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## **Curriculum Vitae**

### **Education**

- Ph.D. Biochemistry & Molecular Biology and Cancer Research Training Program  
Eppley Institute for Research in Cancer & Allied Diseases  
University of Nebraska Medical Center  
September 1997 *GPA 4.0*  
Thesis Advisor: Dr. L. James Maher, III, Ph.D.  
Thesis Title: Electrostatic Effects in DNA Bending by Proteins
- B.S.Chm. Chemistry  
Creighton University  
May 1993 *summa cum laude*

### **Professional Training**

- Postdoctoral Fellow  
Molecular Biophysics and Biochemistry  
Yale University  
1997-2000  
Postdoctoral advisor: Dr. Scott Strobel, Ph.D.  
Postdoctoral research project title: Structural characterization of the *Azoarcus*  
Group I Intron
- Undergraduate Fellow  
Pharmacology  
University of Nebraska Medical Center  
1992  
Research advisor: Dr. Manuchair Ebadi, Ph.D.
- Undergraduate Research  
Chemistry  
Creighton University  
1991  
Research advisor: Dr. Gary Michels, Ph.D.

### **Professional Employment**

- Associate Professor of Chemistry  
Creighton University  
2006-present
- Associate Professor of Biomedical Sciences  
Creighton University Medical School  
2006-present
- Associate Professor of Medical Microbiology and Immunology

Creighton University Medical School  
2008-present

Clare Boothe Luce Associate Professor of Chemistry  
Creighton University  
2006-2007

Adjunct Associate Professor of Genetics, Cell Biology, and Anatomy  
University of Nebraska Medical Center  
2006-present

Clare Boothe Luce Assistant Professor of Chemistry  
Creighton University  
2000-2006

Assistant Professor of Biomedical Sciences  
Creighton University  
2005-2006

Adjunct Assistant Professor of Genetics, Cell Biology, and Anatomy  
University of Nebraska Medical Center  
2005-present

### **External Scholarly Service**

Textbook review, Holden Biochemistry, Pearson Education

Grant Reviewer, National Institutes of Health Challenge Grants

Manuscript Reviewer, Biochemistry Journal

Grant Reviewer, Israeli Science Foundation grant program

Textbook Reviewer, "Fundamentals of Biochemistry" 3<sup>rd</sup> edition, D. Voet, J.G. Voet, and C.W. Pratt John Wiley & Sons, Inc.

Manuscript Reviewer, Nature Protocols

Grant Reviewer, National Institutes of Health SBCA Study Section (2007 and 2008)

Manuscript Reviewer, Nature Structural and Molecular Biology Journal

Manuscript Reviewer, Federation of European Biochemical Societies Journal

Manuscript Reviewer, Biochimica et Biophysica Acta

Grant Reviewer, American Chemical Society Petroleum Research Council grant program

Conference paper and abstract reviewer, Midwest Biomedical Research Forum

External Ph.D. dissertation reviewer, Yale University Graduate School

### **Professional Membership**

Biophysical Society, 2009-present

American Chemical Society, 1999-present

Sigma Xi - Omaha chapter (past President, past Vice President, past Treasurer), 2000-present

Nebraska Academy of Sciences, 2005-present

### **Awards and Honors**

Nominee, chosen as a representative from Creighton to be nominated for Carnegie Foundation U.S. Professors of the Year award, 2009

College Award for Professional Excellence in Scholarship, Creighton College of Arts & Sciences, 2009

Nominee, University Research Award, Creighton University, 2009

National Library Week poster, 2008

Nominee, chosen as a representative from Creighton to be nominated for Carnegie Foundation U.S. Professors of the Year award, 2007

Freshman Advising Award, Creighton College of Arts & Sciences, 2007

Winner of full-year competitive sabbatical award, Creighton College of Arts & Sciences, 2007

Keynote speaker, "The impact of scholarship on an undergraduate education", National Society of Collegiate Scholars, 2006

Golf Cart Marshall, Creighton homecoming parade, 2005

Nominee, Creighton University Robert F. Kennedy Memorial Award for Teaching Achievement, 2005

Nominee, Creighton College of Arts & Sciences Dean's Awards for Professional Excellence in the category of Freshman/Sophomore Advising, 2005

Inductee, Who's Who Among America's Teachers, 2005

Nominee, Creighton University Order of Omega Faculty Recognition Award, 2003

Nominee, Creighton University Omicron Delta Kappa Teaching for Tomorrow Award, 2003

Delivered invocation for Mary Lucretia Creighton luncheon, 2003

Clare Boothe Luce Professorship, Creighton University, 2000-2007

National Institutes of Health Postdoctoral Fellowship, Yale University, 1997-2000

Seessel-Anonymous Postdoctoral Fellowship, Yale University, 1997-1998

Mayo Foundation Fellowship, Mayo Foundation, 1995-1997

Regents Tuition Fellowship, University of Nebraska Medical Center, 1994-1997

Omaha USA Cosmopolitan Club Scholarship, University of Nebraska Medical Center, 1996

Skala Fellowship, University of Nebraska Medical Center, 1995

McDonald Fellowship, University of Nebraska Medical Center, 1994-1995

Fred Upson Grant, University of Nebraska Medical Center, 1994-1995

Biochemistry Fellowship, University of Nebraska Medical Center, 1993-1994

Chemistry Award for Distinguished Academic Achievement, Creighton University, 1993

Clare Boothe Luce Scholarship for Women in Science, Creighton University, 1991-1993

Eli Lilly Summer Research Program Assistantship, University of Nebraska Medical Center, 1992

### **Funding Received:**

**Juliane K. Soukup** [Principal investigator]. National Institutes of Health, renewal of "Development of Artificial Agonists for a Bacterial Riboswitch", \$438,293, 2010-2013.

**Juliane K. Soukup** [Principal investigator]. National Institutes of Health, ARRA competitive supplement to "Development of Artificial Agonists for a Bacterial Riboswitch", \$129,949, 2009-2010.

**Juliane K. Soukup** [Co-Investigator]. National Institutes of Health ARRA shared instrumentation grant, purchase of shared PhosphorImager Typhoon 9140, \$143,104, 2010.

**Juliane K. Soukup** [Co-Investigator]. National Institutes of Health INBRE Program, "Nebraska Research Network in Functional Genomics", \$446,000, 2009-2014.

**Juliane K. Soukup** [Principal investigator]. National Institutes of Health, "Development of Artificial Agonists for a Bacterial Riboswitch", \$215,250, 2007-2010.

**Juliane K. Soukup** [Principal investigator]. National Science Foundation Experimental Program to Stimulate Competitive Research, Small Grant Program for Nebraska Women in Science, "Structural Characterization of the S-adenosylmethionine riboswitches", \$3000, 2006.

**Juliane K. Soukup** [Co-Investigator]. National Institutes of Health INBRE Program, "Nebraska Research Network in Functional Genomics", \$429,000, 2004-2009.

**Juliane K. Soukup** [Principal investigator]. National Science Foundation Experimental Program to Stimulate Competitive Research, Small Grant Program for Nebraska Women in Science, "Structural Characterization of an Allosteric RNA Catalyst", \$1500, 2003.

**Juliane K. Soukup** [Co-Investigator]. National Institutes of Health BRIN (Biomedical Research Infrastructure Network) Program, "Nebraska Research Network in Functional Genomics", \$56,500, 2002-2004.

**Juliane K. Soukup**, Graduate School Summer Faculty Research Fellowship, Creighton University. "Structural Characterization of Catalytic Nucleic Acid Molecules", \$4500, 2002.

**Juliane K. Soukup**, Clare Boothe Luce Foundation, \$100,000, 2000-2007.

### **Applied for:**

National Science Foundation Experimental Program to Stimulate Competitive Research, Research Infrastructure Improvement grant, role as Key Investigator, \$71,750, 2008-2013.

Beckman Foundation Scholars Program, role as key faculty, \$96,500 over three years, 2009.

Howard Hughes Medical Institute Undergraduate Science Education Program, role as key faculty, \$1,453,000 over four years, 2007.

Henry Dreyfus Teacher-Scholar Award, "Identification of Novel Antibiotics Based on Structure-Function Studies of a Catalytic Riboswitch", role as Principal Investigator, \$60,000 over five years, 2006.

Department of Defense EPSCoR, "Characterization of essential tertiary contacts in the *glmS* ribozyme-coenzyme complex", role as Principal Investigator, \$442,650 over three years, 2005 (pre-proposal was chosen to be developed into a full proposal).

Beckman Foundation Scholars Program, role as key faculty, \$96,500 over three years, 2005.

National Science Foundation grant, "Structure and evolution of kinase ribozymes", role as co-Principal Investigator, \$147,488 over three years, 2004.

Howard Hughes Medical Institute Enhancing Opportunities for Integrated Science Study grant, role as key faculty, \$1,595,878 over four years, 2003.

LI-COR equipment grant, role as key faculty, purchase of shared DNA sequencer, 2003.

W. M. Keck Foundation equipment grant, role as key faculty, \$300,000 instrumentation grant, 2003.

National Science Foundation Experimental Program to Stimulate Competitive Research, Type II Grant, "Investigation of Catalytic Nucleic Acid Structure", role as Principal Investigator, \$40,000 over two years, 2002.

Beckman Foundation Scholars Program, role as key faculty, \$96,500 over three years, 2002.

Beckman Foundation Scholars Program, role as key faculty, \$96,500 over three years, 2001.

American Chemical Society Petroleum Research Council Type G Research Grant, "Structural Characterization of Self-Phosphorylating Catalytic Nucleic Acid Molecules", role as Principal Investigator, \$35,000 over two years, 2001.

### Scientific Publications

J.K. Strauss and J.K. Strauss-Soukup are J.K. Soukup

(\*indicates undergraduate author)

\*Klawuhn, K., \*Jansen, J.A., \*Soucek, J., Soukup, G.A. and **Soukup, J.K.** Analysis of Metal Ion-Dependence in *glmS* Ribozyme Self-Cleavage and Coenzyme Binding. (*Submitted*)

\*Jansen J.A., \*McCarthy T.J., Soukup G.A., and **Soukup J.K.** "Backbone and nucleobase contacts to glucosamine-6-phosphate in the *glmS* ribozyme." *Nature Structural & Molecular Biology* **13**: 517-523 (2006).

\*McCarthy, T.J., \*Plog, M.A., \*Floy, S.A., \*Jansen, J.A., **Soukup, J.K.** & Soukup, G.A. "Ligand requirements for *glmS* ribozyme self-cleavage." *Chemistry & Biology* **12**: 1221-1226 (2005).

**Soukup, J.K.** and G.A. Soukup. "Riboswitches exert genetic control through metabolite-induced conformational change." *Current Opinion in Structural Biology* **14**: 344-349 (2004).

**Soukup, J.K.**, Minakawa, N., Matsuda, A., Strobel, S.A. "Identification of A-Minor Tertiary Interactions within a Bacterial Group I Intron Active Site by 3-Deazaadenosine Interference Mapping." *Biochemistry* **41**: 10426-10438 (2002).

Schmeing T.M., Seila A.C., Hansen J.L., Freeborn B., **Soukup J.K.**, Scaringe S.A., Strobel S.A., Moore P.B., Steitz T.A. "A pre-translocational intermediate in protein synthesis observed in crystals of enzymatically active 50S subunits." *Nature Structural Biology* **9**: 225-230 (2002).

**Strauss-Soukup, J.K.** and Strobel, S.A. Chemical Phylogeny of Group I Introns Based upon Interference Mapping of a Bacterial Ribozyme. *Journal of Molecular Biology* **302**: 339-358 (2000).

Basu, S., Rambo, R.P., **Strauss-Soukup, J.**, Cate, J.H., Ferré-D'Amare, A.R., Strobel, S.A., and Doudna, J.A. A Specific Monovalent Metal Ion Integral to the A-A Platform of the RNA Tetraloop Receptor. *Nature Structural Biology* **5**: 986-992 (1998).

- Strauss-Soukup, J.K.**, Rodrigues, P. and Maher, L.J. Effect of Base Composition on DNA Bending by Phosphate Neutralization. *Biophysical Chemistry* **72**: 297-306 (1998).
- Tomky, L., **Strauss-Soukup, J.K.** and Maher, L.J. Effects of Phosphate Neutralization on the Shape of the AP-1 Transcription Factor Binding Site in Duplex DNA. *Nucleic Acids Research* **26**: 2298-2305 (1998).
- Strauss-Soukup, J.K.**, and Maher, L.J. Electrostatic Effects in DNA Bending by GCN4 Mutants. *Biochemistry* **37**: 1060-1066 (1998).
- Strauss-Soukup, J.K.**, and Maher, L.J. Role of Asymmetric Phosphate Neutralization in DNA Bending by PU.1 *Journal of Biological Chemistry* **272**: 31570-31575 (1997).
- Strauss-Soukup, J.K.** and Maher, L.J. DNA Bending by GCN4 Mutants Bearing Cationic Residues. *Biochemistry* **36**: 10026-10032 (1997).
- Strauss-Soukup, J.K.**, Vaghefi, M.M., Hogrefe, R.I., and Maher, L.J. Effects of Neutralization Pattern and Stereochemistry on DNA Bending by Methylphosphonate Substitutions. *Biochemistry* **36**: 8692-8698 (1997).
- Strauss, J.K.**, Roberts, C., Nelson, M.G., Switzer, C., and Maher, L.J. DNA Bending by Hexamethylene Tethered Ammonium Ions. *Proceedings of the National Academy of Sciences U.S.A.* **93**: 9515-9520 (1996).
- Strauss, J.K.**, Prakash, T.P., Roberts, C., Switzer, C., and Maher, L.J. DNA Bending by a Phantom Protein. *Chemistry & Biology* **3**: 671-678 (1996).
- Strauss, J.K.** and Maher, L.J. DNA Bending by Asymmetric Phosphate Neutralization. *Science* **266**: 1829-1834 (1994).

### Book Chapters

- Soukup, GA and **Soukup, JK**. Structure and mechanism of the *glmS* ribozyme. In: Non-Protein Coding RNAs. Walter, N., S. Woodson, and Batey, R. (eds.), Springer, Berlin, Germany, 2009.
- Soukup, JK** and Soukup, GA. Identification of Metabolite-Riboswitch Interactions Using Nucleotide Analog Interference Mapping and Suppression. In: Methods in Molecular Biology: Riboswitches Methods and Protocols. Serganov A. (ed.), Humana Press Inc., New York, NY, 2009.
- Strauss-Soukup, J.K.** and Strobel, S.A. Ribozyme Enzymology. In: RNA. Söll, D., Nishimura, S., and Moore, P.B. (eds.), Elsevier Science Ltd., Oxford, England, 2001.
- Strauss-Soukup, J.K.** and Strobel, S.A. Ribozyme Enzymology. In: Comprehensive Natural Products Chemistry, vol. 6 Prebiotic Chemistry, Molecular Fossils, Nucleosides, and RNA. Söll, D., Nishimura, S., and Moore, P.B. (Vol. eds.), Elsevier Science Press, Oxford, England, 1999.
- Strauss, J.K.** and Maher, L.J. Asymmetric Phosphate Neutralization and DNA Bending. In: Biological Structure and Dynamics, vol. 2. Sarma, R.H. and Sarma, M.H. (eds.), Adenine Press, Schenectady, NY, 1996.
- Ebadi, M., Hao, R., Cerutis, D.R., Blaxall, H.S., Pfeiffer, R.F., Rodriguez-Sierra, J.F., Norgren, R.B., Jr., **Strauss, J.**, and El Sayed, M.A. Zinc, Metallothionein, Zinc Fingers, and Neurotrophic Activity in Neuroimmunoendocrine System. In: Pathophysiology of Immune Neuroendocrine Communication Circuit. D. Gupta, H.A. Wollman, P.G. Fedor-Freyberg (eds.), Mattes Verlag, Heidelberg, 1994.

### Manuscripts in preparation

- Soukup, J.K.** Antibiotic Development Through Investigation of *glmS* Ribozyme Structure and Function. In: Progress in Molecular Biology and Translational Science. Soukup, G.A. (ed.), Elsevier Publishing Services, Chennai, India, 2010. (Book Chapter) (*In preparation*)

- \*Renner, D., \*Johnson, E., Soukup, G.A. and **Soukup, J.K.** Proton Hopping Mechanism of the *glmS* ribozyme. (*In preparation*)
- \*Renner, D., McDevitt, M., Fei, X., Berkowitz, D., Soukup, G.A. and **Soukup, J.K.** Glucosamine-6-phosphate ligand analogs act as artificial agonists through targeting of the bacterial *glmS* riboswitch. (*In preparation*)
- \*Green, CM, \*Werth, A, \*Soucek, J, and **Soukup, JK.** Creation and structural characterization of an allosteric guanine riboswitch/ribozyme. (*In preparation*).

### Patents and Patent Applications

Soukup, G.A., **Soukup, J.K.** “*GlmS* ribozyme coenzymes and methods of use thereof,” International Patent Cooperation Treaty Application PCT/US 2006/21965.

Soukup, G.A., **Soukup, J.K.** “*GlmS* ribozyme coenzymes and methods of use thereof,” U.S. Patent Provisional Application 60/687,717.

### Undergraduate research students

(noted are years in my laboratory and position(s) after leaving my lab)

- Aaron Anderson, 2001, Dental student, Creighton University Medical Center; Dentist, Nebraska Medical Center
- Michael Barclay, 2008-2010, Graduate student, Johns Hopkins University
- Suzanne Barton, 2004-2006, Pharmacy student, Creighton University Medical Center
- Marnita Coenrad, 2006-2007, Teach for America Special Education teacher
- Daniel Delaney, 2009-present
- Katie Del Vecchio, 2008-present
- Natalie Erbs, 2008-2010, Medical student, Creighton University Medical School
- Shennen Floy, 2003-2005, Medical student, Harvard Medical School; Surgery resident, Mayo Clinic
- John Franzen, 2001, Medical student, University of Nebraska Medical Center; Psychiatry resident, University of Hawaii
- Natalie German, 2007-2009, Graduate student, Harvard Medical School
- Kate Germer, 2005-2006, Medical student, University of Nebraska Medical Center; OB/GYN resident, University of Nebraska Medical Center
- Shweta Goswami, 2009-present
- Carolyn Green, 2003-2006, Medical student, Creighton University Medical Center; Internal Medicine resident, Mayo Clinic
- Jaclyn Greimann, 2001-2003, Graduate student, Cornell University; Postdoctoral Fellow, University of California – San Francisco
- Harper Hall, 2002, Stockroom manager, University of Texas – Austin; Graduate student
- Brock Hanisch, 2005-2007, Graduate student, Clinical Anatomy, Creighton University
- Darren Hein, 2006-2007, Pharmacy student, Creighton University Medical School; Pharmacist
- Zachariah Holmes, 2010-
- Jessica Hubl, 2002, Nursing student, Creighton University; Nurse
- Joshua Jansen, 2002-2005, Summer2006, Medical student, Creighton University Medical Center; Pathology resident, University of Nebraska Medical Center
- Erin Johnson, 2009-present
- Andrew Kavan, 2009-present
- Kevin Klawuhn, 2005-2007, Research Technician, Bayer Animal Health
- Randy Laubscher, 2001-2002, Masters student, University of Nebraska – Omaha; Scientific consultant, Analytical Services Incorporated
- Thomas McCarthy, 2004-2005, Medical student, Creighton University Medical Center; Internal Medicine resident, Scripps Research Institute
- Gina Miller, 2006-2007, Medical student, University of Tennessee
- Cameron Murphy, 2002-2003, Medical student, University of Nebraska Medical Center; Family Medicine resident, University of Missouri-Kansas City
- Thomas Neumeyer, 2007-2010, Undergraduate student, Creighton University
- Ngoc Trang Nguyen, 2008-present

Jeremy Nicolarsen, 2002, Medical student, University of Chicago Pritzker School of Medicine; Internal Medicine Chief Resident, University of Chicago Pritzker School of Medicine  
 Sara Ourada, 2006-2007, INBRE undergraduate student from UNO; Graduate student, University of Nebraska Medical Center  
 Zoran Pavlovic, 2010-  
 Melissa Plog, 2004-2005, Medical student, University of Minnesota – Minneapolis; Pediatrics resident, University of Nebraska Medical Center  
 Danielle Renner, 2008-2010, Graduate student, Mayo Foundation  
 Donnie Schrack, 2008-present  
 Nadia Sebastian, 2007-2009, MD/PhD student, University of Michigan  
 Josh Soucek, 2006-2008, Graduate student, Nebraska Medical Center  
 Tammi Spiezio, 2001, Masters student, Bradley University; Scientific consultant, Caterpillar, Inc.  
 Mary Spulak, 2005, Undergraduate student, Loyola-New Orleans; MD/PhD student, Stanford University  
 Dusan Stanojevic, 2002-2003, Medical student, Creighton University Medical Center; Internal Medicine resident, Creighton University Medical Center  
 Michael Stetz, 2006-2007, Medical student, Creighton University Medical Center  
 Victoria Ward, 2005-2007, Graduate student, University of California-Irvine  
 Kelley Wanzeck, 2007-2010, Graduate student, Oregon State University  
 Lisa Weisenburger-Moser, 2006-2008, Peace Corps, Africa  
 Amy Werth, 2006-2007, Medical student, Creighton University Medical Center

### Summer Fellowships Awarded to my Research Students

2010 **National Institutes of Health INBRE (IDeA Networks for Biomedical Research Excellence) Summer Fellowship** awarded to Katie Del Vecchio - *Validation of neurosensory microRNA target genes*

2010 **National Institutes of Health INBRE (IDeA Networks for Biomedical Research Excellence) Summer Fellowship** awarded to Trang Ngoc Nguyen - *Characterization of microRNA-deficient mouse inner ear*

2010 **Ferlic Summer Research Fellowship** awarded by the Creighton University College of Arts & Sciences to Donald Schrack – *Structural Characterization and Analysis of Pre-Queuosine Riboswitch*

2010 **Ferlic Summer Research Fellowship** awarded by the Creighton University College of Arts & Sciences to Erin Johnson - *Antibiotic Development by Investigation of the glmS Riboswitch*

2010 **National Institutes of Health INBRE (IDeA Networks for Biomedical Research Excellence) Summer Fellowship** awarded to Andrew Kavan – *Evolutionary Conservation of a Potential Animal/Mammalian Riboswitch*

2009 **National Institutes of Health INBRE (IDeA Networks for Biomedical Research Excellence) Summer Fellowship** awarded to Kelley Wanzeck – *Structural and Function of a Potential Mammalian Riboswitch*

2009 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Andrew Kavan – *Examination of Reporter Gene Expression Regulated by a Proposed Mammalian Riboswitch*

2009 **Ferlic Summer Research Fellowship** awarded by the Creighton University College of Arts & Sciences to Danielle Renner - *Antibiotic Development by Investigation of the glmS Riboswitch*

2008 **National Institutes of Health INBRE (IDeA Networks for Biomedical Research Excellence) Summer Fellowship** awarded to Kelley Wanzeck – *Characterization of miRNA and siRNA Expression in Snell Dwarf Mice as a Model of Cellular Longevity and Stress Resistance*

2008 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Natalie German – *Structural Characterization and Analysis of a Pre-Queuosine Riboswitch*

2007 **Ferlic Summer Research Fellowship** awarded by the Creighton University College of Arts & Sciences to Joshua Soucek - *Structural and Mechanistic Studies of the glmS and Guanine Riboswitches*

2007 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Natalie German – *MicroRNA Expression and Function in Mouse Inner Ear Hair Cells*

2006 **Ferlic Summer Research Fellowship** awarded by the Creighton University College of Arts & Sciences to Amy Werth - *Genetic Regulation By The Guanine Riboswitch In Bacillus Subtilis.*

2006 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Kevin Klawuhn – *Role of Metal Ions and Protonation State in the Active Site of the glmS Ribozyme*

2006 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Darren Hein - *Mechanosensory Cell microRNA Expression in Cell Lines Derived from the Early Mouse Inner Ear*

2006 **Medical Student Summer Research Fellowship** awarded by the Creighton University School of Medicine to Josh Jansen - *Identification of Novel Antibiotics Based on Structure-Function Studies of a Catalytic Riboswitch*

2005 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Kevin Klawuhn – *Assessing the rapid self-cleavage kinetics of a metabolite-dependent ribozyme*

2005 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Carolyn Green - *Mutational analysis of loop-loop interactions in the guanine riboswitch*

2004 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Carolyn Green - *Structural Characterization Of Riboswitches That Exhibit Metabolic Control*

2004 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Josh Jansen - *The Importance of Metal Ions to the Folding and Catalysis of the glmS Ribozyme*

2003 **National Institutes Of Health INBRE (Idea Networks For Biomedical Research Excellence) Summer Fellowship** awarded to Josh Jansen - *Structural Characterization of an Allosteric RNA Catalyzt*

### Meetings Attended / Presentations

J.K. Strauss and J.K. Strauss-Soukup are J.K. Soukup

(\*indicates undergraduate author)

\*Danielle Renner, Molly McDevitt, \*Erin Johnson, David Berkowitz, Garrett Soukup and **Juliane K. Soukup**. *glmS Ribozyme Mechanism and Development of Artificial Agonists as Candidate Antibiotics*. Zing Nucleic Acids conference, Puerto Morelos, Mexico, 2010.

**Juliane K. Soukup**. *glmS Ribozyme Mechanism and Development of Artificial Agonists as Candidate Antibiotics*. Third Biennial National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington, D.C., 2010.

\*Danielle Renner, Molly McDevitt and **Juliane K. Soukup**. *Antibiotic Development by Investigation of the glmS Riboswitch*. St. Albert's Day/Research Symposium, Creighton University, 2010.

- \*Kelley Wanzeck, \*Natalie Erbs, \*Katie Del Vecchio and **Juliane K. Soukup**. Confirmation of Binding Specificity and Genetic Control by Potential Mammalian Riboswitch. St. Albert's Day/Research Symposium, Creighton University, 2010.
- \*Erin Johnson, \*Danielle N. Renner, Molly McDevitt and **Juliane K. Soukup**. Structure and Mechanism of the *glmS* Riboswitch. St. Albert's Day/Research Symposium, Creighton University, 2010.
- \*Donald Schrack, \*Ngoc Trang Nguyen and **Juliane K. Soukup**. Structural Characterization and Analysis of Pre-Queuosine Riboswitch. St. Albert's Day/Research Symposium, Creighton University, 2010.
- \*Danielle Renner, \*Erin Johnson and **Juliane K. Soukup**. Antibiotic Development by Investigation of the *glmS* Riboswitch. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2010.
- \*Kelley Wanzeck, \*Natalie Erbs, \*Katie Del Vecchio and **Juliane K. Soukup**. Confirmation of Binding Specificity and Genetic Control by Potential Mammalian Riboswitch. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2010.
- \*Andrew Kavan, Molly McDevitt and **Juliane K. Soukup**. Evolutionary Conservation of a Potential Animal/Mammalian Riboswitch. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2010.
- \*Kelley Wanzeck, \*Natalie Erbs, \*Katie Del Vecchio, and **Juliane K. Soukup**. Structure and Function of a Potential Mammalian Riboswitch. 239<sup>th</sup> American Chemical Society National Meeting, San Francisco, CA, 2010.
- \*Danielle Renner and **Juliane K. Soukup**. Antibiotic Development by Investigation of the *glmS* Riboswitch. 54<sup>th</sup> Annual Meeting of the Biophysical Society, San Francisco, CA, 2010.
- \*Kelley Wanzeck, \*Natalie Erbs, \*Katie Del Vecchio, and **Juliane K. Soukup**. Structure and Function of a Potential Mammalian Riboswitch. 54<sup>th</sup> Annual Meeting of the Biophysical Society, San Francisco, CA, 2010.
- Juliane K. Soukup** and \*Danielle N. Renner. Structure and Mechanism of the *glmS* Riboswitch. 54<sup>th</sup> Annual Meeting of the Biophysical Society, San Francisco, CA, 2010.
- \*Danielle Renner and **Juliane K. Soukup**. Antibiotic Development by Investigation of the *glmS* Riboswitch. Ferlic Summer Research Program Poster Symposium, Creighton University, 2009.
- Juliane K. Soukup** and \*Danielle N. Renner. Structure and Mechanism of the *glmS* Riboswitch. 44<sup>th</sup> Midwest Regional Meeting of the American Chemical Society, Iowa City, IA, 2009.
- \*Thomas Neumeyer, \*Joshua Soucek, \*Michael Barclay and **Juliane Soukup**. Structural Studies of the Guanine Riboswitch. 44<sup>th</sup> Midwest Regional Meeting of the American Chemical Society, Iowa City, IA, 2009.
- \*Kelley Wanzeck, \*Natalie Erbs, \*Katie Del Vecchio, and **Juliane K. Soukup**. Structure and Function of a Potential Mammalian Riboswitch. 44<sup>th</sup> Midwest Regional Meeting of the American Chemical Society, Iowa City, IA, 2009.
- \*Danielle N. Renner and **Juliane K. Soukup**. Antibiotic Development by Investigation of the *glmS* Riboswitch. 44<sup>th</sup> Midwest Regional Meeting of the American Chemical Society, Iowa City, IA, 2009.  
**WON PRIZE FOR BEST UNDERGRADUATE POSTER**
- Juliane Soukup. A Catalytic Riboswitch as an Antibiotic Target. Regional National Institutes of Health INBRE (IdeA Network for Biomedical Research Excellence) meeting, Oklahoma City, OK, 2009.
- \*Kelley Wanzeck, \*Natalie Erbs, \*Katie del Vecchio, and **Juliane K. Soukup**. Structure and Function of a Potential Mammalian Riboswitch. Eighth Annual Nebraska IDEa Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2009.

- \*Andrew Kavan, Jodi Manahan, **Juliane Soukup**, and Garrett Soukup. Examination of Reporter Gene Expression Regulated by a Proposed Mammalian Riboswitch. Eighth Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2009.
- \*Donald Schrack, \*Natalie German, \*Nadia Sebastian, Catherine Nosacka and **Juliane Soukup**. Structural Characterization and Analysis of the Pre-Queuosine Riboswitch. Nebraska Medical Center Eppley Structural Biology Facility Symposium, Omaha, NE, 2009.
- \*Thomas Neumeyer, \*Joshua Soucek, \*Michael Barclay and **Juliane Soukup**. Structural Studies of the Guanine Riboswitch. Nebraska Medical Center Eppley Structural Biology Facility Symposium, Omaha, NE, 2009.
- \*Kelley Wanzeck, \*Natalie Erbs, \*Katie Del Vecchio, and **Juliane K. Soukup**. Structure and Function of a Potential Mammalian Riboswitch. Nebraska Medical Center Eppley Structural Biology Facility Symposium, Omaha, NE, 2009.
- \*Danielle N. Renner and **Juliane K. Soukup**. Antibiotic Development by Investigation of the *glmS* Riboswitch. Nebraska Medical Center Eppley Structural Biology Facility Symposium, Omaha, NE, 2009.
- \*Natalie German, \*Nadia Sebastian, Catherine Nosacka and **Juliane Soukup**. Structural Characterization and Analysis of the Pre-Queuosine Riboswitch. Creighton University Honors Day presentation, Omaha, NE, 2009.
- \*Natalie German, \*Nadia Sebastian, Catherine Nosacka and **Juliane Soukup**. Structural Characterization and Analysis of the Pre-Queuosine Riboswitch. 34<sup>th</sup> West Coast Biological Sciences Undergraduate Research Conference, San Diego, CA, 2009.
- \*Kelley Wanzeck and **Juliane K. Soukup**. Structure and Function of a Potential Mammalian Riboswitch. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2009.
- \*Danielle N. Renner and **Juliane K. Soukup**. Antibiotic Development by Investigation of the *glmS* Riboswitch. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2009.
- \*Natalie German, \*Nadia Sebastian, Catherine Nosacka and **Juliane Soukup**. Structural Characterization and Analysis of the Pre-Queuosine Riboswitch. St. Albert's Day/Research Symposium, Creighton University, 2009.
- \*Thomas Neumeyer, \*Joshua Soucek, \*Michael Barclay and **Juliane Soukup**. Structural Studies of the Guanine Riboswitch. St. Albert's Day/Research Symposium, Creighton University, 2009.
- \*Kelley Wanzeck, \*Natalie Erbs, \*Katie Del Vecchio, and **Juliane K. Soukup**. Structure and Function of a Potential Mammalian Riboswitch. St. Albert's Day/Research Symposium, Creighton University, 2009.  
**WON PRIZE FOR BEST UNDERGRADUATE POSTER**
- \*Danielle N. Renner and **Juliane K. Soukup**. Antibiotic Development by Investigation of the *glmS* Riboswitch. St. Albert's Day/Research Symposium, Creighton University, 2009.
- Juliane Soukup**. Structure and Mechanism of the *glmS* Ribozyme. 43<sup>rd</sup> Midwest Regional Meeting of the American Chemical Society, Kearney, NE, 2008.
- \*Natalie German, Catherine Nosacka and **Juliane K. Soukup**. Structural Characterization and Analysis of Pre-Queuosine Riboswitch. 43<sup>rd</sup> Midwest Regional Meeting of the American Chemical Society, Kearney, NE, 2008.
- \*Natalie German and **Juliane K. Soukup**. Structural Characterization and Analysis of Pre-Queuosine Riboswitch. Seventh Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2008.

- Juliane K. Soukup**, G.A. Soukup, \*Joshua Soucek, \*Kevin Klawuhn and \*Joshua A. Jansen. Structure And Mechanism of the *glmS* Ribozyme. Seventh Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2008.
- Julie Soukup**, Garrett Soukup, \*Joshua Soucek, \*Kevin Klawuhn and \*Joshua Jansen. Structure and Mechanism of the *glmS* Ribozyme. National IDeA Symposium of Biomedical Research Excellence, Washington, D.C. 2008.
- Juliane K. Soukup**, G.A. Soukup, \*Joshua Soucek, \*Kevin Klawuhn and \*Joshua A. Jansen. Structure And Mechanism of the *glmS* Ribozyme. Nucleic Acids Gordon Research Conference, Newport, RI 2008.
- Juliane K. Soukup**, G.A. Soukup, \*Joshua Soucek, \*Kevin Klawuhn and \*Joshua A. Jansen. Structure And Mechanism of the *glmS* Ribozyme. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2008.
- \*Natalie German and **Juliane K. Soukup**. Structural Characterization and Analysis of a Pre-Queuosine Riboswitch. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2008.
- \*Joshua Soucek, \*Kevin Klawuhn, \*Joshua A. Jansen and **Juliane K. Soukup**. Structural and Mechanistic Studies of Riboswitches. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2008.
- Juliane K. Soukup**, \*Amy Werth, \*Joshua Soucek, and \*Carolyn Green. The Guanine Riboswitch's Control of Metabolic Functions Before and After Site Specific Mutagenesis. St. Albert's Day/Research Symposium, Creighton University, 2008.
- \*Joshua Soucek, \*Kevin Klawuhn, \*Joshua A. Jansen and **Juliane K. Soukup**. Structural and Mechanistic Studies of Riboswitches. St. Albert's Day/Research Symposium, Creighton University, 2008.
- Juliane Soukup**, \*Amy Werth, \*Carolyn Green, \*Joshua Soucek, \*Sara Ourada, and \*Joshua A. Jansen. Structural characterization of the guanine riboswitch. 42<sup>nd</sup> Midwest Regional Meeting of the American Chemical Society, Kansas City, MO, 2007.
- \*Joshua Soucek, \*Kevin Klawuhn, \*Joshua A. Jansen and **Juliane K. Soukup**. Structural and Mechanistic Studies of Riboswitches. 42<sup>nd</sup> Midwest Regional Meeting of the American Chemical Society, Kansas City, MO, 2007.
- Juliane Soukup**, Garrett Soukup, \*Kevin Klawuhn, \*Joshua A. Jansen and \*Darren Hein. Structural and Mechanistic Studies Of Riboswitches. RNA 2007: Sixth Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2007.
- Juliane Soukup**, Garrett Soukup, \*Kevin Klawuhn, \*Joshua A. Jansen and \*Darren Hein. Structural and Mechanistic Studies Of Riboswitches. RNA 2007: Twelfth Annual meeting of the RNA Society, Madison, WI 2007.
- \*Kevin Klawuhn, \*Darren Hein, Garrett Soukup and **Juliane Soukup**. Role of Metal Ions and Protonation State in the Active Site of the *glmS* Ribozyme. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2007.
- \*Darren Hein, \*Kevin Klawuhn, Garrett Soukup and **Juliane Soukup**. Backbone and nucleobase contacts to glucosamine-6-phosphate in the *glmS* ribozyme. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2007.
- \*Amy Werth, \*Carolyn Green, \*Joshua Jansen, Garrett Soukup and **Juliane Soukup**. Genetic Regulation By The Guanine Riboswitch In *Bacillus Subtilis*. St. Albert's Day/Research Symposium, Creighton University, 2007

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- \*Victoria Ward and **Juliane Soukup**. Structural Characterization Of The S-Adenosylmethionine Riboswitch. St. Albert's Day/Research Symposium, Creighton University, 2007
- \*Kevin Klawuhn, \*Darren Hein, \*Brock Hanisch, \*Joshua Jansen, Garrett Soukup and **Juliane Soukup**. Structural And Mechanistic Characterization Of A Bacterial Catalytic Riboswitch. St. Albert's Day/Research Symposium, Creighton University, 2007
- \*Amy Werth, \*Carolyn Green, \*Joshua Jansen, Garrett Soukup and **Juliane Soukup**. Genetic Regulation By The Guanine Riboswitch In *Bacillus Subtilis*. National American Chemical Society meeting, Chicago, IL, 2007
- \*Victoria Ward and **Juliane Soukup**. Structural Characterization Of The S-Adenosylmethionine Riboswitch. National American Chemical Society meeting, Chicago, IL, 2007
- \*Kevin Klawuhn, \*Darren Hein, \*Brock Hanisch, \*Joshua Jansen, Garrett Soukup and **Juliane Soukup**. Structural And Mechanistic Characterization Of A Bacterial Catalytic Riboswitch. National American Chemical Society meeting, Chicago, IL, 2007
- Joshua Jansen and **Juliane Soukup**. Structural and Mechanistic Studies of the *glmS* Ribozyme. Midwest Student Biomedical Research Forum, Omaha, NE, 2007.
- Juliane K. Soukup**, \*Carolyn M. Green, \*Amy Werth, \*Joshua A. Jansen, and Garrett A. Soukup, Genetic Regulation by the Guanine Riboswitch in *Bacillus subtilis*. Fifth Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2006.
- \*Kevin Klawuhn, \*Joshua Jansen, Garrett A. Soukup, and **Juliane K. Soukup**, Structural and mechanistic characterization of a bacterial catalytic riboswitch. Fifth Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2006.
- Juliane K. Soukup**, Backbone and nucleobase contacts to glucosamine-6-phosphate in the *glmS* ribozyme. RNA 2006: Eleventh Annual meeting of the RNA Society, Seattle, WA, 2006.
- Juliane Soukup**, \*Joshua Jansen, \*Thomas McCarthy and Garrett Soukup, Backbone and nucleobase contacts to glucosamine-6-phosphate in the *glmS* ribozyme. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2006.
- \*Carolyn Green, \*Amy Werth, Garrett Soukup and **Juliane Soukup**. Genetic regulation by the guanine riboswitch in *B. subtilis*. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2006.
- \*Kevin Klawuhn, Garrett Soukup and **Juliane Soukup**. Assessing the rapid self-cleavage kinetics of a metabolite-dependent ribozyme. Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2006.
- \*Kevin Klawuhn, Garrett Soukup and **Juliane Soukup**. Assessing the rapid self-cleavage kinetics of a metabolite-dependent ribozyme. Fourth Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2005.
- \*Carolyn Green, Garrett Soukup and **Juliane Soukup**. Mutational analysis of loop-loop interactions in the guanine riboswitch. Fourth Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2005.
- \*Thomas McCarthy, \*Melissa Plog, \*Shennen Floy, \*Joshua Jansen, Garrett Soukup and **Juliane Soukup**. Coenzyme function of glucosamine-6-phosphate in the *glmS* ribozyme. Fourth Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2005.
- \*Joshua Jansen, \*Thomas McCarthy, Garrett Soukup and **Juliane Soukup**. Ligand analog interference suppression as a means to identify ligand-RNA interactions. Fourth Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2005.

- \*Thomas McCarthy, \*Melissa Plog, \*Shennen Floy, \*Joshua Jansen, Garrett Soukup and **Juliane Soukup**. Coenzyme function of glucosamine-6-phosphate in the *glmS* ribozyme. Nucleic Acids Gordon Research Conference, Newport, RI 2005.
- \*Joshua Jansen, \*Thomas McCarthy, Garrett Soukup and **Juliane Soukup**. Ligand analog interference suppression as a means to identify ligand-RNA interactions. Nucleic Acids Gordon Research Conference, Newport, RI 2005.
- Juliane Soukup**, \*Thomas McCarthy, \*Melissa Plog, \*Joshua Jansen and Garrett Soukup. Structural characterization of ligand recognition and activation of a metabolite-responsive ribozyme, Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2005.
- \*Joshua Jansen, \*Thomas McCarthy, Garrett Soukup and **Juliane Soukup**. Structural Characterization Of A Metabolite-Responsive Ribozyme, Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2005.
- \*Thomas McCarthy, \*Melissa Plog, Garrett Soukup and **Juliane Soukup**. Coenzyme function of glucosamine-6-phosphate in the *glmS* ribozyme. Chemistry Department Poster session, Creighton University, Omaha, NE, 2005.
- \*Carolyn Green, \*Joshua Jansen and **Juliane Soukup**. Structural Characterization Of a Guanine Riboswitch That Exhibits Metabolic Control, Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2005.
- \*Shennen Floy, \*Thomas McCarthy, \*Joshua Jansen, \*Jaclyn Greimann, Alexis Kertsberg, Garrett Soukup and **Juliane Soukup**. Structural characterization of an allosteric RNA catalyst, Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2005.
- \*Joshua A. Jansen, \*Garrett A. Soukup, Ronald R. Breaker, Adam Roth, **Juliane K. Soukup**. Structural Characterization Of A Metabolite-Responsive Ribozyme, RNA 2004: Ninth Annual meeting of the RNA Society, Madison, WI, 2004.
- Juliane Soukup**, \*Joshua Jansen and Garrett Soukup. Structural Characterization Of A Metabolite-Responsive Ribozyme, Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2004.
- \*Carolyn Green, \*Joshua Jansen and **Juliane Soukup**. Structural Characterization Of Riboswitches That Exhibit Metabolic Control, Nebraska Academy of Sciences annual meeting, Lincoln, NE, 2004.
- \*Carolyn Green, \*Joshua Jansen, Garrett Soukup and **Juliane Soukup**. Structural Characterization Of Riboswitches That Exhibit Metabolic Control, Third Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2004.
- \*Joshua A. Jansen, Ronald R. Breaker, Garrett A. Soukup, and **Juliane K. Soukup**. The Importance of Metal Ions to the Folding and Catalysis of the *glmS* Ribozyme, Third Annual Nebraska IDeA Networks of Biomedical Research Excellence Meeting, Grand Island, NE, 2004.
- Juliane Soukup** and \*Joshua Jansen. Structural Characterization of Catalytic Nucleic Acids. St. Albert's Day Poster Presentation, Creighton University, Omaha, NE, 2003
- Juliane Soukup** and \*Joshua Jansen. Structural Characterization of Riboswitches that Exhibit Metabolic Control. Nebraska Biomedical Research Infrastructure Network (BRIN) Annual meeting, Grand Island, NE, 2003
- \*Joshua Jansen, \*Jaclyn Greimann, Alexis Kertsberg, Garrett Soukup and **Juliane Soukup**. Structural Characterization of an Allosteric RNA Catalyst. Nebraska BRIN Annual meeting, Grand Island, NE, 2003

- \*Joshua Jansen, \*Jaclyn Greimann, Alexis Kertsberg, Garrett Soukup and **Juliane Soukup**. Structural Characterization of an Allosteric RNA Catalyst. Nebraska Academy of Sciences Annual meeting, Nebraska Wesleyan University, Lincoln, NE, 2003
- \*Jaclyn Greimann, \*Cameron Murphy, and **Juliane Soukup**. Nucleotide analog interference mapping as a means to investigate catalytic nucleic acid structure. Nebraska Academy of Sciences Annual meeting, Nebraska Wesleyan University, Lincoln, NE, 2003
- \*Cameron Murphy and **Juliane Soukup**. Structural Characterization of Catalytic DNA Molecules. Chemistry Department Poster session, Creighton University, Omaha, NE, 2003
- Juliane K. Soukup**, Noriaki Minakawa, Akira Matsuda, Scott A. Strobel. Identification of A-Minor Tertiary Interactions within a Bacterial Group I Intron Active Site by 3-Deazaadenosine Interference Mapping. RNA Society, 2002.
- \*Jaclyn Greimann and **Juliane K. Soukup**, Structural characterization of a Self-phosphorylating Deoxyribozyme. 3<sup>rd</sup> Midwest Regional American Association for the Advancement of Science Meeting, Southwestern and Rocky Mountain Division, Omaha, NE, 2001.
- \*Tammi Spiezio and **Juliane K. Soukup**, Structural characterization of a Self-phosphorylating Ribozyme. 3<sup>rd</sup> Midwest Regional American Association for the Advancement of Science Meeting, Southwestern and Rocky Mountain Division, Omaha, NE, 2001.
- Juliane K. Soukup** and Scott A. Strobel. Chemical Phylogeny of Group I Introns Based on Interference Mapping of the *Azoarcus* Ribozyme. 2<sup>nd</sup> Midwest Regional American Association for the Advancement of Science Meeting, Southwestern and Rocky Mountain Division, Omaha, NE, 2000.
- Juliane K. Strauss-Soukup** and Scott A. Strobel. Functional Mapping of the *Azoarcus* group I intron. RNA Society, 1998.
- Juliane K. Strauss** and L. James Maher. DNA Bending by Tethered Cations. Biopolymers Gordon Research Conference, 1996.
- Juliane K. Strauss** and L. James Maher. DNA Bending by Asymmetric Phosphate Neutralization. Ninth Conversation in the Discipline Biomolecular Stereodynamics, 1995.
- Juliane K. Strauss** and L. James Maher. DNA Bending by Asymmetric Phosphate Neutralization. 26th Annual Midwest Student Medical Research Forum, 1995.
- Juliane K. Strauss**, Andy Rodrigues, and L. James Maher. Effects of Phosphate Neutralization on DNA Bending. 25th Annual Midwest Student Medical Research Forum, 1994.
- Juliane K. Strauss**, Andy Rodrigues, and L. James Maher. Effects of Phosphate Neutralization on DNA Bending. 36th Annual West Central States Biochemistry Conference, 1993.

### External Invited Talks

- “*glmS* Ribozyme Mechanism and Development of Artificial Agonists as Candidate Antibiotics”, Zing Nucleic Acids conference, Puerto Morelos, Mexico, 2010.
- “A Catalytic Riboswitch as an Antibiotic Target.” Regional National Institutes of Health INBRE (Idea Network for Biomedical Research Excellence) meeting, Oklahoma City, OK, 2009.
- “Catalytic Riboswitch Regulation of Gene Expression as a Target for Developing Novel Antibiotics”, Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, 2009.

- "Structure And Mechanism of the *glmS* Ribozyme." 43<sup>rd</sup> Midwest Regional Meeting of the American Chemical Society, Kearney, NE, 2008.
- "Structure and Mechanism of the *glmS* Ribozyme." St. Olaf College Chemistry department seminar, Northfield, MN. 2008
- "Riboswitches: function, structure & catalysis." University of Nebraska - Lincoln Chemistry department seminar, Lincoln, NE. 2008
- "Maintaining the INBRE Associate Network." Regional National Institutes of Health INBRE (IdeA Network for Biomedical Research Excellence) meeting, Fargo, ND. 2007
- "Riboswitches: function, structure & catalysis." Saint Louis University Chemistry department seminar series, St. Louis, MO. 2007
- "Backbone and nucleobase contacts to glucosamine-6-phosphate in the *glmS* ribozyme." RNA 2006: Eleventh Annual meeting of the RNA Society, Seattle, WA, 2006.
- "Riboswitches: function, structure & catalysis." University of South Dakota Chemistry department seminar series, Vermillion, SD. 2005
- "Structural characterization of ligand recognition and activation of a metabolite-responsive ribozyme." Regional National Institutes of Health INBRE (IdeA Network for Biomedical Research Excellence) meeting, Kansas City, MO. 2005
- "Living with Diabetes – 20 years later", I-80 Cosmopolitan Club meeting, Omaha, NE. 2004
- "Coming full circle: from college student to college professor." University of Nebraska Medical Center graduate student association seminar series, Omaha, NE. 2003
- "Structural Characterization of Catalytic Nucleic Acid Molecules." University of Nebraska Biology department seminar, Omaha, NE. 2002
- "Modeling of the Catalytic Core of the *Azoarcus* Group I Intron." Veterans Administration Hospital, Omaha, NE. 2001
- "Electrostatic Effects in DNA Bending by Proteins." University of Minnesota Nucleic Acids Interest Group, Minneapolis, MN. 1996

### Internal Invited Talks

- "Impact of Undergraduate Research at Creighton University", Creighton University National Alumni Board meeting, 2010.
- "Impact of Undergraduate Research at Creighton University", Creighton University Board of Directors meeting, 2010.
- "From CU undergraduate to CU professor: A 'sequence' of events in the study of nucleic acid structure and function", Creighton University Phi Sigma Biological Sciences Honor Society Induction Ceremony Banquet, 2010.
- "Role of Undergraduate Research in Pre-Med Preparation", Creighton PMED Program, 2009.
- "Undergraduate Research Opportunities at Creighton", Creighton Admitted Student Days, 2009.
- "Success in Scholarship", Creighton University New Faculty Workshop Panel, Omaha, NE, 2009.

- "Riboswitches: Structure, Function & Catalysis", Sabbatical talk, Creighton University Chemistry department seminar, Omaha, NE.
- "How to give a scientific talk", Creighton university Graduate School Seminar, Omaha, NE, 2008.
- "Collaborative Publishing in the Physical Sciences." Creighton University Joint Academic Forum on Collaborative Publishing, Omaha, NE. 2008
- "Riboswitches: function, structure & catalysis." Creighton University Biomedical Sciences department seminar, Omaha, NE. 2008
- "Promoting Women in Science: the Clare Boothe Luce Program and its Role at Creighton." Creighton University School of Medicine Women in Medicine and Science meeting. Omaha, NE. 2007
- "Nucleic Acid Structure and Function." Creighton University Joint Academic Forum on Undergraduate Research, Omaha, NE. 2007
- "The impact of scholarship on an undergraduate education", National Society of Collegiate Scholars, 2006
- "Structural Characterization of Catalytic Nucleic Acid Molecules." Creighton University Biomedical Sciences department seminar, Omaha, NE. 2002
- "Clare Boothe Luce Program for Women in Science", WISE (Women's Interdisciplinary Studies Exchange), Creighton University, Omaha, NE. 2001
- "Modeling of the Catalytic Core of the *Azoarcus* Group I Intron." Yale University RNA Club, New Haven, CT. 2000
- "Functional Mapping of the *Azoarcus* group I intron." Yale University Chemical Biology seminar, New Haven, CT. 1998
- "Electrostatic Effects in DNA Bending by Proteins." Mayo Foundation Workshop, Rochester, MN. 1996
- "DNA Bending by Phosphate Neutralization." Mayo Foundation Workshop, Rochester, MN. 1995
- "DNA Bending by Asymmetric Phosphate Neutralization." Eppley Institute Student/Postdoctoral Research Forum, University of Nebraska Medical Center, Omaha, NE. 1994

### Teaching Experience

Associate Professor, Creighton University, 2006-present

Assistant Professor, Creighton University, 2000-2006

Guest Lecturer, Albertus Magnus College, 2000  
Frontiers in Science course

Organic and General Chemistry Teacher Assistant, Creighton University, 1990-1993

### Teaching Load and Type

Semester	Course	Type	Enrollment	Contact Hours
Fall 2000	CHM 381 Biochemistry	Lecture	36	3
	CHM 322 Organic Chem. Lab. I	Lab	36	3
Spring 2001	CHM 205 General Chemistry II	Lecture	52	4
	IDC 491 Women in Science	Discussion	8	2
	CHM 493 Directed Independent Readings	Discussion	3	3
	CHM 496/7 Independent Research	Lab	2	9
Fall 2001	CHM 381 Biochemistry	Lecture	57	3

	CHM 382 Biochemistry Lab.	Lab	9	3
	CHM 496/7 Independent Research	Lab	2	9
Spring 2002	CHM 205 General Chemistry II	Lecture	44	4
	CHM 575 Nucleic Acid Biochemistry	Lecture/discussion	9	3
	IDC 491 Women in Science	Discussion	9	2
	CHM 496/7 Independent Research	Lab	4	15
Fall 2002	CHM 381 Biochemistry	Lecture	58	3
	CHM 382 Biochemistry Lab.	Lab	5	3
	CHM 495 Directed Independent Study	Lab/Discussion	1	3
	CHM 496/7 Independent Research	Lab	5	18
	FRS 111 Freshman Seminar	Discussion	16	1
Spring 2003	CHM 205 General Chemistry II	Lecture	61	4
	HRS 410 Honors Science Seminar	Seminar/Discussion	11	3
	CHM 496/7 Independent Research	Lab	5	15
Fall 2003	CHM 381 Biochemistry	Lecture	64	3
	CHM 382 Biochemistry Lab.	Lab	14	4
	CHM 496 Independent Research	Lab	2	9
Spring 2004	CHM 324 Organic Chemistry II Laboratory	Lab	39	3
	CHM 324 Organic Chemistry II Laboratory	Lab	38	3
	IDC 491 Women in Science	Discussion	3	2
	CHM 496/7 Independent Research	Lab	3	9
Fall 2004	CHM 381 Biochemistry	Lecture	66	3
	CHM 382 Biochemistry Lab.	Lab	16	4
	CHM 496/7 Independent Research	Lab	5	18
	FRS 111 Freshman Seminar	Discussion	22	1
Spring 2005	CHM 382 Biochemistry Lab.	Lab	8	4
	CHM 496/7 Independent Research	Lab	6	24
	CHM 575 Nucleic Acid Biochemistry	Lecture/discussion	11	3
	IDC 491 Women in Science	Discussion	4	2
Fall 2005	CHM 381 Biochemistry	Lecture	63	3
	CHM 382 Biochemistry Lab.	Lab	15	4
	CHM 496/7 Independent Research	Lab	7	21
Spring 2006	CHM 205 General Chemistry II	Lecture	46	3
	CHM 493 Independent Readings	Discussion	1	2
	CHM 496/7 Independent Research	Lab	8	24
	IDC 491 Women in Science	Discussion	6	2
Fall 2006	RSP 101 Introduction to Collegiate Life	Discussion	20	1
	CHM 381 Biochemistry	Lecture	65	3
	CHM 382 Biochemistry Lab	Lab	8	4
	CHM 496/7 Independent Research	Lab	7	21
Spring 2007	CHM 381 Biochemistry	Lecture	55	3
	CHM 575 Nucleic Acid Biochemistry	Lecture/discussion	12	3
	IDC 491 Women in Science	Discussion	7	2
	CHM 496/7 Independent Research	Lab	10	30
	MIC 739: Bacterial Physiology guest lecturer	Lecture	8	2 hour lecture
Fall 2007	On sabbatical			
	CHM 496/7 Independent Research	Lab	6	18
Spring 2008	On sabbatical			
	CHM 496/7 Independent Research	Lab	6	18
Fall 2008	RSP 101 Introduction to Collegiate Life	Discussion	19	1
	CHM 297 Directed Research	Lab	2	6
	CHM 382 Biochemistry Lab	Lab	16	5
	CHM 382 Biochemistry Lab	Lab	15	5
	CHM 493 Independent Readings	Discussion	2	1
	CHM 496/7 Independent Research	Lab	6	18
	CHM 575 Nucleic Acid Biochemistry	Lecture/discussion	6	3
Spring 2009	CHM 205 General Chemistry II	Lecture	48	3
	CHM 205 General Chemistry II	Lecture	48	3
	CHM 297 Directed Research	Lab	3	9
	CHM 382 Biochemistry Lab	Lab	16	5
	CHM 493 Independent Readings	Discussion	2	1
	CHM 496/7 Independent Research	Lab	7	21
Fall 2009	RSP 101 Introduction to Collegiate Life	Discussion	20	1
	CHM 297 Directed Research	Lab	2	6

	CHM 371 Biochemistry of Metabolism	Lecture	45	3
	CHM 382 Biochemistry Lab	Lab	22	5
	CHM 493 Independent Readings	Discussion	3	1
	CHM 496/7 Independent Research	Lab	10	30
Spring 2010	CHM 297 Directed Research	Lab	4	12
	CHM 371 Biochemistry of Metabolism	Lecture	62	3
	CHM 493 Independent Readings	Discussion	3	1
	CHM 496/7 Independent Research	Lab	9	27
	CHM 575 Nucleic Acid Biochemistry	Lecture/discussion	8	3
Fall 2010	RSP 101 Introduction to Collegiate Life	Discussion	20	1
	CHM 297 Directed Research	Lab	2	6
	CHM 381 Biochemistry	Lecture	45	3
	CHM 382 Biochemistry Lab	Lab	24	5
	CHM 493 Independent Readings	Discussion	4	1
	CHM 496/7 Independent Research	Lab	9	27

### Teaching/Scholarship workshops, seminars, conferences

National Science Foundation grant workshop, 2008

Wiley on-line course, Teaching biochemistry to undergraduates, 2008

Attended "Getting it Published", led by Dr. Bridget Keegan, Creighton University, 2007

Attended "Goals & Objectives", led by Dr. Scott Chadwick and Dr. Donna Pawlowski, Creighton University, 2004

Attended "Juggling, Dogs, and Assurance of Learning", led by Dr. Douglas Eder, Creighton Office of Excellence in Teaching, Learning & Assessment, 2003

Attended "Integrating Men Into the Curriculum", led by Dr. Michael Kimmel, Creighton Office of Excellence in Teaching, Learning & Assessment, 2003

Attended workgroups "Effective Grading" and "Classroom Assessment Techniques", led by Dr. Shirley Scritchfield, Creighton Office for Institutional Research & Assessment, 2001

Attended "Teaching Well Using Technology", led by Dr. Barbara Walvoord and Mr. Thomas Laughner, Creighton Office for Institutional Research & Assessment, 2001

### Service

#### University

Admissions, "Face of Creighton", 2010

Admissions video for website, 2009

Admitted student days speaker, 2009

Pre-Med EDUCATION (PMED) program speaker, 2009

Member, President's Strategic Plan Task Force, 2008-present

Member, Academic Affairs Research Initiative Grant selection committee, 2007

Presidential Mentoring Scholarship interviewer, 2007

Member of Academic Vice President task force on faculty scholarship, 2006-present

Judge for Homecoming King/Queen candidate interviews, 2006

Member of graduate thesis committee of Marsha Pierce, M.S. student in the Biomedical Sciences department of Creighton's Medical School, 2006-present

Member of graduate thesis committee of George Enniful, M.S. student in the Biomedical Sciences department of Creighton's Medical School, 2006-2008

Member of graduate thesis committee of David Heidenreich, M.S. student in the Biomedical Sciences department of Creighton's Medical School, 2004-2007

Mr. & Ms. Bluejay contest judge, 2004

Admissions volunteer, gave tours of Hixson Lied Science Building and renovated Rigge Science Building, 2004

Committee on Improving Freshman Seminar course, summer preview, and advisor training, 2003

Order of Omega Awards judge, 2003

Center for Women Advisory Board, member of W.I.L.L. subcommittee (Women's Institute for Leadership and Learning), 2002-2005

All-University Committee on the Status of Women, events subcommittee, 2002-2003

Volunteer, Creighton Open House for prospective students, 2002-2005

Member of Clare Boothe Luce Professor in Environmental Science selection committee, 2001

Member and Officer of Parent Advisory Council, James Russell Child Development Center, 2001-present

Member of Clare Boothe Luce Professor in Mathematics selection committee, 2000

Member of graduate thesis committee of Alexis Kertsburg, Ph.D. student in the Biomedical Sciences department of Creighton's Medical School, 2000-2005

### **College**

Program Prioritization elected committee member, representative from College of Arts & Science faculty, 2010

Pre-Health Advisor, 2009-

Faculty Senate Executive Board, 2009-2010

Panel discussant, New Faculty Workshop "Success in Scholarship" panel discussion, 2009

Member, Dean's Special Task Force on Undergraduate Education, 2008-present

Member, Honors Program Advisory Board, 2008-present

Member of Clare Boothe Luce undergraduate scholar selection committee, 2007-present

New faculty mentor for Dr. Bradley Parsons (Chemistry), 2007-present

Panel discussant, College of Arts & Sciences Rank and Tenure workshop, 2007

Member of Clare Boothe Luce faculty selection committee, 2006-2007

Member, Executive Board of Faculty Senate, 2006-present

Member, National Scholarships and Fellowships Board, 2005-present

New faculty mentor for Dr. Karin Van Dijk (Biology), 2006-present

Chair of Faculty Development subcommittee of Faculty Senate, 2004-2006

Helped coordinate and obtained funding to bring "MANYA: a living history of Marie Curie" to Omaha, 2004

Member of Steering committee of Nebraska INBRE (IDeA Network for Biomedical Research Excellence) grant, 2004-present

Member of Barry Goldwater scholar selection committee, 2003-present

Member of BRIN (Biomedical Research Infrastructure Network) and INBRE scholar selection committees, 2002-present

Academic Advisor, chemistry majors and freshman seminar students, 2002-present

Member of Faculty Senate/Executive Council, Assessment and Curriculum subcommittees, 2001-present

Sponsored Women in Science panel discussion for Clare Boothe Luce scholars and all women science students on campus, 2001-present

Chair of Clare Boothe Luce undergraduate scholar selection committee, 2000-2007

Director of Clare Boothe Luce Women in Science undergraduate scholars program, 2000-2007

Recommendation letters, I have written an average of 40 letters each year for students applying to medical schools, dental schools, graduate schools, pharmacy schools, and summer research programs

### **Department**

Member of chemistry department curriculum committee, 2008-present

Head of Biochemistry professor selection committee, 2006-2007

Co-coordinator, Chemistry department seminar series, 2006

Organizer, Chemistry department seminar series, 2005

Co-chair of Holiday Spirit project, 2004, 2005, 2008, 2009

Member of Organic Chemistry professor selection committee, 2002, 2003, 2004

Participated in Chemistry Field Day for area high school students, 2002 and 2004

Member of Physical Chemistry professor selection committee, 2001, 2002

Member of Analytical Chemistry professor selection committee, 2001, 2002

Member of Organic Chemistry laboratory instructor selection committee, 2001

Member of General Chemistry laboratory instructor selection committee, 2001, 2009

Participated in Majors Fair, 2001-present

### **Community**

Volleyball Coach, St. Columbkille School, 2007-2009

Soccer Coach, St. Columbkille School, 2009

Extraordinary Minister of Holy Communion (EMHC), St. Columbkille Parish, 2004-present

Mentor, Juvenile Diabetes Research Foundation Mentoring program for newly diagnosed diabetics, 2006-present

Finance Chair, C.A.R.E. (Certificates are Revenue for Education), St. Columbkille Parish, 2004-present

Co-Chair of entertainment committee for Juvenile Diabetes Research Foundation "Walk to Cure Diabetes", 2001-present

Invited to give an alumni perspective and meet with panel of site visitors at University of Nebraska Medical Center as they try to start a new Ph.D.-granting Cancer Research Graduate Program, 2004

Member of Executive Board, Juvenile Diabetes Research Foundation, 2001-2003

Chair of Outreach committee, Juvenile Diabetes Research Foundation, 2001-2003

Co-chair of "Expanding Your Horizons in Math and Science: Conference for Young Women in Grades 7 through 9", 2001-2002