BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Daniel M. Spielman, Ph.D.	Associate Professor of Radiology
eRA COMMONS USER NAME spielman.daniel	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Massachusetts Institute of Technology	B.S.	1983	Electrical Engineering
Stanford University	M.S.	1984	Electrical Engineering
Stanford University	M.S.	1987	Statistics
Stanford University	Ph.D.	1990	Electrical Engineering

A. Professional Experience:

1982-1983 Research Assistant, Massachusetts Institute of Technology, Department of Electrical Engineering, Cambridge, Massachusetts
1983-1985 Research Assistant, Stanford University Department of Electrical Engineering, Stanford, CA
1985-1986 Engineer, Hughes Aircraft Company, Space and Communications Division, El Segundo, CA
1986-1990 Research Assistant, Stanford University Electrical Engineering Department, Stanford, CA
1990-5/93 Research Affiliate, Stanford University, Radiological Science Laboratory, Stanford, CA
5/93 -5/00 Assistant Professor, Department of Radiology, Stanford University, CA
6/00 -present Associate Professor, Department of Radiology, Stanford University, CA

Honors and Awards:

U.S. Army Research Office 3 year Fellowship, 1983
Sigma Xi Associate Member
Tau Beta Pi and Eta Kappa Nu Engineering Honor Societies
Member of RSNA, ISMRM, SMRI and IEEE

B. Selected peer-reviewed publications (in chronological order)

Spielman D, Meyer C, Macovski A, Enzmann D. 1H spectroscopic imaging using a spectral-spatial excitation pulse. Magn Reson Med. 1991 Apr;18(2):269-79.

Spielman DM, Pauly JM, Macovski A, Glover GH, Enzmann DR. Lipid-suppressed single- and multisection proton spectroscopic imaging of the human brain. J Magn Reson Imaging. 1992 May-Jun;2(3):253-62.

Spielman DM, Pauly JM. Spiral imaging on a small-bore system at 4.7T. Magn Reson Med. 1995 Oct;34(4):580-5.

Spielman DM, Pauly JM, Meyer CH. Magnetic resonance fluoroscopy using spirals with variable sampling densities. Magn Reson Med. 1995 Sep;34(3):388-94.

Nakai, T, Rhine, W, Enzmann, D, Stevenson, D, **Spielman, D**, "A Model for Detecting Early Metabolic Changes in Neonatal Asphyxia by 1H-MRS", *Journal of Magnetic Resonance Imaging*, 6:445-452, 1996

Lim KO, **Spielman DM**. Estimating NAA in cortical gray matter with applications for measuring changes due to aging. Magn Reson Med. 1997 Mar;37(3):372-7.

E. Adalsteinsson, P. Irarrazabal, S. Topp, C. Meyer, A. Macovski, and **D. Spielman**, "Volumetric Spectroscopic Imaging with Spiral-Based k-Space Trajectories",*Magnetic Resonance in Medicine*. 39:889-898, 1998.

Star-Lack JM, **Spielman DM**, Adalsteinsson E, Kurhanewicz J, Terris DJ, and Vigneron DB, "*In Vivo* Lactate Editing with Simultaneous Detection of Choline, Creatine, NAA, and Lipid Singlets at 1.5T Using PRESS

Excitation with Applications to the Study of Brain and Head and Neck Tumors", *J Magn Reson* 133(2):243-254, 1998.

Spielman D, Adalsteinsson E, Lim K, "Quantitative Assessment of Improved Homogeneity Achievable Using Linear Versus Higher Order Shims for Spectroscopic Imaging of the Brain", *Magn Res Med*, 40(3):376-382, 1998.

Lim K, Adalsteinsson E, **Spielman D**, Sullivan E, Rosenbloom M, Pfefferbaum A, "Proton Magnetic Resonance Spectroscopic Imaging of Cortical Gray and White Matter in Schizophrenia", *Arch Gen Psychiatry*, 55(4):346-352, 1998.

Pfefferbaum, E. Adalsteinsson, **D. Spielman**, E. Sullivan, K. Lim, "In Vivo Spectroscopic Qunatification of N-acetyl aspartate, creatine, and choline from large volumes of brain gray and white matter: effects of normal aging", *Magn Res Med*, 41(2):276-841999.

Adalsteinsson, E, **Spielman, D**, "Spatially Resolved Two-Dimensional Spectroscopy", *Magnetic Resonance in Medicine*, 41:8-12, 1999.

Pfefferbaum A, Adalsteinsson E, **Spielman D**, Sullivan E, Lim K, "In vivo Brain Concentrations of N-aectyl compounds, creatine, and choline in Alzheimer's disease", *Archives of Gen Psychiatry*, 56(2):185-92, 1999.

Adalsteinsson E, Star-Lack J, Meyer C, and **Spielman D**, "Reduced Spatial Side Lobes in Chemical Shift Imaging", *Magn Reson in Med*, 42:314-323, 1999

Star-Lack J, Adalsteinsson E, Adam M, Terris D, Pinto H, Brown JM, **Spielman D**, "*In vivo* ^{1}H Spectroscopy of Human Head and Neck Tumors, with Comparison to Oxygen Tension Measurements", American Journal of *Neuroradiology*, 21(1): 183-93, January 2000.

Star-Lack J, Adalsteinsson E, Gold G, **Spielman D**, "Motion Correction and Lipid Suppression for ^{1}H MRS of the Body", *Magn Res in Med*, 43:325-330, 2000.

Hanson L, Adalsteinsson E, Pfefferbaum A, and **Spielman D**, "Optimal Voxel Size for Gray and White Matter Spectroscopy, *Magn Reson Med*. 2000 July, 44(1): 10-8.

Sullivan EV, Adalsteinsson E, **Spielman DM**, Hurd RE, Pfefferbaum A. N-acetylaspartate - A Marker of Neuronal Integrity. *American Neurology*, 2001 December, 50(6):823-825.

Star-Lack JM, **Spielman DM**. Zero-quantum Filter Offering Single-shot Lipid Suppression and Simultaneous Detection of Lactate, Choline, and Creatine Resonances. *Magn Reson Med*, 46(6):1233-1237, 2001.

Xing L, Cotrutz C, Hunjan S, Boyer AL, Adalsteinsson E, **Spielman D**. Inverse planning for functional image-guided intensity-modulated radiation therapy. *Phys Med Biol*. 2002 Oct 21;47(20):3567-78.

Nordahl TE, Salo R, Possin K, Gibson DR, Flynn N, Leamon M, Galloway GP, Pfefferbaum A, **Spielman DM**, Adalsteinsson E, Sullivan EV. Low N-acetyl-aspartate and high choline in the anterior cingulum of recently abstinent methamphetamine-dependent subjects: a preliminary proton MRS study.*Psychiatry Res.* 2002 Nov 30;116(1-2):43-52.

Kim DH, Adalsteinsson E, Glover GH, **Spielman DM**. Regularized higher-order in vivo shimming. *Magn Reson Med*. 2002 Oct;48(4):715-22.

Spencer D, Zitzelberger T, **Spielman DM**, Kaye J, MRS in relation to hippocampal volume in the oldest old. Neurology, 2003;60:1194-1196.

Kim DH, Adalsteinsson E, **Spielman DM** , Simple Analytic Variable Density Spiral Design., Magn Reson Med. 50:214-9, 2003.

Hunjan S, Adalsteinsson E, Kim DH, **Spielman DM**, Boyer AL, Xing L, Quality assurance of MR-derived metabolic data, International Journal of Radiation Oncology, Biology and Physics, 57(4): 1159-73, 2003.

Kim DH, Adalsteinsson E, **Spielman DM**, Spiral Readout Gradients for the Reduction of Motion Artifact in Chemical Shift Imaging., Magn Reson Med, 51(3):458-63, 2004.

Kim DH, Margolis D, Xing L, Daniel B, **Spielman D**. In vivo prostate magnetic resonance spectroscopic imaging using two-dimensional J-resolved PRESS at 3 T. Magn Reson Med. 2005 May;53(5):1177-82.

Lian J, Xing L, Hunjan S, Dumoulin C, Levin J, Lo A, Watkins R, Rohling K, Giaquinto R, Kim D, **Spielman D**, Daniel B. Mapping of the prostate in endorectal coil-based MRI/MRSI and CT: a deformable registration and validation study. Med Phys. 2004 Nov;31(11):3087-94.

Mayer D, **Spielman DM**. Detection of glutamate in the human brain at 3 T using optimized constant time point resolved spectroscopy. Magn Reson Med. 2005 Aug;54(2):439-42.

Spencer DC, Szumowski J, Kraemer DF, Wang PY, Burchiel KJ**, Spielman DM**. Temporal lobe magnetic resonance spectroscopic imaging following selective amygdalohippocampectomy for treatment-resistant epilepsy. Acta Neurol Scand. 2005 Jul;112(1):6-1.

Gallelli KA, Wagner CM, Karchemskiy A, Howe M, **Spielman DM**, Reiss A, Chang KD. N-acetylaspartate levels in bipolar offspring with and at high-risk for bipolar disorder. Bipolar Disord. 2005 Dec;7(6):589-97.

Mayer D, Kim DH, Adalsteinsson E, **Spielman DM** .Fast CT-PRESS-based spiral chemical shift imaging at 3 Tesla. Magn Reson Med. 2006 Apr 3;55(5):974-978.

Mayer D, Levin YS, Hurd RE, Glover GH, **Spielman DM**. Fast metabolic imaging of systems with sparse spectra: Application for hyperpolarized (13)C imaging. Magn Reson Med. 2006 Aug 29.

Kim DH, **Spielman DM**. Reducing gradient imperfections for spiral magnetic resonance spectroscopic imaging. Magn Reson Med. 2006 Jul;56(1):198-203.

C. Ongoing Research Support

1 RO1 CA098523-01 (Lei Xing) 07/01/03-06/30/07
NIH/NCI
"IMRT Guided by Magnetic Resonance Spectroscopic Imaging"
The major goal of this project (1) to develop a volumetric MRSI acquisition and data processing protocol optimized for use with radiation therapy treatment planning (2) to establish a dose optimization framework which incorporates both metabolic MRSI and anatomic MRI/CT information (3) to demonstrate and evaluate the feasibility of achieving metabolically-conformal radiation doses through a small pilot study of 36 glioma patients.
Role: Co-Investigator

P41 RR09784 (Gary Glover, Ph.D.) 01/01/95-05/31/10
NIH/NCRR
"Center for Advanced Magnetic Resonance Technology at Stanford"
The major goals of this project are to develop innovative MR techniques for fundamental anatomic, physiologic and pathophysiologic studies involving animals and humans and to serve the academic and scientific community through collaborations, education, and access to Center facilities and resources.
Role: Co-Investigator

ICMIC Development Project (Daniel Spielman, Ph.D.) 7/1/07-6/30/08
Stanford In Vivo Cellular and Molecular Imaging Center
"Magnetic Resonance Spectroscopic Imaging of Hyperpolarized 13C-labled Pyruvate"
The major goals of this projects are 1) to develop fast MRSI data acquisition techniques optimized for in vivo imaging of hyperpolarized ^{13}C-labeled pyruvate and its downstream metabolic products lactate, alanine, and bicarbonate and 2) to develop robust kinetic modeling tools for quantifying in vivo metabolism.
Role: PI

ICMIC Development Project (A.C. Martin, Ph.D.) 7/1/07-6/30/08
Stanford In Vivo Cellular and Molecular Imaging Center
"Use of Magnetite Producing Bacteria for Tumor Targeting and Enhancing MRI Contrast"
The major goal of this project is to use magnetite produced by magnetotactic bacteria to enhance the contrast of magnetic resonance imaging (MRI) for early detection of cancer..
Role: Co-Investigator

U54 (in response to NIAA-RFA AA-01-002) 09/28/01-09/27/06
PI: Adolf Pfefferbaum M.D.
"Integrated Neurosciences initiative on alcoholism: Imaging Core"
The major objective of the imaging core is the development and evaluation (using MRI, DTI, and MRSI) of in vivo imaging assessments of a rodent model of alcoholism.
Role: Co-Investigator

SRI subcontract (R01 AA12388, Adolf Pfefferbaum, M.D.) 08/01/06-07/31/11
"In Vivo Diffusion and Spectroscopic Brain Imaging in Alcoholism"
The major goal of this proposal is to use diffusion tensor MR imaging and MR spectroscopy to examine white matter fiber integrity in detoxified alcoholics.
Role: PI

Completed Research Support

2R01 CA66785-05 (Bruce L Daniel, M.D.) 03/16/02-02/28/07
NIH/NCI
Magnetic Resonance Imaging of the Breast
The major of goal of this project is to develop and evaluate MR pulse techniques to detect breast cancer and to develop and evaluate MR guided breast biopsy.
Role: Co-Investigator

1 R01 CA48269-08 (Daniel M. Spielman, Ph.D.) 09/01/99-07/30/06
NIH/NCI
"Magnetic Resonance Spectroscopic Neoplasm Imaging"
The major goal of this project is to further develop and optimize in vivo MR imaging of those spectroscopic components that are significant in the diagnosis and treatment of cancer.
Role: PI

1 RO1 AG18942-01 (Daniel Spielman, Ph.D.) 12/01/00-02/28/05
NIH/NIA
"MR Spectroscopic Imaging in Alzheimer's Disease"
The major goal of this project is to study the brain structure and function assessed with proton MR spectroscopic imaging (MRSI) and cognitive neuropsychology in Alzheimer's disease (AD).
Role: Co-Investigator

R01 AA12388 (Adolf Pfefferbaum, M.D.) 08/01/00-07/31/05
NIH/NIAA
"In Vivo Diffusion and Spectroscopic Brain Imaging in Alcoholism"
The major goal of this proposal is to use diffusion tensor MR imaging and MR spectroscopy to examine white matter fiber integrity in detoxified alcoholics.
Role: Co-Investigator

SRI subcontract (NIH R01, PI: Adolf Pfefferbaum, M.D.) 09/01/00-08/31/05
Principle Investigator: Edith Sullivan, Ph.D. (Dept. of Psychiatry)
"Alcohol, HIV and the Brain"
The goal of this project is to establish the sensitivity of the brain imaging and functional measures to HIV infection and its combination with alcohol abuse.
Role: Co-Investigator

DAMD 17-99-1-9385 (Debra Ikeda, M.D.) 10/01/99-09/30/02
DOD
MR Spectroscopy of Breast Disease
The major goal of this project is to evaluate the sensitivity and specificity of proton MR spectroscopy for the diagnosis of breast cancer.
Role: Co-Investigator

R01 DK48051-04 (F. Graham Sommer) 05/01/99-03/31/03
NIH/NIDK
"MRI of Renal Anatomy and Function in Chronic Ischemia"
The major goals of this project are to develop a comprehensive renal MRI study and the application of this methodology to the study of renal artery stenosis. The technique includes imaging renal artery morphology, measurement of the extraction of Gd-DTPA by the kidney, estimation of GFR, and the measurement of renal cortical and medullary volumes.
Role: Co-Investigator