

LIHONG JIANG

RESEARCH EXPERIENCE

2003-present:

Postdoctoral Research, Yale University, Department of Diagnostic Radiology, New Haven, CT

- Characterized the effects of ketonebodies on supporting brain energy demand, and modeling of the glutamate/glutamine neurotransmitter cycling under type I diabetes using heteronuclear (^1H , ^{13}C , ^{31}P) *in vivo* NMR spectroscopy.
- Working with Bruker Advance 500 NMR spectrometer with auto sampler, In vivo NMR spectrometer Bruker Advance 9.4T , 11.7T, and VNMR 9.4T.

1997-2003:

Graduate Research, Wesleyan University, Department of Molecular Biology and Biochemistry, Middletown, CT 06534

- Characterized the local stability of different nucleic acid structures using NMR on Varian INOVA 500 and Varian VXR 400 NMR spectrometers.
- Synthesized DNA oligonucleotides using Applied Biosystems 381A DNA synthesizer, and purified them by HPLC.
- Synthesized uniformly and site-specifically ^{15}N -labeled DNA, RNA and characterized their internal motions by heteronuclear NMR experiments.

1994-1997

Graduate assistant, Wuhan Institute of Physics and Mathematics, Wuhan Hubei, China

- Developed a pulse sequence for diffusion measurement, minimized the damage of the gradient on the machine using Bruker ARX 500 NMR spectrometer
- Experience with solid-state NMR, MRI and low field NMR.
- Contributed to the ^{13}C -NMR spectra data bank by manually input over 5000 organic molecules.

1988-1992

Undergraduate researcher, Lanzhou University, Chemistry department, Lanzhou Gansu, China

1. Performed multi-step organic synthesis.

WORK EXPERIENCE

1992-1994:

Assistant Engineer of Electroplating, Xinhua Medical Instrument Company, Zibo Shandong, China

2. Developed new oxidizing solutions for coloring the stainless steel.

EDUCATION

Ph. D. Molecular Biology and Biochemistry, Wesleyan University, Middletown, CT

Thesis title: An Investigation of Single-Site Energetics and Dynamics in Nucleic Acids by NMR Spectroscopy

Advisor: Professor Irina M. Russu

M.S. Physics, Wuhan Institute of Physics and Mathematics, Wuhan Hubei, China

Thesis Title: Investigation of the Aggregation of Surfactants using NMR Self-Diffusion

Advisors: Professors Youru Du and Yong Yue

B.S. Chemistry, Lanzhou University, Lanzhou Gansu, China

Synthesis of the (1S, 3E, 7E, 11E, 13S) cembra-3, 7, 11, 15-tetraene-13-ol

Advisor: Professor Yulin Li

HONORS

- 2003: Peterson Fellowship, Wesleyan University
- 1997: The President Fellowship, Chinese Academy of Sciences
- 1997: Wang Tianjuan Fellowship, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences.

AFFILIATIONS

- American Chemical Society
- Biophysical Society
- Neuroscience Society

PUBLICATIONS

1. Lihong Jiang and Irina M. Russu. Internal Dynamics in a DNA Triple Helix Probed by ^1H - ^{15}N -NMR Spectroscopy. *Biophysical Journal* 2002 82(6): 3181-5.
2. Lihong Jiang and Irina M. Russu. Proton Exchange and Local Stability in a DNA Triple Helix Containing a G.TA Triad. *Nucleic Acids Research*. 2001 29(20): 4231-7.
3. Congju Chen, Lihong Jiang, Ryszard Michalczyk and Irina M. Russu. Structural energetics and base-pair opening dynamics in sarcin-ricin domain RNA., *Biochemistry* 2006, 45 (45) 13606-13.
4. Steve Powell, Lihong Jiang and Irina M. Russu. Proton Exchange and Base Pair Opening in a DNA Triple Helix. *Biochemistry*. 2001 40(37): 11065-72.
5. Lihong Jiang, Sui Zhao, Jiayong Yu, Yong Yue and Youru Du. Study of Aggregation of Surfactants in Water Solution by ^1H NMR. *Chinese Journal of Magnetic Resonance*, 1998 15(2): 103-7.
6. Lihong Jiang, Liming Wang, Yong Yue and Youru Du. Aggregation of Sodium Dodecyl Sulfonate Studied by NMR Self-Diffusion. *Chinese Science Bulletin*, 1997 42(23): 1962-5.
7. Lihong Jiang, Liming Wang, Yong Yue and Youru Du. Self-Diffusion Coefficient Measurement Using PGS and its Application. *Chinese Journal of Magnetic Resonance*, 1997 14(4): 319-23.

POSTER PRESENTATIONS

1. Lihong Jiang, Raimund I. Herzog, Graeme F. Mason, Douglas L. Rothman, Robert S. Sherwin and Kevin L. Behar, Decreased brain metabolic rate following recurrent hypoglycemia and STZ- diabetes, 36th Annual Meeting of Neuroscience in Atlanta, GA, 2006.
2. Suppression Of Brain Metabolism Following Prolonged Exposure To Recurrent Hypoglycemia. RAIMUND HERZOG, LIHONG JIANG, GRAEME MASON, DOUGLAS ROTHMAN, KEVIN BEHAR, ROBERT SHERWIN, 67th annual meeting of American Diabetes Association, Chicago, IL, 2007.
3. F. XU, L. JIANG, B. GANGANNA, A. PETAL, J. SCHAFFER, K. BEHAR, D. ROTHMAN, F. HYDER, G. SHEPHERD; Correlation of fMRI, electrophysiology, and neurochemistry in the olfactory bulb, 36th Annual Meeting of Neuroscience in Atlanta, GA, 2006.
4. Lihong. Jiang, Anant Patel, Robin. A. de Graaf, Graeme. F. Mason, Douglas. L. Rothman, Kevin. L. Behar, In Vivo NMR Study of 3-Hydroxybutyrate Oxidation in the Anesthetized Rat Brain, 35th Annual Meeting of Neuroscience in Washington, DC, 2005.

5. Congju Chen, Lihong Jiang, Irina M. Russu, Site-Resolved Dynamics and Energetics of a Ribosomal RNA, 14th *Conversation in Biomolecular Structure and Dynamics*, 2005 Albany
6. Eliana Tsukroff, Lihong Jiang, Ishita Mukerji, Structure and Energetics of a DNA Triple Helix Investigated by UV Resonance Raman Spectroscopy, 13th *conversation in Biomolecular Structure and Dynamics*, 2003 Albany.
7. Lihong Jiang and Irina M. Russu, Structural Energetics in DNA Triple Helix Probed by Proton Exchange, 224th *American Chemical Society national meeting*, 2002 Boston.
8. Lihong Jiang and Irina M. Russu, Proton Exchange and Base-Pair Opening in Two DNA Triple Helices, 12th *conversation in Biomolecular Structure and Dynamics*, 2001 Albany.
9. Lihong Jiang and Irina M. Russu, Internal Dynamics in a Site-Specific ¹⁵N-labeled DNA Triple-Helix, 12th *conversation in Biomolcular Structure and Dynamics*, 2001 Albany.
10. Lihong Jiang and Irina M. Russu, Proton Exchange in a DNA Triple Helix Containing a G.TA Triad, 45th *biophysical Society annual meeting*, 2001 Boston.