BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Joseph J. H. Ackerman	William Greenleaf Eliot Professor of Chemistry Professor of Radiology Research Professor of Chemistry in Medicine
eRA COMMONS USER NAME (credential, e.g., agency login) JJHACK	

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

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Boston University	B.A.	1972	Chemistry
Colorado State University	Ph.D.	1977	Physical Chemistry
Colorado State University	Postdoctoral	1977-78	Physical Chemistry
University of Oxford, Oxford, England	Postdoctoral	1978-79	Biophysics

A. Personal Statement:

Joseph J. H. Ackerman, Ph.D., the William Greenleaf Eliot Professor, Department of Chemistry, holds joint appointments in Departments of Radiology and Internal Medicine, and is Laboratory Chief of Mallinckrodt Institute of Radiology's Biomedical Magnetic Resonance Laboratory (BMRL). As *Gold Medal Award* recipient and *Fellow* of the International Society for Magnetic Resonance in Medicine, he is a respected practitioner in the field of magnetic resonance as applied to intact biological systems. An educator at Washington University in Saint Louis for the past three decades, Ackerman has trained and mentored numerous undergraduate, graduate, and postdoctoral students, many of whom now hold senior positions in academe and industry. Ackerman's research efforts are broadly directed toward the development and implementation of MR imaging and spectroscopy techniques to provide a more complete understanding of the complex microstructure and governing biophysical, physiologic, and metabolic determinants of cells, tissues, and organisms in the intact, functioning state.

B. Positions and Honors:

Positions:

1978-1979 NIH Postdoctoral Fellow, Dept. of Biochemistry, University of Oxford, Oxford, England.
1979-1985 Assistant Professor of Chemistry, Washington University, St. Louis, MO.
1980-1986 Res. Asst. Prof. of Chemistry in Medicine, Washington Univ. School of Medicine, St. Louis, MO.
1985-1988 Associate Professor of Chemistry, Washington University, St. Louis, MO.
1986-1992 Res. Assoc. Prof. of Chem. in Medicine, Washington Univ. School of Medicine, St. Louis, MO.
1988-2010 Chairman & Professor of Chemistry, Washington University, St. Louis, MO.
1992-present Res. Prof. of Chemistry in Medicine, Washington University School of Medicine, St. Louis, MO.
1995-present Prof. of Radiology, Washington University, School of Medicine, St. Louis, MO.
1998-present William Greenleaf Eliot Professor of Chemistry, Washington University, St. Louis, MO

Honors:

2014-2017 Member, Board of Trustees, International Society for Magnetic Resonance in Medicine.
2011-2015 Founding Member, Board of Trustees, World Molecular Imaging Society.
2010-2011 Member and Treasurer, Board of Trustees, Academy of Molecular Imaging.
2007-2010 Council Chair, Institute for Molecular Imaging Science, Academy of Molecular Imaging.
2006-2008 Chair, *In Vivo Magnetic Resonance* Gordon Conference, 2008; Vice Chair 2006.
2004-present Member, Board of Trustees, Sigma-Aldrich (Charitable) Foundation.

2003 Fellow, St. Louis Academy of Science.

2001-2003 President, Dynamic MR Spectroscopy Study Group, International. Soc. Magn. Reson. Medicine.

1999-present Associate Editor, *Journal of Magnetic Resonance*.

1999 Chair, National Cancer Institute focus group on *MR Spectroscopy in Clinical Oncology, NIH.*

1998-1999 President, Cancer Study Group, International Soc. Magn. Reson. Medicine and Chair, ISMRM November '98 St. Louis Workshop: *MR in Experimental and Clinical Cancer Research*.

1997 Fellow, International Society for Magnetic Resonance in Medicine.

1992 Gold Medal Award, (International) Society for Magnetic Resonance in Medicine.

1989-present President and Trustee, Dan Broida/Sigma-Aldrich Corporation Scholarship Foundation.

1989 William Simpson Award for Excellence in Experimental Oncology, Department of Internal Medicine, Division of Hematology and Oncology, Wayne State University.

1989-1994 Editorial Board, *Concepts in Magnetic Resonance: An Educational Quarterly,* NMR Concepts, Kingston, RI.

1988-1991 Executive Committee, Experimental NMR Conference (ENC), Inc.

1987-2003 Editorial Board, *NMR In Biomedicine*, Heyden and Son, London.

1987 St. Louis Award, St. Louis Section of the American Chemical Society.

1987-1989 Standing member, NIH Biophysical Chemistry Study Section B.

1986-1989 Member, Board of Trustees, (International) Society for Magnetic Resonance in Medicine.

1984-1989 Vice President and Trustee, Dan Broida/Sigma-Aldrich Corporation Scholarship Foundation.

C. Representative Recent Publications:

1. "Anti-VEGF Antibodies Mitigate the Development of Radiation Necrosis in Mouse Brain", X. Jiang, J. A. Engelbach, L. Yuan, J. Cates, F. Gao, R. E. Drzymala, D. E. Hallahan, K. M. Rich, R. E. Schmidt, J. J. H. Ackerman, and J. R. Garbow, *Clin. Can. Res.*, accepted (2014).

2. "A GSK-3β Inhibitor Protects Against Radiation Necrosis in Mouse Brain", X. Jiang, C. J. Perez-Torres, D. Thotala, J. A. Engelbach, L. Yuan, J. Cates, F. Gao, R. E. Drzymala, K. M. Rich, R. E. Schmidt, D. E. Hallahan, J. J. H. Ackerman, and J. R. Garbow, *Int. J. Radiat. Oncol. Biol. Phys.*, accepted (2014).

3. "Towards Distinguishing Recurrent Tumor from Radiation Necrosis: DWI and MTC in a Gamma Knife® Irradiated Mouse Glioma Model", C. J. Perez-Torres, J. A. Engelbach, J. Cates, D. K. Thotala, K. M. Rich, R. E. Drzymala, J. J.H . Ackerman, and J. R. Garbow, *Int. J. Radiat. Oncol. Biol. Phys.*, accepted (2014).

4. "Diffusion Sensitive Magnetic Resonance Imaging of the Central Nervous System", J. J. Neil and J. J. H. Ackerman, in *Advances in Neurobiology, Vol 4, Neural Metabolism In Vivo,* pages 65-78 (In-Young Choi and Rolf Gruetter, eds.), Springer, New York, (2012).

5. "The Use of Ethylene Glycol to Evaluate Gradient Performance in Gradient-Intensive Diffusion MR Sequences", W. M. Spees, S.-K. Song, J. R. Garbow, J. J. Neil, and J. J.H. Ackerman, *Magn. Reson. Med.*, 68: 319-324 (2012); PMCID: PMC3296827.

6. "Imaging Primary Lung Cancers in Mice to Study Radiation Biology: in Regard to Kirsch *et al.* (*Int. J. Radiat. Oncol. Biol. Phys.* 2010; 76: 973-977)" J. R. Garbow, and J. J. H. Ackerman, *Int. J. Radiat. Oncol. Biol. Phys.*, 79: 959 (2011).

7. "Semi-permeable Hollow Fiber Phantoms for Development and Validation of Perfusion-Sensitive MR Methods and Signal Models", J. R. Anderson, J. J. H Ackerman, and J. R. Garbow, *Concepts in Magn. Reson. Part B: Magn. Reson. Eng.*, 39B: 149-158 (2011).

8. "Diffusion Effects on Longitudinal Relaxation in Poorly Mixed Compartments", J. R. Anderson, Q. Ye, J. J. Neil, J. J. H Ackerman, and J. R. Garbow, *J. Magn. Reson.*, 211:30-36 (2011); PMCID PMC3114270.

9. "Quantification and Compensation of Eddy-Current-Induced Magnetic Field Gradients", W. M. Spees, N. Buhl, P. Sun, J. J. H. Ackerman, J. J. Neil, and J. R. Garbow, *J. Magn. Reson.*, 212:116-123 (2011); PMCID: PMC3163721.

10. "Protein-Induced Water ^{1}H MR Frequency Shifts: Contributions from Magnetic Susceptibility and Exchange" J. Luo, X. He, D. A. d'Avignon, J. J. H. Ackerman, and D. A. Yablonskiy, *J. Magn. Reson.*, 202: 102-108 (2010); PMCID: PMC2818297.

11. "The Use of MR-Detectable Reporter Molecules and Ions to Evaluate Diffusion in Normal and Ischemic Brain" J. J. H. Ackerman and J. J. Neil, *NMR in Biomedicine* 23: 725-733 (2010); PMCID: PMC3080095.

12. "Biophysics of Diffusion in Cells", J. J. H. Ackerman and J. J. Neil, in *Diffusion MRI: Theory, Methods and Applications* (D. Jones, ed.), Chapter 8, Pages 110-124, Oxford University Press, Oxford, 2010.

13. "Magnetic Resonance Diffusion Characteristics of Histologically Defined Prostate Cancer in Humans", J. Xu, P. A. Humphrey, A. S. Kibel, A. Z. Snyder, V. R. Narra, J. J. H. Ackerman, and S.-K. Song, *Magn. Reson. Med.*, 61: 842-850 (2009).

14. "High Dynamic Range MRS [Bayesian] Time-Domain Signal Analysis", G. L. Bretthorst, W. C. Hutton, J. R. Garbow, and J. J. H. Ackerman, *Magn. Reson. Med.*, 62: 1026-1035 (2009); PMCID: PMC2930376.

15. "Magnetization Transfer Induced Biexponential Longitudinal Relaxation", A.M. Prantner, G. L. Bretthorst, J. J. Neil, J. R. Garbow, and J. J. H. Ackerman, *Magn. Reson. Med.,* 60: 555-563 (2008); PMCID: PMC2702166.