



**Awards:** 1994-1998 Graduate Fellowship from French government

**Professional Membership:** American Chemical Society  
Biophysical Society

**Teaching Experience:**

<b>Dates</b>	<b>Course title</b>	<b>Enrolment</b>
Fall 2002	Physical Chemistry Lab *	12
Fall 2003	Methods of Instrumental Analyses *	15
	Physical Chemistry Lab, CHM 4200 *	5
Fall 2004	General Chemistry I, CHM 203	75
Spring 2005	Intermediate Biochemistry, CHM 482/582	8
Spring 2006	Intermediate Biochemistry, CHM482/582	21
	General Chemistry Lab, CHM 218	36
Spring 2007	Intermediate Biochemistry, CHM 482/582	27
	Advance Biochemistry, CHM 482/582 #	9
	Introduction to Physical Chemistry, CHM 307	35

at University of South Florida; # team-teaching with Dr. Frost

**Research Activities:**

**Current Support:**

American Heart Association, Ohio Valley Affiliate, Beginning Grant In Aid;  
“Thermodynamic Profiles for Calmodulin Signaling.”  
Role: PI; \$130,000, July 2006-June 2008.

**Recently Submitted Grants under Review**

NSF, Career Award, “Photothermal Study of Conformational Transition in Ca<sup>2+</sup> binding proteins”.  
Role: PI, \$380,426

**Past Support:**

United State Department of Agriculture “Kinetic Analysis of Plant Ethylene Production Using Photoacoustic Spectroscopy”  
Role: Co-Investigator, \$70,000, September 2005-August 2006.

WVEPSCOR Research Proposal Preparation Mini-grant Program, \$ 4,500, summer 2006.

**List of Publications:**

26. Belogortseva, N., Rubio, M., Terrell, W. and Miksovská, J.  
“Structural dynamics of myoglobin reconstituted with synthetic hemins”  
J. Inorg. Biochem. 2007, 101, 977-986.
25. Lockney, D. and Miksovská, J.  
“Characterisation of CO photodissociation from Fe<sup>II</sup> lactoperoxidase using photoacoustic calorimetry”  
J. Phys. Chem. B, 2006, 110(47):24165-70
24. Miksovská, J., Yom, J., Dimond, B., and Larsen, R.W.  
“Spectroscopic and Photothermal Study of Myoglobin Conformational Changes in the Presence of Sodium Dodecyl Sulfate”  
Biomacromolecules, 2006, 7 (2), 476-482.
23. Larsen, R.W. and Miksovská, J.  
“Time Resolved Thermodynamics of Ligand Binding to Heme Proteins”  
Coordination Chemistry Review, 2006, published online
22. Miksovská, J., Gennis, R.B., and Larsen, R.W.  
“Thermodynamics of Carbon Monoxide Photodissociation from the Fully Reduced Cytochrome aa<sub>3</sub> oxidase from *Rb. sphaeroides*.”  
Biochim. Biophys. Acta, 2006, 1757(3):182-8.
21. Ridley C, Stern AC, Green T., DeVane R., Brian Space B., Miksovská J. and Larsen R.W.  
“A Combined Photothermal and Molecular Dynamics Method for Determining Molecular Volume Changes.”  
Chem.Phys. Lett., 2006, 418, 137-141.
20. Kuo, N. N.-W., Huang J. J.-T., Miksovská, J., Chen, R. P.-Y. Larsen R.W., Sunney I. Chan S.I.  
“Effects of Turn Stability on the Kinetics of Refolding of a Hairpin in β-sheet ”  
J. Am. Chem. Soc., 2005, 127(48):16945-54.
19. Miksovská, J., Suquet C, Satterlee, J. D., Larsen, R.W.,  
“Characterization of Conformational Changes Coupled to Ligand Photodissociation from the Heme Binding Domain of FixL.”  
Biochemistry 2005, 44(30):10028-36.
18. Miksovská, J., Gennis, R.B., and Larsen, R.W.  
Photothermal Studies of CO Photodissociation from Mixed Valence *Escherichia coli* Cytochrome *bo*<sub>3</sub>  
FEBS Lett.2005, 579 (14),3014-3018.

17. Miksovska J, Norstrom J, and Larsen RW  
Thermodynamic profiles for CO photodissociation from heme model compounds: Effect of proximal ligand.  
Inorganic Chemistry 2005, 44,1006-1014
16. Miksovska J and Larsen RW  
Ligand binding subsequent to NO photolysis of partially unfolded cytochrome c  
Journal of the Chinese Chemical Society, 2004, 51, 1127-1132.
15. Miksovska J and Larsen RW  
Time resolved photoacoustic study of Ruthenium(II) bis (2,2'-bipyridine)(4,4'-dicarboxy-2,2'bipyridine) complex,  
Inorganic Chemistry, 2004, 13, 4051-4055.
14. Miksovska J, Larsen RW.  
Photothermal Studies of pH Induced Unfolding of Apomyoglobin,  
Journal of Protein Science, 2003, 22 (4): 387-394.
13. Miksovska J and Larsen RW  
Photothermal Studies of the Photodegradation of ( $\mu$ -Peroxo) ( $\mu$ -Hydroxo) bis[bis(bipyridyl) Co(III)] and ( $\mu$ -Peroxo) ( $\mu$ -Hydroxo) bis[bis(phenantroline) Co(III)] Complexes in Water,  
Inorganica Chimica Acta, 2003, 355, 116-120.
12. Miksovska J, Day JH, Larsen RW.  
Volume and Enthalpy Changes Coupled to CO Rebinding to Horse Heart Myoglobin,  
Journal of Biological Inorganic Chemistry, 2003, 8 (6): 621-625.
11. Miksovska J, Larsen RW.  
Structure-Function Relationships in Metalloproteins,  
in Methods in Enzymology: Biophotonics, Marriott, G. and Parker, I., Ed. 2003, 360, part A, 302-329.
10. Alexov E, Miksovska J, Baciou L, Schiffer M, Hanson DK, Sebban P, Gunner MR.  
"Modeling the effects of mutations on the free energy of the first electron transfer from  $Q_A^-$  to  $Q_B$  in photosynthetic reaction centers."  
Biochemistry. 2000;39(20):5940-52.
9. Kuglstatter A, Miksovska J, Sebban P, Fritzsche G.  
"Structure of the photosynthetic reaction centre from *Rhodobacter sphaeroides* reconstituted with anthraquinone as primary quinone  $Q_A$ ".  
FEBS Lett. 2000;472(1):114-6.
8. Tandori J, Miksovska J, Valerio-Lepiniec M, Schiffer M, Maroti P, Hanson DK, Sebban P.  
"Proton uptake of *Rhodobacter capsulatus* reaction center mutants modified in the primary quinone environment."  
Photochem Photobiol. 2002 75(2): 126-33.

7. Miksovska J, Schiffer M, Hanson DK, Sebban P.

“Proton uptake by bacterial reaction centers: the protein complex responds in a similar manner to the reduction of either quinone acceptor.”

Proc Natl Acad Sci U S A. 1999;96(25):14348-53.

6. Miksovska J, Valerio-Lepiniec M, Schiffer M, Hanson DK, Sebban P.

“Mutations in the environment of the primary quinone facilitate proton delivery to the secondary quinone in bacterial photosynthetic reaction centers.”

Biochemistry. 1999;38(1):390-8.

5. Miksovska J, Valerio-Lepiniec M, Schiffer M, Hanson DK, Sebban P.

“In bacterial reaction centers, a key residue suppresses mutational blockage of two different proton transfer steps.”

Biochemistry. 1998;37(8):2077-83.

4. Miksovska J, Kalman L, Schiffer M, Maroti P, Sebban P, Hanson DK.

“In bacterial reaction centers rapid delivery of the second proton to QB can be achieved in the absence of L212Glu.”

Biochemistry. 1997;36(40):12216-26.

3. Miksovska J, Maroti P, Tandori J, Schiffer M, Hanson DK, Sebban P.

“Distant electrostatic interactions modulate the free energy level of QA- in the photosynthetic reaction center.”

Biochemistry. 1996;35(48):15411-7.

2. Miksovska, J., Sopko, B., Sofrova D.

“Cyanobacterial photosystem II stability. Effect of N-trimethylglycin.

in Photosynthesis: From light to biosphere, Proceedings of the International Photosynthesis Congress, 10<sup>th</sup>, Montpellier, France 1995, (1995) 3, 389-392, Mathis P. Ed., Kluwer, Dordrecht.

1. Miksovska, J., Maroti, P., Schiffer, M., Hanson, D.K., and Sebban P.

“Electrostatic interaction between L212Glu and QA- in bacterial reaction centers”

in Photosynthesis: From light to biosphere, Proceedings of the International Photosynthesis Congress, 10<sup>th</sup>, Montpellier, France 1995, (1995) 1, 467-470, Mathis P. Ed., Kluwer, Dordrecht.

### **Book Chapters:**

*J. Miksovska and R.W. Larsen*

“Structure-Function Relationships in Metalloproteins” in Methods in Enzymology: Biophotonics, Marriott, G. and Parker, I., Eds. 2003, 360, part A, 302-329.

*J. Miksovska and R.W. Larsen*

“Time-resolved Thermodynamics of pH Induced Protein Folding” in Protein Structures: Methods in Protein Structure and Stability Analysis, V.N. Uversky and E.A. PErmyakov, Eds., Nova Science Publishers, 2007, in press.

**Manuscripts in Preparation:**

*Rubio, M., and Miksovska, J.*

“Photoreaction of caged urea studied by photothermal beam deflection method”. manuscript in preparation.

*McCumber, M., Grinstead K., and Miksovska J.*

“Monitoring of proton release in the water pool of aqueous reverse micelles using fluorescence and photoacoustic calorimetry”

**Meeting Abstracts:**

*Miksovska J, Schiffer M, Hanson DK, and Sebban P*

In bacterial reaction centers from *Rb. capsulatus* a rapid delivery of the second proton to Q<sub>B</sub> can be achieved in the absence of Glu L212, Gordon Research Conference, Ventura, CA 1997

*Miksovska J and Larsen RW*

Characterization of conformational changes of N to I transition in apomyoglobin, Forty sixth annual meeting of the Biophysical society, San Francisco, CA, February 2002

*Miksovska J and Larsen RW*

Time resolved photoacoustic study of ruthenium(II)bis(2,2'-bipyridyl)(4,4'-dicarboxy -2,2'-bipyridine) complex, , American Chemical Society National Meeting, Orlando, FL, April 2002.

*Miksovska J, Croney J C, Jameson D M, and Larsen RW*

Mapping of cytochrome *c* protein folding, 5<sup>th</sup> International Weber Symposium on Innovative Fluorescence Methodologies in Biochemistry and Medicine, Kauai, Hawaii, June 2002

*Miksovska J and Larsen RW*

Photothermal Studies of the Photodegradation of  $\mu$ -Peroxo ( $\mu$ -Hydroxo) bis[bis(bipyridyl) Co(III)] and ( $\mu$ -Peroxo)( $\mu$ -Hydroxo) bis[bis(phenanthroline) Co(III)] Complexes in Water, , 47<sup>th</sup> annual meeting of the Biophysical Society, San Antonio, TX, March 2003.

*Miksovska J, J. Sateerrlee, and Larsen RW*

Mechanism of CO dissociation from FixL and EcDos proteins, J. Miksovska and R.W. Larsen, 47<sup>th</sup> annual meeting of the Biophysical Society, San Antonio, TX, March 2003.

*Miksovska J, Croney J C, Jameson D M, and Larsen RW*

Mapping of cytochrome c protein folding, Methods and Applications of Fluorescence: Spectroscopy, Imaging and Probes, 8<sup>th</sup> international meeting, Prague, Czech Republic, August 2003

*Mikšovská J, Satterlee DJ, and Larsen RW.*

Characterization of ligand rebinding to heme domains of FixL and Ec Dos proteins, 48<sup>th</sup> annual meeting of the Biophysical society, Baltimore, MD, February 2004.

*Miksovska J, R.B. Gennis, R.W. Larsen,*

Conformational Changes Coupled to CO photo-dissociation from Fully Reduced Cytochrome aa<sub>3</sub> Oxidase from *Rb. sphaeroides* FAME 2004, Orlando, FL, May 2004.

*Miksovska J., Gennis, R.B., Larsen, R.W.*

Conformational Changes Coupled to CO Photodissociation from Fully Reduced Cytochrome aa<sub>3</sub> Oxidase from *Rb. sphaeroides*. Eighteenth Symposium of the Protein Society, San Diego, California, August 2004

*Brian D., and Miksovska, J.*

Conformational Changes Coupled to Oxygen Photodissociation from Myoglobin: Photoacoustic Study  
The 56<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC, October 2004

*Terrell, W. and Miksovska, J.*

Photoacoustic study of carbon monoxide dissociation from myoglobin reconstituted with nonnative heme.  
49<sup>th</sup> Annual Meeting of Biophysical Society, Long Beach, California, 2005.

*Miksovska, J., Yom, J., Dimond, B., and Larsen, R.W.*

Spectroscopic and Photothermal Study of Myoglobin Conformational Changes in the Presence of Sodium Dodecyl Sulfate,  
19 Symposium of the Protein Society, Boston, MA, July 30-August 3, 2005

*Miksovska, J., Yom, J., Dimond, B., and Larsen, R.W.*

Spectroscopic and Photothermal Study of Myoglobin Conformational Changes in the Presence of Sodium Dodecyl Sulfate,  
230<sup>th</sup> ACS National Meeting, in Washington, DC, Aug 28-Sept 1, 2005

*Lockney, D. and Miksovska, J.*

Kinetic and Thermodynamic Study of CO-binding to Lactoperoxidase Using Photoacoustic Calorimetry and Transient Absorption.  
230<sup>th</sup> ACS National Meeting, in Washington, DC, Aug 28-Sept 1, 2005

*Larsen, R.W., Miksovska, J., Suquet C, Satterlee, J. D.,*

“Biophysical Studies of Bacterial Oxygen Sensors”  
Pacifichem 2005, in Honolulu, HI Dec. 15-20, 2005

*Jaroslava Miksovska, Kristen Grinstead, Michael McCumbers*

“Monitoring of proton release in the water pool of aqueous reverse micelles using fluorescence and photoacoustic calorimetry”

50<sup>th</sup> Annual Meeting of Biophysical Society, Salt Lake City, Utah, Feb. 2006.

*Jaroslava Miksovska, Kristen Grinstead, and Michael McCumbers*

“Monitoring of proton release in the water pool of aqueous reverse micelles using fluorescence and photoacoustic calorimetry”

231<sup>th</sup> ACS National Meeting, in Atlanta, GA, March, 2006

*Lockney D. and Miksovska J.*

“Characterization of Carbon Monoxide Photodissociation from Fe<sup>II</sup>LPO Using Photoacoustic Calorimetry”

232<sup>th</sup> ACS National Meeting in San Francisco, CA, September 2006.

**Invited Seminars:**

*Role of GluL212 in the proton transfer in the bacterial reaction center.* Department of Biophysics, JATE university in Szeged, Hungary, December 1997

*Characterization of the reaction centers of Rb. capsulatus. Proton transfer coupled to the reduction of the quinone complex.* Institut de Biologie Physico-Chimique, Centre National de la Recherche Scientifique, Paris, France, June 1998

*Mutations in the QA binding site facilitate proton delivery to the secondary quinone in bacterial photosynthetic reaction centers,* Department of Biological Science, University of South Bohemia, Ceske Budejovice, Czech Republic, December 1998.

*What does photothermal methods tell us about reactions in biological systems?* Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, April 2003.

*Application of photothermal methods to study biological reactions.* Department of Chemistry, Jackson State University, Jackson, Mississippi, September 2003.

*Volume and enthalpy changes coupled to ligand photodissociation in heme proteins.* Department of Chemistry, Marshall University, Huntington, West Virginia, October 2003.

Nanosecond to millisecond calorimetry of biological molecules using photothermal methods. Department of Chemistry, Clarkson University, Potsdam, New York, December 2006.

**Workshops:**

Summer School on Assembly and Organization of the Photosynthetic Apparatus (Photosystems, Antennae and Reaction Centers), Rehovot, Israel, 1996

ESF Workshop on Coupling of Electrons and Protons in Photosynthesis; Seregelyes, Hungary, 1998.