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Schlumberger-Doll Research,
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Charlestown, MA 02129

EDUCATION

Northwestern University	Ph.D., Physics	1991
Peking University	B. S.	1985

PROFESSIONAL EXPERIENCE

2007.10 – now	Program manager, Schlumberger-Doll Research, Cambridge MA
2006 – now	Assistant neuroscientist, Matinos center for biomedical imaging, MGH and Harvard Medical School
2003 – now	Principal research scientist, Schlumberger-Doll Research, Cambridge MA
1997 – 2003	Senior Research Scientist, Schlumberger-Doll Research, Ridgefield, CT
1996 – 1997	Post-doc Fellow, Lawrence-Berkeley Laboratory, University of California, Berkeley, CA
1994 - 1996	Miller Research Fellow, University of California, Berkeley, CA
1992 - 1994	Post-doctoral Fellow, Northwestern University, Evanston, Illinois

AWARD

1994 - 1996	Miller Research Fellowship, Miller Institute for Basic Research in Science, University of California, Berkeley, CA
1986 - 1988	University Fellowship, Northwestern University, Evanston, Illinois
1981 - 1983	Honor Award for Outstanding Undergraduate, Peking University, Beijing, China

Professional society membership, service, etc

American Physical Society
American Chemical Society
Experimental NMR conference (ENC), executive committee 2005-
International Conference on Magnetic Resonance Microscopy, executive committee 2004-
International Conference on Magnetic Resonance in porous media, executive committee, 2006-
SPWLA Topical conference 2006, China, Technology committee

Petroleum research fund, ACS, reviewer 2004,2006,2007, 2008
Harvard-Smithsonian Center for Astrophysics, reviewer, 2002
US DOE, Office of Basic Energy Sciences, reviewer, 2007

PUBLICATIONS

1. M. Lee, Y.-Q. Song, W.P. Halperin, L.M. Tonge and T.J. Marks, H.O. Marcy and C.R. Kannewurf, "Thallium Magnetic Resonance in Superconducting $Tl_2Ba_2Ca_2Cu_3O_{10+\delta}$", Phys. Rev. B 40, 817(1989).

2. Y.-Q. Song, M. Lee, W.P. Halperin, L.M. Tonge and T.J. Marks, "Magnetic Flux Lattice Anisotropy in $Tl_2Ba_2Ca_2Cu_3O_{10+\delta}$ by Tl Nuclear Magnetic Resonance", Phys. Rev. B 44, 914(1991).

3. Y.-Q. Song, Mark A. Kennard, M. Lee, K. R. Poeppelmeier and W.P. Halperin, "Local Symmetry of Copper Sites in $La_{2-x}Sr_xCuO_4$", Phys. Rev. B 44, 7159(1991).

4. Mark A. Kennard, Y.-Q. Song, K. R. Poeppelmeier and W.P. Halperin, "Two Electronically Distinct Copper Sites in $La_{2-x}Sr_xCuO_4$ for $0.10 < x < 0.20$", Chem. Mater. 3, 672(1991).

5. Y.-Q. Song, M. Lee, W. P. Halperin, L. M. Tonge and T. J. Marks, "Determination of Magnetic Penetration Depth from Saddle Point Field Analysis", Phys. Rev. B45, 4945(92).

6. Y.-Q. Song and W. P. Halperin, "Electronic Spin Susceptibility in Superconducting $YBa_2Cu_3O_7$ From Nuclear Spin-Spin Coupling", Physica C191, 131(1992).

7. M. Lee, N. Tea, Y.-Q. Song, W.P. Halperin, J. Thiel, M.A. Kennard, K. R. Poeppelmeier, M.M. Fang and U. Welp, "Magnetic Susceptibility Anisotropy of Grain-Aligned Oxygen-Deficient $YBa_2Cu_3O_x(6.46<x<6.98)$, Physica C201, 95(1992).

8. Y.-Q. Song, Mark A. Kennard, K. R. Poeppelmeier and W.P. Halperin, "Spin Susceptibility in The $La_{2-x}Sr_xCuO_4$ System From Underdoped to Overdoped Regimes", Phys. Rev. Lett 70, 3131(1993).

9. M. Lee, G. Moores, Y.-Q. Song, W.P. Halperin, W. W. Kim, and G.R. Stewart, "^{195}Pt Spin Dynamics and Knight Shift in Single Crystals of UPt_3", Phys. Rev. B 48, 7392(1993).

10. Y.-Q. Song, W.P. Halperin, L.M. Tonge, T. J. Marks, M. Ledvij, V.G. Kogan and L. N. Bulaevskii, "Low Temperature Fluctuations of Vortices in Layered Superconductors", Phys. Rev. Lett 70, 3127(1993).

11. W. P. Halperin, Jyh-Yuar Jehng and Y.-Q. Song, "Application of Spin-Spin relaxation to Measurement of Surface Area and Pore Size distributions in a Hydrading Cement Paste", Magn. Reson. Imag. 12, 169-173 (1994).

12. K. S. Mendelson, W. P. Halperin, Jyh-Yuar Jehng and Y.-Q. Song, "Surface Magnetic Relaxation in Cement Pastes", Magn. Reson. Imag. 12, 207-208 (1994).

13. Y.-Q. Song, W.P. Halperin, L.M. Tonge, T. J. Marks, M. Ledvij, V.G. Kogan and L. N. Bulaevskii, Phys. Rev. Lett 72, 177 (1994).

14. Y.-Q. Song, S. Tripp, W.P. Halperin, L.M. Tonge, T. J. Marks, "Low Temperature Vortex Dynamics in a High Temperature Superconductor", Phys. Rev. B 50, 16570(1994).

15. H. C. Gaede, Y.-Q. Song, R. E. Taylor, E. J. Munson, J. A. Reimer and A. Pines, "High-Field Cross Polarization NMR from Laser-Polarized Xenon to Surface Nuclei", Appl. Magn. Reson. V8 N3-4:373-384(1995).

16. Y.-Q. Song, "Vortex Fluctuation Effects on μSR Linewidth in High Temperature Superconductors", Physica C 241, 187(1995).

17. Y.-Q. Song, H. C. Gaede, R. E. Taylor, T. Pietraß, G. Barrall, G.C. Chingas, and A. Pines, "Optically Enhanced Xenon NMR Imaging of Materials", J. Magn. Reson. A115, 127 (1995).

18. Y.-Q. Song, "Two Dimensional ^{89}Y NMR Study of Vortex Dynamics in $YBa_2Cu_3O_7$", Phys. Rev. Lett. 75, 2008 (1995).

19. Y.-Q. Song, A. Reyes, X.P. Tang, W.P. Halperin, D. Hinks, "Spin Susceptibility in Heavily Doped $La_{2-x}Sr_xCuO_4$ ", J. Phys. Chem. Solid 56, 1939(1995).

20. G. Navon, Y.-Q. Song, T. Room, S. Appelt, R.E. Taylor and A. Pines, "Enhancement of Solution NMR and MRI by Laser-Polarized Xenon", Science 271, 1848 (1996).

21. A. Bifone, Y.-Q. Song, R. Seydoux, R.E. Taylor, B.M. Goodson, T. Pietraß, T.F. Budinger, G. Navon and A. Pines, "NMR Laser-Polarized Xenon in Human Blood", Proc. Natl. Acad. Sci. 93, 12932 (1996).

22. D. M. TonThat, M. Ziegeweid, Y.-Q. Song, S. Appelt, E. J. Munson, J. Clarke, and A Pines, "SQUID detected NMR of Laser-Polarized Xenon at 4.2 K and at frequencies down to 200 Hz", Chem. Phys. Lett. 272, 245-9 (1997).

23. Y.-Q. Song, R.E. Taylor and A. Pines, Imaging of Hyperpolarized Xenon Solid, Solid State Nucl. Magn. Reson. 10, 247-250 (1998).

24. Y.-Q. Song, B. M. Goodson, D.D. Laws, R.E. Taylor, G. Navon and A. Pines, "Selective Enhancement of ^1H NMR in Cyclodextrins", Angew. Chem. 109, 2464 (1997); Angew. Chem. Int. Ed. Engl 36, 2368 (1997).

25. B.M. Goodson, Y.-Q. Song, R.E. Taylor, V.D. Schepkin, K.M. Brennan, G.C. Chingas, T.F. Budinger, G. Navon and A. Pines, In vivo NMR and MRI using injection delivery of laser-polarized xenon, Proc. Natl. Acad. Sci. 94, 14725-14729(1997).

26. Y.-Q. Song, B. M. Goodson, B. Sheridan, T.M. de Swiet and A. Pines, "Effects of diffusion on magnetic resonance imaging of laser-polarized xenon gas", J. Chem. Phys. 108, 6233-6239 (1998).

27. M. Lumher, B. M. Goodson, Y.-Q. Song, D. D. Laws, L. Kaiser, M. C. Cyrier and A. Pines, "Study of Xenon Binding in Cryptophane-A Using Laser-Induced NMR Polarization Enhancement", J. Am. Chem. Soc. 121, 3502-3512(1999).

28. Y.-Q. Song, B.M Goodson, K. Maranowski and A.C. Gossard, "Reduction of Spin Polarization near Landau Filling Factor v = 3 in GaAs/AlGaAs Quantum Wells", Phys. Rev. Lett. 82, 2768-2771(1999).

29. Y.-Q. Song, B.M. Goodson and A. Pines, NMR and MRI Using Laser-Polarized Xenon, Spectroscopy 14, 26-33(1999).

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31. Y.-Q. Song, Determining Pore Sizes Using an Internal Magnetic Field, J. Magn. Reson. 143, 397-401(2000).

32. M.B. Gentzler, Y.-Q. Song, Susan J. Muller and J.A. Reimer and S. Muller, Quantitative NMR velocity imaging of a main-chain liquid crystalline polymer flowing through an abrupt contraction, Rheologica Acta 39, 1-12 (2000).

33. Y.-Q. Song, S. Ryu and P. N. Sen, Determining Multiple Length Scales in Rocks, Nature (London) 406, 178-181 (2000).

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37. L. Venkataramanan, Y.-Q. Song and M. D. Hürlimann, Solving Fredholm integrals of the first kind with tensor product structure in 2 and 2.5 dimensions, IEEE Tran. Signal Proc. 50, 1017-1026 (May, 2002).

38. Y.-Q. Song, L. Venkataramanan, M.D. Hürlimann, M. Flaum, P. Frulla and C. Straley, T1-T2 correlation spectra obtained using a fast two-dimensional Laplace inversion, J. Magn. Reson. 154, 261-268(2002).

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44. W. E. Kenyon and D. F. Allen, N. V. Lisitza, and Y.-Q. Song, Better pore-size distributions from stimulated-echo NMR lab measurements using magnetic susceptibility contrast and small encoding angles. SPWLA 43 annual meeting, Oiso, Japan, paper III, 2002.

45. T. M. Brill, S. Ryu, R. Gaylor, J. Jundt, D. D. Griffin, Y.-Q. Song, P. N. Sen, and M. D. Hürlimann, Non-Resonant Multiple Spin-Echoes, Science 297, 369-372(2002).

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47. Yi-Qiao Song, Novel NMR techniques for porous media research, Magn. Reson. Imaging 21, 207-211(2003).

48. Yi-Qiao Song and Pabitra N. Sen, Comments on Transverse NMR relaxation as a probe of mesoscopic structure, Phys. Rev. Lett. **91**, 029801 (2003).

49. B. Audoly, P. N. Sen, S. Ryu and Y. Song, Correlation functions for inhomogeneous magnetic field in random media with application to a dense random pack of spheres. J. Magn. Reson. **164**, 154-159 (2003).

50. Yi-Qiao Song, Using internal magnetic fields to obtain pore size distributions of porous media. Concepts of Magn. Reson. 18A, 97-110 (2003).

51. Yi-Qiao Song and Xiaoping Tang, A one-shot method for measurement of diffusion, J. Magn. Reson. 170(1):136-148 (2004).

52. Yi-Qiao Song and Ulrich M. Scheven, An NMR technique for rapid measurement of flow, J. Magn. Reson. 172(1), 31-35(2004).

53. Xiaoping Tang, Eric E. Sigmund and Yi-Qiao Song, Simultaneous measurement of diffusion along multiple directions, J. Am. Chem. Soc. 126, 16336-16337 (2004).

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55. Yi-Qiao Song, Lalitha Venkataramanan and Lauren Burcaw, Determining the resolution of Laplace inversion spectrum, J. Chem. Phys. 122, 104104 (2005).

56. Denise E. Freed, Lauren Burcaw and Yi-Qiao Song, Scaling laws for diffusion coefficients in mixtures of alkanes, Phys. Rev. Lett. 94, 067602 (2005).

57. Eric Sigmund and Yi-Qiao Song, Multiple Echo Diffusion Tensor Acquisition Technique, Magn. Reson. Imaging 24, 7-18(2006).

58. Yi-Qiao Song, Multiple Modulation Multiple Echoes: a one-shot method, Magn. Reson. Imaging 23, 301-303(2005).

59. Denise E. Freed, Natalia V. Lisitza, P. Sen, and Yi-Qiao Song, Molecular composition and dynamics of oils from diffusion measurements, contribution to a book "Asphaltenes, Heavy Oils and Petroleomics**",** edited by Mullins, Sheu, Hammami and Marshall, 2005.

60. Yi-Qiao Song, Eric E. Sigmund, and Natalia V. Lisitza, NMR pore size measurements using internal magnetic field in porous media, contribution to a book "Nuclear Magnetic Resonance imaging in chemical engineering, edited by Han and Stapf, Wiley-VCH, 2005.

61. Yi-Qiao Song, Novel Two Dimensional NMR of diffusion and Relaxation for Material Characterization, contribution to a book "Nuclear Magnetic Resonance imaging in chemical engineering", edited by Han and Stapf, Wiley-VCH, 2005.

62. J. Granwehr, E. Harel, S. Han, S. Garcia, A. Pines, P. N. Sen, Y.-Q. Song, Time-of-flight flow imaging using NMR remote detection, Phys. Rev. Lett. 95, 075503 (2005).

63. E. Sigmund, N. Caudal, Y.-Q. Song. Rapid T_1 measurement via decay-recovery decomposition: Applications in fringe field and distributed relaxation experiments. Solid State NMR 29, 232-241(2006).

64. M.D. Hurlimann, L. Burcaw, and Yi-Qiao Song. Quantitative Characterization of Food Products by two-dimensional D-T2 and T1-T2 Distribution Functions in a Static Gradient. J Colloid & Interface Science 297, 303-311(2006).

65. H. Cho, L. Chavez, E. E. Sigmund, D. P. Madio and Y.-Q. Song, Fast imaging with the MMME sequence, J. Magn. Reson. 180, 18-28 (2006).

66. Yi-Qiao Song, Novel NMR techniques for porous media research, Cement and Concrete Research, 37(2007) 325–328.

67. N. V. Lisitza, W. S. Warren, Y.-Q. Song, Study of diffusion in erythrocyte suspension using internal magnetic field inhomogeneity, J Magn. Reson. 187, 146-154(2007).

68. A. Pomerantz, E. Sigmund, Y.-Q. Song, Spatial heterogeneity length scales in carbonate rocks, Applied Magn. Reson. 32, 221-232(2007).

69. H. Cho, X.-H. Ren, E. E. Sigmund and Y.-Q. Song, A single-scan method for measuring flow along an arbitrary direction, J. Magn. Reson. 186, 11-16 (2007).

70. Yi-Qiao Song, Resolution and Uncertainty of Laplace inversion spectrum, Magn. Reson. Imaging 25, 445-448 (2007).

71. H. Cho, X.-H. Ren, E.E. Sigmund and Y.-Q. Song, A rapid measurement of 3D diffusion tensor, J. Chem. Phys. 126, 154501(2007).

72. J. Granwehr, E. Harel, S. Han, S. Garcia, Lana Chavez, A. Pines, P. N. Sen and Y.-Q. Song, Dispersion measurements using Time-of-flight remote detection MRI, J. Magn. Reson. Imaging 25, 449-452 (2007).

73. Ballard Andrews, Marc H. Schneider, Jesus Cañas, Evie Freitas, Yi-Qiao Song, Oliver C. Mullins, Fluorescence Methods for Downhole Fluid Analysis of Heavy Oil Emulsions, Journal of Dispersion Science and Technology 29:171–183, 2008.

74. E. E. Sigmund, H. Cho, P. Chen, S. Byrnes and Y.-Q. Song, X.E. Guo and T. Brown, Diffusion-based MR methods for bone structure and evolution, Magn. Reson. Med. 59, 28-39 (2008).

75. E. E. Sigmund, H. Cho, and Y.-Q. Song, Multiple-modulation-multiple-echo Magnetic Resonance, Concepts Magn. Reson. 30A, 358-377 (2007).

76. H. Cho and Y.-Q. Song, NMR measurement of magnetic field correlation function in porous media, Phys. Rev Lett. 100, 025501 (2008).

77. Y.-Q. Song, H Cho, T. Hopper, A. Pomerantz, and P. Z. Sun, Magnetic Resonance in Porous Media: Recent Progress, J. Chem. Phys. 128, 052212 (2008).

78. Y.-Q. Song, E. Sigmund, and H. Cho, Multiple-Echo Magnetic Resonance, in Magnetic Resonance Microscopy edited by S. Codd and J. Seymour. 2008

79. Y.-Q. Song, L. Zielinski, S. Ryu, Two-dimensional NMR of diffusion systems, Phys. Rev. Lett. 100, 248002 (2008).

80. A. E. Pomerantz, Peter Tilke, Y.-Q. Song, Inverting MRI measurements to heterogeneity spectra, J. Magn. Reson. 193, 243-250 (2008).

81. A. E. Pomerantz, Peter Tilke, Y.-Q. Song, Generating heterogeneity spectra from spatially resolved measurements, accepted, Math. Geology 2009.

82. H. Cho, S. Ryu, J. L. Ackerman, and Y.-Q. Song, Visualization of inhomogeneous local magnetic field gradient due to susceptibility contrast, J. Magn. Reson. 2009

83. E. E. Sigmund, H. Cho, and Y.-Q. Song, High-resolution MRI of internal field diffusion-weighting in trabecular bone, NMR in Biomed. 2008 (DOI:10.1002/nbm.1354).

84. M. Prange and Y.-Q. Song, Quantifying uncertainty in NMR T2 spectra using Monte Carlo inversion, J. Magn. Reson. 196, 54-60 (2009).

85. I. Saha, J. Franck, T. Hopper, B. Sun, Y.-Q. Song, Uncertainties in the assignments of rock porosities obtained from Laplace inversion of NMR relaxation logs, submitted to Petrophysics 2009

86. A. E. Pomerantz, Y.-Q. Song, Quantifying spatial heterogeneity from images, New J Phys. 10, 125012 (2008).

87. N. V. Lisitza, D. Freed, P. Sen, Y.-Q. Song, Self-assembly of Asphaltenes: Enthalpy, Entropy and Dynamics at Crossover, accepted, Energy & Fuel 2009.

88. Huang Zeng, Yi-Qiao Song, David L. Johnson, Oliver C. Mullins, Critical Nanoaggregate Concentration of Asphaltenes by DC-Electrical Conductivity, accepted, Energy & Fuel 2009.

89. M. D. Hürlimann, D. E. Freed, L. J. Zielinski, Y.-Q. Song, G. Leu, C. Straley, C. Cao Minh and A. Boyd, Hydrocarbon Composition from NMR Diffusion and Relaxation Data, accepted, PETROPHYSICS 2009.

Conference proceedings

1. M. D. Hurlimann, D. E. Freed, L. J. Zielinski, Y.-Q. Song, G. Leu, C. Straley, C. Cao Minh and A. Boyd, Hydrocarbon composition from NMR diffusion and relaxation data, presented at SPWLA 49th Annual Logging Symposium held in Edinburgh, Scotland, May 25-28, 2008.
2. Andrew E. Pomerantz, Peter Tilke, and Yi-Qiao Song, The Heterogeneity Spectrum: A Method for Quantifying the Extent of Spatial Heterogeneity as a Function of Length Scale in Complex Materials, AIP Proceedings of the International Bologna Conference on Magnetic Resonance in Porous Media, Cambridge, MA Jul 13-17, 2008.
3. HyungJoon Cho, Seungoh Ryu, Jerome L. Ackerman and Yi-Qiao Song, Characterization of Internal Magnetic Fields in Porous Media, AIP Proceedings of the International Bologna Conference on Magnetic Resonance in Porous Media, Cambridge, MA Jul 13-17, 2008.
4. Xiaohong Ren, HyungJoon Cho, Yi-Qiao Song, Measurements of diffusion, T1 and T2 in one shot by MMME, Proceedings of the International Bologna Conference on Magnetic Resonance in Porous Media, Cambridge, MA Jul 13-17, 2008
5. Michael Prange and Yi-Qiao Song, A fast Monte Carlo Sampler for NMR T2 Inversion, Proceedings of the International Bologna Conference on Magnetic Resonance in Porous Media, Cambridge, MA Jul 13-17, 2008

Recent Conference presentations

H. Cho, S. Ryu, J.L. Ackerman and Y. -Q. Song, Visualization of inhomogeneous local magnetic field gradient due to susceptibility contrast, ISMRM 2008

E. E. Sigmund, E. X. Guo, and Y-Q. Song, Decay from Diffusion in Internal Field (DDIF) and R2* contrast in Bovine Tibiae Samples at 3 T and 7 T, ISMRM 2008.

X.-H. Ren, H. Cho*, and Y.-Q. Song, Simultaneous measurements of diffusion, T_1 and T_2 relaxation times, ENC2008

Y.-Q. Song and L. Zielinski, 2D NMR of Diffusion Systems, ENC 2008.

Indrajit Saha, John Franck, B. Sun and Yi-Qiao Song, Uncertainties of Rock Porosities Obtained from Laplace Inversion of NMR Relaxation Decay, ENC 2008

E. E. Sigmund, E. X. Guo, and Y-Q. Song, In vivo Mapping of DDIF contrast in Human Trabecular Bone, ENC 2007

H Cho and Y-Q. Song, NMR measurement of field correlation in porous media, ENC 2007

Natasha Lisitza, Denise E. Freed, Pabitra N. Sen and Yi-Qiao Song, Self-assembly of Asphaltene: Enthalpy, Entropy of Depletion and Dynamics at Cross-over I, APS March meeting, Denver, 2006

HyungJoon Cho, Lana Chavez*, Eric E. Sigmund, David P. Madio and Yiqiao Song, Fast imaging with the MMME sequence, ENC 2006

D E. Freed, N Lisitza, P N. Sen and Y.-Q. Song, Self-assembly of Asphaltene: Enthalpy, Entropy of Depletion and Dynamics at Cross-over II, ENC 2006,

Invited speeches at conferences and institutions

5th International conference on magnetic resonance in porous media, Bologna, Italy, 2000

Experimental NMR conference, Orlando, USA, 2001

ACS Fall Symposium, Rochester, NY, USA, 2001

Gordon Research Conference, Roger William University, RI, June 17-22, 2001

University of Massachusetts, Amherst, MA, April 2001

Rocky mountain conference on analytical chemistry, Denver, USA, 2002

6th International conference on magnetic resonance in porous media, Ulm, Germany, 2002

Princeton Symposium on Biotechnology, Oct. 30, 2002

39th IUPAC Congress and 86th conference of The Canadian Society for Chemistry, August 2003

7th International Conference on magnetic resonance microscopy, Snowbird, Utah, Sept. 21-26, 2003

Princeton Material Institute, Princeton, NJ Nov. 12, 2003

7th International conference on magnetic resonance in porous media, Palaiseau, France, 2004

Rocky mountain conference on analytical chemistry, Denver, USA, 2004

46th Experimental NMR Conference, Providence, RI, April 2005

4th Conference on Field Cycling NMR Relaxometry, Turin, Italy, May 2005

Cementitious materials as model porous media: nanostructure and transport processes, Monte Verita, Switzerland, July 2005

University of California, Berkeley, Chemistry, August 9, 2005

The 8th International Conference on Magnetic Resonance Microscopy, Utsunomiya, Japan, August 2005

The 4th Alpine conference on Solid-State NMR, Chamonix, France September 11-16, 2005

ChevronTexaco, San Ramon, CA, April 24, 2006

The third international symposium on xenon NMR of materials, Ottawa, Canada, June 1-3, 2006

8th International conference on magnetic resonance in porous media, “Recent progress in magnetic resonance techniques for porous media research”, Bologna, Italy, Sept 9-14, 2006

LaFarge, l'Isle d’Abeau, France, “Novel NMR techniques for porous media research”, Sept 15, 2006

OCMRA Annual conference, “Recent progress in magnetic resonance techniques for porous media research”, Rockefeller University, NY, Nov 11, 2006

MRS Annual Fall conference, “Self-assembly of Asphaltenes: Enthalpy, Entropy and Dynamics”, Boston. MA, Nov 27-Dec 1, 2006

APS March meeting, Denver CO, “Recent progress in NMR/MRI for petroleum applications”, March 5-9, 2007

MIT, Earth Resources Laboratory, “Nuclear Magnetic Resonance in petroleum exploration”, Cambridge, March 16, 2007

The 9th International Conference on Magnetic Resonance Microscopy and the 7th Colloquium on Mobile NMR, Aachen Germany, “2D NMR of Diffusion Systems”, Sept 3-7, 2007

The Eastern Analytical Symposium, Somerset, NJ, “Recent progress of NMR/MRI for petroleum exploration”, Nov 12-15, 2007

Materials Research Society conference, Boston, MA, "Asphaltene aggregation: thermo and molecular dynamics and applications in petroleum exploration", Nov 26-30, 2007

Washington University, St Louis, Department of Physics, “Recent progress in magnetic resonance techniques for porous media research, Sept 22, 2008

Patents

1. Yi-Qiao Song, Seungoh Ryu, "Nuclear Magnetic resonance method and apparatus for determining pore characteristics of rocks and other porous materials". United States Patent 6,369,567 B1, issued April 9, 2002.
2. Martin D. Hürlimann, Yi-Qiao Song, Seungoh Ryu, and Pabitra Sen, "Magnetic Resonance Logging Method and Apparatus", United States Patent 6,133,735, issued Oct. 17, 2000.
3. L. Venkataramanan, Yi-Qiao Song, M. D. Hürlimann, "Nuclear Magnetic Resonance Measurements and Methods of analyzing nuclear magnetic resonance data" (2d inversion), United States Patent 6,462,542 B1, issued October 8, 2002.

4. A. Pines, T. Budinger, G. Navon, Y. Song, S. Appelt, A. Bifone, R. Taylor, B. Goodson, R. Seydoux, T. Room, T. Pietrass, "Enhancement of NMR and MRI in the presence of hyperpolarized noble gases", United States Patent US 6,426,058 B1, issued Jul. 30, 2002.
5. Yi-Qiao Song, M. D. Hürlimann and C. Flaum, "Method and apparatus for rapid characterization of diffusion" (k-CPMG), US 6,850,060 B2, Feb 1, 2005.
6. Li An, Yi-Qiao Song, and K. Ganesan, Apparatus and methods for J-edit nuclear magnetic resonance measurement, US 6,958,604 B2, Oct 25, 2005. (J-coupling)
7. F. Go, O.C Mullins, P. D. Wraight, L. Reid, F. Chen, G. Corris, Y.-Q. Song, Method and apparatus for in-situ side-wall core sample analysis, US Patent filed 2005.
8. Yi-Qiao Song, Eric Sigmund, HyungJoon Cho, Diffusion-based magnetic resonance methods for characterizing bone structure, US patent 2007/0238969 A1, pub. Date Oct 11, 2007.
9. Pines, Alexander; Budinger, Thomas F.; Navon, Gil; Song, Yiqiao; Appelt, Stephan; Bifone, Angelo; Taylor, Rebecca E.; Goodson, Boyd M.; Seydoux, Roberto; Room, Toomas; Pietrass, Tanja, Apparatus for Preparing a Solution of a Hyperpolarized Noble Gas for NMR and MRI Analysis, US patent 7,385,395, issued June 10, 2008
10. Yi-Qiao Song and Richard Gaylor, Nuclear magnetic resonance module, US patent application, Dec 2006.
11. Yi-Qiao Song, Method and apparatus to improve NMR spectral resolution in an inhomogeneous magnetic field, US patent application, Dec 2006.
12. Yi-Qiao Song and Pabitra Sen, Remote sensing nuclear magnetic resonance apparatus, US patent application, Dec 2006.
13. Pabitra Sen, Yi-Qiao Song, John P. Horkowitz, Downhole time-of-flight sensing of fluid flow by NMR in rock formation under natural flow, US patent application, Dec 2006.
14. M. Prange and Y.-Q. Song, Monte Carlo method for Laplace inversion of NMR data, US provisional application, 2008