

# Curriculum Vitae

## John Patrick Rose

### 1. Academic History

- a. Name: John Patrick Rose
- b. Rank: Associate Professor, Department of Biochemistry & Molecular Biology, Appointed July 1, 2004
- c. Tenure Status: Tenured
- d. Administrative Title: Asst. Director Southeast Collaborative Access Team, Advanced Photon Source, Argonne National Laboratory
- e. Graduate Faculty: Full (Appointed April 1997)
- f. Highest Earned Degree: Ph.D., Rutgers University, Newark, NJ, June 1980
  - 1971-1974 Benedictine College, Atchison, KS B.A. Chemistry
  - 1975-1980 Rutgers University, Newark, NJ Ph.D. Physical Chemistry
  - 1980-1986 University of Pittsburgh, Pittsburgh, PA Postdoctoral Fellow Crystallography

### g. Academic Positions:

- 1986-1995 Manager, Shared X-ray Diffraction Facility, University of Pittsburgh
- 1989-1995 Research Assistant Professor, Department of Crystallography, University of Pittsburgh
- 1995-1999 Adjunct Asst. Professor, Dept. of Crystallography, University of Pittsburgh
- 1995-2002 Assoc. Research Scientist, Biochemistry & Molecular Biology, University of Georgia
- 1995-Present Asst. Director BioCrystallography Laboratory, University of Georgia
- 1999-Present Asst. Director Southeast Collaborative Access Team, Advanced Photon Source, Argonne National Laboratory
- 2002-2004 Senior Research Scientist, Biochemistry & Molecular Biology, University of Georgia
- 2004-present Associate Professor, Biochemistry & Molecular Biology, University of Georgia
- 2013-present Director, UGA X-ray Diffraction Core Facility

### h. Other professional employment

- 1984-1986 Consultant, Starzl group, Dept. of Surgery, University of Pittsburgh
- 1989-1999 Consultant, Protein Data Bank, Brookhaven National Laboratory, Upton NY
- 1990-1992 Visiting Specialist, Institute of Molecular Biology, Academia Sinica, R.O.C.

### i. Post-graduate awards:

- 1981 National Research Council Travel Award to attend 12th IUCr Congress, Ottawa, Canada.
- 1984 National Research Council Travel Award to attend 13th IUCr Congress, Hamburg, Germany

### 2. Resident instruction and continuing education

#### a. Undergraduate instruction University of Georgia:

Developed a Freshman Seminar (FRES1010) entitled "Protein Structure and Function", aimed at giving students insight into where proteins come from and how their 3D structure can give us valuable clues to their function (2009).

Co-Developed with Drs. Wendt Dustman UGA (Microbiology) and Julie Kittleston (UGA Math & Science Education) a one-week resident workshop (the UGA Biotech Boot Camp) in Biotechnology for 15 Georgia high school science teachers, June 2010.

Instructor, FRES1010: Freshman Seminar "Protein Structure and Function", 8 – 15 students, 1 credit, Fall 2009 – 2010.

Project Director and Instructor for the "UGA Biotech Boot Camp", 10 -16 high school teachers, 5PLU's, 2010 – 2017.

Instructor, First Year Odyssey entitled "Protein Structure and Function", 10 – 15 students, 1 credit, Fall 2011 – 2017.

Co-Instructor, BCMB 3100 "Introduction to Biochemistry", 75 - 215 students, 3 credits, Spring (2010-2018) and Fall (2011, 2016-2017).

#### b. Graduate instruction University of Georgia:

Co-Instructor, BCMB8060: Seminar, (30-40 students), 1-2 credits, 2004-2005,

Co-Instructor, BCMB8180: Protein Crystallography, (5 – 15 students), 3 credits, Spring 2006, 2008.

Developed a graduate practicum (BCMB8181) entitled “X-ray structure Determination” aimed at giving students hands-on experience in X-ray structure determination. Topics covered include: crystallization, data collection, phasing methods, model building, structure refinement, structure validation, structure analysis and publication (2008).

Instructor, BCMB 8181: X-ray Structure Determination, (5 - 15 students), 3 credits, Fall 2008, 2010.

Lecturer, BCMB8330: Biomolecular Modeling and Simulation, (12 students), 3 credits, Spring 2010,

Co-Instructor BCMB8040: Advanced Physical Biochemistry, (5-15 students), 3-5 credits, Fall 2003, 2004, 2005, 2009, 2011.

Co-Instructor, GRS7770: Graduate Teaching Assistant Seminar: Introduction to teaching, (15 – 25 students), 2 credits, Fall 2014.

Lecturer, BCMB4030/6030: Basic Techniques in Biochemistry and Molecular Biology, (12 students), 3 credits, Fall 2017.

Co-Instructor, BCMB8110: Protein Structure and Function, (5 – 20 students), 3 credits, Spring 2004, 2007, 2010, 2012, 2014, 2016, 2017.

c. Academic advising: - None.

### 3. Scholarly activities

#### a. Publications

i. **Books authored or co-authored: None**

ii. **Books edited and co-edited: None**

iii. **Chapters in books:**

Rose, J.P., M.G. Newton, and B.C. Wang, *Protein Crystallography and X-Ray Diffraction*, in *Imaging Life: Biological Systems from Atoms to Tissues*, G.C. Howard, W.E. Brown, and M. Auer, Eds. Oxford University Press: New York, NY, 2014; pp. 15 - 50.

Chen, C. J.; Rose, J. P.; Newton, M. G.; Liu, Z. J.; Wang, B. C., Chapter 2 Protein Crystallography. In *Modern Protein Chemistry - Practical Aspects*, Howard, G. C.; Brown, W. E., Eds. CRC Press: Boca Raton, FL, 2002; pp 7-36.

iv. **Monographs: None**

v. **Journal Articles: Refereed scholarly articles (128 total)**

1. Rose, J.P. and B.-C. Wang, *SAD phasing: History, current impact and future opportunities*. Archives of Biochemistry and Biophysics, 2016. **602**: p. 80-94.
2. Xu, C., et al., *Crystal structure of Cry5IAa1: A potential novel insecticidal aerolysin-type beta-pore-forming toxin from Bacillus thuringiensis*. Biochem Biophys Res Commun, 2015.
3. Sun, X., et al., *Structural Insights into Substrate Specificity of Feruloyl-CoA 6'-Hydroxylase from Arabidopsis thaliana*. Sci Rep, 2015. **5**: p. 10355.
4. Rose, J.P., B.-C. Wang, and M.S. Weiss, *Native SAD is maturing*. IUCrJ, 2015. **2**(4).
5. Weinert, T., et al., *Fast native-SAD phasing for routine macromolecular structure determination*. Nat Methods, 2014. **12**(2): p. 131-3.
6. Rose, J.P., M.G. Newton, and B.C. Wang, *Protein Crystallography and X-Ray Diffraction*, in *Imaging Life: Biological Systems from Atoms to Tissues*, G.C. Howard, W.E. Brown, and M. Auer, Editors. 2014, Oxford University Press. p. 15.
7. Wang, Z.M., et al., *Structural studies of several clinically important oncology drugs in complex with human serum albumin*. Biochimica Et Biophysica Acta-General Subjects, 2013. **1830**(12): p. 5356-5374.
8. Stepanyuk, G.A., et al., *Spatial structure of the novel light-sensitive photoprotein berovin from the ctenophore Beroe abyssicola in the Ca(2+)-loaded apoprotein conformation state*. Biochim Biophys Acta, 2013. **1834**(10): p. 2139-46.
9. Zhu, J.Y., et al., *Structure of the Archaeoglobus fulgidus orphan ORF AF1382 determined by sulfur SAD from a moderately diffracting crystal*. Acta Crystallogr D Biol Crystallogr, 2012. **68**(Pt 9): p. 1242-52.
10. Rose, J.P., W. Dustman, and J. Kittleson, *The UGA Biotech Boot Camp: Introducing Georgia High School Teachers to Biotechnology and the PDB*, in *The Protein Data Bank News Letter* 2012, Research Collaboratory for Structural Bioinformatics Protein Data Bank: Piakatway, NJ. p. 6-7.
11. Hempel, J., et al., *Aldehyde Dehydrogenase Catalytic Mechanism A Proposal*, in *Enzymology and Molecular Biology of Carbonyl Metabolism* H. Weiner, et al., Editors. 2012, Springer. p. 53.

12. Florence, Q., et al., *The structure of augments of liver regeneration crystallized in the presence of 50 mM CdCl<sub>2</sub> reveals a novel Cd<sub>2</sub>Cl<sub>4</sub>O<sub>6</sub> cluster that aids in crystal packing*. Acta Crystallogr D Biol Crystallogr, 2012. **68**(Pt 9): p. 1128-33.
13. Stepanyuk, G.A., et al., *Structure based mechanism of the Ca(2+)-induced release of coelenterazine from the Renilla binding protein*. Proteins, 2009. **74**(3): p. 583-93.
14. Shaw, N., et al., *(NZ)CH...O contacts assist crystallization of a ParB-like nuclease*. BMC Struct Biol, 2007. **7**: p. 46.
15. Kelley, L.L., et al., *Structure of the hypothetical protein PF0899 from Pyrococcus furiosus at 1.85 Å resolution*. Acta Crystallogr Sect F Struct Biol Cryst Commun, 2007. **63**(Pt 7): p. 549-52.
16. Gerwe, B., et al., *Structural and transcriptional analyses of a purine nucleotide-binding protein from Pyrococcus furiosus: a component of a novel, membrane-bound multiprotein complex unique to this hyperthermophilic archaeon*. J Struct Funct Genomics, 2007. **8**(1): p. 1-10.
17. Fu, Z.-Q., et al., *A parallel program using SHELXD for quick heavy-atom partial structural solution on high-performance computers*. Journal of Applied Crystallography, 2007. **40**(2): p. 387-390.
18. Das, A., et al., *Characterization of a corrinoid protein involved in the C1 metabolism of strict anaerobic bacterium Moorella thermoacetica*. Proteins, 2007. **67**(1): p. 167-76.
19. Dailey, H.A., et al., *Altered orientation of active site residues in variants of human ferrochelatase. Evidence for a hydrogen bond network involved in catalysis*. Biochemistry, 2007. **46**(27): p. 7973-9.
20. Cacciapuoti, G., et al., *The first agmatine/cadaverine aminopropyl transferase: biochemical and structural characterization of an enzyme involved in polyamine biosynthesis in the hyperthermophilic archaeon Pyrococcus furiosus*. J Bacteriol, 2007. **189**(16): p. 6057-67.
21. Wang, Y., et al., *Reconstruction of ancient genome and gene order from complete microbial genome sequences*. J Theor Biol, 2006. **239**(4): p. 494-8.
22. Ruble, J.R., B.C. Wang, and J.P. Rose, *A simple method for motorized alignment of Osmic confocal optics*. Journal of Applied Crystallography, 2006. **39**: p. 892-894.
23. Rose, J.P., et al., *High throughput de novo structure determination on a home source using quick soaks, ACTOR and parameter space screening*. Rigaku, J., 2006. **23**: p. 3-12.
24. Hiyama, T.B., et al., *Structural basis of CoA recognition by the Pyrococcus single-domain CoA-binding proteins*. J Struct Funct Genomics, 2006. **7**(3-4): p. 119-29.
25. Zhou, W., et al., *Isolation, crystallization and preliminary X-ray analysis of a methanol-induced corrinoid protein from Moorella thermoacetica*. Acta Crystallogr Sect F Struct Biol Cryst Commun, 2005. **61**(Pt 5): p. 537-40.
26. Xu, H., et al., *Away from the edge II: in-house Se-SAS phasing with chromium radiation*. Acta Crystallogr D Biol Crystallogr, 2005. **61**(Pt 7): p. 960-6.
27. Wang, B.C., et al., *Protein production and crystallization at SECSG -- an overview*. J Struct Funct Genomics, 2005. **6**(2-3): p. 233-43.
28. Tempel, W., et al., *Three-dimensional structure of GlcNAc $\alpha$ 1-4Gal releasing endo-beta-galactosidase from Clostridium perfringens*. Proteins, 2005. **59**(1): p. 141-4.
29. Shah, A.K., et al., *On increasing protein-crystallization throughput for X-ray diffraction studies*. Acta Crystallogr D Biol Crystallogr, 2005. **61**(Pt 2): p. 123-9.
30. Newton, M.G., et al., *A non-natural dinucleotide containing an isomeric L-related deoxynucleoside: dinucleotide inhibitors of anti-HIV integrase activity*. Acta Crystallogr C, 2005. **61**(Pt 8): p. o518-20.
31. Liu, Z.J., et al., *The high-throughput protein-to-structure pipeline at SECSG*. Acta Crystallogr D Biol Crystallogr, 2005. **61**(Pt 6): p. 679-84.
32. Liu, Z.J., et al., *Salvaging Pyrococcus furiosus protein targets at SECSG*. J Struct Funct Genomics, 2005. **6**(2-3): p. 121-7.
33. Liu, Z.J., et al., *Parameter-space screening: a powerful tool for high-throughput crystal structure determination*. Acta Crystallogr D Biol Crystallogr, 2005. **61**(Pt 5): p. 520-7.
34. Kataeva, I., et al., *Improving solubility of Shewanella oneidensis MR-1 and Clostridium thermocellum JW-20 proteins expressed into Escherichia coli*. J Proteome Res, 2005. **4**(6): p. 1942-51.
35. Fu, Z.Q., J. Rose, and B.C. Wang, *SGXPro: a parallel workflow engine enabling optimization of program performance and automation of structure determination*. Acta Crystallogr D Biol Crystallogr, 2005. **61**(Pt 7): p. 951-9.
36. Deng, L., et al., *All three Ca<sup>2+</sup>-binding loops of photoproteins bind calcium ions: the crystal structures of calcium-loaded apo-aequorin and apo-obelin*. Protein Sci, 2005. **14**(3): p. 663-75.
37. Deng, L., et al., *All three Ca [superscript 2+] -binding loops of photoproteins bind calcium ions: The crystal structures of calcium-loaded apo-aequorin and apo-obelin*. Protein Sci., 2005. **14**(3).
38. Arendall, W.B., 3rd, et al., *A test of enhancing model accuracy in high-throughput crystallography*. J Struct Funct Genomics, 2005. **6**(1): p. 1-11.
39. Tempel, W., et al., *Structural genomics of Pyrococcus furiosus: X-ray crystallography reveals 3D domain swapping in rubrerythrin*. Proteins, 2004. **57**(4): p. 878-82.
40. Tempel, W., et al., *Structure of mouse Golgi alpha-mannosidase IA reveals the molecular basis for substrate specificity among class I (family 47 glycosylhydrolase) alpha1,2-mannosidases*. J Biol Chem, 2004. **279**(28): p. 29774-86.

41. Schubot, F.D., et al., *Structural basis for the exocellulase activity of the cellobiohydrolase CbhA from Clostridium thermocellum*. *Biochemistry*, 2004. **43**(5): p. 1163-70.
42. Rose, J.P., et al., *Practical aspects of SAS phasing using chromium X-rays*. *Rigaku, J.*, 2004. **21**: p. 1-9.
43. Kataeva, I.A., et al., *Interactions between immunoglobulin-like and catalytic modules in Clostridium thermocellum cellulosomal cellobiohydrolase CbhA*. *Protein Eng Des Sel*, 2004. **17**(11): p. 759-69.
44. Jin, S., et al., *X-ray crystal structure of Desulfovibrio vulgaris rubrerythrin with zinc substituted into the [Fe(SCys)<sub>4</sub>] site and alternative diiron site structures*. *Biochemistry*, 2004. **43**(11): p. 3204-13.
45. Jin, S., et al., *Displacement of iron by zinc at the diiron site of Desulfovibrio vulgaris rubrerythrin: X-ray crystal structure and anomalous scattering analysis*. *J Inorg Biochem*, 2004. **98**(5): p. 786-96.
46. Fu, Z.Q., J.P. Rose, and B.C. Wang, *Monitoring the anomalous scattering signal and noise levels in X-ray diffraction of crystals*. *Acta Crystallogr D Biol Crystallogr*, 2004. **60**(Pt 3): p. 499-506.
47. Deng, L., et al., *Structure determination of fibrillarlin from the hyperthermophilic archaeon Pyrococcus furiosus*. *Biochem Biophys Res Commun*, 2004. **315**(3): p. 726-32.
48. Deng, L., et al., *Preparation and X-ray crystallographic analysis of the Ca<sup>2+</sup>-discharged photoprotein obelin*. *Acta Crystallogr D Biol Crystallogr*, 2004. **60**(Pt 3): p. 512-4.
49. Deng, L., et al., *Crystal structure of a Ca<sup>2+</sup>-discharged photoprotein: implications for mechanisms of the calcium trigger and bioluminescence*. *J Biol Chem*, 2004. **279**(32): p. 33647-52.
50. Deng, L., et al., *Crystallization and preliminary X-ray analysis of GlcNAc alpha 1,4Gal-releasing endo-beta-galactosidase from Clostridium perfringens*. *Acta Crystallogr D Biol Crystallogr*, 2004. **60**(Pt 3): p. 537-8.
51. Chen, L., et al., *The hyperthermophile protein Sso10a is a dimer of winged helix DNA-binding domains linked by an antiparallel coiled coil rod*. *J Mol Biol*, 2004. **341**(1): p. 73-91.
52. Wu, C.K., et al., *The crystal structure of augments of liver regeneration: A mammalian FAD-dependent sulfhydryl oxidase*. *Protein Sci*, 2003. **12**(5): p. 1109-18.
53. Vysotski, E.S., et al., *Violet bioluminescence and fast kinetics from W92F obelin: structure-based proposals for the bioluminescence triggering and the identification of the emitting species*. *Biochemistry*, 2003. **42**(20): p. 6013-24.
54. Liu, Z.J., et al., *Atomic resolution structure of obelin: soaking with calcium enhances electron density of the second oxygen atom substituted at the C2-position of coelenterazine*. *Biochem Biophys Res Commun*, 2003. **311**(2): p. 433-9.
55. Karaveg, K., et al., *Crystallization and preliminary X-ray diffraction analysis of lectin-I from Pseudomonas aeruginosa*. *Acta Crystallogr D Biol Crystallogr*, 2003. **59**(Pt 7): p. 1241-2.
56. Adams, M.W., et al., *The Southeast Collaboratory for Structural Genomics: a high-throughput gene to structure factory*. *Acc Chem Res*, 2003. **36**(3): p. 191-8.
57. Srinivasan, V., et al., *Towards the crystal structure of glycerol dehydrogenase from Thermotoga maritima*. *Acta Crystallogr D Biol Crystallogr*, 2002. **58**(Pt 5): p. 867-9.
58. Jin, S., et al., *X-ray crystal structures of reduced rubrerythrin and its azide adduct: a structure-based mechanism for a non-heme diiron peroxidase*. *J Am Chem Soc*, 2002. **124**(33): p. 9845-55.
59. Chen, C.J., et al., *Protein Crystallography*, in *Modern Protein Chemistry - Practical Aspects*, G.C. Howard and W.E. Brown, Editors. 2002, CRC Press: Boca Raton, FL. p. 7-36.
60. Wu, C.K., et al., *Structures of an unliganded neurophysin and its vasopressin complex: implications for binding and allosteric mechanisms*. *Protein Sci*, 2001. **10**(9): p. 1869-80.
61. Wu, C.K., et al., *The 2.0 Å structure of human ferrochelatase, the terminal enzyme of heme biosynthesis*. *Nat Struct Biol*, 2001. **8**(2): p. 156-60.
62. Vysotski, E.S., et al., *Preparation and X-ray crystallographic analysis of recombinant obelin crystals diffracting to beyond 1.1 Å*. *Acta Crystallogr D Biol Crystallogr*, 2001. **57**(Pt 12): p. 1919-21.
63. Vysotski, E.S., et al., *Crystal Structure of the Calcium-Regulated Photoprotein Obelin Solved at 1.1 Å Resolution: Implications for the Mechanism of Bioluminescence*. in *Proceedings of the 11th international symposium on bioluminescence and chemiluminescence*. 2001.
64. Tempel, W., et al., *The xenograft antigen in complex with GS-I-B4 lectin: crystallization and preliminary X-ray analysis*. *Acta Crystallogr D Biol Crystallogr*, 2001. **57**(Pt 11): p. 1639-42.
65. Schubot, F.D., et al., *Structural basis for the substrate specificity of the feruloyl esterase domain of the cellulosomal xylanase Z from Clostridium thermocellum*. *Biochemistry*, 2001. **40**(42): p. 12524-32.
66. Schubot, F.D., et al., *Crystal structure of the transcription factor sc-mtTFB offers insights into mitochondrial transcription*. *Protein Sci*, 2001. **10**(10): p. 1980-8.
67. Rose, J.P., et al., *Using Single Wavelength Anomalous Scattering Data For In-House Protein Structure Determination*. *Rigaku, J.*, 2001. **18**: p. 4-12.
68. Liu, Z.-J., et al., *Crystal Structure of the Calcium-Regulated Photoprotein Obelin solved at 1.1 Å*. in *Proceedings of the 11th international symposium on bioluminescence and chemiluminescence*. 2001.
69. Farmer, C.S., et al., *The crystal structures of Phascolopsis gouldii wild type and L98Y methemerythrins: structural and functional alterations of the O<sub>2</sub> binding pocket*. *J Biol Inorg Chem*, 2001. **6**(4): p. 418-29.
70. Deng, L., et al., *Structural basis for the emission of violet bioluminescence from a W92F obelin mutant*. *FEBS Lett*, 2001. **506**(3): p. 281-5.

71. Wu, C.K., et al., *Expression, purification, crystallization and preliminary x-ray analysis of the augments of liver regeneration*. Protein and Peptide Letters, 2000. **7**(1): p. 25-32.
72. Schubot, F.D., et al., *Crystallization and preliminary X-ray diffraction analysis of the mitochondrial transcription factor sc-mtTFB from Saccharomyces cerevisiae*. Acta Crystallogr D Biol Crystallogr, 2000. **56**(Pt 7): p. 902-3.
73. Liu, Z.J., et al., *Structure of the Ca<sup>2+</sup>-regulated photoprotein obelin at 1.7 Å resolution determined directly from its sulfur substructure*. Protein Sci, 2000. **9**(11): p. 2085-93.
74. Dailey, H.A., et al., *Ferrochelatase at the millennium: structures, mechanisms and [2Fe-2S] clusters*. Cell Mol Life Sci, 2000. **57**(13-14): p. 1909-26.
75. Blum, D.L., et al., *Crystallization and preliminary X-ray analysis of the Clostridium thermocellum cellulosome xylanase Z.feruloyl esterase domain*. Acta Crystallogr D Biol Crystallogr, 2000. **56**(Pt 8): p. 1027-9.
76. Wang, K.F., et al., *Purification, crystallization and preliminary X-ray analysis of Drosophila melanogaster ferrochelatase*. Acta Crystallogr D Biol Crystallogr, 1999. **55**(Pt 6): p. 1201-3.
77. Vysotski, E.S., et al., *Preparation and preliminary study of crystals of the recombinant calcium-regulated photoprotein obelin from the bioluminescent hydroid Obelia longissima*. Acta Crystallogr D Biol Crystallogr, 1999. **55**(Pt 11): p. 1965-6.
78. Rose, J.P., et al., *GETENTRY: a simple Unix script for accessing the Protein Data Bank's anonymous ftp server*. Journal of Applied Crystallography, 1999. **32**(6): p. 1190-1190.
79. Hu, B., et al., *Improved crystals of bovine neurophysin II complexed with vasopressin*. Protein and Peptide Letters, 1999. **6**(2): p. 111-114.
80. Hempel, J., et al., *Aldehyde dehydrogenase catalytic mechanism. A proposal*. Adv Exp Med Biol, 1999. **463**: p. 53-9.
81. Chen, C.J., et al., *Low-salt crystallization of T7 RNA polymerase: a first step towards the transcription bubble complex*. Acta Crystallogr D Biol Crystallogr, 1999. **55**(Pt 6): p. 1188-92.
82. Carter, D.C., et al., *PCAM: a multi-user facility-based protein crystallization apparatus for microgravity*. Journal of Crystal Growth, 1999. **196**(2-4): p. 610-622.
83. Burden, A.E., et al., *Human ferrochelatase: crystallization, characterization of the [2Fe-2S] cluster and determination that the enzyme is a homodimer*. Biochim Biophys Acta, 1999. **1435**(1-2): p. 191-7.
84. Breslow, E., et al., *Structural basis of neurophysin hormone specificity: Geometry, polarity, and polarizability in aromatic ring interactions*. Protein Sci, 1999. **8**(4): p. 820-31.
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86. Sun, Y.J., et al., *The structure of glutamine-binding protein complexed with glutamine at 1.94 Å resolution: comparisons with other amino acid binding proteins*. J Mol Biol, 1998. **278**(1): p. 219-29.
87. Wu, C.-K., et al., *The Three-Dimensional Structure of Green Fluorescent Protein Resembles a Lantern, in Bioluminescence and Chemiluminescence: Molecular Reporting with Photons*, J.W. Hastings, L.J. Kricka, and P.E. Stanley, Editors. 1997, John Wiley & Sons: London. p. 399-402.
88. Rose, J.P., et al., *Crystallization and preliminary crystallographic data for the augments of liver regeneration*. Acta Crystallogr D Biol Crystallogr, 1997. **53**(Pt 3): p. 331-4.
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90. Liu, Z.J., et al., *The first structure of an aldehyde dehydrogenase reveals novel interactions between NAD and the Rossmann fold*. Nat Struct Biol, 1997. **4**(4): p. 317-26.
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93. Wu, C.K., et al., *Crystals of ligand-free bovine neurophysin II*. Acta Crystallogr D Biol Crystallogr, 1996. **52**(Pt 5): p. 946-9.
94. Rose, J.P., et al., *Crystal structure of the neurophysin-ocytocin complex*. Nat Struct Biol, 1996. **3**(2): p. 163-9.
95. Hu, B., et al., *Preliminary crystallographic analysis of bovine neurophysin II complexed with the hormones vasopressin and hydrin I*. Protein and Peptide Letters, 1996. **3**(5): p. 351-354.
96. Hsiao, C.D., et al., *The crystal structure of glutamine-binding protein from Escherichia coli*. J Mol Biol, 1996. **262**(2): p. 225-42.
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102. Hsiao, C.D., et al., *Crystals of glutamine-binding protein in various conformational states*. J Mol Biol, 1994. **240**(1): p. 87-91.
103. Fu, J.H., et al., *New crystal forms of a micro-class glutathione S-transferase from rat liver*. Acta Crystallogr D Biol Crystallogr, 1994. **50**(Pt 2): p. 219-24.
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**vii. Abstracts:**

Abstracts of many of the conference presentations (below) were printed in the conference programs.

**viii. Book reviews: None**

**ix. Works submitted but not yet accepted:**

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- Zhu, J., Huang, J., Stepanyuk, G., Chen, L., Chang, J., Zhao, M., Xu, H., Liu, Z.J., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), *Crystal structure of TT0030 from Thermus thermophilus*, Protein Data Bank Entry, 2IEL, 9/19/06
- Zhu, J., Swindell II, J.T., Chen, L., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Fu, Z.-Q., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of GK1651 from Geobacillus kaustophilus*, Protein Data Bank Entry, 2P17, 3/2/07
- Liu, Z.J., Li, Y., Chen, L., Zhu, J., Rose, J.P., Ebihara, A., Yokoyama, S., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of maltose transacetylase from Geobacillus kaustophilus P2(1) crystal form*, Protein Data Bank Entry, 2P20, 3/7/07
- Zhu, J., Swindell II, J.T., Chen, L., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Fu, Z.-Q., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of AQ1208 from Aquifex aeolicus*, Protein Data Bank Entry, 2P3E, 3/8/07
- Fu, Z.-Q., Chen, L., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Zhao, M., Dillard, B., Chrzas, J., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of Thermus thermophilus HB8 UDP-glucose 4-epimerase complex with NAD*, Protein Data Bank Entry, 2P5U, 3/16/07
- Fu, Z.-Q., Chen, L., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Zhu, J., Swindell, J.T., Chrzas, J., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of Thermus thermophilus HB8 UDP-glucose 4-epimerase complex with NAD*, Protein Data Bank Entry, 2P5Y, 3/16/07
- Fu, Z.-Q., Chen, L., Zhu, J., Swindell, J.T., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Chrzas, J., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of hypothetical protein PH0156 from Pyrococcus horikoshii OT3*, Protein Data Bank Entry, 2P62, 3/16/07
- Chen, L., Chen, L.-Q., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Zhao, M., Dillard, B., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal Structure of aq\_1716 from Aquifex Aeolicus VF5*, Protein Data Bank Entry, 2P68, 3/16/07
- Chen, L., Zhao, M., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Zhu, J., Swindell, J.T., Fu, Z.-Q., Chrzas, J., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Hypothetical protein PH0730 from Pyrococcus horikoshii OT3*, Protein Data Bank Entry, 2P8T, 3/23/07
- Chen, L., Li, Y., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Zhao, M., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of Enoyl-[acyl-carrier-protein] reductase (NADH) from Aquifex aeolicus VF5*, Protein Data Bank Entry, 2P91, 3/23/07
- Yang, H., Chen, L., Agari, Y., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of AQ2171 from Aquifex aeolicus*, Protein Data Bank Entry, 2P9J, 3/26/07

- Zhao, M., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Zhu, J., Swindell II, J.T., Chen, L., Fu, Z-Q., Charz, J., Rose, J.P., Wang, B-C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of conserved hypothetical protein MJ0922 from Methanocaldococcus jannaschii DSM 2661*, Protein Data Bank Entry, 2P9M, 3/26/07
- Dillard, B.D., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Rose, J.P., Wang, B-C., RIKEN Structural Genomics/Proteomics Initiative (RSGI), Southeast Collaboratory for Structural Genomics (SECSG), *Probable Glutaminase from Geobacillus kaustophilus HTA426*, Protein Data Bank Entry, 2PBY, 3/29/07
- Chen, L., Chen, L-Q., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Zhao, M., Li, Y., Fu, Z-Q., Rose, J.P., Wang, B-C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of acyl-CoA dehydrogenase from Geobacillus kaustophilus*, Protein Data Bank Entry, 2PG0, 4/6/07
- Swindell II, J.T., Chen, L., Zhu, J., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Fu, Z-Q., Chrzas, J., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of 3-oxoacyl-[acyl carrier protein] reductase TTHA0415 from Thermus thermophilus*, Protein Data Bank Entry, 2PH3, 4/10/07
- Chang, J.C., Yang, H., Hwang, J., Zhu, J., Chen, L., Fu, Z-Q., Xu, H., Rose, J.P., Wang, B-C., Southeast Collaboratory for Structural Genomics (SECSG), *Crystal structure of AF2093 from Archaeoglobus fulgidus*, Protein Data Bank Entry, 2PH7, 4/10/07
- Swindell II, J.T., Chen, L., Zhu, J., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Fu, Z-Q., Chrzas, J., Rose, J.P., Wang, B-C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of conserved uncharacterized protein PH0987 from Pyrococcus horikoshii*, Protein Data Bank Entry, 2PHC, 4/10/07
- Liu, Z.J., Tempel, W., Chen, L., Shah, A., Lee, D., Clancy-Kelley, L.L., Dillard, B.D., Rose, J.P., Sugar, F.J., Jenny Jr., F.E., Lee, H.S., Izumi, M., Shah, C., Poole III, F.L., Adams, M.W.W., Richardson, J.S., Richardson, D.C., Wang, B-C., Southeast Collaboratory for Structural Genomics (SECSG), *Crystal structure of an uncharacterized protein PF0899 from Pyrococcus furiosus*, Protein Data Bank Entry, 2PK8, 4/17/07
- Dailey, H.A., Wu, C.-K., Horanyi, P., Medlock, A.E., Najahi-Missaoui, W., Burden, A.E., Dailey, T.A., Rose, J.P., *Crystal structure of human ferrochelatase mutant with Phe 337 replaced by Ala*, Protein Data Bank Entry, 2PNJ, 4/24/07
- Dailey, H.A., Wu, C.-K., Horanyi, P., Medlock, A.E., Najahi-Missaoui, A.E.W., Burden, A., Dailey, T.A., Rose, J.P., *Crystal structure of human ferrochelatase mutant with His 263 replaced by Cys*, Protein Data Bank Entry, 2PO5, 4/25/07
- Dailey, H.A., Wu, C.-K., Horanyi, P., Medlock, A.E., Najahi-Missaoui, W., Burden, A., Dailey, T.A., Rose, J.P., *Crystal structure of human ferrochelatase mutant with His 341 replaced by Cys*, Protein Data Bank Entry, 2PO7, 4/25/07
- Newton, M.G., Takagi, Y., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Li, Y., Chen, L., Zhu, J., Ruble, J., Liu, Z.J., Rose, J.P., Wang, B-C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of uncharacterized protein JW3007 from Escherichia coli K12*, Protein Data Bank Entry, 2PW6, 5/10/07
- Chen, L., Tsukuda, M., Ebihara, A., Shinkai, A., Kuramitsu, S., Yokoyama, S., Chen, L-Q., Liu, Z-J., Lee, D., Chang, S-H., Nguyen, D., Rose, J.P., Wang, B-C., Southeast Collaboratory for Structural Genomics (SECSG), RIKEN Structural Genomics/Proteomics Initiative (RSGI), *Crystal structure of 2-C-methyl-D-erythritol 4-phosphate cytidylyltransferase from Thermus thermophilus HB8*, Protein Data Bank Entry, 2PX7, 5/14/07
- Zhu, J., Zhao, M., Fu, Z-Q., Yang, H., Chang, J., Xu, H., Chen, L., Liu, Z.J., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), *Crystal structure of AF1382 from Archaeoglobus fulgidus*, Protein Data Bank Entry, 2QVO, 8/8/07
- Zhu, J., Zhao, M., Fu, Z-Q., Yang, H., Chang, J., Xu, H., Chen, L., Liu, Z.J., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), *Crystal structure of AF1382 from Archaeoglobus fulgidus*, Protein Data Bank Entry, 3O3K, 09/16/10.
- Zhu, J., Zhao, M., Fu, Z-Q., Yang, H., Chang, J., Xu, H., Chen, L., Liu, Z.J., Rose, J.P., Wang, B.C., Southeast Collaboratory for Structural Genomics (SECSG), *Crystal structure of AF1382 from Archaeoglobus fulgidus*, Protein Data Bank Entry, 3OV8, 09/16/10

## **b. Creative contributions**

### **i. Patents**

- PCT/US03/21988 “Monitoring the signal-to-noise ratio in X-ray diffraction data” Wang, B.C., Fu, Z.-Q. and Rose, J.P. (2002).
- PTC/US04/05933 “High throughput methods for determining electron density distribution and structures of crystals” Praissman, J., Lin, D., Liu, Z.-J., Tempel, W., Rose, J. and Wang, B.C. (2004).

## **c. Grants submitted/received**

### **i. Grants submitted**

- Centering trace fluorescent labeled crystals for X-ray diffraction (1 R44 GM126610-01)**

Agency: National Institute of Health  
Award period: December 1, 2017, 1979 – November 30, 2019  
Amount Awarded: \$811,152  
Role: Investigator (PI, M. L. Pusey)

ii. **Grants funded**

**Structure-function of the neurophysin-hormone systems (RO1 GM46828)**

Agency: National Institute of Health  
Award period: April 1, 1979 – March 31, 1986  
Amount Awarded: \$627,382  
Role: Co-PI (PI, B.C. Wang)

**Structure-Function Relationships of RNA Polymerases (RO1 GM4193)**

Agency: National Institute of Health  
Award period: July 1994 – June 1999  
Amount Awarded: \$1,413,546  
Role: Co-PI (PI, B.C. Wang)

**Southeast Collaboratory for Structural Genomics (P50 GM62407)**

Agency: National Institute of Health  
Award period: October 2000 - September 2007  
Amount Awarded: ~\$28.9 million plus \$2 million matching  
Role: Co-PI (PI, B.C. Wang)

**University of Georgia Startup Package**

Agency: University of Georgia  
Award period: July 2007 - June 2009  
Amount Awarded: \$110,000 Total  
Role: PI

**Structural Studies Of The Hepatitis B Virus Surface Protein (Hbsag) Aimed At Developing Next Generation Vaccines (GRA.VAC09.F)**

Agency: Georgia Research Alliance  
Award period: July 1, 2008 - June 30, 2009  
Amount Awarded: \$50,000  
Role: PI

**Acquisition of a Microdiffractometer for SER-CAT (S10 RR25528)**

Agency: National Institute of Health  
Award period: January 6, 2009 to January 5, 2011  
Amount Awarded: \$414,083  
Role: PI

**Structural Studies Of The Hepatitis B Virus Surface Protein (Hbsag) Aimed At Developing Next Generation Vaccines (GRA.VAC10.E, competitive renewal)**

Agency: Georgia Research Alliance  
Award period: July 1, 2009 - June 30, 2010  
Amount Awarded: \$50,000  
Role: PD

**UGA Biotech Boot Camp (SBC25)**

Agency: Department of Education (Improving Teacher Quality State Grant)  
Period: July 1, 2009 to January 31, 2010  
Amount Awarded: \$37,081  
Role: PD

**UGA Biotech Boot Camp (SBC25)**

Agency: Department of Education (Improving Teacher Quality State Grant)  
Period: July 1, 2010 to May 31, 2011  
Amount Awarded: \$56,564

**UGA Biotech Boot Camp (SBC25)**

Agency: Department of Education (Improving Teacher Quality State Grant)  
Period: July 1, 2011 to January 31, 2012  
Amount Awarded: \$56,564

Role: PD

**UGA Biotech Boot Camp (S24)**

Agency: Department of Education (Improving Teacher Quality State Grant)

Period: June 1, 2013 to May 30, 2014

Amount Awarded: \$37,081

Role: PD

**MRI-Consortium: Acquisition Of A Large Format Area Detector Ser-Cat (1S10 RR028976)**

Agency: National Institute of Health

Award period: December 1, 2009 to June 30, 2014

Amount requested \$1,472,000

Role: Co-PI (PI, B.C. Wang)

**UGA Biotech Boot Camp (S4)**

Agency: Department of Education (Improving Teacher Quality State Grant)

Period: June 1, 2014 to May 30, 2015

Amount Awarded: \$40,482

Role: PD

**UGA Biotech Boot Camp (UGA3)**

Agency: Department of Education (Improving Teacher Quality State Grant)

Period: June 1, 2015 to May 30, 2016

Amount Awarded: \$45,787

Role: PD

**S10: ACQUISITION OF AN X-RAY GENERATOR/DETECTOR SYSTEM TO SUPPORT NIH RESEARCH AND TRAINING (1S10OD021762-01)**

Agency: National Institute of Health

Period: March 9, 2016 to March 8, 2017

Amount Awarded: \$411,786

Role: PI

**UGA Biotech Boot Camp (UGA2)**

Agency: Department of Education (Improving Teacher Quality State Grant)

Period: June 1, 2016 to May 30, 2017

Amount Awarded: \$61,640

Role: PD

**UGA Biotech Boot Camp (UGA3)**

Agency: Department of Education (Improving Teacher Quality State Grant)

Period: June 1, 2017 to May 30, 2018

Amount Awarded: \$53,088

Role: PD

**Construction and Operation of the Southeast Regional Collaborative Access Team (SER-CAT) Facility at the Advanced Photon Source, Argonne National Laboratory ([www.ser-cat.org](http://www.ser-cat.org))**

Agency: Various private, state, industry and government institutions

Award period: July 1999 – on going

Amount Awarded: \$14.8 million (capital costs) plus \$25.6 million (operation costs, ~\$2.1 million/year)

Role: Co-PI (PI, B.C. Wang)

**iii. Grants pending**

**iv. Grants under review**

**v. Grants planned**

**d. Recognition and awards**

1979 Graduate Student Research Award, Rutgers University

1979-1980 Graduate Student Research Fellowship, Rutgers University

**e. Areas in which research is done**

X-ray Structural biology, protein structure-function & biophysical studies of proteins in the mitochondrial inner membrane transport system including ALR, MIA40 & selected TIMs, structure assisted vaccine & therapeutic

design for hepatitis B, Ebola, flu and HIV, improved/automated methods for structure determination by single wavelength X-ray anomalous scattering and application of synchrotron X-rays to protein crystallography

#### **f. Supervision of student research**

##### **i. Master's thesis directed: None**

##### **ii. Doctorial dissertation directed:**

2007-2010      Quentin Florence, Ph.D., Department of Biochemistry and Molecular Biology, University of Georgia  
2007-2011      Dayong Zhou, Ph.D., Department of Biochemistry and Molecular Biology, University of Georgia

##### **iii. Thesis committee member:**

2004              Lisa Huang, Department of Biochemistry and Molecular Biology, UGA  
2008              Annaporani Ramiah, Department of Biochemistry and Molecular Biology, UGA

##### **iv. Dissertation committee member:**

1999              Chi-Kuei Wu, Department of Crystallography, University of Pittsburgh  
2001              Chun-Jung Chen, Department of Crystallography, University of Pittsburgh  
2001              Vasundara Srinivasan, Department of Biochemistry and Molecular Biology, UGA  
2002              Florian Schubot, Department of Biochemistry and Molecular Biology, UGA  
2006              Jeff Habel, Department of Biochemistry and Molecular Biology, UGA  
2006              Peter Horanyi, Department of Biochemistry and Molecular Biology, UGA  
2006              Gauri Wannere, Ph.D. committee Department of Chemistry, UGA  
2007              Hua Yang, Department of Biochemistry and Molecular Biology, UGA  
2007              Min Zhao, Department of Biochemistry and Molecular Biology, UGA  
2008              Jinyi Zhu, Department of Biochemistry and Molecular Biology, UGA  
2008              Sungguan Hong, Department of Chemistry, UGA  
2010              James Tucker Swindell II, Department of Physics, UGA  
2010              Brett Dillard, Department of Biochemistry and Molecular Biology, UGA  
2011              Yixuan Zhu, Department of Chemistry, UGA  
2014              Suet Yee Chong, Department of Biochemistry and Molecular Biology, UGA

##### **v. Undergraduate research supervisor:**

2006-2007      Chad Potts, BCMB4970, Department of Biochemistry and Molecular Biology, UGA  
2006-2007      Eghosa Oyegun, BCMB4970, LSAMP Scholar, Department of Biochemistry and Molecular Biology, UGA  
2008-2009      Tanzir Mortusa, BCMB4970, SURP Scholar (Summer 2008), LSAMP Scholar (2009) Department of Biochemistry and Molecular Biology, UGA  
2008              Cynthia Taylor, SURP Scholar (Summer 2008), Department of Biochemistry and Molecular Biology, UGA  
2008-2009      Qudus Qasim, BCMB4970, Department of Biochemistry and Molecular Biology, UGA  
2008-2009      Ronjon Banerjee, BCMB4970, Department of Biochemistry and Molecular Biology, UGA  
2008-2010      Silviu Teivsanu, BCMB4797, Department of Biochemistry and Molecular Biology, UGA  
2009              Marerq Tesfaye, BCMB4960, Department of Biochemistry and Molecular Biology, UGA  
2009-2010      Jessie Chen, BCMB4960, Department of Biochemistry and Molecular Biology, UGA  
2009-2010      Whitney C. Nwagbara, BCMB4960, LSAMP Scholar, Department of Biochemistry and Molecular Biology, UGA  
2009-2010      Si-ing Chen, BCMB4960, Department of Biochemistry and Molecular Biology, UGA  
2010-2011      Yasin Rasheed and Yusuf Olatunde Olanrewaju (BCMB4960) Department of Biochemistry and Molecular Biology, UGA  
2013-2013F      Shadrack Osei Baah, BCMB4960L, Department of Biochemistry and Molecular Biology, UGA  
2013-2013S      Hakeem Jamaal, BCMB4970L, Department of Biochemistry and Molecular Biology, UGA  
2014-2014F      Shadrack Osei Baah, BCMB4970L, Department of Biochemistry and Molecular Biology, UGA  
2014-2014S      Hakeem Jamaal, BCMB4970L, Department of Biochemistry and Molecular Biology, UGA  
2015-2015F      Adan Velasquez, Department of Biochemistry and Molecular Biology, UGA  
2016-2016S      Adan Velasquez, Department of Biochemistry and Molecular Biology, UGA

#### **g. Editorship or editorial board member of journals or other learned publications**

##### **i. Service as an editor, member of an editorial board, or as referee for a scholarly journal**

Reviewer: Nature Structure Biology and Bioinformatics, Biochemistry, Journal of Bacteriology, Journal of Molecular Biology, Protein Science, Proteins: Structure, Function and Bioinformatics, Cell Chemistry and Biology, Acta Crystallographica, Journal of Applied Crystallography

##### **ii. Convention papers since 1995 (bold text represents invited oral presentations)**

- Structure of T7 RNA Polymerase. B. C. Wang, R. Sousa, Y. J. Chung, J. P. Rose and E. Lafer, Abstr. R004, Keystone Symposium on Fundamental Mechanism of Transcription, Copper Mt., CO, April 1992.
- Comparison of the Alpha-Carbon Trace of Bacteriophage T7 RNA Polymerase and the Klenow Fragment of DNA polymerase I Reveals a 'Polymerase Fold'. Rui Sousa, John Rose, Yong Je Chung and Bi-Cheng Wang. Abstr. BB03, American Crystallographic Association Annual Meeting, Pittsburgh, PA, August 1992.
- The Octameric Histone Core of Nucleosome: Problems Encountered in the Structure Determination. Bi-Cheng Wang, John P. Rose, Gina Arents and E.N. Moudrainakris. Abstr. EE02, American Crystallographic Association Annual Meeting, Pittsburgh, PA, August 1992.
- Molecular Dynamics Simulations of Hormone Carrier Protein Neurophysin with and without Ligand. P. Arjunan, John P. Rose and Bi-Cheng Wang. Abstr. PA39, American Crystallographic Association Annual Meeting, Pittsburgh, PA, August 1992.
- X-ray Diffraction Analysis of Isoenzyme 3-3 Rat Liver Glutathione S-Transferase: New Crystal Forms. Jian Hua Fu, John P. Rose, Ming F. Tam, and Bi-Cheng Wang. Abstr. PA57, American Crystallographic Association Annual Meeting, Pittsburgh, PA, August 1992.
- Crystallographic Analysis of Human Chimeric a Class Glutathione S-Transferase. Ke Zeng, John P. Rose, Chen-Pei D. Tu and Bi-Cheng Wang. Abstr. PA58, American Crystallographic Association Annual Meeting, Pittsburgh, PA, August 1992.
- Crystallographic Analysis of a Glutamine Binding Protein. Chwan-Deng Hsiao, Yuh-Ju Sun, John P. Rose, Chin Ho and Bi-Cheng Wang, Abstr. PA63, American Crystallographic Association Annual Meeting, Pittsburgh, PA, August 1992.
- The Structure of the Neurophysin-oxytocin Complex at 2.8 Å Resolution. John P. Rose and Bi-Cheng Wang. Abstr. PB59, American Crystallographic Association Annual Meeting, Pittsburgh, PA, August 1992.
- The Structure of the Neurophysin-Oxytocin Complex at 2.8Å Resolution. J. P. Rose and B. C. Wang, 50th Annual Pittsburgh Diffraction Conference, Pittsburgh, PA, August 1992.
- The Refined Crystal Structure of a Neurophysin-Oxytocin Complex at 2.8Å Resolution. J. P. Rose, C. D. Hsiao and B. C. Wang, Abstr. PS-03.11.12, XVI Congress and General Assembly of the International Union of Crystallography, Beijing, China, August 1993.
- The Refined Crystal Structure of a Neurophysin-Dipeptide Complex at 2.5Å Resolution. C. K. Wu, J. P. Rose and B. C. Wang, Abstr. PS-03.11.13, XVI Congress and General Assembly of the International Union of Crystallography, Beijing, China, August 1993.
- The Intimate Interactions of the Love Hormone: The Crystal Structure of a Neurophysin-Oxytocin Complex. J. P. Rose, C. D. Hsiao and B. C. Wang, Abstr. P-17, 51st Annual Pittsburgh Diffraction Conference, Valley Forge, PA, November 1993.
- The Octameric Histone Core of Nucleosome: What We Learned from the Structure Determination Process. Bi-Cheng Wang, John P. Rose, Gina Arents and E.N. Moudrianakis. Abstr. H001, American Crystallographic Association Annual Meeting, Albuquerque, New Mexico, May 1993.
- The Thumb's Knuckle: Flexibility in the Thumb Subdomain of T7 RNA Polymerase Is Revealed by the Structure of a Chimeric T7/T3 RNA Polymerase. Rui Sousa, John P. Rose, and Bi-Cheng Wang. Abstr. PB05, Atlanta, GA June 1994.
- New Forms of Glutamine Binding Protein from *Escherichia Coli*. Yuh-Ju Sun, Chwan-Deng Hsiao, John Rose, Patricia F. Cottam, Chien-Ho and Bi-Cheng Wang. Abstr. PK04, American Crystallographic Association Annual Meeting, Atlanta, GA June 1994.
- GETENT: A Simple Script for Accessing the Protein Data Bank's Anonymous FTP Server. John P. Rose and Enrique E. Abola. Abstr. PM19, American Crystallographic Association Annual Meeting, Atlanta, GA, June 1994.
- Structures of a Chimeric Human Alpha Glutathione S-Transferase, GST121, and its Temperature Sensitive G28R Mutant. Ke Zeng, John P. Rose, Corey Strickland, Hong-Chi Chen, Chen-Pei D. Tu and Bi-Cheng Wang. Abstr. PTF07, American Crystallographic Association Annual Meeting, Atlanta, GA, June 1994.
- Crystals of Glutamine-Binding Protein in Various Conformational States. C-D. Hsiao, Y-J. Sun, J. P. Rose, P. F. Cottam, C. Ho and B. C. Wang, Abstr. PK04, Annual Meeting of the American Crystallographic Association, Atlanta, GA, June 25-July 1, 1994.
- Nothing Beats Good Data. John P. Rose, American Crystallographic Association Annual Meeting Meeting, Montreal, July 1995.**
- Preliminary Structure of A Neurophysin Hydrin I Complex. B. Hu, J. Fu, J. Rose and B. C. Wang, Abstr. W058, Annual Meeting of the American Crystallographic Association, Montreal, Canada, July 23-28, 1995.
- The Crystal Structure of Ligand-Free Neurophysin. C. K. Wu, J. Rose, E. Breslow and B. C. Wang, W059, Annual Meeting of the American Crystallographic Association, Montreal, Canada, July 23-28, 1995.

- Crystal Structure of Human Liver Mu Class Glutathione S-Transferase 1A-1A. P. L. Ong, K. Zeng, J. Rose, C. P. D. Tu and B. C. Wang, W091, Annual Meeting of the American Crystallographic Association, Montreal, Canada, July 23-28, 1995.
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- The Crystal Structure of Class 3 Aldehyde Dehydrogenase and Implications to the Class 1 and 2 Enzymes. Z.-J. Liu, J. Sun, J. Rose, D. Hsiao, W.-R. Chang, Y.-J. Chung, I. Kuo, J. Hempel, R. Lindahl and B. C. Wang, Abstr. PS-04.01.18, XVII Congress and General Assembly of the International Union of Crystallography, Seattle, WA, August 8-17, 1996.
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- Applying Parallel Computing for a Faster and Better Structure Solution, Zheng-Qing Fu, John Chrzas, James Fait, Zhongmin Jin, Andrew Howard, John Gonczy, John P. Rose, Bi-Cheng Wang, Congress of the International Union of Crystallography, Osaka Japan, 2008.
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**The MDS (Multiple-Dataset) Approach and its Implications for Dose Reduction for SAD, John P. Rose, Unmesh Chinte, Zheng-Qing (Albert) Fu, Hua Zhang, Lirong Chen, John Chrzas, and Bi-Cheng Wang, 70<sup>st</sup> Pittsburgh Diffraction Conference, Stanford University 2012.**

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**The SER-CAT Virtual Beamline: Lessons Learned When Over 95% of All Data is Collected Remotely. John Rose, John Chrzas, Jim Fait, John Goczy, Zheng-Qing "Albert" Fu, Zhongmin Jin, Rod Salazar, Unmesh Chinte, Palani Kandavelu, Gerold Rosenbaum, Bi-Cheng Wang, 71<sup>st</sup> Pittsburgh Diffraction Conference, Buffalo, NY 2013.**

A Few Handy Tools to Help Monitoring Data Quality On-the-Fly, Zheng-Qing Fu. John Rose, John Chrzas, Bi-Cheng Wang, Workshop on Advanced Data Collection With Multi-Axis Goniometer and Single Photon Counting Detector, Paul Scherrer Institute, Switzerland, 2013.

SER-CAT Scientific Highlights: Award-Winning Projects and Assisting Beamline Technologies. John P. Rose, Zheng-Qing "Albert" Fu, John Chrzas & Bi-Cheng Wang. BES Triennial Review of the APS, Argonne National Laboratory, Argonne, IL 2014.

Exploiting Selenium Labeled DNA for Phosphorus-SAD Phasing. Dayong Zhou, Unmesh Chinte, John P. Rose, Hua Zhang, Wen Zhang, Zhen Huang<sup>†</sup> and Bi-Cheng Wang. The 3rd International Conference on Nucleic Acid-Protein Chemistry and Structural Biology for Drug Discovery, Atlanta, GA 2014.

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Investigating Data Collection Strategies for the Rayonix MX300HS 10 Hz CCD Detector. Zhongmin Jin, John Chrzas, James Fait, Zheng-Qing Fu, Rod Salazar, John Gonczy, Unmesh Chinte, Palani Kandavelu, John P. Rose and Bi-Cheng Wang. XXIII Congress and General Assembly of the International Union of Crystallography Montreal, Canada 2014.

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SER-CAT Scientific Highlights: Award-Winning Projects and Assisting Beamline Technologies. John P. Rose, Zheng-Qing "Albert" Fu, John Chrzas & Bi-Cheng Wang. Annual Meeting of the Georgia Research Alliance. Atlanta, GA 2014.

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Exploring the Use of Wavelength-Dependent Diffraction Data for Future 4D Crystallography. Bi-Cheng Wang, Palani Kandavelu, Lirong Chen, John P. Rose, Dayong Zhou, Hua Zhang, Zheng-Qing Fu, Unmesh Chinte, James Fait and John Chrzas. 72<sup>nd</sup> Annual Pittsburgh Diffraction Conference. Athens, GA 2014.

SER-CAT Scientific Highlights: Award-Winning Projects and Assisting Beamline Technologies. John P. Rose, Zheng-Qing "Albert" Fu, John Chrzas & Bi-Cheng Wang. 72<sup>nd</sup> Annual Pittsburgh Diffraction Conference. Athens, GA 2014.

Exploring Data Collection Strategies for the Rayonix MX300HS 10 Hz CCD Detector. Zhongmin Jin, John Chrzas, James Fait, Zheng-Qing Fu, Rod Salazar, John Gonczy, Unmesh Chinte, Palani Kandavelu, John P. Rose and Bi-Cheng Wang. 72<sup>nd</sup> Annual Pittsburgh Diffraction Conference. Athens, GA 2014.

**Structural Insights into Substrate Specificity of Feruloyl-CoA 6'-Hydroxylase from *Arabidopsis thaliana*. John P. Rose, Seminar, Department of Biological Sciences, University of Alabama in Huntsville, AL 2015.**

Extracting an Extremely Weak Sulfur SAD Signal using Shutterless Data Collection and a High-Speed CCD Detector. Zheng-Qing, John Chrzas, Palani Kandavelu, Unmesh Chinte, James Fait, Rod Salazar, John Gonczy, John P Rose and B.C. Wang. Annual Meeting of the American Crystallographic Association, Philadelphia, PA 2015.

**Native SAD is Maturing. John P Rose, B.C. Wang and Manfred Weiss, Annual Meeting of the American Crystallographic Association, Philadelphia, PA 2015.**

**SAD Structure Determination at Pitt, UGA and SER-CAT. John P. Rose, 5th Winter School on Soft X-rays in macromolecular Crystallography, Athens, GA 2015.**

Investigating Data Collection Strategies for the Rayonix MX300HS 10 Hz CCD Detector. Zhongmin Jin, John Chrzas James Fait, Zheng-Qing Fu, Rod Salazar, John Gonczy, Unmesh Chinte, Palani Kandavelu, John P Rose and B.C. Wang. 5th Winter School on Soft X-rays in Macromolecular Crystallography, Athens, GA 2015.

SER-CAT Scientific Highlights: Award-Winning Projects and Assisting Beamline Technologies. John P Rose, John Chrzas, Zheng-Qing Fu, John P Rose and B.C. Wang. 5th Winter School on Soft X-rays in Macromolecular Crystallography, Athens, GA 2015.

**Biotechnology Tool Box. Catherine Teare Ketter, John Rose J and Chip Pollard. Georgia Science Teachers Association Annual Conference, Macon, GA 2015.**

**SER-CAT Scientific Highlights: Award-Winning Projects And Assisting Beamline Technologies And The 5th Winter School On Soft X-Rays In Macromolecular Crystallography To Be Held At Uga From March 1 To 4, 2015.** B.C. Wang and John P Rose. TGIF Seminar, Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA 2015.

**Integrating Biotechnology Lab Skills in Secondary Science. Catherine Teare Ketter, John Rose J and Latasha Campbell. Georgia Science Teachers Association Annual Conference, Atlanta, GA 2016.**



**SER-CAT/UGA Native-SAD Highlights. Rose, J., Fu, Z., Chen, L., Zhou, D., Zhang, H., Kandavelu, P., . . . Wang, B.C. 12th International Conference on Biology and Synchrotron Radiation, SLAC National Accelerator Laboratory, Stanford, CA 2016.**

On the Use of Soft X-ray Diffraction for Native-SAD and for Chromatic Exploration of Uncharted Aspects of Metals in Macromolecules: A New Pilot Program at the APS. Wang, B. C., Rose, J., Chrzas, J., Chen, L., Kandavelu, P., Zhou, D., . . . Mills, D. The 6th International Conference on Structural Biology, New Orleans, LA Keynote/Plenary, (2016).

UGA-APS Native SAD Pilot Program at SER-CAT 22BM for General Users. Wang, B. C., Rose, J., Chrzas, J., Chen, L., Kandavelu, P., Zhou, D., . . . Mills, D. American Crystallographic Association Annual Meeting, Denver, CO 2016.

**The next generation of X-ray structural biologists: button pushers or crystallographers? Rose, J., Fu, Z., Chrzas, J., & Wang, B. C. American Crystallographic Association Annual Meeting, Denver, CO 2016.**

Capability and Quality Evaluation of High-Speed Detectors. Fu, Z., Chrzas, J., Rose, J., Wang, B. C., & Wang, B. C. American Crystallographic Association Annual Meeting, Denver, CO 2016. International, Invited

Soft X-ray Diffraction for Macromolecules. Wang, B. C., Rose, J., Chrzas, J., Chen, L., Kandavelu, P., Zhou, D., . . . Mills, D. (2016). Annual Biophysics Society Meeting, National Tsing Hua University, Hsinchu, Taiwan. Keynote/Plenary, 2016.

**Mysteries of the crooked cell. Rose J. & Teare Ketter, C. Georgia Science Teachers Association Annual Conference, Atlanta, GA 2017.**

UGA-APS Pilot Program at SER-CAT 22BM: Phase II - Chromatic Exploration of Uncharted Aspects of Metals in Macromolecules. Wang, B. C., Rose, J., Chrzas, J., Chen, L., Kandavelu, P., Zhou, D., Chinte, U., Fu, Z.-Q., Jin, Z., Fait, J., Rosenbaum, G. & Mills, D. American Crystallographic Association Annual Meeting, New Orleans, LA 2017.

**Bence-Jones Protein Pav: the first ISIR structure. Rose, J.P., Yoo, C.S., Furey, W.F., Chang, C.-H., Sax, M., Wang, B.C., & Yang, D.S. American Crystallographic Association Annual Meeting, New Orleans, LA 2017.**

SER-CAT Staff Research and UGA-APS Pilot Program: Extending the Concept of Visible Light Color Photography to Synchrotron Crystallography. Wang, B. C., Rose, J., Chrzas, J., Chen, L., Kandavelu, P., Zhou, D., Chinte, U., Fu, Z.-Q., Jin, Z., Fait, J., Rosenbaum, G. & Mills, D. 75<sup>th</sup> Annual Pittsburgh Diffraction Conference. Indiana, PA 2017.

Bence-Jones Protein Pav: the first ISIR structure. Rose, J.P., Yoo, C.S., Furey, W.F., Chang, C.-H., Sax, M., Yang, D.S. & Wang, B.C., 75<sup>th</sup> Annual Pittsburgh Diffraction Conference. Indiana, PA 2017.

#### 4. Public Service

##### a. Local community services and relations

1992-2001	Dr. Rose was a laboratory instructor and lecturer for the American Crystallographic Association Summer Course in Crystallography. During this time he has helped train over 400 students (undergraduate, graduate, post-docs and faculty) in the data collection, structure solution and refinement procedures required in single-crystal X-ray diffraction.
2008-2009	Hosted Georgia Intern Fellowship Teacher (GIFT) Mr. Andrew Wang, a 9th grade biology teacher from Loganville High School, Loganville, GA
2006-2007	Hosted LSAMP Scholar Ms. Eghosa Oyegun
2008-2009	Hosted SURP Scholar (Summer 2008), LSAMP Scholar Tanzir Mortusa
2008-2008	Hosted SURP Scholar (Summer 2008) Ms. Cynthia Taylor,
2009-2009	Hosted Mr. Daniel Masciadri a high school student in the UGA Young Dawgs program
2009-2010	Hosted LSAMP Scholar Whitney C. Nwagbara
2010-2010	Organized the one-week UGA BioTech Boot Camp for Georgia high school science teachers at the University of Georgia, Athens, GA
2011-2017	Organized the one-week UGA BioTech Boot Camp for Georgia high school science teachers at the University of Georgia, Tifton, GA
2014-2014	Host, Experience UGA Biology 9th grade field trip
2015-2015	Host, Experience UGA Biology 9th grade field trip
2016-2016	Host, Experience UGA Biology 9th grade field trip
2016-2016	Judge Georgia Science & Engineering Fair, March 31, 2016–April 2, 2016

##### b. Service as a referee or member of advisory panel for federal, state or private agency allocating research funds

1999-2005	Member Scientific Review Committee, NIH ZRG1-MEDB study section
2002-2009	Member Scientific Review Committee, Alabama EPSCoR

2002 Member Scientific Review Committee, NIH ZRG1-BBCB study section  
2003 Member, North Carolina Biotechnology Review Panel  
2003 Member Scientific Review Committee, NIH ZRG3-BBCA study section  
2003 Member Scientific Review Committee, NIH ZRG1-BIO study section  
2003-2004 Member Scientific Review Committee, NIH ZRG3-SSSH study section  
2003-2005 Member Scientific Review Committee, NIH ZRG3-BMDA study section  
2004 Member Scientific Review Committee, NIH ZRG1-BPC-A study section  
2004 Member Scientific Review Committee, NIH ZRG1-BPC-E study section  
2005 Member Scientific Review Committee, NIH ZRG1-BCMB study section  
2005 Member Scientific Review Committee, NIH ZRG1 BCMB-Q study section  
2006 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-R study section  
2007 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-R study section  
2007 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-P study section  
2007 Reviewer Biophysical and Biological Sciences Research Council (U.K.)  
2008 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-P study section  
2009 Reviewer (ad hoc) Scientific Review Committee, NIH Grand Challenge Grants  
2009 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-P40 study section  
2010 Reviewer Improving Teacher Quality Grants, College of Education, University of Georgia  
2011 Reviewer Ralph E. Powe Junior Faculty Enhancement Awards Program, Oak Ridge Associated Universities  
2011 Reviewer Improving Teacher Quality Grants, College of Education, University of Georgia  
2012 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-P40 study section  
2012 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-R30 study section  
2012 Member (ad hoc) Scientific Review Committee, NIH ZRG1 IMST—G10 study section  
2012 Reviewer Improving Teacher Quality Grants, College of Education, University of Georgia  
2013 Chair (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-P40 study section  
2013 Reviewer Improving Teacher Quality Grants, College of Education, University of Georgia  
2014 Member (ad hoc) Scientific Review Committee, NIH ZRG1 IMST—K40 study section  
2014 Member (ad hoc) Triennial APS Sector Review Committee  
2014 Member DOE APS GMCA@APS Review Panel  
2014 Chair (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-P40 study section  
2015 Chair (ad hoc) Scientific Review Committee, NIH ZRG1 ZRG1 BCMB P 40 P study section  
2015 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-W (40) P study section  
2016 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-X (40) P study section  
2017 Member (ad hoc) Scientific Review Committee, NIH ZRG1 BCMB-D (50) R study section

**c. Sessions organized and chaired or service as a discussant at professional meetings**

1992 Poster Chairman, American Crystallographic Association Annual Meeting, Pittsburgh, PA  
1994 Co-organizer with Dr. William Furey Siemens Area Detector Users Group Meeting, University of Georgia  
1997 Co-organizer with Dr. Bi-Cheng Wang Siemens Area Detector Users Group Meeting, University of Georgia  
1997 Co-organizer with Dr. Bi-Cheng Wang Pittsburgh Diffraction Conference, University of Georgia  
1999 Founding Member, Southeast Regional Consortium (AL, FL, GA, KY, NC, SC, TN, and VA) for the development of synchrotron beamlines at the Advanced Photon Source, Argonne National Laboratory  
2002 Co-organizer with Dr. Bi-Cheng Wang UGA\_SECSG\_IBM Symposium, University of Georgia  
2002 Co-organizer with Dr. Bi-Cheng Wang SER-CAT Symposium, Advanced Photon Source, Argonne National Laboratory  
2002 Co-Chair, Symposium on crystallographic education, Congress of the International Union of Crystallography, Geneva, Switzerland  
2004 Co-organizer with Drs. Malcolm Capel, Stephan Ginell, and Lisa Keefe. PX Technology/Logistics Workshop, APS Users Meeting, Argonne National Laboratory  
2007 Poster Chairman, Annual Meeting of the American Crystallographic Association, Salt Lake City UT  
2008 Chairman with Dr. Gary Newton, Patterson Award Symposium, Annual Meeting of the American Crystallographic Association, Knoxville, TN  
2009 Program Chairman, 67th Pittsburgh Diffraction Conference, Athens, GA  
2009 Co-organizer with Dr. Bi-Cheng Wang, One-day Workshop on Sulfur SAD Data Collection and Phasing, University of Georgia, Athens, GA  
2010 Co-organizer with Dr. Bi-Cheng Wang and others, One-day Workshop on Sulfur SAD Data Collection and Phasing, Annual Meeting of the American Crystallographic Association, Chicago, IL

- 2010 Co-Organizer with Dr. Wendy Dustman UGA Biotech Boot Camp: a one-week resident workshop on biotechnology for GA high school science teachers, University of University of Georgia, Athens, GA
- 2011 Co-organizer with Dr. Bi-Cheng Wang and others, One-day Workshop on Soft X-ray Crystallography, Advanced Photon Source Users Meeting, Argonne National Laboratory.
- 2011 Co-Organizer with Dr. Wendy Dustman UGA Biotech Boot Camp: a one-week resident workshop on biotechnology for GA high school science teachers, University of University of Georgia, Tifton, GA
- 2012 Chair, Session on “Advanced Hardware and Applications” Annual Meeting of the American Crystallographic Association, Boston, MA
- 2012 Co-Organizer with Dr. Wendy Dustman UGA Biotech Boot Camp: a one-week resident workshop on biotechnology for GA high school science teachers, University of University of Georgia, Tifton, GA
- 2013 Co-Chair with Cora Lind, Joe Reibenspies, John Westbrook, Session on “Enabling Partnerships for Broader Crystallographic Data Accessibility, Annual Meeting of the American Crystallographic Association, Honolulu, HI
- 2013 Co-Chair with Marian Szebnyi, Session on “Multi-crystal and Micro-crystal Data Collection,“ Annual Meeting of the American Crystallographic Association, Honolulu, HI
- 2013 Co-Organizer with Dr. Wendy Dustman UGA Biotech Boot Camp: a one-week resident workshop on biotechnology for GA high school science teachers, University of University of Georgia, Tifton, GA
- 2014 Co-Chair with Daouda Traore, Symposium on “Exciting Structures, Annual Meeting of the American Crystallographic Association, Albuquerque, NM
- 2014 Co-Chair with Manfred Weiss, Symposium “MS40 - S-SAD and Other Applications of Soft X-rays in MX” Triennial Congress of the International Union of Crystallography, Montreal, Canada
- 2014 Program Chairman, 72th Pittsburgh Diffraction Conference, Athens, GA
- 2014 Co-Organizer, 44<sup>th</sup> Mid-Atlantic Macromolecular Crystallography meeting and SER-CAT Symposium, University of Maryland, IBBR Shady Grove Campus
- 2014 Co-Organizer with Dr. Catherine Teare Ketter UGA Biotech Boot Camp: a one-week resident workshop on biotechnology for GA high school science teachers, University of University of Georgia, Tifton, GA
- 2015 Co-organizer with Dr. Bi-Cheng Wang, 5<sup>th</sup> Winter School on Soft X-rays in Macromolecular Crystallography, University of Georgia, Athens, GA
- 2015 Chair Poster Judging Committee, Annual Meeting of the American Crystallographic Association, Philadelphia, PA
- 2015 Co-Organizer with Dr. Catherine Teare Ketter UGA Biotech Boot Camp: a one-week resident workshop on biotechnology for GA high school science teachers, University of University of Georgia, Tifton, GA
- 2016 Co-Organized a national meeting “Frontiers in Structural Biology of Membrane Protein & Pittsburgh Diffraction Conference”, March 10, 2016–March 12, 2016, Huntsville, AL.
- 2016 Co-Organizer with Dr. Catherine Teare Ketter UGA Biotech Boot Camp: a one-week resident workshop on biotechnology for GA high school science teachers, University of University of Georgia, Tifton, GA
- 2017 Co-Organizer with Dr. Catherine Teare Ketter UGA Biotech Boot Camp: a one-week resident workshop on biotechnology for GA high school science teachers, University of University of Georgia, Tifton, GA

#### **d. National Committees**

- 1996-1999 Member, Editorial Board, Protein Data Bank, Brookhaven National Laboratory
- 2001-2004 Member, Advanced Photon Source Users Organization Steering Committee, Advanced Photon Source, Argonne National Laboratory
- 2005-present Chairman, MC Proposal Review Panel, Advanced Photon Source, Argonne National Laboratory
- 2009-2013 Member, American Crystallographic Association Standing Committee on Data and Computing
- 2010-2011 President, Pittsburgh Diffraction Society
- 2011-2012 Past President, Pittsburgh Diffraction Society
- 2010-2011 Chairman, American Crystallographic Association “Biomolecular Crystallography” Scientific Interest Group
- 2014-2016 President, Pittsburgh Diffraction Society
- 2016-2018 Past president, Pittsburgh Diffraction Society

2018-2019 Chairman, American Crystallographic Association “Data Archival and Analysis” Scientific Interest Group

**e. Service on important extra-university, professional committees**

1999-present Member, Rigaku/MSD Customer Advisory Board  
2000-present Chair, SER-CAT Science Committee, Southeast Regional Collaborative Access Team (SER-CAT), Advanced Photon Source, Argonne national Laboratory  
2000-2004 Chairman, Operations Management Planning Committee, Southeast Regional Collaborative Access Team (SER-CAT), Advanced Photon Source, Argonne national Laboratory  
2002-present Chairman, Science Committee, Southeast Regional Collaborative Access Team (SER-CAT), Advanced Photon Source, Argonne national Laboratory  
2000-2003 Chairman, Detector Committee, Southeast Regional Collaborative Access Team (SER-CAT), Advanced Photon Source, Argonne national Laboratory  
2006 Panel Member, Workshop on the Future of Molecular Machines: Understanding Biomolecular Complexes and Interactions, Oak Ridge National Laboratory  
2010-2014 Chairman, Detector Committee, Southeast Regional Collaborative Access Team (SER-CAT), Advanced Photon Source, Argonne national Laboratory

**f. Collaborations**

**i. External collaborations (current)**

**ii. Internal collaborations (current)**

Dr. Bi-Cheng Wang, Professor and GRA Eminent Scholar, Department of Biochemistry & Molecular Biology, University of Georgia on a number of projects including soft X-ray phasing, synchrotron beamline automation and novel phasing strategies for membrane proteins.

Dr. Jeffery Hogan, Associate Professor, Department of Veterinary Anatomy and Radiology, University of Georgia College of Veterinary Medicine on studies related to the development of next generation vaccines for Ebola and Flu

Dr. Duncan Krause, Professor Department of Microbiology, University of Georgia on the structural studies related to Gliding Motility in *Mycoplasma pneumoniae*

Dr. Jeffrey Urbauer, Associate Professor, Departments of Chemistry and Biochemistry & Molecular Biology, University of Georgia on the X-ray diffraction studies of the Rsd (Regulator of Sigma D) protein

Dr. Robert Wood, Professor, Department of Biochemistry & Molecular Biology, University of Georgia on a the structure of the single chain antibody C3.1 scFv

Dr. Yajun Yan, BioChemical Engineering Program, College of Engineering, University of Georgia on structural studies of the enzymes F6'H from *A. thaliana* and HpaB from *E. coli* for protein engineering studies.

**g. Professional Membership**

Member American Crystallographic Association

Member Pittsburgh Diffraction Society

**5. Other service**

**a. University/College/Department Committees and Initiatives**

1997 Member, Search Committee for Assistant Professor in Structural Biology, Department of Biochemistry and Molecular Biology, University of Georgia (Leigh Ann Lipscomb hired)  
2001 Member, Search Committee for Assistant Professor in Structural Biology, Department of Biochemistry and Molecular Biology, University of Georgia (William Lanzilotta hired)  
2009-2012 Member, Franklin College Faculty Senate  
2009-2011 Member, Franklin College Faculty Senate Curriculum Committee  
2011-2012 Chair, Franklin College Faculty Senate Curriculum Committee  
2014-2107 Member University Council, University of Georgia