

## **CURRICULUM VITAE**

(14 January 07)

### **R. Grant Steen, *PhD***

President, Medical Communications Consultants

103 Van Doren Place

Chapel Hill, NC 27517

Business telephone: (919) 942-9299

E-mail: [Grant\\_Steen@med.unc.edu](mailto:Grant_Steen@med.unc.edu)

E-mail: [G\\_Steen\\_MediCC@yahoo.com](mailto:G_Steen_MediCC@yahoo.com)

### **Education:**

Doctor of Philosophy, Biology, December 1985  
University of California, Los Angeles

Master of Science, Biology, January 1981  
University of Southern California, Los Angeles

Bachelor of Science, Biology, June 1977  
McGill University, Montreal

### **Current Position:**

President, Medical Communications Consultants  
103 Van Doren Place, Chapel Hill, NC 27517  
September 2006 – present

### **Academic Positions:**

Associate Professor, Psychiatry  
University of North Carolina School of Medicine, Chapel Hill  
August 2003 – September 2006

Associate Professor, Radiology  
University of Tennessee School of Medicine, Memphis  
July 2002 - August 2003

Associate Professor, Pediatrics  
University of Tennessee School of Medicine, Memphis  
July 2001 - August 2003

Adjunct Professor, Graduate Faculty, Department of Biomedical Engineering  
University of Memphis, Memphis

## **CURRICULUM VITAE - R. Grant Steen, *PhD***

June 2001 – August 2003

Associate Professor, Diagnostic Imaging  
St. Jude Children's Research Hospital, Memphis  
March 2000 – August 2003

Assistant Professor, Pediatrics  
University of Tennessee School of Medicine, Memphis  
May 1998 – July 2001

Assistant Professor, Diagnostic Imaging  
St. Jude Children's Research Hospital, Memphis  
May 1997 – March 2000

Assistant Professor, Radiology  
University of Tennessee School of Medicine, Memphis  
May 1996 – July 2002

Assistant Professor, Biomedical Engineering  
University of Tennessee School of Medicine, Memphis  
July 1995 – March 2000

David A. Karnofsky Memorial Fellowship, Diagnostic Imaging  
St. Jude Children's Research Hospital, Memphis  
April 1993 - July 1995

Assistant Professor, Bioengineering  
Member, Faculty of the Graduate School  
University of Washington, Seattle  
March 1991 - March 1993

Assistant Professor, Radiology  
University of Washington School of Medicine, Seattle  
July 1988 - July 1992

National Research Service Award Fellow  
Division of Nuclear Medicine, Department of Environmental Health  
Johns Hopkins University School of Hygiene and Public Health, Baltimore  
July 1987 - June 1988

Postdoctoral Fellow  
Division of NMR Research, Department of Radiology  
Johns Hopkins University School of Medicine, Baltimore  
January 1986 - June 1988

Teaching Fellow, Biology  
University of California, Los Angeles  
September 1980 - March 1985

## CURRICULUM VITAE - R. Grant Steen, PhD

### Peer-Reviewed Manuscripts:

70. McClure, R, K Carew, S Greeter, E Maushauer, T Smiley, RG **Steen**, DR Weinberger. 2007. Regional brain volume change in schizophrenia associated with short-term typical and atypical antipsychotic treatment. Schizophren. Res. (in prep.).
69. El-Sayed, M, L Sikich, RG **Steen**, M Poe, TC Bethea, C Charles, G Gerig, JA Lieberman. 2007. Deficits in gray matter volume are present at diagnosis in psychotic youth with schizophrenic spectrum disorders but not in psychotic youth with mood disorders. J. Am. Acad. Child Adolesc. Psychiat. (in prep.).
68. **Steen**, RG, RM Hamer, JA Lieberman. 2007. Measuring brain volume by magnetic resonance imaging: the impact of measurement precision and natural variation on sample size requirements. Am. J. Neuroradiol. (accepted).
67. Venkatraman, TN, RM Hamer, DO Perkins, AW Song, JA Lieberman, RG **Steen**. 2006. Single-voxel <sup>1</sup>H PRESS at 4.0 T: precision and variability of measurements in anterior cingulate and hippocampus. NMR Biomed. 19: 484-491.
66. **Steen**, RG, C Mull, R McClure, RM Hamer, JA Lieberman. 2006. Brain volume in first-episode schizophrenia: systematic review and meta-analysis of magnetic resonance imaging studies. Brit. J. Psychiat. 188: 510-518.
65. **Steen**, RG, R Hamer, JA Lieberman. 2005. Measurement of brain metabolites by <sup>1</sup>H magnetic resonance spectroscopy in patients with schizophrenia: a systematic review and meta-analysis. Neuropsychopharmacology 30: 1949-1962.
64. Helton, KJ, M Edwards, RG **Steen**, TE Merchant, MV Sapp, FA Boop, and J Langston. 2005. Neuroimaging-detected late transient treatment-induced lesions in pediatric patients with brain tumors. J. Neurosurg. (Peds.) 102: 179-186.
63. **Steen**, RG, T Emudianughe, M Hunte, J Glass, S Wu, X Xiong, and WE Reddick. 2005. Brain volume in pediatric patients with sickle cell disease: evidence of volumetric growth delay? Am. J. Neuroradiol. 26: 455-462.
62. **Steen**, RG and RJ Ogg. 2005. Abnormally high levels of brain N-acetyl-aspartate in children with sickle cell disease. Am. J. Neuroradiol. 26: 463-468.
61. **Steen**, RG, C Fineberg-Buchner, G Hankins, L Weiss, A. Prifitera, and R Mulhern. 2005. Cognitive deficits in children with sickle cell disease. J. Child Neurology 20: 102-107.

## CURRICULUM VITAE - R. Grant Steen, PhD

60. Haselgrove J, M Hunte, P Hurh, and RG **Steen**. 2004. Direct comparison of two methods to measure T1: *in vitro* and *in vivo* values by echo-planar imaging and by segmented *k*-space imaging. Mag. Reson. Imaging 22: 291-298.
59. **Steen**, RG, M Hunte, E Traipe, P Hurh, S Wu, L Bilaniuk, and J Haselgrove. 2004. Brain T1 in young children with sickle cell disease: evidence of early abnormalities in brain development. Mag. Reson. Imaging 22: 299-306.
58. **Steen**, RG, X. Xiong, J. W. Langston, and KJ Helton. 2003. Brain injury in children with hemoglobin SS sickle cell disease: prevalence and etiology. Ann. Neurol. 54: 564-572.
57. **Steen**, RG, T Emudianughe, G Hankins, L Wynn, WC Wang, X Xiong, and KJ Helton. 2003. Brain imaging findings in pediatric patients with sickle cell disease. Radiology 228: 216-225.  
Published on-line: Radiology 10.1148/radiol.2281020943
56. **Steen**, RG, G Hankins, X Xiong, WC Wang, K Beil, JW Langston, and KJ Helton. 2003. Prospective brain imaging evaluation of children with sickle cell trait: initial observations. Radiology 228: 208-215.  
Published on-line: Radiology 10.1148/radiol.2281020600
55. **Steen**, RG, M Miles, K Helton, S Strawn, WC Wang, X Xiong, and RK Mulhern. 2003. Cognitive impairment in children with hemoglobin SS sickle cell disease: relationship to MR imaging findings and hematocrit. Am. J. Neuroradiol. 24: 382-389
54. **Steen**, RG and J Schroeder. 2003. Age-related changes in the pediatric brain: proton T1 in healthy children and in children with sickle cell disease. Magn. Reson. Imaging 21: 9-15.
53. Helton, KJ, WC Wang, LW Wynn, RB Khan, and RG **Steen**. 2002. The effect of hydroxyurea on vasculopathy in a child with sickle cell disease. Am. J. Neuroradiol. 23: 1674-1677.
52. **Steen**, RG, K Hu, V Elliott, M Miles, S Jones, and WC Wang. 2002. Kindergarten readiness skills in children with sickle cell disease: evidence of early neuro-cognitive damage? J. Child Neurol. 17: 111-116.
51. **Steen**, RG, D Spence, S Wu, X Xiong, LE Kun, and T Merchant. 2001. The effect of therapeutic ionizing radiation on the human brain. Ann. Neurol. 50: 787-795.
50. **Steen**, RG, JS Taylor, JW Langston, JO Glass, VR Brewer, WE Reddick, R Mages, and E Pivnick. 2001. Prospective evaluation of the brain in asymptomatic children with neurofibromatosis type 1: relationship of macro-

## CURRICULUM VITAE - R. Grant Steen, PhD

- cephaly to T1 relaxation changes and structural brain abnormalities. Am. J. Neuroradiol. 22: 810-817.
49. **Steen, RG, M Koury, CI Granja, X Xiong, S Wu, JO Glass, RK Mulhern, LE Kun, and TE Merchant.** 2001. Effect of ionizing radiation on the human brain: white matter and gray matter T1 in pediatric brain tumor patients treated with conformal radiation therapy. Int. J. Radiat. Oncol. Biol. Phys. 49: 79-91.
48. **Steen, RG, KJ Helton, EM Horwitz, E Benaim, S Thompson, LC Bowman, R Krance, WC Wang, and JM Cunningham.** 2001. Improved cerebrovascular patency following therapy in patients with sickle cell disease: initial results in 4 patients who received HLA-identical hematopoietic stem cell allografts. Ann. Neurol. 49: 222-229.
47. **Glass, JO, W.E Reddick, O Goloubeva, V Yo, and RG Steen.** 2000. Hybrid artificial neural network segmentation of precise and accurate inversion recovery (PAIR) images from normal human brain. Mag. Reson. Imaging 18: 1245-1253.
46. **Gronemeyer, SA, RG Steen, WM Kauffman, WE Reddick, and JO Glass.** 2000. Fast adipose tissue (FAT) assessment by MRI. Mag. Reson. Imaging 18: 815-818.
45. **Steen, RG, W.E Reddick, and Ogg, RJ.** 2000. More than meets the eye: significant regional heterogeneity in human cortical T1. Mag. Reson. Imaging 18: 361-368.
44. **Steen, RG, X Xiong, RK Mulhern, JW Langston, and WC Wang.** 2000. Reply to letter to the Editor. Ann. Neurol. 47: 280.
43. **Ogg, RJ, JW Langston, EM Haacke, RG Steen, and JS Taylor.** 1999. The correlation between phase shifts in gradient-echo MR images and regional brain iron concentration. Mag. Reson. Imaging 17: 1141-1148
42. **Smith, DG, WJ Mills, RG Steen, and D Williams.** 1999. Levels of high-energy phosphate in the dorsal skin of the foot in normal and diabetic adults: the role of <sup>31</sup>P magnetic resonance spectroscopy and direct quantification with high pressure liquid chromatography. Foot & Ankle Internat. 20: 258-262.
41. **Steen, RG, JW Langston, RJ Ogg, X Xiong, Z Ye, and WC Wang.** 1999. Diffuse T1 reduction in gray matter of sickle cell disease patients: evidence of selective vulnerability to damage? Magn. Reson. Imaging 17: 503-515.
40. **Steen, RG, X Xiong, RK Mulhern, JW Langston, and WC Wang.** 1999. Subtle brain abnormalities in children with sickle cell disease: relationship to blood hematocrit. Ann. Neurol. 45: 279-286.

## CURRICULUM VITAE - R. Grant Steen, PhD

39. **Steen, RG, WE Reddick, R.J Ogg, and JW Langston.** 1999. Effect of a gadodiamide contrast agent on the reliability of brain tissue T1 measurements. Magn. Reson. Imaging 17: 229-235.
38. **Kingsley, PB, RJ Ogg, WE Reddick, and RG Steen.** 1998. Correction of errors caused by imperfect inversion pulses in MR imaging measurement of T1 relaxation times. Mag. Res. Imaging 16: 1049-1055.
37. **Ogg, RJ and RG Steen.** 1998. Age-related changes in brain T1 are correlated with iron concentration. Mag. Reson. Medicine 40: 749-753.
36. **Steen, RG, WE Reddick, J Glass, and WC Wang.** 1998. Evidence of cranial artery ectasia in sickle cell disease patients with ectasia of the basilar artery. J. Stroke Cerebrovasc. Dis. 7: 330-338.
35. **Wang, WC, JW Langston, RG Steen, LW Wynn, RK Mulhern, JA Wilimas, FM Kim, and RE Figueroa.** 1998. Abnormalities of the central nervous system in very young children with sickle cell anemia. J. Pediatrics 132: 994-998.
34. **Steen, RG, WE Reddick, RW Mulhern, JW Langston, R Ogg, A Bierberich, P Kingsley, and WC Wang.** 1998. Quantitative MRI of the brain in children with sickle cell disease reveals abnormalities unseen by conventional MRI. J. Mag. Res. Imaging 8: 535-543.
33. **Steen, RG, J Langston, RJ Ogg, E Mancini, RK Mulhern, and W Wang.** 1998. Ectasia of the basilar artery in children with sickle cell disease: relationship to hematocrit and psychometric measures. J. Stroke Cerebrovasc. Dis. 7: 32-43.
32. **Cho, S, D Jones, W.E Reddick, R.J Ogg, and RG Steen.** 1997. Establishing norms for age-related changes in proton T1 of human brain tissue *in vivo*. Magn. Reson. Imaging 15: 1133-1143.
31. **Gronemeyer, SA, WM Kauffman, MS Rocha, RG Steen, and BD Fletcher.** 1997. Fat-saturated contrast-enhanced T1-weighted MRI in evaluation of osteo-sarcoma and Ewing sarcoma. J. Mag. Res. Imaging 7: 585-589.
30. **Steen, RG, R Ogg, WE Reddick, and PB Kingsley.** 1997. Age-related changes in the pediatric brain: quantitative MR evidence of maturational changes during adolescence. Am. J. Neuroradiol. 18: 819-828.
29. **Steen, RG.** 1997. Winning the war on cancer. The Futurist 31: 24-28.
28. **Steen, RG, JW Langston, WE Reddick, R Ogg, G Chen, and W Wang.** 1996. Quantitative MR imaging of children with sickle cell disease: striking T1 elevation in the thalamus. J. Mag. Res. Imaging 6: 226-234.

## CURRICULUM VITAE - R. Grant Steen, PhD

27. Reddick, WE, RJ Ogg, RG **Steen**, and J.S Taylor. 1996. Statistical error mapping for reliable quantitative T1 imaging. J. Mag. Res. Imaging 6: 244-249.
26. Casciari, JJ, LK Chin, JC Livesey, D Boyles, RG **Steen**, and JS Rasey. 1995. Growth rate, labeling index, and radiation survival of cells grown in the Matrigel thread *in vitro* tumor model. In Vitro Cell. Dev. Biol.-Animal 31: 582-589.
25. **Steen**, RG, SA Gronemeyer, and JS Taylor. 1995. Age-related changes in proton T1 values of normal human brain. J. Mag. Res. Imaging 5: 43-48.
24. **Steen**, RG, K Kitagishi, and K Morgan. 1994. *In vivo* measurement of tumor blood oxygenation by near-infrared spectroscopy: immediate effects of pentobarbital overdose or carmustine treatment. J. Neuro-Oncol. 22: 209-220.
23. Reddick, WE, JW Langston, WH Meyer, SA Gronemeyer, RG **Steen**, G Chen, and JS Taylor. 1994. Discrete signal processing in dynamic contrast-enhanced MR imaging: statistical validation and preliminary clinical correlation. J. Mag. Res. Imaging 4: 397-404.
22. **Steen**, RG. 1994. The cancer war. Scientific American (May): 10.
21. **Steen**, RG, SA Gronemeyer, P Kingsley, WE Reddick, JW Langston, and JS Taylor. 1994. Precise and accurate measurement of proton T1 in human brain *in vivo*: validation and clinical correlation. J. Mag. Res. Imaging 4: 681-691.
20. **Steen**, RG, S Kromhout-Schiro, and M Graham. 1993. Relationship of perfusion to edema in the 9L gliosarcoma. J. Neuro-Oncol. 16: 81-87.
19. Dager, SR, and RG **Steen**. 1992. Applications of magnetic resonance spectroscopy to the investigation of neuropsychiatric disorders. Neuropsychopharmacology 6: 249-266.
18. **Steen**, RG. 1992. Edema and tumor perfusion: characterization by quantitative <sup>1</sup>H magnetic resonance imaging. Am. J. Roentgenol. 158: 259-264.
17. Chen, Y, T Richards, S Izenburg, R Golden, DL Williams, JA Nelson, and RG **Steen**. 1992. *In vivo* phosphorus NMR spectroscopy of skin using a crossover surface coil. Mag. Reson. Medicine 23: 46-54.
16. **Steen**, RG. 1991. Characterization of tumor hypoxia by <sup>31</sup>P MR spectroscopy. Am. J. Roentgenol. 157: 243-248.
15. **Steen**, RG, and M Graham. 1991. <sup>31</sup>P magnetic resonance spectroscopy is sensitive to tumor hypoxia: perfusion and oxygenation of rat 9L gliosarcoma after treatment with BCNU. NMR in Biomedicine 4: 117-124.

## CURRICULUM VITAE - R. Grant Steen, PhD

14. Rajan, SS, JP Wehrle, S-J Li, RG **Steen**, and JD Glickson. 1989.  $^{31}\text{P}$  NMR spectroscopic study of bioenergetic changes in Radiation-induced Fibrosarcoma-1 after radiation therapy. NMR in Biomed. 2: 165-171.
13. **Steen**, RG, DA Wilson, C Bowser, JP Wehrle, JD Glickson, and SS Rajan. 1989.  $^{31}\text{P}$  NMR spectroscopic and near-infrared spectrophotometric studies of effects of anesthetics on *in vivo* RIF-1 tumors: relationship to tumor radio-sensitivity. NMR in Biomed. 2: 87-92.
12. **Steen**, RG, RJ Tamargo, H Brem, JD Glickson, and JP Wehrle. 1989. *In vivo*  $^{31}\text{P}$  nuclear magnetic resonance spectroscopy of rat 9L gliosarcoma treated with BCNU: dose-response of spectral changes. Mag. Reson. Medicine. 11: 258-266.
11. **Steen**, RG. 1989. Response of solid tumors to chemotherapy monitored by *in vivo*  $^{31}\text{P}$  nuclear magnetic resonance spectroscopy. Cancer Research. 49: 4075-4085.
10. **Steen**, RG. 1988. Reply to: Letter to the Editor from P.E. Sijens and W.M.M.J. Bovee. Cancer Research 48: 6510-6511.
9. **Steen**, RG. 1988. The bioenergetics of symbiotic sea anemones (Anthozoa: Actiniaria). Symbiosis 5: 103-142.
8. Li, S-J, JP Wehrle, SS Rajan, RG **Steen**, JD Glickson, and J Hilton. 1988. Response of radiation-induced fibrosarcoma-1 to cyclophosphamide monitored by *in vivo*  $^{31}\text{P}$  nuclear magnetic resonance spectroscopy. Cancer Research 48: 4736-4742.
7. **Steen**, RG, RJ Tamargo, SS Rajan, K McGovern, H Brem, JP Wehrle, and JD Glickson. 1988. *In vivo*  $^{31}\text{P}$  NMR spectroscopy of subcutaneous 9L gliosarcoma: effects of tumor growth and BCNU treatment on tumor bioenergetics and histology. Cancer Research 48: 676-681.
6. Wehrle, JP, S-J Li, SS Rajan, RG **Steen**, and JD Glickson. 1987.  $^{31}\text{P}$  and  $^1\text{H}$  NMR spectroscopy of tumors *in vivo*: untreated growth and response to chemotherapy. Ann. N. Y. Acad. Sci. 508: 200-215.
5. **Steen**, RG. 1987. Evidence for facultative heterotrophy in cultured zooxanthellae. Mar. Biol. 95: 15-23.
4. **Steen**, RG. and L Muscatine. 1987. Low temperature evokes rapid exocytosis of symbiotic algae by a sea anemone. Biol. Bull. 172: 246-263.
3. **Steen**, RG. 1986. Impact of symbiotic algae on sea anemone metabolism: analysis by *in vivo*  $^{31}\text{P}$  nuclear magnetic resonance spectroscopy. J. Exp. Zool. 240: 315-325.



## **CURRICULUM VITAE - R. Grant Steen, PhD**

2. **Steen, RG.** 1986. Evidence for heterotrophy by zooxanthellae in symbiosis with *Aiptasia pulchella*. Biol. Bull. 170: 267-278.
1. **Steen, RG and L Muscatine.** 1984. Daily budgets of photosynthetically fixed carbon in symbiotic zoanths. Biol. Bull. 167: 477-487.

### **Doctoral Dissertation:**

**Steen, RG.** 1985. "*In vivo* Nuclear Magnetic Resonance Analysis of a Symbiotic Sea Anemone: Host Bioenergetics and Interactions with the Symbiont". Ph. D. dissertation. University of California, Los Angeles. 142 pp.

### **Book Chapters:**

8. **Steen, RG.** 2006 (in prep). The cognitive impact of systemic illness in childhood and adolescence. In: WISC-III CLINICAL USE AND INTERPRETATION: SCIENTIST-PRACTITIONER PERSPECTIVES, 4<sup>TH</sup> EDITION. A. Prifitera, D. Saklofske, L. Weiss (Eds.), Academic Press.
7. Helton, KA, RG **Steen.** 2006 (in press). Intracranial neoplasms. In: CAFFEY'S PEDIATRIC DIAGNOSTIC IMAGING, 11<sup>TH</sup> EDITION. T.L. Slovis, B Adler, D. Bloom, D. Bulas, B. D. Coley, J. S. Donaldson, E. N. Faerber, D. P. Frush, M. Hernanz-Schulman, P. J. Strouse (Eds.), Perseus Books, Boston.
6. **Steen, RG.** 2000. What is cancer? In: CHILDHOOD CANCER: A HANDBOOK FROM ST. JUDE CHILDREN'S RESEARCH HOSPITAL. R.G. Steen and J. Mirro (Eds.), Perseus Books, Boston. pp. 3-10.
5. **Steen, RG.** 2000. The biology of childhood cancer. In: CHILDHOOD CANCER: A HANDBOOK FROM ST. JUDE CHILDREN'S RESEARCH HOSPITAL. R.G. Steen and J. Mirro (Eds.), Perseus Books, Boston. pp. 35-45.
4. **Steen, RG.** 2000. Reducing exposure to cancer risk factors. In: CHILDHOOD CANCER: A HANDBOOK FROM ST. JUDE CHILDREN'S RESEARCH HOSPITAL. R.G. Steen and J. Mirro (Eds.), Perseus Books, Boston. pp. 517-525.
3. **Steen, RG.** 1997. Winning the war on cancer. In: DEATH, DYING, AND BEREAVEMENT (Vol. 31, ANNUAL EDITIONS). Dushkin Publishing Group/The McGraw-Hill Companies, Inc. pp. 32-35.
2. Sutton, L, RG **Steen,** and R Lenkinski. 1992. Phosphorus nuclear magnetic resonance spectroscopy as an indicator of tumor hypoxia. In: PEDIATRIC NEURO-ONCOLOGY: NEW TRENDS IN CLINICAL RESEARCH (Vol. 3, MONOGRAPHS IN

## CURRICULUM VITAE - R. Grant Steen, PhD

CLINICAL PEDIATRICS). R.J. Packer, W.A. Bleyer, and C. Pochedly (Eds.), Harwood Academic Publishers, Philadelphia. pp. 77-90.

1. Glickson, JD, JP Wehrle, SS Rajan, S-J Li, and RG **Steen**. 1989. NMR spectroscopy of tumors. In: NMR: PRINCIPLES AND APPLICATIONS TO BIOMEDICAL RESEARCH. J.E. Pettegrew (Ed.), Springer-Verlag, Inc., New York. pp. 255-309.

### **Books:**

5. **Steen, RG.** (publication in November, 2006). THE EVOLVING BRAIN: THE KNOWN AND THE UNKNOWN. Prometheus Books, New York, 394 pp.
4. **Steen, RG.** and J Mirro. 2000. CHILDHOOD CANCER: A HANDBOOK FROM ST. JUDE CHILDREN'S RESEARCH HOSPITAL. Perseus Books, Boston. 606 pp. (selected as "Best Consumer Health Book of 2000" by Library Journal)
3. **Steen, RG.** 1996. DNA & DESTINY: NATURE AND NURTURE IN HUMAN BEHAVIOR. Plenum Press, New York. 295 pp. (translated into Japanese and Korean)
2. **Steen, RG.** 1995. CHANGING THE ODDS: CANCER PREVENTION THROUGH PERSONAL CHOICE AND PUBLIC POLICY. Facts On File Press, New York. 388 pp.
1. **Steen, RG.** 1993. A CONSPIRACY OF CELLS: THE BASIC SCIENCE OF CANCER. Plenum Press, New York. 427 pp.

### **Other Media:**

5. **Steen, RG.** 2006. "Quest for the Best in neurology". Script for Stat! —The Podcast of Clinical Neurology News. Flow Productions, Inc. New Smyrna Beach, FL
4. **Steen, RG.** 2006. "Destination Demyelination—Solutions for Patients Suffering from Demyelination Disorders". Script for Stat! —The Podcast of Clinical Neurology News. Flow Productions, Inc. New Smyrna Beach, FL
3. **Steen, RG.** 2006. "Medicines with Merit—Pharmaceuticals Showing Promise for the Patient with Neurological Disease". Script for Stat! —The Podcast of Clinical Neurology News. Flow Productions, Inc. New Smyrna Beach, FL
2. **Steen, RG.** 2006. "The Body Magnetic: Where Medicine Meets Quantum Physics". Script for Stat! —The Podcast of Clinical Neurology News. Flow Productions, Inc. New Smyrna Beach, FL

## **CURRICULUM VITAE - R. Grant Steen, PhD**

1. **Steen, RG.** 1989. "Advances in Basic Science: NMR Spectroscopy". Recorded lecture sponsored by the American Society of Pediatric Hematology / Oncology. Teach 'em, Inc. Chicago, IL

### **Courses Designed and Taught:**

"*In vivo* NMR in Biology and Medicine"  
Radiology 550 (2 credit seminar course). Spring Quarters, 1989 - 1992

### **Principal Investigator for Research Grants:**

"Cortical gray matter abnormality in first-episode schizophrenia".  
National Alliance for Research in Schizophrenia and Affective Disorder (NARSAD) Independent Investigator Award.  
September 04 – September 06. Direct cost: \$97,613

"Central nervous system (CNS) assessment Core". NIH U01.  
PI for Neuroimaging Core, St. Jude Comprehensive Sickle Cell Center Grant  
April 03 – March 08. Direct cost (Core): \$478,679 (Center overall: \$1,342,587)

"Diffuse brain abnormality in sickle cell disease". NIH RO1 (HL60022).  
PI for a clinical research RO1 centered at St. Jude Children's Research Hospital  
July 99 – June 03. Direct cost: \$938,609

"Phosphorus NMR spectroscopy of normal and diabetic / ischemic skin".  
VA Merit Award (pilot project) (A90-129AP).  
April 91 - March 92. Direct cost: \$40,000

"*In vivo* near-infrared imaging of tumor hypoxia in the 9L gliosarcoma".  
University of Washington Graduate School Research Fund.  
January 89 - June 89. Direct cost: \$7,247

"Role of tumor oxygenation in determining bioenergetic metabolites observable by <sup>31</sup>P NMR". Biomedical Research Support Grant (RR-05432).  
December 88 - November 89. Direct cost: \$19,600

"Analysis by NMR spectroscopy of 9L tumor bioenergetics following chemotherapy". American Cancer Society Institutional Grant (IN-26-31).  
October 88 - June 89. Direct cost: \$9,855

### **Principal (or Co-Principal) Investigator for Clinical Research Protocols:**

"Brain gray matter volume during adolescence and young adulthood".  
University of North Carolina, Chapel Hill protocol

**CURRICULUM VITAE - R. Grant Steen, *PhD***

June '05 – present (open)

"Hematopoietic stem cell transplantation for patients with sickle cell disease using reduced conditioning and highly-purified CD34+ cells from partially matched family donors".

St. Jude Children's Research Hospital protocol

September '02 - August '03 (closed)

## **CURRICULUM VITAE - R. Grant Steen, *PhD***

"MR spectroscopy of novel lipids in the brain: a pilot study of healthy controls and children with sickle cell disease".

St. Jude Children's Research Hospital protocol

November '01 - August '03 (closed)

"Maturational changes in the brain of infants and young children: characterization using quantitative MRI".

LeBonheur Children's Hospital protocol

February '99 – February '01 (closed)

"Validation of a novel method for computer-automated segmentation of MRI".

St. Jude Children's Research Hospital protocol

September '98 – September '00 (closed)

"A Phase II study of image-guided radiation therapy for pediatric CNS tumors and quantification of radiation-related CNS effects".

St. Jude Children's Research Hospital protocol

May '97 - August '03 (closed)

"Magnetic resonance imaging of the brain in children with bleeding disorders".

St. Jude Children's Research Hospital protocol

April '97 - August '03 (closed)

"Evaluation of the central nervous system in children with sickle cell disease: a pilot study using innovative MRI techniques to detect diffuse brain injury".

St. Jude Children's Research Hospital protocol

March '97 – August '03 (closed)

"Quantitative magnetic resonance imaging of brain edema in children ".

St. Jude Children's Research Hospital protocol

November '93 – March '00 (closed)

### **Seminars and Oral Presentations:**

International Congress on Schizophrenia Research

Savannah, Georgia. April 2005

Department of Biomedical Engineering, North Carolina State University

Raleigh, North Carolina. February 2005

Department of Radiology, Duke University

Durham, North Carolina. October 2003

American Society of Neuroradiology

Invited plenary: "Diffuse brain injury in pediatric sickle cell disease patients"

Washington, DC. April 2003

## **CURRICULUM VITAE - R. Grant Steen, *PhD***

Department of Psychiatry, University of North Carolina  
Chapel Hill, North Carolina. February 2003

Department of Psychiatry, University of North Carolina  
Chapel Hill, North Carolina. November 2002

National Sickle Cell Disease Program Annual Meeting  
Washington, DC. September 2002

Department of Psychiatry, McLean Hospital, Harvard University  
Belmont, Massachusetts. February 2002

Department of Psychiatry, McLean Hospital, Harvard University  
Belmont, Massachusetts. November 2001

International Society of Magnetic Resonance in Medicine  
Glasgow, Scotland. April 2001

Grand Rounds, Dept. of Pathology, University of Tennessee School of  
Medicine  
Memphis, Tennessee. March 2002

Cognitive Neuroscience Research Group, St. Jude Children's Research Hospital  
Memphis, Tennessee. March 2001

Department of Radiology, Children's Hospital of Pennsylvania, UPenn  
Philadelphia, Pennsylvania. September 2000

Brain Tumor Research Group, St. Jude Children's Research Hospital  
Memphis, Tennessee. February 2000

Department of Psychiatry Grand Rounds, University of California  
Los Angeles, California. January 2000

Faculty seminar, St. Jude Children's Research Hospital  
Memphis, Tennessee. January 2000

Brain Tumor Research Group, St. Jude Children's Research Hospital  
Memphis, Tennessee. November 1999

International Society of Magnetic Resonance in Medicine  
Philadelphia, Pennsylvania. May 1999

National Sickle Cell Disease Program Annual Meeting  
San Francisco, California. March 1999

International Society of Magnetic Resonance in Medicine  
Sydney, Australia. April 1998

## **CURRICULUM VITAE - R. Grant Steen, *PhD***

Department of Biomedical Engineering, University of Memphis  
Memphis, Tennessee. February 1998

American Society of Neuroradiology  
Toronto, Canada. May 1997

Sickle Cell Disease Center, University of South Alabama  
Mobile, Alabama. May 1997

International Society of Magnetic Resonance in Medicine  
Vancouver, Canada. April 1997

Hematology / Oncology Grand Rounds, St. Jude  
Memphis, Tennessee. June 1996

Symposium organizer and speaker at a St. Jude Symposium:  
“Biology and Pathophysiology of Neurofibromatosis (NF-1)”  
Memphis, Tennessee. April 1996

Keynote speaker at the UTenn / ACS “Cancer Week” Program  
Memphis, Tennessee. April 1996

Diagnostic Radiology Review (CME course)  
Memphis, Tennessee. February 1996

Brain Tumor Research Group, St. Jude Children's Research Hospital  
Memphis, Tennessee. January 1996

Society of Magnetic Resonance in Medicine  
Nice, France. August 1995

National Sickle Cell Disease Program Annual Meeting  
Boston, Massachusetts. March 1995

Tennessee Society of Radiologic Technologists  
Memphis, Tennessee. February 1995

Radiology Departmental Seminar, University of Washington  
Seattle, Washington. January 1995

Tennessee Society of Radiologic Technologists  
Memphis, Tennessee. August 1994

Society of Magnetic Resonance in Medicine  
San Francisco, California. August 1994

## **CURRICULUM VITAE - R. Grant Steen, *PhD***

Brain Tumor Research Group, St. Jude Children's Research Hospital  
Memphis, Tennessee. January 1994

Society of Magnetic Resonance in Medicine  
New York, New York. August 1993

Brain Tumor Research Group, St. Jude Children's Research Hospital  
Memphis, Tennessee. February 1993

Gordon Conference on "Magnetic Resonance in Biology and Medicine"  
Tilton, New Hampshire. July 1992 (invited presentation)

Zoology Departmental Seminar, Auburn University  
Auburn, Alabama. June 1992

Biology Departmental Seminar, California State University  
San Marcos, California. May 1992

Wound Healing Group, Prosthetics Research Study Foundation  
Seattle, Washington. March 1992

Workshop on "Magnetic Resonance Spectroscopy and Tumor Cell Biology:  
MRS as a Biochemical Basis for Patient Management?"  
Diagnostic Imaging Research Branch, Division of Cancer Treatment, NIH  
Bethesda, Maryland. December 1991

Biology Departmental Seminar, Western Washington University  
Bellingham, Washington. October 1991

Society of Magnetic Resonance in Medicine  
San Francisco, California. August 1991

International Congress of Radiation Research  
Toronto, Canada. July 1991

Society of Magnetic Resonance in Medicine  
New York, New York. August 1990

Gordon Conference on "Magnetic Resonance in Biology and Medicine"  
Tilton, New Hampshire. July 1990

Radiology Departmental Seminar, Johns Hopkins Medical School  
Baltimore, Maryland. June 1990

Society of Nuclear Medicine  
Washington, D. C. June 1990



## **CURRICULUM VITAE - R. Grant Steen, PhD**

Radiation Research Society  
New Orleans, Louisiana. March 1990

Selected Topics in Gastroenterology (CME course)  
Seattle, Washington. October 1989

International Symposium on Pediatric Neuro-Oncology  
Seattle, Washington. June 1989

Radiation Research Society  
Seattle, Washington. March 1989

Society for Magnetic Resonance Imaging  
Los Angeles, California. February 1989

Zoology Departmental Seminar, University of Washington  
Seattle, Washington. February 1989

Society of Magnetic Resonance in Medicine  
San Francisco, California. August 1988

Radiology Departmental Seminar, Johns Hopkins Medical School  
Baltimore, Maryland. May 1988

American Association of Neurological Surgeons  
Toronto, Canada. April 1988

Radiology Departmental Seminar, University of Washington  
Seattle, Washington. March 1988

Congress of Neurological Surgeons  
Baltimore, Maryland. September 1987

Society of Magnetic Resonance in Medicine  
New York, New York. August 1987

ACR Symposium on "Prediction of Tumor Treatment Response".  
Banff, Canada. April 1987

Radiology Departmental Seminar, Johns Hopkins Medical School  
Baltimore, Maryland. September 1985

Neurology Departmental Seminar, Henry Ford Hospital  
Detroit, Michigan. September 1985

Psychological Society of America  
Gainesville, Florida. August 1985

## **CURRICULUM VITAE - R. Grant Steen, PhD**

NSF Regional NMR Symposium, California Institute of Technology  
Los Angeles, California. April 1985

Phycological Society of America  
Fort Collins, Colorado. August 1984

West Coast Coelenterate Colloquium  
Friday Harbor Marine Lab, Washington. March 1984

### **Awards, Honors, and Achievements:**

Hofmann Trust Investigator, NARSAD Research	2004 – present
Basketball Coach, Chapel Hill Recreational League	2004 – present
“Childhood Cancer”, <u>Library J.</u> “Best Health Book”	2001
Nominated to “Who’s Who in America”	1999
Chair, ISMRM session on “Brain Quantitation”	1999
Elected to “Who’s Who in Science & Engineering”	1998
David A. Karnofsky Memorial Fellowship, St. Jude	1993-1995
Invited speaker, Gordon Research Conference	1992
Finalist, Young Investigator Award, SMRM	1990
National Research Service Award, Johns Hopkins	1987-88
Environ. Health Sciences Fellowship, Johns Hopkins	1987-88
Graduate Division Research Grant, UCLA	1983 & 1985
Graduate Division Travel Grant, UCLA	1984 & 1985
Special Faculty Award, UCLA	1983
Riker Fellowship, Bermuda Biological Station	1983
Chancellors Intern Fellowship, UCLA	1980-84
Biology Departmental Fellowship, UCLA	1980-81
University Scholar Award, McGill	1977
Varsity Basketball Team, McGill	1972-73
New York State Regents Scholarship	1972
National Merit Scholarship	1972

### **Memberships:**

American Medical Writers Association	2005-present
American Society for Neuroradiology	2004-present
International Society of Magnetic Resonance in Medicine	1986-present

### **Professional Activities:**

Pulmonary Complications of Sickle Cell Disease, NIH	2004
Brain Disorders & Clinical Neuroscience Study Section, NIH	2002
Institutional Review Board (IRB), SJCRH	1995-2003

## CURRICULUM VITAE - R. Grant Steen, *PhD*

IRB Sub-Committee on Pediatric Patient Assent	2000-2002
Medical Student Research and Training Committee, UW	1991-1993
Medical Thesis Committee, UW	1989-1993
ACS Institutional Grant Committee, UW	1989-1993
Life Sciences Council, UCLA	1984-85
President, Biology Graduate Student Assoc., UCLA	1981-83

Manuscript review for: *Am. J. Neuroradiol.*, *AJR*, *Am. J. Psychiat.*, *Ann. Neurol.*, *Biol. Psychiat.*, *Cancer Res.*, *Clin. Cancer Res.*, *Int. J. Radiat. Oncol.*, *Biol. Phys.*, *JMRI*, *Mag. Reson. Imaging*, *Mag. Reson. Med.*, *NMR Biomed.*, *Radiation Res.*

Grant review for: *National Institutes of Health*, *Wellcome Trust (UK)*