

CURRICULUM VITAE
LAWRENCE H. STAIB, Ph.D.

Education:

A.B. Cornell University, 1982, Physics
 M.S. Yale University, 1986, Electrical Engineering
 M.Phil. Yale University, 1987, Electrical Engineering
 Ph.D. Yale University, 1990, Electrical Engineering

Career:

6/1980 – 6/1982 Computer Programmer, Lab of Donald Zilversmit, Cornell University, Ithaca, NY.
 12/1982 – 12/1983 Software Systems Engineer, Target Technology Ltd., Paoli, PA.
 1/1984 – 8/1984 Systems Engineer, Moore Products Company, Spring House, PA.
 1/1985 – 6/1986 Teaching Assistant, Computer Science and Electrical Engineering, Yale University.
 6/1985 – 6/1990 Research Assistant, Electrical Engineering, Yale University.
 7/1990 – 12/1991 Postdoctoral Fellow, Diagnostic Radiology, Yale School of Medicine.
 1/1992 – 6/1997 Assistant Professor, Diagnostic Radiology, Yale School of Medicine.
 1/1994 – 6/1997 Assistant Professor, Electrical Engineering, Yale University.
 7/1997 – Present Associate Professor, Diagnostic Radiology and Electrical Eng., Yale University (with tenure, 2001).
 9/1997 – Present Associate Professor, Biomedical Engineering, Yale University.
 7/2001 – Present Co-director, Developmental Neuroimaging Program, Yale University.
 1/2002 – 5/2002 Director of Undergraduate Studies (acting), Biomedical Engineering, Yale University.
 9/2005 – 12/2005 Director of Undergraduate Studies (acting), Biomedical Engineering, Yale University.

Professional Recognition:

Yale University Fellowship, Yale University, 1984 – 1985.

National Library of Medicine Predoctoral Fellowship, Yale University, 1987 – 1990.

National Research Service Award, Three dimensional models for medical images, National Library of Medicine Individual Postdoctoral Fellowship, 1990 – 1991.

ASNR 2003 Cum Laude Scientific Exhibit Award, MR of the Temporal Stem: A New Method for Localizing White Matter Tracts (with E. L. Kier, L. M. Davis and R. A. Bronen).

Medical Image Analysis Second Best MICCAI Paper Award 2005, White matter Tractography by Anisotropic Wavefront Evolution and Diffusion Tensor Imaging (with M. Jackowski, C. Y. Kao, M. Qiu and R. T. Constable).

Senior Member, IEEE (Institute of Electrical and Electronics Engineers).

Bibliography:**Original Articles:**

1. J. S. Duncan and **L. H. Staib**, Shape Determination from Incomplete and Noisy Multisensor Imagery. *Spatial Reasoning and Multi-Sensor Fusion*, pages 334–344, Morgan Kaufmann, Los Altos, CA, 1987.

2. J. S. Duncan and **L. H. Staib**, Left Ventricular Motion and Shape Analysis Using Multiple Imaging Modalities. *Information Processing in Medical Imaging*, pages 457–470, Plenum Press, New York, 1988.
3. **L. H. Staib** and J. S. Duncan, Parametrically Deformable Contour Models. *Computer Vision and Pattern Recognition*, pages 98–103, IEEE Computer Society Press, Los Alamitos, CA, 1989.
4. R. L. Owen, **L. H. Staib**, P. Anandan and J. S. Duncan, Measurement of Left Ventricular Wall Motion from Contour Shape Deformation. *Information Processing in Medical Imaging*, Progress in Clinical and Biological Research, 363:541–556, 1989.
5. J. S. Duncan, **L. H. Staib**, T. Birkhölzer, R. L. Owen, P. Anandan and I. Bozma, Medical Image Analysis Using Model-Based Optimization. *Visualization in Biomedical Computing*, pages 370–377, IEEE Computer Society Press, Los Alamitos, CA, 1990.
6. J. S. Duncan, R. L. Owen, **L. H. Staib** and P. Anandan, Measurement of Non-Rigid Motion in Images Using Contour Shape Descriptors. *Computer Vision and Pattern Recognition*, pages 318–324, IEEE Computer Society Press, Los Alamitos, CA, 1991.
7. **L. H. Staib** and J. S. Duncan, Deformable Fourier Models for Surface Finding in 3D Images. *Visualization in Biomedical Computing*, 1808:90–104, 1992.
8. **L. H. Staib** and J. S. Duncan, Boundary Finding with Parametrically Deformable Models. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 14(11):1061–1075, 1992.
9. M. Worring, A. W. M. Smeulders, **L. H. Staib** and J. S. Duncan, Parameterized Feasible Boundaries in Gradient Vector Fields. *Information Processing in Medical Imaging*, LNCS, 687:48–61, 1993.
10. J. Duncan, P. Shi, A. Amini, R. Constable, **L. H. Staib**, D. Dione, Q. Shi, E. Heller, M. Singer, A. Chakraborty, G. Robinson, J. Gore and A. Sinusas, Toward Reliable, Noninvasive Measurement of Myocardial Function from 4D Images. *Medical Imaging: Physiology and Function from Multidimensional Images*, 2168:149–161, 1994.
11. R. T. Schultz, N. K. Cho, **L. H. Staib**, E. L. Kier, J. M. Fletcher, S. E. Shaywitz, D. P. Shankweiler, J. C. Gore, J. S. Duncan and B. A. Shaywitz, Brain Morphology in Normal and Dyslexic Children: The Influence of Sex and Age, *Annals of Neurology*, 35(6):732–42, 1994.
12. A. Chakraborty, **L. H. Staib** and J. S. Duncan, Deformable Boundary Finding Influenced by Region Homogeneity. *Computer Vision and Pattern Recognition*, pages 624–627, IEEE Computer Society Press, Los Alamitos, 1994.
13. **L. H. Staib** and X. Lei, Intermodality 3D Medical Image Registration with Global Search. *Biomedical Image Analysis*, pages 225–234, IEEE Computer Society Press, Los Alamitos, CA, 1994.
14. A. Chakraborty, **L. H. Staib** and J. S. Duncan, An Integrated Approach to Boundary Finding in Medical Images. *Biomedical Image Analysis*, pages 13–22, IEEE Computer Society Press, Los Alamitos, CA, 1994.
15. P. Shi, G. Robinson, A. Chakraborty, **L. H. Staib**, R. Constable, A. Sinusas and J. Duncan, A Unified Framework to Assess Myocardial Function from 4D Images. *Computer Vision, Virtual Reality and Robotics in Medicine*, LNCS, 905:327–340, 1995.
16. **L. H. Staib** and A. Sinusas, Cardiac SPECT Restoration using MR-based Support Constraints, *Proc. Image Processing*, Volume 2, 480–483, IEEE Computer Society Press, Los Alamitos, CA, 1995.
17. M. Worring, A. W. M. Smeulders, **L. H. Staib** and J. S. Duncan, Parameterized Feasible Boundaries in Gradient Vector Fields, *Computer Vision and Image Understanding*, 63(1):135–144, 1996.
18. A. Chakraborty, **L. H. Staib** and J. S. Duncan, An Integrated Approach for Surface Finding in Medical Images, *Mathematical Methods in Biomedical Image Analysis*, pages 253–262, IEEE Computer Society Press, Los Alamitos, CA, 1996.

19. L. H. Staib and J. S. Duncan, Model-based Deformable Surface Finding for Medical Images, *IEEE Trans. Medical Imaging*, 15(5):720–731, October, 1996.
20. A. Chakraborty, L. H. Staib and J. S. Duncan, Deformable Boundary Finding in Medical Images by Integrating Gradient and Region Information, *IEEE Trans. Medical Imaging*, 15(6):859–870, 1996.
21. J. D. Bremner, P. Randall, E. Vermetten, L. H. Staib, R. A. Bronen, C. Mazure, S. Capelli, G. McCarthy, R. B. Innis and D. S. Charney, Magnetic Resonance Imaging-Based Measurement of Hippocampal Volume in Posttraumatic Stress Disorder Related to Childhood Physical and Sexual Abuse – A Preliminary Report. *Biol. Psychiatry*, 41(1):23-32, 1997.
22. J. D. Bremner, R. B. Innis, C. K. Ng, L. H. Staib, R. M. Salomon, R. A. Bronen, J. Duncan, S. M. Southwick, J. H. Krystal, D. Rich, G. Zubal, H. Dey, R. Soufer and D. S. Charney, Positron Emission Tomography Measurement of Cerebral Metabolic Correlates of Yohimbine Administration in Combat-related Posttraumatic Stress Disorder, *Arch. Gen. Psychiatry*, 54(3):246-254, Mar., 1997.
23. J. D. Bremner, R. B. Innis, R. M. Salomon, L. H. Staib, C. K. Ng, H. L. Miller, R. A. Bronen, J. H. Krystal, J. Duncan, D. Rich, L. H. Price, R. Malison, H. Dey, R. Soufer and D. S. Charney, Positron Emission Tomography Measurement of Cerebral Metabolic Correlates of Tryptophan Depletion-Induced Depressive Relapse, *Arch. Gen. Psychiatry*, 54(4):364-374, April, 1997.
24. L. H. Staib, A. Chakraborty, and J. S. Duncan, An Integrated Approach for Locating Neuroanatomical Structure from MRI, *Int. J. Pattern Recognition and Art. Intell.*, Special Issue on Magnetic Resonance Brain Image Analysis, 11(8):1247–1269, Dec. 1997.
25. Y. Wang and L. H. Staib, Boundary Finding with Correspondence using Statistical Shape Models, *Computer Vision and Pattern Recognition*, pages 338-345, IEEE Computer Society Press, Los Alamitos, CA, 1998.
26. X. Zeng, L. H. Staib, R. T. Schultz and J. S. Duncan, Volumetric Layer Segmentation Using Coupled Surfaces Propagation, *Computer Vision and Pattern Recognition*, pages 708-715, 1998.
27. Y. Wang and L. H. Staib, Elastic Model Based Non-rigid Registration Incorporating Statistical Shape Information, *Medical Image Computing and Computer-Assisted Intervention*, LNCS, 1496:1162-1173, 1998.
28. R. Bansal, L. H. Staib, Z. Chen, A. Rangarajan, J. Knisely, R. Nath and J. Duncan, A Novel Approach for the Registration of 2D Portal and 3D CT Images for Treatment Setup Verification in Radiotherapy, *Medical Image Computing and Computer-Assisted Intervention*, LNCS, 1496:1075-1086, 1998.
29. X. Zeng, L. H. Staib, R. T. Schultz and J. S. Duncan, Segmentation and Measurement of the Cortex from 3D MR Images, *Medical Image Computing and Computer-Assisted Intervention*, LNCS, 1496:519-530, 1998.
30. Y. Wang and L. H. Staib, Integrated Approaches to Non-rigid Registration in Medical Images, *IEEE Workshop on Applications of Computer Vision*, pages 102-108, 1998.
31. J. D. Bremner, R. A. Bronen, G. DeErasquin, E. Vermetten, L. H. Staib, C. K. Ng, R. Soufer, D. S. Charney and R. B. Innis, Development and Reliability of a Method for Using Magnetic Resonance Imaging for the Definition of Regions of Interest for Positron Emission Tomography, *Clinical Positron Imaging*, 1(3):145-159, 1998.
32. J. D. Bremner, R. Baldwin, A. Horti, L. H. Staib, C. K. Ng, P. Tan, Y. Zea-Ponce, S. Zoghbi, J. P. Seibyl, R. Soufer, D. S. Charney and R. B. Innis, Quantitation of Benzodiazepine Receptor Binding with PET [11C]Iomazenil and SPECT [123I]Iomazenil: Preliminary Results of a Direct Comparison in Healthy Human Subjects, *Psychiatry Research: Neuroimaging*, 91(2):79-91, 1999.
33. J. D. Bremner, L. H. Staib, D. Kaloupek, S. M. Southwick, R. Soufer, and D. S. Charney, Neural Correlates of Exposure to Traumatic Pictures and Sound in Vietnam Combat Veterans with and without Posttraumatic Stress Disorder: A Positron Emission Tomography Study, *Biol. Psychiatry* 45(7):806-816, 1999.

34. R. Bansal, **L. H. Staib**, Z. Chen, A. Rangarajan, J. Knisely, R. Nath and J. Duncan, Entropy-based Multiple-Portal-to-3DCT Registration for Prostate Radiotherapy using Iteratively Estimated Segmentation, *Medical Image Computing and Computer-Assisted Intervention*, LNCS, 1679:567-578, 1999.
35. X. Zeng, **L. H. Staib**, R. T. Schultz, H. Tagare, L. Win and J. S. Duncan, A New Approach to 3D Sulcal Ribbon Finding from MR Images, *Medical Image Computing and Computer-Assisted Intervention*, 1679:148-157, 1999.
36. X. Zeng, **L. H. Staib**, R. T. Schultz and J. S. Duncan, Segmentation and Measurement of the Cortex from 3D MR Images Using Coupled Surfaces Propagation, *IEEE Transaction on Medical Imaging*, Special Issue on Model-based Analysis of Medical Images, 18(10):927-937, Oct. 1999.
37. R. Bansal, **L. H. Staib**, Z. Chen, A. Rangarajan, J. Knisely, R. Nath and J. Duncan, A Minimax Entropy Registration Framework for Patient Setup Verification in Radiotherapy, *Computer Aided Surgery*, 4(6):287-304, 1999.
38. J. D. Bremner, M. Narayan, **L. H. Staib**, S. M. Southwick, T. McGlashan and D. S. Charney, Neural Correlates of Memories of Childhood Abuse in Women with and without Posttraumatic Stress Disorder, *Amer. J. Psychiatry*, 156(11):1787-95, 1999.
39. J. D. Bremner, R. B. Innis, T. White, M. Fujita, D. Silbersweig, A. W. Goddard, **L. H. Staib**, E. Stern, A. Cappiello, S. Woods, R. Baldwin and D. S. Charney, SPECT [¹¹³I]-iomazenil Measurement of the Benzodiazepine Receptor in Panic Disorder, *Biol. Psych.*, 47(2):96-106, 2000.
40. J. D. Bremner, M. Narayan, E. R. Anderson, **L. H. Staib**, H. L. Miller and D. S. Charney, Hippocampal Volume Reduction in Major Depression. *Amer. J. Psychiatry*, 157(1):115-118, 2000.
41. J. D. Bremner, A. Horti, **L. H. Staib**, Y. Zea-Ponce, R. Soufer, D. S. Charney and R. Baldwin, Kinetic Modeling of Benzodiazepine Receptor Binding with PET and High Specific Activity [^{11C}]-iomazenil in Healthy Human Subjects, *Synapse*, 35(1):68-77, 2000.
42. B. S. Peterson, J. F. Leckman, D. Tucker, L. Scahill, **L. H. Staib**, H. Zhang, R. King, D. J. Cohen, J. C. Gore and P. Lombroso, Preliminary Findings of Antistreptococcal Antibody Titers and Basal Ganglia Volumes in Tic, Obsessive-Compulsive and Attention-Deficit/Hyperactivity Disorders. *Arch. Gen. Psychiatry*, 57(4):364-372, 2000.
43. M. E. Mattie, **L. H. Staib**, E. Stratmann, H. D. Tagare, J. Duncan, P. L. Miller, Pathmaster: Content-based Cell Image Retrieval using Automated Feature Extraction, *J. Amer. Med. Informatics Assoc.*, 7(4):404-415, 2000.
44. Y. Wang, B. S. Peterson and **L. H. Staib**, Shape-based 3D Surface Correspondence Using Geodesics and Local Geometry, *Computer Vision and Pattern Recognition*, pages 644-651, Vol. II, IEEE Computer Society Press, Los Alamitos, CA, 2000.
45. J. D. Bremner, R. B. Innis, S. M. Southwick, **L. H. Staib**, S. Zoghbi and D. S. Charney, Decreased Benzodiazepine Receptor Binding in Prefrontal Cortex in Combat-related Posttraumatic Stress Disorder, *Amer. J. Psychiatry*, 157(7):1120-1126, 2000.
46. Y. Wang and **L. H. Staib**, Physical Model-Based Non-rigid Registration Incorporating Statistical Shape Information, *Medical Image Analysis*, 4:7-20, 2000.
47. Y. Wang and **L. H. Staib**, Boundary finding with prior shape and smoothness models, *IEEE Transactions on Pattern Recognition and Machine Intelligence*, 22(7):738-743, 2000.
48. M. Vythilingam, E. Anderson, A. Goddard, S. Woods, **L. H. Staib**, D. S. Charney and J. D. Bremner, Temporal Lobe Volume In Panic Disorder: A Quantitative Magnetic Resonance Imaging Study, *Psychiatry Research: Neuroimaging*, 99(2):75-82, Aug 28 2000.
49. B. S. Peterson, B. Vohr, **L. H. Staib**, C. Cannistraci, A. Dolberg, K. A. Schneider, K. H. Katz, M. Westerveld, S. Sparrow, A. Anderson, C. Duncan, R. W. Makuch, J. C. Gore and L. R. Ment, Regional Brain Volume Abnormalities are Associated with Long-Term Cognitive Outcome in Preterm Infants, *JAMA*, 284:1939-1947, 2000.

50. E. N. Heller, **L. H. Staib**, D. P. Dione, R. T. Constable, C. Q. X. Shi, J. S. Duncan and A. J. Sinusas, A New Method for Quantification of Spatial and Temporal Parameters of Endocardial Motion: Evaluation of Experimental Infarction Using Magnetic Resonance Imaging, *Canadian Journal of Cardiology*, 17(3):309-318, 2001.
51. B. S. Peterson, P. A. Feineigle, **L. H. Staib**, J. C. Gore, Automated Measurement of Latent Morphological Features in the Human Corpus Callosum, *Human Brain Mapping*, 12(4):232-245, 2001.
52. J. D. Bremner, R. Soufer, G. McCarthy, R. Delaney, **L. H. Staib**, J. S. Duncan, D. S. Charney, Gender differences in cognitive and neural correlates of remembrance of emotional words. *Psychopharm Bull.*, 35(3):55-78, 2001.
53. B. S. Peterson, **L. H. Staib**, L. Scahill, H. Zhang, C. Anderson, J. F. Leckman, D. J. Cohen, J. C. Gore, J. Albert and R. Webster, Regional Brain and Ventricular Volumes in Tourette Syndrome, *Arch. Gen. Psych.*, 58(5):427-40, 2001 May (see accompanying commentary 58(5):443-444).
54. J. D. Bremner, M. Vythilingam, E. Vermetten, A. Nazeer, J. Adil, S. Khan, **L. H. Staib** and D. S. Charney, Reduced Volume of Orbitofrontal Cortex in Major Depression. *Biol. Psychiatry*, 51(4):273-279, Feb. 2002.
55. **L. H. Staib**, Prior Shape Models for Boundary Finding, IEEE Int. Symp. Biomedical Imaging (ISBI), pages 30-33, 2002.
56. J. Yang, **L. H. Staib** and J. S. Duncan, Statistical Neighbor Distance Influence in Active Contours, Medical Image Computing and Computer Aided Intervention (MICCAI), LNCS 2489:588-595, 2002.
57. E. G. Kahn and **L. H. Staib**, Constrained Nonrigid Registration, Proc. 2nd Joint EMBS/BMES Conference, pages 1003-1004, 2002.
58. M. Vythilingam, C. Heim, J. Newport, A. H. Miller, E. Anderson, R. Bronen, M. Brummer, **L. H. Staib**, E. Vermetten, D. S. Charney, C. B. Nemerooff, J. D. Bremner, Childhood trauma associated with smaller hippocampal volume in women with major depression, *American Journal of Psychiatry*, 159(12):2072-80, 2002.
59. R. Bansal, **L. H. Staib**, Z. Chen, A. Rangarajan, J. Knisely, R. Nath and J. Duncan, Entropy-based, Dual-Portal-to-3DCT Registration incorporating Pixel Correlation, *IEEE Transactions on Medical Imaging*, 22(1):29-49, 2003.
60. B. S. Peterson, P. Thomas, M. J. Kane, L. Scahill, H. Zhang, R. Bronen, R. A. King, J. F. Leckman and **L. H. Staib**, Basal Ganglia Volumes in Patients with Gilles de la Tourette Syndrome, *Arch. Gen. Psychiatry*, 60:415-424, 2003.
61. Y. Wang, B. S. Peterson and **L. H. Staib**, 3D Brain Surface Correspondence Based on Geodesics and Local Geometry, *Computer Vision and Image Understanding*, 89:252-271, 2003.
62. B. S. Peterson, A. W. Anderson, R. Ehrenkranz, **L. H. Staib**, M. Tageldin, E. Colson, J. C. Gore, C. C. Duncan, R. Makuch and L. R. Ment, Regional Brain Volumes And Their Later Neurodevelopmental Correlates In Term And Preterm Infants, *Pediatrics*, 111:939-948, 2003.
63. J. D. Bremner, M. Vythilingam, E. Vermetten, S. M. Southwick, T. McGlashan, **L. H. Staib**, R. Soufer and D. S. Charney, Neural Correlates of Declarative Memory for Emotionally Valenced Words in Women with Posttraumatic Stress Disorder Related to Early Childhood Sexual Abuse. *Biol. Psychiatry*, 53(10):879-889, 2003.
64. J. D. Bremner, M. Vythilingam, E. Vermetten, S. M. Southwick, T. McGlashan, A. Nazeer, S. Khan, L. V. Vaccarino, R. Soufer, P. K. Garg, C. K. Ng, **L. H. Staib**, J. S. Duncan and D. S. Charney, MRI and PET Study of Deficits in Hippocampal Structure and Function in Women with Childhood Sexual Abuse and Posttraumatic Stress Disorder, *American Journal of Psychiatry*, 160(5):924-932, 2003.
65. J. Yang, **L. H. Staib** and J. S. Duncan, Neighbor-Constrained Segmentation with Deformable Models, *Information Processing in Medical Imaging*, LNCS, 2732:198-209, 2003.
66. Y. Wang, R. Schultz, R. T. Constable, **L. H. Staib**, Nonlinear Estimation and Modeling of fMRI data using Spatio-temporal Support Vector Regression, *Information Processing in Medical Imaging*, LNCS, 2732:647-659, 2003.

67. X. Papademetris, A. P. Jackowski, R. T. Schultz, **L. H. Staib**, J. S. Duncan, Computing 3D non-rigid brain registration using extended robust point matching for composite multisubject fMRI analysis, Medical Image Computing and Computer-Assisted Intervention (MICCAI), LNCS 2879, II:788–795, 2003.
68. J. Yang, H. D. Tagare, **L. H. Staib** and J. S. Duncan, Segmentation of 3D Deformable Objects with Level Set Based Prior Models, IEEE Int. Symp. Biomedical Imaging (ISBI), pages 85-88, 2004.
69. E. L. Kier, **L. H. Staib**, L. M. Davis and R. A. Bronen, Anatomic Dissection Tractography: A New Method for Precise MR Localization of White Matter Tracts, *Amer. J. Neuroradiology*, 25:670-676, 2004.
70. E. L. Kier, **L. H. Staib**, L. M. Davis, and R. A. Bronen, MR Imaging of the Temporal Stem: Anatomic Dissection Tractography of the Uncinate Fasciculus, Inferior Occipitofrontal Fasciculus, and Meyer's Loop of the Optic Radiation, *Amer. J. Neuroradiology*, 25:677-691, 2004 (see accompanying editorial: 25:667-668).
71. J. Yang, **L. H. Staib** and J. S. Duncan, Neighbor-constrained segmentation with level set based 3D deformable models, *IEEE Transactions on Medical Imaging*, 23(8):940-948, 2004.
72. K. Plessen, T. Wentzel-Larsen, K. Hugdahl, P. Feineigle, J. Klein, **L. H. Staib**, J. F. Leckman, R. Bansal, B. S Peterson, Altered Interhemispheric Connectivity in Individuals with Tourette's Syndrome, *Amer. J. Psychiatry*, 161:2028 – 2037, 2004.
73. M. Vythilingam, E. Vermetten, G. Anderson, D. Luckenbaugh, E. Anderson, J. Snow, **L. H. Staib**, D. Charney and J. D. Bremner, Hippocampal volume, memory and cortisol status in major depressive disorder: Effects of treatment, *Biol. Psych*, 56(2):101-112, July, 2004.
74. M. Jackowski, C. Y. Kao, R. T. Constable, M. Qiu and **L. H. Staib**, Estimation of Anatomical Connectivity by Anisotropic Wave Propagation and Diffusion Tensor Imaging, Medical Image Computing and Computer-Assisted Intervention (MICCAI), LNCS 3217 II:663-670, 2004.
75. X. Papademetris, **L. H. Staib**, A. P. Jackowski, L. Y. Win, R. T. Schultz, J. S. Duncan, Integrating intensity and feature nonrigid registration, Medical Image Computing and Computer-Assisted Intervention (MICCAI), LNCS 3216, I:763-770, 2004.
76. R. Bansal, **L. H. Staib**, B. S. Peterson, Correcting nonuniformities in MRI intensities using entropy minimization based on an elastic model, Medical Image Computing and Computer-Assisted Intervention (MICCAI), LNCS 3216, I:78-86, 2004.
77. J. Yang, X. Papademetris, R. T. Schultz, **L. H. Staib**, J. S. Duncan, Functional Brain Image Analysis using joint function-structure priors, Medical Image Computing and Computer-Assisted Intervention (MICCAI), LNCS 3217, II:736-744, 2004.
78. J. Duncan, X. Papademetris, J. Yang, M. Jackowski, X. Zeng and **L. H. Staib**, Geometric Strategies for Neuroanatomical Analysis from MRI, 23:S34-S45, *NeuroImage*, 2004.
79. R. Bansal, **L. H. Staib**, R. Whiteman, Y. M. Wang, B. S. Peterson, ROC-Based Assessments of 3D Cortical Surface-Matching Algorithms, (doi:10.1016/j.neuroimage.2004.08.054), *NeuroImage*, 24(1):150-162, 2005.
80. X. Papademetris, P. Shkarin, **L. H. Staib**, K. Behar, Regional Whole Body Fat Quantification in Mice, *Information Processing in Medical Imaging*, LNCS 3565, pp. 369-380, 2005.
81. M. Jackowski, C. Y. Kao, R. T. Constable, M. Qiu and **L. H. Staib**, White matter tractography by Anisotropic Wavefront Evolution and Diffusion Tensor Imaging, *Medical Image Analysis*, 9(5):427-440, 2005.
82. X. Papademetris, D. P. Dione, L. W. Dobruki, **L. H. Staib**, A. J. Sinusas, Articulated Rigid Registration for Serial Lower-Limb Mouse Imaging, Medical Image Computing and Computer-Assisted Intervention (MICCAI), LNCS 3750, 919-926, 2005.

83. M. Jackowski, X. Papademetris, L. W. Dobruki, A. J. Sinusas, **L. H. Staib**, Characterizing Vascular Connectivity from microCT images, Medical Image Computing and Computer-Assisted Intervention (MICCAI), LNCS 3750, 701-708, 2005.
84. X. Papademetris, K. P. Vives, M. DiStasio, **L. H. Staib**, M. Neff, S. Flossman, N. Frielinghaus, H. Zaveri, E. J. Novotny, H. Blumenfeld, R. T. Constable, H. P. Hetherington, R. B. Duckrow, S. S. Spencer, D. D. Spencer, J. S. Duncan, Development of a Research Interface for Image Guided Intervention: Initial Application to Epilepsy Neurosurgery, IEEE Int. Symp. Biomedical Imaging (ISBI), pages 490-493, 2006.
85. S. Li, K. Mueller, M. Jackowski, D. P. Dione and **L. H. Staib**, Fast Marching Method to Correct for Refraction in Ultrasound Computed Tomography, IEEE Int. Symp. Biomedical Imaging (ISBI), pages 896-899, 2006.
86. **L. H. Staib**, M. Jackowski, X. Papademetris, Shape characterization from deformation, IEEE Int. Symp. Biomedical Imaging (ISBI), pages 1140-1143, 2006.
87. X. Papademetris, M. P. Jackowski, N. Rajeevan, M. DiStasio, H. Okuda, R. T. Constable and L. H. Staib, BioImage Suite: An Integrated medical image analysis suite: An update, MICCAI Open Source Workshop, The Insight Journal, <http://hdl.handle.net/1926/209>, June 2006.
88. R. Bansal, **L. H. Staib**, D. Xu, H. Zhu, B. S. Peterson, Statistical Analyses of Brain Surfaces Using Gaussian Random Fields on 2D Manifolds, *IEEE Transactions on Medical Imaging*, 26(1):46-57, 2007.
89. S. Li, K. Mueller, M. Jackowski, D. P. Dione and **L. H. Staib**, Refraction Corrected Ultrasound Computed Tomography with FMM-SART: Physically-based Phantom Experiments, IEEE Medical Imaging and Nuclear Science Conference, 2007.
90. R. Bansal, **L. H. Staib**, K. Plessen, D. Xu, J. Royal, B. S. Peterson, Voxel-wise Comparisons of the Morphology of Diffusion Tensors across Groups of Experimental Subjects, *Psychiatry Research: Neuroimaging*, 156(3):225-245, 2007 (doi:10.1016/j.psychresns.2006.12.015).
91. A. P. Jackowski, H. Douglas-Palumberi, M. Jackowski, L. Win, R. T. Schultz, **L. H. Staib**, J. H. Krystal, J. Kaufman, Corpus Callosum in Maltreated Children with PTSD: A Diffusion Tensor Imaging Study, *Psychiatry Research: Neuroimaging*, 162(3):256-261, Apr 2008.
92. C. DeLorenzo, X. Papademetris, **L. H. Staib**, K. Vives, D. Spencer, J. Duncan, Nonrigid Intraoperative Cortical Surface Tracking Using Game Theory, Mathematical Methods in Biomedical Image Analysis, 2007.
93. R. Bansal **L. H. Staib**, D. Xu, A. F. Laine, J. Royal, B. S. Peterson, Using Perturbation Theory to Compute the Morphological Similarity of Diffusion Tensors, *IEEE Transactions on Medical Imaging*, 27(5):589-607, 2008.
94. W. H. Greene, S. Chelikani, X. Papademetris, **L. H. Staib**, J. Kniseley, and J. S. Duncan, Tracking organ overlap for a constrained non-rigid registration algorithm, IEEE Int. Symp. Biomedical Imaging (ISBI), pages 1159-1162, 2008.
95. L. G. Chepenik, C. Fredericks, X. Papademetris, L. Spencer, C. Lacadie, F. Wang, B. Pittman, J. S. Duncan, **L. H. Staib**, R. S. Duman, J. Gelernter, H. P. Blumberg, Effects of the Brain Derived Neurotrophic Growth Factor Val66Met Variation on Hippocampus Morphology in Bipolar Disorder, *Neuropsychopharmacology*, doi:10.1038/npp.2008.13, August 13, 2008.
96. R. Bansal, **L. H. Staib**, A. F. Laine, D. Xu, J. Liu, J. Royal, B. S. Peterson, Calculation of the Confidence Region for Transformation Parameters in the Registration of Medical Images, *Medical Image Analysis*, 2008 (to appear).
97. D. R. Bathula, X. Papademetris, **L. H. Staib**, R. T. Schultz, J. S. Duncan, Analysis of functional MRI data with ICA, MICCAI 2008 (accepted).

98. W. H. Greene, S. Chelikani, X. Papademetris, **L. H. Staib**, J. Kniseley, and J. S. Duncan, A Constrained Non-rigid Registration Algorithm for use in Prostate Image-guided radiotherapy, MICCAI 2008 (accepted).
99. S. Li, K. Mueller, **L. H. Staib**, M. Jackowski, D. Dione, Physical-Space Refraction-Corrected Transmission Ultrasound Computed Tomography Made Computationally Practical, MICCAI 2008 (accepted).
100. A. Joshi, D. Scheinost, K. Vives, D. Spencer, L. H. Staib and X. Papademetris, Novel Interaction Techniques for Neurosurgical Planning and Stereotactic Navigation, IEEE Visualization, 2008.

Technical Notes:

101. **L. H. Staib** and J. S. Duncan, An Evidential Reasoning Approach to Medical Image Understanding. *Twelfth Annual Northeast Bioengineering Conference*, pages 201–204, IEEE Press, New York, 1986.
102. **L. H. Staib** and J. S. Duncan, Left Ventricular Analysis from Cardiac Images Using Deformable Models. *Computers in Cardiology*, pages 427–430, IEEE Computer Society Press, Los Alamitos, CA, 1988.
103. J. Duncan, R. Owen, P. Anandan, **L. H. Staib**, T. McCauley, A. Salazar and F. Lee, Shape-Based Tracking of Left Ventricular Wall Motion. *Computers in Cardiology*, pages 41–44, IEEE Computer Society Press, Los Alamitos, CA, 1990.
104. J. Duncan, **L. H. Staib** and A. Amini, Detection and Tracking of the LV Endocardial Surface from 3D Image Sequences, *IEEE Conference on Engineering in Medicine and Biology*, pages 287–288, IEEE Press, New York, 1991.
105. X. Papademetris, M. Jackowski, N. Rajeevan and **L. H. Staib**, BioImage Suite: An Integrated medical image analysis suite, The Insight Journal, <http://hdl.handle.net/1926/37>, August 2005.
106. E. Kahn and **L. H. Staib**, Image Registration with Automatic Computation of Gradients, The Insight Journal, <http://hdl.handle.net/1926/1469>, July 2008.

Editorials, Reviews, Chapters, et al.:

107. **L. H. Staib** and J. S. Duncan, Boundary Finding with Parametrically Deformable Models. In: *Advances in Image Analysis*, Y. Mahdavieh and R. C. Gonzalez, editors, pages 193–217, SPIE Press, Bellingham, WA, 1992.
108. B. S. Peterson, J. F. Leckman, A. Arnsten, G. M. Anderson, **L. H. Staib**, J. C. Gore, R. A. Bronen, R. Malison, L. Seahill and D. J. Cohen, Neuroanatomical Circuitry, In: *Tourette's Syndrome - Tics, Obsessions, Compulsions: Developmental Psychopathology and Clinical Care*, J. F. Leckman and D. J. Cohen, eds., John Wiley & Sons, pages 230–260, 1998.
109. **L. H. Staib**, Review of The Image Processing Handbook, 2nd Edition, J. C. Russ, *J. Nuclear Cardiology*, 5(4):451–452, 1998.
110. **L. H. Staib**, X. Zeng, J. S. Duncan, R. T. Schultz and A. Chakraborty, Shape Constraints in Deformable Models. In: *Handbook of Medical Imaging: Processing and Analysis*, I. Bankman, editor, Academic Press, pages 147–157, 2000.
111. **L. H. Staib** (editor), Proceedings of the IEEE Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA), 2001.
112. A. Goshtasby, **L. H. Staib**, C. Studholme, D. Terzopoulos, Nonrigid Image Registration: Guest Editors' Introduction, *Computer Vision and Image Understanding*, 89:109–113, 2003.
113. **L. H. Staib**, A. Rangarajan, Workshop on Biomedical Image Analysis, Guest Editor's Introduction, *Medical Image Analysis*, 7:153, 2003.

114. J. S. Duncan and **L. H. Staib**, Image Processing and Analysis at IPAG, *IEEE Trans. Med. Imaging*, 22(12):1505-1518, 2003.
115. **L. H. Staib**, Y. M. Wang, Methods for Nonrigid Image Registration, In: *Handbook of Geometric Computing: Applications in Pattern Recognition, Computer Vision, Neuralcomputing, and Robotics*, E. Bayro-Corrochano, editor, Springer-Verlag, pages 571-602, 2005.
116. **L. H. Staib**, E. L. Kier, Book Review: MRI Atlas of Human White Matter, S. Mori et al. *Amer. J. Neuroradiology*, 27:1384-1385, 2006.
117. X. Papademetris, M. Jackowski, N. Rajeevan, R.T. Constable, and **L. H. Staib**, BioImage Suite: An integrated medical image analysis suite, Section of Bioimaging Sciences, Dept. of Diagnostic Radiology, Yale School of Medicine. <http://www.bioimagesuite.org>.
118. **L. H. Staib**, M. Styner, Advances in Radiologic Image Analysis from MICCAI 2005, Guest Editor's Introduction, *Academic Radiology*, 13(9):1053-1054, 2006.
119. **L. H. Staib**, Bioimaging, In: *Biomedical Engineering: Bridging medicine and technology*, W. M. Saltzman and V. V. Tran, Cambridge University Press, 2009 (in press).
120. **L. H. Staib**, Y. M. Wang, X. Zeng, J. S. Duncan, Shape Information in Deformable Models. In: *Handbook of Medical Image Processing and Analysis*, Second Edition, I. Bankman, editor, Elsevier, 2009 (in press).