

BIOGRAPHICAL SKETCH

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NAME Scott Lovell		POSITION TITLE Director, Protein Structure Laboratory	
eRA COMMONS USER NAME (credential, e.g., agency login) SWLOVELL			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Nebraska at Omaha, Omaha, NE	BS	1994	Chemistry
Purdue University, West Lafayette, IN	PhD	2000	Organic Chemistry
University of Wisconsin, Madison, WI	Postdoctoral	2002	Protein Crystallography

Please refer to the application instructions in order to complete sections A, B, and C of the Biographical Sketch.

A. Personal Statement

I currently serve as the Director of the Protein Structure Core Laboratory (PSL) supported by an NIH-COBRE grant. The goal of this grant is to mentor junior faculty as they develop a quality, externally funded research program. The main objective as Director of the PSL is to provide assistance to COBRE investigators, and other researchers throughout Kansas and surrounding regions, in performing structural studies of their proteins using X-ray crystallography. Prior to directing the PSL, I managed a structural biology group in industry and was responsible for overseeing all areas of client gene-to-structure projects which included; initial construct design, expression, purification, crystallization, X-ray data collection, structure solution and refinement of the final structural model.

B. Positions and Honors.**Positions and Employment**

1997-2000 Staff X-ray Crystallographer, University of Washington, Seattle, WA
 2000-2002 Post doctoral Research Associate and Staff Scientist, University of Wisconsin, Madison, WI
 2002-2003 Crystallographer, Advanced X-ray Analytical Services, COM-CAT Sector 32 Advanced Photon Source, Argonne National Laboratories, Argonne, IL
 2002-2008 Senior Research Scientist/Group Leader, deCODE biostructures, Woodridge, IL
 2008- Director (Protein Structure Laboratory), COBRE in Protein Structure and Function, University of Kansas, Lawrence, KS

Other Experience and Professional Memberships

1997- American Crystallographic Association (ACA) Member

C. Selected peer-reviewed publications.

(Selected from 45 peer-reviewed publications)

1. Auld DS, Lovell S, Thorne N, Lea WA, Maloney DJ, Shen M, Rai G, Battaile KP, Thomas CJ, Simeonov A, Hanzlik RP, Inglese J. Molecular Basis for the High Affinity Binding and Stabilization of Firefly Luciferase by PTC124. *PNAS*, 2010;107:4878-4883. PMID:20194791
2. Weeratunga SK, Lovell S, Yao H, Battaile KP, Fischer CJ, Gee CE, Rivera M. Structural Studies of Bacterioferritin B from *Pseudomonas aeruginosa* Suggest a Gating Mechanism for Iron Uptake via the Ferroxidase Center. *Biochemistry*, 2010;49:1160-1175. PMID: 20067302
3. Williams AS, Lovell S, Anbanandam A, El-Chami R, Bann JG. Domain 4 of the anthrax protective antigen maintains structure and binding to the host receptor CMG2 at low pH. *Protein Science*, 2009;18:2277-2286. PMID:19722284
4. Weeratunga SK, Gee CE, Lovell S, Zeng Y, Woodin CL, Rivera M. Binding of *Pseudomonas aeruginosa* Apobacterioferritin-Associated Ferredoxin to Bacterioferritin B Promotes Heme Mediation of Electron Delivery and Mobilization of Core Mineral Iron. *Biochemistry*, 2009;48:7420-7431. PMID:19575528
5. Raymond A, Lovell S, Lorimer D, Walchli J, Mixon M, Wallace E, Thompkins K, Archer K, Burgin A, Stewart L. Combined protein construct and synthetic gene engineering for heterologous protein expression and crystallization using Gene Composer." *BMC Biotechnology*, 2009;9:37. PMID:19383143
6. Gerdts CJ, Elliott M, Lovell S, Mixon MB, Napuli AJ, Staker BL, Nollert P, Stewart L. The plug-based nanovolume Microcapillary Protein Crystallization System (MPCS). *Acta Crystallogr D* 2008;64:1116-1122. PMID:PMC2585160
7. Klenchin VA, Czyz A, Goryshin IY, Gradman R, Lovell S, Rayment I, Reznikoff WS. Phosphate coordination and movement of DNA in the Tn5 synaptic complex: role of the (R)YREK motif. *Nucleic Acids Res* 2008;36:5855-5862. PMID:18790806
8. Braselmann S, Taylor V, Zhao H, Wang S, Sylvain C, Baluom M, Qu K, Herlaar E, Lau A, Young C, Wong BR, Lovell S, Sun T, Park G, Argade A, Jurcevic S, Pine P, Singh R, Grossbard EB, Payan DG, Masuda ES. R406, an orally available spleen tyrosine kinase inhibitor blocks fc receptor signaling and reduces immune complex-mediated inflammation. *J Pharmacol Exp Ther* 2006;319:998-1008. PMID:16946104
9. Benedict JB, Cohen DE, Lovell S, Rohl AL, Kahr B. What is Syncrystallization? States of the pH Indicator Methyl Red in Crystals of Phthalic Acid. *J Am Chem Soc* 2006;128:5548-5559. PMID:16620129
10. Dyer DH, Lovell S, Thoden JB, Holden HM, Rayment I, Lan Q. The Structural Determination of an Insect Sterol Carrier Protein-2 with a Ligand Bound C16 Fatty Acid at 1.35Å Resolution. *J Biol Chem* 2003;278:39085-39091. PMID:12855689
11. Steiniger-White M, Bhasin A, Lovell S, Rayment I, Reznikoff WS. Evidence for "Unseen" Transposase-DNA Contacts. *J Mol Biol* 2002;322:971-982. PMID:12367522
12. Lovell S, Goryshin IY, Reznikoff WR, Rayment I. Two Metal Active Site Binding of a Tn5 Transposase Synaptic Complex. *Nat Struct Biol* 2002;9:278-281. PMID:11896402

13. Lovell S, Marquardt B, Kahr B. Crystal Violet's Shoulder. J Chem Soc Perk T 2 1999;11:2241-2248.
14. Lovell S, Subramony P, Kahr B. Poppy Acid: Total Synthesis, Molecular Structure, Crystal Chemistry. J Am Chem Soc 1999;121:7020-7025.
15. Kurimoto M, Subramony P, Gurney RW, Lovell S, Chmielewski J, Kahr B. Kinetic Stabilization of Biopolymers in Single Crystal Hosts: Green Fluorescent Protein in α -Lactose Monohydrate. J Am Chem Soc, 1999;121:6952-6953.

D. Research Support

Ongoing Research Support

5 P20 RR017708-06 (PI: R.P. Hanzlik)

09/30/02-03/31/13

National Institutes of Health COBRE

Protein Structure and Function

Core C: Protein Structure Laboratory

This COBRE is designed to mentor junior faculty as they develop a quality, externally funded research program. The major goal of the Protein Structure Laboratory is to provide assistance to COBRE faculty and other researchers throughout Kansas and the surrounding regions in performing structural studies using X-ray crystallography.

Role: Core Lab Director