

## I. Faculty Presentations at Professional Meetings

### A. Bansil:

International Workshop on Mesoscopic and Disordered Materials, Kanpur, India, Dec. 2006.

15<sup>th</sup> International Conference on Solid Compounds of Transition Elements (SCTE'2006), Krakow, Poland, July 2006.

Lattice Effects in Superconductors, Santa Fe, New Mexico, April 2006.

Twenty Years from the Discovery of High T<sub>c</sub> Superconductivity, 37<sup>th</sup> Course International School of Solid State Physics, Erice, Sicily, Italy, July 2006.

8<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors, Dresden, Germany, July 2006.

Sagamore XV Conference on Electron Charge, Spin and Momentum Density, Warwick, United Kingdom, August 2006.

Advanced Techniques in Angle-resolved Photoemission, Berkeley, California, October 2006.

XV International Materials Research Congress, Nanoscience at the Intersection of Physics and Biology, Cancun, Mexico, August 2006.

International Symposium on Materials Chemistry, Mumbai, India, December 2006.

Theoretical Perspectives of Resonant Inelastic Soft X-Ray Scattering, Advanced Light Source, Berkeley, California, October 2006.

Raising Bi-O bands above the Fermi energy level of hole-doped Bi2212 and other cuprate superconductors: Hsin Lin, S. Sahrakorpi, R.S. Markiewicz, and A. Bansil (NU), APS Meeting, Baltimore, Maryland, March 2006.

Antiferromagnetic superconducting state in the electron doped cuprates? T. Das, R.S. Markiewicz, and A. Bansil (NU), APS Meeting, Baltimore, Maryland, March 2006.

Evolution of mid-gap states and residual three-dimensionality in cuprates: S. Sahrakorpi (NU), M. Lindroos (NU and TTKK, Finland), R.S. Markiewicz, and A. Bansil (NU), APS Meeting, Baltimore, Maryland, March 2006.

Doping dependence of resonant inelastic x-ray scattering (RIXS) in electron and hole doped cuprates: A. Bansil, R. S. Markiewicz (NU), Yinwan Li, D. Qian and Z. Hasan (Princeton Univ.), APS Meeting, Baltimore, Maryland, March 2006.

Resonant inelastic x-ray scattering (RIXS) studies in the cuprates: R.S. Markiewicz, and A Bansil (NU), APS Meeting, Baltimore, Maryland, March 2006.

Near Fermi electronic structure of La(2-2x)Sr(1+2x)Mn2O7 revealed by ARPES: Z. Sun, J. F. Douglas, D. S. Dessau (UC, Boulder), Y. D. Chuang, A. V. Fedorov (LBNL), H. Lin, M. Lindroos, S. Sahrakorpi, R. S. Markiewicz, A. Bansil (NU), H. Zheng, J. F. Mitchell (ANL), T. Kimura and Y. Tokura (Univ. of Tokyo, Japan), APS Meeting, Baltimore, Maryland, March 2006.

Doping dependence of the coupling of electrons to bosonic modes in the single layer high temperature superconductor Bi2Sr2CuO6: W. Meevasana, D. H. Lu, F. Baumberger, W. S. Lee, T. Cuk, J. Zaanen, Z. X. Shen (Stanford Univ.), N. J. C. Ingle, K. M. Shen (UBC, Canada), J. R. Shi (Univ. Texas, Austin), H. Eisaki (NRI, Japan), T. P. Devereaux (Univ. Waterloo, Canada), N. Nagaosa, (CREST and Univ. of Tokyo, Japan), S. Sahrakorpi (NU), M. Lindroos (NU and TTKK, Finland), R.S. Markiewicz, and A. Bansil (NU), APS Meeting, Baltimore, Maryland, March 2006.

## I. Faculty Presentations at Professional Meetings

High binding energy band structure of Bi<sub>2</sub>212 as measured by ARPES: K. McElroy, J. Graf (LBNL), G. H. Gweon (UC Berkeley), S. Sahrakorpi (NU), M. Lindroos (NU and TTKK, Finland), R.S. Markiewicz, A. Bansil (NU), S. Y. Zhou (LBNL and UC Berkeley), H. Eisaki (AIST, Japan), T. Sasagawa (Univ of Tokyo, Japan), H. Takagi (Univ. of Tokyo and CREST, Japan) and A. Lanzara (LBNL and UC Berkeley), APS Meeting, Baltimore, Maryland, March 2006.

Spin moment over 10-300 K and the delocalization of magnetic electrons above the Verwey transition in magnetite: P. A. Montano (U. Illinois, Chicago and USDOE), Yinwan Li (U. Illinois and ANL), B. Barbiellini (NU), P. E. Mijnaerends (NU and Delft Univ. Tech., Netherlands), S. Kaprzyk (NU and AGH, Poland), and A. Bansil (NU), APS Meeting, Baltimore, Maryland, March 2006.

Study of colloidal quantum dot surfaces using an innovative thin film positron 2D-ACAR method: B. Barbiellini, A. Bansil (NU), S. W. H. Eijt, H. Schut (Delft Univ Tech, Netherlands), P. E. Mijnaerends (NU and Delft Univ Tech., Netherlands) and A. Denison (LLNL), APS Meeting, Baltimore, Maryland, March 2006.

Equilibration in quantum monte carlo simulations: D. Nissenbaum, B. Barbiellini and A. Bansil, APS Meeting, Baltimore, Maryland, March 2006.

Phase transitions and the surfaces of nanocrystals monitored using thin-film positron 2D-ACAR: S.W.H. Eijt, A.J. Houtepen, D. Vanmaekelbergh, P.E. Mijnaerends, B. Barbiellini and A. Bansil, 14<sup>th</sup> International Positron Annihilation Conference (ICPA-14), Ontario, Canada, July 2006.

Tunneling spectroscopy calculations of Bi<sub>2</sub>212: J. A. Nieminen, Hsin Lin, R. S. Markiewicz and A. Bansil, 24<sup>th</sup> European Conference on Surface Science (ECOSS-24), Paris, France, Sept 2006.

High resolution Compton scattering study of Nb<sub>50</sub>Mo<sub>50</sub>: B. K. Sharma, B. L. Ahuja, A. Shukla, M. J. Cooper, Y. Tanaka, S. Kaprzyk, P. E. Mijnaerends and A. Bansil, XV Sagamore Conference on electron charge, Spin and Momentum Densities, Warwickshire, UK, August 2006.

Electronic structure of disordered Fe<sub>3-x</sub>Cr<sub>x</sub>Si by KKR-CPA method: J. Tobola, T. Stopa, B. Wiendlocha, A. Bansil and S. Kaprzyk, 15<sup>th</sup> International Conference on Solid Compounds of Transition Metals, Krakow, Poland, August 2006.

Light quanta and photochemistry: M. Baublitz (NU & Boston Univ.), M. Hersek, N. A. Gross and A. Bansil (NU), AAPT Meeting, Baltimore, Maryland, March 2006.

### E. Barberis:

“Top quark mass and kinematics at the Tevatron”, 20<sup>th</sup> Rencontres de Physique de la Vallée d’Aoste, March 2006, LaThuile, Italy. Invited.

### P. Champion:

International Workshop on Protein Dynamics and Biological Applications of Time-resolved Spectroscopy, Kobe, Japan, August 2006, “Recent Studies of Raman Coherence and Ligand Rebinding in Heme and Heme Proteins”, Invited Lecture, Workshop co-organizer.

XX<sup>th</sup> International Conference on Raman Spectroscopy (ICORS2006), Yokohama, Japan, August 2006, “Impulsively driven Raman Coherence and the Dynamics and Function of Heme Proteins”, Plenary Lecture.

International Symposium on Ultrafast Processes in Chemical and Biological Complex Systems, Beijing, China, November 2006, “Recent studies of Raman Coherence and Ligand Binding in Heme and Heme Proteins”, Invited Lecture.

### H. Goldberg:

## I. Faculty Presentations at Professional Meetings

"High energy cosmic rays and the potential for new physics discovery", Pheno2006 Conference, University of Wisconsin Madison, May 16, 2006. Invited

"Photo-excitation and de-excitation in Cygnus OB2 and the HEGRA source", TeV Particle Astrophysics II, University of Wisconsin-Madison, August 28, 2006. Invited

"Probing leptoquarks at IceCube", Miami2006 Conference, University of Miami (Fort Lauderdale), December 13, 2006. Invited

### D. Heiman:

Y.S. Park, J.S. Lee, J. Philip, D. Heiman, and J.S. Moodera, "*Spin filtering effect of MgO tunnel barrier grown on GaAs Substrate*," International Conference on Magnetism, Kyoto, Aug. 20-25 (2006), contributed.

S.P. Bennett, Z. Zhang, Z. Wu, L. Menon, and D. Heiman, "*Fabrication of quantum dot arrays using MBE and porous alumina masks*," Materials Research Society, Fall Meeting, Boston, Nov. 27 – Dec. 1 (2006), contributed talk.

### N. Israeloff:

FDR violations in aging polymer glasses, H. Oukris and N. E. Israeloff, APS March Meeting, contributed

### A. Karma:

"Phase-Field Modeling of Unsteady Crack Motion and Branching", APS (American Physical Society) March meeting, March 13-17, Baltimore, Maryland, 2006.

"Confronting Atomistic and Continuum Models of Solid-Liquid Interfaces", TMS (The Minerals, Metals & Materials Society) Spring meeting, San Antonio, Texas, March 12-16, 2006.

"Ways of the Heart: Taming Cardiac Fibrillation", Robert D. Klein Lecture, Northeastern University, March 30, 2006.

"Role of Spontaneous Symmetry Breaking in Arrhythmogenesis", Cardiac Dynamics Miniprogram, Kavli Institute for Theoretical Physics, Santa Barbara, California, July 10-August 4, 2006.

"Bringing Order to Chaotic Hearts", 31<sup>st</sup> Public Lecture, Kavli Institute for Theoretical Physics, Santa Barbara, California, July 26, 2006.

"Orientation Selection in Dendritic Evolution", International Workshop on Polymorphism in Condensed Matter, Max Planck Institute for Complex Systems, Dresden, Germany, November 13-17, 2006.

### S. Kravchenko:

Invited - S. V. Kravchenko, "Interaction and Disorder in Two Dimensions"

Workshop on Spin and Charge Effects at the Nanoscale, Pisa, Italy (July 2006)

Invited – S. V. Kravchenko, "Divergent spin susceptibility near the 2D metal-insulator transition" Workshop on Quantum Coherence, Noise and Decoherence in Nanostructures, Dresden, Germany

### R. S. Markiewicz:

S. Sahrakorpi, M. Lindroos, R. Markiewicz, and A. Bansil, "Evolution of Mid-gap States and Residual 3 Dimensionality in Cuprates," presented at the APS March Meeting, Baltimore, Mar. 13-7, 2006, contributed.

W. Meevasana, D.H. Lu, F. Baumberger, W.S. Lee, T. Cuk, J. Zaanen, Z.-X. Shen, N.J.C. Ingle, K.M. Shen, J.R. Shi, H. Eisaki, T.P. Devereaux, N. Nagaosa, S. Sahrakorpi, M. Lindroos, R.S. Markiewicz, and A. Bansil, "Doping dependence of the coupling of electrons to bosonic modes in the single-layer high-temperature superconductor,  $\text{Bi}_2\text{Sr}_2\text{CuO}_6$ ", *ibid.*

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Hsin Lin, S. Sahrakorpi, R.S. Markiewicz, and A. Bansil, "Raising Bi-O bands above the Fermi energy level of hole-doped  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{\square\square}$  and other cuprate superconductors", *ibid.*

Z. Sun, J.F. Douglas, D.S. Dessau, Y.-D. Chuang, A.V. Fedorov, H. Lin, M. Lindroos, S. Sahrakorpi, R.S. Markiewicz, A. Bansil, H. Zheng, J.F. Mitchell, T. Kimura, and Y. Tokura, "Near-Fermi electronic structure of  $\text{La}_{2-2x}\text{Sr}_{1+2x}\text{Mn}_2\text{O}_7$  revealed by ARPES", *ibid.*

K. McElroy, J. Graf, G.-H. Gweon, Sy. Y. Zhou, S. Sahrakorpi, M. Lindroos, R. S. Markiewicz, A. Gansil, H. Eisaki, T. Sasgawa, H. Takagi, S. Uchida, and A. Lanzara, "High binding energy band structure of Bi-2212 as measured by ARPES", *ibid.*

Arun Bansil, Robert Markiewicz, Yinwan Li, Dong Qian, and Zahid Hasan, "Doping Dependence of Resonant Inelastic X-ray Scattering (RIXS) in Electron and Hole-doped Cuprates", *ibid.*

Robert Markiewicz and Arun Bansil, "Resonant Inelastic X-ray Scattering (RIXS) Studies in the Cuprates", *ibid.*

Tanmoy Das, Robert S. Markiewicz and Arun Bansil, "Antiferromagnetic superconducting state in the electron-doped cuprates?", *ibid.*

R.S. Markiewicz, "Mott Gap Collapse in Electron-doped Cuprates: a Stripe Free Alternative", Los Alamos conference on Lattice Effects in Superconductors, Santa Fe, NM, Apr. 17-19, 2006, invited.

R.S. Markiewicz and A. Bansil, "Probing Magnetic Gap Collapse within a Three-band Model of Resonant inelastic x-ray scattering (RIXS) in the Cuprates", 8<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity and High-Temperature Superconductivity (M<sup>2</sup>S-HTSC), Dresden, July 9-14, 2006, contributed.

M. Lindroos, V. Arpiainen, S. Sahrakorpi, R.S. Markiewicz, and A. Bansil, "ARPES matrix element and its selectivity in the cuprates", *ibid.*

S. Sahrakorpi, Hsin Lin, R.S. Markiewicz and A. Bansil, "Doping dependent effects on the Fermi surface and band dispersion in  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{\square\square}$  and other cuprates", *ibid.*

R.S. Markiewicz and A. Bansil, "Multiband resonant inelastic x-ray scattering (RIXS) calculations in cuprates", Advanced Light Source Users' Meeting, Berkeley, CA, Oct. 10,11, 2006, invited.

### L. Menon

J. Silverberg, S. Saha, D. O'Malley and L. Menon, "Development of Au nanowires for neural recording", Material Research Society Fall Meeting, Boston, MA, November 29, 2006.

Z. Wu, Yung Joon Jung and L. Menon, "Controlled growth of GaN nanowires by means of chemical vapor deposition", Material Research Society Fall Meeting, Boston, MA, November 30, 2006.

A. Friedman and L. Menon, "Systematic Investigation of Electrodeposition Process for Synthesis of Nanowires inside Nanoporous Templates" Material Research Society Fall Meeting, Boston, MA, November 28, 2006.

C. Richter, Z. Wu, L. Menon, "Nanoporous Titania-Based Nanomaterials for Advanced Photochemical Devices," Material Research Society Fall Meeting, Boston, MA, November 30, 2006.

C. Richter, Z. Wu, R. Willey, L. Menon, "Titania Nanotubes as Templates for the Solar Production of Hydrogen," American Institute for Chemical Engineers (AIChE) National Meeting, San Francisco, CA, November 13, 2006.

Wu, Z., Richter, C., Menon, L. "Oriented Growth of GaN Nanowire Using Patterned Substrates," American Institute for Chemical Engineers (AIChE) National Meeting, San Francisco, CA, November 16, 2006.

M. Minnamreddy, C. Richter, L. Menon, "Nanofabrication using porous templates" Women in Science Expo, Northeastern University, Boston, MA, April 5, 2006.

## I. Faculty Presentations at Professional Meetings

C. Richter, K. Bhargava Ram, S. Patibandla, L. Menon, A. Sacco, “*Nanowire-based energetic nanocomposites*,” 231st American Chemical Society (ACS) National Meeting, Atlanta GA, March 27, 2006.

Z. Wu, L. Tian, C. Richter, D. Nagesha, S. Sridhar, L. Menon, “*Nanofabrication Based on Nanoporous Membranes*,” 2006 American Physical Society (APS) March Meeting, Baltimore, MD, March 16, 2006.

C. Richter, Z. Wu, L. Menon, “*Ignition in Al – Iron Oxide*,” Research & Scholarship Expo 2006, Northeastern University, Boston, MA, March 15, 2006.

Z. Wu, C. Richter, J. Zhang, L. Menon, “*Non- lithographic Nanofabrication Using Porous Alumina Membranes*,” Research & Scholarship Expo 2006, Northeastern University, Boston, MA, March 15, 2006.

### P. Nath:

Dark Matter in SUGRA, Strings and Branes”, Invited talk at IDM 2006: 6th International Workshop on the Identification of Dark Matter, Island of Rhodes, Greece, 11-16 Sep 2006.

"Narrow Resonances at the LHC, Discovery Potential, Signature Spaces, and Model Discrimination", invited talk at the Santa Fe 2006 Workshop. "Particle Physics and the LHC", July 23-29, 2006, Santa Fe, New Mexico.

"The Stueckelberg Extension and the Extra-Weakly Interacting Dark Matter", invited talk at the Miami 2006 Conference, Lago Mars Resort, Fort Lauderdale, Florida, Dec 12-17, 2006.

### B. Nelson:

Invited participant, KITP Workshop on String Phenomenology, August 28-September 30, 2006.

Invited Talk: J. Gray, Y. He, V. Jejjala and Brent Nelson, “*Exploring the Vacuum Geometry of  $N=1$  Gauge Theories*,” 5<sup>th</sup> International Conference on String Phenomenology, UC Santa Barbara, August 31, 2006.

### S. Reucroft:

Y. N. Srivastava, N. Staffolani, S. Reucroft, A. Widom, and G. Castellani, Sum Rule Estimates for Heavy and Light Constituent Scattering and Decays, International Conference on High Energy Physics, Moscow, Russia, July 26-- August 2, 2006.

S. Reucroft and Y. N. Srivastava, J. Swain and A. Widom, A new way to detect the Higgs, TeV Particle Astrophysics II, Madison Wisconsin, August 28-31, 2006.

### J. T. Sage:

J. T. Sage, “Vibrational Dynamics of Iron in Biological Molecules: Experimental and Theoretical Models”, Nassau Mössbauer Symposium, Garden City, NY, January 2006 (invited)

J. T. Sage, G. Y. Georgiev, J. J. van Thor, “Electrostatic Steering of Functional Dynamics in GFP”, APS March meeting, Baltimore, MD, March 2006 (contributed)

G. Y. Georgiev, J. T. Sage, J. J. van Thor, “Fluorescence photocycle of GFP studied by trapping phototransformation intermediates”, APS March meeting, Baltimore, MD, March 2006 (contributed; presented by G. Y. Georgiev)

J. T. Sage, W. R. Scheidt, “Vibrational Dynamics of Iron in Porphyrins and Heme Proteins”, International Conference on Porphyrins and Phthalocyanines, Rome, Italy, July 2006 (invited)

W. R. Scheidt, N. J. Silvernail, J. T. Sage, A. Barabanschikov, “Movement of NO in crystalline [Fe(Porph)(1-MeIm)(NO)]”, International Conference on Porphyrins and Phthalocyanines, Rome, Italy, July 2006 (invited; presented by W. R. Scheidt)

### J. Sokoloff:

## I. Faculty Presentations at Professional Meetings

“Theory of Lubrication by Both Neutral and Charged Polymer Brushes,” Materials Research Society, Fall meeting, 2006 contributed.

### S. Sridhar:

maging and Negative Refraction using Photonic Crystals, MRS Workshop on Metamaterials at the mill-, micro- and nano scale, Boston, November 27, 2006

Nanomedicine: An NCI/NSF IGERT program, NCI/NIH workshop on Cancer Nanotechnology, San Diego, October 24-26, 2006.

Nanomedicine: An NCI/NSF IGERT program, American Association of Medical Colleges, GREAT group meeting, Tucson, October 5-7, 2006.

Nanomedicine Science and Technology, XVII Undergraduate Research Symposium, September 15, 2006, San Juan, Puerto Rico.

### Y. Srivastava:

Fractal Propagators in QED and QCD and Implications for the Problem of Confinement.

S. Gulzari, Y.N. Srivastava, J. Swain, A. Widom (Northeastern U.) . Dec 2006. 7pp. To appear in the proceedings of Infrared QCD in Rio: Propagators, Condensates and Topological Effects (IRQCD 2006), Rio de Janeiro, Brazil, 5-9 Jun 2006. (Invited) (Braz.J.Phys). e-Print Archive: hep-th/0612084

Dynamic time scales in colored glass nuclear matter.

V. Parihar, A. Widom, Y.N. Srivastava (Northeastern U. & Perugia U.) . Nov 2006. 10pp.

Talk given at International School of Subnuclear Physics (ISSP 2006): 44th Course: Homage to Richard H. Dalitz: The Logic of Nature, Complexity and New Physics: From Quark-Gluon Plasma to Superstrings, Quantum Gravity and Beyond, Erice, Sicily, Italy, 29 Aug - 7 Sep 2006. (Invited) e-Print Archive: nucl-th/0611063

A New way to detect the Higgs.

S. Reucroft, Y. Srivastava, J. Swain, A Widom (Northeastern U.) . Nov 2006. 4pp.

Presented at 2nd Workshop on TeV Particle Astrophysics, Madison, Wisconsin, 28-31 Aug 2006. (J.Phys.Conf.Ser.) (Invited) e-Print Archive: hep-ph/0611066

Low-energy kaon-nucleus interactions at a phi-factory.

P.M. Gensini, G. Pancheri, Y.N. Srivastava, G. Violini. (14pp).

Talk presented at Meeting on  $e^+ e^-$  Physics Perspectives (non-K Physics), Frascati, Italy, 19-20 Jan 2006. e-Print Archive: nucl-th/0603043

### A. Stepanyants:

Neural Circuits Meeting, “Inter-laminar variation of local axon density and the potential for structural synaptic plasticity in the cat visual cortex”, Cold Spring Harbor Laboratory, March 2006 (invited)

Computational and Systems Neuroscience Meeting, “Why Should Cortical Connectivity be Sparse and Predominantly Excitatory?”, Salt Lake City, March 2006 (contributed)

A fresh look at the neocortex (mini-symposium), “Neurogeometry and synaptic connectivity in the cortex”, Atlanta, October 2006 (organizer and chair)

Society for Neuroscience Annual Meeting, “Automated reconstruction of axons from 3D confocal microscopy image stacks”, Atlanta, October 2006 (contributed)

Society for Neuroscience Annual Meeting, “Inter-laminar variation of local axon density and the potential for structural synaptic plasticity in the cat visual cortex”, Atlanta, October 2006 (contributed)

## I. Faculty Presentations at Professional Meetings

### Swain:

QCD (three lectures) at LISHEP 2006 Advanced school on collider physics, UERJ, Rio de Janeiro, Brazil, March 26--31, 2006.

QED and speculations for QCD invited talk at IRQCD: Infrared QCD in Rio, UERJ, Rio de Janeiro, Brazil, June 5--9, 2006.

The Physics of Single Photon Detection, International Institute of Biophysics, Neuss, Germany, Summer School, August 16, 2006.

Connections between Fritz Popp's Visible Biophotons and Frohlich Coherence in Microwaves -- Theoretical Work and Experimental Prospects, International Institute of Biophysics, Neuss, Germany, Summer School, August 16, 2006.

### T. Taylor:

“Physics Theorynet Outreach Program” 2006 NES AAPT/APS Meeting on Boston, April 2006

“Multi-String Scattering”, Galileo String Theory Workshop, Florence, Italy, May 2006

### A. Widom:

Fractal Propagators in QED and QCD and Implications for the Problem of Confinement}, with S. Gulzari, Y. N. Srivastava, and A. Widom, Proceedings of IRQCD, June 5--9, 2006, Rio de Janeiro, and Braz. J. Phys. (to appear).

Infrared fractal propagator for a charged fermion, J. Swain S. Gulzari, Y. N. Srivastava, and A. Widom, Proceedings of the Feynman Festival. University of Maryland, 25 - 29 August 2006, to appear.

A new way to detect the Higgs}, S. Reucroft, J. Swain Y. Srivastava and A. Widom, Presented at 2nd Workshop on TeV Particle Astrophysics, Madison, Wisconsin, 28-31 Aug 2006, Submitted to J.Phys.Conf.Ser. e-Print Archive: hep-ph/0611066.

Sum Rule Estimates for Heavy and Light Constituent Scattering and Decays}, Y. N. Srivastava, N. Staffolani, S. Reucroft, A. Widom, and G. Castellani, to appear in the Proceedings of the International Conference on High Energy Physics, Moscow, Russia, July 26-- August 2, 2006.

### M. Williams:

Oral Presentations

Mark C. Williams. “Quantifying force-induced DNA-ligand interactions”, Department of Chemistry and Chemical Biology Research Retreat: “Chemistry at the Interface of Science and Engineering”, Northeastern University Henderson House, Weston, MA, May 26, 2006. *Invited.*

Mark C. Williams. “Thermodynamics of force-induced DNA-ligand interactions”, *SoftBio 2006*, a Conference on Statistical Physics, Soft Matter, and Biological Physics, Nordic Institute for Theoretical Physics, Copenhagen, Denmark, May 8-11, 2006. *Invited.*

Ioana Vladescu, Micah McCauley, Megan Nunez, Ioulia Rouzina, and Mark C. Williams. “Mapping the phase diagram of DNA force-induced melting in the presence of DNA intercalators” 2006 APS March Meeting, Baltimore, MD, March 13-17, 2006.

Leila Shokri, Borianna Marintcheva, Charles C. Richardson, and Mark C. Williams. “Binding Study of T7 Gene 2.5 Protein to Single- and Double--Stranded DNA from Single Molecule Stretching” 2006 APS March Meeting, Baltimore, MD, March 13-17, 2006.

## I. Faculty Presentations at Professional Meetings

Ioulia Rouzina, My-Nuong Vo, Kristen Stewart, Karin Musier-Forsyth, Margareta Cruceanu, Mark C. Williams. "Mechanism of Nucleic Acid Chaperone Function of Retroviral Nucleocapsid (NC) Proteins" 2006 APS March Meeting, March 13-17, 2006.

### Poster Presentations

Ioana D. Vladescu, Micah J. McCauley, Megan Nunez, Ioulia Rouzina, and Mark C. Williams. "Quantifying zero force and force-induced DNA intercalation by DNA stretching" Gordon Research Conference on Single Molecule Approaches to Biology, Colby-Sawyer College, New London, NH, June 18-23, 2006.

Leila Shokri, Boriana Marintcheva, Charles C. Richardson, Ioulia Rouzina, and Mark C. Williams. "Dimer dissociation required for T7 gene 2.5 binding to single-stranded DNA" Gordon Research Conference on Single Molecule Approaches to Biology, Colby-Sawyer College, New London, NH, June 18-23, 2006.

Leila Shokri, Boriana Marintcheva, Charles C. Richardson, and Mark C. Williams. "Thermodynamics and kinetics of T7 gene 2.5 protein binding to DNA from single molecule stretching" Biophysical Society Annual Meeting, Salt Lake City, UT, Feb. 18-22, 2006.

Ioana D. Vladescu, Micah J. McCauley, Ioulia Rouzina, and Mark C. Williams. "Mapping the Phase Diagram of DNA Force-Induced Melting in the Presence of DNA Intercalators" Biophysical Society Annual Meeting, Salt Lake City, UT, Feb. 18-22, 2006.

### D. Wood:

Darien Wood, "Electroweak Physics", XXXIII International Conference on High Energy Physics, Moscow, Russia, 1 August, 2006. Invited plenary talk.