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Education:

- 1992 - 1996 Postdoctoral Training, California Institute of Technology, Professor Harry B. Gray.
1987 - 1992 Ph.D., University of Illinois at Urbana-Champaign, Professor Kenneth S. Suslick.
Thesis: *The Sonochemical Synthesis of Inorganic and Biological Materials*
1983 - 1987 A.B., with Chemistry Honors, Occidental College, Professor Franklin P. DeHaan.
Thesis: *Kinetics of Friedel-Crafts Chloromethylation Reactions*

Research and Professional Experience:

- 2003 - Associate Professor of Biomedical Engineering, College of Engineering, Boston University, Boston, MA.
2003 - Associate Professor of Chemistry, College of Arts and Sciences, Boston University, Boston, MA.
2003 - Associate Professor of Ophthalmology (Secondary Appointment), Boston University Medical School, Boston, MA.
2003 - Adjunct Associate Professor of Biomedical Engineering, School of Engineering, Duke University, Durham, NC.
2004 - Member of the Center for Nanoscience and Nanobiotechnology, Boston University, Boston, MA.
2006 - Liaison, Site Miner for CIMIT and Coulter Translational Partnership Grant, College of Engineering, Boston University, Boston, MA.
2006 - Director of the Translational Research in Biomaterials (TRB) Program, Boston University, Boston, MA.
1996 - 2003 Assistant Professor of Chemistry, College of Arts and Sciences, Duke University, Durham, NC.
2001 - 2003 Assistant Professor of Biomedical Engineering (Secondary Appointment), School of Engineering, Duke University, Durham, NC.
1999 - 2003 Assistant Professor of Ophthalmology (Secondary Appointment), Duke University Medical Center, Durham, NC.
1997 - 2003 Member of the Center for Cellular & Biosurface Engineering, Duke University, Durham, NC.
1997 - 2002 Member of the Pharmacology Training Grant Program, Duke University, Durham, NC.
1996 - 2002 Member of the Biological Chemistry Program, Duke University, Durham, NC.
1995 - 1996 Senior Research Fellow, California Institute of Technology, Pasadena, CA.
1993 - 1995 NIH Postdoctoral Fellow, California Institute of Technology, Pasadena, CA.
1989 - 1992 Graduate Research Fellow, University of Illinois at Urbana-Champaign, Urbana, IL.
1987 - 1989 Chemistry Teaching Assistant, University of Illinois at Urbana-Champaign, Urbana, IL.
1985 - 1987 Summer Research Assistant, Occidental College, Los Angeles, CA.
1985 - 1987 Organic Lab Teaching Assistant, Occidental College, Los Angeles, CA.

Honors and Awards:

- 2006 Fellow of the American Academy of Nanomedicine
2003 Selected by NSF/DFG to attend the VIIth American German Polymer Symposium
2002 Selected by National Academy of Engineering to attend the Annual JST International Interdisciplinary Research Exchange Symposium
2001 Johnson and Johnson Focused Giving Grant Recipient
2001 3M Non-Tenured Faculty Award
2000 Alfred P. Sloan Research Fellowship
2000 Camille Dreyfus Teacher-Scholar
1999 Pew Scholar in the Biomedical Sciences
1999 NSF Career Award
1998 Whitaker Foundation Grant Recipient
1994 ACS Nobel Laureate Signature Award
1993 National Institute of Health Postdoctoral Fellowship
1991 T. S. Piper Award for Outstanding Inorganic Research
1990 The ACS Fellowship of the Colloid & Surface Division (Sponsored by Procter & Gamble)
1989 University of Illinois Chemistry Department Fellowship
1991 Sigma Xi Research Paper Competition (2nd Prize)
1991 Biotechnology Center Travel Award
1989 Membership to Phi Lambda Upsilon (Chemical Honor Society)
1988 Excellence in Teaching (Fall & Spring)
1987 Frank Lambert Chemistry Award
1987 Occidental College Chemistry Department Honors
1987 Service Award for Alpha Chi Sigma
1981 Eagle Scout (Boy Scouts of America)

Publications:

1. "Protein Microencapsulation of Nonaqueous Liquids."
Kenneth S. Suslick and Mark W. Grinstaff
J. Am. Chem. Soc. **1990**, *112*, 7807-7809.
2. "Air-filled Proteinaceous Microbubbles: Synthesis of an Echo Contrast Agent."
Mark W. Grinstaff and Kenneth S. Suslick
Proc. Natl. Acad. Sci. USA **1991**, *88*, 7708-7710.
3. "Sonochemical Synthesis of Amorphous Iron."
Kenneth S. Suslick, Seok-Burm Choe, Andrzej A. Cichowlas and Mark W. Grinstaff
Nature **1991**, *353*, 414-416.
4. "Proteinaceous Microspheres."
Mark W. Grinstaff and Kenneth S. Suslick
in *Macromolecular Assemblies* Stroeve P.; Balazs, A. C., eds.; ACS Symposium Series; Washington, D.C.; 1991, Chapter 18, 218-226.
5. "Effect of Cavitation Conditions on Amorphous Metal Synthesis."
Mark W. Grinstaff, Andrzej A. Cichowlas, Seok-Burm Choe, and Kenneth S. Suslick
Ultrasonics **1991**, *30*, 168-172.

6. "Magnetic Properties of Amorphous Iron."
Mark W. Grinstaff, Myron B. Salamon, and Kenneth S. Suslick
Phys. Rev. B **1993**, *48*, 269-273.
7. "Sonoluminescence from Metal Carbonyls."
Kenneth S. Suslick, Edward B. Flint, Mark W. Grinstaff, and Kathleen A. Kemper
J. Phys. Chem. **1993**, *97*, 3098-3099.
8. "Neutron Diffraction on Amorphous Iron Powder."
R. Bellissent, G. Galli, M. W. Grinstaff, P. Miglirido, and K. S. Suslick
Phys. Rev. B **1993**, *48*, 15797-15800.
9. "Characterization of Sonochemically Prepared Proteinaceous Microspheres."
Kenneth S. Suslick, Mark W. Grinstaff, Ken J. Kolbeck, and Mike Wong
Ultrasonics Sonochemistry **1994**, *1*, S65-S68.
10. "In Vivo Measurement of Oxygen Concentration Using Sonochemically Synthesized Microspheres."
KeJain Liu, Mark W. Grinstaff, Harold M. Swartz, Jinjie Jiang, Kenneth S. Suslick, and Wei Wang
Biophysical Journal **1994**, *67*, 896-901.
11. "Mechanism of Catalytic Oxygenation of Alkanes by Halogenated Iron Porphyrins."
Mark W. Grinstaff, Michael G. Hill, Jay A. Labinger, and Harry B. Gray
Science **1994**, *264*, 1311-1313.
12. "Electron Transfer in Cytochrome c Depends Upon the Structure of the Intervening Medium."
Timothy B. Karpishin, Mark W. Grinstaff, Sonja Komar-Panicucci, George L. McLendon, and Harry B. Gray
Structure **1994**, *2*, 414-422.
13. "¹⁹F-NMR Spectra and Structures of Halogenated Porphyrins."
Eva R. Birnbaum, Julia A. Hodge, Mark W. Grinstaff, William P. Schaefer, Lawrence Henling, Jay A. Labinger, John E. Bercaw, and Harry B. Gray
Inorg. Chem. **1995**, *34*, 3625-3632.
14. "Structure, Electronic Properties, and Oxidation-Reduction Reactivity of Halogenated Iron Porphyrins."
Mark W. Grinstaff, Michael G. Hill, Eva R. Birnbaum, William P. Schaefer, Jay A. Labinger, and Harry B. Gray
Inorg. Chem. **1995**, *34*, 4896-4902.
15. "On the Mechanism of Catalytic Alkene Oxidation by Molecular Oxygen and Halogenated Iron Porphyrins."
Eva R. Birnbaum, Mark W. Grinstaff, Jay A. Labinger, John E. Bercaw, and Harry B. Gray
J. Mol. Catal. **1995**, *104*, L119-L122.
16. "Biological Temperature Measurements Using EPR Spectroscopy."
Joseph J. Eckburg, John C. Chato, KeJain Liu, Mark W. Grinstaff, Harold M. Swartz, and Kenneth S. Suslick

J. Biomech. Eng. **1996**, *118*, 193-200.

17. "Aerobic Oxidation of Hydrocarbons Catalyzed by Electronegative Iron Salen Complexes."
Arnd Bottcher, Mark W. Grinstaff, Jay A. Labinger, and Harry B. Gray
J. Mol. Catal. **1996**, *113*, 191-200.
18. "How Do Electronegative Substituents Make Metal Complexes Better Catalysts for the Oxidation of Hydrocarbons by Dioxygen?"
Arnd Bottcher, Eva R. Birnbaum, Jay A. Labinger, Mark W. Grinstaff, and Harry B. Gray
J. Mol. Catal. **1997**, *117*, 229-242.
19. "Electrophilic Aromatic Substitution 13. Kinetics and Spectroscopy of the Chloromethylation of Benzene and Toluene with Methoxyacetyl Chloride or Chloromethyl Methyl Ether in Nitromethane or Tin Tetrachloride in Dichloromethane. The Methoxymethyl Cation as a Remarkably Selective Common Electrophile."
Franklin P. DeHaan, Mark Djaputra, Mark W. Grinstaff, Craig R. Kaufman, James C. Keithly, Amit Kumar, Mark K. Kuwayama, K. Dale Macknet, Jim Na, Bimal R. Patel, Mike J. Pinkerton, Jeffrey H. Tidwell, and Randy M. Villaherrosa
J. Org. Chem. **1997**, *62*, 2694-2703.
20. "Generation of an Unprecedented Excited State Oxidant in a Coordinately Unsaturated Platinum Complex."
Karl Base and Mark W. Grinstaff
Inorg. Chem. **1998**, *37*, 1432-1433.
21. "A Facile and Convenient Solid-Phase Procedure for Synthesizing Nucleoside Hydroxamic Acids."
Shoeb I. Khan and Mark W. Grinstaff
Tetrahedron Lett. **1998**, *39*, 8031-8034.
22. "The Alkylation of Iodouridine by a Heterogeneous Palladium Catalyst."
Shoeb I. Khan and Mark W. Grinstaff
J. Org. Chem. **1999**, *64*, 1077-1078.
23. "Automated Solid-Phase Synthesis of Site Specifically Labeled Ruthenium-Oligonucleotides."
Shoeb I. Khan, Amy E. Beilstein, and Mark W. Grinstaff
Inorg. Chem. **1999**, *38*, 418-419.
24. "On the Second-Order Nonlinear Optical Structure-Property Relationships of Metal Chromophores."
Karl Base, Mark A. Tierney, Alain Fort, Jacques Muller, and Mark W. Grinstaff
Inorg. Chem. **1999**, *38*, 287-289.
25. "Synthesis and Characterization of a Novel Polysaccharide Hydrogel."
Kimberly A. Smeds, Anne Pfister-Serres, Diane L. Hatchell, Peter Saloupis, and Mark W. Grinstaff
J. Macromol. Sci. **1999**, *A36*, 981-989.
26. "Palladium(0) Catalyzed Modification of Oligonucleotides during Automated Solid-Phase Synthesis."
Shoeb I. Khan and Mark W. Grinstaff

J. Am. Chem. Soc. **1999**, *121*, 4704-4705.

27. "Synthesis and Excited-State Properties of a Novel Ruthenium Nucleoside: Ru(bpy)₂(5-bpy-2'-deoxyuridine)²⁺."
Shoeb I. Khan, Amy E. Beilstein, Gregory D. Smith, Milan Sykora, and Mark W. Grinstaff
Inorg. Chem. **1999**, *38*, 2411-2415.
28. "Automated Solid-Phase DNA Synthesis and Photophysical Properties of Oligonucleotides Labeled at the 5'-Terminus with Ru(bpy)₃²⁺."
Shoeb I. Khan, Amy E. Beilstein, Milan Sykora, Gregory D. Smith, Xi Hu, and Mark W. Grinstaff
Inorg. Chem. **1999**, *38*, 3922-3925.
29. "How Do Charges Travel in DNA."
Mark W. Grinstaff
Angew Chem. Int. Ed. **1999**, *38*, 3629-3635 (invited highlight).
30. "Solid-Phase Synthesis and Photophysical Properties of DNA Labeled at the Nucleobase with Ru(bpy)₂(4-m-4'-pa-bpy)²⁺."
Shoeb I. Khan, Amy E. Beilstein, Milan Sykora, Gregory D. Smith, and Mark W. Grinstaff
Inorg. Chem. **1999**, *38*, 5999-6002.
31. "On-Column Derivatization of Oligodeoxynucleotides with Ferrocene."
Amy E. Beilstein and Mark W. Grinstaff
Chem. Commun. **2000**, 509-510.
32. "Site-Specifically Labeled Metallo-Oligonucleotides."
Amy E. Beilstein, Mark T. Tierney, and Mark W. Grinstaff
Comments on Inorganic Chemistry **2000**, *22*, 105-127 (invited review).
33. "Automated Solid-Phase Synthesis and Photophysical Properties of Oligonucleotides Labeled at 5'-Amino-Thymidine with Ru(bpy)₃²⁺."
Xi Hu, Gregory D. Smith, Milan Sykora, Stephen J. Lee, and Mark W. Grinstaff
Inorg. Chem. **2000**, *39*, 2500-2504.
34. "Electron Transfer in an Oligonucleotide Duplex: Observation of the Electron-Transfer Intermediate."
Mark T. Tierney, Milan Sykora, Shoeb I. Khan, and Mark W. Grinstaff
J. Phys. Chem. B **2000**, *104*, 7574-7576.
35. "Synthesis and Characterization of Fluorenone, Anthraquinone, and Phenothiazine Labeled Oligodeoxynucleotides: 5'-Redox Probes for DNA Redox Chemistry."
Mark T. Tierney and Mark W. Grinstaff
J. Org. Chem. **2000**, *65*, 5355-5359.
36. "Synthesis and Stability of Oligodeoxynucleotides Containing C8-Labeled 2-Deoxyadenosine: Novel Redox Nucleobase Probes for DNA Mediated Charge-Transfer Studies."
Mark T. Tierney and Mark W. Grinstaff
Org. Lett. **2000**, *2*, 3413-3416.

37. "Supramolecular Structures of Novel Carbohydrate Based Phospholipids."
Geoffrey S. Hird, Thomas J. McIntosh, and Mark W. Grinstaff
J. Am. Chem. Soc. **2000**, *122*, 8097-8098.
38. "Novel Photocrosslinkable Polysaccharides for In Situ Hydrogel Formation."
Kimberly A. Smeds, Anne Pfister-Serres, Daijiro Miki, Kourosch A. Dastghieb, Makoto Inoue,
Diane L. Hatchell, and Mark W. Grinstaff
J. Biomed. Mat. Res. **2001**, *54*, 115-121.
39. "Step-Scan FTIR Time-Resolved Spectroscopy in the Solid-State."
Gregory D. Smith, M. Shane Hutson, Yu Lu, Mark T. Tierney, Mark W. Grinstaff, and Richard
Palmer
Appl. Spectrosc. **2001**, *55*, 637-642.
40. "Synthesis and Characterization of Polyether-ester Dendrimers Composed of Glycerol and
Lactic Acid."
Michael A. Carnahan and Mark W. Grinstaff
J. Am. Chem. Soc. **2001**, *123*, 2905-2906.
41. "Synthesis and Characterization of Fc Labeled Oligodeoxynucleotides."
Amy E. Beilstein and Mark W. Grinstaff
J. Org. Met. Chem. **2001**, *637-639*, 398-406 (invited article; special issue marking the 50th
anniversary of ferrocene).
42. "Synthesis and Characterization of Poly(glycerol-succinic acid) Dendrimers."
Michael A. Carnahan and Mark W. Grinstaff
Macromolecules **2001**, *34*, 7648-7655.
43. "Nucleobase and 5'-Probes for DNA Redox Chemistry."
Xi Hu, Stephen J. Lee, and Mark W. Grinstaff
Methods in Enzymology, **2002**, *353*, 548-566 (invited chapter).
44. "Synthesis, Thermodynamics, and Photophysics of Phenothiazine Labeled
Oligodeoxynucleotides: Novel 2'-Deoxyadenosine and Thymidine Ribose Probes for Labeling
DNA."
Xi Hu, Mark T. Tierney, and Mark W. Grinstaff
J. Bioconj. Chem. **2002**, *13*, 83-89.
45. "Direct-Writing of Polymer Nanostructures: Poly(thiophene) Nanowires on Semiconducting
and Insulating Surfaces."
Benjamin W. Maynor, Shaun F. Filocamo, Mark W. Grinstaff, and Jie Liu
J. Am. Chem. Soc. **2002**, *124*, 522-523.
46. "A Photopolymerized Sealant for Corneal Lacerations."
Daijiro Miki, Anne Pfister-Serres, Kourosch A. Dastghieb, Kimberly A. Smeds, Makoto Inoue,
Diane L. Hatchell, and Mark W. Grinstaff
Cornea **2002**, *21*, 393-399.

47. "Hybrid Dendritic-Linear Polyester-ethers for In Situ Photopolymerization."
Michael A. Carnahan, Crystan Middleton, Jitek Kim, Terry Kim, and Mark W. Grinstaff
J. Am. Chem. Soc. **2002**, *124*, 5291-5293.
48. "Synthesis and Characterization of Carbohydrate-Based Phospholipids."
Geoffrey S. Hird, Thomas J. McIntosh, Anthony A. Ribeiro, and Mark W. Grinstaff
J. Am. Chem. Soc. **2002**, *124*, 5983-5992.
49. "Biodendrimers: New Polymeric Biomaterials for Tissue Engineering."
Mark W. Grinstaff
Chem. Eur. J. **2002**, *8*, 2838-2846 (invited concepts).
50. "Synthesis and Characterization of a Dianionic Carbohydrate-Based Phospholipids."
Geoffrey S. Hird and Mark W. Grinstaff
Chemistry and Physics of Lipids **2002**, *120*, 1-7.
51. "Synthesis and Characterization of p-Stacked Phenothiazine Oligodeoxynucleotides."
S. A. Nadeem Hashmi, Xi Hu, Chad E. Immoos, Stephen J. Lee, and Mark W. Grinstaff
Org. Lett. **2002**, *4*, 4571-4574.
52. "Engineered Porcine Arteries: Effects of Scaffold Modification."
Vikas Prabhakar, Mark W. Grinstaff, Javier Alarcon, Chirs Knors, Amy K. Solan, and Laura E. Niklason
J. Biomed. Mat. Res. **2003**, *67A*, 303-311.
53. "Polycarbonate and Polycarbonate-esters Synthesized from Biocompatible Building Blocks of Glycerol and Lactic Acid."
William C. Ray III and Mark W. Grinstaff
Macromolecules **2003**, *36*, 3557-3562.
54. "The Convergent Synthesis of Poly(glycerol-succinic acid) Dendritic Macromolecules."
Nathanael R. Luman, Kimberly A. Smeds, and Mark W. Grinstaff
Chem. Eur. J. **2003**, *9*, 5618-5626.
55. "Unconventional Phospholipid Backbones: Carbohydrate-based and Other Unique Lipid Structures."
Geoffrey S. Hird, Stephen J. Lee, and Mark W. Grinstaff
Self-Assembly, R.H. Robinson (Ed.), IOS Press, **2003**, 121-131.
56. "Intramolecular Electrocatalysis of 8-oxo-Guanine Oxidation: Secondary Structure Control of Electron Transfer in Osmium-Labeled Oligonucleotides."
Rebecca C. Holmberg, Mark T. Tierney, Eric X. Berg, Mark W. Grinstaff, and H. Holden Thorp
Inorg. Chem. **2003**, *42*, 6379-6387.
57. "Dendritic Molecular Capsules for Hydrophobic Compounds."
Meredith T. Morgan, Michael A. Carnahan, Chad E. Immoos, Anthony R. Ribeiro, Stella Finkelstein, Stephen J. Lee, and Mark W. Grinstaff
J. Am. Chem. Soc. **2003**, *125*, 15485-15489.
58. "Patterning Conductive Polymer Nanostructures."

Shaun F. Filocamo and Mark W. Grinstaff
Encyclopedia of Nanoscience and Nanotechnology, **2004**, 2615-2626 (invited article).

59. "Photocrosslinkable Hyaluronan as a Scaffold for Articular Cartilage Repair."
Dana I. Nettles, T. Parker Vail, Meredith T. Morgan, Mark W. Grinstaff, and Lori A. Setton
Ann. of Biomed. Eng. **2004**, 32, 1-7.
60. "New Dendritic Adhesives for Sutureless Ophthalmic Surgeries: In Vitro Studies of Corneal Laceration Repair."
Andrew J. Velazquez, Michael A. Carnahan, Johannes Kristinsson, Sandra Stinnett, Mark W. Grinstaff, and Terry Kim
Arch. Ophthalmol. **2004**, 122, 867-870.
61. "Conformationally Gated Electrochemical Gene Detection."
Chad E. Immoos, Stephen J. Lee, Mark W. Grinstaff
ChemBioChem. **2004**, 5, 1100-1103.
62. "Dendritic Polymers Composed of Glycerol and Succinic Acid: Synthetic Methodologies and Medical Applications."
Nathanael R. Luman, Terry Kim, and Mark W. Grinstaff
Pure App. Chem. **2004**, 76, 1375-1385 (invited article).
63. "Supramolecular Assemblies of Nucleoside-based Amphiphiles."
Louis Moreau, Philippe Barthélémy, Mohamed El Maataoui, and Mark W. Grinstaff
J. Am. Chem. Soc. **2004**, 126, 7533-7539.
64. "DNA-PEG-DNA Triblock Macromolecules for Reagentless DNA Detection."
Chad E. Immoos, Stephen J. Lee, and Mark W. Grinstaff
J. Am. Chem. Soc. **2004**, 126, 10814-10815.
65. "Charge-Reversal Amphiphiles for Gene Delivery."
Carla A. H. Prata, Yuxing Zhao, Philippe Barthélémy, Yougen Li, Dan Luo, Thomas J. McIntosh, Stephen J. Lee, and Mark W. Grinstaff
J. Am. Chem. Soc. **2004**, 126, 12196-12197.
66. "Dendritic Macromers as In Situ Polymerizing Biomaterials for Securing Cataract Incisions."
Michel Wathier, Pil J. Jung, Michael A. Carnahan, Terry Kim, and Mark W. Grinstaff
J. Am. Chem. Soc. **2004**, 126, 12744-12745.
67. "Supramolecular Assemblies of DNA with Neutral Nucleoside Amphiphiles."
Philippe Barthélémy, Carla A. H. Prata, Shaun F. Filocamo, Chad E. Immoos, Benjamin W. Maynor, S. A. Nadeem Hashmi, Stephen J. Lee, and Mark W. Grinstaff
Chem. Comm. **2005**, 1261-1263.
68. "Vesicle Formation from a Synthetic Adenosine Based Lipid."
Louis Moreau, Mark W. Grinstaff, and Philippe Barthélémy
Tetrahedron Lett. **2005**, 46, 1593-1596.
69. "Amphiphilic Dendritic Supramolecular Assemblies for Drug Delivery."

- Meredith T. Morgan, Michael A. Carnahan, Stella Finkelstein, Stephen J. Lee, and Mark W. Grinstaff
Chem. Comm. **2005**, 4309-4311.
70. “Novel Tissue Adhesives to Secure Laser in situ Keratomileusis Flaps.”
Paul C. Kang, Michael A. Carnahan, Michel Wathier, Mark W. Grinstaff, Terry Kim
J Cataract Refract. Surg. **2005**, *31*, 1208-1212.
71. “Nucleic acid Complexing Glycosyl Nucleoside-Based Amphiphile.”
Jerome Arigon, Carla A. H. Prata, Mark W. Grinstaff and Philippe Barthélémy
Bioconjugate Chem. **2005**, *16*, 864-872.
72. “Supramolecular Assemblies with DNA.”
Philippe Barthélémy, Stephen J. Lee, and Mark W. Grinstaff
Pure App. Chem. **2005**, *77*, 2133-2148 (Invited Special Topic Article).
73. “Nucleoside Phosphocholine Amphiphile for In Vitro DNA Transfection.”
Louis Moreau, Philippe Barthélémy, Yougen Li, Dan Luo, Carla A. H. Prata, and Mark W. Grinstaff
Molecular BioSystems, **2005**, *1*, 260-264.
74. “Designer Materials for Nucleic Acid Delivery.”
Theresa M. Reineke and Mark W. Grinstaff
Mat. Res. Soc. Bull. **2005**, *30*, 635-639 (Invited Editorial Article/Special Issue on Gene Delivery).
75. “Synthesis and Aqueous Aggregation Properties of Amphiphilic Surface-Block Dendrimers.”
Nathanael R. Luman and Mark W. Grinstaff
Org. Letters, **2005**, *7*, 4863-4866.
76. “Biodendrimer-Based Hydrogel Scaffolds for Cartilage Tissue Repair.”
Serge H.M. Söntjens, Dana L. Nettles, Michael A. Carnahan, Lori A. Setton, and Mark W. Grinstaff
Biomacromolecules, **2006**, *7*, 310-316.
77. “Synthesis of Controlled Layered Polyester Dendrimers Composed of Glycerol and Succinic or Adipic Acid.”
Michael A. Carnahan and Mark W. Grinstaff
Macromolecules, **2006**, *39*, 609-616.
78. “Cationic Nucleoside Lipids for Gene Delivery.”
Pauline Chabaud, Michel Camplo, Dominique Payet, Guillaume Serin, Louis Moreau, Philippe Barthélémy, and Mark W. Grinstaff
Bioconjugate Chem. **2006**, *17*, 466-472.
79. “Spontaneous Formation of Hollow Microspheres from F-Block Elements and Nucleoamphiphiles.”
Louis Moreau, Fabio Ziarelli, Mark W. Grinstaff, and Philippe Barthélémy
Chem. Comm. **2006**, 1661-1663.

80. "Probing the Electronic-Structure of Platinum(II) Chromophores: Crystal Structures, NMR Structures, and Photophysical Properties of Six New Bis- and Di- Phenolate/Thiolate Pt(II) Diimine Chromophores."
Mark T. Tierney, Julia A. Weinstein, E. Stephen Davies, Karel Base, Anthony A. Robeiro, and Mark W. Grinstaff
Inorg. Chem. **2006**, *45*, 4544-4555.
81. "A Fluorocarbon Nucleoamphiphile for the Construction of Actinide Loaded Microspheres."
Louis Moreau, Nathalie Campins, Mark W. Grinstaff and Philippe Barthélémy
Tetrahedron Lett. **2006**, *47*, 7117-7120.
82. "Hydrogels Formed by Multiple Peptide Ligation Reactions to Fasten Corneal Transplants."
Michel Wathier, M. Starck Johnson, Terry Kim, and Mark W. Grinstaff
Bioconjugate Chem. **2006**, *17*, 873-876.
83. "Peptide-PEG Amphiphiles as Cytophobic Coatings for Mammalian and Bacterial Cells."
Daniel J. Kenan, Elisabeth B. Walsh, Steven R. Meyers, George A. O'Toole, Erin G. Carruthers, Woo K. Lee, Stefan Zauscher, Carla A. H. Prata, and Mark W. Grinstaff
Chemistry and Biology **2006**, *13*, 695-700.
84. "Dendrimer-Encapsulated Camptothecins: Increased Solubility, Cellular Uptake, and Cellular Retention Affords Enhanced Anticancer Activity In vitro."
Meredith T. Morgan, Yuka Nakanishi, David J. Kroll, Aaron P. Griset, Michael A. Carnahan, Michel Wathier, Nicholas H. Oberlies, G. Manikumar, Mansukh C. Wani, and Mark W. Grinstaff
Cancer Research, **2006**, *66*, 11913-11921.
85. "Synthesis and Characterization of Bola-type Amphiphilic Dendritic Macromolecules."
Lovorka Degoricija, Michael A. Carnahan, C. Starck Johnson, Terry Kim, and Mark W. Grinstaff
Macromolecules, **2006**, *39*, 8952-8958.
86. "Immobilized Hydrogels for High Throughput Screening of Molecular Interactions."
Melissa M. Dominguez, Michel Wathier, Mark W. Grinstaff, and Scott E. Schaus
Analytical Chem., **2007**, in press.
87. "Photocrosslinkable Biodendrimers as Ophthalmic Adhesives for Central Lacerations and Penetrating Keratoplasties."
Lovorka Degoricija, C. Starck Johnson, Michel Wathier, Terry Kim, and Mark W. Grinstaff
Investigative Ophthalmology and Visual Science, **2007**, in press.

Proceedings and non-peer reviewed manuscripts:

1. "Heterogeneous Sonochemistry and Sonocatalysis."
Kenneth S. Suslick, Dominick J. Casadonate, Seok-Burm Choe, Andrzej A. Cichowlas, Steven J. Doktycz, Chanchal K. Ghosh, and Mark W. Grinstaff
Proc. Material Research Society **1990**, *EA24*, 209-212.
2. "Nonaqueous Liquid Filled Microcapsules."
Mark W. Grinstaff and Kenneth S. Suslick

3. "Catalytic Oxidation of Alkanes by Halogenated Porphyrins."
Mark W. Grinstaff, Michael G. Hill, Jay A. Labinger, and Harry B. Gray
Proc. Int. Symp. in Molecular Reaction Mechanisms Involving Transition Metals, **1994**, 155-157.
4. "Automated Solid-Phase Synthesis of Photophysical Properties of Oligonucleotides Labeled with Metal Diimine Complexes."
Mark W. Grinstaff, Amy E. Beilstein, Xi Hu, Mark T. Tierney, Gregory D. Smith, Milan Sykora, Shoeb I. Khan
J. Inorg. Biochem. **1999**, 74, 149.
5. "The Application of Photocrosslinkable Hyaluronan as a Corneal Perforation Sealant."
Mark W. Grinstaff, Daijiro Miki, Anne Pfister-Serres, Kourosh A. Dastghieb, Kimberly A. Smeds, Makoto Inoue, and Diane L. Hatchell
Proc. 1st Joint BMES/EMBS Meeting, 717.
6. "Photocrosslinkable Hyaluronic Acid for Cell Encapsulation."
Kimberly A. Smeds, Daniel R. Burnett, Anne Pfister-Serres, Diane L. Hatchell, Peter Saloupis, and Mark W. Grinstaff
Proc. 1st Joint BMES/EMBS Meeting, 724.
7. "Synthesis of Novel Hydrophilic Polymers."
Matthew Sheehy and Mark W. Grinstaff
Proc. 1st Joint BMES/EMBS Meeting, 733.
8. "Synthesis of Novel Hydrophilic Biopolymers."
Elisabeth B. Walsh, Matthew J. Sheehy and Mark W. Grinstaff
Polym. Prepr., 220th American Chemical Society Div. Polym. Chem. **2000**, 41, 1721.
9. "Synthesis of Photocrosslinkable Biopolymers for In Situ Applications."
Kimberly A. Smeds and Mark W. Grinstaff
Polym. Prepr., 220th American Chemical Society Div. Polym. Chem. **2000**, 41, 1722-1723.
10. "Development of a Novel Photocrosslinkable Hyaluronan Matrix for Cartilage Repair."
Kimberly A Smeds, Joyce Y. Wang, Anthony E. Baer, Lori A Setton, and Mark W. Grinstaff
Proc. Material Research Society, **2000**, LL1.3, 207.
11. "Physical Characterization of Novel Carbohydrate Based Phospholipid Vesicles for Drug Delivery."
Geoffrey S. Hird and Mark W. Grinstaff
Trans. 27th Biomaterials Annual Meeting, **2001**, 58.
12. "A Novel Photopolymerization Fabrication Route to Macroporous Biomaterials."
Meredith T. Morgan and Mark W. Grinstaff
Trans. 27th Biomaterials Annual Meeting, **2001**, 444.
13. "Synthesis of Poly(Lactic Acid) Biodendrimers."
Michael A. Carnahan and Mark W. Grinstaff

- Trans. 27th Biomaterials Annual Meeting, 2001, 556.*
14. "Synthesis of a G3 Dendron for Biomedical Applications."
Kimberly A. Smeds and Mark W. Grinstaff
Trans. 27th Biomaterials Annual Meeting, 2001, 557.
 15. "Nonlinear Finite Element Modeling of Cell Mechanical Environment in Hydrogels for Intervertebral Disc Repair."
Anthony E. Baer, Mark W. Grinstaff, Kimberly A. Smeds, Larry M. Boyd, Lori A. Setton
Proc. 2001 Bioengineering Conference, 2001, Vol BED-50, 113-114.
 16. "Photocrosslinkable Polymers for Biomedical Applications."
Mark W. Grinstaff, Michael A. Carnahan, Peter S. Fleming, Diane L. Hatchell, Nathanael R. Luman, Meredith T. Morgan, Sandip Patel, William C. Ray III, Anne Pfister-Serres, Kimberly A. Smeds, Katherine L. Touw, and Elisabeth B. Walsh
Polym. Prepr., 222nd American Chemical Society Div. Polym. Chem. 2001, 42, 101.
 17. "Synthesis of a Polycarbonate of Glycerol."
William C. Ray III and Mark W. Grinstaff
Polym. Prepr., 222nd American Chemical Society Div. Polym. Chem. 2001, 42, 123-124.
 18. "Biologically Inspired Dendrimers Based on Glycerol and Succinic Acid."
Michael A. Carnahan and Mark W. Grinstaff
Polym. Prepr., 222nd American Chemical Society Div. Polym. Chem. 2001, 42, 157-158.
 19. "Cell Micropatterning Substrates via Two-Photon Induced Polymerization."
Elisabeth B. Walsh, Nicole H. Grynawski, and Mark W. Grinstaff
Polym. Prepr., 222nd American Chemical Society Div. Polym. Chem. 2001, 42, 159.
 20. "Divergent Synthesis of Biodendrimers From Glycerol and Caproic Acid."
Meredith T. Morgan and Mark W. Grinstaff
Polym. Prepr., 222nd American Chemical Society Div. Polym. Chem. 2001, 42, 155-156.
 21. "Development of a Photocrosslinkable Hyaluronan Hydrogel for Cartilage Repair."
Larry M. Boyd, Mark W. Grinstaff, Kimberly A. Smeds, Helawe Betre, and Lori A. Setton
Proc. Annual Meeting of the Biomedical Engineering Society, 2001, P12.29.
 22. "Biodendrimer Sealants for Corneal Lacerations."
Crystan Midden, Michael A. Carnahan, Johannes Kristinsson, Terry Kim, and Mark W. Grinstaff
Trans. 28th Biomaterials Annual Meeting, 2002, 176.
 23. "Interfacial Biomaterial Coatings for Polystyrene."
Crystan Middleton, Elisabeth B. Walsh, Daniel J. Kenan, and Mark W. Grinstaff
Trans. 28th Biomaterials Annual Meeting, 2002, 213.
 24. "Designing New Sealants for Ophthalmic Surgeries: Hybrid Linear-Biodendritic Copolymers."
Michael A. Carnahan and Mark W. Grinstaff
Trans. 28th Biomaterials Annual Meeting, 2002, 568.

25. "Towards Improving Titanium Implant Integration using Interfacial Biomaterials."
Elisabeth B. Walsh, Daniel J. Kenan, and Mark W. Grinstaff
Trans. 28th Biomaterials Annual Meeting, **2002**, 578.
26. "Orthogonal Protecting Groups for the Synthesis of Biocompatible Block-Type Dendrimers."
Nathanael R. Luman and Mark W. Grinstaff
Trans. 28th Biomaterials Annual Meeting, **2002**, 652.
27. "Synthesis and Characterization of Copolycarbonate-esters of Glycerol and Lactic Acid."
William C. Ray III and Mark W. Grinstaff
Trans. 28th Biomaterials Annual Meeting, **2002**, 661.
28. "Convergent Synthesis of Biodendritic-Linear Macromolecules from Glycerol, Succinic Acid, and Poly(ethylene glycol)."
Kimberly A. Smeds, Nathanael R. Luman, and Mark W. Grinstaff
Polym. Prepr., 224th American Chemical Society Div. Polym. Chem. **2002**, 43, 738.
29. "Multifunctional Peptides as Interfacial Biomaterials."
Elisabeth B. Walsh, Crystan Middleton, Matthew J. Davis, Daniel J. Kenan, and Mark W. Grinstaff
Polym. Prepr., 224th American Chemical Society Div. Polym. Chem. **2002**, 43, 753.
30. "Photocrosslinkable Triblock copolymers of ethylene glycol and glycerol."
William C. Ray III and Mark W. Grinstaff
Polym. Prepr., 224th American Chemical Society Div. Polym. Chem. **2002**, 43, 768.
31. "Toward the Synthesis of Tailored Dendrimers for Specific Applications."
Michael A. Carnahan and Mark W. Grinstaff
Polym. Prepr., 224th American Chemical Society, Boston, MA, **2002**, 43, 797-798.
32. "Spectroscopic Investigation of the Microenvironment within Biodendrimers."
Merredith T. Morgan, Chad E. Immoos, Lovorka A. Degoricija, Michael A. Carnahan, Stephen J. Lee, and Mark W. Grinstaff
Polym. Prepr., 224th American Chemical Society, Boston, MA, **2002**, 43, 1299.
33. "Electrochemical Dip-Pen Nanolithography of Aniline and Pyrrole."
Shaun F. Filocamo, Chad E. Immoos, Benjamin W. Maynor, Stephen J. Lee, Jie Liu, and Mark W. Grinstaff
Polym. Prepr., 224th American Chemical Society Div. Polym. Chem. **2002**, 43, 1361.
34. "Novel Biodendrimer Adhesives for Sutureless Corneal Surgery."
Terry Kim and Mark W. Grinstaff
Research to Prevent Blindness 15th National Science Writers Seminar Paper, Washington, DC, **2002**.
35. "Self-Gelling Polymers for Repair of Corneal Lacerations."
Michel Wathier and Mark W. Grinstaff
Trans. 29th Biomaterials Annual Meeting, **2003**, 55.

36. "Identification of Specific Binding Peptides for Stainless Steel Using Combinatorial Phage Display."
James A. Parise, Jr., Daniel J. Kenan, and Mark W. Grinstaff
Trans. 29th Biomaterials Annual Meeting, 2003, 84.
37. "Peptide-PEG Conjugates as Cytophobic Coatings."
Elisabeth B. Walsh, Woo K. Lee, Stefan Zauscher, Daniel J. Kenan, and Mark W. Grinstaff
Trans. 29th Biomaterials Annual Meeting, 2003, 85.
38. "NMR Characterization of the Nanoenvironment of Dendrimers."
Meredith T. Morgan, Michael A. Carnahan, Chad E. Immoos, Anthony R. Ribeiro, Stephen J. Lee, and Mark W. Grinstaff
Trans. 29th Biomaterials Annual Meeting, 2003, 196.
39. "Using Combinatorial Phage Display Libraries and Chemical Synthesis to Create Novel Multifunctional Peptides as Interfacial Biomaterials."
Mark W. Grinstaff, Elisabeth B. Walsh, Xin Huang, James A. Parise Jr., Kelly A. Kirkwold, and Daniel J. Kenan
Trans. 29th Biomaterials Annual Meeting, 2003, 221.
40. "Novel Bifunctional Peptides for Adhering Cells to PGA and Nylon."
Xin Huang, Kelly A. Kirkwold, Amy Salon, Daniel J. Kenan, Mark W. Grinstaff, and Laura Niklason
Trans. 29th Biomaterials Annual Meeting, 2003, 413.
41. "Methacrylated Hybrid Linear-dendritic Copolymers from Poly(ethylene glycol), Succinic Acid, and Glycerol for In Situ Polymerization."
Micheal A. Carnahan, Lovorka Degoricija, and Mark W. Grinstaff
Trans. 29th Biomaterials Annual Meeting, 2003, 432.
42. "Biodendrimers for In Situ Photopolymerization."
Mark W. Grinstaff, Michael A. Carnahan, Meredith T. Morgan, Nathanael R. Luman, Lovorka Degoricija, Chad E. Immoos, Michel Wathier, Stella Finkelstein, Paul Kang, Crystan Middleton, Andrew Velazquez, and Terry Kim
Trans. 29th Biomaterials Annual Meeting, 2003, 433.
43. "Convergent Synthesis of Amphiphilic Dendrons From Glycerol, Succinic Acid, and Myristic Acid."
Nathanael R. Luman and Mark W. Grinstaff
Trans. 29th Biomaterials Annual Meeting, 2003, 546.
44. "Novel Biodendrimer Adhesives for Sutureless Corneal Surgery."
Terry Kim, Mark W. Grinstaff, Michael A. Carnahan, Andrew Velazquez, and Paul Kang
Vision Pan-America, 2003, 11, 4-6 (invited article).
43. "Photocrosslinkable Biodendrimer Scaffold Supports Cartilage Matrix Synthesis In Vitro."
Serge H. Söntjens, Michael A Carnahan, Dana L. Nettles, T. Parker Vail, Lori A. Setton, and Mark W. Grinstaff
6th Annual Meeting of the Tissue Engineering Society International, 2003, Orlando, FL, Session 21.
44. "In Situ Crosslinkable Hyaluronan for Articular Cartilage Repair."

- Dana L. Nettles, D. Hsu, T. Parker Vail, Meredith T. Morgan, Mark W. Grinstaff, and Lori A. Setton
Transactions of the Orthopaedic Research Society, **2004**.
45. “Biodendrimer Properties Direct Cartilaginous Matrix Synthesis In Vitro.”
Serge H. Söntjens, Dana L. Nettles, Michael A. Carnahan, Lori A. Setton, and Mark W. Grinstaff
Transactions of the Orthopaedic Research Society, **2004**.
 46. “Photocrosslinkable Biodendrimer-based Hydrogel Scaffolds for Cartilage Tissue Repair.”
Serge H. Söntjens, Dana L. Nettles, Michael A. Carnahan, Lori A. Setton, and Mark W. Grinstaff
5th International Cartilage Repair Society, Gent, Belgium, **2004**.
 47. “Charge-Reversible Lipids for DNA Delivery.”
Carla A. H. Prata, Yuxing Zhao, Philippe Barthélémy, Yougen Li, Dan Luo, Thomas J. McIntosh, and Mark W. Grinstaff
Trans. 30th Biomaterials Annual Meeting, Memphis, USA, **2005**. 73.
 48. “Hydrogels as Ophthalmic Tissue Adhesives.”
Michel Wathier, Mark W. Grinstaff, Terry Kim, Pil J. Jung, Michael A. Carnahan
Trans. 30th Biomaterials Annual Meeting, Memphis, USA, 2005. 321.
 49. “Endothelialization of Polymer and Metal Substrates.”
Steven R. Meyers, Elizabeth B. Walsh, Peggy Day, Daniel J. Kenan, Mark W. Grinstaff
Trans. 30th Biomaterials Annual Meeting, Memphis, USA, **2005**. 518.
 50. “Biodendrimer-based Scaffolds for Cartilage Repair.”
Lovorka Degoricija, Serge Sontjens, Mark W. Grinstaff
Trans. 30th Biomaterials Annual Meeting, Memphis, USA, **2005**. 438.
 51. “Hydrogels Composed Of Dendritic Macromers For Drug Delivery.”
Aaron P. Griset, Michel Wathier, Steven R. Meyers, Mark W. Grinstaff
Trans. 30th Biomaterials Annual Meeting, Memphis, USA, **2005**. 630.
 52. “New Adhesives for Ocular Wound Repair.”
Jeffery G. Clark, Michael A. Carnahan, Timothy Hickey, Keith D’Alessio, Jared Butlin, Chris Robinson, Terry Kim, and Mark W. Grinstaff
Proceedings of the SPE: Joining of Medical Plastics Conference: Welding, Bonding, and Failure Prevention, Providence, RI, **2005**.
 53. “Charge-reversible Lipids for DNA Delivery.”
Carla A. H. Prata, Philippe Barthelemy, Yougen Li, Dan Luo, Thomas J. McIntosh, Stephen J. Lee, and Mark W. Grinstaff
FASEB Journal, 20, A73-A73 Part 1, March 6, **2006**.
 54. “Non-viral Charge Reversal Vectors for DNA Delivery.”
Carla A. H. Prata, Yougen Li, Dan Luo, Thomas J. McIntosh, and Mark W. Grinstaff
Proceedings of the IEEE EMBC, 1371, New York, New York, **2006**.
 51. “IFBMs: A Toolkit for Manipulating Material-Biological Interactions.”
Steven R. Meyers, Xiaojuan Khoo, Erin G. Carruthers, Daniel J. Kenan, Mark W. Grinstaff
Trans. 2006th International Electrochemical Society Meeting, Cancun, Mexico, **2006**.

Oral Communications and Invited Seminars:

1. *Southern California ACS, Undergraduate Research Conferences*, Los Angeles, CA, 1986.
2. *Southern California ACS, Undergraduate Research Conferences*, Los Angeles, CA, 1987.
3. *American Physical Society*, Cincinnati, OH, 1991.
4. *Sigma Xi Research Talk*, University of Illinois, Urbana, IL, 1991.
5. *Symposium on Macromolecular Assemblies*, American Chemical Society, Atlanta, GA, 1991.
6. *T. S. Piper Award Talk*, University of Illinois, Urbana, IL, 1991.
7. *IEEE Engineering in Medicine and Biology Society Meeting*, San Diego, CA, 1993.
8. *University of Minnesota*, Minneapolis, MN, 1994.
9. *Nobel Laureate Signature Award Address*, American Chemical Society, San Diego, CA, 1994.
- 10-11. *Society for Biomaterials*, Boston, MA, 1994.
12. *University of California*, San Diego, CA, 1994.
13. *University of California*, Irvine, CA, 1995.
14. *University of California*, Riverside, CA, 1995.
15. *University of California*, Los Angeles, Chem. Eng., CA, 1995.
16. *Princeton University*, Princeton, NJ, 1995.
17. *Rice University*, Baylor, TX, 1995.
18. *Harvard University*, Boston, MA, 1995.
19. *University of Miami*, Miami, FL, 1995.
20. *University of California*, Irvine, Chemical Engineering, Irvine, CA, 1995.
21. *Occidental College*, Los Angeles, CA, 1995.
22. *University of Strasbourg*, Strasbourg, France, 1995.
23. *Pennsylvania State*, PA, 1995.
24. *University of Utah*, Salt Lake City, UT, 1995.
25. *Georgia Institute of Technology*, Atlanta, GA, 1995.
26. *Tufts University*, Boston, MA, 1995.
27. *University of Rochester*, Rochester, NY, 1996.
28. *University of California*, Davis, CA, 1996.
29. *University of North Carolina State*, Raleigh, NC, 1996.
30. *University of California*, Los Angeles, CA, 1996.
31. *Duke University*, Durham, NC, 1996.
32. *ICCC Meeting*, Vancouver, Canada, 1996.

33. "Synthesis and Characterization of Novel Echo-Contrast Agents."
Mark W. Grinstaff
ERC Ultrasound Research Conference, Durham, NC, **1997** (invited lecture).

34. "Synthesis of Novel Echo-Contrast Agents."
Mark W. Grinstaff
Mallinkrodt, St. Louis, MO, **1997** (invited lecture).

35. "Photocrosslinkable Microcapsules for Islet Transplantation."
Mark W. Grinstaff
NSF Materials Workshop, Pasadena, CA, **1997** (invited lecture).

36. "New Oligonucleotide Modification Procedures."
Mark W. Grinstaff
PE Applied Biosystems, San Francisco, CA, **1998** (invited lecture).

37. "Automated Solid-Phase Synthesis of Metallo-Oligonucleotides."
Mark W. Grinstaff, Amy E. Beilstein, and Sheob I. Khan
NSF Inorganometallic Workshop, Knoxville, TN, **1998** (invited lecture).
38. "Synthesis of Photocrosslinkable Hyaluronic Acid Gels for Cell Encapsulation."
Mark W. Grinstaff, Kimberly A. Smeds, Diane L. Hatchell, Peter Saloupis, and Anne Pfister-Serres
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-CPT #12.
39. "Nonlinear Optical Structure-Property Relationships of Platinum Chromophores."
Mark W. Grinstaff, Alain Fort, Karl Base, and Mark T. Tierney
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #304.
40. "Automated Solid-Phase Synthesis of Metallo-Oligonucleotides."
Mark W. Grinstaff, Shoeb I. Khan, Amy E. Beilstein, and Mark T. Tierney
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #653.
41. "Synthesis of Novel Polysaccharides for Biomedical Applications."
Mark W. Grinstaff
Symposium in Cellular and Biosurface Engineering, Durham, NC, **1998** (invited lecture).
42. "Photocrosslinkable Microcapsules for Islet Encapsulation."
Mark W. Grinstaff
Department of Biomedical Engineering, Durham, NC, **1998** (invited lecture).
43. "Automated Solid-Phase Synthesis of Ruthenium Labeled-Oligonucleotides."
Mark W. Grinstaff
Appalachian State, Department of Chemistry, Boone, NC, **1999** (invited lecture).
44. "Synthesis and Photophysical Properties of Ruthenium Labeled DNA."
Mark W. Grinstaff
1st Annual Novartis Science Symposium, University of North Carolina at Greensboro, Greensboro, NC, **1999** (invited lecture).
45. "A New Paradigm for Corneal Wound Healing Research."
W. Craig Fowler, Alan D. Proia, Daniel H. Chang, Bruce C. Roberts, and Mark W. Grinstaff
Department of Ophthalmology, Duke Medical Center, Durham, NC, **1999** (invited lecture).
46. "Synthesis and Photophysical Properties of DNA Labeled with Ru(bpy)₃²⁺."
Mark W. Grinstaff
Boston College, Department of Chemistry, Boston, MA, **1999** (invited lecture).
47. "Site-Specifically Labeled DNA for Electron-Transfer Reactions."
Mark W. Grinstaff
International Conference on Photochemistry, Durham, NC, **1999**, ABS# C-1.
48. "Synthesis and Photophysical Properties of Ru(bpy)₃²⁺ Labeled Oligonucleotides."
Mark W. Grinstaff, Shoeb I. Khan, Amy E. Beilstein, Xi Hu, Mark T. Tierney, Gregory D. Smith, and Milan Sykora

218th American Chemical Society, New Orleans, LA, **1999**. ACS-ABS-IC #496.

49. "The Application of Photocrosslinkable Hyaluronan as a Corneal Perforation Sealant."
Mark W. Grinstaff, Daijiro Miki, Anne Pfister-Serres, Kimberly A. Smeds, Kourosh A. Dastghieb, Makoto Inoue, and Diane L. Hatchell
1st Joint BMES/EMBS Meeting, Atlanta, GA, **1999**. BMES/EMBS ABS #717.
50. "Synthesis of Photocrosslinkable Polysaccharides for Corneal Perforations."
Mark W. Grinstaff
Closure Inc., Research Triangle Park, NC, **1999** (invited lecture).
51. "Synthesis of Novel Polysaccharides for Corneal Perforations."
Mark W. Grinstaff
Procter and Gamble Inc., Cincinnati, OH, **1999** (invited lecture).
52. "Electron Transfer Between Covalently Attached Redox Probes in DNA: Observation of the Electron-Transfer Intermediate."
Mark W. Grinstaff
PEW Meeting, Cozumel, Mexico, **2000** (invited lecture).
53. "Electron Transfer Between Covalently Attached Redox Probes in DNA: Observation of the Electron-Transfer Intermediate."
Mark W. Grinstaff
34th International Conference on Coordination Chemistry, Edinburgh, Scotland, **2000**, ICC 34, Oral Lecture 1066 (Elsevier Travel Award Recipient).
54. "Long-Distance Electron Transfer in an Oligodeoxynucleotide Duplex: Observation of the Electron-Transfer Product."
Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-IC #161.
55. "Biopolymers: From DNA-Mediated Electron-Transfer to Sutureless Surgery."
Mark W. Grinstaff
J&J Corporate Biomaterials Center, Somerville, NJ, **2000** (invited lecture).
56. "Biopolymers for Sutureless Surgery."
Mark W. Grinstaff
NSF Materials Workshop VIII, Portland, OR, **2000** (invited lecture).
57. "A Photocrosslinkable Polysaccharide Sealant for Corneal Perforations."
Mark W. Grinstaff
The American College of Surgeons Clinical Congress: Surgical Applications of Tissue Sealants, Chicago, IL **2000** (invited lecture).
58. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
University of North Carolina, Chapel Hill, NC **2000** (invited lecture).
59. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff

- Boston University, Boston, MA, **2000** (invited lecture).
60. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
Northwestern University, Evanston, IL, **2000** (invited lecture).
 61. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
Georgia Institute of Technology, Atlanta, GA, **2000** (invited lecture).
 62. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
Emory University, Atlanta, GA, **2000** (invited lecture).
 63. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
Georgia State, Atlanta, GA, **2000** (invited lecture).
 64. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
University of Illinois at Urbana-Champaign, Urbana, IL, **2000** (invited lecture).
 65. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
California Institute of Technology, Pasadena, CA, **2000** (invited lecture)..
 66. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
University of California at Los Angeles, Los Angeles, CA, **2000** (invited lecture).
 67. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
University of California at San Diego, CA, San Diego, CA, **2000** (invited lecture).
 68. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
Duke University, Durham, **2000** (invited lecture).
 69. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
University of Pennsylvania, Philadelphia, PA, **2000** (invited lecture).
 70. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff (invited lecture).
Princeton University, Trenton, NJ, **2000**.
 71. "Development of a Novel Photocrosslinkable Hyaluronan Matrix for Cartilage Repair."
Kimberly A. Smeds, Jean Y. Wang, Anthony E. Baer, Lori A. Setton, and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2000**. ABS #LL1.3.

72. "Biopolymers for In Situ Polymerization."
Mark W. Grinstaff
Morphogen Inc, San Diego, CA **2000** (invited lecture).
73. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
Free University of Brussels VUB, Department of Chemistry, Brussels Belgium, **2000** (invited lecture).
74. "Biopolymers for Sutureless Surgery."
Mark W. Grinstaff
U.S. Army Institute of Surgical Research, San Antonio, TX **2001** (invited lecture).
75. "DNA-Mediated Electron Transfer."
Mark W. Grinstaff
Xanthon Inc, Research Triangle Park, NC **2001** (invited lecture).
76. "Synthesis and Characterization of Metallodendrimers."
Mark W. Grinstaff
24th Asilomar Conference on Polymeric Materials, Pacific Grove, CA **2001** (invited lecture).
77. "Carbohydrosomes and Biodendrimers."
Mark W. Grinstaff
The Dow Chemical Company, Midland, MI **2001** (invited lecture).
78. "Biopolymers for Sutureless Surgery."
Mark W. Grinstaff
Inspire Pharmaceuticals Inc., Durham, NC **2001** (invited lecture).
79. "Physical Characterization of Novel Carbohydrate Based Phospholipid Vesicles for Drug Delivery."
Geoffrey S. Hird and Mark W. Grinstaff
27th Biomaterials Annual Meeting, Saint Paul, MN, **2001**. ABS #58.
80. "Synthesis and Characterization of Biodendrimers: New Polymers for Biomedical Applications."
Mark W. Grinstaff
4th International Symposium on Frontiers in Biomedical Polymers, Williamsburg, VA, **2001** (invited lecture).
81. "Synthesis and Physical Characterization of Carbohydrate-Based Phospholipids and Poly(glycerol-lactic acid) Dendrimers."
Mark W. Grinstaff
Gordon Conference "Chemistry of Supramolecules and Assemblies", New London, CT, **2001** (invited lecture).
82. "Photocrosslinkable Polymers for Biomedical Applications."
Mark W. Grinstaff, Michael A. Carnahan, Peter S. Fleming, Diane L. Hatchell, Nathanael R. Luman, Meredith T. Morgan, Sandip Patel, William C. Ray III, Anne Pfister-Serres, Kimberly A. Smeds, Katherine L. Touw, and Elisabeth B. Walsh

222nd American Chemical Society, Symposium on Tailored Synthetic Polymers as Biomaterials, Chicago, IL, **2001**. ACS-ABS-POLY #049

83. "Metallo-Oligonucleotides for DNA Mediated Electron-Transfer and DNA Hybridization Detection Studies."
Mark W. Grinstaff
International Conference on Bioinorganic Chemistry, Florence, Italy, **2001** (invited lecture). *J. Inorg. Biochem.* **2001**, 86, 53
84. "Synthesis and Characterization of Carbohydrosomes and Biodendrimers."
Mark W. Grinstaff
U.S. Army Research Laboratory, Aberdeen Proving Ground, MD, **2001** (invited lecture).
85. "Biopolymers: From DNA-Mediated Electron Transfer to Sutureless Surgery."
Mark W. Grinstaff
University of Delaware, Department of Chemistry, DE, **2001** (invited lecture).
86. "Metallo-Oligonucleotides for DNA Mediated Electron-Transfer and DNA Hybridization Detection Studies."
Mark W. Grinstaff
U.S. Army Research Laboratory, Adelphi, MD, **2001** (invited lecture).
87. "Charge-Transfer Reactions in DNA."
Mark W. Grinstaff
University of Tokyo, Graduate School of Sciences, Tokyo Japan, **2002** (invited lecture).
88. "Biodendrimers: New Polymeric Biomaterials for Tissue Engineering."
Mark W. Grinstaff
JST/NAS International Interdisciplinary Research Exchange Symposium
Tokyo, Japan **2002** (invited lecture).
89. "Charge-Transfer Reactions in DNA."
Osaka University, Department of Chemistry, Osaka, Japan, **2002** (invited lecture).
90. "Biodendrimers and Carbohydrosomes: New Materials for Pharmaceutical and Tissue Engineering Applications."
Mark W. Grinstaff
Takeda Chemical Industries, Ltd., Osaka Japan, **2002** (invited lecture).
91. "Biodendrimers: New Polymeric Biomaterials for Tissue Engineering."
Mark W. Grinstaff
University of Tokyo, Graduate School of Engineering, Tokyo Japan, **2002** (invited lecture).
92. "Novel Biodendrimers for Sutureless Corneal Surgery."
Terry Kim, Michael A. Carnahan, Crystan Middleton, Paul C. Kang, and Mark W. Grinstaff
Duke Eye Center, Chairman's Science of Disease Seminar, Durham, NC, **2002** (invited lecture).
93. "Electron-Transfer Reactions in DNA."
Mark W. Grinstaff
Wayne State University, Department of Chemistry, Detroit, MI, **2002** (invited lecture).

94. "Biodendrimers: Nanosized Polymers for Medical Applications."
Mark W. Grinstaff
28th Biomaterials Annual Meeting, Nanobiomaterials Workshop, Tampa, FL, **2002** (invited lecture).
95. "Biodendrimer Sealants for Corneal Lacerations."
Mark W. Grinstaff
28th Biomaterials Annual Meeting, Tampa, FL, **2002**. ABS# 176.
96. "Polymers for Medical Applications."
Mark W. Grinstaff
Duke University/NSF High School Teachers Outreach Program, Durham, NC, **2002**.
97. "Biodendrimers: New Polymeric Biomaterials for Tissue Engineering."
Mark W. Grinstaff
Dupont Chesapeake Farms Conference, Chestertown, MD, **2002** (invited lecture).
98. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
Wayne State University, Department of Chemistry and Chemical Engineering, Detroit, MI, **2002** (invited lecture).
99. "Biodendrimers: New Polymeric Biomaterials for Tissue Engineering."
Mark W. Grinstaff
Université d'Avignon et des Pays de Vaucluse, Département de Chimie, Avignon, France, **2002**, (invited lecture).
100. "Exploiting DNA Mediated Charge-Transfer Dynamics for the Design of a Conformationally Gated Detection Device."
Mark W. Grinstaff
Workshop on Electrochemical Biosensors, U.S. Army Research Laboratory, Adelphi, MD, **2002** (invited lecture).
101. "Biodendrimers: New Polymeric Materials for Medical Applications."
Mark W. Grinstaff
Northwestern University, Department of Biomedical Engineering, Evanston, IL, **2002** (invited lecture).
102. "Biodendrimers: New Polymeric Materials for Tissue Engineering."
Mark W. Grinstaff
Appalachian State University, Department of Chemistry, Boone, NC, **2002** (invited lecture).
103. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
Duke University, Department of Chemistry, Durham, NC, **2002** (invited lecture).
104. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
Michigan State University, Department of Chemistry, East Lansing, MI, **2002** (invited lecture).

105. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
University of Michigan, Department of Chemistry, Ann Arbor, MI, 2002 (invited lecture).
106. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
University of Chicago, Department of Chemistry, Colloquium Series, Chicago, IL, 2002 (invited lecture).
107. "Bioadhesives and Repellents."
Mark W. Grinstaff and Daniel J. Kenan
Pall Corporation, Port Washington, NY, 2002 (invited lecture).
108. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
University of Oregon, Department of Chemistry, Eugene, OR, 2003 (invited lecture).
109. "Photocrosslinkable Polymers for Ophthalmic Surgeries."
Mark W. Grinstaff
Oregon Health Science University, Casey Eye Institute, Portland, OR, 2003 (invited lecture).
110. "Biodendrimers: New Materials for Medical Applications."
Mark W. Grinstaff
Vanderbilt University, Vanderbilt Institute of Chemical Biology Colloquium Series, Nashville, TN, 2003 (invited lecture).
111. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
Colorado Sate University, Department of Chemistry, Fort Collins, CO, 2003 (invited lecture).
112. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
University of Minnesota, Department of Biomedical Engineering, Minneapolis, MN 2003 (invited lecture).
113. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
Boston University, Department of Chemistry, Boston, MA 2003 (invited lecture).
114. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
University of California at Los Angeles, Department of Materials Science and Engineering, Los Angeles, CA 2003 (invited speaker).
115. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
University of California at Davis, Department of Biomedical Engineering, Davis, CA 2003 (invited lecture).

116. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
University of Massachusetts Amherst, Department of Polymer Science and Engineering, Amherst, MA 2003 (invited lecture).
117. "Photocrosslinked Dendritic Gels for Repairing Corneal Lacerations."
Mark W. Grinstaff
Pew Scholars Annual Meeting, Grand Bahama Island, 2003 (invited lecture).
118. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
University of Florida, Department of Chemistry, Gainesville, FL 2003 (invited lecture).
119. "Peptide-PEG Conjugates as Cytophobic Coatings."
Elisabeth B. Walsh, Woo K. Lee, Stefan Zauscher, Daniel J. Kenan, and Mark W. Grinstaff
29th Biomaterials Annual Meeting, Biomaterial Surfaces and Interfaces Symposium I, Reno, NV, 2003. ABS# 85.
120. "Using Combinatorial Phage Display Libraries and Chemical Synthesis to Create Novel Multifunctional Peptides as Interfacial Biomaterials."
Mark W. Grinstaff, Elisabeth B. Walsh, Xin Huang, James A. Parise Jr., Kelly A. Kirkwold, and Daniel J. Kenan
29th Biomaterials Annual Meeting, Biomaterial Surfaces and Interfaces Symposium I, Reno, NV, 2003. ABS# 221.
121. "Biodendrimers: New Materials for Medicine."
Mark W. Grinstaff
VIIth American German Polymer Symposium, Bayreuth, Germany, 2003 (invited lecture).
122. "Biodendrimers: New Materials for Repairing Corneal Wounds."
Mark W. Grinstaff
39th IUPAC and 86th Conference of the Canadian Society of Chemistry, Ottawa, Canada, 2003 (invited lecture). ABS# MS.3.024
123. "Biodendrimers: New Materials for Repairing Corneal Wounds."
Mark W. Grinstaff
International Dendrimer Symposium, Berlin, GE, 2003 (invited lecture).
124. "Designing Functional Coatings for Metals and Plastics Using Combinatorial Phage Display Technology."
Elisabeth B. Walsh, James A. Parise Jr., Xin Huang, Mark W. Grinstaff, and Daniel J. Kenan
Biointerface 2003, Symposium: Tissue Engineering II, Savannah, GA, 2003.
125. "New Frontiers in Biomaterials: Biodendrimers and Peptidic Interfacial Biomaterials."
Mark W. Grinstaff
3M, St. Paul, MN, 2003 (invited lecture).
126. "Biodendrimers for Repair of Corneal Wounds: In Vitro and In Vivo Results."
Michael A. Carnahan, Paul Kang, Andy Velazquez, Terry Kim, Stella Finkelstein, and Mark W. Grinstaff

Materials Research Society, Boston, MA, **2003**. ABS #F4.12.

127. “Biodendrimers: New Materials for Corneal Repair and Drug Delivery.”
Mark W. Grinstaff
Department of Pharmacology, Boston University, Boston, MA, **2003** (invited lecture).
128. “Charge-Reversal Amphiphiles for Gene Delivery.”
Mark W. Grinstaff
DNA Supramolecular Assemblies Workshop, Avignon, France, **2004** (invited lecture).
129. “Biodendrimers for Ophthalmic Tissue Engineering.”
Mark W. Grinstaff
2004 Department of Biomedical Engineering Retreat, Falmouth, MA, **2004** (invited lecture).
130. “Dendritic Polymers as Ophthalmic Sealants.”
Mark W. Grinstaff
228nd American Chemical Society, Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications, Philadelphia, PA, **2004**. ACS-ABS-POLY #029 (invited lecture).
131. “Multi-Layer Dendrimer: Synthesis and NMR Characterization of an Encapsulated Dye.”
Meredith T. Morgan, Stephen J. Lee, and Mark W. Grinstaff
228nd American Chemical Society, Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications, Philadelphia, PA, **2004**. ACS-ABS-POLY #118.
132. “Novel Hydrogel Scaffolds for Cartilage Tissue Repair, using Photocrosslinkable Biodendrimers.”
Serge H. M. Söntjens, Dana L. Nettles, Michael A. Carnahan, Lori A. Setton, and Mark W. Grinstaff
228nd American Chemical Society, Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications, Philadelphia, PA, **2004**. ACS-ABS-POLY #192.
133. “Conformationally-Gated Electrochemical Gene Detection: The Hairpin and Wrap Assays vs the Sandwich Assay.”
Chad E. Immoos, Stephen J. Lee, Mark W. Grinstaff
228nd American Chemical Society, Philadelphia, PA, **2004**. ACS-ABS-INOR #728.
134. “Novel Hydrogel Scaffolds for Cartilage Tissue Repair, using Photocrosslinkable Biodendrimers.”
Mark W. Grinstaff
Orthopedic Biomechanics Laboratory, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, **2004** (invited lecture).
135. “Dendritic Polymers for Cartilage Tissue Engineering.”
Lori A. Setton, Serge H. M. Söntjens, Dana L. Nettles, Michael A. Carnahan, and Mark W. Grinstaff
2004 Division of Polymer Chemistry Biennial, Polymer Design for Biology: Activity and Structure, Savannah, GA, **2004** (invited lecture).
137. “Synthesis and Applications of Dendrimers.”
Mark W. Grinstaff

13th Annual ACS Regional Undergraduate Day, Boston, MA, **2004** (invited lecture).

138. "Biodendrimers for Ophthalmic and Orthopedic Applications."
Mark W. Grinstaff
Johnson and Johnson Focused Giving Symposium, New Brunswick, NJ, **2004** (invited lecture).
139. "Interfacial Biomaterials."
Mark W. Grinstaff and Daniel J. Kenan
Materials Research Society, Symposium: Biomimetic Surfaces/Cell-Material Interactions/Biofunctional Peptide. ABS #AA7.5/Z7.5 Boston, MA, **2004**. (invited lecture).
140. "Biodendrimers for Ophthalmic and Orthopedic Applications."
Mark W. Grinstaff
University of California, Berkeley, Department of Chemistry, Berkeley, CA, **2005** (invited lecture).
141. "Biodendrimers for Medical Applications."
Mark W. Grinstaff
University of Massachusetts, Boston, Department of Chemistry, Boston, MA, **2005** (invited lecture).
142. "Dendritic Polymer Adhesives for Corneal Wound Repair." *ARVO: Nanotechnology and Nanomedicine: Applications for Vision*, Fort Lauderdale, FL, **2005** (invited lecture).
143. "Biodendrimers for Medical Applications."
Mark W. Grinstaff
Boston University, Department of Pharmacology, Social Hour, Boston, MA, **2005** (invited lecture).
144. "Dendritic Macromolecules as Ophthalmic Adhesives."
Mark W. Grinstaff
Fourth International Dendrimer Symposium, Mount Pleasant, MI, **2005** (invited lecture).
145. "Biodendrimer Adhesives for Ophthalmic Surgeries."
Mark W. Grinstaff
8th UNESCO School and IUPAC Conference on Macromolecules: Polymers for Africa, Mauritius, **2005** (invited lecture).
146. "Dendritic Adhesives for Tissue Repair."
Mark W. Grinstaff
Gordon Conference: Biomaterials: Biocompatibility/Tissue Engineering, Plymouth, NH, **2005** (invited lecture).
147. "Guiding Biology on Synthetic Surfaces using Interfacial Biomaterials."
Mark W. Grinstaff
Gordon Conference: Chemical Sensors and Interfacial Design, Queens College, Oxford, UK, **2005** (invited lecture).
148. "Biodendrimers for Medical Applications."
Mark W. Grinstaff

University of Eindhoven, Eindhoven, NL, **2005** (invited lecture).

149. "Dendritic Polymers as Ophthalmic Adhesives."
Mark W. Grinstaff
Glaucoma Foundation Think Tank Meeting, New York, NY, **2005** (invited lecture).
150. "New Adhesives for Ocular Wound Repair."
Mark W. Grinstaff
SPE: Joining of Medical Plastics Conference: Welding, Bonding, and Failure Prevention, Providence, RI, **2005** (invited lecture).
151. "Charge-Reversal Amphiphiles for Gene Delivery."
Mark W. Grinstaff
MEDi 2005 Conference, Hartford, CT, **2005** (invited lecture).
152. "Dendritic Polymers as Ophthalmic Sealants."
Mark W. Grinstaff
MEDi 2005 Conference, Hartford, CT, **2005** (invited lecture).
153. "Guiding Biology on Synthetic Surfaces using Interfacial Biomaterials."
Mark W. Grinstaff
AVS 52nd International Symposium, Boston, MA, **2005** (invited lecture).
154. "Dendritic Polymers as Ophthalmic Sealants."
Mark W. Grinstaff
The Schepens Eye Research Institute, Harvard Medical School, Boston, MA, **2005** (invited lecture).
155. "Dendritic Polymers for Medical Applications."
Mark W. Grinstaff
MIT: Program in Polymer Science and Technology, Boston, MA, **2005** (invited lecture).
156. "Dendritic Polymers as Ophthalmic Sealants."
Mark W. Grinstaff
Medical Applications of Nanotechnology, Center for Vision Research, University of Florida, Gainesville, FL, **2005** (invited lecture).
157. "Dendritic Polymers for Medical Applications."
Mark W. Grinstaff
CIBAvision, Atlanta, GA, **2006** (invited lecture).
158. "Non-Viral Charge-Reversal Vectors for DNA Delivery."
Mark W. Grinstaff
IEEE 2006 Conference, Symposium on Novel Carriers for Drug and Gene Delivery, ABS# 1371, New York, NY, **2006** (invited lecture).
159. "Dendritic Polymers and Hydrogels for Medical Applications."
Mark W. Grinstaff
American Academy of Nanomedicine, Second Annual Meeting, National Academy Sciences, ABS# 110, Washington, DC, **2006** (invited lecture).

160. "New Functional Transfection Reagents for Gene Delivery."
Recent Advances in Supramolecular Assemblies with Nucleic Acids
Bordeaux, France, **2006** (invited lecture).
161. "Biodendrimers: New Polymers for Medical Applications."
Mark W. Grinstaff
Emerging Technology and Best Practices Seminar Series: Biomaterials for Sensors, Implants and Regenerative Medicine, Boston University, Boston, MA, **2006** (invited lecture).
162. "IFBMs: A Toolkit for Manipulating Material-Biological Interactions."
Mark W. Grinstaff
2006 International Electrochemical Society Meeting, Symposium on Functionalization: Novel Platforms, Cancun, Mexico, **2006** (invited lecture).
163. "Interfacial Biomaterials for Controlling Biology on Metals."
Mark W. Grinstaff
8th New Jersey Symposium on Biomaterials Science, New Brunswick, NJ, **2006** (invited lecture).
164. "Biodendrimers for Medical Applications."
Mark W. Grinstaff
Wellesley College, Wellesley, MA, **2006** (invited lecture).

Oral Communications by Undergraduate Students, Graduate Students, Postdoctoral Fellows, Visiting/Adjunct Assistant Professors, & Collaborating MDs & PhDs:

1. "Second-Order Nonlinear Optical Structure-Property Relationships of Platinum Chromophores." Mark T. Tierney, Karl Base, Alan Fort, and Mark W. Grinstaff
Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC, **1998**. SERMACS-ABS #233.
2. "Automated Solid-Phase Synthesis of Ruthenium-Oligonucleotides."
Sheob I. Khan, Amy E. Beilstein, and Mark W. Grinstaff
Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC, **1998**. SERMACS-ABS #257.
3. "Synthesis and Characterization of a Ruthenium-Labeled Amino-Nucleoside."
Xi Hu, Shoeb I. Khan, and Mark W. Grinstaff
Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC, **1998**. SERMACS-ABS #258.
4. "Synthesis and Characterization of a Ferrocene-Labeled Nucleoside."
Amy Beilstein and Mark W. Grinstaff
Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC, **1998**. SERMACS-ABS #252.
5. "Synthesis of Photocrosslinkable Biopolymers for Cell Encapsulation."
Kimberly A. Smeds, Anne Pfister-Serres, Diane L. Hatchell, Peter Saloupis, and Mark W. Grinstaff
Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC,

- 1998.** SERMACS-ABS #611.
6. "Viability and Function of Encapsulated Islet Cells in a Polysaccharide Hydrogel Microcapsule." Anne Pfister-Serres, Kimberly A. Smeds, Diane L. Hatchell, Peter Saloupis, and Mark W. Grinstaff
Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC, **1998.** SERMACS-ABS #612.
 7. "Synthesis and Characterization of Highly Conjugated Electron-Withdrawing Substituted Phenanthrolines."
Jerry W. Inman, Jr., Mark T. Tierney, Bobbi L. Ruben, and Mark W. Grinstaff
Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC, **1998.** SERMACS-ABS, Undergraduate Symposium, #58.
 8. "Step-Scan Time-Resolved FTIR Studies of Excited-State Electronic Structure in Various d6 Transition Metal Complexes."
Gregory D. Smith, Shoeb I. Khan, Amy E. Beilstein, Mark W. Grinstaff, and Richard A. Palmer *NC-ACS Local Section of the American Chemical Society*, Research Triangle Park, NC, **1999.**
 9. "Synthesis and Properties of Ferrocene-Labeled Oligodeoxynucleotides."
Amy Beilstein and Mark W. Grinstaff
218th American Chemical Society, New Orleans, LA, **1999.** ACS-ABS-IC #529.
 10. "Photocrosslinkable Hyaluronic Acid for Cell Encapsulation."
Kimberly A. Smeds, Daniel R. Burnett, Anne Pfister-Serres, Diane L. Hatchell, Peter Saloupis, and Mark W. Grinstaff
1st Joint BMES/EMBS Meeting, Atlanta, GA, **1999.** BMES/EMBS ABS #724.
 11. "Carbohydrosomes: Synthesis of a Novel Carbohydrate Based Phospholipids."
Geoffrey S. Hird and Mark W. Grinstaff
International Symposium on Surfactants in Solution, Gainesville, FL, **2000.** SIS ABS #117.
 12. "Fluorenone, Anthraquinone, and Phenothiazine Labeled Oligodeoxynucleotides: Redox Probes for DNA-Mediated Charge-Transfer Studies."
Mark T. Tierney and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000.** ACS-ABS-ORG #020.
 13. "Synthesis and Characterization of Carbohydrosomes: Novel Supramolecular Structures."
Geoffrey S. Hird and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000.** ACS-ABS-COLL #068.
 14. "Synthesis of Novel Polysaccharide Mimics."
Mathew J. Sheehy, Elisabeth B. Walsh, and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2000.** ABS #LL6.8.
 15. "Physical Properties of Novel Carbohydrate Based Phospholipid Bilayers."
Geoffrey S. Hird, Thomas J. McIntosh, Stephen J. Lee, and Mark W. Grinstaff
221st American Chemical Society, San Diego, CA, **2001.** ACS-ABS-COLL #057.

16. "Step-Scan Time-Resolved FTIR Study of Cu Complexes with 2,9 Substituted Phenathralinone Ligands."
Yu Lu, M. Shane Hutson, Mark W. Grinstaff, and Richard A. Palmer
NC-ACS Local Section of American Chemical Society, Regional Meeting, Research Triangle Park, NC, **2001**.
17. "Synthesis and Application of Polyether-ester Biodendrimers from Glycerol and Lactic Acid."
Michael A. Carnahan and Mark W. Grinstaff
Richard D. Gilbert Symposium, Raleigh, NC, **2001**.
18. "Nonlinear Finite Element Modeling of the Cell Micromechanical Environment in Hydrogel for Intervertebral Disc Repair."
Anthony E. Baer, Mark W. Grinstaff, Kimberly A. Smeds, Lawrence M. Boyd, and Lori A. Setton
Summer Bioengineering Conference, American Society of Mechanical Engineers, **2001**.
19. "Synthesis and Characterization of Phenothiazine-Labeled Oligodeoxynucleotides for DNA-Mediated Electron-Transfer Studies."
Xi Hu and Mark W. Grinstaff
222nd American Chemical Society, Chicago, IL, **2001**. ACS-ABS-ORG #641.
20. "Novel Biodendrimers for Sutureless Corneal Surgery"
Terry Kim
Scheie Eye Institute of the University of Pennsylvania, PA, **2001**.
21. "Interfacial Biomaterials via Phage Display Technology."
Elisabeth B. Walsh, Daniel J. Kenan, and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2001**. *Symposium: Polymeric Biomaterials for Tissue Engineering*. ABS #GG1.7
22. "Synthesis, Characterization, and Applications of Poly(ether-ester) and Polyester Biodendrimers."
Michael A. Carnahan and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2001**. *Symposium: Polymeric Biomaterials for Tissue Engineering*. ABS #GG2.3
23. "Synthesis and Characterization of Dendrimers from Alpha-hydroxy and Amino Acids."
Meredith T. Morgan and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2001**. *Symposium: Polymeric Biomaterials for Tissue Engineering*. ABS #GG4.9
24. "Designing Interfacial Biomaterials using Phage Display Technology."
Elisabeth B. Walsh
BME 399, CBE Seminar Series, Duke University, Durham, NC, **2002**.
25. "Carbohydrosomes."
Stephen J. Lee, Geoffrey S. Hird, and Mark W. Grinstaff
Self Assembly of the Future, Massa Marittima, Italy, **2002**.
26. "Interfacial Biomaterials Coatings for Polystyrene."

Crystan Middleton, Elisabeth B. Walsh, Daniel J. Kenan, and Mark W. Grinstaff
28th Biomaterials Annual Meeting, Tampa, FL, **2002**, ABS# 213.

27. "Novel Biodendrimer Adhesives for Sutureless Corneal Surgery."
Terry Kim and Mark W. Grinstaff
Research to Prevent Blindness 15th National Science Writers Seminar Paper, Washington, DC, **2002**.
28. "Preparation of Polymeric Nanostructures using Electrochemical Dip-Pen Nanolithography."
Shaun F. Filocamo, Benjamin W. Maynor, Jie Liu, and Mark W. Grinstaff
225th American Chemical Society, New Orleans, LA, **2003**. ACS-ABS-PMSE #357.
29. "Self-Gelling Polymers for Repair of Corneal Lacerations."
Michel Wathier and Mark W. Grinstaff
29th Biomaterials Annual Meeting, Biomaterials for In Situ Tissue Engineering Symposium, Reno, NV, **2003**. ABS# 55.
30. "Identification of Specific Binding Peptides for Stainless Steel Using Combinatorial Phage Display."
James A. Parise, Jr., Daniel J. Kenan, and Mark W. Grinstaff
29th Biomaterials Annual Meeting, Biomaterial Surfaces and Interfaces Symposium I, Reno, NV, **2003**. ABS# 84.
31. "NMR Characterization of the Nanoenvironment of Dendrimers."
Meredith T. Morgan, Michael A. Carnahan, Chad E. Immoos, Anthony R. Ribeiro, Stephen J. Lee, and Mark W. Grinstaff
29th Biomaterials Annual Meeting, Nanostructured Biomaterials Symposium, Reno, NV, **2003**. ABS# 196.
32. "Rational Design of Biomaterials for Cartilage Tissue Repair."
Lori A. Setton, Dana L. Nettles, T. Parker Vail, Meredith Morgan, Michael A. Carnahan, and Mark W. Grinstaff.
Gordon Conference, Biomaterials: Biocompatibility and Tissue Engineering, Plymouth, NH, **2003**.
33. "LASIK Flap Suturing for Recurrent Epithelial Ingrowth."
Terry Kim, Mark W. Grinstaff, Michael A. Carnahan, Andrew Velazquez, and Paul Kang
American Academy of Ophthalmology, Anaheim, CA, **2003**.
34. "Three Structurally Distinct Biodendrimers for Use as Drug Delivery Vehicles."
Meredith T. Morgan, Michael A. Carnahan, Chad E. Immoos, Stella Finkelstein, Anthony R. Ribeiro, and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2003**. ABS# I6.4.
35. "Photocrosslinkable Biodendrimer Scaffold Supports Cartilage Matrix Synthesis in Vitro."
Serge Söntjens, Dana L. Nettles, Michael A. Carnahan, Lori A. Setton and Mark W. Grinstaff.
International Tissue Engineering Meeting, Orlando, FL, **2003**. ABS# 21.4
36. "Amphiphiles Featuring an Information for Supramolecular Assemblies."
Louis Moreau, Philippe Barthélémy, Mohamed El Maataoui, and Mark W. Grinstaff

Ilèmes Journées Franco-Italiennes de la Chimie, Genova, Italia, **2004**.

37. "Charge-Reversal Amphiphiles for Gene Delivery."
Carla A. H. Prata, Yuxing Zhao, Philippe Barthélémy, Yougen Li, Dan Luo, Thomas J. McIntosh, Stephen J. Lee, and Mark W. Grinstaff
227th American Chemical Society, Anaheim, CA, **2004**. ACS-ABS-BIOT #147.
38. "Supramolecular Assemblies of Nucleoside-based Amphiphiles."
Philippe Barthélémy
DNA Supramolecular Assemblies Workshop, Avignon, France **2004** (invited lecture).
39. "Charge-Reversal Amphiphiles for Gene Delivery."
Carla A. H. Prata, Yuxing Zhao, Philippe Barthélémy, Yougen Li, Dan Luo, Thomas J. McIntosh, Stephen J. Lee, and Mark W. Grinstaff
Fiber Society Annual Meeting, Cornell, NY, **2004**.
40. "Amphiphilic Surface Block Biodendrimers."
Nathanael R. Luman and M.W. Grinstaff
228th American Chemical Society, Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications, Philadelphia, PA, **2004**. ACS-ABS-POLY #34.
41. "Branched DNA and Charge-Reversal Amphiphiles for Gene Delivery."
Yougen Li, Soongho Um, Yen Cu, Dan Luo, Carla A. H. Prata, Yuxing Zhao, Philippe Barthélémy, Thomas J. McIntosh, Stephen J. Lee, and Mark W. Grinstaff
British Pharmaceutical Conference, Manchester, England, **2004**.
42. "Supramolecular Assemblies of Nucleoside-Based Amphiphiles."
Philippe Barthélémy, Louis Moreau, Jérôme Arigon, Nathalie Campins, Pauline Chabaud, Michel Camplo, and Mark W. Grinstaff
ARO Workshop on Surfactants and Supramolecular Assemblies, Jackson Hole, WY, **2004**.
43. "Interfacial Biomaterials: Guiding Biology on Synthetic Surfaces."
Daniel J. Kenan and Mark W. Grinstaff
SW, **2004**.
44. "Electrochemical Dip-Pen Nanolithography to Form Lines and Junctions with Aniline, Thiophene and Pyrrole."
Shaun F. Filocamo, Benjamin W. Maynor, Chad Immoos, Jie Liu, and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2004**. *Symposium: Scanning Probe and Direct Write Lithography*. ABS #C7.6.
45. "Charge-Reversible Lipids for DNA Delivery."
Carla A. H. Prata, Yuxing Zhao, Philippe Barthélémy, Yougen Li, Dan Luo, Thomas J. McIntosh, and Mark W. Grinstaff
30th Biomaterials Annual Meeting, Memphis, USA, **2005**. ABS# 73.
46. "Hydrogels as Ophthalmic Tissue Adhesives."
Michel Wathier, Mark W. Grinstaff, Terry Kim, Pil J. Jung, Michael A. Carnahan
30th Biomaterials Annual Meeting, Memphis, USA, **2005**. ABS# 321.

47. "Dendritic Amphiphiles Comprised of Succinic Acid and Glycerol, and Myristic Acid."
Nathanael R. Luman and M.W. Grinstaff
229th American Chemical Society, Surfactant Self-Assembly: Functionalizing Surfactants, San Diego, CA, **2005**. ACS-ABS-COLL #46.

Poster Presentations:

1. Cell and Molecular Biology Training Grant Research Symposium, Urbana, IL, **1990**.
2. Symposium on Reactions in Organized Media, American Chemical Society, San Francisco, CA, **1992**.
3. American Chemical Society, San Francisco, CA, **1992**.
4. AAAS Meeting, Chicago, IL, **1992**.
5. Society for Magnetic Resonance Imaging, San Francisco, CA, **1993**.
- 6-7. American Chemical Society, Denver, CO, **1993**.
- 8-10. American Chemical Society, San Diego, CA, **1994**.
11. International Symposium on Molecular Reaction Mech. Involving Metals, Florence, Italy, **1994**.
- 12-13. American Chemical Society, Anaheim, CA, **1995**.

14. "Generation of an Unprecedented Excited State Oxidant in a Coordinately Unsaturated Platinum Complex."
Karl Base and Mark W. Grinstaff
215th American Chemical Society, Dallas, TX, **1998**. ACS-ABS-IC #134.
15. "Synthesis, Spectroscopy, and X-Ray Structure of Platinum Dithiolate and Catecholate Complexes."
Mark T. Tierney, Karl Base, and Mark W. Grinstaff
215th American Chemical Society, Dallas, TX, **1998**. ACS-ABS-IC #135.
16. "Synthesis of Highly-Conjugated Electron-Withdrawing Phenanthrolines."
Mark T. Tierney and Mark W. Grinstaff
215th American Chemical Society, Dallas, TX, **1998**. ACS-ABS-IC #136.
17. "Nonlinear Optical Properties of Platinum Chromophores."
Mark W. Grinstaff, Marguerite Barzoukas, Alan Fort, Karl Base, and Mark T. Tierney
215th American Chemical Society, Dallas, TX, **1998**. ACS-ABS-IC #137.
18. "Synthesis of Carbohydrate Metalloprotease Inhibitors as Potential Antibacterial Agents."
Shoeb I. Khan, Geoffrey Hird, Erica Beckham, and Mark W. Grinstaff
215th American Chemical Society, Dallas, TX, **1998**. ACS-ABS-IC #138.
19. "Platinum Complexes Containing Thiolato-Carborane Moiety: Novel Materials for Nonlinear Optics."
Karl Base, Alan Fort, and Mark W. Grinstaff
215th American Chemical Society, Dallas, TX, **1998**. ACS-ABS-IC #137.
20. "Automated Solid-Phase Synthesis of Metallo-Oligonucleotides."
Mark W. Grinstaff, Amy E. Beilstein, and Shoeb I. Khan
Nanotechnology for the Soldier System Conference, Boston, MA, **1998**.
21. "The Alkylation of Iodouridine by a Heterogeneous Catalyst."
Shoeb I. Khan and Mark W. Grinstaff

- 216th American Chemical Society*, Boston, MA, **1998**. ACS-ABS-ORG #448.
22. "The Solid Phase Synthesis of Nucleoside Hydroxamic Acids for Metal Binding."
Shoeb I. Khan and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #427.
23. "Synthesis of Carbohydrate Metalloprotease Inhibitors"
Geoffrey Hird, Matthew Sheehy, Shoeb I. Khan, Erica Beckham, and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #428.
24. "Synthesis and Characterization of a Ruthenium-Labeled Amino-Nucleoside."
Xi Hu, Shoeb I. Khan, and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #429.
25. "Synthesis of a Novel Cobalt(II) 2'-Deoxyuridine."
Shamsa Sarwar and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #430.
26. "Synthesis and Characterization of a Ferrocene-Labeled Nucleoside Phosphoramidite."
Amy Beilstein and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #431.
27. "Synthesis and Characterization of Tris-Phenanthroline Rhodium(III)-Labeled 2'-Deoxyadenosine."
Shamsa Sarwar, Mark T. Tierney, Shoeb I. Khan, and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #432.
28. "Synthesis and Spectroscopy of Platinum(II) Diimine Pyrimidine-1,1-Dithiolates."
Mark T. Tierney, and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #433.
29. "Synthesis and Photophysical Properties of a Ruthenium-Modified 2'-Deoxyuridine Phosphoramidite."
Shoeb I. Khan, Amy Beilstein, and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #434.
30. "Synthesis of Mono- and Di- Substituted Electron-Withdrawing Phenanthrolines."
Mark T. Tierney, Bobbi L. Ruben, and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-IC #435.
31. "Viability and Function of Encapsulated Islet Cells in a Polysaccharide Hydrogel Microcapsule."
Anne Pfister-Serres, Kimberly A. Smeds, Diane L. Hatchell, Peter Saloupis, and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-POLY #214.
32. "Synthesis and Characterization of Photocrosslinkable Polysaccharide Hydrogels."
Kimberly A. Smeds, Anne Pfister-Serres, Diane L. Hatchell, Peter Saloupis, and Mark W. Grinstaff
216th American Chemical Society, Boston, MA, **1998**. ACS-ABS-POLY #215.

33. "Automated Solid-Phase Synthesis of Metallo-Oligonucleotides."
Sheob I. Khan, Amy E. Beilstein, Xi Hu, Shamsa Sarwar, and Mark W. Grinstaff
33rd International Conference on Coordination Chemistry, Florence, Italy, **1998**. ABS #256T.
34. "Nonlinear Optical Structure-Property Relationships of Platinum Chromophores."
Mark W. Grinstaff, Alain Fort, Karl Base, and Mark T. Tierney.
33rd International Conference on Coordination Chemistry, Florence, Italy, **1998**. ABS #363T.
35. "Synthesis of Mono- and Di- Substituted Electron-Withdrawing Phenanthrolines."
Mark T. Tierney, Bobbi L. Ruben, and Mark W. Grinstaff
Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC,
1998. SERMACS-ABS, # 313.
36. "The Solid Phase Synthesis of Nucleoside Hydroxamic Acids for Metal Binding."
Shoeb I. Khan and Mark W. Grinstaff
Southeastern Regional Meeting of the American Chemical Society, Research Triangle Park, NC,
1998. SERMACS-ABS, # 300.
37. "Automated Solid-Phase Synthesis of Oligonucleotides Labeled with Transition Metals."
Mark W. Grinstaff, Amy E. Beilstein, Xi Hu, Gregory D. Smith, Milan Sykora, and Shoeb I. Khan
Metals in Biology Gordon Conference, Venture CA, **1999**, ABS #41.
38. "A Photopolymerized Sealant for Corneal Perforations."
Daijiro Miki, Anne Pfister-Serres, Kimberly A. Smeds, Kourosh A. Dastghie, Makoto Inoue,
Diane L. Hatchell, and Mark W. Grinstaff
ARVO Meeting, IOVS 40(4): 1802B710, Miami, FL, **1999**.
39. "Transplanting Corneal Grafts with a Laser Activated Polymer."
Brent C. White, C.L. Springs, Bruce C. Roberts, Anne Pfister-Serres, Mark W. Grinstaff, W.
Craig Fowler
ARVO Meeting, IOVS 40 (4): 3350B208, Miami, FL, **1999**.
40. "Automated Solid-Phase Synthesis and Photophysical Properties of Oligonucleotides Labeled
with Metal Diimine Complexes."
Mark W. Grinstaff, Amy E. Beilstein, Xi Hu, Mark T. Tierney, Gregory D. Smith, Milan
Sykora, and Shoeb I. Khan
International Conference on Bioinorganic Chemistry, Minneapolis, MN, **1999**.
41. "Synthesis and Excited State Properties of Novel Ruthenium Nucleosides and
Oligonucleotides."
Amy E. Beilstein, Shoeb I. Khan, and Mark W. Grinstaff
International Conference on Photochemistry, Durham, NC, **1999**, PS-146.
42. "Automated Solid-Phase Synthesis and Characterization of Fluorenone and Anthraquinone
Labeled Oligonucleotides."
Mark T. Tierney and Mark W. Grinstaff
International Conference on Photochemistry, Durham, NC, **1999**, PS-147.

43. "Synthesis and Excited State Properties of Novel Ruthenium Nucleosides."
Amy E. Beilstein, Shoeb I. Khan, Gregory D. Smith, Milan Sykora, and Mark W. Grinstaff
218th American Chemical Society, New Orleans, LA, **1999**. ACS-ABS-IC #398.
44. "Automated Solid-Phase Synthesis of Oligonucleotides Labeled with Ru(bpy)₃²⁺."
Xi Hu and Mark W. Grinstaff
218th American Chemical Society, New Orleans, LA, **1999**. ACS-ABS-IC #399.
45. "Automated Solid-Phase Synthesis of 5'-Terminal Labeled Metallo-Oligonucleotides."
Shoeb I. Khan and Mark W. Grinstaff
218th American Chemical Society, New Orleans, LA, **1999**. ACS-ABS-IC #400.
46. "Automated Solid-Phase Synthesis and Characterization of a N-(2-oxoethyl)-9-Fluorenone-4-Carboxamide-Modified Oligonucleotide."
Mark T. Tierney and Mark W. Grinstaff
218th American Chemical Society, New Orleans, LA, **1999**. ACS-ABS-IC #401.
47. "Synthesis and Electronic Properties of a Rhodium(III)-Labeled 2'-Deoxyuridine."
Mark T. Tierney and Mark W. Grinstaff
218th American Chemical Society, New Orleans, LA, **1999**. ACS-ABS-IC #402.
48. "On the Second-Order Nonlinear Optical Structure-Property Relationships of Metal Chromophores."
Karl Base, Mark T. Tierney, Alan Fort, and Mark W. Grinstaff
218th American Chemical Society, New Orleans, LA, **1999**. ACS-ABS-IC #474.
49. "Automated Solid-Phase Synthesis of Metallodendrons."
Mark T. Tierney and Mark W. Grinstaff
218th American Chemical Society, New Orleans, LA, **1999**. ACS-ABS-IC #473.
50. "Synthesis of Novel Hydrophilic Polymers."
Matthew J. Sheehy and Mark W. Grinstaff
1st Joint BMES/EMBS Meeting, Atlanta, GA, **1999**. BMES/EMBS page 733.
51. "Incorporation of Probes During Automated Solid-Phase Synthesis Using a Pd(0) Cross Coupling Reaction."
Shoeb I. Khan and Mark W. Grinstaff
International Symposium on Trends in Medicinal Chemistry and Biocatalysis, **2000**, New Delhi, India.
52. "Transplantation of Preadipocytes in Methacrylated Modified Hyaluronic Acid."
Nicole Kramer, Steven A. Brown, Kimberly A. Smeds, Mark W. Grinstaff, Scott L. Levin, and Bruce Klitzman
Plastic Surgery Council Meeting, Seattle, WA, **2000**.
53. "Probing the Electronic-Structure of Platinum(II) Chromophores: Six New Highly Soluble Bis and Di- Phenolate/Thiolate Pt(II) Diimine Chromophores."
Julia Weinsten, Mark T. Tierney, Karl Base, Anthony A. Ribeiro, and Mark W. Grinstaff
34th International Conference on Coordination Chemistry, Edinburgh, Scotland, **2000**, ICC 34, ABS #0204.

54. "Carbohydrosomes: Synthesis of a Novel Carbohydrate Based Supramolecular Structure."
Geoffrey S. Hird, Thomas J. McIntosh, and Mark W. Grinstaff
10th International Conference on Colloid and Interface Science, Bristol, UK, **2000**,
ABS BAP 32.
55. "Step-Scan FTIR Time-Resolved Spectroscopy of a Ruthenium Labeled 2'-Deoxyuridine."
Gregory D. Smith, Yu Lu, Mark W. Grinstaff, and Richard A. Palmer
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-IC #115.
56. "Ferrocene Phosphoramidites for Oligonucleotide Synthesis."
Amy E. Beilstein, and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-IC #127.
57. "Solid-Phase Synthesis and Photophysical Properties of DNA Labeled at the Nucleobase with a Ruthenium(II) Tris-Diimine Complex."
Shoeb I. Khan, Amy E. Beilstein, Mark T. Tierney, Mylan Sykora, and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-IC #131.
58. "Solid-Phase Synthesis and Photophysical Properties of Ruthenium Dendrimers."
Mark T. Tierney and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-IC #346.
59. "Automated Solid-Phase Synthesis of Linear Metallo-Assemblies."
Shaun S. Filocamo, Mark T. Tierney, and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-IC #348.
60. "Palladium(0) Catalyzed Modification of Oligonucleotide During Automated Solid-Phase Synthesis."
Shoeb I. Khan and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-ORG #067.
61. "Synthesis and Characterization of Phenothiazine-Labeled Oligodeoxynucleotides for DNA-Mediated Electron-Transfer Studies."
Xi Hu and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-ORG #390.
62. "Synthesis of Novel Hydrophilic Biopolymers."
Elisabeth B. Walsh, Mathew J. Sheehy, and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-POLY #319.
63. "Synthesis of Photocrosslinkable Biopolymers for In Situ Applications."
Kimberly A. Smeds and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-ABS-POLY #320.
64. "Kinetics of ROMP and Postmodification to Yield Hydrophilic Polymers."
Emile Thompson, Elisabeth B. Walsh, Mathew J. Sheehy, and Mark W. Grinstaff
220th American Chemical Society, Washington, DC, **2000**. ACS-SEED PROGRAM.
65. "Observation of the Electron-Transfer Product in a Ru(diimine)₃²⁺ and Phenothiazine Labeled

DNA Duplex."

Mark W. Grinstaff

U.S. National Academy of Sciences, Japanese-American Frontiers of Science, Arnold and Mabel Beckman Center, Irvine, CA **2000** (invited poster).

66. "Carbohydrosomes: A New Class of Potential Drug Delivery Vesicles."
Geoffrey S. Hird, Thomas J. McIntosh, and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2000**. ABS #NN5.9.
67. "A Novel Cationic Carbohydrate-Based Lipid for Gene Delivery."
Keeana S. Sajadi, Geoffrey S. Hird, and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2000**. ABS #NN5.2.
68. "A Polycarbonate of Glycerol."
William C. Ray and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2000**. ABS #NN5.7.
69. "Physical and Mechanical Properties of Photocrosslinked Hyaluronan for Biomedical Applications."
Kimberly A. Smeds and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2000**. ABS #LL5.3.
70. "Biodendrimers for Drug Delivery."
Michael A. Carnahan and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2000**. ABS #NN5.8.
71. "An Investigation of Phospholipase A₂ Activity Upon a Novel Carbohydrate Based Phospholipid."
Geoffrey S. Hird and Mark W. Grinstaff
221st American Chemical Society, San Diego, CA, **2001**. ACS-ABS-COLL #229.
72. "Synthesis of Poly(Lactic Acid) Biodendrimers."
Michael A. Carnahan and Mark W. Grinstaff
27th Biomaterials Annual Meeting, Saint Paul, MN, **2001**. ABS #556.
73. "A Novel Photopolymerization Fabrication Route to Macroporous Biomaterials."
Meredith T. Morgan and Mark W. Grinstaff
27th Biomaterials Annual Meeting, Saint Paul, MN, **2001**. ABS #444.
74. "Synthesis of a G3 Dendron for Biomedical Applications."
Kimberly A. Smeds and Mark W. Grinstaff
27th Biomaterials Annual Meeting, Saint Paul, MN, **2001**. ABS #557.
75. "Synthesis and Stability of Anthraquinone and Fluorenone, and Phenothiazine Labeled Oligodeoxynucleotides: Redox Probes for DNA-Mediated Charge-Transfer Studies."
Mark T. Tierney and Mark W. Grinstaff
National Organic Symposium, Bozeman, MT, **2001**. ABS #167.
76. "Biodendrimers for Tissue Engineering."
Mark W. Grinstaff

Gordon Conference: Biomaterials: Biocompatibility/Tissue Engineering, Plymouth, NH, **2001**.

77. "Biopolymers for Islet Transplantation."
Mark W. Grinstaff
Whitaker Foundation Meeting, La Jolla, CA, **2001**. ABS #B12
78. "DNA-Mediated Electron Transfer Across a Hydrogen-Bonding Interface."
Mark T. Tierney and Mark W. Grinstaff
222nd American Chemical Society, Chicago, IL, **2001**. ACS-ABS-INORG #106.
79. "Synthesis of a Polycarbonate of Glycerol."
William C. Ray III and Mark W. Grinstaff
222nd American Chemical Society, Chicago, IL, **2001**. ACS-ABS-POLY #408.
80. "Divergent Synthesis of Biodendrimers From Glycerol and Caproic Acid."
Meredith T. Morgan and Mark W. Grinstaff
222nd American Chemical Society, Chicago, IL, **2001**. ACS-ABS-POLY #426.
81. "Biologically Inspired Dendrimers Based on Glycerol and Succinic Acid."
Michael A. Carnahan and Mark W. Grinstaff
222nd American Chemical Society, Chicago, IL, **2001**. ACS-ABS-POLY #428.
82. "Cell Micropatterning Substrates via Two-Photon Induced Polymerization."
Elisabeth B. Walsh, Nicole H. Grynviski, and Mark W. Grinstaff
222nd American Chemical Society, Chicago, IL, **2001**. ACS-ABS-POLY #429.
83. "Development of a Photocrosslinkable Hyaluronan Hydrogel for Cartilage Repair."
Lawrence M. Boyd, Kimberly A. Smeds, Helawe Betre, Mark W. Grinstaff, and Lori A. Setton
BMES, RTP, NC, **2001**. ABS#
84. "One-photon and Multi-photon Cell Patterning."
Elisabeth Walsh and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2001**. ABS #GG1.7
85. "Biodendrimers: New Polymers for Medical Applications."
Mark W. Grinstaff
Johnson and Johnson Focused Giving Symposium, New Brunswick, NJ, **2001**.
86. "Charge Transfer in DNA: Single-Step Superexchange and Multi-Step Hopping in DNA."
Mark W. Grinstaff
Metals in Biology Gordon Conference, Venture CA, **2002**.
87. "Ru(diimine)₃²⁺ and Phenothiazine Chromophores for DNA Mediated Electron-Transfer Studies."
Mark W. Grinstaff, Amy E. Beilstein, Xi Hu, Richard A. Palmer, Shoeb I. Khan, Gregory D. Smith, Milan Sykora, Mark T. Tierney, and Yuri V. Ilichev
223rd American Chemical Society, Professor T. J. Meyer Poster Session, Orlando, FL, **2002**. ACS-ABS-INORG #129

88. "Poly(thiophene) Nanowires on a Silicon (111) Wafer."
Benjamin W. Maynor, Shaun F. Filocamo, Mark W. Grinstaff, and Jie Liu
223rd American Chemical Society, Orlando, FL, **2002**. ACS-ABS-PMES #156.
89. "¹⁹⁵Pt, ¹H, and ¹³C NMR of Structure and Dynamics in 6 Novel Platinum(II) Donor-Acceptor Chromophores."
Anthony A. Ribeiro, Karl Base, Mark T. Tierney, Julie Weinstein, and Mark W. Grinstaff
43rd Experimental NMR Conference, Pacific Grove, CA, 2002, ABS #108.
90. "Designing New Sealants for Ophthalmic Surgeries: Hybrid Linear-Biodendritic Copolymers."
Michael A. Carnahan and Mark W. Grinstaff
28th Biomaterials Annual Meeting, Tampa, FL, **2002**, ABS #568.
91. "Towards Improving Titanium Implant Integration using Interfacial Biomaterials."
Elisabeth B. Walsh, Daniel J. Kenan, and Mark W. Grinstaff
28th Biomaterials Annual Meeting, Tampa, FL, **2002**, ABS #578.
92. "Orthogonal Protecting Groups for the Synthesis of Biocompatible Block-Type Dendrimers."
Nathanael R. Luman and Mark W. Grinstaff
28th Biomaterials Annual Meeting, Tampa, FL, **2002**, ABS #652.
93. "Synthesis and Characterization of Copolycarbonate-esters of Glycerol and Lactic Acid."
William C. Ray III and Mark W. Grinstaff
28th Biomaterials Annual Meeting, Tampa, FL, **2002**, ABS #661.
94. "Novel Light Activated Tissue Adhesives for Repair of Linear Corneal Lacerations."
Crystan Middleton, Michael A. Carnahan, Jitek Kim, Paul Kang, Terry Kim, Mark W. Grinstaff
ARVO, **2002**, Ft. Lauderdale, FL, IOVS 40(4): 4169B138.
95. "Fabrication of Conducting Polymer Nanodevices by Electrochemical Dip-Pen Nanolithography."
Benjamin W. Maynor, Mark W. Grinstaff, and Jie Liu
224th American Chemical Society, Boston, MA, **2002**, ACS-ABS-I&EC #41.
96. "Characterization of Immobilized DNA Hairpins Containing Tethered Redox Probes."
Chad E. Immoos, Stephen Lee, and Mark W. Grinstaff
224th American Chemical Society, Boston, MA, **2002**, ACS-ABS-IC #104.
97. "Spectroscopic Investigation of the Microenvironment within Biodendrimers."
Merredith T. Morgan, Chad E. Immoos, Lovorka A. Degoricija, Michael A. Carnahan, Stephen J. Lee, and Mark W. Grinstaff
224th American Chemical Society, Boston, MA, **2002**, ACS-ABS-POLY#200.
98. "Electrochemical Dip-Pen Nanolithography of Aniline and Pyrrole."
Shaun F. Filocamo, Chad E. Immoos, Benjamin W. Maynor, Stephen J. Lee, Jie Liu, and Mark W. Grinstaff
224th American Chemical Society, Boston, MA, **2002**, ACS-ABS-POLY#235.
99. "Convergent Synthesis of Biodendritic-Linear Macromolecules from Glycerol, Succinic Acid,

and Poly(ethylene glycol)."

Kimberly A. Smeds, Nathanael R. Luman, and Mark W. Grinstaff
224th American Chemical Society, Boston, MA, **2002**, ACS-ABS-POLY#405.

100. "Multifunctional Peptides as Interfacial Biomaterials."
Elisabeth B. Walsh, Crystan Middleton, Matthew J. Davis, Daniel J. Kenan, and Mark W. Grinstaff
224th American Chemical Society, Boston, MA, **2002**, ACS-ABS-POLY#413.
101. "Photocrosslinkable Triblock Copolymers of Ethylene Glycol and Glycerol."
William C. Ray III and Mark W. Grinstaff
224th American Chemical Society, Boston, MA, **2002**, ACS-ABS-POLY#421.
102. "Toward the Synthesis of Tailored Dendrimers for Specific Applications."
Michael A. Carnahan and Mark W. Grinstaff
224th American Chemical Society, Boston, MA, **2002**, ACS-ABS-POLY#436.
103. "A Novel Laser Activated Tissue Adhesives for Corneal Surgery."
Crystan Middleton, Michael A. Carnahan, Paul Kang, Mark W. Grinstaff, and Terry Kim,
American Academy of Ophthalmology, Orlando, FL, **2002**, PO019
104. "Biodendrimers: New Polymers for Wound Management."
Mark W. Grinstaff
Johnson and Johnson Focused Giving Symposium, New Brunswick, NJ, **2002**.
105. "Synthèse de Nucléoamphiphiles Non-ioniques Dérivés de Sucres."
Jérôme Arigon, Jean-Michel Lacombe, Mark W. Grinstaff, and Philippe Barthelemy
XVIeme Journée de la Chimie SFC PACA, Marseille, France, **2003**.
106. "Synthèse et Caractérisation de Nucléosides Amphiphiles Dérivés de Phosphatidylcholine."
Louis Moreau Mohamed El Maatoui, Mark W. Grinstaff, and Philippe Barthélémy^{a)}
XVIeme Journée de la Chimie SFC PACA, Marseille, France, **2003**.
107. "Novel Bifunctional Peptides for Adhering Cells to PGA and Nylon."
Xin Huang, Kelly A. Kirkwold, Amy Salon, Daniel J. Kenan, Mark W. Grinstaff, and Laura Niklason
29th Biomaterials Annual Meeting, Biomaterial Surfaces and Interfaces, Reno, NV, **2003**. ABS# 413.
108. "Methacrylated Hybrid Linear-dendritic Copolymers from Poly(ethylene glycol), Succinic Acid, and Glycerol for In Situ Polymerization."
Micheal A. Carnahan, Lovorka Degoricija, and Mark W. Grinstaff
29th Biomaterials Annual Meeting, Biomaterials for In Situ Tissue Engineering, Reno, NV, **2003**. ABS# 432.
109. "Biodendrimers for In Situ Photopolymerization."
Mark W. Grinstaff, Michael A. Carnahan, Meredith T. Morgan, Nathanael R. Luman, Lovorka Degoricija, Chad E. Immoos, Michel Wathier, Stella Finkelstein, Paul Kang, Crystan Middleton, Andy Velazquez, and Terry Kim
29th Biomaterials Annual Meeting, Biomaterials for In Situ Tissue Engineering, Reno, NV, **2003**.

ABS# 433.

110. "Convergent Synthesis of Amphiphilic Dendrons From Glycerol, Succinic Acid, and Myristic Acid."
Nathanael R. Luman and Mark W. Grinstaff
29th Biomaterials Annual Meeting, Biomaterials for In Situ Tissue Engineering, Reno, NV, **2003**.
ABS# 546.
111. "Encapsulation of 10-Hydroxycamptothecin Within a Biodendrimer."
Meredith T. Morgan, Michael A. Carnahan, Chad E. Immoos, Anthony A. Ribeiro, Stephen J. Lee, and Mark W. Grinstaff
30th Annual Meeting and Exposition of the Controlled Release Society, Glasgow, Scotland, **2003**.
112. "Nucleo-amphiphiles for DNA Supramolecular Assemblies."
Philippe Barthelemy, S. A. Nadeem Hashmi, Benjamin W. Maynor, and Mark W. Grinstaff
39th IUPAC and 86th Conference of the Canadian Society of Chemistry, Ottawa, Canada, **2003**.
ABS# OR.10.P01.
113. "In Situ Biodendrimers for Tissue Engineered Articular Cartilage Repair." Mark W. Grinstaff, Serge Sontjens, Michael A. Carnahan, Dana I. Nettles, T. Parker Vail, and Lori A. Setton
Materials Research Society, Boston, MA, **2003**. ABS #F5.29.
114. "Affinities of Multifunctional Peptides Coatings for Polymeric and Metallic Surfaces."
Elisabeth B. Walsh, Woo Lee, Stefan Zauscher, Daniel J. Kenan, and Mark W. Grinstaff
Materials Research Society, Boston, MA, **2003**. ABS #F5.31.
115. "Transparent Hydrogels for Ophthalmic Surgeries."
Mark W. Grinstaff and Michel Wathier
Materials Research Society, Boston, MA, **2003**. ABS #F8.2.
116. "Interfacial Biomaterial Coatings for Engineered Human Blood Vessels."
Mark W. Grinstaff, Xin Huang, Amy Solan, Laura E. Niklason, and Daniel J. Kenan
Materials Research Society, Boston, MA, **2003**. ABS #F8.3.
117. "Synthesis of Glycosylated Amphiphiles."
Jérôme Arigon, Philippe Barthélémy, and Mark W. Grinstaff
IIèmes Journées Franco-Italiennes de la Chimie, Genova, Italia, **2004**.
118. "Hydrogels of DNA and Nucleoside-based Phosphocholine Amphiphiles."
Louis Moreau, Philippe Barthélémy, Mohamed El Maataoui, and Mark W. Grinstaff
227th American Chemical Society, Anaheim, CA, **2004**. ACS-ABS-BIOT #298.
119. "Neutral Nucleoside Amphiphiles for the Condensation of DNA."
Philippe Barthélémy, Carla A. H. Prata, Benjamin W. Maynor, Shaun F. Filocamo, Chad E. Immoos, and Mark W. Grinstaff
227th American Chemical Society, Anaheim, CA, **2004**. ACS-ABS-BIOT #299.
120. "Synthesis of Degradable, Cationic Biodendrimers for Gene Delivery."
Carla Prata, Nate Luman and Mark W. Grinstaff
227th American Chemical Society, Anaheim, CA, **2004**. ACS-ABS-BIOT #301.

121. "Cationic Nucleolipids for Transfection."
Pauline Chabaud, Michel Camplo, Guillaumne Serin, Louis Moreau, Philippe Barthélémy, and Mark W. Grinstaff
DNA Supramolecular Assemblies Workshop, Avignon, France **2004**.
122. "Phosphorylated Nucleoamphiphiles."
Nathalie Campins, Louis Moreau, Mark W. Grinstaff, and Philippe Barthélémy
DNA Supramolecular Assemblies Workshop, Avignon, France **2004**.
124. "Supramolecular Assemblies of Nucleoside Phosphocholine Amphiphiles."
Louis Moreau, Mark W. Grinstaff, Mohamed El Mataoui, and Philippe Barthélémy
DNA Supramolecular Assemblies Workshop, Avignon, France **2004**.
125. "Neutral Nucleoside Amphiphiles for DNA Condensation and DNA-Supramolecular Assemblies."
Chad E. Immoos, Philippe Barthélémy, Carla A. H. Prata, Shaun F. Filocamo, Benjamin W. Maynor, S. A. Nadeem Hashmi, Stephen J. Lee, and Mark W. Grinstaff
DNA Supramolecular Assemblies Workshop, Avignon, France **2004**.
126. "Glycosylated Nucleoamphiphiles."
Jérôme Arigon, Carla A. H. Prata, Mark W. Grinstaff, and Philippe Barthélémy
DNA Supramolecular Assemblies Workshop, Avignon, France **2004**.
127. "Design of Interfacial Biomaterials for Engineered Human Blood Vessels."
Xin Huang, Amy Solan, Mark W. Grinstaff, Daniel J. Kenan, Laura E. Niklason
Cardiovascular Tissue Engineering: From Basic Biology to Cell-Based Therapies, Hilton Head, SC **2004**.
128. "Preparation of Polymeric Nanostructures Using Electrochemical Dip-Pen Nanolithography."
Shaun F. Filocamo, Benjamin W. Maynor, Jie Liu, Chad E. Immoos, and Mark W. Grinstaff
6th Annual Northeast Student Chemistry Research Conference, Boston, MA **2004**.
129. "Biodendritic Amphiphiles."
Nathanael Luman and Mark W. Grinstaff
6th Annual Northeast Student Chemistry Research Conference, Boston, MA **2004**.
130. "NMR of Water Soluble Dendritic Molecular Capsules for Hydrophobic Compounds."
Meredith T. Morgan, Michael A. Carnahan, Chad E. Immoos, Anthony A. Ribeiro, and Mark W. Grinstaff
45th Experimental NMR conference, Asilomar, CA **2004**.
131. "DNA Wrap Assays: Redox-Active DNA-PEG Triblock Macromolecules for Electrochemical Gene Detection."
Chad E. Immoos, Stephen J. Lee, Mark W. Grinstaff
228nd American Chemical Society, Philadelphia, PA, **2004**. ACS-ABS-INOR #104.
132. "Physical and Mechanical Properties of Poly(glycerol-succinic acid-ethylene glycol) Hyperbranched Polymers."
Steve R. Meyers and Mark W. Grinstaff

- 228nd American Chemical Society, *Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications*, Philadelphia, PA, **2004**. ACS-ABS-POLY #317.
133. “Evaluation of Lysine Dendrons for Self-crosslinking Hydrogels.”
Michel C. Wathier, Abigail M. Oelker, and Mark W. Grinstaff
228nd American Chemical Society, *Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications*, Philadelphia, PA, **2004**. ACS-ABS-POLY #330.
134. “FRAP Measurement of Diffusion Coefficients in Hydrogels.”
Steve R. Meyers, Jessica Kaufman, Abigail M. Oelker, and Mark W. Grinstaff
228nd American Chemical Society, *Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications*, Philadelphia, PA, **2004**. ACS-ABS-POLY #338.
135. “Synthesis and Characterization of Bola-type Biodendrimers Derived from Poly(ethylene glycol), Succinic Acid, and Glycerol.”
Lovorka Degoricija and Mark W. Grinstaff
228nd American Chemical Society, *Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications*, Philadelphia, PA, **2004**. ACS-ABS-POLY #352.
136. “Self-gelling Polymers for the Repair of Cornea Lacerations.”
Michel C. Wathier, Pil J. Jung, Terry Kim, and Mark W. Grinstaff
228nd American Chemical Society, *Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications*, Philadelphia, PA, **2004**. ACS-ABS-POLY #377.
137. “Cationic Amphiphilic Biodendrimers for Gene Delivery.”
Carla A. H. Prata, Nathanael R. Luman, and Mark W. Grinstaff
228nd American Chemical Society, *Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications*, Philadelphia, PA, **2004**. ACS-ABS-POLY #408.
138. “Endothelialization of Polymer and Metal Substrates.”
Steven R. Meyers, Elizabeth B. Walsh, Peggy Day, Daniel J. Kenan, Mark W. Grinstaff
30th Biomaterials Annual Meeting, Memphis, USA, **2005**. ABS# 518.
139. “Biodendrimer-based Scaffolds for Cartilage Repair.”
Lovorka Degoricija, Serge Sontjens, Mark W. Grinstaff
30th Biomaterials Annual Meeting, Memphis, USA, **2005**. ABS# 438.
140. “Hydrogels Composed Of Dendritic Macromers For Drug Delivery.”
Aaron P. Griset, Michel Wathier, Steven R. Meyers, Mark W. Grinstaff
30th Biomaterials Annual Meeting, Memphis, USA, **2005**. ABS# 630.
141. “Nucleoside Phosphocholine Amphiphiles for In Vitro DNA Transfection.”
Louis Moreau, Mark W. Grinstaff, and Philippe Barthélémy
229th American Chemical Society, *Surfactant Self-Assembly: Functionalizing Surfactants*, San Diego, CA, **2005**. ACS-ABS-COLL #338.
142. “Mechanical Properties of Peptide-Based Dendron Hydrogels.”
Abigail M. Oelker, Michel C. Wathier, and Mark W. Grinstaff
BU Science and Engineering Day, Boston, MA, **2005**.

143. "Endothelialization of Polymer and Metal Substrates."
Steven R. Meyers, Elizabeth B. Walsh, Peggy Day, Daniel J. Kenan, and Mark W. Grinstaff
BU Science and Engineering Day, Boston, MA, **2005**.
144. "Dendrimer Hydrogels as New Alternatives for the Repair of Clear Corneal Incisions."
Michel Wathier, Michael A. Carnahan, Pil Jung, Terry Kim, and Mark W. Grinstaff
The Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL, **2005**. # 4993
145. "Dendritic Adhesives to Secure Laser in situ Keratomileusis Flaps."
Mark W. Grinstaff, Paul C. Kang, Michel Wathier, Michael A. Carnahan, and Terry Kim
The Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL, **2005**. # 4995
146. "A Novel Biodendritic Adhesive for Sutureless Vitreous Surgeries: In Vitro Studies of Wound Strength."
C. Starck Johnson, Michel Wathier, Michael A. Carnahan, Mark W. Grinstaff, and Terry Kim
The Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL, **2005**. #5443.
147. "Nucleolipids as Tools for Supramolecular Architectures."
Louis Moreau, Mark W. Grinstaff, Mohamed El Mataoui, Fabio Ziarelli, and Philippe Barthélémy
Physical-chemical Foundations of High Technologies of XXIst Century, Russian Academy of Sciences, Moscow, Russia. **2005**.
148. "Charge-reversal Lipids for Gene Transfection."
Carla A. H. Prata, Philippe Barthélémy, Yougen Li, Dan Luo, Thomas J. McIntosh, and Mark W. Grinstaff
American Society of Gene Therapy, Baltimore, MD, **2006**. # 527.
149. "Charge Switchable Helper Lipids for Gene Delivery."
Carla A. H. Prata, Yougen Li, Dan Luo, Thomas J. McIntosh, and Mark W. Grinstaff
American Society of Gene Therapy, Baltimore, MD, **2006**. #636.
150. "Non-viral Charge Reversal Vectors for Nucleic Acids Delivery,"
33rd Annual Meeting of the Controlled Release Society, Vienna, Austria, **2006**.
151. "Immobilized Hydrogels for High Throughput Screening."
Michel Wathier, Melissa Dominguez, Scott E. Schaus, and Mark W. Grinstaff
IBCs 11th Annual World Congress, Boston, MA, **2006**.
152. "In-situ Adsorption Behavior of Interfacial Biomaterials for Mediating Cell-Substrate Interactions."
Xiaojuan Khoo and Mark W. Grinstaff
QCM-D World Conference, Boston, MA, **2006**.

Popular Press:

Our research has been featured in several local and national popular news magazines and journals.

1. "Protein Microspheres Via Ultrasound." *Chemical & Engineering News*, October 15, **1990**.
2. "Make Medical Imaging Effervesce." *Science News*, September 28, **1991**.

3. "Sonic Boon." *The Economist*, October 5, **1991**.
4. "Ultrasound Proves To Be A Versatile Tool For Chemist." *Chemical & Engineering News*, October 7, **1991**.
5. "Chemistry: Putting Good Vibrations to Work." *The Washington Post*, October 7, **1991**.
6. "Hot-spot Bubbles Ease Glassmaking." *Science News*, October 19, **1991**.
7. "Light Comes from Ultrasonic Cavitation in Picosecond Pulses." *Physics Today*, November 17, **1991**.
8. "Firewater, Ultrasound and Energy." *Engineering World*, June 4, **1992**.
9. "Nobel Laureate Signature Award for Graduate Education in Chemistry." *Chemical & Engineering News*, October 11, **1993**.
10. "Diabetes Treatment: Encapsulated Cells Make Insulin in Patient." *Chemical & Engineering News*, March 21, **1994**.
11. "A Wrap for Diabetics." *Duke Dialogue*, November 20, **1998**.
12. "Sugar Coated Cells That Make Insulin." *Business Week*, November 23, **1998**.
13. "Interdisciplinary Research at Duke." *Channel WB22*, 10:00 pm News, November 25, **1998**.
14. "Research Break: High School Outreach Program in Chemistry." *Duke Dialogue*, April 16, **1999**.
15. "Oligonucleotides Modified During Solid-Phase Synthesis." *Chemical & Engineering News*, May 24, **1999**.
16. "DNA Conductance Convergence." *Chemical & Engineering News*, August 23, **1999**.
17. "New Materials for Drug Delivery." *Chemical & Engineering News*, September 18, **2000**.
18. "Custom-Made Biomaterials." *Chemical & Engineering News*, February 5, **2001**.
19. "Biocompatible Dendrimers Raise Implant Tech to New High." *High-Tech Materials Alert*, March 9, **2001**.
20. "Dendrimers Broaden List of Biomaterials." *Chemical & Engineering News*, April 2, **2001**.
21. "Seventh Annual Gilbert Awards Announced-Michael A. Carnahan." *Chemical & Engineering News*, June 11, **2001**.
22. "Use of Glue-Like Polymers Shows Medical Promise." *Duke Dialogue*, September 10, **2001**.
23. "Conducting Polymer Nanowires Created." *Chemical & Engineering News*, January 7, **2002**.
24. "Biodendrimer Seals Wounds in Corneas." *Chemical & Engineering News*, May 13, **2002**.
25. "Here's Looking at You, Kid." *Science, Editors' Choice*, May 24, **2002**.
26. "Dendritic-linear Polymers Can Seal Corneal Lacerations." *Chemistry.org*, July 1, **2002**.
27. "Liquid Knee Repair Possible." *Betterhumans.com*, March 9, **2004**.
28. "New Dendritic Adhesives for Sutureless Ophthalmic Surgical Procedures." *Archives of Ophthalmology: Highlights From This Issue*, June 1, **2004**.
29. "Velcro Therapy." *Science News*, July 31, **2004**.
30. "Cartilage Heal Thyself." *NIBIBeAdvances*, August 2, **2004**.
31. "Dendritic Hydrogels Go Easy on the Eyes." *Chemical & Engineering News*, September 27, **2004**.
32. "Research Briefs-Delivering the Goods for Gene Therapy." *B.U. Bridge*, October 8, **2004**.
33. "Glue-Like Polymer Could Replace Sutures Used for Cataract Surgery." *MedicalNewsToday.com*, October 9, **2004**.
34. "I Can See Clearly Now." *Reactive Reports, Chemistry WebMagazine*, October, **2004**.
35. "Branching Polymer Could Heal Cataract Wounds." *Science News*, October 23, **2004**.
36. "Sealing Corneal Incisions With a Drop of Chemistry." *Science Daily*, October, **2004**.
37. "Sealing corneal incisions With a Drop of Chemistry." www.ChemLin.de, October **2004**.
38. "Sealing corneal incisions With a Drop of Chemistry." www.Scienceblog.com, October **2004**.
39. "BME Professor Mark Grinstaff Receives Funding for Eye Surgery Development." *MSNBC*, December, **2004**.

40. "Dendritic Macromer Replaces Sutures in Cataract Surgery." *Research Advances, J. Chem. Ed.*, March, **2005**.
41. "Site Miners Will Match Medicine and Engineering: New Program Spots Potential for Life-Saving Collaborations." *BU Today*, January, **2006**.
42. "Site Miners Match Medicine and Engineering." *BMC MedCenter News*, February, **2006**.
43. "BU, BMC, Join Consortium of Experts." *BMC MedCenter News*, March, **2006**.
44. "Ideas and People behind the Coulter Awards." *BU Today*, April, **2006**.
45. "Nanotechnology: Small is the New Big." *Bostonia*, Summer, **2006**.
46. "Eye Glue Debut." *Chemistry World, RSC*, July, **2006**.
47. "Progress on a Bio-Glue for Cornea Surgery." *Medical News Today*, August, **2006**.
48. "Is Suture-Free Penetrating Keratoplasty Possible?" *Cataract and Refractive Surgery Journal*, August, **2006**.
49. "Bridging the Gap: Improving Corneal Repair." *Review of Ophthalmology*, September **2006**.
50. "Setting the Course for BU: New strategic planning framework stresses unity." *BU Today*, December, **2006**.

Awards/Honors of Undergraduate Students:

National

Keeana Sajadi, *Glaxo Summer Undergraduate Fellowship*, **2000**.

University

Melissa Dubowski, *Top-Ten List of Presenters for BME day*, **2005**.

Awards/Honors of Graduate Students:

University

Kimberly A. Smeds, *Amoco Foundation Fellowship*, **1998**.

Mark T. Tierney, *Charles K. Bradsher Fellowship*, **1998**.

Mark T. Tierney, *Joe Taylor Adams Fellowship*, **2000**.

Michael A. Carnahan, *Burroughs Wellcome Fellowship*, **2000**.

Xi Hu, *W. C. Brown Fellowship*, **2000**.

James A. Parise Jr., *Pelham Wilder Jr. Teaching Award*, **2002**.

State

Michael C. Carnahan, *Richard D. Gilbert Award in Polymer Science*, **2001**.

National

Elisabeth B. Walsh, *MRS Travel Award*, **2001**.

Xiaojuan Khoo, *Best Poster Award*, QCM-D World Conference, Boston, MA, **2006**

Professional Activities:

Session Chairman, *NSF Materials Workshop III*, San Jose, CA, **1995**.

Session Chairman, *ACS Meeting Inorganic Section (Exxon Award)*, Boston, MA, **1998**.

Co-Organizer, *Workshop on Nanoscience for the Soldier*, Research Triangle Park, NC, **2001**.

Duke Representative for Science Day 2001, Sponsored by The Science Coalition, Washington, DC, **2001** (met with Congressmen Price and Etheridge and the science advisors of Congressman Taylor, Senators Helms and Edwards).

Faculty of 1000: Chemical Biology Members: Macromolecular Chemistry, **2001**;

Heads of Section: Eric Kool (USA) and Laura Kiessling (USA);

Faculty Members: Benjamin Cravatt (USA), Mark Grinstaff (USA), Brent Iverson (USA), Thisbe K. Lindhorst (Germany), Tom Muir (USA), Michael

Pirrung (USA), Peter Seeberger (USA), Bradley Smith (USA), Dipankar Sen (Canada), Suzanne Walker (USA), Ross Weatherman (USA), & Eric Westhof (France)

Co-Organizer with the Army Research Laboratory, *Workshop on Biotechnology for the Soldier*, Research Triangle Park, NC, **2002**.

Reviewer for the Biophysical and Chemical Sciences Review Group (F04), National Institutes of Health, **2002**.

Co-Organizer, *Nanoscale Sensing: Why and How?*, ACS Meeting, New Orleans, LA, **2003**.

Reviewer for the Special Emphasis Panel (ZRG1 SSS2(2) 55), National Institutes of Health, DC, **2003**.

Co-Organizer, *DNA Supramolecular Assemblies Workshop*, Avignon, France **2004**.

Reviewer for the Minority Predoctoral Fellowships, NIH F31 Study Section, DC, **2006**

Chair, *IEEE 2006 Conference, Symposium on Novel Carriers for Drug and Gene Delivery*, New York, NY **2006**.

Co-Organizer, *DNA Supramolecular Assemblies II Workshop*, Bordeaux, France **2006**.

Scientific Workshops and Symposiums:

NSF Materials Workshop III, San Jose, CA, **1995**.

NSF Materials Workshop V, Pasadena, CA, **1997**.

JDFI/NASA Islet Cell Transplantation Workshop, Washington, DC, **1997**.

NSF Inorganometallic Workshop, Knoxville, TN, **1998**.

1st Annual Novartis Science Symposium, Greensboro, NC, **1999**.

U.S. National Academy of Sciences, Japanese-American Frontiers of Science, Irvine, CA **2000**.

NSF Materials Workshop VIII, Portland, OR, **2000**.

Surgical Applications of Tissue Sealants, Chicago, IL **2000**.

24th Asilomar Conference on Polymeric Materials, Pacific Grove, CA, **2001**.

Workshop on Nanoscience for the Soldier, Research Triangle Park, NC, **2001**.

Workshop on Nanobiotechnology for the Soldier, Research Triangle Park, NC, **2002**.

JST/NAS International Interdisciplinary Research Exchange Symposium, Tokyo, Japan **2002**.

Nanoscale Sensing: Why and How, ACS Meeting, New Orleans, LA, **2003**.

VIIth American German Polymer Symposium, Bayreuth, Germany, **2003**.

DNA Supramolecular Assemblies Workshop, Avignon, France **2004**.

ACS Symposium on Functional Polymers and Dendrimers-From Synthesis to Applications, Philadelphia, PA, **2004**.

Glaucoma Foundation Think Tank Meeting, New York, NY, **2005**.

Fourth International Dendrimer Symposium, Mount Pleasant, MI, **2005**.

Symposium on Novel Carriers for Drug and Gene Delivery, IEEE Conference, NY, **2006**.

DNA Supramolecular Assemblies II Workshop, Bordeaux, France **2006**.

Society Memberships:

Phi Lambda Upsilon (1989 -)

Alpha Chi Sigma (1985 -)

American Chemical Society (1985 -)

Materials Research Society (2001 -)

Society for Biomaterials (2001 -)

College and High School Outreach Programs:

Carolinas-Ohio Science Education Network "Research Experience in Science and Mathematics" (1998-2000). Myself and two graduate students participated in this program.

Duke Chemistry High School Outreach Program (1999 - 2003; Principal Investigator/Director of the Program; NSF Career Award).

Project Seed NC Local Section Program (1996 - 2002). Myself and one graduate student have participated in the program which is focused on disadvantaged local high school students.

Undergraduate Courses Taught:

Duke University

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|---------------|--|
| Chemistry 23 | Advanced General Chemistry (Fall 1997 ; 146 students) |
| Chemistry 191 | Undergraduate Research (1997 - 2003) |
| Chemistry 23 | Advanced General Chemistry (Fall 1998 ; 146 students) |
| Chemistry 23 | Advanced General Chemistry (Fall 1999 ; 162 students) |
| Chemistry 22 | General Chemistry (Spring 2002 ; 180 students) |
| Chemistry 117 | Inorganic Chemistry (Spring 1997 ; 23 students) |

Boston University

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| Chemistry 102 | General Chemistry (Spring 2004 ; 130 students) |
| Chemistry 102 | General Chemistry (Spring 2005 ; 166 students) |
| Chemistry 102 | General Chemistry (Spring 2006 ; 221 students) |

Graduate Courses Taught:

Duke University

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|---------------------|---|
| Chemistry 201.2 | Biological Chemistry I. Proteins and Enzymes (Fall 1996 ; 14 students) |
| Chemistry 399 | Graduate Research (1997 - 2003) |
| Chemistry 314 | Reaction Mechanisms/Bioinorganic Chemistry (Spring 1999 ; 3 students) |
| Chemistry 324 | Bioinorganic Chemistry (Spring 2001 ; 4 students) |
| Chemistry 324 | Bioinorganic Chemistry (Spring 2002 ; 6 students) |
| Chemistry 374 | Student Seminars on Research Topics (Spring 1998 ; 12 students) |
| Chemistry 321 | Physical Inorganic Chemistry (Fall 2002 ; 7 students) |
| Biomedical Eng. 265 | Biological Material Science (Fall 1997 ; 3 lectures) |

Boston University

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| Chemistry 902 | Graduate Research (2003 -) |
| Biomedical Eng. 900 | Graduate Research (2003 -) |
| Biomedical Eng. 732 | Biomaterials: Principles of Tissue Engineering (Fall 2003 ; 3 lectures) |
| Biomedical Eng. 726 | Biomaterials I (Fall 2004 ; 33 students) |
| Biomedical Eng. 727 | Biomaterials II (Spring 2005 ; 20 students) |
| Biomedical Eng. 726 | Biomaterials I (Fall 2005 ; 26 students) |
| Biomedical Eng. 727 | Biomaterials II (Spring 2006 ; 24 students) |

Departmental and University Service:

Duke University

Departmental

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|---------------------------------------|--------------------|
| Graduate Admissions Committee | 1996 - 1999 |
| Graduate Recruiting Committee (Chair) | 1996 - 2001 |

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|---|--------------------|
| Assistant Professor Organic Faculty Search Committee | 1996 - 1997 |
| First-Year Program and Infrastructure for Undergraduates Committee | 1997 - 1998 |
| Biological Chemistry Graduate Recruiting Committee | 1997 - 2000 |
| Graduate Awards Committee | 1999 - 2000 |
| Steering Committee for the NIH Cellular & Biosurface Engineering | 1999 - 2000 |
| Assistant Professor Biomedical Engineering Faculty Search Committee | 1999 - 2000 |
| Secondary Appointment Committee | 2000 - 2002 |
| Ocular Pharmacologist Search Committee | 2000 - 2001 |
| <i>University</i> | |
| Science and Engineering Advisory Committee | 2000 - 2001 |
| Office of Science and Technology Review Committee | 2002 - 2003 |
| <i>Boston University</i> | |
| <i>Departmental</i> | |
| Graduate Admissions Committee – CH | 2003 - |
| Graduate Affairs Committee – CH | 2003 - |
| Research Support Services Committee – CH | 2003 - 2004 |
| Associate Chair of Graduate Affairs – CH | 2004 - |
| Chairs Advisory Committee – CH | 2004 - 2005 |
| Chairs Advisory Committee – CH | 2006 - |
| Alumni News Letter Committee - CH | 2004 - 2006 |
| Chair of the NMR Use Committee - CH | 2004 - 2005 |
| Graduate Program Committee – BME | 2005 - |
| Chair of the Biomaterials Faculty Search Committee - BME | 2005 - |
| Tenure Review Committee for Professor Schaus - CH | 2005 - 2006 |
| Chair of the Biological Chemistry Faculty Search Committee - CH | 2006 - |
| Undergraduate Affairs Committee - BME | 2006 - |
| <i>University</i> | |
| Chemical Instrumentation Center, Steering Committee | 2004 - 2006 |
| Charles River Campus Patent Committee | 2005 - |
| BU Internal Fellowship Review | 2005 |

External Funding:

Current Funding

| | |
|--|---------------------------------|
| NIH R21 Nanoscale Functional Dendrimer-DNA Assemblies | 12/01/06-11/31/09 \$425,000 |
| NIH R01 "Ophthalmic Sealants II: Dendritic Biomaterials for Repair of Ocular Wounds" | 9/1/06 - 8/31/09 \$600,000 |
| NIH R01 "Reversing Electrostatic Interactions with DNA" With Professor Dan Luo | 7/1/06 - 6/30/10 \$1,400,000 |
| Center for Integration of Medicine and Innovative Technology (CIMIT) "Preparation and Evaluation of Functional Nanospheres" | 9/1/06 – 8/31/07 \$25,000 |
| Massachusetts Technology Transfer Center 2006 Assessment Awards "Viscoelastic Ionic liquids" | 9/1/06 - 8/30/07 \$5,000 |
| Coulter Foundation Translational Award "Polysaccharide Surrogates" | 4/1/06 – 3/28/07 \$30,000 |
| Boston University Technology Development Award "In Vitro Gene Transfection Reagents" | 1/1/06 – 12/31/06 \$30,000 |
| NSF Instrumentation "AFM for Biological Imaging and Lithography" With Professor Cathie Klapperich | 7/1/05 - 6/30/06 \$168,700 |
| NIH R01 "Interfacial Biomaterials" With Professors Daniel Kenan and Laura Niklason | 7/1/03 - 6/30/07 \$1,800,000 |