BIOGRAPHICAL SKETCH

Julia Xiaojun Zhao **Assistant Professor, Chemistry**

Professional Preparation

Jilin University, China	Analytical Chemistry	B.S. 1984
Jilin University, China	Analytical Chemistry	Ph.D. 1999
University of Florida	Nanoscience & Nanotechnology	PD 2001-2004

Appointments

2004—present	Assistant Professor of Chemistry, University of North Dakota
1999—2001	Visiting Scholar, Hong Kong Baptist University, Hong Kong
1990—1994	Senior Editor, Chemical Journal of Chinese Universities
1984—1989	Editor, Chemical Journal of Chinese Universities

Publications (five publications most closely related to the proposed project)

1. Jin, Y., Kannan, S., Wu, M., Zhao, J. X., "Toxicity of Luminescent Silica Nanoparticles to Living Cells," *Chem. Res. Toxicol.*, 20, 1126-1133, **2007,** Highlighted in *ACS News Service Weekly PressPac,* Aug. 8, **2007**
2. Xu, K., Pierce, T., Li, A., Zhao, J. X., " Nanocatalysts in Direct Methanol Fuel Cell Applications", *Synth React Inorg Met-Org and Nano Met Chem*., **2007**, in press
3. Wang, L., Wang, K., Santra, S., Zhao, X., Hilliard, L.R., Smith, J.E., Wu, Y., Tan, W., "Watching Silica Nanoparticles Glow in the Biological World", *Anal., Chem*., 78(3), 659-661, **2006**
4. Zhao, X., Hilliard, L.R., Mechery, J. M., Wang, Y., Jin, S., and Tan, W., "A Rapid Bioassay for Single Bacterial Cell Quantization Using Bioconjugated Nanoparticles", *Proc. Natl. Acad. Sci. USA,* 101(42):15027-15032*,* 2004**;** Featured in *Nature***,** 43, 923, **2004**
5. Zhao, X.**,** Bawge, R., and Tan, W., "Synthesis of Organic Dye Doped Silica Nanoparticles in Reverse Microemulsion", *Adv. Mater*., 16(2):173-176, **2004**

Publications (five other significant publications)

1. Mechery, S., Zhao, **X.**, Wang, L., Hilliard, L., Munteanu, A., Tan, W., Bioconjugated Nanoparticles to monitor *E. Coli* in a flow channel, *Chem. Asian. J.*, 1, 384-390, **2006**
2. Liang, S., Pierce, D., Amiot, C., Zhao**,** X., Photoactive nanomaterials for sensing trace analytes in biological samples. *Synth React Inorg Met-Org and Nano Met Chem*., 35(6), 661-668, **2005**
3. Zhao, X.**,** Dytocio, R.T., and Tan, W., "Ultrasensitive DNA Detection Using Highly Fluorescent Bioconjugated Nanoparticles", *J. Am. Chem. Soc*., 125 (38): 11474-11475, **2003**
4. Zhao, X.**,** Dytocio, R.T., and Tan, W., "Collection of Trace Amounts of DNA/mRNA Molecules Using Genomagnetic Nanocapturers", *Anal. Chem.*, 75(14): 3476-3483, **2003**
5. Dytocio, R.T., Zhao, X., and Tan, W., "Development of Organic Dye-doped Silica Nanoparticles for Bioanalysis and Biosensors", *J. Nanosci. Nanotech*., 2, 1-5, **2002**

Patents

1. Jin, Q., Zhao, X., Zhang, H., Wang, Z., Xu, H., And Liang, F., "A Novel Surface Plasmon Resonance Device Based on Measuring Resonance Wavelength", China Patent, 1203382, Granted date: December 4, **2002**.

2. Tan, W., Jin, S., Zhao, X., Dytocio, R. T., Drake, T., Hilliard, L.R., "Methods for immobilization of oligonucleotide probes onto silica nanoparticles for detection of nucleic acids in target cells" US Patent, PCT Int. Appl., **2003**, AN 2003:856129
3. Zhao, X., Pierce, D. T., "Target-Induced Fluorescent Nanoparticles for Detection of Trace Elements", US Provisional Patent (1029P01), **2005**

Synergistic Activities

1. Sponsored two American Indian undergraduate students since Spring 2006, three tribal college American Indian students during the summer 2006/2007, and two high school students since 2005 on the nanotechnology research projects in the laboratory.
2. Designed a "Nanoscience and Nanotechnology" project for North Dakota Tribal High School Sunday Academy in the Turtle Mountain Chippewa Reservation, ND, 2007
3. Produced a DVD named "Nanoscience and Nanotechnology at the University of North Dakota" for North Dakota Tribal High Schools in 2006.
4. A major contributor in the NATURE (Nurturing American Tribal Undergraduate Research Education) program sponsored by the North Dakota EPSCoR Office since 2006.
5. 2007 Annual Phenomenal Woman Award, University of North Dakota
6. First Place Prize for contributions made to the project "Microwave Plasma Torch Atomic Emission Spectrometry." The national prize was awarded by the China Association of Instrumental Analysis, Beijing, 1998.

Collaborators & Other Affiliations within the Last 4 Years

Collaborators

Dr. Shouguang Jin, University of Florida, School of Medicine
Dr. David Pierce, University of North Dakota, Department of Chemistry
Dr. Min Wu, University of North Dakota, School of Medicine and Health
Dr. Wayne Seames, University of North Dakota, Chemical Engineering

Students/postdoctoral associates advised

Postdoctoral Associate (3):
Dr. Yanfu Huan, Dr. Shuping Xu, Dr. Xingwang Zheng

Ph.D. Students (4):
Carrie Amiot, Yuhui Jin and Song Liang, expected 2009; Aize Li, expected 2010, University of North Dakota.

Undergraduate students (7):
Current (5): Paul Selid, Shay Hartvickson, Samuel Lohstretel,
Jenna Parsien (Native American), Theodore Knotson.
Former (2): Kristina Harguth, Clifford Hall (Native American).

Tribal college students (Native American)(3):
Robert LaFromboise Jr. (Turtle Mountain Community College, ND)
Michael D. Roussin(Turtle Mountain Community College, ND)
Stephanie Trottier **(**United Tribes Technical College, ND)

High School Students (2):
Greg Brokman, Admitted by the Harvard University in 2007
Kerr Xu, Admitted by the Harvard University in 2007

Graduate and Postdoctoral Advisors

Ph.D. advisor: Professor Qinhan Jin, Jilin University, China
Postdoctoral advisor: Professor Weihong Tan, University of Florida