binder, T. A. Hammeke, P. A. Bandettini, J. A. Bobholz, J. A. Frost, B. M. Myklebust, R. D. Jacobson, J. S. Hyde, Somatotopic mapping of the human primary motor cortex with functional magnetic resonance imaging. *Neurology* **45**, 919-924 (1995). [document]

17. S. Bates, Z. Yetkin, A. Jesmanowicz, H. J. S., P. A. Bandettini, L. Estkowski, V. M. Haughton, Artifacts in functional magnetic resonance imaging from gaseous oxygen. *Journ. of Mag. Res. Imag.* **4**, 443-445 (1995). [document]

18. E. A. DeYoe, G. Carman, P. Bandettini, G. S., W. J., R. Cox, D. Miller, J. Neitz, Mapping striate and extrastriate visual areas in human cerebral cortex. *Proc. Nat'l. Acad. Sci.* **93**, 2282-2386 (1996). [document]

19. S. M. Rao, P. A. Bandettini, J. R. Binder, J. A. Bobholz, T. A. Hammeke, E. A. Stein, J. S. Hyde, Relationship between finger movement rate and functional magnetic resonance signal change in human primary motor cortex. *J. Cereb. Blood Flow and Met.* **16**, 1250-1254 (1996). [document]

20. P. W. R. Woodruff, R. R. Benson, P. A. Bandettini, K. K. Kwong, R. Howard, T. Talavage, J. Belliveau, B. R. Rosen, Modulation of auditory and visual cortex by selective attention is modality - dependent. *NeuroReport* **7**, 12-18 (1996). [document]

21. R. L. Buckner, P. A. Bandettini, K. M. O'Craven, R. L. Savoy, S. E. Peterson, M. E. Raichle, T. L. Brady, B. R. Rosen, fMRI detection and time course of distributed cortical activations during single trials of a cognitive task. *Proc. Nat'l. Acad. Sci. USA* **93**, 14878-14883 (1996). [document]

22. P. A. Bandettini, K. K. Kwong, T. L. Davis, R. B. H. Tootell, E. C. Wong, P. T. Fox, J. W. Belliveau, R. M. Weisskoff, B. R. Rosen, Characterization of cerebral blood

oxygenation and flow changes during prolonged brain activation. *Human Brain Mapping* **5**, 93-109 (1997). [document]

23. P. A. Bandettini, E. C. Wong, A hypercapnia - based normalization method for improved spatial localization of human brain activation with fMRI. *NMR in Biomedicine* **10**, 197-203 (1997). [document]

24. J. Caplan, P. A. Bandettini, J. P. Sutton, Weight - space mapping of fMRI motor tasks: evidence for nested neural networks *in* "Computational Neuroscience '96" (J. Bower, Ed.), p.585-589, Plenum, New York, (1997). [document]

25. P. A. Bandettini, J. Jesmanowicz, J. VanKylen, R. M. Birn, J. S. Hyde, Functional MRI of scanner acoustic noise induced brain activation. *Magn. Reson. Med.* **39**, 410-416 (1998). [document]

26. R. M. Birn, P. A. Bandettini, A. Jesmanowicz, R. Shaker, R. W. Cox, Magnetic field changes in the human brain due to swallowing or speaking. *Magn. Reson. Med.* **40**, 55-60 (1998). [document]

27. K. M. Donahue, J. VanKylen, S. Guven, A. El-Bershawi, W.-M. Luh, P. A. Bandettini, R. W. Cox, J. S. Hyde, A. H. Kissebah, Simultaneous gradient-echo / spin - echo EPI of graded ischemia in human skeletal muscle. *J. Mag. Res. Imag.* **8**, 1106-1113 (1998). [document]

28. A. Jesmanowicz, P. A. Bandettini, J. S. Hyde, Single shot half k-space high resolution EPI for fMRI at 3T. *Magn. Reson. Med.* (1998). [document]

29. E. A. Stein, J. Pankiewicz, H. H. Harsch, J.-K. Cho, S. A. Fuller, R. G. Hoffmann, M. Hawkins, S. M. Rao, P. A. Bandettini, A. S. Bloom, Nicotine-induced limbic cortical activation in the human brain: a functional MRI study. *Am. J. Psychiatry* **155**, 1009-1015 (1998). [document]

30. R. M. Birn, P. A. Bandettini, R. W. Cox, R. Shaker, Event - related fMRI of tasks involving brief motion. *Human Brain Mapping* **7:** 106-114 (1999). [document]

31. W.-M. Luh, E. C. Wong, P. A. Bandettini, J. S. Hyde, QUIPSS II with thin - slice TI1 periodic saturation: a method for improved accuracy of quantitative perfusion imaging using pulsed arterial spin labeling. *Magn. Reson. Med.* **41:** 1246-1254, (1999). [document]

32. G. M. Hathout, R. K. Gopi,. P. Bandettini, SS Gambhir. The lag of cerebral hemodynamics with rapidly alternating periodic stimulation: modeling for functional MRI. *Magnetic Resonance Imaging*. **17:** 9-20, (1999). [document]

33. P. A. Bandettini, R. W. Cox. Functional contrast in constant interstimulus interval event - related fMRI: theory and experiment. *Magn. Reson. Med.* **43**: 540-548 (2000). [document]

34. W.-M. Luh, E. C. Wong, P. A. Bandettini, B. D. Ward, J. S. Hyde, Comparison of simultaneously measured perfusion and BOLD signal increases during brain activation using QUIPSS II with thin - slice TI1 periodic saturation. *Magn. Reson. Med.* **44**: 137-143 (2000). [document]

35. R. M. Birn, Z. Saad, P. A. Bandettini, Spatial heterogeneity of the nonlinear dynamics in the fMRI BOLD response. *NeuroImage*, 14: 817-826, (2001). [document]

36. P. A. Bandettini and L. G. Ungerleider, From neuron to BOLD: new connections. *Nature Neuroscience,* **4**: 864-866, (2001). [document]

37. R. M. Birn, R. W. Cox, P. A. Bandettini, Detection versus estimation in Event-Related fMRI: choosing the optimal stimulus timing. *NeuroImage* **15:** 262-264, (2002). [document]

38. J. Bodurka, P. A. Bandettini. Toward direct mapping of neuronal activity: MRI detection of ultra weak transient magnetic field changes, *Magn. Reson. Med. (in press).* [document]

39. P. A. Bandettini, R. M. Birn, D. Kelley, Z. S. Saad. Dynamic nonlinearities in BOLD contrast: neuronal or hemodynamic? *Elsevier Excerpta Medica International Congress Series. (in press).* [document].

40. E. L. Barbier, S. Marrett, A. Danek, A. Vortmeyer, P. van Gelderen, J. Duyn, P. Bandettini, J. Grafman, A. P. Koretsky, Imaging cortical anatomy by high resolution MR at 3.0 T: dectection of the Stripe Gennari in Visual Area 17 *Magn. Reson. Med. (Submitted).* [document]

41. Z. S. Saad, K. M. Ropella, E. A. DeYoe, P. A. Bandettini, The spatial extent of the BOLD response. *NeuroImage,* (*Submitted).* [document]

42. J. C. Patterson II, L. G. Ungerleider, and P. A Bandettini, Task - independent functional brain activity correlation with skin conductance changes: an fMRI study. *NeuroImage, (Submitted).* [document]

43. P.S.F. Bellgowan, Z. S. Saad, P. A. Bandettini, Voxel-wise estimation of hemodynamic onset delay and width modulation due to word rotation and lexical decision-making. *(in preparation).*

44. N. Petridou, F. Q. Ye, A. C. McLaughlin, P. A. Bandettini, Physiologic Noise in fMRI: Impact and Implications, *NeuroImage. (in preparation).*

45. P. Bandettini, Neural Correlates of BOLD Contrast, *Biological Psychiatry. (in preparation).*

Book Chapters

1. P. A. Bandettini, E. C. Wong, J. R. Binder, S. M. Rao, A. Jesmanowicz, E. A. Aaron, T. F. Lowry, H. M. Forster, R. S. Hinks, J. S. Hyde, Functional MRI using the BOLD approach: applications, *in* "Diffusion and Perfusion Magnetic Resonance Imaging" (D. LeBihan, Ed.), p.335-349, Raven Press, New York, 1995. [document]

2. P. A. Bandettini, J. R. Binder, E. A. DeYoe, S. M. Rao, A. Jesmanowicz, T. A. Hammeke, V. A. Haughton, E. C. Wong, J. S. Hyde, Functional MRI using the BOLD approach: dynamic characteristics and data analysis methods, *in* "Diffusion and Perfusion: Magnetic Resonance Imaging" (D. L. Bihan, Ed.), p.351-362, Raven Press, New York, 1995. [document]

3. P. A. Bandettini, J. R. Binder, E. A. DeYoe, J. S. Hyde, Sensory activation - induced hemodynamic changes observed in the human brain with echo planar MRI, *in* "Encyclopedia of Nuclear Magnetic Resonance" (D. Grant, R. Harris, Eds.), p.1051-1056, John Wiley & Sons Ltd., New York, 1996.

4. P. A. Bandettini, E. C. Wong, Echo - planar magnetic resonance imaging of human brain activation, *in* "Echo Planar Imaging: Theory, Technique, and Application" (F. Schmitt, M. Stehling, R. Turner, Eds.), p.493-530, Springer - Verlag, Berlin, 1997. [document]

5. P. A. Bandettini, E. C. Wong, Magnetic resonance imaging of human brain function: principles, practicalities, and possibilities, *in* "Neurosurgery Clinics of North America: Functional Imaging" (M. Haglund, Ed.), p.345-371, W. B. Saunders Co., 1997. [document]

6. R. M. Birn, K. M. Donahue, P. A. Bandettini, Magnetic resonance imaging: principles, pulse sequences, and functional imaging, *in* "Biomedical Uses of Radiation" (W. Hendee, Ed.), Vol.1, Chapter 9. VCH-John Wiley and Sons, New York, 1999. [document]

7. P. A. Bandettini, Functional MRI temporal resolution *in* "Functional MRI" (C. Moonen, and P. Bandettini., Eds.), p. 205-220, Springer - Verlag,. 1999. [document]

8. E. C. Wong, P. A. Bandettini, Simultaneous acquisition of multiple forms of fMRI contrast *in* "Functional MRI" (C. Moonen, and P. Bandettini, Eds.), p. 183-192, Springer - Verlag, 1999. [document]

9. P. A. Bandettini, R. M. Birn, K. M. Donahue, Functional MRI: background, methodology, limits, and implementation, *in* "Handbook of Psychophysiology" (J. T. Cacioppo, L. G. Tassinary, G. G. Berntson, Eds.), p. 978-1014, Cambridge University Press, New York, 2000. [document]

10. E. Reiman, R. D. Lane, C. Van Petten, P. A. Bandettini, Positron emission tomography and functional magnetic resonance imaging, *in* "Handbook of Psychophysiology" (J. T. Cacioppo, L. G. Tassinary, G. G. Berntson, Eds.), p. 85-118, Cambridge University Press, New York, 2000. [document]

11. P. A. Bandettini, fMRI: The spatial, temporal, and interpretative limits of functional MRI, *in* "Neuropsychopharmacology: The Fifth Generation of Progress." (D. Charney, J. Coyle, K. Davis, C. Nemeroff, Eds.), Lippencott Williams & Wilkins, in press. [document]

12. P. A. Bandettini, Choosing the optimal pulse sequence for fMRI *in* "Functional Magnetic Resonance Imaging of the Brain: Methods for Neuroscience" (P. M. Matthews, P. Jezzard, A. Evans), p. 123-143, Oxford University Press, 2001. [document]

13. P. A. Bandettini, Functional MRI *in* "Handbook of Neuropsychology" (F. Boller and J. Grafman, Eds.), Elsevier, in preparation.

14.

Books

1. P. A. Bandettini, Ph.D. Thesis: *Magnetic Resonance Imaging of Human Brain Activation using Endogenous Susceptibility Contrast,* Biophysics Research Institute, Medical College of Wisconsin, Milwaukee (1994). [document]

2. Functional MRI, (C. T. W. Moonen, P. A. Bandettini, Eds.), Springer - Verlag, Berlin (1999). [document]

Abstracts

1. J. T. Eells, P. A. Bandettini, Pyrethroid insecticides alter membrane potential in fish and rat brain synaptosomes, 7'th Annual Society of Toxicology Meeting, Dallas, p. 193. (1988). [document]

2. P. A. Bandettini, E. C. Wong, C. R. Crawford, J. S. Hyde, Selective averaging of multiple MR images, 10'th Proc. Soc. Magn. Reson. Med., San Francisco, p. 737. (1992). [document]

3. P. A. Bandettini, E. C. Wong, R. S. Tikofsky, R. S. Hinks, J. S. Hyde, Echo-planar imaging of cerebral capillary percent deoxyhemoglobin change on task activation [oral], JMRI 2(P) [abstr], p. 76. (1992).[document]

4. Wong, P. A. Bandettini, J. S. Hyde, Echo - planar imaging of the human brain using a three axis local gradient coil [oral], 11'th Proc. Soc. Magn. Reson. Med., Berlin, p. 105. (1992). [document]

5. P. A. Bandettini, E. C. Wong, R. S. Tikofsky, R. S. Hinks, J. S. Hyde, Time-course gradient-echo EPI of localized signal enhancement in the human brain during task activation [oral], 11'th Proc. Soc. Magn. Reson. Med., Berlin, p. 302. (1992). [document]

6. P. A. Bandettini, E. C. Wong, A. S. Greene, R. S. Hinks, J. S. Hyde, Echo-planar and conventional imaging of signal attenuation in skeletal muscle during arterial compression [oral], 11'th Proc. Soc. Magn. Reson. Med., Berlin, p. 321. (1992). [document]

7. P. A. Bandettini, E. C. Wong, R. S. Hinks, L. Estkowski, J. S. Hyde, Quantification of changes in relaxation rates R2* and R2 in activated brain tissue [oral], 11'th Proc. Soc. Magn. Reson. Med., Berlin, p. 719. (1992). [document]

8. P. A. Bandettini, E. C. Wong, R. S. Hinks, J. S. Hyde, Time-course spin-echo and gradient-echo EPI of the human brain during a breath hold, 11'th Proc. Soc. Magn. Reson. Med., Berlin, p. 1104. (1992). [document]

9. DeYoe, J. Neitz, P. A. Bandettini, E. C. Wong, J. S. Hyde, Time course of event-related MR signal enhancement in visual and motor cortex, 11'th Proc. Soc. Magn. Reson. Med., p. 1824. (1992). [document]

10. S. M. Rao, et al., Gradient-echo EPI demonstrates bilateral superior temporal gyrus activation during passive word presentation, 11'th Proc. Soc. Magn. Reson. Med., Berlin, p. 1827. (1992). [document]

11. W. M. Meuller, et al., Brain function mapping with magnetic resonance imaging for neurosurgical planning [oral], 61'st Mtg. American Association of Neurological Surgeons, Boston, p. 343-344. (1993). [document]

12. P. A. Bandettini, et al., Fourier analysis of functional EPI time series [oral], JMRI 3(P) [abstr], p. 89. (1993). [document]

13. P. A. Bandettini, E. C. Wong, L. D. Estkowski, R. S. Hinks, J. S. Hyde, Spin-echo EPI of localized signal enhancement in the human brain during task activation [oral], *JMRI 3(P) [abstr]* , 63 (1993). [document]

14. Morris, et al., Functional MRI in patients with epilepsy, American Neurological Society Meeting, p. 299. (1993). [document]

15. Bandettini, et al., Magnetic resonance functional neuroimaging of the entire brain during performance and mental rehersal of complex finger movement tasks, 12'th Proc. Soc. Magn. Reson. Med., New York, p. 1396. (1993). [document]

16. Bandettini, et al., The functional dynamics of blood oxygenation level contrast in the motor cortex, 12'th Proc. Soc. Magn. Reson. Med., New York, p. 1382. (1993). [document]

17. Bandettini, E. C. Wong, A. Jesmanowicz, R. S. Hinks, J. S. Hyde, Simultaneous mapping of activation-induced $\Delta R2^*$ and $\Delta R2$ in the human brain using a combined gradient-echo and spin-echo EPI pulse sequence [oral], 12'th Proc. Soc. Magn. Reson. Med., New York, p. 169. (1993). [document]

18. Bates, et al., The oxygen artifact in echo-planar imaging [oral], 12'th Proc. Soc. Magn. Reson. Med., New York, p. 174. (1993). [document]

19. Bates, et al., Activation of the human cerebellum demonstrated by functional magnetic resonance imaging, 12'th Proc. Soc. Magn. Reson. Med., New York, p. 1420. (1993). [document]

20. J. R. Binder, et al., Analysis of phase differences in periodic functional MRI activation data, 12'th Proc. Soc. Magn. Reson. Med., New York, p. 1383. (1993). [document]

21. J. R. Binder, et al., Temporal characteristics of functional magnetic resonance signal changes in lateral frontal and auditory cortex [oral], 12'th Proc. Soc. Magn. Reson. Med., New York, p. 5. (1993). [document]

22. Biswal, P. A. Bandettini, A. Jesmanowicz, J. S. Hyde, Time - frequency analysis of functional EPI time - course series, 12'th Proc. Soc. Magn. Reson. Med., New York, p. 722. (1993). [document]

23. Jesmanowicz, P. A. Bandettini, E. C. Wong, G. Tan, J. S. Hyde, Spin-echo and gradient-echo EPI of human brain function at 3 Tesla, 12'th Proc. Soc. Magn. Reson. Med., New York, p. 1390. (1993). [document]

24. S. M. Rao, et al., Somatopic mapping of the primary motor cortex with functional magnetic resonance imaging, 12'th Proc. Soc. Magn. Reson. Med., New York, p. 1397. (1993). [document]

25. Wong, P. A. Bandettini, A deterministic method for computer modelling of diffusion effects in MRI with application to BOLD contrast imaging [oral], 12'th Proc. Soc. Magn. Reson. Med., New York, p. 10. (1993). [document]

26. L. Miller, E. A. DeYoe, J. Neitz, P. A. Bandettini, J. S. Hyde, Mapping of the human visual cortex utilizing functional magnetic resonance imaging (FMRI) [oral], Invest. Opthalmol. Vis. Sci., Sarasota, p. 813 (#557). (1993). [document]

27. M. Meuller, et al., Cortical localization with magnetic resonance imaging compared to direct stimulation mapping, Annual Meeting of the World Society for Steriotactic and Functional Neurosurgery, p. . (1993). [document]

28. S. M. Rao, et al., Relationship between finger movement rate and functional magnetic resonance signal change in primary motor cortex, Ann. Mtg. Am. Acad. Neurol., Washington D. C., (1994).

29. P. A. Bandettini, et al., Hypercapnia and hypoxia in the human brain: effects on resting and activation - induced signal changes in the human brain, 2'nd Proc. Soc. Magn. Reson., San Francisco, p. 700. (1994). [document]

30. P. A. Bandettini, et al., Simultaneous assessment of blood oxygenation and flow contributions to activation - induced signal changes in the human brain [oral], 2'nd Proc. Soc. Magn. Reson., San Francisco, p. 621. (1994). [document]

31. P. A. Bandettini, et al., MRI of human brain activation at 0.5 T, 1.5 T, and 3.0 T: comparisons of $\Delta R2^*$ and functional contrast to noise ratio [oral], 2'nd Proc. Soc. Magn. Reson., San Francisco, p. 434. (1994). [document]

32. J. R. Binder, et al., Syllable rate determines functional MRI response magnitudes during a speech discrimination task [oral], 2'nd Proc. Soc. Magn. Reson., San Francisco, p. 327. (1994).[document]

33. J. R. Binder, et al., A lateralized distributed network for semantic processing demonstrated with whole brain functional MRI, 2'nd Proc. Soc. Magn. Reson., San Francisco, p. 694. (1994).[document]

34. J. R. Binder, et al., Identification of auditory, linguistic, and attentional systems with task subtraction functional MRI, 2'nd Proc. Soc. Magn. Reson., San Francisco, p. 681. (1994). [document]

35. Jesmanowicz, P. A. Bandettini, J. S. Hyde, Frequency shift artifacts in functional echo-planar imaging [oral], 2'nd Proc. Soc. Magn. Reson., San Francisco, p. 437. (1994). [document]

36. S. M. Rao, et al., Functional magnetic resonance imaging correlates of cognitive - motor learning: preliminary findings [oral], 2'nd Proc. Soc. Magn. Reson., San Francisco, p. 329. (1994). [document]

37. W. Song, E. C. Wong, P. A. Bandettini, J. S. Hyde, The effect of diffusion weighting on task - induced functional MRI, 2'nd Proc. Soc. Magn. Reson., San Francisco, p. 643. (1994). [document]

38. P. W. R. Woodruff, et al., Modulation of auditory cortical activation by attention demonstrated with functional MRI [oral], 1'st International Conference on Functional Mapping of the Human Brain, Paris, p. 190. (1995). [document]

39. S. M. Rao, et al., Functional MRI correlates of cognitive - motor learning [oral], 1'st International Conference on Functional Mapping of the Human Brain, Paris, p. 412. (1995). [document]

40. P. A. Bandettini, et al., Numerical simulations of the oxygenation dependence of the T2 and T2* of whole blood using a deterministic diffusion model [oral], 3'rd Proc. Soc. Magn. Reson., Nice, p. 456. (1995). [document] [talk]

41. P. A. Bandettini, et al., FMRI and PET demonstrate sustained blood oxygenation and flow enhancement during extended visual stimulation durations [oral], 3'rd Proc. Soc. Magn. Reson., Nice, p. 453. (1995). [document]

42. R. L. Savoy, et al., Pushing the temporal resolution of fMRI: studies of very brief visual stimuli, onset variability and asynchrony, and stimulus-correlated changes in noise [oral], 3'rd Proc. Soc. Magn. Reson., Nice, p. 450. (1995). [document]

43. N. Lang, P. A. Bandettini, J. R. Baker, B. R. Rosen, A comparison of activation detection methods in functional MRI, 3'rd Proc. Soc. Magn. Reson., Nice, p. 828. (1995). [document]

44. K. K. Kwong, et al., Mechanism of MR brain signal increase in hyperoxia, 3'rd Proc. Soc. Magn. Reson., Nice, p. 768. (1995). [document]

45. P. W. R. Woodruff, et al., Effect of selective attention on activity within auditory and occipital cortex as demonstrated using functional MRI [oral], 3'rd Proc. Soc. Magn. Reson., Nice, p. 166. (1995). [document]

46. P. A. Bandettini, et al., FMRI demonstrates sustained elevation of blood oxygenation and flow enhancement during extended duration visual and motor cortex activation, 25'th Society for Neuroscience Meeting, San Diego, p. 1209. (1995). [document]

47. P. A. Bandettini, K. K. Kwong, E. C. Wong, R. B. Tootell, B. R. Rosen, Direct R2* measurements and flow insensitive T2* weighted studies indicate a sustained elevation of blood oxygenation during long term activation, 4'th Proc. Int. Soc. Magn. Reson. Med., New York, p. 1888. (1996). [document]

48. Wong, P. A. Bandettini, Two embedded techniques for simultaneous acquisition of flow and BOLD signals in functional MRI [oral], 4'th Proc. Int. Soc. Magn. Reson. Med., New York, p. 1816. (1996). [document]

49. Jesmanowicz, P. A. Bandettini, E. C. Wong, J. S. Hyde, Performance of fMRI using spin-echo and gradient-echo high resolution single-shot EPI at 3T, 4'th Proc. Int. Soc. Magn. Reson. Med., New York, p. 1828. (1996). [document]

50. J. P. Sutton, J. B. Caplan, P. A. Bandettini, FMRI evidence of nested networks associated with motor tasks [oral], 2'nd International Conference on Functional Mapping of the Human Brain, Boston, p. 370. (1996). [document]

51. S. C. Strother, et al., Multidimensional state-spaces for fMRI and PET activation studies, 2'nd International Conference on Functional Mapping of the Human Brain, Boston, p. 98. (1996). [document]

52. J. B. Caplan, P. A. Bandettini, P. A. Sutton, Weight-space mapping of fMRI motor tasks: evidence for nested neural networks, Computational neuroscience meeting, Boston, p. . (1996). [document]

53. P. A. Bandettini, R. L. Buckner, K. M. O'Craven, R. L. Savoy, B. R. Rosen, FMRI response characteristics for prefrontal activation during word-stem completion [oral], 26'th Society for Neuroscience Meeting, Washington D. C., p. 8. (1996). [document]

54. J. B. Caplan, P. A. Bandettini, J. P. Sutton, Different scales of network organization detected by fMRI during motor tasks, Dynamical neuroscience satellite symposium: traversing scales of organization, Washington D. C., (1996). [document]

55. J. J. Sychra, P. A. Bandettini, Q. Lin, T. Jobe, Analysis of fMRI brain activation data by unsupervised subspace methods, Radiology 197(P), Chicago, p. 219. (1996). [document]

56. P. A. Bandettini, A. Jesmanowicz, J. VanKylen, R. M. Birn, J. S. Hyde, FMRI of scanner induced auditory cortex activation [oral], 5'th Proc. Int. Soc. Magn. Reson. Med., Vancouver, p. 349. (1997). [document]

57. P. A. Bandettini, A. Jesmanowicz, R. M. Birn, J. VanKylen, J. S. Hyde, Combined gradient-echo and asymmetric spin-echo (GREASE) EPI: functional MRI comparisons and uses, 5'th Proc. Int. Soc. Magn. Reson. Med., Vancouver, p. 1639. (1997). [document]

58. P. A. Bandettini, E. C. Wong, Analysis of embedded - contrast fMRI: interleaved perfusion, BOLD, and velocity nulling [oral], 5'th Proc. Int. Soc. Magn. Reson. Med., Vancouver, p. 156. (1997). [document]

59. P. A. Bandettini, et al., Simultaneous measurement of cerebral perfusion and oxyggenation changes during neuronal activation and hypercapnia, 5'th Proc. Int. Soc. Magn. Reson. Med., Vancouver, p. 740. (1997). [document]

60. R. M. Birn, P. A. Bandettini, A. Jesmanowicz, R. W. Cox, Bz-field changes in the brain due to speaking and swallowing [oral], 5'th Proc. Int. Soc. Magn. Reson. Med., Vancouver, p. 458. (1997). [document]

61. Jesmanowicz, P. A. Bandettini, J. S. Hyde, Single - shot half NEX 256 x 256 resolution EPI at 3 Tesla, 5'th Proc. Int. Soc. Magn. Reson. Med., Vancouver, p. 1632. (1997). [document]

62. W.-M. Luh, P. A. Bandettini, A. Jesmanowicz, J. S. Hyde, High spatial resolution functional perfusion imaging of the human brain using QUIPSS at 3T, 5'th Proc. Int. Soc. Magn. Reson. Med., Vancouver, p. 1634. (1997). [document]

63. T. L. Davis, K. K. Kwong, P. A. Bandettini, R. M. Weisskoff, B. R. Rosen, Mapping the dynamics of oxidative metabolism by functional MRI [oral], 5'th Proc. Int. Soc. Magn. Reson. Med., Vancouver, p. 151. (1997). [document]

64. W.-M. Luh, J. S. Hyde, P. A. Bandettini, Functional perfusion studies of motor cortex during task and rest states using QUIPSS at 3T [oral], 5'th Proc. Int. Soc. Magn. Reson. Med., Vancouver, p. 1766. (1997). [document]

65. P. A. Bandettini, A. Jesmanowicz, J. VanKylen, R. M. Birn, J. S. Hyde, Functional MRI of scanner acoustic noise induced brain activation, 3'rd International Conference on Functional Mapping of the Human Brain, Copenhagen, p. 193. (1997). [document]

66. S. Book, et al., Assessment of cerebrovascular reserve with functional MRI, American Acad. Neurology Meeting, Neurology, supp2, p. A153. (1997). [document]

67. P. A. Bandettini, R. W. Cox, Contrast in single trial fMRI: interstimulus interval dependency and comparison with blocked strategies [oral], 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 161. (1998). [document]

68. P. A. Bandettini, K. M. Donahue, Analysis of activation-induced and post-activation undershoot $\Delta R2^*$ and $\Delta R2$ magnitudes and ratios at 1.5 Tesla using synchronous gradient-echo and spin-echo (SGS) - EPI, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1393. (1998). [document]

69. P. A. Bandettini, et al., A comparison of blood agent level (BALD) and blood oxygenation level dependent (BOLD) $\Delta R2^*$ and $\Delta R2$ magnitudes and ratios using synchronous gradient-echo and spin-echo (SGS) - EPI, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1394. (1998). [document]

70. P. A. Bandettini, W.-M. Luh, A. Jesmanowicz, J. S. Hyde, The effect of diffusion weighting on activation - induced ΔR2*/ΔR2* ratio, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1395. (1998). [document]

71. P. A. Bandettini, E. C. Wong, Echo time dependence of activation - induced signal change revisited using diced k-space (DK) acquisition, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1396. (1998). [document]

72. R. M. Birn, P. A. Bandettini, R. W. Cox, R. Shaker, FMRI during stimulus correlated motion and overt subject responses using a single trial paradigm [oral], 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 159. (1998). [document]

73. R. B. Buxton, W.-M. Luh, E. C. Wong, L. R. Frank, P. A. Bandettini, Diffusion - weighting attenuates the BOLD peak signal change but not the post - stimulus undershoot [oral], 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 7. (1998). [document]

74. R. W. Cox, P. A. Bandettini, Single trial fMRI: the optimal inter - stimulus interval [oral], 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 244. (1998). [document]

75. K. M. Donahue, et al., Evaluation of human brain tumor agiogenesis using simultaneously - acquired gradient - echo and spin - echo EPI during dynamic susceptibility contrast, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1640. (1998). [document]

76. W.-M. Luh, P. A. Bandettini, J. S. Hyde, Quantification of relative perfusion changes in functional brain imaging using diffusion weighted FAIR: comparison of T1 model and kinetic model, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1466. (1998). [document]

77. W.-M. Luh, A. Jesmanowicz, P. A. Bandettini, J. S. Hyde, High resolution functional perfusion and BOLD imaging using Q2TIPS: A method for improving accuracy of quantitative perfusion imaging, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1468. (1998). [document]

78. W.-M. Luh, E. C. Wong, P. A. Bandettini, J. S. Hyde, QUIPSSII with thin - slice TI1 periodic saturation (Q2TIPS): A method for improving accuracy of quantitative perfusion imaging, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1191. (1998). [document]

79. P. Pathak, P. A. Bandettini, R. A. Reisinger, E. Stein, K. M. Donahue, The effect of sequential contrast agent studies on the assessment of relative cerebral blood volume, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1153. (1998). [document]

80. V. Roopchansingh, P. A. Bandettini, R. W. Cox, B. D. Ward, Generating flip angle maps by nonlinear estimation from the initial non-equilibrium EPI signal [oral], 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 145. (1998). [document]

81. J. VanKylen, P. A. Bandettini, J. S. Hyde, FMRI in the spinal cord during bilateral finger tapping [oral], 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 113. (1998). [document]

82. R. Zhang, P. A. Bandettini, R. W. Cox, J. S. Hyde, FMRI signal origin study of motor task activation in a single run using MT - interleaved EPI, 6'th Proc. Int. Soc. Magn. Reson. Med., Sydney, p. 1563. (1998). [document]

83. P. A. Bandettini, R. W. Cox, Functional contrast in event-related fMRI: interstimulus interval dependency and blocked design comparison, 4'th International Conference on Functional Mapping of the Human Brain, Montreal, p. 552. (1998). [document]

84. R. M. Birn, P. A. Bandettini, J. Van Kylen, R. W. Cox, Motion decoupled fMRI: event-related mapping during overt responses, 4'th International Conference on Functional Mapping of the Human Brain [oral], Montreal, p. 35. (1998). [document]

85. P. A. Bandettini, Improving fMRI spatial-temporal resolution and interpretability through hemodynamic response characterization [oral], 37'th Annual American College of Neuropsychopharmacology Meeting, Puerto Rico, p. 25. (1998).

86. W. W.-M. Luh, P. A. Bandettini, B. D. Ward, J. S. Hyde, Voxel-wise comparison of T1 relaxation times and simultaneously measured perfusion and BOLD signal increases during motor activation, 7'th Proc. Int. Soc. Magn. Reson. Med., Philadelphia, p. 1768. (1999). [document]

87. Ward, P. A. Bandettini, Optimal design of fMRI stimuli for impulse response estimation, 7'th Proc. Int. Soc. Magn. Reson. Med., Philadelphia, p. 1667. (1999). [document]

88. R. Zhang, R. W. Cox, P. A. Bandettini, J. S. Hyde, fMRI signal origin: comparison between gradient-echo and spin-echo MT interleaved EPI, 7'th Proc. Int. Soc. Magn. Reson. Med., Philadelphia, p. 1755. (1999). [document]

89. T. T. Liu, W.-M. Luh, E. C. Wong, P. A. Bandettini, T. Obata, L. R. Frank, R. Buxton, On the nonlinear relation between BOLD and CBF, 8’th Proc. Int. Soc. Magn. Reson. Med. Denver, p. 948. (2000). [document]

90. R. M. Birn, Z. Saad, P. A. Bandettini, Spatial Distribution of the Nonlinearity of the BOLD Response, 6'th International Conference on Functional Mapping of the Human Brain [oral], San Antonio, p. 764. (2000). [document]

91. N. Petridou, P. Bandettini, Comparison of the TE and Field Strength Dependence of Single Shot Image S/N and Time Series Standard Deviation in Humans and Phantoms, 6'th International Conference on Functional Mapping of the Human Brain, San Antonio, p. 677. (2000) [document]

92. J. Patterson, P. Bandettini, L. Ungerleider, Simultaneous Skin Conductance Measurement and fMRI during Cognitive Tasks: Correlations of Skin Conductance Activity with Ventromedial Prefrontal Cortex (PFC) and Orbitofrontal Cortex (OFC)

Activity. 6'th International Conference on Functional Mapping of the Human Brain [oral], San Antonio, p. 235. (2000). [document]

93. P. A. Bandettini, Current State of FMRI Clinical Research Methods and Applications, AAPM 2000 President's Symposium Medical Imaging: The Foundation for Diagnosis and Therapy. World Congress on Medical Physics and Biomedical Engineering Meeting, [oral], Chicago. (2000). [talk]

94. N. Petridou, F. Q. Ye, A. C. McLaughlin, P. Bandettini, TE and field strength dependence of temporal and spatial S/N in human and phantom single shot imaging. 17'th Proc. European Soc. Mag. Res. in Med. and Bio. [oral], Paris. p. 92. (2000). [document]

95. P. S. F. Bellgowan, E. T. Possing, P. A. Bandettini, T. A. Hammeke, J. R. Binder, Activation of the hippocampal formation following configural encoding. 30'th Society for Neuroscience Meeting, New Orleans. (2000). [document]

96. Natalia Petridou, Jerzy Bodurka, Murray Loew, Peter A. Bandettini, Neuronal Current Imaging using MRI, SPIE Medical Imaging Meeting [oral], San Diego, Feb, (2001).

97. R. M. Birn, P. A. Bandettini, Linearity of the BOLD response to varying durations of stimulus "OFF" periods. [oral], 9'th Proc. Int. Soc. Magn. Reson. Med., Glasgow, p. 1165 (2001). [document]

98. R. M. Birn, J. Bodurka, P. A. Bandettini, The efficacy of cardiac gating with variable TR correction in fMRI. 9'th Proc. Int. Soc. Magn. Reson. Med., Glasgow, p1219, (2001). [document] [poster]

99. J. Bodurka, N. Petridou, P. A. Bandettini, MRI based method for detection of weak and transient magnetic field changes. 9'th Proc. Int. Soc. Magn. Reson. Med., Glasgow, p. 1267, (2001). [document]

100. N. Petridou, F. Q. Ye, A. C. McLaughlin, P. Bandettini, Relationship between S/N and fMRI Sensitivity, 9'th Proc. Int. Soc. Magn. Reson. Med., Glasgow, p. 1181 (2001). [document]

101. N. Petridou, J. Bodurka, P.A. Bandettini, Modeling of MRI fractional signal changes and phase shifts induced by cortical neuronal activity, 7'th International Conference on Functional Mapping of the Human Brain, Brighton, p. 1311, (2001). [document]

102. D. J. Kelley, R. M. Birn, Z. S. Saad, P. A. Bandettini, Voxel-wise balloon model parameter estimation from BOLD time series, 7'th International Conference on Functional Mapping of the Human Brain, Brighton, p. 990, (2001). [document] [poster]

103. J. Bodurka and P. A. Bandettini, Toward direct mapping of neuronal activity: MRI detection of ultra weak transient magnetic field changes, [oral], 7'th International Conference on Functional Mapping of the Human Brain, Brighton, p. 964, (2001). [document]

104. R. M. Birn and P. A. Bandettini, Estimated BOLD impulse response depends on stimulus ON/OFF ratio, 7'th International Conference on Functional Mapping of the Human Brain, Brighton, p. 971, (2001). [document] [poster]

105. Z. S. Saad, K. M. Ropella, E. A. DeYoe, P. A. Bandettini, Extensive expansion of fMRI activation volume with scan averaging, 7'th International Conference on Functional Mapping of the Human Brain, Brighton, p. 1002, (2001). [document] [poster-document] [poster-ppt]

106. P.S.F. Bellgowan, Z. S. Saad, P. A. Bandettini, Voxel-wise estimation of hemodynamic onset delays during a lexical decision task, 7'th International Conference on Functional Mapping of the Human Brain, Brighton, p. 503 (2001). [document]

107. L. Pessoa, E. Gutierrez, P. A. Bandettini, L. Ungerleider, Neural correlates of visual working memory: BOLD predicts task performance, 7'th International Conference on Functional Mapping of the Human Brain, Brighton, p. 720 (2001). [document]

108. K. J. Montgomery, D. J. Kelley, P.S.F. Bellgowan, N. P. Bichot, P. A. Bandettini, L. G. Ungerleider, Cerebellum and frontal cortrex are differentially activated during visuaomotor sequence and visuomotor association learning. Society for Neuroscience, San Diego, Nov, (2001). [document]

109. N. Petridou, M. Loew, P. Bandettini, Signal to Noise and fMRI Sensitivity, SPIE Medical Imaging Meeting, San Diego, Feb, (2002).

110. H.R. Heekeren, S. Marrett, P.A. Bandettini, L.G. Ungerleider, Nonmonotonic coherence tuning of BOLD fMRI signal to random dot kinematograms in human area MT, Cognitive Neuroscience, San Francisco, March, (2002). [document]

111. R. M. Birn, H. R. Heekeren, S. Marett, J. Bodurka, P. A. Bandettini, Estimating transient neuronal activity dynamics using BOLD contrast, 10'th Proc. Int. Soc. Magn. Reson. Med., Honolulu, HI. (2002). [document]

112. R. M. Birn and P. A. Bandettini, The effect of T2' changes on spin-echo EPI-derived brain activation maps, 10'th Proc. Int. Soc. Magn. Reson. Med., Honolulu, HI. (2002). [document]

113. J. Bordurka, P. A. Bandettini, A simple system for highly precise stimulus delivery and subject feedback timing, 10'th Proc. Int. Soc. Magn. Reson. Med., Honolulu, HI. (2002). [document]

114. W.-M. Luh, J. Bodurka, E. Kapler, P. A. Bandettini, Absolute quantification of high resolution perfusion imaging in human brain, 10'th Proc. Int. Soc. Magn. Reson. Med., Honolulu, HI. (2002). [document]

115. N. Petridou, F. Q. Ye, A. C. McLaughlin, P. A. Bandettini, The optimal spatial resolution for fMRI – temporal sensitivity and signal to noise considerations, 10'th Proc. Int. Soc. Magn. Reson. Med., Honolulu, HI. (2002). [document]

116. N. Petridou, P. A. Bandettini, Echo time dependence, spatial distribution, and spectral characteristics of physiologic fluctuations, 10'th Proc. Int. Soc. Magn. Reson. Med., Honolulu, HI. (2002). [document]

117. P. S. F. Bellgowan, Z. S., Saad, E. S. Kapler, P. A. Bandettini, Understanding cognitive processing streams through independent estimates of the hemodynamic magnitude, onset delay, and width, 8'th International Conference on Functional Mapping of the Human Brain, Sendai, (2002). [document]

118. E. S. Kapler, P. S. F. Bellgowan, P. A. Bandettini, Modulation of the hemodynamic response dynamics in the hippocampus during a novel picture task, 8'th International Conference on Functional Mapping of the Human Brain, Sendai, (2002). [document]

119. N. Petridou, P. A. Bandettini, Spatial characteristics and echo time dependence of physiologic fluctuations, 8'th International Conference on Functional Mapping of the Human Brain, Sendai, (2002). [document]

120. N. Petridou, F. Q. Ye, A. C. McLaughlin, P. A. Bandettini, What is the optimum resolution for fMRI? 8'th International Conference on Functional Mapping of the Human Brain, Sendai, (2002). [document]

121. H. R. Heekeren, S. Marrett, E. Kapler, P. A. Bandettini, L. G. Ungerleider, Non-monotonic fMRI response to a motion discrimination task in human area MT, 8'th International Conference on Functional Mapping of the Human Brain, Sendai, (2002). [document]

122. R. M. Birn, J. Bodurka, P. A. Bandettini, Estimating temporal characteristics of neuronal activity in the visual cortex from BOLD-fMRI. 8'th International Conference on Functional Mapping of the Human Brain, Sendai, (2002). [document]

123. F. Q. Ye, H. Heekeren, K. St. Lawrence, A. C. McLaughlin, S. Marrett, P. A. Bandettini, High resolution functional perfusion imaging at 3T using background suppression and surface coil, 8'th International Conference on Functional Mapping of the Human Brain, Sendai, (2002). [document]

Lectures

1. March, 1991 "Non-standard uses of echo-planar imaging" Biophysics Dept., Medical College of Wisconsin [document]
2. Dec, 1991 University of Chicago Hospital, Chicago, IL
3. March, 1992 Dissertation Outline Defense, Milwaukee, WI
4. June, 1992 University of Chicago Hospital, Chicago, IL
5. July, 1992 GE Medical Systems, Milwaukee, WI
6. Oct, 1992 McKennon Hospital, Sioux Falls, SD
7. Oct, 1992 Charter Hospital, Sioux Falls, SD
8. Oct, 1992 Froedert Memorial Hospital, Milwaukee, WI
9. Nov, 1992 Wisconsin Neurosurgeons Annual Meeting, Milwaukee, WI
10. Dec, 1992 Milwaukee County Hospital, Milwaukee, WI
11. April, 1993 Seventeenth Annual Great Lakes Biomedical Conference, Racine, WI
12. May, 1993 Medical College of Wisconsin Council Meeting, Milwaukee, WI
13. June, 1993 Functional MRI of the Brain, Arlington, VA
14. Nov, 1993 First Midwest Course on fMRI, Milwaukee, WI
15. Sept, 1993 University of California, Los Angeles, Los Angeles, CA
16. Oct, 1993 University of Texas Health Science Center, San Antonio, TX
17. Oct, 1993 Teknisk Aften, Oslo Norway
18. Nov, 1993 National Institutes of Health, Bethesda, MD
19. Dec, 1993 Stanford University, Palo Alto, CA
20. Dec, 1993 University of Wisconsin, Madison, Madison, WI
21. Dec, 1993 MGH - NMR Center, Charlestown, MA
22. Feb, 1994 Michigan State University, East Lansing, MI
23. June, 1994 University of Florida, Gainesville, FL
24. Aug, 1994 Society of Magnetic Resonance mini – cat. course, San Francisco, CA
25. Sept, 1994 Macarthur Foundation, Chicago, IL
26. Oct, 1994 Ph. D. Dissertation Defense, Biophysics Research Institute, Medical College of Wisconsin, Milwaukee, WI
27. Nov, 1994 Second Midwest Course on fMRI, Madison, WI
28. Jan, 1995 McDonnell Pew Foundation, Tucson, AZ

29. Feb, 1995 MGH fMRI course, MGH-NMR Center, Charlestown, MA
30. April, 1995 Marquette University Physics Dept., Milwaukee, WI
31. May, 1995 Washington University School of Medicine, St. Louis, MO
32. May, 1995 M.D. Anderson Cancer Center, Houston, TX
33. June, 1995 MGH fMRI course, MGH-NMR Center, Charlestown, MA
34. Sept. 1995 University of Arizona, Tucson, AZ
35. Oct, 1995 MGH fMRI course, MGH-NMR Center, Charlestown, MA
36. Jan, 1996 Research Institute of Brain and Blood Vessels, Akita, Japan
37. Jan, 1996 Human Brain Project, Wakula Springs, FL
38. Feb, 1996 MGH fMRI course, MGH-NMR Center, Charlestown, MA
39. Feb, 1996 Cornell University Medical Center, New York, NY
40. June, 1996 Santa Fe Institute, Complex Systems Summer School, Santa Fe, NM
41. June, 1996 fMRI2Day Workshop, Human Brain Mapping Meeting, Boston, MA
42. June, 1996 MGH fMRI course, MGH-NMR Center, Charlestown, MA
43. Aug, 1996 University of Rochester, Rochester, NY
44. Sept, 1996 GE Medical Systems
45. Sept, 1996 Biophysics Research Institute, Milwaukee, WI
46. Oct, 1996 Norwegian Medical Physics Society Meeting, Oslo, Norway
47. Oct, 1996 MGH fMRI course, MGH-NMR Center, Charlestown, MA
48. Jan, 1997 University of Arizona, Tucson, AZ
49. Jan, 1997 University of California, San Diego, San Diego, CA
50. Feb, 1997 fMRI Symposium, Tsukuba, Japan
51. Feb, 1997 Hitachi Corporation, Tokyo, Japan
52. Feb, 1997 Marquette University Biomedical Engineering Dept., Milwaukee, WI
53. March, 1997 Third Midwest Course on fMRI, Minneapolis, MN
54. May, 1997 MGH traveling fMRI course, Perth, Australia
55. June, 1997 Functional MRI Conference, Trani, Italy
56. July, 1997 MCW fMRI course, Medical College of Wisconsin, Milwaukee, WI
57. July, 1997 MGH traveling fMRI course, Oxford, England
58. Sept, 1997 Arterial Spin Labeling Conference, NIH, Bethesda, MD
59. Sept, 1997 Georgetown University, Washington D. C.

60. Oct, 1997 The Roland Institute, Cambridge, MA
61. Oct, 1997 MGH fMRI course, MGH-NMR Center, Charlestown, MA
62. Oct, 1997 MCW fMRI course, Medical College of Wisconsin, Milwaukee, WI
63. Dec, 1997 MGH traveling fMRI course, Caen, France
64. Feb, 1998 International Neuropsychology Society, Honolulu, HI
65. Feb, 1998 MGH Training Workshop Lectures, Kauai, HI
66. April, 1998 MGH traveling fMRI course, Melbourne, Australia
67. May, 1998 Functional Brain Imaging Workshop, Helsinki, Finland
68. June, 1998 Humboldt University, Charite Hospital, Berlin, Germany
69. June, 1998 National Institutes of Health, Bethesda, MD
70. July, 1998 MCW fMRI course, Medical College of Wisconsin, Milwaukee, WI
71. Aug, 1998 Biomag '98, Sendai, Japan
72. Oct, 1998 Functional MRI Workshop Lectures, Rome, Italy
73. Oct, 1998 MCW fMRI course, Medical College of Wisconsin, Milwaukee, WI
74. Dec, 1998 Neuropsychopharmacology meeting lecture, Puerto Rico
75. Feb, 1999 Future of fMRI lecture at MCW. [document]
76. June, 1999 MCW fMRI course, Medical College of Wisconsin, Milwaukee, WI
77. June, 1999 OHBM educational course lecture, Duesseldorf, Germany
78. Aug, 1999 Cold Spring Harbor course on Brain Mapping, Cold Spring Harbor, NY
79. Sept. 1999 NIMH Intramural Retreat Lecture
80. Oct, 1999 Integrative Neuroscience Seminar, Building 49, NIH
81. Oct, 1999 NIH FAES course lecture
82. Nov, 1999 MCW fMRI course, Medical College of Wisconsin, Milwaukee, WI
83. Jan, 2000 Yale School of Medicine, New Haven, Connecticut [document]
84. Feb, 2000 University of British Columbia, Vancouver, BC
85. Feb, 2000 Purdue University, West Lafayette, Indiana
86. Feb, 2000 MCW graduate course on fMRI contrast, Milwakee, WI [document]
87. Feb, 2000 Marquette University Physics Department, Milwaukee, WI
88. May, 2000 Workshop on neurovascular coupling at Ringberg Castle, Germany
89. June, 2000 MCW fMRI course, Medical College of Wisconsin, Milwaukee, WI
90. June, 2000 OHBM course on fMRI, San Antonio, TX

91. June, 2000 MGH-APA fMRI course, MGH-NMR Center, Charlestown, MA [document1] [document2]
92. July, 2000 Lecture for Grafman group, NINDS, NIH Bethesda, MD [document]
93. Oct, 2000 3T Opening Lecture, Melbourne, Australia [document]
94. Oct, 2000 APA - fMRI Workshop, San Diego, CA [document]
95. Oct, 2000 Workshop on Understanding the BOLD Phenomena,. Chapel Hill, NC. [document]
96. April, 2001 fMRI Experience, Kings College, London, UK [document]
97. May, 2001 William and Mary University, Williamsburg, VA [document]
98. May, 2001 MCW fMRI course, Medical College of Wisconsin, Milwaukee, WI
99. June, 2001 Workshop on neurovascular coupling, Tokyo, JP [document]
100. June, 2001 OHBM education program, Brighton, UK [document]
101. June, 2001 Brindizzi, Italy [document]
102. June, 2001 3T scanner inauguration meeting, San Giovanni Rotundo, Italy [document]
103. June, 2001 MGH-APA fMRI course, MGH-NMR Center, Charlestown, MA
104. July, 2001 FMRI database workshop, Dartmouth University, NH [document]
105. Aug, 2001 International Cognitive Neuroscience Meeting, Beijing, China [document]
106. Aug, 2001 Beijing Normal University, Beijing, China [document]
107. Sept, 2001 University of Virginia, Charlottesville, VA [document]
108. Sept, 2001 Uniformed Services University, Bethesda, MD [document]
109. Oct, 2001 MCW fMRI course, Medical College of Wisc, Milwaukee, WI [document]
110. Oct, 2001 Georgetown University, Washington DC [document]
111. Jan, 2002 fMRI Training Course, University of Texas [document]
112. March, 2002 Yale University, New Haven, CT [document]
113. March, 2002 MGH fMRI course, MGH-NMR Center, Charlestown, MA [document]