

Charles E. Bugg

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RECENT INVITED PRESENTATIONS:

1. "Ethics in Crystallography," Seattle, Washington, Meeting of the American Crystallographic Association, Jul. 25, 1989.
2. "The Future of Protein Crystal Growth," Washington, D.C., 3rd International Conference on Crystallization of Biological Macromolecules, Aug. 17, 1989.
3. "Protein Crystal Growth," Sendai, Japan, Biological Crystallization Symposium of the 9th International Conference on Crystal Growth, Aug. 24, 1989.
4. "Protein Crystal Growth Experiments on the U.S. Space Shuttle Mission STS-26," Tokyo, Japan Space Promotion Center, Aug. 28, 1989.
5. "Design of Inhibitors of Human Purine Nucleoside Phosphorylase Using Protein Crystallography and Molecular Modeling Methods," Tokyo, Japan, Mitsubishi Kasei Corporation, Aug. 29, 1989.
6. "Microgravity Protein Crystal Growth," Indianapolis, Indiana, Eli Lilly & Company, Sept. 18, 1989.
7. Invited Testimony Before the Subcommittee on Courts, Intellectual Property, and the Administration of Justice, of the Committee on the Judiciary on the Patents in Space Act (HR2945), U.S. House of Representatives, Washington, D.C., Oct. 4, 1989.
8. "Pharmaceutical Research in Space," Houston, Texas, Space Technology, Commerce and Communications Conference, Nov. 15, 1989.
9. "Microgravity Protein Crystal Growth," London, England, Meeting of the Biological Structures Group of the British Crystallographic Association, Dec. 14, 1989.
10. "Protein Crystal Growth in Space," Montreux, Switzerland, Space Commerce '90, Mar. 27, 1990.
11. "Pharmaceutical Design Using Integrated Structural Information," Yokohama City, Japan, Mitsubishi Kasei Corporation Research Center, Apr. 23, 1990.
12. "Drug Design Using Protein Crystallography," Tokyo, Japan, MECT Corporation, Apr. 24, 1990.
13. "Protein Crystal Growth in Microgravity," Houston, Texas, Clinical Pharmacology in Space: 10th Frontiers of Pharmacology Symposium of the American College of Clinical Pharmacology, May 11, 1990.
14. "Drug Design Using Protein Crystallography," Beijing, China, Institute of Biophysics, Academia Sinica, Jun. 23, 1990.

15. "Drug Design Using Protein Crystallography," Shanghai, China, Institute of Biochemistry, Academia Sinica, Jul. 3, 1990.
16. "Protein Crystal Growth in Space," Bordeaux, France, 15th Congress of the International Union of Crystallography, Jul. 23, 1990.
17. "Protein Crystal Growth in Microgravity," Huntsville, Alabama, Pittsburgh Diffraction Conference, Nov. 1, 1990.
18. "Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Tallahassee, Florida, Florida State University, Nov. 6, 1990.
19. "Protein Crystal Growth in Space," Auburn University, Alabama, Presentation to Auburn Space Power Institute Advisory Council, Dec. 5, 1990.
20. "Microgravity Protein Crystal Growth," Reno, Nevada, 19th Aerospace Sciences Meeting of the American Institute of Aeronautics and Astronautics, Jan. 7, 1991.
21. "Development of Inhibitors of Human Purine Nucleoside Phosphorylase Using Crystallography," Pasadena, California, California Institute of Technology, Jan. 10, 1991.
22. "Design of Enzyme Inhibitors Using Crystallography," Galveston, Texas, University of Texas Medical Branch, Feb. 15, 1991.
23. "Development of Inhibitors of Human Purine Nucleoside Phosphorylase Using Crystallography," Nashville, Tennessee, Vanderbilt University, Feb. 20, 1991.
24. "Protein Crystallography: The Key to Rational Drug Design," University of Alabama in Huntsville, Honors Forum Presentation, Apr. 23, 1991.
25. "X-ray Diffraction Results Obtained from Protein Crystals Grown at Normal and Low Gravity," Plymouth, New Hampshire, Gordon Conference on Gravitational Effects in Physico-Chemical Systems, Jun. 18, 1991.
26. "Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Baltimore, Maryland, Fifth Annual Symposium of the Protein Society, Jun. 25, 1991.
27. "Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Oxford University, England, Protein Structure & Function Symposium, Jul3, 1991.
28. "Protein Crystal Growth Using the Space Shuttle," Toledo, Ohio, American Crystallographic Association Workshop, Jul. 21, 1991.
29. "The New Acta Crystallographica/Section C," Toledo, Ohio, Meeting of the American Crystallographic Association, Jul. 22, 1991.
30. "Recent NASA-Sponsored Microgravity Experiments in Protein Crystal Growth," Freiburg, Germany, 4th International Conference on Crystal Growth, Aug. 23, 1991.
31. "Structure-Based Drug Design Using Human Nucleoside Phosphorylase," Malvern, Pennsylvania, Sterling Drug, Inc., Oct. 18, 1991.
32. "Design of Purine Nucleoside Phosphorylase Inhibitors," Rutgers University, New Brunswick, New Jersey, Symposium on the Structural Basis of Molecular Recognition and Design, Oct. 24, 1991.

33. "Pharmaceutical Research on Space Station Freedom," Houston, Texas, NASA Alumni League Space Exploration '91 Conference, Oct. 30, 1991.
34. "Protein Crystal Growth in Microgravity," Nagoya, Japan, The Joint Committee of Advanced Materials Research Special Symposium on Materials for High Technology, Nov. 6, 1991.
35. "The Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Osaka University, Japan, Institute for Protein Research, Nov. 11, 1991.
36. "The Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Taipei, Taiwan, Institute of Molecular Biology, Academia Sinica, Nov. 15, 1991.
37. "The Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," The University of Alabama at Birmingham, Department of Biochemistry Seminar Series, Nov. 25, 1991.
38. "Crystallography and Drug Design," The University of Alabama at Birmingham School of Medicine Alumni Meeting, Feb. 15, 1992.
39. "Drug Design Using Protein Crystallography: Application to Human Purine Nucleoside Phosphorylase," Research Triangle Park, North Carolina, Glaxo Inc. Research Institute, Feb. 27, 1992.
40. "Approaches to New Drug Design Using X-ray Crystallography," Madras, India, Schering-Plough Research Institute Seminar on Biotechnology-Driven Discovery of Health Care Products, Mar. 4, 1992.
41. "The Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Bronx, New York, Albert Einstein College of Medicine, Mar. 17, 1992.
42. "The Current Status of Microgravity Research," Montreaux, Switzerland, Space Commerce '92, Mar. 24, 1992.
43. "The Importance of Synchrotron Sources to Critical Biological Research," Invited Testimony before the Committee on Energy and Water Development of the U.S. House of Representatives, Washington, D.C., Mar. 31, 1992.
44. "Centers for the Commercial Development of Space," Birmingham, Alabama, Alabama Commission on Aerospace Science and Industry, Jun. 15, 1992.
45. "How a Protein Folds Around Calcium," Davos, Switzerland, 8th International Symposium on Calcium-Binding Proteins and Calcium Function in Health and Disease, Aug. 24, 1992.
46. "Protein Crystallography," Trieste, Italy, Lecture Series at the College on Methods and Experimental Techniques in Biophysics of the International Centre for Theoretical Physics, Oct. 28- Nov. 2, 1992.
47. "Overview of Protein Structure and Relationship to Disease Mechanisms," Chicago, Illinois, Symposium of the American College of Veterinary Microbiologists & Immunologists, Nov. 8, 1992.
48. "The Current Status of U.S. Protein Crystal Growth Experiments in Space," Sapporo, Japan, Japan Space Utilization Promotion Center's "In Space '92" Symposium, Nov. 11, 1992.

49. "Crystallization of Proteins in Space: A Comparison with Ground-Based Research," Zurich, Switzerland, Swiss Federal Institute of Technology, Materialforschung und Biowissenschaften im Weltraum, Nov. 20, 1992.
50. "Microgravity Protein Crystal Growth," Kyoto, Japan, Research Institute of Food Science, Kyoto University, Feb. 9, 1993.

51. "Structure-Based Drug Design Using Protein Crystallography," Kyoto, Japan, Japan Society for the Promotion of Science, Feb. 10, 1993.
52. "Microgravity Protein Crystal Growth: Applications in Protein Structure Analysis," Tsukuba, Japan, Japan Society for the Promotion of Science, and the Fuji Oil Company, Feb. 12, 1993.
53. "Structure-Based Drug Design Using Protein Crystallography," New Orleans, Louisiana, 25th Annual Mardi Gras Symposium in Theoretical Chemistry, University of New Orleans, Feb. 19, 1993.
54. "The Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Nashville, Tennessee, Department of Biochemistry, Vanderbilt University, March 8, 1993.
55. "Application of Crystallographic and Modeling Methods in the Design of PNP Inhibitors," Leeds, England, Department of Biochemistry, University of Leeds, Mar. 15, 1993.
56. "Structure-Based Drug Design Using Protein Crystallography," Athens, Georgia, Department of Chemistry, University of Georgia, Apr. 7, 1993.
57. "Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Atlanta, Georgia, Suddath Memorial Symposium in Structural Biology, Georgia Institute of Technology, Apr. 28, 1993.
58. "Structure-Based Drug Design," Birmingham, Alabama, UAB Comprehensive Cancer Center Seminar Series, May 24, 1993.
59. "The Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Beijing, China, International Union of Crystallography XVI Congress and General Assembly, Aug. 26, 1993.
60. "Structure-Based Drug Design Using Protein Crystallography," The University of Alabama at Birmingham Biochemistry and Molecular Genetics Faculty Research Seminar, Sep. 29, 1993.
61. "The Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," Valley Forge, Pennsylvania, Pittsburgh Diffraction Conference, Nov. 3-5, 1993.
62. "The Structure of Human Purine Nucleoside Phosphorylase and Its Use in Inhibitor Design," London, England, The Royal Society's Molecular Approaches to Drug Design Symposium, Mar. 14-15, 1994.
63. "Structure-Based Drug Design: Application to Human Purine Nucleoside Phosphorylase," Hyogo, Japan, The First International Conference on Life Science and Biotechnology, November 8-9, 1994.
64. "Development of Inhibitors of Purine Nucleoside Phosphorylase Using Structure-Based Drug Design," Montreal, Quebec, Meeting of the American Crystallographic Association, July 23-28, 1995.
65. "Structure-Based Drug Design of BCX-34, An Inhibitor of Human Purine Nucleoside Phosphorylase," Osaka, Japan, Nippon Zoki Pharmaceutical Co. Ltd., September 28, 1995.
66. "BioCryst Pharmaceuticals: Science, Business, and Investors," The University of Alabama at Birmingham Department of Pharmacology & Toxicology Seminar Series, Oct. 31, 1996.

67. "Drugs by Design: From Academics to Application," The University of Alabama at Birmingham Department of Medicine 14th Annual Trainee Research Symposium, Mar. 3, 1998.
68. "Structure-based Drug Design: From Academics to Application," Northwestern University Drug Disc