

PUBLICATIONS

1. McConnell, J.F., Mathieson, A.McL., Schoenborn, B.P. Conformation of iridomyrmecin and isoiridomyrmecin. *Tetrahedron Letters* **10**, 445-448, 1962
2. Schoenborn, B.P., McConnell, J.F., Crystal structures of the monoterpene C₁₀H₁₆O₂. *Acta Crystallographica* **15**, 472, 1962
3. Schoenborn, B.P. *The structures of the iridolactenes*. PhD Dissertation, University of New South Wales, Sydney Australia. 1962
4. McConnell, J.F., Mathieson, A.McL., Schoenborn, B.P. The crystal structure of monoterpene iridomyrcin at -150C. *Acta Crystallographica* **17**, 472-477, 1964
5. Featherstone, R.M., Schoenborn, B.P. Protein and lipid binding of volatile anaesthetic agents. *British Journal of Anaesthesia* **36(3)**, 150-154, 1964
6. Schoenborn, B.P., Featherstone, R.M., Vogelhut, P.O., Suesskind, C. Influence of xenon on protein hydration as measured by a microwave absorption technique. *Nature* **16**, 695-696, 1964
7. Schoenborn, B.P. Binding of xenon and hemoglobin. In: *Drugs and Enzymes, Proceedings of the 2nd International Pharmacological Meeting*, Prague, August 1963. Pergamon Press Oxford pp239-241, 1965
8. Schoenborn, B.P., Watson, H.C., Kendrew, J.C. Binding of xenon to sperm whale myoglobin. *Nature* **207**, 28-30, 1965
9. Schoenborn, B.P. Binding of xenon to horse haemoglobin. *Nature* **208**, 760-762, 1965
10. Schoenborn, B.P., Nobbs, C.L. Binding of xenon to deoxymyoglobin. *Journal of Molecular Pharmacology* **2**, 491, 1966
11. Sherry, H.S., Barrer, R.M., Peterson, D.L., Schoenborn, B.P. Separation of gases by zeolites. *Science* **153**, 555-556, 1966
12. Schoenborn, B.P., Featherstone, R.M. Molecular forces in anaesthesia. *Advances in Pharmacology* **5**, 1-17, 1967
13. Schoenborn, B.P. Binding of cyclopropane to sperm whale myoglobin. *Nature* **214**, 1120-1122, 1967
14. Schoenborn, B.P. Binding of anaesthetics to protein: an X-ray crystallographic investigation. *Federation Proceedings* **27(3)**, 888-894, 1968
15. Schoenborn, B.P. Neutron diffraction analysis of myoglobin. *Nature*, **224**, 143-146, 1969
16. Schoenborn, B.P. Structure of alkaline metmyoglobin-xenon complex. *Journal of Molecular Biology* **45(2)**, 297-303, 1969
17. Schoenborn, B.P., Nunes, A.C., Nathans, R. Neutron diffraction analysis of biological structures. *Berichte Bunsengesellschaft für Physical Chemistry* **74**, 1202, 1970
18. Schoenborn, B.P. Protein conformational changes studied by diffraction techniques. In: *Probes of Structure and Function of Macromolecules and Membranes*, B. Chance, ed. Academic Press NY **11**, 171-177, 1971
19. Schoenborn, B.P. Crystallographic studies of ligand binding. In: *Probes of Structure and Function of Macromolecules and Membranes*, B. Chance, ed. Academic Press NY **11**, 181-186, 1971
20. Nunes, A.C., Nathans, R., Schoenborn, B.P. A neutron Fourier chopper for single crystal reflectivity measurements: some general design considerations. *Acta Crystallographica Section A-Foundations of Crystallography* **A27**, 284-291, 1971
21. Schoenborn, B.P. A neutron diffraction analysis of myoglobin. III. Hydrogen-deuterium bonding in side chains. *Cold Spring Harbor Symposium in Quantitative Biology* **36**, 569-575, 1971

22. Matthews, B.W., Jansonius, J.N., Colman, P.M., Schoenborn, B.P., Dupourque, D. Three-dimensional structure of thermolysin. *Nature: New Biology* **238**, 37-41, 1972
23. Schoenborn, B.P., Nunes, A.C. Neutron scattering. M.F. Morales (Ed.), *Annual Review of Biophysics and Bioengineering* **1**, 59-552, 1972
24. Schoenborn, B.P. ed. *Neutron Scattering for the Analysis of Biological Structures*. Brookhaven Symposium Biology **27**, 1976
25. Schoenborn, B.P. A neutron diffraction analysis of myoglobin. Hydrogen-deuterium bonding in the main chain. In: *Structure and Function of Oxidation Reduction Enzymes*, A. Akesson and A. Ehrenberg eds. Pergamon Press Oxford. pp 109-116, 1972
26. Nunes, A.C., Schoenborn, B.P. Dichloromethane and myoglobin function. *Molecular Pharmacology* **9(6)**, 835-839, 1973
27. Moore, P.B., Engelman, D.M., Schoenborn, B.P. Asymmetry in the 30S ribosomal subunit of E coli. *Proceedings of the National Academy of Sciences USA* **71(1)**, 172-176, 1974
28. Schoenborn, B.P., Caspar, D.L.D., Kammerer, O.F. A novel neutron monochromator. *Journal of Applied Crystallography* **7**, 508-510, 1974
29. Schoenborn, B.P. Neutron structural analysis of proteins, membranes and protein complexes. In: *Proceedings 2nd International School in Neutron Physics*, I.M. Frank ed. Joint Institute of Nuclear Physics, Dubna, USSR pp 423-439, 1974
30. Moore, P.B., Engelman, D.M., Schoenborn, B.P. Neutron scattering studies of the E coli ribosome. In: *Ribosomes*, A. Tisseire, N. Nomura, P. Langyel, eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY pp 601-613, 1974
31. Zaccai, G., Blasie, J.K., Schoenborn, B.P. Neutron diffraction studies on the location of water in lecithin bilayer model membranes. *Proceedings of the National Academy of Sciences USA* **72(1)**, 376-380, 1975
32. Moore, P.B., Engelman, D.M., Schoenborn, B.P. A neutron scattering study of the distribution of protein and RNA in the 30S ribosomal subunit of E coli. *Journal of Molecular Biology* **91(1)**, 101-120, 1975
33. Engelman, D.M., Moore, P.B., Schoenborn, B.P. Neutron scattering measurements of separation and shape of proteins in 30S ribosomal subunit of E coli: S2-S5, S5-S8, S3-S7. *Proceedings of the National Academy of Sciences USA* **72(10)**, 3888-3892, 1975
34. Norvell, J.C., Nunes, A.C., Schoenborn, B.P. Neutron diffraction analysis of myoglobin: structure of the carbon monoxide derivative. *Science* **190**, 568-570, 1975
35. Schoenborn, B.P. Neutron scattering for the analysis of membranes. *Biochimica et Biophysica Acta* **457(1)**, 41-55, 1976
36. Schoenborn, B.P. Advantages of neutron scattering for biological structure analysis. *Brookhaven Symposium Biology* **27**, I10-I17, 1976
37. Schoenborn, B.P., Diamond, R. Neutron diffraction analysis of metmyoglobin. *Brookhaven Symposium Biology* **27**, II3-II11, 1976
38. Norvell, J.C., Schoenborn, B.P. The structure of carbon monoxide myoglobin: real-space refinement. *Brookhaven Symposium Biology* **27**, II12-II23, 1976
39. Norvell, J.C., Schoenborn, B.P. Use of the tangent formula for the refinement of neutron protein data. *Brookhaven Symposium Biology* **27**, II24-II30, 1976
40. Blasie, J.K., Schoenborn, B.P., Zaccai, G. Direct methods for the analysis of lamellar neutron diffraction from oriented multilayers: a difference Patterson deconvolution approach. *Brookhaven Symposium Biology* **27**, III58-III67, 1976

41. Kirschner, D.A., Caspar, D.L., Schoenborn, B.P., Nunes, A.C. Neutron diffraction studies of nerve myelin. *Brookhaven Symposium Biology* **27**, III68-III76, 1976
42. Engelman, D.M., Moore, P.B., Schoenborn, B.P. Protein pair distance determination in the 30S ribosomal subunit of E. coli. *Brookhaven Symposium Biology* **27**, IV20-IV37, 1976
43. Saxena, A.M., Schoenborn, B.P. Multilayer monochromators for neutron scattering. *Brookhaven Symposium Biology* **27**, VII30-VII48, 1976
44. Cain, J.E., Norvell, J.C., Schoenborn, B.P. Linear position-sensitive counter system for protein crystallography. *Brookhaven Symposium Biology* **27**, VIII43-VIII50, 1976
45. Alberi, J., Fischer, J., Radeka, V., Rogers, L.C., Schoenborn, B.P. A two-dimensional position-sensitive detector for thermal neutrons. *Nuclear Instruments and Methods* **127(4)**, 507-523, 1975
46. Schoenborn, B.P. Dichloromethane as an antisickling agent in sickle cell hemoglobin. *Proceedings of the National Academy of Sciences USA* **73(11)**, 4195-4199, 1976
47. Saxena, A.M., Schoenborn, B.P. Multilayer neutron monochromators. *Acta Crystallographica Section A-Foundations of Crystallography* **A33**, 805-813, 1977
48. Schoenborn, B.P. Neutron scattering and biological structures. *Chemical Engineering News* **55**, 31-41, 1977
49. Lynn, J.W., Kjems, J.K., Passell, L., Saxena, A.M., Schoenborn, B.P. Iron-germanium multilayer neutron polarizing monochromators. *Journal of Applied Crystallography* **9**, 454-459, 1976
50. Moore, P.B., Langer, J.A., Schoenborn, B.P., Engelman, D.M. Triangulation of proteins in the 30S ribosomal subunit of E. coli. *Journal of Molecular Biology* **112(2)**, 199-227, 1977
51. Saxena, A.M., Schoenborn, B.P. Correction factors for neutron diffraction from lamellar structures. *Acta Crystallographica Section A-Foundations of Crystallography* **A33**, 813-818, 1977
52. Schoenborn, B.P., North, B.E. Dichloromethane as an antisickling agent. In: *Clinical and Biochemical Aspects of Hemoglobin Abnormalities*. W. Coley, ed. Academic Press pp 591-605, 1978
53. Schoenborn, B.P. Neutron protein crystallography. *Trends in Biochemical Sciences* **2**, 206-208, 1977
54. Schoenborn, B.P., Alberi, J., Saxena, A.M., Fischer, J. A low-angle neutron data acquisition system for molecular biology. *Journal of Applied Crystallography* **11**, 455-460, 1978
55. Schoenborn, B.P., North, B.E. Dichloromethane as a modulator of hemoglobin function. *Frontiers of Biological Energetics* **2**, 1041-1047, 1978
56. Schoenborn, B.P. A new look at biological structures. *Neue Zürcher Zeitung* **89**, 59-61, 1979
57. Wise, D.S., Karlin, A., Schoenborn, B.P. An analysis by low-angle neutron scattering of the structure of the acetylcholine receptor from *Torpedo californica* in detergent solution. *Biophysical Journal* **28(3)**, 473-496, 1979
58. King, G.I., Stoeckenius, W., Crespi, H.L., Schoenborn, B.P. The location of retinal in the purple membrane profile by neutron diffraction. *Journal of Molecular Biology* **130(4)**, 395-404, 1979
59. Yeager, M., Schoenborn, B.P., Engelman, D.E., Moore, P.B., Stryer, L.J. Neutron diffraction of intact retinas. *Molecular Biology* **137**, 1-34, 1980
60. Yeager, M., Schoenborn, B.P., Engelman, D., Moore, P., Stryer, L.J. Neutron diffraction analysis of the structure of rod photoreceptor membranes in intact retinas. *Molecular Biology* **137**, 315-348, 1980
61. Schoenborn, B.P., Hanson, J.C. The determination of structural water by protein crystallography. An analysis of the carbon monoxide myoglobin water structure. ACS Symposium Series No. 127, *Water in Polymers*, Stanley P. Rowland, ed. pp 215-224, 1980

62. King, G.I., Mowery, P.C., Stoeckenius, W., Crespi, H.L., Schoenborn, B.P. Location of the chromophore in bacteriorhodopsin. *Proceedings of the National Academy of Sciences USA* **77(8)**, 4726-4730, 1980
63. Wise, D.S., Schoenborn, B.P., Karlin, A. Structure of acetylcholine receptor dimer determined by neutron scattering and electron microscopy. *Journal of Biological Chemistry* **256(8)**, 4124-4126, 1981
64. Phillips, S.E., Schoenborn, B.P. Neutron diffraction reveals oxygen-histidine hydrogen bond in oxymyoglobin. *Nature* **292**, 81-82, 1981
65. Hanson, J.C., Schoenborn, B.P. Real space refinement of neutron diffraction data from sperm whale carbonmonoxymyoglobin. *Journal of Molecular Biology* **153(1)**, 117-146, 1981
66. Schoenborn, B.P., Saxena, A.M., North, B.E. Weak binding gases as modulators of hemoglobin function. In: *Molecular Basis of Mutant Hemoglobin Dysfunction*. E. Sigler ed. Elsevier Press, Amsterdam, 1981
67. Saxena, A.M., North, B.E., Schoenborn, B.P. The effect of dichloromethane on the oxygenation of hemoglobin. *Biochimica et Biophysica Acta* **704(1)**, 1-6, 1982
68. Schoenborn, B.P. Experimental neutron protein crystallography. *Methods in Enzymology* **114**, 510-529, 1985
69. Schoenborn, B.P., Raghavan, N.V. Neutrons and proteins. *Institute of Physics Conference Series* **64(4)**, 361-364, 1982
70. King, G.L., Schoenborn, B.P. Neutron diffraction studies of bacteriorhodopsin. *Methods in Enzymology* **88**, 241-248, 1982
71. Schoenborn, B.P. Peak-shape analysis for protein neutron crystallography with position-sensitive detectors. *Acta Crystallographica Section A-Foundations of Crystallography* **A39**, 315-321, 1983
72. Schoenborn, B.P., Schneider, D.K., Wise, D. Neutrons and synchrotron X-ray small angle scattering instruments for applications in Biology at the Brookhaven National Laboratory. In: *ACA Transactions*, P.U. Schmidt, ed., **19**, 67-92, 1983
73. Schoenborn, B.P. ed. *Neutrons in Biology*. Plenum Press, New York. 1984
74. Schneider, D.K., Schoenborn, B.P. A new small-angle diffraction instrument at the Brookhaven High Flux Beam Reactor. In: *Neutrons in Biology*, B.P. Schoenborn ed. Plenum Press NY pp119-141, 1984
75. Raghavan, N.V., Schoenborn, B.P. The structure of bound water and refinement of acid metmyoglobin. In: *Neutrons in Biology*, B.P. Schoenborn ed. Plenum Press NY pp247-259, 1984
76. Schoenborn, B.P. Protein structure is only as good as the data. In: *Neutrons in Biology*, B.P. Schoenborn ed. Plenum Press NY pp261-280, 1984
77. Moore, P.B., Engelman, D.M., Langer, J.A., Ramakrishnan, V., Schindler, D.G., Schoenborn, B.P., Sillers, I.Y., Yabuki, S., Symposium Lecture: Neutron scattering and the 30S ribosomal subunit of E coli. In: *Neutrons in Biology*, B.P. Schoenborn ed. Plenum Press NY pp73-91, 1984
78. Wise, D.S., Schoenborn, B.P. The biology spectrometer for small-angle X-ray scattering at the National Synchrotron Light Source. *Nuclear Instruments & Methods in Physics Research, Section A* **222(1-2)**, 202-202, 1984
79. Schoenborn, B.P., Saxena, A.M., Stamm, M., Dimmler, G., Radeka, V. A neutron spectrometer with a two-dimensional detector for time-resolved studies. *Australian Journal of Physics* **38(3)**, 337-351, 1985
80. Koeppe, R.E., Schoenborn, B.P. 5-Å fourier map of gramicidin-A phased by deuterium-hydrogen solvent difference neutron diffraction. *Biophysical Journal* **45(3)**, 503-507, 1984
81. Wise, D.S., Schoenborn, B.P. Small-angle X-ray scattering instrumentation for Structural Biology at the NSLS. In *Proceedings of the Brookhaven National Laboratory Symposium on Polymer Research at Synchrotron Radiation Sources*, A. Goland ed. BNL-51847, pp 11-20, 1985

82. King, G.I., Schoenborn, B.P. Neutron scattering of bacteriorhodopsin. *Methods in Enzymology* **88**, 241, 1985
83. Schoenborn, B.P., Raghavan, N.V., Fine, R.M. Hydrogen-deuterium exchange studies by neutron-diffraction reveal localized stable regions in proteins. *Biophysical Journal* **47(2)**, A34-A34, 1985
84. Knott, R.B., Schoenborn, B.P. Quantitation of water in membranes by neutron-diffraction and X-ray techniques. *Methods in Enzymology* **127**, 217-229, 1986
85. Schoenborn, B.P., Schefer, J., Schneider, D.K. The use of wire chambers in structural biology. *Nuclear Instruments & Methods in Physics Research, Section A* **A252(2-3)**, 180-187, 1986
86. Schoenborn, B.P., Ramakrishnan, V., Schneider, D.K. Hydrogen-deuterium exchange in structural biology. *Physica B & C* **137B+C(1-3)**, 214-220, 1986
87. Pachence, J.M., Edelman, I.S., Schoenborn, B.P. Low-angle neutron-scattering analysis of Na/K-ATPase in detergent solution. *Journal of Biological Chemistry* **262(2)**, 702-709, 1987
88. McDaniel, R.V., Schefer, J., Elstein, D., Schoenborn, B.P., Edelman, I.S. Neutron-scattering studies of isolated subunits from Na/K-ATPase. *Biophysical Journal* **51(2)**, A230-A230, 1987
89. Pachence, J.M., Knott, R.B., Edelman, I.S., Schoenborn, B.P., Wallace, B.A. Formation of oriented membrane multilayers of Na/K-ATPase. *Annals of the New York Academy of Sciences* **435**, 566-569, 1984
90. Capel, M.S., Engelman, D.M., Freeborn, B.R., Kjeldgaard, M., Langer, J.A., Ramakrishnan, V., Schindler, D.G., Schneider, D.K., Schoenborn, B.P., Sillers, I.Y., Yabuki, S., Moore, P.B. A complete mapping of the positions of the proteins in the small ribosomal-subunit of E coli. *Science* **238**, 1403-1406, 1987
91. Schefer, J., McDaniel, R.V., Schoenborn, B.P. Small-angle neutron-scattering study of BRIJ-58 micelles. *Biophysical Journal* **51(2)**, A228-A228, 1987
92. Schoenborn, B.P. Solvent effect in protein crystals - a neutron-diffraction analysis of solvent and ion density. *Journal of Molecular Biology* **201(4)**, 741-749, 1988
93. Stark, W., Schoenborn, B.P., Makowski, L. Conformation of the coat protein of filamentous bacteriophage Pfl determined by neutron diffraction. *Materials Science Forum* **27-28**, 137-144, 1988
94. Knott, R.B., Schefer, J., Schoenborn, B.P. Structure of the immunosuppressant cyclosporin-A. *Materials Science Forum* **27-28**, 151-158, 1988
95. Saxena, A.M., Schoenborn, B.P. Multilayer monochromators for neutron spectrometers. *Materials Science Forum* **27-28**, 313-318, 1988
96. Ito, Y., Harada, M., Ohta, S., Kagawa, Y., Aono, O., Schefer, J., Schoenborn, B.P. Small angle neutron scattering studies of the reconstituted TF1 of H-ATPase from thermophilic bacterium PS3. *ISSP Technical Report Series A Number 2041* pp1-58, 1988
97. Capel, M.S., Engelman, D.M., Freeborn, B.R., Kjeldgaard, M., Langer, J.A., Ramakrishnan, V., Schindler, D.G., Schneider, D.K., Schoenborn, B.P., Sillers, I.Y., Yabuki, S., Moore, P.B. A complete mapping of the positions of the proteins in the small ribosomal-subunit of E coli. *Die Makromolekulare Chemie-Macromolecula Symposia* **15**, 123-130, 1988
98. Cheng, X.D., Schoenborn, B.P. Hydration in protein crystals - a neutron-diffraction analysis of carbonmonoxymyoglobin. *Acta Crystallographica Section B-Structural Science* **46**, 195-208, 1990
99. Ito, Y., Harada, M., Ohta, S., Kagawa, Y., Aono, O., Schefer, J., Schoenborn, B.P. Small-angle neutron-scattering from the reconstituted TF1 of H⁺-ATPase from thermophilic bacterium-PS3 with deuterated subunits. *Journal of Molecular Biology* **213(2)**, 289-302, 1990
100. Knott, R.B., Schefer, J., Schoenborn, B.P. Neutron structure of the immunosuppressant cyclosporin-A. *Acta Crystallographica Section C-Crystal Structure Communications* **46**, 1528-1533, 1990
101. Schoenborn, B.P., Cheng, X.D. The localization of solvent in protein crystals. *International Biophysics Congress Satellite Symposium, Whistler CONF-9007150--1* 1990

102. Cheng, X.D., Schoenborn, B.P. Repulsive restraints for hydrogen-bonding in least-squares refinement of protein crystals - a neutron-diffraction study of myoglobin crystals. *Acta Crystallographica Section A-Foundations of Crystallography* **47**, 314-317, 1991
103. Cheng, X.D., Schoenborn, B.P. Neutron-diffraction study of carbonmonoxymyoglobin. *Journal of Molecular Biology* **220(2)**, 381-399, 1991
104. Schoenborn, B.P., Wang, H., Kelley, M.A., Dimmler, G., Rankowitz, S. A data-acquisition system for area detectors. *Journal of Applied Crystallography* **26**, 9-14, 1993
105. Schoenborn, B.P. Multilayer monochromators and supermirrors for neutron protein crystallography using a quasi Laue technique. *Proceedings of the SPIE - International Society for Optical Engineering* **1738**, 192-199, 1993
106. Schoenborn, B.P. Area detectors for neutron protein crystallography. *Proceedings of the SPIE - International Society for Optical Engineering* **1737**, 235-242, 1993
107. Knott, R.B., Schoenborn, B.P. Neutron diffraction for the study of protein structure and hydration. In: *Physical Chemistry of Food Processes*. Baianu and Pessen ed., Van Nostrand Reinhold NY. 1993
108. Gu, W., Schoenborn, B.P. Molecular dynamics simulation of hydration in myoglobin. *Proteins-Structure Function and Genetics* **22(1)**, 20-26, 1995
109. Knott, R.B., Schoenborn, B.P. Neutrons in biology. A perspective. In: *Neutrons in Biology*, B.P. Schoenborn and R.B. Knott eds. Plenum Press NY pp 1-15, 1996
110. Daniels, B.V., Schoenborn, B.P., Korszun, Z.R. Myoglobin solvent structure at different temperatures. In: *Neutrons in Biology*, B.P. Schoenborn and R.B. Knott eds. Plenum Press NY pp 325-331, 1996
111. Schoenborn, B.P., Pitcher, E. Structural Biology at Spallation Neutron Sources. In: *Neutrons in Biology*, B.P. Schoenborn and R.B. Knott eds. Plenum Press NY pp 433-445, 1996
112. Gu, W., Garcia, A.E., Schoenborn, B.P. Understanding water: molecular dynamics simulations of myoglobin. In: *Neutrons in Biology*, B.P. Schoenborn and R.B. Knott eds. Plenum Press NY pp 289-298, 1996
113. Schoenborn, B.P. Data processing in neutron protein crystallography. In: *Position Sensitive Detection of Thermal Neutrons*. Convert and Forsyth eds. Academic Press pp 321-331, 1987
114. Shu, F., Ramakrishnan, Schoenborn, B.P. High-level expression and deuteration of Sperm Whale myoglobin. A study of its solvent structure by X-ray and neutron diffraction methods. In: *Neutrons in Biology*, B.P. Schoenborn and R.B. Knott eds. Plenum Press NY pp 309-324, 1996
115. Schoenborn, B.P., Garcia, A., Knott, R.B. Hydration in protein crystallography. *Progress in Biophysics & Molecular Biology* **64(2-3)**, 105-119, 1995
116. Schoenborn, B.P. A protein crystallography station at LANSCE. LA-UR-96-3508
117. Coster, H.G., Laver, D.R., Schoenborn, B.P. Effect of ²H₂O/H₂O replacement on the dielectric structure of lipid bilayer membranes. *Biochimica et Biophysica Acta* **686(1)**, 141-143, 1982
118. Schoenborn, B.P., Chilcott, T.C., Cooke, W.D., Coster, H.G.L. Anomalous dielectric behaviour of single crystal glycine near room temperature. *Biophysical Journal* **78(1)**, 155A-155A, 2000
119. Coster, H.G.L., Cheng, X., Schoenborn, B.P. Dielectric-constant of protein crystals. *Biophysical Journal* **57(2)**, A79-A79, 1990
120. Schoenborn, B.P., Knott, R.B. eds. *Neutrons in Biology*. Plenum Press, NY 1996
121. Daniels, B.V., Schoenborn, B.P., Korszun, Z.R. A low-resolution low-temperature neutron diffraction study of myoglobin. *Acta Crystallographica Section D-Biological Crystallography* **53**, 544-550, 1997

122. Shu, F., Ramakrishnan, V., Schoenborn, B.P. Enhanced visibility of hydrogen atoms by neutron crystallography on fully deuterated myoglobin. *Proceedings of the National Academy of Sciences USA* **97(8)**, 3872-3877, 2000
123. Schoenborn, B.P., Court, J.D., Larson, A.C., Ferguson, P. Moderator decoupling options for structural biology at spallation neutron sources. *Journal of Neutron Research* **7**, 89, 1999
124. Court, J.D., Ferguson, P.D., Schoenborn, B.P. Neutronic simulations for source-instrument matching at the Lujan Center. *Transactions of the American Nuclear Society* **79**, 390-392, 1998
125. Chilcott, T.C., Schoenborn, B.P., Cooke, D.W., Coster, H.G.L. Anomalous electrical behaviour of single-crystal glycine near room temperature. *Philosophical Magazine B (Physics of Condensed Matter: Statistical Mechanics, Electronic, Optical and Magnetic Properties)* **79(10)**, 1695-1701, 1999
126. Langan, P., Mason, S.A., Myles, D., Schoenborn, B.P. Structural characterization of crystals of α -glycine during anomalous electrical behaviour. *Acta Crystallographica Section B-Structural Science* **B58**, 728-733, 2002
127. Schoenborn, B.P., Knott, R.B. *Neutron sources*. M.G. Rossmann & E. Arnold (Eds.), International Tables for Crystallography Volume F: Crystallography of Biological Macromolecules (Volume F pp 133-142). Netherlands: Springer. 2001
128. Schoenborn, B.P., Langan, P. Protein membrane fibre crystallography with spallation neutrons. *Biophysical Journal* **76(1)**, A392-A392, 1999
129. Langan, P., Schoenborn, B.P., Daemen, L.L. A device for cutting the time tail from spallation neutron pulses. *Proceedings of the SPIE - The International Society for Optical Engineering* **4509**, 66-72, 2001
130. Schoenborn, B.P., Langan, P. Protein crystallography with spallation neutrons. *Journal of Synchrotron Radiation* **11**, 80-82, 2004
131. Langan, P., Schoenborn, B.P. New facilities expand protein crystallography opportunities. *Physics Today* **57(4)**, 19-19, 2004
132. Langan, P., Greene, G., Schoenborn, B.P. Protein crystallography with spallation neutrons: the user facility at Los Alamos Neutron Science Center. *Journal of Applied Crystallography* **37**, 24-31, 2004
133. Langan, P., Schoenborn, B.P. Need for neutron diffraction instruments. *Science* **286**, 1089-1089, 1999
134. Langan, P., Fisher, Z., Kovalevsky, A., Mustyakimov, M., Valone, A.S., Unkefer, C., Waltman, M.J., Coates, L., Adams, P.D., Afonine P.V., Bennet, B., Dealwis, C., Schoenborn, B.P. Protein structures by spallation neutron crystallography. *Journal of Synchrotron Radiation* **15(3)**, 215-218, 2008
135. Li, X.M., Langan, P., Bau, R., Tsyba, I., Jenney, F.E., Adams, M.W.W., Schoenborn, B.P. W3Y single mutant of rubredoxin from *Pyrococcus furiosus*: a preliminary time-of-flight neutron study. *Acta Crystallographica Section D-Biological Crystallography* **60(1)**, 200-202, 2004
136. Sukumar, N., Langan, P., Mathews, F.S., Jones, L.H., Thiyagarajan, P., Schoenborn, B.P., Davidson, V.L. A preliminary time-of-flight neutron diffraction study on amicyanin from *Paracoccus denitrificans*. *Acta Crystallographica Section D-Biological Crystallography* **61**, 640-642, 2005
137. Hanson, B.L., Langan, P., Katz, A.K., Li, X.M., Harp, J.M., Glusker, J.P., Schoenborn, B.P., Bunick, G.J. A preliminary time-of-flight neutron diffraction study of *Streptomyces rubiginosus* D-xylose isomerase. *Acta Crystallographica Section D-Biological Crystallography* **60**, 241-249, 2004
138. Blum, M.M., Tomanicek, S.J., John, H., Hanson, B.L., Ruterjans, H., Schoenborn, B.P., Langan, P., Chen, C.J.H. X-ray structure of perdeuterated diisopropyl fluorophosphatase (DFPase): perdeuteration of proteins for neutron diffraction. *Acta Crystallographica Section F-Structural Biology and Crystallization Communications* **66**, 379-385, 2010

139. Blum, M.M., Mustyakimov, M., Ruterjans, H., Kehe, K., Schoenborn, B.P., Langan, P., Chen, C.J.H. Rapid determination of hydrogen positions and protonation states of diisopropyl fluorophosphatase by joint neutron and X-ray diffraction refinement. *Proceedings of the National Academy of Sciences USA* **106(3)**, 713-718, 2009
140. Kovalevsky, A.Y., Katz, A.K., Carrell, H.L., Hanson, L., Mustyakimov, M., Fisher, S.Z., Coates, L., Schoenborn, B.P., Bunick, G.J., Glusker, J.P., Langan, P. Hydrogen location in stages of an enzyme-catalyzed reaction: Time-of-flight neutron structure of D-xylose isomerase with bound D-xylulose. *Biochemistry* **47(29)**, 7595-7597, 2008
141. Blum, M.M., Koglin, A., Ruterjans, H., Schoenborn, B.P., Langan, P., Chen, J.C.H. Preliminary time-of-flight neutron diffraction study on diisopropyl fluorophosphatase (DFPase) from *Loligo vulgaris*. *Acta Crystallographica Section F-Structural Biology and Crystallization Communications* **63** 42-45, 2007
142. Bennett, B., Langan, P., Coates, L., Mustyakimov, M., Schoenborn, B.P., Howell, E.E., Dealwis, C. Neutron diffraction studies of *escherichia coli* dihydrofolate reductase complexed with methotrexate. *Proceedings of the National Academy of Sciences USA* **103(49)**, 18493-1849, 2006
143. Katz, A. K., Li, X.M., Carrell, H.L., Hanson, B.L., Langan, P., Coates, L., Schoenborn, B.P., Glusker, J.P., Bunick, G.J. Locating active-site hydrogen atoms in D-xylose isomerase: Time-of-flight neutron diffraction. *Proceedings of the National Academy of Sciences USA* **103(22)**, 8342-8347, 2006