

Curriculum Vitae  
**Neal W. Woodbury**  
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**Education:**

University of California at Davis. B.S., Biochemistry 1979  
University of Washington. Ph.D., Biochemistry 1986

**Professional Experience:**

Chief Science Officer, Knowledge Enterprise 2019 - present  
Director, School of Molecular Sciences 2016 - present  
Faculty, Center for Innovations in Medicine, Biodesign Institute 2016 - present  
Faculty, Global Security Initiative 2016 - present  
Member of Directorate of the Biodesign Institute 2011 - 2016  
Co-Director of the Center for Innovations in Medicine 2010 – 2016  
Biodesign Institute at ASU  
Senior Sustainability Scientist, Global Institute of Sustainability at ASU 2010 – present  
Chief Scientific Officer, Biodesign Institute at ASU 2010 – 2011  
Faculty Associate, Center for Single Molecule Biophysics, 2010 - present  
Biodesign Institute at ASU  
Deputy Director, Biodesign Institute at ASU 2008 – 2009  
Director, Center for BioOptical Nanotechnology, 2004 – 2010  
Biodesign Institute at ASU  
Director, NSF IGERT Biomolecular Nanotechnology 2000 – 2009  
Arizona State University, Prof. Chemistry and Biochemistry 1998 – present  
Director, NSF RTG Optical Biomolecular Dev. Program 1996 – 2002  
Director, Photosynthesis Center 1997 – 2000  
Assoc. Prof. Chemistry and Biochemistry, ASU 1994 – 1998  
Asst. Prof. Chemistry and Biochemistry, ASU 1987 – 1994  
Stanford University, NSF Postdoctoral Fellow with S. Boxer 1987 – 1988  
Carnegie Inst. of Washington, Dept. of Plant Biology, NSF 1986 – 1987  
Postdoctoral fellow with W. Thompson  
Univ. of Washington, Graduate Research with W. Parson 1979 – 1986

**Honors, Awards, and Service to the Profession:**

NSF Physics of life panel member 2010-present  
NSF CBET panel member 2012-2014  
NSF MCB panel member 2013-present  
NSF BIO postdoctoral fellowship panel member 2014-2015  
Senior Sustainability Scientist, Global Institute of Sustainability 2010 – present  
Gary Krahenbuhl Difference Maker Award, recipient 2008  
Professor of the Year, nominee 2008  
Professor of the Year, nominee 2007  
National Academy of Science Workshop 2005  
Chemical Imaging Committee Member  
NSF MPS-MCB Joint Review Panel member 2004-2013  
NSF Biophysics Panel member 1997-1999  
Outstanding Supervisor Award 2004  
American Chemical Society Panel Member 2004 – 2005

Photochemistry and Photobiology, Associate Editor	2002 – 2009
NSF IGERT Panel member	2002 – 2006
NSF Bio. Inst. Dev. Panel member	1998
NSF Presidential Young Investigator Award	1991
NSF Postdoctoral Fellowship in Plant Molecular Biology	1985

### Current Graduate Students in Woodbury Laboratory:

Robayet Chowdhury	Akanksha Singh
Kirstie Swingle	Pritha Bisarad
Symon Levenberg	

### Graduate Theses Mentored:

- Weizhong Xiao, 1994, Energy and electron transfer in *Rhodobacter capsulatus*, Citibank
- Dennis Gallo, 1994, Chimeric mutagenesis of the *Rb. capsulatus* reaction center : an exploration of the structure/function relationship, Senior Manager at Abbott Diagnostics
- Jeffrey Peloquin, 1994, Time-resolved spectroscopic studies of photosynthetic reaction centers from *Rhodobacter sphaeroides*, deceased (previously Professor at Boise State University, Department of Chemistry & Biochemistry)
- Martin Thompson, 2000, Synthesis and characterization of the photophysical and photochemical properties of sequence specific DNA-binding probes, Associate Professor, Michigan Technological University
- Elizabeth Eastman, 2000, Large scale mutagenesis of the *Rhodobacter capsulatus* reaction center : kinetic and spectral aspects graduated, last known profession- high school teacher
- Evaldas Katilius, 2002, B-side electron transfer investigations in the *Rhodobacter sphaeroides* reaction center, Scientist at SomaLogic in Denver, CO
- Arlene Haffa, 2002, Energetics and mechanism in primary electron transfer of bacterial photosynthesis Assistant Professor at University of Wisconsin at Oshkosh, recently offered an Assistant Professorship in Microbiology at Cal State University Monterey Bay
- Jonathan Jackson, 2003, Conformational heterogeneity and energy transfer in photoactive proteins, Product Engineering Group Leader at Microchip Technology, Chandler, AZ
- Ben Bowen, 2003, Single-molecule spectroscopy of fluorescent biomolecules, Research Scientist, Lawrence Berkeley National Laboratory, BPBowen@lbl.gov, (510)486-5138
- Zivile Katiliene, 2004, Investigations of energy trapping in photosynthesis and of DNA looping by endonuclease, Quality Assurance Manager & Clinical Research Database Manager at the University of Colorado Cancer Center Clinical Investigational Core; University of Colorado Hospital
- Trent Northen, 2005, Light-directed synthesis and in situ MALDI-MS characterization of complex bioheteropolymer microarrays, Scientist at Lawrence Berkeley National Laboratory
- Allan Scruggs, 2004, Optical selection in directed evolution and lifetime mutants of green fluorescent protein, General Chemistry Lecturer at ASU
- Teresa Murray, 2009, Shedding light on nicotinic acetylcholine receptors: creation and use of fluorescently tagged receptors, Postdoctoral Associate, Yale University
- Jason Lappe, 2009, Photoreactivation and Positive Cell Selection for the Directed Evolution of Proteins, Research Scientist, Moregate Biotech, Brisbane, Australia
- Matt Greving, 2009, Creating High-Affinity Ligands on Surfaces and in Solution, Research Associate - Center for Metabolomics and Mass Spectrometry at The Scripps Research Institute, Chief Scientific Officer at Nextval Inc.

Jinglin Fu, 2010, Exploring Peptide Space for Enzyme Modulation, Center for Single Molecule Biophysics & Center for Innovations in Medicine, Rutgers Faculty  
Jack S. Emery, 2010, Computational Modeling of Peptide-Protein Binding, Patent Attorney at Private Patent Law Practice  
Zhi Gou, 2012, The role of protein dielectric relaxation in modulating the electron transfer process in photosynthetic reaction centers, Notre Dame  
Pallav Kumar, 2013, Development of Chip-Based Electrochemically and Light Directed Peptide Microarray Synthesis, Community College faculty  
Wei Wang, 2014, Exploring the Nature of Protein-Peptide Interactions on Surfaces, ASU East teaching faculty

### Postdoctoral Fellows Sponsored:

Arlene Haffa, Assistant Professor University of Wisconsin at Oshkosh  
Douglas Daniel, Assistant Research Professional, ASU  
Zivile Katiliene, Database Manager at the University of Colorado Health Sciences Center  
Kou Timpmann, Sr. Research Fellow at the Inst. of Physics in Estonia  
Evaldas Katilius, Scientist at SomaLogic in Denver, CO  
Heather Murchison, Group Manager, OCG Localization at Microsoft Corporation  
Arman Ghodousi, lieutenant and scientist in the Materials Branch of the Chemistry Division at the Naval Research Laboratory  
Hadi Tabbara, Scientist, UT system  
Laimonas Kelbauskas, Associate Research Scientist, Center for Biosignatures Discovery Automation, Biodesign Institute at ASU  
Haiyu Wang, Assistant Professor, State Key Laboratory on Integrated Optoelectronics, Jilin University, China  
Allan Scruggs, Lecturer at Washington State University  
Jie Pan, Senior Scientist, University of Michigan  
Jinglin Fu, Professor, Rutgers University  
Alessio Andreoni, NIH, research scientist  
Anne-Marie Carey, Instructor, Tokyo  
Sarthak Mandal, Professor, National Institute of Technology, Tiruchirappalli, India

### Collaborators and Co-Editors

*Arizona State University:* James Allen, Yi Chen, Nicholas Colaneri; Stephen Johnston, Joshua LaBaer, Su Lin, Stuart Lindsay, Yan Liu, Dmitry Matyushov; Deirdre Meldrum; Jose Menendez, Ana Moore, Thomas Moore, George Poste, Bruce Rittman, Phillip Stafford, Kathryn Sykes; Nongjian Tao, Trevor Thornton, Shaopeng Wang, JoAnn Williams, Hao Yan, Zhan-Gong Zhao, Don Seo

*Other:* Thomas Beatty (U of British Columbia); Stephen Casalnuovo, SNL; Harry Frank, Univ. of Connecticut; Arvi Freiberg, Inst. of Physics, Estonia; Matthew Greiving, Scripps Research Institute; Evaldas Katilius, *SomaLogic*, CO; Ron Lukas, Barrows Neurological ; Gabriel A. Montaña, Ctr for Integrated Nanotechnologies; Robert A. Niederman, Rutgers Univ.; Trent Northen, Lawrence Berkeley National Laboratory; Tom Slezak, LLNL;

### Publications <sup>1-168</sup>

1. Zhou, X.; Mandal, S.; Jiang, S.; Lin, S.; Yang, J.; Liu, Y.; Whitten, D. G.; Woodbury, N. W.; Yan, H., Efficient Long-Range, Directional Energy Transfer through DNA-Templated Dye Aggregates. *J Am Chem Soc* **2019**, *141* (21), 8473-8481.

2. Singh, A.; Mandal, S.; Carey, A.-M.; Liu, M.; Chen, S.; Seo, D.-K.; Yan, H.; Woodbury, N., Interfacing Photosystem I Reaction Centers with a Porous Antimony-Doped Tin Oxide Electrode to Perform Light Driven Redox Chemistry. *Biophys J* **2019**, *116*, 443a.
3. Mandal, S.; Zhou, X.; Lin, S.; Yan, H.; Woodbury, N., Directed Energy Transfer through DNA-Templated J-Aggregates. *Bioconjug Chem* **2019**, *30* (7), 1870-1879.
4. Mieritz, D.; Liang, R.; Zhang, H.; Carey, A.-M.; Chen, S.; Volosin, A.; Lin, S.; Woodbury, N.; Seo, D.-K., Thickness-Dependent Bioelectrochemical and Energy Applications of Thickness-Controlled Meso-Macroporous Antimony-Doped Tin Oxide. *Coatings* **2018**, *8* (4), 128.
5. Mandal, S.; Espiritu, E.; Akram, N.; Lin, S.; Williams, J. C.; Allen, J. P.; Woodbury, N. W., Influence of the Electrochemical Properties of the Bacteriochlorophyll Dimer on Triplet Energy-Transfer Dynamics in Bacterial Reaction Centers. *J Phys Chem B* **2018**, *122* (44), 10097-10107.
6. Boulais, E.; Sawaya, N. P. D.; Veneziano, R.; Andreoni, A.; Banal, J. L.; Kondo, T.; Mandal, S.; Lin, S.; Schlau-Cohen, G. S.; Woodbury, N. W.; Yan, H.; Aspuru-Guzik, A.; Bathe, M., Programmed coherent coupling in a synthetic DNA-based excitonic circuit. *Nat Mater* **2018**, *17* (2), 159-166.
7. Zhao, Z. G.; Cordovez, L. A.; Johnston, S. A.; Woodbury, N., Peptide Sequencing Directly on Solid Surfaces Using MALDI Mass Spectrometry. *Scientific Reports* **2017**, *7*.
8. Zhang, H. J.; Carey, A. M.; Jeon, K. W.; Liu, M. H.; Murrell, T. D.; Locsin, J.; Lin, S.; Yan, H.; Woodbury, N.; Seo, D. K., A highly stable and scalable photosynthetic reaction center-graphene hybrid electrode system for biomimetic solar energy transduction. *Journal of Materials Chemistry A* **2017**, *5* (13), 6038-6041.
9. Mandal, S.; Carey, A. M.; Locsin, J.; Gao, B. R.; Williams, J. C.; Allen, J. P.; Lin, S.; Woodbury, N. W., Mechanism of Triplet Energy Transfer in Photosynthetic Bacterial Reaction Centers. *J Phys Chem B* **2017**, *121* (27), 6499-6510.
10. Carey, A. M.; Zhang, H.; Liu, M.; Sharaf, D.; Akram, N.; Yan, H.; Lin, S.; Woodbury, N. W.; Seo, D. K., Enhancing Photocurrent Generation in Photosynthetic Reaction Center-Based Photoelectrochemical Cells with Biomimetic DNA Antenna. *ChemSusChem* **2017**, *10* (22), 4457-4460.
11. Andreoni, A.; Lin, S.; Liu, H.; Blankenship, R. E.; Yan, H.; Woodbury, N. W., Orange Carotenoid Protein as a Control Element in an Antenna System Based on a DNA Nanostructure. *Nano Lett* **2017**, *17* (2), 1174-1180.
12. Zhao, Z.; Fu, J. L.; Dhakal, S.; Johnson-Buck, A.; Liu, M. H.; Zhang, T.; Woodbury, N. W.; Liu, Y.; Walter, N. G.; Yan, H., Nanocaged enzymes with enhanced catalytic activity and increased stability against protease digestion. *Nat Commun* **2016**, *7*.
13. Sun, C.; Carey, A. M.; Gao, B. R.; Wraight, C. A.; Woodbury, N. W.; Lin, S., Ultrafast Electron Transfer Kinetics in the LM Dimer of Bacterial Photosynthetic Reaction Center from *Rhodobacter sphaeroides*. *J Phys Chem B* **2016**, *120* (24), 5395-5404.
14. Pan, J.; Saer, R.; Lin, S.; Beatty, J. T.; Woodbury, N. W., Electron Transfer in Bacterial Reaction Centers with the Photoactive Bacteriopheophytin Replaced by a Bacteriochlorophyll through Coordinating Ligand Substitution. *Biochemistry-Us* **2016**, *55* (35), 4909-4918.
15. Liu, M. H.; Fu, J. L.; Qi, X. D.; Wootten, S.; Woodbury, N. W.; Liu, Y.; Yan, H., A Three-Enzyme Pathway with an Optimised Geometric Arrangement to Facilitate Substrate Transfer. *ChemBiochem* **2016**, *17* (12), 1097-1101.
16. Carey, A. M.; Zhang, H.; Mieritz, D.; Volosin, A.; Gardiner, A. T.; Cogdell, R. J.; Yan, H.; Seo, D. K.; Lin, S.; Woodbury, N. W., Photocurrent Generation by Photosynthetic Purple Bacterial Reaction Centers Interfaced with a Porous Antimony-Doped Tin Oxide (ATO) Electrode. *ACS Appl Mater Interfaces* **2016**, *8* (38), 25104-10.
17. Boulais, E.; Sawaya, N.; Veneziano, R.; Andreoni, A.; Lin, S.; Woodbury, N.; Yan, H.; Aspuru-Guzik, A.; Bathe, M., A DNA-Based Building Block for Designer Excitonic Circuits. *Biophys J* **2016**, *110* (3), 313a-313a.

18. Andreoni, A.; Lin, S.; Liu, H. J.; Yan, H.; Blankenship, R. E.; Woodbury, N. W., Light-Activated Photo Protection in an Artificial Antenna System. *Biophys J* **2016**, *110* (3), 198a-199a.
19. Wang, W.; Woodbury, N. W., Unstructured interactions between peptides and proteins: Exploring the role of sequence motifs in affinity and specificity. *Acta biomaterialia* **2015**, *11*, 88-95.
20. Woodbury, N. J.; George, V. A., A comparison of the nutritional quality of organic and conventional ready-to-eat breakfast cereals based on NuVal scores. *Public Health Nutr* **2014**, *17* (7), 1454-1458.
21. Wang, W.; Woodbury, N. W., Selective protein-peptide interactions at surfaces. *Acta biomaterialia* **2014**, *10* (2), 761-768.
22. Stafford, P.; Cichacz, Z.; Woodbury, N. W.; Johnston, S. A., Immunosignature system for diagnosis of cancer. *Proc Natl Acad Sci U S A* **2014**, *111* (30), E3072-80.
23. Saer, R. G.; Pan, J.; Hardjasa, A.; Lin, S.; Rosell, F.; Mauk, A. G.; Woodbury, N. W.; Murphy, M. E.; Beatty, J. T., Structural and kinetic properties of Rhodobacter sphaeroides photosynthetic reaction centers containing exclusively Zn-coordinated bacteriochlorophyll as bacteriochlorin cofactors. *Biochim Biophys Acta* **2014**, *1837* (3), 366-74.
24. Navalkar, K. A.; Johnston, S. A.; Woodbury, N.; Galgiani, J. N.; Magee, D. M.; Chicacz, Z.; Stafford, P., Application of Immunosignatures for Diagnosis of Valley Fever. *Clin Vaccine Immunol* **2014**, *21* (8), 1169-1177.
25. Legutki, J. B.; Zhao, Z. G.; Greving, M.; Woodbury, N.; Johnston, S. A.; Stafford, P., Scalable High-Density Peptide Arrays for Comprehensive Health Monitoring. *Nat Commun* **2014**, *5*, 4785.
26. Fu, J. L.; Yang, Y. R.; Johnson-Buck, A.; Liu, M. H.; Liu, Y.; Walter, N. G.; Woodbury, N. W.; Yan, H., Multi-enzyme complexes on DNA scaffolds capable of substrate channelling with an artificial swinging arm. *Nature nanotechnology* **2014**, *9* (7), 531-536.
27. Dutta, P. K.; Lin, S.; Loskutov, A.; Levenberg, S.; Jun, D.; Saer, R.; Beatty, J. T.; Liu, Y.; Yan, H.; Woodbury, N. W., Reengineering the Optical Absorption Cross-Section of Photosynthetic Reaction Centers. *J Am Chem Soc* **2014**, *136* (12), 4599-4604.
28. Dutta, P. K.; Levenberg, S.; Loskutov, A.; Jun, D.; Saer, R.; Beatty, J. T.; Lin, S.; Liu, Y.; Woodbury, N. W.; Yan, H., A DNA-Directed Light-Harvesting/Reaction Center System. *J Am Chem Soc* **2014**, *136* (47), 16618-16625.
29. Driscoll, B.; Lunceford, C.; Lin, S.; Woronowicz, K.; Niederman, R. A.; Woodbury, N. W., Energy transfer properties of Rhodobacter sphaeroides chromatophores during adaptation to Low light intensity. *Physical Chemistry Chemical Physics* **2014**, *16* (32), 17133-17141.
30. Pan, J.; Saer, R. G.; Lin, S.; Guo, Z.; Beatty, J. T.; Woodbury, N. W., The Protein Environment of the Bacteriopheophytin Anion Modulates Charge Separation and Charge Recombination in Bacterial Reaction Centers. *J Phys Chem B* **2013**, *117* (24), 7179-7189.
31. Liu, M. H.; Fu, J. L.; Hejesen, C.; Yang, Y. H.; Woodbury, N. W.; Gothelf, K.; Liu, Y.; Yan, H., A DNA tweezer-actuated enzyme nanoreactor. *Nat Commun* **2013**, *4*.
32. LeBard, D. N.; Martin, D. R.; Lin, S.; Woodbury, N. W.; Matyushov, D. V., Protein dynamics to optimize and control bacterial photosynthesis. *Chem Sci* **2013**, *4* (11), 4127-4136.
33. Guo, Z.; Lin, S.; Woodbury, N. W., Utilizing the Dynamic Stark Shift as a Probe for Dielectric Relaxation in Photosynthetic Reaction Centers During Charge Separation. *J Phys Chem B* **2013**, *117* (38), 11383-11390.
34. Wang, H. Y.; Hao, Y. W.; Jiang, Y.; Lin, S.; Woodbury, N. W., Role of Protein Dynamics in Guiding Electron-Transfer Pathways in Reaction Centers from Rhodobacter sphaeroides. *J Phys Chem B* **2012**, *116* (1), 711-717.
35. Pan, J.; Lin, S.; Woodbury, N. W., Bacteriochlorophyll Excited-State Quenching Pathways in Bacterial Reaction Centers with the Primary Donor Oxidized. *J Phys Chem B* **2012**, *116* (6), 2014-2022.

36. Ireng, L. M.; Gala, J. L., Rapid detection methods for *Bacillus anthracis* in environmental samples: a review. *Appl Microbiol Biot* **2012**, *93* (4), 1411-1422.
37. Guo, Z.; Woodbury, N. W.; Pan, J.; Lin, S., Protein Dielectric Environment Modulates the Electron-Transfer Pathway in Photosynthetic Reaction Centers. *Biophys J* **2012**, *103* (9), 1979-1988.
38. Fu, J. L.; Liu, M. H.; Liu, Y.; Woodbury, N. W.; Yan, H., Interenzyme Substrate Diffusion for an Enzyme Cascade Organized on Spatially Addressable DNA Nanostructures. *J Am Chem Soc* **2012**, *134* (12), 5516-5519.
39. Pan, J.; Lin, S.; Allen, J. P.; Williams, J. C.; Frank, H. A.; Woodbury, N. W., Carotenoid Excited-State Properties in Photosynthetic Purple Bacterial Reaction Centers: Effects of the Protein Environment. *J Phys Chem B* **2011**, *115* (21), 7058-7068.
40. Guo, Z.; Lin, S.; Xin, Y. Y.; Wang, H. Y.; Blankenship, R. E.; Woodbury, N. W., Comparing the Temperature Dependence of Photosynthetic Electron Transfer in *Chloroflexus aurantiacus* and *Rhodobacter sphaeroides* Reaction Centers. *J Phys Chem B* **2011**, *115* (38), 11230-11238.
41. Fu, J. L.; Reinhold, J.; Woodbury, N. W., Peptide-Modified Surfaces for Enzyme Immobilization. *Plos One* **2011**, *6* (4).
42. Greving, M. P.; Kumar, P.; Zhao, Z. G.; Woodbury, N. W., Feature-Level MALDI-MS Characterization of in Situ-Synthesized Peptide Microarrays. *Langmuir* **2010**, *26* (3), 1456-1459.
43. Greving, M. P.; Belcher, P. E.; Diehnelt, C. W.; Gonzalez-Moa, M. J.; Emery, J.; Fu, J. L.; Johnston, S. A.; Woodbury, N. W., Thermodynamic Additivity of Sequence Variations: An Algorithm for Creating High Affinity Peptides Without Large Libraries or Structural Information. *Plos One* **2010**, *5* (11).
44. Greving, M. P.; Belcher, P. E.; Cox, C. D.; Daniel, D.; Diehnelt, C. W.; Woodbury, N. W., High-throughput screening in two dimensions: Binding intensity and off-rate on a peptide microarray. *Anal Biochem* **2010**, *402* (1), 93-95.
45. Fu, J. L.; Cai, K.; Johnston, S. A.; Woodbury, N. W., Exploring Peptide Space for Enzyme Modulators. *J Am Chem Soc* **2010**, *132* (18), 6419-6424.
46. Williams, B. A. R.; Diehnelt, C. W.; Belcher, P.; Greving, M.; Woodbury, N. W.; Johnston, S. A.; Chaput, J. C., Creating Protein Affinity Reagents by Combining Peptide Ligands on Synthetic DNA Scaffolds. *J Am Chem Soc* **2009**, *131* (47), 17233-17241.
47. Wang, H. Y.; Lin, S.; Katilius, E.; Laser, C.; Allen, J. P.; Williams, J. C.; Woodbury, N. W., Unusual Temperature Dependence of Photosynthetic Electron Transfer due to Protein Dynamics. *J Phys Chem B* **2009**, *113* (3), 818-824.
48. Lin, S.; Jaschke, P. R.; Wang, H. Y.; Paddock, M.; Tufts, A.; Allen, J. P.; Rosell, F. I.; Mauk, A. G.; Woodbury, N. W.; Beatty, J. T., Electron transfer in the *Rhodobacter sphaeroides* reaction center assembled with zinc bacteriochlorophyll. *P Natl Acad Sci USA* **2009**, *106* (21), 8537-8542.
49. Kelbauskas, L.; Yodh, J.; Woodbury, N.; Lohr, D., Intrinsic Promoter Nucleosome Stability/Dynamics Variations Support a Novel Targeting Mechanism. *Biochemistry-Us* **2009**, *48* (20), 4217-4219.
50. Kelbauskas, L.; Woodbury, N.; Lohr, D., DNA sequence-dependent variation in nucleosome structure, stability, and dynamics detected by a FRET-based analysis. *Biochem Cell Biol* **2009**, *87* (1), 323-335.
51. Allen, J. P.; Cordova, J. M.; Jolley, C. C.; Murray, T. A.; Schneider, J. W.; Woodbury, N. W.; Williams, J. C.; Niklas, J.; Klihm, G.; Reus, M.; Lubitz, W., EPR, ENDOR, and Special TRIPLE measurements of P center dot+ in wild type and modified reaction centers from *Rb. sphaeroides*. *Photosynth Res* **2009**, *99* (1), 1-10.
52. Woodbury, N. W.; Wang, H. Y.; Lin, S.; Greving, M.; Laser, C.; Katilius, E.; Allen, J.; Williams, J.; Kumar, P.; Scruggs, A.; Miller, A.; Kelbasukas, L.; Lohr, D., ANYL 195-Powering and controlling (bio)chemistry with light. *Abstr Pap Am Chem S* **2008**, 236.

53. Wang, H. Y.; Lin, S.; Woodbury, N. W., Excitation Wavelength Dependence of Primary Charge Separation in Reaction Centers from Rhodobacter sphaeroides. *J Phys Chem B* **2008**, *112* (45), 14296-14301.
54. Northen, T. R.; Greving, M. P.; Woodbury, N. W., Combinatorial Screening of Biomimetic Protein Affinity Materials. *Adv Mater* **2008**, *20* (24), 4691-+.
55. Kelbauskas, L.; Sun, J.; Woodbury, N.; Lohr, D., Nucleosomal stability and dynamics vary significantly when viewed by internal versus terminal labels. *Biochemistry-Us* **2008**, *47* (36), 9627-9635.
56. Kelbauskas, L.; Chan, N.; Bash, R.; DeBartolo, P.; Sun, J.; Woodbury, N.; Lohr, D., Sequence-dependent variations associated with H(2)A/H2B depletion of nucleosomes. *Biophys J* **2008**, *94* (1), 147-158.
57. Chaput, J. C.; Woodbury, N. W.; Stearns, L. A.; Williams, B. A. R., Creating protein biocatalysts as tools for future industrial applications. *Expert Opin Biol Th* **2008**, *8* (8), 1087-1098.
58. Wang, H. Y.; Lin, S.; Allen, J. P.; Williams, J. C.; Blankert, S.; Laser, C.; Woodbury, N. W., Protein dynamics control the kinetics of initial electron transfer in photosynthesis. *Science* **2007**, *316* (5825), 747-750.
59. Kelbauskas, L.; Chan, N.; Bash, R.; Yodh, J.; Woodbury, N.; Lohr, D., Sequence-dependent nucleosome structure and stability variations detected by Forster resonance energy transfer. *Biochemistry-Us* **2007**, *46* (8), 2239-2248.
60. Katilius, E.; Flores, C.; Woodbury, N. W., Exploring the sequence space of a DNA aptamer using microarrays. *Nucleic Acids Res* **2007**, *35* (22), 7626-7635.
61. Kalman, L.; Haffa, A. L. M.; Williams, J. C.; Woodbury, N. W.; Allen, J. P., Reduction of the oxidized bacteriochlorophyll dimer in reaction centers by ferrocene is dependent upon the driving force. *J Porphyr Phthalocya* **2007**, *11* (3-4), 205-211.
62. Gibasiewicz, K.; Ramesh, V. M.; Lin, S.; Redding, K.; Woodbury, N. W.; Webber, A. N., Two equilibration pools of chlorophylls in the Photosystem I core antenna of Chlamydomonas reinhardtii. *Photosynth Res* **2007**, *92* (1), 55-63.
63. Chan, N.; Debartolo, P.; Lohr, D.; Woodbury, N., Dependence of nucleosome structure and stability on the DNA sequence detected in vitro by foster resonance energy transfer. *Biophys J* **2007**, 14a-15a.
64. Wang, H. Y.; Lin, S.; Woodbury, N. W., Electronic transitions of the Soret band of reaction centers from Rhodobacter sphaeroides studied by femtosecond transient absorbance spectroscopy. *J Phys Chem B* **2006**, *110* (13), 6956-6961.
65. Northen, T. R.; Brune, D. C.; Woodbury, N. W., Synthesis and characterization of peptide grafted porous polymer microstructures. *Biomacromolecules* **2006**, *7* (3), 750-754.
66. Lin, S.; Katilius, E.; Ilagan, R. P.; Gibson, G. N.; Frank, H. A.; Woodbury, N. W., Mechanism of carotenoid singlet excited state energy transfer in modified bacterial reaction centers. *J Phys Chem B* **2006**, *110* (31), 15556-15563.
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68. Katilius, E.; Katiliene, Z.; Woodbury, N. W., Signaling aptamers created using fluorescent nucleotide analogues. *Anal Chem* **2006**, *78* (18), 6484-6489.
69. Woodbury, N. W.; Northen, T.; Scruggs, A.; Katilius, E.; Flores, C.; Lappe, A., Optically directed molecular evolution. *Abstr Pap Am Chem S* **2005**, *230*, U2824-U2824.
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73. Haffa, A. L. M.; Lin, S.; LoBrutto, R.; Williams, J. C.; Taguchi, A. K. W.; Allen, J. P.; Woodbury, N. W., Environmental control of primary photochemistry in a mutant bacterial reaction center. *J Phys Chem B* **2005**, *109* (42), 19923-19928.
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76. Katilius, E.; Babendure, J. L.; Lin, S.; Woodbury, N. W., Electron transfer dynamics in *Rhodobacter sphaeroides* reaction center mutants with a modified ligand for the monomer bacteriochlorophyll on the active side. *Photosynth Res* **2004**, *81* (2), 165-180.
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