

**BIOGRAPHICAL SKETCH**

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NAME Oakes, Terrence R.	POSITION TITLE Associate Scientist and Director of Image Analysis for the Waisman Laboratory of Brain Imaging and Behavior		
eRA COMMONS USER NAME			
EDUCATION/TRAINING ( <i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i> )			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Dallas, Dallas, TX	B.S.	1988	Physics
University of Wisconsin-Madison	M.S.	1990	Medical Physics
University of Wisconsin-Madison	Ph.D.	1995	Medical Physics
University of British Columbia/TRIUMF, Vancouver, BC	Post- doctoral	1995-98	Medical Physics

**Positions and Honors**

2001-present Director of Image Analysis, Waisman Lab for Functional Brain Imaging, UW-Madison.  
 2003-2005 Chief PET Physicist, Waisman Lab for Functional Brain Imaging, UW-Madison.  
 2004 Wyeth–Health Emotions Young Investigator Fellowship in Emotion Research  
 1998 – 2000 Associate Scientist, Department of Psychology, University of Wisconsin-Madison  
 1995-1998 NIH NRSA Postdoctoral Fellow, University of British Columbia/TRIUMF PET Centre  
 1993-1994 NIH Trainee, Department of Medical Physics, University of Wisconsin-Madison  
 1991 Visiting Scholar, Åbo Akademi, Turku, Finland  
 1988 – 1992 Research Assistant, Department of Medical Physics, University of Wisconsin-Madison  
 1988 Intern, Cardiac Assist Group, Medtronic, Inc., Minneapolis, MN  
 1986 – 1988 Teaching Assistant, Department of Physics, University of Dallas

**Professional Training**

2003 10/15-17 Computer programming for medical image analysis: “Advanced Topics in IDL”, Boulder, CO.  
 2002 9/21-22 microPET Training Course, Knoxville, TN, August 21-22 2002.  
 2001 11/6 “Statistical Methods for Image Reconstruction”, IEEE MIC, November 6, 2001.  
 2001 5/31-6/2 “Functional Magnetic Resonance Imaging: An Introductory Course”, Medical College of WI.  
 2001 2/8-9 “Advanced Application with Object Graphics in IDL”, Wright State University, Dayton, Ohio.  
 2000 5/19-22 Statistical Parametric Mapping (SPM99) and Functional Neuroimaging, University College  
 London's Institute of Neurology and Wellcome Department of Cognitive Neurology, London.  
 2000 3/10-11 Course on BrainVoyager (functional and anatomic analysis software), Maastricht, Netherlands.  
 1999 8/4-6 “Brain Imaging and Image Processing”, Univ. of Iowa Mental Health Clinical Research Center.

**Publications:**

“Motion correction and the use of motion covariates in multiple-subject fMRI analysis”, Johnstone T, Ores Walsh KS, Greischar LL, Alexander AL, Fox AS, Davidson RJ, **Oakes TR**, *Human Brain Mapping*, in press March 2006.

“A PET/CT Study of Cerebral Dopamine D2 Receptors in Rhesus Macaque Fetus in utero”, OT DeJesus, RM Bartlett, LG Flores, D Murali1, AK Converse, **TR Oakes**, RJ Nickles, R Jeraj, CJ Jaskowiak, *oral presentation at Society of Nuclear Medicine annual meeting*, June 2006.

“Comparison of fMRI Motion Correction Software Tools”, **TR Oakes**, T Johnstone, KS Ores Walsh, LL Greischar, AL Alexander, AS Fox, RJ Davidson, *NeuroImage*, 28(3):529-543, November 2005.

"Identification of Activation Correlated Motion Artifacts in Multiple-Subject fMRI", T Johnstone, KS Ores Walsh, L Greischar, AL Alexander, RJ Davidson, **TR Oakes**, in press, *Human Brain Mapping*, Sept. 2005.

Principal Investigator/Program Director (Last, First, Middle): Oakes, Terrence R.

- “Brain regions associated with the expression and contextual regulation of anxiety in primates”, NH Kalin, SE Shelton, AS Foz, **TR Oakes**, RJ Davidson, *in press, Biological Psychiatry*, 2005.
- “Stability of Amygdala BOLD Response to Fearful Faces over Multiple Scan Sessions”, Johnstone T, Somerville LH, Alexander AL, **Oakes TR**, Davidson RJ, Kalin NH, Whalen PJ, *NeuroImage*, 25(4):1112-1123, 2005.
- “Thalamic and Prefrontal FDG Uptake in Never Medicated Patients With Schizophrenia”, DS Lehrer, BT Christian, J Mantil, AC Murray, BR Buchsbaum, **TR Oakes**, W Byne, EM Kemether, MS Buchsbaum, *Am. J. Psychiatry*, 162:931-938, 2005.
- “Condor: Managing Computationally Intensive Jobs from a Computer Science Perspective”, AS Fox, M Farrellee, A Roy, RJ Davidson, **TR Oakes**, *Human Brain Mapping Conference*, Toronto, Canada, June 2005.
- “Anisotropic Kernel Smoothing of DTI Data”, J Lee, MK Chung, **TR Oakes**, AL Alexander, ISMRM, 2005.
- “Calling for help is independently modulated by brain systems underlying goal-directed behavior and threat perception”, AS Fox, **TR Oakes**, SE Shelton, AK Converse, RJ Davidson, NH Kalin, *Proc Natl Acad Sci U S A*, 102(11):4176-9 Mar 15 2005.
- “Comparison of fMRI Motion Corrections Using Realistic Synthetic Data”, **TR Oakes**, KS Ores, IT Johnstone, AL Alexander, AS Fox, LL Greischar, RJ Davidson, *Poster presentation at Human Brain Mapping Conference, Budapest, Hungary* June 13-17, 2004.
- “Functional coupling of simultaneous electrical and metabolic activity in the human brain.”, **Oakes TR**, Pizzagalli DP, Hendrick AM, Horras KA, Larson CL, Abercrombie HC, Schaefer SM, Koger JV, Davidson RJ, *Human Brain Mapping*, 21(4):257-270, 2004.
- “D2/D3 Dopamine Receptor Availability and FDG Metabolism in Medication Naïve Schizophrenics”, BT Christian, M Buchsbaum, D Lehrer, TK Narayanan, B Shi, J Mantil, **TR Oakes**, J Mukherjee, *Poster presentation at HBM Conference* June 2004.
- “A F-17 PET/TMS study of effective connectivity”, F Ferrarelli, HM Haraldsson, TE Barnhart, AD Roberts, **TR Oakes**, M Massimini, NH Kalin, CK Stone, G Tononi, *Brain Research Bulletin* 64(2):103-113, 2004.
- “Coupling of theta activity and glucose metabolism in the human rostral anterior cingulate cortex: An EEG/PET study of normal and depressed subjects.”, Pizzagalli DA, **Oakes TR**, Davidson RJ, *Psychophysiology* 40:939-949, 2003.
- “Paired [18F]FAL and [18F]FMT PET studies in timing of moderate alcohol exposure in rhesus monkeys during pregnancy”, TE Barnhart, AD Roberts, OT DeJesus, LG Flores, D Murali, **TR Oakes**, AK Converse, DW Dick, J Mukherjee, RJ Nickles, J Larson, CF Moore, and ML Schneider, *Oral presentation at 51st Annual Meeting, Society of Nuclear Medicine, Philadelphia, PA* June 19 - 23, 2004.
- “Preserving Individual Differences for Voxel-Based Morphometry”, AS Fox, **TR Oakes**, K Dalton, B Nacewicz, M Chung, RJ Davidson, *Proc. 9th Conference on Human Brain Mapping*, New York, June 2003.
- “Subgenual prefrontal and orbitofrontal cortex dysfunction in melancholia: Functional and structural correlates using concurrent EEG/PET measurements and voxel-based MRI morphometry analyses”. Pizzagalli DA, Chung M, **Oakes TR**, Davidson RJ. *Psychophysiology* 39:S66, 2003.
- “In Vivo Assessment of Ibotenic Acid Amygdala Lesions in Monkeys Using MRI”, SE Shelton, **TR Oakes**, NH Kalin, *Poster presentation, Society for Neuroscience Annual Meeting, Orlando*, November 2002.
- “Multi-Scanner PET 2D/3D Comparison with Cerebral FDG”, **TR Oakes**, BT Christian, AD Roberts, RW Pyzalski, JE Holden, T Brown, WD Brown, RJ Nickles, RJ Davidson, *Proceedings 2001 IEEE Nuclear Science Symposium and Medical Imaging Conference, San Diego, Nov. 4-10, 2001*.
- “Simultaneous FDG-PET and 3D tomographic EEG in resting brain”, **TR Oakes**, D Pizzagalli, AM Hendrick, KA Horras, CL Larson, HC Abercrombie, SM Schaefer, JV Koger, RJ Davidson, *NeuroImage* 13:S36, 2001.
- “Hippocampal morphometry in depressed patients and control subjects”, BD Rusch, HC Abercrombie, **TR Oakes**, SM Schaefer, RJ Davidson, *Biological Psychiatry*, 50:960-964, 2001.
- “Comparison of 2D and 3D PET for Cerebral FDG in Human Subjects”, **TR Oakes**, JE Holden, RW Pyzalski, AD Roberts, WD Brown, RJ Nickles, RJ Davidson, *IEEE Trans. Nucl. Science*, 47(3), 1233-1241, June 2000.

Principal Investigator/Program Director (Last, First, Middle): Oakes, Terrence R.

"FluoroDOPA PET shows the non-dopaminergic as well as dopaminergic destinations of levodopa", WD Brown, MD Taylor, AD Roberts, **TR Oakes**, MJ Schueller, JE Holden, LM Malischke, OT DeJesus, RJ Nickles, *Neurology*, 53(6):1212-8, Oct 12 1999.

"Fluorine-18-fluoro-L-DOPA dosimetry with Carbidopa Pretreatment", WD Brown, **TR Oakes**, OT DeJesus, MD Taylor, AD Roberts, RJ Nickles, Holden JE, *J. Nucl. Med.*, 39:1884-91, 1998.

"A phantom study evaluating the quantitative aspect of 3D PET imaging of the brain", V Sossi, **TR Oakes** and TJ Ruth, *Phys.Med.Biol.*, 43(9):2615-2630, 1998.

"Normalization for 3D PET with a low-scatter planar source and measured geometric factors", **TR Oakes**, V Sossi and TJ Ruth, *Phys.Med.Biol.*, 43(4):961-972, 1998.

**Research Support**

- 1) NIMH R01 MH067167-01 09/01/2002 – 07/01/2006  
NIMH 1 year no-cost extension  
“Characterizing, Validating, and Comparing Neuroimaging Informatics Tools”  
Terrence Oakes, PI  
The primary goal is to evaluate several software programs commonly used for analysis of functional MRI data, examining factors such as accuracy, ease of use, and effect of each tool on data analysis results.  
Role: PI
- 2) P50-MH0693152/01/2004-1/31/2009 02/01/2004 – 01/31/2009  
NIMH  
“Affective style: Neural and Behavioral substrates” (Richard Davidson - PI)  
Center to study affective style from neural and psychobiological perspectives. Both animal and human studies will be conducted.  
Role: Co-Investigator of Core C Biological Measures (Alexander, Andrew L.-PI)
- 3) 7 R01 MH62015-02 07/01/2000 - 06/30/2005  
NIH/NIMH 1 year no-cost extension  
“Diffusion MRI of the Human Brain”  
Andrew Alexander, PI.  
The major goal of this project is to improve the accuracy and understanding of white matter mapping techniques within the human brain.  
Role: Co-Investigator
- 4) U19 HD035476-07 (McMahon, William M.) 06/01/1997 - 05/31/2007  
NIH/NICHHD  
Autism Project  
The goal of this subcontract is to provide advanced data analysis of diffusion tensor images of subjects with autism.  
Role: Co-Investigator