

X3B (+X9B) – In Press/Submitted

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X29A – In Press/Submitted

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U2B – In Press/Submitted

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2009**X29A - Crystallography**

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U2B - Infrared Spectroscopy

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X3B (+X9B) – Crystallography

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X3B (+X9B) – Ph.D. Theses

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U2B – Infrared Spectroscopy

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Core Research

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Selected Abstracts/Presentations

1. Berman, L.E., Allaire, M., Chance, M.R., Hendrickson, W., Heroux, A., Manjasetty, B., Orville, A. Robinson, H., Saxena, A., Schneider, D., Shi, W., Soares, A., Stojanoff, V., Sweet, R. A suite of macromolecular crystallography facilities being planned for NSLS-II, *XXI Congress and General Assembly of the IUCr*, poster, Osaka, Japan, August 23-31, 2008.
2. Gupta, S., D'Mello, R., Chance, M.R., Structural Probing of Snap-Freeze Protein Samples by Synchrotron Footprinting: Radiation Damage at Work, *New York Structural Biology Discussion Group, Summer Session*, poster, Cold Spring Harbor Laboratory, New York, NY, August 6, 2008.
3. Gupta, S., X-ray Footprinting at Beamline X28C, *New York Structural Biology Discussion Group, Summer Session*, poster, Cold Spring Harbor Laboratory, New York, NY, August 6, 2008.
4. Gupta, S., D'Mello, R., Chance, M.R., Structural Probing of Snap-Freeze Protein Samples by X-ray Mediated Hydroxyl Radical Footprinting, *56th ASMS Conference on Mass Spectrometry*, poster, Denver, CO, June 1-5, 2008.
5. Bohon, J. Functional Consequences of Conformational Changes in the ClpP N-terminus and Ligand-driven ClpA Hexamer Formation: Structural MS of a Molecular Machine, *56th ASMS Conference on Mass Spectrometry and Allied Topics*, presentation, Denver, CO, June 2008.
6. D'Mello, R., Gupta, S., Chance, M.R. Synchrotron X-ray mediated hydroxyl radical structural probing of snap-freeze protein samples, *NSLS and CFN User Meeting*, poster, BNL, NY, May 19-21, 2008.
7. Gupta, S., X-ray Footprinting at Beamline X28C, *NSLS and CFN User Meeting*, poster, BNL, NY, May 19-21, 2008.
8. Manjasetty, B., Sullivan, M., Toomey, J., Abel, D., Chance, M.R. Biomolecular Structure and Function: Macromolecular Crystallography (MX) Beamline X3A, *Joint NSLS and CFN Users' Meeting*, poster, BNL, NY, May 19-21, 2008.
9. Sullivan, M., Rekhi, S., Bohon, J., Gupta, S., Abel, D., Toomey, J., Chance, M.R. Installation and Testing of a Focusing Mirror at Beamline X28C for High Flux X-ray Radiolysis of Biological Macromolecules, *Joint NSLS and CFN Users' Meeting*, poster, BNL, NY, May 19-21, 2008.
10. Datta, S., Hartmann, J., Rekhi, S., Protus, T., Mihalic, J., Rule, A., Ramos-Bonilla, J., Geyh, A., Breyse, P., Chillrud, S.N. New sample holder for mass limited samples for speciation studies of Fe, Mn, Ni by XANES, *27th American Association for Aerosol Research*, presentation, May 2008.
11. Bohon, J., Jennings, L.D., Phillips, C.M., Licht, S. and Chance M.R. Synchrotron Footprinting Studies of Oligomerization and Gating in the ClpAP Protease, *Joint NSLS and CFN Annual Users' Meeting*, poster, BNL, NY, May 2008.
12. Bohon, J. Oligomerization and Gating in the ClpAP Protease, *NIBIB Site Visit*, presentation, BNL, NY, March 2008.
13. Bohon, J. Beamline U2B, *Science Advisory Committee Beamline Tenure Review*, presentation, BNL, NY, March 2008.
14. D'Mello, R., Gupta, S., Jastrzebska, B., Palczewski, K., Chance, M.R. Local Structural Changes on Photoactivation of Bovine Rhodopsin, *New York Structural Biology Discussion Group, 3rd Annual Winter Meeting*, poster, New York, NY, Feb 29, 2008.
15. Rekhi, S. 'Black' Diamond Research at BNL's Light Source among *Discover's* Top 100 Sciences Stories of 2007, press release, Jan-Feb 2008.
16. Rekhi, S. Diamonds from outer space, *Long Island Mineral and Gem Association*, presentation, Central Islip, NY, Jan. 28, 2008.
17. Gupta, S. X-ray footprinting at NSLS-II, *Workshop on Strategic Planning for Life Sciences at NSLS and NSLS-II*, presentation, Brookhaven National Laboratory, NY, Jan 15-16, 2008.
18. Shi, W. Metalloproteomics: High-throughput Determination of Transition Metal Content in Proteins, *Keystone Symposia in Structural Biology & Structure Genomics*, presentation, Steamboat Springs, CO, Jan 6-11, 2008.
19. Shi, W., Rekhi, S., Sullivan, M., Abel, D., Passerini, A., Ceroni, A., Frascioni, P., Punta, M., Rost, B. and Chance, M.R. Metalloproteomics-high throughput metal analysis of proteins, *Keystone Symposia in Structural Biology & Structure Genomics*, poster, Steamboat Springs, CO, Jan 6-11, 2008.
20. Bohon, J. Oligomerization and Gating in the ClpAP Protease, *Advisory Board Meeting*, presentation, Case Western Reserve University, Cleveland, OH, August 2007.

21. Bohon, J., Jennings, L.D., Licht, S., Chance, M.R. Structural Examination of the ClpAP Protease Complex via Synchrotron Radiolysis and Mass Spectrometry, *55th ASMS Conference on Mass Spectrometry & Allied Topics*, poster, Indianapolis, IN, June 2007.
22. Gupta, S., Jastrzebska, B., D'Mello, R., Palczewski, K., Chance, M.R. Mapping the structure and dynamics of dark- and light-state bovine rhodopsin by synchrotron radiolysis and high resolution mass spectrometry. *55th ASMS Conference on Mass Spectrometry*, presentation, Indianapolis, IN, June 3 – 7, 2007.
23. Gupta, S., Sullivan, M., D'Mello, R., Bohon, J., Abel, D., Toomey, J., Chance, M.R. Synchrotron Footprinting at Beamline X28C of Case Center for Proteomics and Mass Spectrometry: A National Resource for Mapping the Structure and Dynamics of Macromolecular Complexes in Solution. *Joint NSLS and CFN User Meeting*, May 21-23, 2007, BNL, NY.
24. D'Mello, R., Jastrzebska, B., Gupta, S., Palczewski, K., Chance, M.R. Local structural changes on photoactivation of Bovine Rhodopsin. *NSLS and CFN User Meeting*, May 21-23, 2007, BNL, NY.
25. Manjasetty, B. PRT Beamline X9A is now at X3A port: Quick Relocation, Quick Commissioning and Quick Results, *Joint NSLS and CFN Annual Users' Meeting*, poster, BNL, NY, May 21-23, 2007.
26. Gupta, S., Sullivan, M., D'Mello, R., Bohon, J., Abel, D., Toomey, J., Chance, M.R. Synchrotron Footprinting at Beamline X28C of Case Center for Proteomics and Mass Spectrometry: A National Resource for Mapping the Structure and Dynamics of Macromolecular Complexes in Solution. *Research Showcase Case Western Reserve University*. April 11-12, 2007, Cleveland, OH.
27. Bohon J., Jennings, L., Gupta, S., Kiselar, J., Licht, S. and Chance, M.R. Synchrotron Protein Footprinting of the ClpAP Protease, *Research Showcase 2007*, Case Western Reserve University, Cleveland, OH, April 11-12, 2007.
28. Sullivan, M. Varian Advanced Vacuum Practices Seminar, April 24, 2007.
29. Shi, W. Metalloproteomics: High-throughput Determination of Transition Metal Content in Proteins. *NYSGXRC Strategy Meeting*, SGX Pharmaceuticals, San Diego, CA, Feb. 6, 2007.
30. Manjasetty, B. Case Proteomics Center Beamlines for Protein Crystallography, *4th Annual Meeting Advances in Protein Crystallography Conference*, presentation, San Francisco, CA, January 24-25, 2007.
31. Rekhi, S. Invited talk on Black Diamonds, Long Island Mineralogy Society, Long Island, NY, 2007.
32. Bohon, J. FY06 Progress Report for PRT Beamline U2B, *BNL NSLS Scientific Advisory Committee Presentation*, BNL, NY, Dec. 2006.
33. Shi, W. Metalloproteomics: High-throughput Structural and Functional Annotation of Proteins in Structural Genomics. *Department of Biology Seminar*, Brookhaven National Laboratory, July 13, 2006.
34. Shi, W. Beamline X29 Operation and Metalloproteomics. *Case Center for Proteomics and Mass Spectrometry Seminar Series*. Case Western Reserve University, Cleveland, OH, June 22, 2006.
35. Bohon J., Jennings, L., Gupta, S., Kiselar, J., Licht, S. and Chance, M.R. Inside of a Molecular Machine: Examination of the ClpAP Protease via Synchrotron X-ray Hydroxyl-Radical Protein Footprinting and Mass Spectrometry, *Proceedings of the 54th ASMS Conference on Mass Spectrometry*, Seattle, Washington, 2006.
36. Gupta, S., Khrapunov, S., Bohon, J., Kiselar, J., Chance, M.R., Brenowitz, M., Structural Studies on the 'TATA Binding Protein' (TBP) in Solution by Synchrotron Radiolysis and Mass Spectrometry. *54th ASMS Conference on Mass Spectrometry*, May28-June 1, 2006, Seattle, WA.
37. Bohon, J. ClpAP Protease: Synchrotron Protein Footprinting of a 1.3MDa Molecular Machine, *Center for Synchrotron Bioscience Advisory Committee Presentation*, Case Western Reserve University, Cleveland, OH, June 2006.
38. Manjasetty, B. Structural Genomics at BESSY and NSLS: Protein Structures- Folds and Function, *6th National Meeting of the Alexander von Humboldt Association of America (AvHAA)*, presentation, Ohio State University, Columbus, OH, June 2-4, 2006.
39. Manjasetty, B. X9A Beamline: Research Highlights 2005, *Joint NSLS and CFN Annual Users' Meeting*, poster, BNL, NY, May 15-17, 2006.

40. Gupta, S., Bohon, J., Sullivan, M., Abel, D., Toomey, J., Brenowitz, M., Chance, M.R. Center for Synchrotron Biosciences Beamline X28C: A National Center for Macromolecular footprinting. *Joint NSLS and CFN User Meeting*, May 15-17, 2006, BNL, NY.
41. Shi, W. Structure Assisted Inhibitor Design and Structure Genomics, *Case Center for Proteomics and Mass Spectrometry Seminar Series*, Case Western Reserve University, Cleveland, OH, Jan. 12, 2006
42. Gupta S, Shcherbakova I, Takamoto K, Xu G, Abel D, Toomey J, Sullivan M, Brenowitz M, Chance MR. Center for Synchrotron Biosciences Beamline X28C: A National Center for Macromole footprinting. *National Synchrotron Light Source User's Meeting*, May 23-25, 2005, BNL, NY.
43. Sullivan, M. Application of Small Angle X-Ray Scattering to Biological Structures, *NSLS Workshop*, May 25, 2005, BNL, NY
44. Manjasetty, B. X9A Beamline – High-throughput Protein Structure Analysis Platform, *NSLS Annual Users' Meeting*, poster, BNL, NY, May 23-25, 2005.
45. Sullivan, M. The Impact of Cryogenic Specimens Automounters on the Future of Macromolecular Crystallography, *NSLS Workshop*, May 23, 2005, BNL, NY.
46. Sullivan, M. Varian High/Ultra High Vacuum Seminar, March 28 and 29, 2005.
47. Chance, M.R., Gupta, S., Shcherbakova, I., Xu, G., Kiselar, J., Takamoto, K., Guan, J., Liu, R., Toomey, J., Sullivan, M., Brenowitz, M. Albert Einstein Center for Synchrotron Biosciences Beamline X28C: A National Resource for Macromolecular Footprinting. *Biophysical Society 49th Annual Meeting* February 12-16, 2005 Long Beach, California.
48. Gupta, S., Mangel, W.F., McGrath, W., Takamoto, K., Chance, M.R. Catching a Viral Protein in Act. *Biophysical Society 49th Annual Meeting* February 12-16, 2005 Long Beach, California.
49. Lin, S., Gupta, S., Fogle, J.L., Fernandez, E.J., Chance, M.R., Nakamoto, R.K. X-ray Footprinting on γ and ϵ Subunit of *E. coli* F_0F_1 ATPase. *Biophysical Society 49th Annual Meeting* February 12-16, 2005 Long Beach, California.
50. Marinkovic, N.S., Gupta, S., Chance, M. R. Synchrotron Radiation in Biosciences. *Proceeding of 18th International Conference on the Application of Accelerators in Research and Industry*, Oct 10-15, 2004.
51. Gupta, S., Mangel, W.F., McGrath, W.J., Perek, J.L., Lee, D.W., Chance, M.R. Structural Studies on the Interaction of the Adenovirus Proteinase (AVP) with its Cofactors Using Synchrotron Protein Footprinting. *Biophysical Society 48th Annual Meeting* February 14-18, 2004 Baltimore, Maryland.
52. Gupta, S., Baniecki, M.L., Mangel, W.F., Chance, M.R. Structural Studies on the Interaction of the Adenovirus Proteinase (AVP) with its Cofactors Using Synchrotron Protein Footprinting *Computing for Biology, IBM-BNL Blue-Genome Science Workshop*, July 31- August 1, 2003, BNL, NY.
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