BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Robert E. Lenkinski	Professor
eRA COMMONS USER NAME rlenkinski	

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
University of Toronto, Canada	B.Sc.	1969	Chemistry
University of Houston, Texas	Ph.D.	1973	Chemistry

A. Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

Professional Experience:

1973-75 Postdoctoral Fellow, Isotope Department, Weizmann Institute of Science, Rehovot, Israel
1976-80 Associate Scientist, Comprehensive Cancer Center, University of Alabama-Birmingham, Birmingham, Alabama
1978-80 Assistant Professor, Department of Biochemistry, University of Alabama-Birmingham, Birmingham, Alabama
1979 Visiting Assistant Professor, Isotope Department, Weizmann Institute of Science, Rehovot, Israel (summer)
1980-86 Associate Professor and Manager NMR Facility, Department of Chemistry, University of Guelph, Ontario, Canada
1986-94 Associate Professor, Department of Radiology, University of Pennsylvania School of Medicine, Philadelphia, PA
1994-99 Professor, Department of Radiology, University of Pennsylvania School of Medicine, Philadelphia, PA
1999- Professor, Department of Radiology, Harvard University School of Medicine, Boston,
1999-2005 Director of Experimental Radiology, Beth Israel Deaconess Medical Center, Boston, MA
1999-2005 Associate Chief for Academic Affairs, Department of Radiology, Beth Israel Deaconess Medical Center, Boston, MA
2006- Vice-Chief and Director of Research, Department of Radiology, Beth Israel Deaconess Medical Center, Boston, MA

Honors and Societies:

1969 American Chemical Society
1970 Outstanding Initiate – Alpha Chi Sigma, University of Houston
1971- Sigma Xi
1972 Outstanding Teaching Fellow, University of Houston
1986- Society of Magnetic Resonance in Medicine
1986- Radiological Society of North America
1997 Fellow, International Society of Magnetic Resonance in Medicine
1999 Luigi Mastroianni Clinical Innovator Award, School of Medicine, University of Pennsylvania

B. Selected peer-reviewed publications (in chronological order). Do not include publications submitted or in preparation.

Publications (selected from more than 170 total):

Lenkinski RE, Bloch BN, Liu F, Frangioni JV, Perner S, Rubin MA, Genega EM, Rofsky NM, Gaston SM. An illustration of the potential for mapping MRI/MRS parameters with genetic over-expression profiles in human prostate cancer. MAGMA. 2008 Nov;21(6):411-21.

Bloch BN, Lenkinski RE, Rofsky NM. The role of magnetic resonance imaging (MRI) in prostate cancer imaging and staging at 1.5 and 3 Tesla: the Beth Israel Deaconess Medical Center (BIDMC) approach. Cancer Biomark. 2008;4(4-5):251-62.

Viswanath S, Bloch BN, Genega E, Rofsky N, Lenkinski R, Chappelow J, Toth R, Madabhushi A. A comprehensive segmentation, registration, and cancer detection scheme on 3 Tesla *in vivo* prostate DCE-MRI. Med Image Comput Comput Assist Interv Int Conf Med Image Comput Comput Assist Interv. 2008;11(Pt 1):662-9.

Liu F, Bloch N, Bhushan KR, De Grand AM, Tanaka E, Solazzo S, Mertyna PM, Goldberg N, Frangioni JV, Lenkinski RE. Humoral bone morphogenetic protein 2 is sufficient for inducing breast cancer microcalcification. Mol Imaging. 2008 Jul-Aug; 7(4):175-86.

Ciocan R, Lenkinski RE, Bernstein J, Bancu M, Marquis R, Ivanishev A, Kourtelidis F, Matsui A, Borenstein J, Frangioni JV. MRI contrast using solid-state, B(1)-distorting, microelectromechanical systems (MEMS) microresonant devices (MRDs). Magn Reson Med. 2009 Feb 2.

Rofsky NM, Sherry AD, Lenkinski RE. Nephrogenic systemic fibrosis: A chemical perspective. Radiology 2008;247(3):608-612.

Weisskopf MG, Hu H, Sparrow D, Lenkinski RE, Wright RO. Proton magnetic resonance spectroscopic evidence of glial effects of cumulative lead exposure in the adult human hippocampus. Environ Health Persp 2007;115(4):519-523.

Vinogradov E, He HM, Lubag A, Balschi JA, Sherry AD, Lenkinski RE. MRI detection of paramagnetic chemical exchange effects in mice kidneys in vivo. MRM 2007;58(4):650-655.

Schifitto G, Navia BA, Yiannoutsos CT, Marra CM, Chang L, Ernst T, Jarvik JG, Miller EN, Singerg EJ, Ellis RJ, Kolson DL, Simpson D, Nath A, Berger J, Shriver SL, Millar LL, Colquhoun D, Lenkinski R, Gonzalez RG, Liptonq SA. Memantine and HIV-associated cognitive impairment: a neuropsychological and proton magnetic resonance spectroscopy study. Aids 2007;21(14):1877-1886.

Rosen Y, Lenkinski RE. Recent advances in magnetic resonance neurospectroscopy. Neurotherapeutics 2007;4(3):330-345.

Rosen Y, Bloch BN, Lenkinski RE, Greenman RL, Marquis RP, Rofsky NM. 3T MR of the prostate: Reducing susceptibility gradients by inflating the endorectal coil with a barium sulfate suspension. MRM 2007;57(5):898-904.

Paul RH, Yiannoutsos CT, Miller EN, Chang L, Marra CM, Schifitto G, Ernst T, Singer E, Richards T, Jarvik GJ, Price R, Meyerhoff DJ, Kolson D, Ellis RJ, Gonzalez G, Lenkinski RE, Cohen RA, Navia BA. Proton MRS and neuropsychological correlates in AIDS dementia complex: Evidence of subcortical specificity. J Neuropsychiatry and Clinical Neurosciences 2007;19(3):283-292.

Lu J, Lian G, Lenkinski R, De Grand A, Vaid RR, Bryce T, Stasenko M, Boskey A, Walsh C, Sheen V. Filamin B mutations cause chondrocyte defects in skeletal development. Human Molecular Genetics 2007;16(14):1661-1675.

Lima MA, Katz-Brull R, Lenkinski RE, Nunez R, Feinrider D, Koralnik IJ. Remission of progressive multifocal leukoencephalopathy and primary central nervous system lymphoma in an HIV-infected patient. Eur Journal of Neurology 2007;14(6):598-602.

Kino A, Takahashi M, Ashiku SK, Decamp MM, Lenkinski RE, Hatabu H. Optimal breathing protocol for dynamic contrast-enhanced MRI of solitary pulmonary nodules at 3 T. European Journal of Radiology 2007;64(3):397-400.

Bloch BN, Lenkinski RE, Helbich TH, Ngo L, Oismueller R, Jaromi S, Kubin K, Hawliczek R, Kaplan ID, Rofsky NM. Prostate postbrachytherapy seed distribution: comparison of high-resolution, contrast-enhanced, T1- and T2-weighted endorectal magnetic resonance imaging versus computed tomography: Initial experience. International Journal of Radiation Oncology Biology Physics 2007;69(1):70-78.

Bloch BN, Furman-Haran E, Helbich TH, Lenkinski RE, Degani H, Kratzik C, Susani M, Haitel A, Jaromi S, Ngo L, Rofsky NM. Prostate cancer: Accurate determination of extracapsular extension with high-spatial-resolution dynamic contrast-enhanced and T2-weighted MR imaging - Initial results. Radiology 2007;245(1):176-185.

Maril N, Rosen Y, Reynolds GH, Ivanishev A, Ngo L, Lenkinski RE. Sodium MRI of the human kidney at 3 tesla. MRM 2006;56(6):1229-1234.

Katz-Brull R, Alsop DC, Marquis RP, Lenkinski RE. Limits on activation-induced temperature and metabolic changes in the human primary visual cortex. MRM 2006;56(2):348-355.

Hollingworth W, Medina LS, Lenkinski RE, Shibata DK, Bernal B, Zurakowski D, Comstock B, Jarvik JG. Interrater reliability in assessing quality of diagnostic accuracy studies using the QUADAS tool: A preliminary assessment. Academic Radiology 2006;13(7):803-810.

Hollingworth W, Medina LS, Lenkinski RE, Shibata DK, Bernal B, Zurakowski D, Comstock B, Jarvik JG. A systematic literature review of magnetic resonance spectroscopy for the characterization of brain tumors. AJNR 2006;27(7):1404-1411.

Vinogradov E, Zhang SR, Lubag A, Balschi JA, Sherry AD, Lenkinski RE. On-resonance low B-1 pulses for imaging of the effects of PARACEST agents. JMR 2005;176(1):54-63.

Vinogradov E, Degenhardt A, Smith D, Marquis R, Vartanian TK, Kinkel P, Maier SE, Hackney DB, Lenkinski RE. High-resolution anatomic, diffusion tensor, and magnetization transfer magnetic resonance imaging of the optic chiasm at 3T. JMRI 2005;22(2):302-306.

Solazzo SA, Liu ZJ, Lobo SM, Ahmed M, Hines-Peralta AU, Lenkinski RE, Goldberg SN. Radiofrequency ablation: Importance of background tissue electrical conductivity - An agar phantom and computer modeling study. Radiology 2005;236(2):495-502.

Maril N, Lenkinski RE. An automated algorithm for combining multivoxel MRS data acquired with phased-array coils. JMRI 2005;21(3):317-322.

Maril N, Collins CM, Greenman RL, Lenkinski RE. Strategies for shimming the breast. MRM 2005;54(5):1139-1145.

Lobo SM, Liu ZJ, Yu NC, Humphries S, Ahmed M, Cosman ER, Lenkinski RE, Goldberg W, Goldberg SN. RF tumour ablation: Computer simulation and mathematical modelling of the effects of electrical and thermal conductivity. International Journal of Hyperthermia 2005;21(3):199-213.

Liu ZJ, Lobo SM, Humphries S, Horkan C, Solazzo SA, Hines-Peralta AU, Lenkinski RE, Goldberg SN. Radiofrequency tumor ablation: Insight into improved efficacy using computer modeling. AJR 2005;184(4):1347-1352.

Katz-Brull R, Rofsky NM, Morrin MM, Pedrosa I, George DJ, Michaelson MD, Marquis RP, Maril M, Noguera C, Lenkinski RE. Decreases in free cholesterol and fatty acid unsaturation in renal cell carcinoma demonstrated by breath-hold magnetic resonance spectroscopy. American J of Physiology-Renal Physiology 2005;288(4):F637-F641.

Gaston SM, Soares MA, Siddiqui MM, Vu D, Lee JM, Goldner DL, Brice MJ, Shih JC, Upton MP, Perides G, Baptista J, Lavin PT, Bloch BN, Genega EM, Rubin MA, Lenkinski RE. Tissue-print and print-phoresis as platform technologies for the molecular analysis of human surgical specimens: mapping tumor invasion of the prostate capsule. Nature Medicine 2005;11(1):95-101.

C. Funding:

Active:

R01 EB004582-01A2 (Lenkinski) 2/01/06 - 1/31/11
NIH/NIBIB
PARACEST Agents: Optimization for Human MR Imaging
The major goal of this project is to develop and test a new class of MR contrast agents.

R01-NS047029-04 (Koralnik) 12/01/03 – 11/30/07
NIH/NINDS
Role of inflammation in Progressive Multifocal Leukoencephalopathy
The major goal of this project is to determine whether surrogate makers of inflammation can predict outcome in PML.

DAMD 17-02-2-0006 (Frangioni) 10/01/05 – 9/30/08
US Army/CIMIT
Artificial Protons: Micro-Resonant Devices for High Sensitivity Three-Dimensional Localization in Medicine and Beyond
The aim of this project is to solve several major clinical problems in stem cell and lymphocyte tracking by developing a family of solid-state, micron-sized resonant devices called “artificial protons”.

R01 CA115745-01 (Alsop) 08/18/06-60/30/10
NIH/NCI
Blood Flow MRI for Monitoring Glioma Angiogenesis
The aims of this project are to evaluate the capabilities of a noninvasive MRI measure of cerebral blood flow for measuring angiogenesis related changes in primary human glioma. Correlation of tumor blood flow with histologic measures of vascularity and angiogenic activity, testing of reproducibility, comparison with MR spectroscopy, and evaluation of sensitivity for detection of tumor recurrence will be performed.

R01 CA112533-04 (Goldberg) 08/01/04-05/31/09
NIH(NCI)
Enhanced RF Tumor Ablation with Lipsomal Chemistry
The aims of this project are to: improve tumor destruction of combined therapy using simplex optimization in canine venereal sarcoma, test specific hypothesis about the possible role of liposome carrier components, and to characterize potential local and systemic treatment toxicity including determining the thermal dosimetry at which tissue effects are seen in normal canine liver and kidney and in a one-month survival study in renal tumors.

R01 CA116465-02 (Rofsky) 09/26/06-07/31/10
NIH(NCI)
Characterization of Prostate Cancer with 3T MR
The major goal of this project is to evaluate the accuracy of MRI in grading prostate cancer and in determining tumor volume in the prostate gland and to evaluate the accuracy of T2W MRI, DCE-MRI and their combined data for staging prostate cancer.

R21 CA116271-01A1 (Lenkinski)
NIH 10/01/07-09/30/08
Dynamic contrast-enhanced MRI of pulmonary nodule at 3T
This is a developmental project that will assess analysis methods of DCEMRI of lung nodules.

<u>COMPLETED</u>
R01-CA098339-02 (Lenkinski) 5/01/04 - 4/30/07
NIH/NCI
Multivoxel MRS of Human Breast Cancer at 3T
The major goal of this project is to assess whether localized proton MRS can distinguish between benign and malignant breast disease.