Curriculum Vitae

John B. Matson

Virginia Tech
Department of Chemistry
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PROFESSIONAL POSITIONS

Virginia Tech — Blacksburg, VA
- Associate Professor — 2018-present
- Assistant Professor — 2012-2018

EDUCATION and TRAINING

Northwestern University — Chicago, IL
- *Postdoctoral Fellow* — 2009-2012
- Advisor: Samuel I. Stupp

California Institute of Technology — Pasadena, CA
- *Ph.D.* (defended Sept. 4, 2009; awarded June 10, 2010) — 2004-2009
- Advisor: Robert H. Grubbs
- Thesis: Applications and extensions of living ring-opening metathesis polymerization

Washington University in St. Louis — St. Louis, MO
- *A.B.* (awarded May 10, 2004) — 2000-2004
- Majors: Chemistry and German
- Summa Cum Laude
- Research Advisor: Karen L. Wooley

AWARDS/HONORS

Humboldt Research Fellowship for Experienced Researchers (Germany)	2020
John C. Schug Research Award (Virginia Tech Department of Chemistry)	2019
Thieme Chemistry Journal Award	2019
Camille Dreyfus Teacher-Scholar Award	2018
ACS PMSE Division Young Investigator Award	2018
Virginia Tech nominee for SCHEV Rising Star Award	2017
Jimmy W. Viers Teaching Award (Virginia Tech Department of Chemistry)	2016
NSF CAREER Award	2015
3M Non-Tenured Faculty Award	2015
Ralph E. Powe Junior Faculty Enhancement Award	2014
ACS Petroleum Research Fund Doctoral New Investigator Award	2014
NIH National Research Service Award (NRSA) Postdoctoral Fellowship	2011
Kemin Travel Award to ACS Meeting	2011
Baxter Early Career Development Fellowship Award in Bioengineering	2009
ACS POLY Division Excellence in Graduate Polymer Research Award	2009
NSF Travel Grant to NATO Advanced Study Institute	2008
Dow Travel Fellowship	2007

JOURNAL PUBLICATIONS (PEER-REVIEWED)

†denotes co-first author publications
*denotes corresponding author(s)

As PI at Virginia Tech

Submitted/In review/In revision

73. Carrazzone, R. J.: Li, X.; Foster, J. C.; Wall, C. E.; Esker, A. R.; Madsen, L. A.*; **Matson, J. B.*** "Strong Variation of Micelle–Unimer Coexistence as a Function of Core Chain Mobility" **2020**, *submitted*.

72. Dillon, K. M.; Powell, C. R.; Morrison, H. A.; Carrazzone, R. J.; Ringel-Scaia, V. M.; Winckler, E. W.; Council-Trouche, R. M.; Allen, I. C.*; **Matson, J. B.*** "Tissue-specific persulfide delivery to the gut: Effects on the microbiome" **2020**, *submitted*.

71. Shmidov, Y.; Zhu, Y.; **Matson, J.B.***; Bitton, R.* "Effect of Crosslinker Topology on Enzymatic Degradation of Hydrogels" **2020**, *in revision*.

70. Wang, Y.; An, Y. Shmidov, Y.; Bitton, R.; Deshmukh, S. A.; **Matson, J. B.*** "A combined experimental and computational approach reveals how aromatic peptide amphiphiles self-assemble to form ion-conducting nanohelices" **2020**, *in revision*.

Accepted

69. Wang, Y.; Dillon, K. D.; Li, Z.; Winckler, E. W.; **Matson, J. B.*** "Alleviating cellular oxidative stress through treatment with superoxide-triggered persulfide prodrugs" *Angew. Chem. Int. Ed.* **2020**, *accepted*. doi: 10.1002/anie.202006656

In Press

Published

68. Dillon, K. M.; Carrazzone, R. J.; **Matson, J. B.***; Kashfi, K.* "The evolving landscape for cellular nitric oxide and hydrogen sulfide delivery systems: A new era of customized medications" *Biochem. Pharmacol.* **2020**, *176*, 113931. doi: 10.1016/j.bcp.2020.113931.

67. Wang, Y.; Yang, X.; Liu, T.; Li, Z.; Leskauskas, D.; Liu, G.; **Matson, J. B.*** "Molecular-level control over plasmonic properties in silver nanoparticle/self-assembling peptide hybrids" *J. Am. Chem. Soc.*, **2020**, *142*, 9158-9162. doi: 10.1021/jacs.0c03672

66. Qian, Y.; Altamimi, A.; Alston, S. Y.; Sarkar, S.; Cochran, M.; Zhou, M.; Levi-Polyachenko, N.*; **Matson, J. B.*** "H_2S-Releasing Amphiphilic Dipeptide Hydrogels Are Potent *S. aureus* Biofilm Disruptors" *Biomater. Sci.* **2020**, *8*, 2564-2576. doi: 10.1039/d0bm00241k.

65. Dillon, K. M.; Carrazzone, R. J.; Wang, Y.; Powell, C. R.; **Matson, J. B.*** "Polymeric persulfide prodrugs: Mitigating oxidative stress through controlled delivery of reactive sulfur species" *ACS Macro Lett.* **2020**, *9*, 606-612. doi: 10.1021/acsmacrolett.0c00118

64. Abetz, V.; Chan, C. H.; Luscombe, C. K.*; **Matson, J. B**.; Merna, J. Nakano, T.; Raus, G.; Russell, G. T.* "Quo Vadis, Macromolecular Science? Reflections by the IUPAC Polymer Division on the Occasion of the Staudinger Centenary" *Isr. J. Chem.* **2020**, *60*, 9-19. doi: 10.1002/ijch.201900182

63. Kaur, K.; Wang, Y.; **Matson, J. B.*** "Linker-Regulated H_2S Release from Aromatic Peptide Amphiphile Hydrogels" *Biomacromolecules*, **2020**, *21*, 3, 1171-1178. doi: 10.1021/acs.biomac.9b01600

62. Okyere, B.; Mills, W. A.; Wang, X.; Chen, M.; Chen, J.; Hazy, A.; Qian, Y.; **Matson, J. B.**; Theus, M. H.* "EphA4/Tie2 Crosstalk Regulates Leptomeningeal Collateral Remodeling Following Ischemic Stroke" *J. Clin. Investig*. **2020**, *130*, 1025-1035. doi: 10.1172/jci131493

61. Zhou, M.; Qian, Y.; Zhu, Y.; **Matson, J. B.*** "Elastase-triggered H_2S delivery from polymer hydrogels" *Chem. Commun.* **2020**, *56*, 1085-1088. doi: 10.1039/c9cc08752d

60. Volokhova, A.; Edgar, K. J.; **Matson, J. B.*** "Polysaccharide-containing block copolymers: Synthesis and applications" *Mater. Chem. Front.* **2020**, *4*, 99-112. doi: 10.1039/c9qm00481e

59. Kaur, K.; Carrazzone, R. J.; **Matson, J. B.*** "The Benefits of Macromolecular/Supramolecular Approaches in H_2S Delivery: A Review of Polymeric and Self-Assembled H_2S Donors" *Antioxid. Redox Signal.* **2020**, *32*, 79-95. doi: 10.1089/ars.2019.7864

58. Kowalski, E. A.; Chen, J.; Hazy, A.; Fritsch, L. E.; Gudenschwager-Basso, E. K.; Chen, M.; Wang, X.; Qian, Y.; Zhou, M.; Byerly, M.; Pickrell A. M.; **Matson, J. B.**; Allen, I. C.; Theus, M. H.* "Peripheral Loss of EphA4 Ameliorates TBI-Induced Neuroinflammation and Tissue Damage" *J. Neuroinflammation* **2019**, 210. doi: 10.1186/s12974-019-1605-2

57. Wang, Y.; **Matson, J. B.*** "Supramolecular nanostructures with tunable donor loading for controlled H_2S release" *ACS Appl. Bio Mater.* **2019**, *2*, 5093-5098. doi: 10.1021/acsabm.9b00768

56. Longchamp, A.; Kaur, K.; Macabrey, D.; Dubuis, C.; Corpataux, J. M.; Déglise, S.; **Matson, J. B.***; Allagnat, F.* "H_2S-releasing peptide hydrogel limits the development of intimal hyperplasia in human vein segments" *Acta Biomater.* **2019**, *97*, 374-384. doi: 10.1016/j.actbio.2019.07.042

55. Yang, K.; Liu, Y.; Wang, Y.; Ren, Q.; Guo, H.; **Matson, J. B.**; Chen, X.; Nie, Z. "Enzyme-induced in-vivo assembly of gold nanoparticles for imaging-guided synergistic chemo-photothermal therapy of tumor" *Biomaterials* **2019**, *223*, 119460. doi: 10.1016/j.biomaterials.2019.119460

54. Powell, C. R.; Kaur, K.; Dillon, K. M.; Zhou, M.; Alaboalirat, M.; **Matson, J. B.*** "Functional N-substituted *N*-thiocarboxyanhydrides as Modular Tools for Constructing H_2S Donor Conjugates" *ACS Chem. Biol.* **2019**, *14*, 1129-1134. doi: 10.1021/acschembio.9b00248

53. Powell, C. R.; Foster, J. C.; Kaur. K.; Swilley, S. N.; Scannelli, S. J.; Troya, D.; **Matson, J. B.*** "Self-Amplified Depolymerization of Oligo(thiourethanes) for the Release of COS/H_2S" *Polym. Chem.* **2019**, *10*, 2991-2995. doi: 10.1039/c9py00354A
****Polymer Chemistry* Pioneering Investigators 2019 special issue*

52. Volokhova, A. S.; Waugh, J. B.; **Matson, J. B.*** "Effects of Graft Polymer Compatibilizers in Blends of Cellulose Triacetate and Polylactic Acid" *Polym. Int.* **2019**, *68*, 1263-1270. doi: 10.1002/pi.5820.
**Polymers for Biology, Medicine and Sustainability special issue

51. Arrington, K. J.; Haag, J. V.; French, E.; Murayama, M.; Edgar, K. J.; **Matson, J. B.*** "Toughening Cellulose: Compatibilizing Polybutadiene and Cellulose Triacetate Blends" *ACS Macro Lett.*, **2019**, *8*, 447-453. doi: 10.1021/acsmacrolett.9b00136

50. Foster, J. C.; Carrazzone, R. C.; Spear, N. J.; Radzinski, S. C.; Arrington, K. J.; **Matson, J. B.*** "Tuning H_2S Release by Controlling Mobility in a Micelle Core" *Macromolecules*, **2019**, *52*, 1104-1111. doi: 10.1021/acs.macromol.8b02315

49. Qian, Y.; Kaur, K.; Foster, J. C.; **Matson, J. B.*** "Supramolecular Tuning of H_2S Release from Aromatic Peptide Amphiphile Gels: Effect of Core Unit Substituents" *Biomacromolecules* **2019**, *20*, 1077-1086. doi: 10.1021/acs.biomac.8b0173

48. Shmidov, Y.; Zhou, M.; Yosefi, G.; Bitton, R.*; **Matson, J. B.*** "Hydrogels composed of hyaluronic acid and dendritic ELPs: Hierarchical structure and physical properties" *Soft Matter*, **2019**, *15*, 917-925. doi: 10.1039/c8sm02450b

47. Dillon, K. M.; Powell, C. R.; **Matson, J. B.*** "Self-Immolative Prodrugs: Effective Tools for the Controlled Release of Sulfur Signaling Species" *Synlett*, **2019**, *30*, 525-531. doi: 10.1055/s-0037-1611693

46. Alaboalirat, M.; Qi, L.; Arrington, K. J.; Qian, S.; Keum, J. K.; Mei, H.; Littrell, K. C.; Sumpter, B. G.; Carrillo, J-M, Y.; Verduzco, R.* **Matson, J. B.*** "Amphiphilic Bottlebrush Block Copolymers: Analysis of Aqueous Self-Assembly by Small Angle Neutron Scattering and Surface Tension Measurements" *Macromolecules*, **2019**, *52*, 465-476. doi: 10.1021/acs.macromol.8b02366

45. Wang, Y.; Kaur, K.; Scannelli, S. J.; Bitton, R.; **Matson, J. B.*** "Self-Assembled Nanostructures Regulate H_2S Release from Constitutionally Isomeric Peptides" *J. Am. Chem. Soc.* **2018**, *140*, 14945-14951. doi: 10.1021/jacs.8b09320
**Selected as an ACS Editors' Choice article

44. Kaur, K.; Qian. Y.; Gandour R. D.*; **Matson, J. B.*** "Hydrolytic Decomposition of *S*-Aroylthiooximes: Effect of pH and *N*-Arylidene Substitution on Reaction Rate" *J. Org. Chem.* **2018**, *83*, 13363-13369. doi: 10.1021/acs.joc.8b02151

43. Arrington, K. J.; Radzinski, S. C.; Drummey, K. J.; Long, T. E.; **Matson, J. B.*** "Reversibly Crosslinkable Bottlebrush Polymers as Pressure-Sensitive Adhesives" *ACS Appl. Mater. Interfaces* **2018**, *10*, 26662-26668. doi: 10.1021/acsami.8b08480

42. Powell, C. R.; Dillon, K. M.; Wang, Y.; Carrazzone, R. J. **Matson, J. B.*** "A Persulfide Donor Responsive to Reactive Oxygen Species: Insights into Reactivity and Therapeutic Potential" *Angew. Chem. Int. Ed.* **2018**, *57*, 6324-6328. doi: 10.1002/anie.201803087
**Highlighted in Science Trends, May 2018

41. Powell, C. R.; Dillon, K. M.; **Matson, J. B.*** "A Review of Hydrogen Sulfide (H_2S) Donors: Chemistry and Potential Therapeutic Applications" *Biochem. Pharmcol.* **2018**, *149*, 110-123. doi: 10.1016/j.bcp.2017.11.014

40. Arrington, K. J.; **Matson, J. B.*** "Assembly of a Visible Light Photoreactor: An Inexpensive Tool for Bottlebrush Polymer Synthesis via Photoiniferter Polymerization" *Polym. Chem.* **2017**, *8*, 7452-7456. doi: 10.1039/c7py01741c

39. Radzinski, S.C.; Foster, J. C.; Scannelli, S. J.; Weaver, J. R.; Arrington, K. J.; **Matson, J. B.*** "Tapered Bottlebrush Polymers: Cone-shaped Nanostructures by Sequential Addition of Macromonomers" *ACS Macro Lett.* **2017**, *6*, 1175-1179. doi: 10.1021/acsmacrolett.7b00724

38. Foster, J. C.; Radzinski, S.C.; **Matson, J. B.*** "Graft Polymer Synthesis by RAFT Transfer-to" *J. Poly. Sci., Part A: Polym. Chem.* **2017**, *55*, 2865-2876. doi: 10.1002/pola.28621
**Special Issue in honor of Prof. Robert H. Grubbs

37. Dong, Y.; **Matson, J. B**.; Edgar, K. J. "Olefin Cross-metathesis in Polymer and Polysaccharide Chemistry: A Review" *Biomacromolecules* **2017**, *18*, 1661-1676. doi: 10.1021/acs.biomac.7b00364

36. Arrington, K. J.; Waugh, J. B.; Radzinski, S. C.; **Matson, J. B.*** "Photo- and Biodegradable Thermoplastic Elastomers: Combining Ketone-Containing Polybutadiene with Polylactide using Ring-Opening Polymerization and Ring-Opening Metathesis Polymerization" *Macromolecules*, **2017**, *50*, 4180-4187. doi: 10.1021/acs.macromol.7b00479

35. Foster, J. C.; Radzinski, S. C.; Zou, X.; Finkielstein, C. V.; **Matson, J. B.*** "H_2S-Releasing Polymer Micelles for Studying Selective Cell Toxicity" *Mol. Pharmaceutics* **2017**, *14*, 1300-1306. doi: 10.1021/acs.molpharmaceut.6b01117

34. Zhou, M.; Shmidov, Y.; **Matson, J. B.***; Bitton, R.* "Multi-Scale Characterization of Thermoresponsive Dendritic Elastin-Like Peptides" *Colloids Surf. B* **2017**, *153*, 141-151. doi: 10.1016/j.colsurfb.2017.02.014

33. Radzinski, S. C.; Foster, J. C.; Lewis, S. E.; French, E. V.; **Matson, J. B.*** "Factors Affecting Bottlebrush Polymer Synthesis by the Transfer-to Method Using Reversible Addition–Fragmentation Chain Transfer (RAFT) Polymerization" *Polym. Chem.* **2017**, *8*, 1636-1643. doi: 10.1039/c6py01982j

32. Qian, Y.; **Matson, J. B.*** "Gasotransmitter Delivery via Self-Assembling Peptides: Treating Diseases with Natural Signaling Gases" *Adv. Drug. Deliv. Rev.* **2017**, *110-111*, 137-156. doi:10.1016/j.addr.2016.06.017
**Peptides and Peptide Conjugates in Medicine special issue

31. Powell, C. R.; Foster, J. C.; Okyere, B.; Theus, M. H.; **Matson, J. B.*** "Therapeutic Delivery of H_2S via COS: Small Molecule and Polymeric Donors with Benign Byproducts" *J. Am. Chem. Soc.* **2016**, *138*, 13477-13480. doi: 10.1021/jacs.6b07204

30. Radzinski, S. C.; Foster, J. C.; Chapleski, R. C..; Troya, D.*; **Matson, J. B.*** "Bottlebrush Polymer Synthesis by Ring-Opening Metathesis Polymerization: The Significance of the Anchor Group" *J. Am. Chem. Soc.*, **2016**, *138*, 6998-7004. doi: 10.1021/jacs.5b13317

29. Arrington, K. J.; Murray, C. B.; Smith, E. C.; Marand, H.*; **Matson, J. B.*** "Precision Polyketones by Ring-Opening Metathesis Polymerization: Effects of Regular and Irregular Ketone Spacing" *Macromolecules*, **2016**, *49*, 3655-3662. doi: 10.1021/acs.macromol.6b00590

28. Radzinski, S. C.; Foster, J. C.; **Matson, J. B.*** "Preparation of Bottlebrush Polymers via a One-Pot Ring-Opening Polymerization (ROP) and Ring-Opening Metathesis Polymerization (ROMP) Grafting-Through Strategy" *Macromol. Rapid Commun*. **2016**, *37*, 616-621. doi: 10.1002/marc.201500672

27. Navon, Y.; Zhou, M.; **Matson, J. B.***; Bitton R.* "Dendritic Elastin-Like Peptides: The Effect of Branching on Thermoresponsiveness" *Biomacromolecules* **2016**, *17*, 262-270. doi: 10.1021/acs.biomac.5b01371

26. Foster, J. C.; Radzinski, S. C.; Lewis, S. E.; Slutzker, M. B.; **Matson, J. B.*** "Norbornene-Containing Dithiocarbamates for use in Reversible Addition-Fragmentation Chain Transfer (RAFT) Polymerization and Ring-Opening Metathesis Polymerization (ROMP)" *Polymer* **2015**, *79*, 205-211. doi: 10.1016/j.polymer.2015.10.028

25. Carter, J. M.; Qian, Y.; Foster, J. C.; **Matson, J. B.*** "Peptide-Based Hydrogen Sulfide-Releasing Gels" *Chem. Commun.* **2015**, *51*, 13131-13134. doi: 10.1039/c5cc04883d

24. Radzinski, S. C.; Foster, J. C.; **Matson, J. B.*** "Synthesis of Bottlebrush Polymers via Transfer-To and Grafting-Through Approaches Using a RAFT Chain Transfer Agent with a ROMP-Active Z-Group" *Polym. Chem.* **2015**, *6*, 5643-5652. doi: 10.1039/c4py01567c.
***Polymer Chemistry* Emerging Investigators 2015 special issue

23. Meng, X.; **Matson, J. B.**; Edgar, K. J.* "Olefin Cross-metathesis, a Mild, Modular Approach to Functionalized Cellulose Esters" *Polym. Chem*. **2014**, *5*, 7021-7033. doi: 10.1039/c4py01102c

22. Foster, J. C.; **Matson, J. B.*** "Functionalization of Methacrylate Polymers with Thiooximes: A Robust Post-Polymerization Modification Reaction and a Method for the Preparation of H_2S-Releasing Polymers" *Macromolecules* **2014**, *47*, 5089-5095. doi: 10.1021/ma501044b

21. Foster, J. C.; Powell, C. R.; Radzinski, S. C.; **Matson, J. B.*** "*S*-Aroylthiooximes: A Facile Route to Hydrogen Sulfide Releasing Compounds with Structure-Dependent Release Kinetics" *Org. Lett.* **2014**, *16*, 1558-1561. doi: 10.1021/ol500385a

20. Meng, X.; **Matson, J. B.**; Edgar, K.* "Olefin Cross-Metathesis as a Source of Polysaccharide Derivatives: Cellulose ω-Carboxyalkanoates" *Biomacromolecules* **2014**, *15*, 177-187. doi: 10.1021/bm401447v

19. Carreon, A. C.; Santos, W. L.; **Matson, J. B.***; So, R. C.* "Cationic Polythiophenes as Responsive DNA-binding Polymers" *Polym. Chem.* **2014**, *5*, 314-317. doi: 10.1039/c3py01069d

Undergraduate/Graduate/Postdoctoral Publications

18. Sur, S.; Tantakitti, F.; **Matson, J. B.**; Stupp, S. I. "Epitope Topography Controls Bioactivity in Supramolecular Nanofibers" *Biomater. Sci.* **2015**, *3*, 520-532. doi: 10.1039/c4bm00326h

17. **Matson, J. B.**; Navon, Y.; Bitton, R.; Stupp, S. I. "Light-Controlled Hierarchical Self-Assembly of Polyelectrolytes and Supramolecular Polymers" *ACS Macro Lett.* **2015**, *4*, 43-47. doi: 10.1021/mz500677q

16. Ortony, J. H.; Newcomb, C. J.; **Matson, J. B.**; Palmer, L. C.; Doan, P. E.; Hoffman, B. M.; Stupp, S. I. "Internal Dynamics of a Supramolecular Nanofiber" *Nat. Mater.* **2014**, *13*, 812-816. doi:10.1038/nmat3979

15. Newcomb, C. J.; Sur. S.; Ortony, J. H.; Lee, O.S.; **Matson, J. B.**; Boekhoven, J.; Yu, J.; Schatz, G. C.; Stupp, S. I. "Cell Death Versus Survival Instructed by Supramolecular Cohesion of Nanofibers" *Nat. Commun.* **2014**, *5*, 3321. doi: 10.1038/ncomms4321

14. Sur, S.; **Matson, J. B.**†; Newcomb, C. J.; Webber, M. J.; Stupp, S. I. "Photodynamic Control of Bioactivity in a Nanofiber Matrix" *ACS Nano* **2012**, *6*, 10776-10785. doi: 10.1021/nn304101x

13. Webber, M. J.; **Matson, J. B.**†; Tamboli, V. K.; Stupp, S. I. "Controlled Release of Dexamethasone from Peptide Nanofiber Gels to Modulate Inflammatory Response" *Biomaterials* **2012**, *33*, 6823-6832. doi: 10.1016/j.biomaterials.2012.06.003

12. **Matson, J. B.**†; Webber, M. J.; Tamboli, V. K.; Weber, B.; Stupp, S. I. "A Peptide-Based Material for Therapeutic Carbon Monoxide Delivery" *Soft Matter* **2012**, *8*, 6689-6692. doi: 10.1039/c2sm25785h
    **Highlighted in the June 2012 issue of *Chemistry World*

11. **Matson, J. B.**; Newcomb, C. J.; Bitton, R.; Stupp S. I. "Nanostructure-Templated Control of Drug Release from Peptide Amphiphile Nanofiber Gels" *Soft Matter* **2012**, *8*, 3586-3595. doi: 10.1039/c2sm07420f
    **A top-10 most-read Soft Matter article in 2012

10. **Matson, J. B.**; Stupp, S. I. "Self-Assembling Peptide Scaffolds for Regenerative Medicine" *Chem. Commun.* **2012**, *48*, 26-33. doi: 10.1039/c1cc15551b

9. **Matson, J. B.**; Zha, R. H.; Stupp, S. I. "Peptide Self-Assembly for Crafting Functional Biological Materials" *Curr. Opin. Solid St. Mater. Sci.* **2011**, *15*, 225-235. doi: 10.1016/j.cossms.2011.08.001

8. **Matson, J. B.**; Stupp, S. I. "Drug Release from Hydrazone-Containing Peptide Amphiphiles" *Chem. Commun.* **2011**, *47*, 7962-7964. doi: 10.1039/c1cc12570b

7. Lee, S. G.; Brown, J. M.; Rogers, C. J.; **Matson, J. B.**; Krishnamurthy, C.; Rawat, M.; Hsieh-Wilson, L. C. "End-Functionalized Glycopolymers as Mimetics of Chondroitin Sulfate Proteoglycans" *Chem. Sci.* **2010**, *1*, 322-325. doi: 10.1039/c0sc00271b

6. **Matson, J. B.**; Grubbs, R. H. "Monotelechelic Poly(oxa)norbornenes by Ring-Opening Metathesis Polymerization Using Direct End-Capping and Cross-Metathesis" *Macromolecules* **2010**, *43*, 213-221. doi: 10.1021/ma9019366

5. **Matson, J. B.**; Virgil, S. C.; Grubbs, R. H. "Pulsed-Addition Ring-Opening Metathesis Polymerization: Catalyst-Economical Syntheses of Homopolymers and Block Copolymers" *J. Am. Chem. Soc.* **2009**, *131*, 3355-3362. doi: 10.1021/ja809081h

4. **Matson, J. B.**; Grubbs, R. H. "ROMP-ATRP Block Copolymers Prepared from Monotelechelic Poly(oxa)norbornenes using a Difunctional Terminating Agent" *Macromolecules* **2008**, *41*, 5626-5631. doi: 10.1021/ma800980p

3. **Matson, J. B.**; Grubbs, R. H. "Synthesis of Fluorine-18 Functionalized Nanoparticles as in vivo Molecular Imaging Agents" *J. Am. Chem. Soc.* **2008**, *130*, 6731-6733. doi: 10.1021/ja802010d

2. Rawat, M.; Gamma, C. I.; **Matson, J. B.**; Hsieh-Wilson, L. C. "Neuroactive Chondroitin Sulfate Glycomimetics" *J. Am. Chem. Soc.* **2008**, *130*, 2959-2961. doi: 10.1021/ja709993p

1. Joralemon, M. J.; O'Reilly, R. K.; **Matson, J. B.**; Nugent, A. K.; Hawker, C. J.; Wooley, K. L. "Dendrimers Clicked Together Divergently" *Macromolecules* **2005**, *38*, 5436-5443. doi: 10.1021/ma050302r

BOOK CHAPTERS (PEER-REVIEWED)

2. Kaur, K.; Qian, Y.; **Matson, J. B.** "H_2S Delivery from Aromatic Peptide Amphiphile Hydrogels" *Biomaterials for Tissue Engineering: Methods and Protocols*, Springer, New York, **2018**, 193-208. doi: 10.1007/978-1-4939-7741-3_15

1. **Matson, J. B.**; Grubbs, R. H. "Synthesis of Fluorine-18 Functionalized Nanoparticles as in vivo Molecular Imaging Agents" *NATO Science for Peace and Security Series A: Chemistry and Biology*, *New Smart Materials via Metal Mediated Macromolecular Engineering* Springer Netherlands: **2009**, 237-247.

JOURNAL PUBLICATIONS (NON-PEER-REVIEWED)

2. Kieltyka, R. E.; **Matson, J. B.**; Besenius, P.* "Structure to Function in Supramolecular Polymers and Materials" *Macromol. Rapid Commun.* **2018**, *39*, e1800597. doi: 10.1002/marc.201800574
**Introduction to a special issue organized for *Macromol. Rapid Commun.* based on an ACS symposium

1. **Matson, J. B.***; Baker, M. B. "Polymers for biology, medicine and sustainability" *Polym. Int.* **2019**, *68*, 1219-1219.
**Introduction to a special issue organized for *Polym. Int.* based on an ACS symposium

PATENTS

Provisional

3. **Matson, J. B.**; Radzinski, S. C.; Foster, J. C. "Tapered (Cone-Shaped) Polymer Nanostructures" US 62/547,910

2. Arrington, K. J.; Chen, J.; Edgar, K. J.; **Matson J. B.** "Multiblock Copolymers of Polysaccharides and Synthetic Polymers and Their Use in Compatibilizing Polymer Blends" VTIP-18-101

1. **Matson, J. B.** Powell, C. R. "Persulfide Donor Compounds" VTIP-18-109

Filed

1. Edgar, K. J.; Meng, X.; **Matson, J. B.** "Cross-Metathesized Polysaccharide Derivatives and Processes for Preparing Them" US2016/0215068 A1

MENTORING

Current group members

11. Dr. Yin Wang, postdoc
10. Mohammed Alaboalirat, 5th year PhD student, Macromolecular Science and Engineering
9. Kearsley Dillon, 4th year PhD student, Chemistry
8. Ryan Carrazzone, 4th year PhD student, Macromolecular Science and Engineering
7. Anastasia Volokhova, 3rd year PhD student, Chemistry
6. Samantha Scannelli, 3rd year PhD student, Chemistry
5. Sarah Blosch, 3rd year PhD student, Macromolecular Science and Engineering
4. Sarah Swilley-Sanchez, 2nd year PhD student, Chemistry
3. Yumeng (Jackie) Zhu, 2nd year PhD student, Chemistry
2. Zhao Li, 2nd year PhD student, Chemistry
1. Abby Bratton, 1st year PhD student, Chemistry

PhD students graduated from Matson group

7. Dr. Kuljeet Kaur. Defended PhD on Dec 3, **2019**. Current position: Postdoc at EPFL (*Switzerland*)
6. Dr. Yun Qian. Defended PhD on May 13, **2019**. Current position: Postdoc at University of Georgia
5. Dr. Mingjun Zhou. Defended PhD on Apr 30, **2019**. Current position: Postdoc at Univ. Massachusetts, Amherst
4. Dr. Chad Powell. Defended PhD on Apr 25, **2019**. Current position: Research Scientist at Solvay
3. Dr. Kyle Arrington. Defended PhD on Apr 30, **2018**. Current position: Materials R&D Engineer at Intel Corp.
2. Dr. Scott Radzinski. Defended PhD on Mar 23, **2017**. Current position: Senior Polymer Chemist at Secant Group
1. Dr. Jeffrey C. Foster. Defended PhD on Mar 22, **2017**. Current position: Group leader at Univ. Birmingham (*U.K.*)

TEACHING EXPERIENCE

Virginia Tech

Organic Chemistry II (CHEM 2536)	Spring 2014-2016, 2018
Organic Chemistry of Polymers (CHEM 4534)	Fall 2019, 2020
Synthesis and Reactions of Macromolecules (CHEM 5704)	Fall 2012-2018
Advanced Macromolecular Chemistry (CHEM 6564)	Spring 2019

PROFESSIONAL SERVICE

International Union of Pure and Applied Chemistry (IUPAC)

4. Titular Member of Division IV (Polymer Division) (2020-2021)
3. Co-secretary of Subcommittee on Polymer Terminology (SPT) in Division IV (Polymer Division) (2020-present)
2. Member of Subcommittee on Polymer Terminology (SPT) in Division IV (Polymer Division) (2017-present)
1. Young Observer for 2017 General Assembly (São Paolo, Brazil)

Editorial Advisory Boards

4. *Polymer Chemistry* (2019-present)
3. *Journal of Polymer Science* (2019-present)
2. *Polymer International* (2017-present)
1. Cambridge Scholars (2017-present)

Reviewer for funding agencies

ACS Petroleum Research Fund, Army Research Office, Binational Science Foundation, British Heart Foundation, European Research Council, Israeli Science Foundation, National Science Foundation, Research Corporation,

Reviewer for journals

Acta Biomater., Angewandte Chemie, ACS Appl. Mater. Interfaces, ACS Biomater. Sci., ACS Chem. Biol., ACS Macro Lett., Adv. Healthcare Mater., Anal. Chem., Antiox. & Redox Signaling, Bioconj. Chem., Biomacromolecules, Biomaterials, Bioorg. Med. Chem. Lett., Carb. Polym., Chem. Commun., Chem. Sci., Curr. Med. Chem., Front. Mater., Isr. J. Chem., J. Am. Chem. Soc., J. Mater. Chem. B, J. Org. Chem., J. Poly Sci. Part B: Poly. Phys., Langmuir, Macromolecules, Macromol. Theor. Sim., Macromol. Rapid Comm., Mol. Pharm., Nature Comm., Org. Lett., Polymer, Polym. Chem., Sci. Adv., Synlett

Symposium organization

9. Co-organizer for *Pacifichem 2020* for the symposium entitled "Nitric Oxide, Carbon Monoxide, and Hydrogen Sulfide as Potential Therapeutic Agents: The 4th American Gasotransmitter Symposium" Honolulu, HI, Dec 15-20, **2020**.
8. Co-organizer for *Pacifichem 2020* for the symposium entitled "Synthesis and Applications of Molecular Bottlebrush Polymers" Honolulu, HI, Dec 15-20, **2020**.
7. Co-organizer for *259th National Meeting of the American Chemical Society* for the symposium titled "Structure to Function in Supramolecular Polymers" Philadelphia, PA, March 22-26, **2020**.
6. Co-organizer for *2nd American Gasotransmitter Symposium* Eugene, OR, May 18-19, **2019**.
5. Co-organizer for *257th National Meeting of the American Chemical Society* for symposium titled "Synthesis and Properties of Densely Grafted Polymers" Orlando, FL, March 31-April 4, **2019**.
4. Co-organizer for *255th National Meeting of the American Chemical Society* for symposium titled "International Symposium on Biorelated Polymers: Innovation in Biomedical Polymers" New Orleans, LA, March 18-22, **2018**.
3. Co-organizer for *1st American Gasotransmitter Symposium* Atlanta, GA, April 22-23, **2017**.
2. Co-organizer for *253rd National Meeting of the American Chemical Society* for symposium titled "Structure to Function in Supramolecular Polymers and Materials" San Francisco, CA, April 2-6, **2017**.
1. Co-organizer for *251st National Meeting of the American Chemical Society* for symposium titled "Supramolecular Polymers: From Structure to Advanced Functionality" San Diego, CA, March 13-17, **2016**.

ORAL CONFERENCE PRESENTATIONS (presenting author underlined)

62. Matson, J. B. "Macromolecular and Supramolecular Materials for Signaling Gas Delivery" *Virginia Tech 2019 Macromolecules Innovation Institute Technical Conference and Review* Blacksburg, VA, Nov. 4-6, **2019**.

61. Matson, J. B. "Delivering Reactive Sulfur Species: From Small Molecules to Materials" *VI International Workshop on Nitric Oxide in Cancer and Beyond*, New York, NY, Sep 20-22, **2019**.

60. Matson, J. B. "Self-assembling peptide-based materials for therapeutic H_2S delivery" *47th IUPAC World Chemistry Congress*, Paris, France, Jul 5-12, **2019**.

59. Matson, J. B. "New materials by blending commodity polymers with polysaccharides" *47th IUPAC World Chemistry Congress*, Paris, France, Jul 5-12, **2019**.

58. Matson, J. B. "Macromolecular and Supramolecular Materials for Signaling Gas Delivery" *Polymers Gordon Research Conference*, South Hadley, MA Jun 9-14, **2019**.

57. Matson, J. B. "Chemical Tools for Delivery of Reactive Sulfur Species: Small Molecules to Materials" *2nd American Gasotransmitter Symposium*, Eugene, OR May 18-19, **2019**.

56. Matson, J. B. "Self-assembled tetrapeptide nanocoils for delivery of hydrogen sulfide" *257th American Chemical Society National Meeting*, Orlando, FL Mar 31-Apr 4, **2019**.

55. Matson, J. B. "Block copolymers of polysaccharides and conventional polymers as compatibilizers in blends of bio-derived polymers" *257th American Chemical Society National Meeting*, Orlando, FL Mar 31-Apr 4, **2019**.

54. Matson, J. B. "Aqueous self-assembly of amphiphilic cylindrical and cone-shaped (tapered) bottlebrush polymers prepared by sequential-addition of macromonomers ring-opening metathesis polymerization (SAM-ROMP)" *257th American Chemical Society National Meeting*, Orlando, FL Mar 31-Apr 4, **2019**.

53. Matson, J. B. "Tapered bottlebrush polymers: Cone-shaped polymers prepared by sequential addition of macromonomers ring-opening metathesis polymerization (SAM-ROMP)" *Macro 2018 World Polymer Congress*, Cairns, Australia, Jul 1-5, **2018**.

52. Matson, J. B. "Tuning release of signaling gases by controlling mobility in a micelle core" *Macro 2018 World Polymer Congress*, Cairns, Australia, Jul 1-5, **2018**.

51. Matson, J. B. "Well-Defined Polysaccharide Block, Segmented, and Graft Copolymers as Compatibilizers in Blends of Bio-Derived Polymers" *Macro 2018 World Polymer Congress*, Cairns, Australia, Jul 1-5, **2018**.

50. Matson, J. B. "Non-centrosymmetric nanostructures: Tapered (cone-shaped) bottlebrush polymers by sequential-addition of macromonomers ring-opening metathesis polymerization (SAM-ROMP)" *4th Fusion Functional Polymeric Materials Conference*, Nassau, Bahamas, Jun 5-8, **2018**.

49. Matson, J. B. "Chemical Tools for Delivery of H_2S and Related Species: Small Molecules, Polymers, and Hydrogels" *5th World Congress on H_2S Biology and Medicine*, Toronto, Canada, May 31-June 3, **2018**.

48. Matson, J. B.; Foster, J. C.; Radzinski, S. C. "Tapered (Cone-Shaped) Polymers by Sequential-Addition of Macromonomers Ring-Opening Metathesis Polymerization (SAM-ROMP)" *255th ACS National Meeting*, New Orleans, LA, Mar 18-22, **2018**.

47. Powell, C. R.; Foster, J. C.; Okyere, B.; Theus, M.; Matson, J. B. "Polymeric Systems for the Release of COS and H_2S" *255th ACS National Meeting*, New Orleans, LA, Mar 18-22, **2018**.

46. Matson, J. B.; Arrington, K. J. "Making and Breaking Polymers with Light: Blue-Light-Mediated Photoiniferter Polymerization and Polyketone Degradation" *255th ACS National Meeting*, New Orleans, LA, Mar 18-22, **2018**.

45. Arrington, K. J.; Chen, J.; Mondschein, R. J.; Long, T. E.; Edgar, K. J.; Matson, J. B.; "Synthesis of Polysaccharide ABA Triblock Copolymers by One-Pot Cross-Metathesis Ring-Opening Metathesis Polymerization" *255th ACS National Meeting*, New Orleans, LA, Mar 18-22, **2018**.

44. Matson, J. B.; Foster, J. C. "Tuning Release of Signaling Molecules by Controlling Mobility in a Micelle Core" *255th ACS National Meeting*, New Orleans, LA, Mar 18-22, **2018**.

43. Zhou, M.; Matson, J. B. "Thermoresponsive Dendritic Elastin-Like Peptides" *254th ACS National Meeting*, Washington, D.C., Aug 20-24, **2017**.

42. Arrington, K. J.; Matson, J. B. "Compatibilizing Methylcellulose and Polyethylene for Sustainable Materials" *254th ACS National Meeting*, Washington, D.C., Aug 20-24, **2017**.

41. Kaur, K.; Qian, Y.; Foster, J. C.; Matson, J. "Thiooxime Containing H_2S Releasing Peptide Hydrogels: An Insight into Stability and Self-Assembly" *254th ACS National Meeting*, Washington, D.C., Aug 20-24, **2017**.

40. Qian, Y.; Kaur, K.; Foster, J.; Matson, J. "Self-assembled Aromatic Peptide Hydrogels with Controlled H_2S Release" *254th ACS National Meeting*, Washington, D.C., Aug 20-24, **2017**.

39. Powell, C. R.; Foster, J. C.; Okyere, B.; Theus, M.; Matson, J. "Synthesis and Properties of COS Releasing Polymeric Systems" *254th ACS National Meeting*, Washington, D.C., Aug 20-24, **2017**.

38. Matson, J. B.; Radzinski, S. C. "Synthesis of Tapered Bottlebrush Polymers using Sequential Ring-Opening Metathesis Polymerization" *254th ACS National Meeting*, Washington, D.C., Aug 20-24, **2017**.

37. Matson, J. B. "The Transfer-To Method in Bottlebrush Polymer Synthesis" *46th IUPAC World Chemistry Congress*, São Paulo, Brazil, Jul 9-14, **2017**.

36. Matson, J. B. "Materials for H_2S Delivery: Polymer micelles and peptide-based gels" *1st American Gasotransmitter Symposium*, Atlanta, GA, Apr 21-22, **2017**.

35. Arrington, K. J.; Waugh, J.; Radzinski, S.; Matson, J. B. "Design and study of biodegradable and photodegradable thermoplastic elastomers" *253rd ACS National Meeting*, San Francisco, CA, Apr 2-6, **2017**.

34. Radzinski, S. C.; Foster, J. C.; Chapleski, R.; Troya, D.; Matson, J. B**.** "Synthesis and characterization of bottlebrush polymers: The importance of the anchor group" *253rd ACS National Meeting*, San Francisco, CA, Apr 2-6, **2017**.

33. Radzinski, S. C.; Foster, J. C.; Matson, J. B. "Synthesis of bottlebrush polymers using the transfer-to approach" *253rd ACS National Meeting*, San Francisco, CA, Apr 2-6, **2017**.

32. Matson, J. B.; Qian Y.; Kaur, K. "Supramolecular gels for delivery of hydrogen sulfide" *253rd ACS National Meeting*, San Francisco, CA, Apr 2-6, **2017**.

31. Matson, J. B. Foster, J. C. "Polymeric materials for delivery of hydrogen sulfide (H_2S), a biologically relevant signaling gas" *253rd ACS National Meeting*, San Francisco, CA, Apr 2-6, **2017**.

30. Matson, J. B.; Arrington, K. J. "Photo- and biodegradable thermoplastic elastomers containing cellulose and polylactide" *253rd ACS National Meeting*, San Francisco, CA, Apr 2-6, **2017**.

29. Arrington, K. J.; Matson, J. B. "Synthesis of a Bio- and Photodegradable Thermoplastic Elastomer" *Southeastern Regional Meeting of the ACS*, Columbia, SC, Oct 23-27, **2016**.

28. Radzinski, S. C.; Matson, J. B. "Synthesis and Characterization of Bottlebrush Polymers: The Importance of the Anchor Group" *Southeastern Regional Meeting of the ACS*, Columbia, SC, Oct 23-27, **2016**

27. Powell, C. R.; Matson, J. B. "Therapeutic Delivery of H_2S via COS: Small Molecule and Polymeric Donors with Benign Byproducts" *Southeastern Regional Meeting of the ACS*, Columbia, SC, Oct 23-27, **2016**.

26. Matson, J. B.; Arrington, K. J. "Synthesis of Aliphatic Polyketones using Ring-opening Metathesis Polymerization and Their Use in Photodegradable Thermoplastic Elastomers" *2016 Macromolecules Innovation Institute Technical Conference and Review*, Blacksburg, VA, Oct 10-12, **2016**.

25. Matson, J. B.; Gandour, R. D. "Flipping Organic Chemistry: A Broadly Applicable Method for Flipping a Large Science Class" *Conference on Teaching Large Classes*, Blacksburg, VA, Jul 21, **2016**.

24. Foster, J. C.; Matson, J. B. "Morphological Control of the Release Profile of H_2S-Releasing Micelles" 251st *ACS National Meeting*, San Diego, CA, Mar 13-17, **2016**.

23. Matson J. B. "Thiol-Triggered Hydrogen Sulfide-Releasing Gels" *251st ACS National Meeting*, San Diego, CA, Mar 13-17, **2016**.

22. Matson, J. B. "The Transfer-To Approach to Bottlebrush Polymer Synthesis" *2nd Fusion Functional Polymeric Materials Conference*, Ascot, England, Aug 5-8, **2015**.

21. Matson, J. B.; "Materials for Therapeutic Delivery of Hydrogen Sulfide" *Nanoparticles at the Interface between Biology and the Materials World*, Rehovot, Israel, Jul 5-6, **2015**.

20. Matson, J. B.; Carter, J. M. "Self-Assembling Peptide Materials for Hydrogen Sulfide Delivery" *249th ACS National Meeting*, Denver, CO, Mar 22-26, **2015**.

19. Matson, J. B.; Foster, J. C. "Triggered Delivery of Therapeutic Hydrogen Sulfide from Macromolecular and Supramolecular Carriers" *249th ACS National Meeting*, Denver, CO, Mar 22-26, **2015**.

18. Meng, X.; Matson, J. B.; Edgar, K. J. "Olefin Cross-metathesis, a Mild, Modular Approach to Functionalized Cellulose Esters" *249th ACS National Meeting*, Denver, CO, Mar 22-26, **2015**.

17. Matson, J. B. "Materials for Therapeutic Delivery of H_2S" *4th Zing Polymer Chemistry Conference*, Cancun, Mexico, Dec 10-13, **2014**.

16. Foster, J. C.; Matson, J. B. "Polymer Functionalization with Thiooximes: A Facile Route to H_2S-Releasing Polymers" *248th ACS National Meeting*, San Francisco, CA, Aug 10-14, **2014**.

15. Edgar, K. J.; Meng, X.; Matson, J. B.; Liu, H. Y. "Versatile Design and Synthesis of Cellulose Derivatives for Amorphous Solid Dispersions" *247th ACS National Meeting*, Dallas, TX, Mar 16-20, **2014**.

14. Meng, X; Matson, J. B.; Edgar, K. J. "Olefin Cross-Metathesis as a Source of Novel Polysaccharide Derivatives" *247th ACS National Meeting*, Dallas, TX, Mar 16-20, **2014**.

13. Matson, J. B.; Foster, J. C. "Materials for Therapeutic Signaling Gas Delivery" *Functional Polymeric Materials*, Cancun, Mexico, Feb 10-13, **2014**.

12. Matson, J. B; Radzinski, S. C. **"**Self-Assembled and Covalent Nanoobjects for Drug Delivery and Regenerative Medicine" *Macromolecules and Interfaces Institute Technical Conference and Review*, Blacksburg, VA, Oct 28-30, **2013**.

11. Ortony, J. H.; Matson, J. B.; Palmer, L. C.; Newcomb, C. J.; Doan, P. E.; Hoffman, B. M.; Stupp, S. I. "Direct measurement of internal dynamics in a self-assembled nanofiber" *245th ACS National Meeting*, New Orleans, LA, Apr 7-11, **2013**.

10. Matson, J. B.; Webber, M. J.; Weber, B.; Tamboli, V. K.; Stupp, S. I. "Signaling Gas Delivery from Supramolecular Polymers" *IUPAC MACRO2012 World Polymer Congress*, Blacksburg, VA, Jun 24-29, **2012**.

9. Matson, J. B.; Webber, M. J.; Tamboli, V.; Stupp, S. I. "Release of Soluble Signaling Molecules from Peptide-Amphiphile Supramolecular Polymers" *22nd American Peptide Symposium*, San Diego, CA, Jun 25-30, **2011**.

8. Matson, J. B.; Stupp, S. I. "Tunable Small-Molecule Drug Release from Peptide-Amphiphile Supramolecular Polymers" *241st ACS National Meeting*, Anaheim, CA, Mar 27-31, **2011**.

7. Virgil, S.C.; Kuhn, K. M.; Matson, J. B.; Golisz, S. R.; Hazari, N.; Grubbs, R. H.; Bercaw, J. E.; Stoltz, B. M. "Automation and robotics in an academic organometallic chemistry research" *240th ACS National Meeting*, Boston, MA, Aug 22-26, **2010**.

6. Matson, J. B.; Virgil, S. C.; Grubbs, R. H. "Polynorbornenes prepared by Pulsed-Addition Ring Opening Metathesis Polymerization" *237th ACS National Meeting*, Salt Lake City, UT, Mar 22-26, **2009**. (Excellence in Graduate Polymer Research Award talk)

5. Matson, J. B.; Virgil, S. C.; Grubbs, R. H. "ROMP-ATRP Block Copolymers and Pulsed-Addition ROMP" *NATO Advanced Study Institute for New Smart Materials via Metal Mediated Macromolecular Engineering: From Complex to Nano Structures*, Antalya, Turkey, Sep 1-12, **2008**.

4. Matson, J. B.; Grubbs, R. H. "Synthesis of Fluorine-18 Functionalized Nanoparticles as in vivo Molecular Imaging Agents" *NATO Advanced Study Institute for New Smart Materials via Metal Mediated Macromolecular Engineering: From Complex to Nano Structures*, Antalya, Turkey, Sep 1-12, **2008**.

3. Matson, J. B.; Grubbs, R. H. "Synthesis of Fluorine-18 Functionalized Nanoparticles as in vivo Molecular Imaging Agents" *International Symposium on Olefin Metathesis XVII*, Pasadena, CA, Jul 29-Aug 3 **2007**.

2. Joralemon, M. J.; Nugent, A. K.; Matson, J. B.; O'Reilly, R. K.; Hawker, C. J.; Wooley, K. L. "Clicking Together Dendritic Macromolecules Divergently" *228th ACS National Meeting*, Philadelphia, PA, Aug 22-26, **2004**.

1. O'Reilly, R. K.; Joralemon, M. J.; Nugent, A. K.; Matson, J. B.; Hawker, C. J.; Wooley, K. L. "A Novel Approach to Regioselectively-functionalized Amphiphilic Block Copolymers and Nanoparticles*" 228th ACS National Meeting*, Philadelphia, PA, Aug 22-26, **2004**.

INVITED DEPARTMENTAL AND COMPANY SEMINARS

42. Maastricht University (*The Netherlands*), Inst. for Technology-Inspired Regenerative Med. (MERLN), Feb. 6, **2020**.
41. Eindhoven University of Technology (*The Netherlands*), Institute for Complex Molecular Systems, Feb. 5, **2020**.
40. Carnegie Mellon University Department of Chemistry, Oct. 30, **2019**.
39. Radford University Department of Chemistry, Sept. 27, **2019**.
38. Ben Gurion University (*Israel*), Ilse Katz Institute for Nanoscale Science & Technology, Jul 3, **2019**.
37. Virginia Tech, Department of Biochemistry, Apr 15, **2019**.
36. Arizona State University, School of Molecular Sciences, Mar 1, **2019**.
35. Eastman Chemical Company, Kingsport, TN, Feb 25, **2019**.
34. University of Mainz (*Germany*), Institute of Organic Chemistry, Nov19, **2018**.
33. Boston College, Department of Chemistry, Nov 7, **2018**.
32. University of North Carolina, Charlotte, Department of Chemistry, Oct 1, **2018**.
31. University of Akron, College of Polymer Science and Polymer Engineering, Sep 21, **2018**.
30. Carleton College, Department of Chemistry, Sep 29, **2017**.
29. St. Olaf College, Department of Chemistry, Sep 28, **2017**.
28. University of the Republic (*Uruguay*), Center for Free Radical and Biomedical Research, Jul 14, **2017**.
27. University of Massachusetts, Amherst, Dept. of Chemistry, Mar 30, **2017**.
26. Virginia Tech, Dept. of Chemistry Highlands Seminar Series, Mar 24, **2017**.
25. University of South Carolina, Dept. of Chemistry, Mar 16, **2017**.
24. University of Southern Mississippi, School of High Performance Polymers, Mar 8, **2017**.
23. Florida State University, Dept. of Chemistry, Feb 23, **2017**.
22. University of Florida, Dept. of Chemistry, Feb 21, **2017**.
21. Stanford University, Dept. of Chemistry, Feb 8, **2017**.
20. University of Arizona, Dept. of Chemistry, Feb 6, **2017**.
19. East Carolina University, Dept. of Chemistry, Nov 18, **2016**.
18. Case Western Reserve University, Dept. of Macromolecular Science, Sep 23, **2016**.
17. University of North Carolina, Dept. of Chemistry, Sep 8, **2016**.
16. University of Oregon, Dept. of Chemistry, Mar 11, **2016**.
15. University of Washington, Dept. of Chemistry, Mar 9, **2016**.
14 Washington State University, Dept. of Chemistry, Mar 7, **2016**.
13. Western Carolina University, Department of Chemistry and Physics, Jan 29, **2016**.
12. University of California, San Diego, Department of Chemistry and Biochemistry, Jan 11, **2016**.
11. University of Virginia, Department of Chemistry, Oct 16, **2015**.
10. James Madison University, Department of Chemistry, Sep 25, **2015**.
9. Delaware University, Department of Materials Science, Sep 23, **2015**.
8. East Tennessee State University, Department of Chemistry, Sep 4, **2015**.
7. University of Warwick (*England*), Department of Chemistry, Aug 4, **2015**.
6. Cal Poly San Luis Obispo, Department of Chemistry, May 14, **2015**.
5. College of Charleston, Department of Chemistry, Nov 6, **2014**.
4. Virginia Tech BioBased Materials Center, Mar 28, **2014**.

3. Winthrop University, Department of Chemistry, Geology and Physics, Mar 13, **2014**.
2. Indiana University of Pennsylvania, Department of Chemistry, Feb 28, **2014**.
1. Norfolk State University, Department of Chemistry, Feb 27, **2013**.

RESEARCH SUPPORT

As PI/co-PI at Virginia Tech

Current

Administrative Supplement for Purchase of a Helium Recovery System
National Institutes of Health
PIs: Matson, Webster Santos (VT)
$151,153; 7/2020 – 6/2021

Self-Amplified Depolymerizable Polymers
National Science Foundation, Division of Chemistry, MSN Program (CHE-2003662)
$450,000; 7/2020 – 6/2023

R&D Contract
Pharmaceutical Company
$95,000; 6/2020 – 6/2021

Novel Cellular and Molecular Regulation of Collateral Remodeling in Ischemic Stroke
NIH – National Institute of Neurological Disorders and Stroke (R01GM123508)
PI: Prof. Micelle Theus (VT); Co-Is: Prof. Hehuang Xie (VT) and Prof. John Matson (VT)
$1,733,852; 7/2019 – 6/2024

Self-Assembling Peptide Nanocoils as Templates to Form Chiral Plasmonic Nanoparticles
Virginia Tech Dean's Discovery Fund
PI: Matson; co-PI: Guoliang "Greg" Liu (Virginia Tech)
$18,115; 7/2019 – 6/2020

Functional Bioactive Materials for Gasotransmitter Delivery and Tissue Engineering
Dreyfus Foundation (TC-18-039)
$75,000; 5/2018 – 4/2023

Mimicking Native Cryptic Sites
Binational Science Foundation (2016096)
PI: Matson; Co-PI: Prof. Ronit Bitton (Ben Gurion University, Israel)
$198,000; 9/2017 – 8/2021

Delivery of H_2S: Supramolecular and Enzyme-Triggered Strategies for Controlled Release
NIH – National Institute of General Medical Sciences (R01GM123508)
PI: Matson; co-PI: Prof. Khosrow Kashfi (City College of New York)
$1,485,899; 4/2017 – 1/2022

CAREER: Self-Assembled, H_2S-Releasing Gels for Promoting Angiogenesis
National Science Foundation, Division of Materials Research, Biomaterials Program (DMR-1454754)
$530,000; 4/2015 – 12/2020

Previous

Tapered Bottlebrush Polymers for Templating Gold and Silver Nanoparticles with Shape Asymmetry
Army Research Office (74464-CH-II)
PI: Matson; co-PI: Guoliang "Greg" Liu (Virginia Tech)
$60,000; 6/2019 – 3/2020

Administrative Supplement for Purchase of a Size Exclusion Chromatography System
National Institutes of Health
$111,000; 8/2018 – 7/2019

Tapered Bottlebrush Polymers: A New Polymer Topology
ACS Petroleum Research Fund, Doctoral New Investigator Grant (54884-DNI7)
$110,000; 9/2015 – 8/2018

pH Responsive-Nanoprobes: A novel therapeutic approach for brain injury
Virginia Tech Institute for Critical Technologies and Applied Science (JFC12-256)
PI: Prof. Michelle Theus (Virginia Tech); co-Is: Matson, Prof. Abby Whittington (Virginia Tech)
$120,000; 7/2016 – 6/2018

H_2S-Releasing Materials for Wound Healing
3M Non-Tenured Faculty Award (14548087)
$45,000; 4/2015 – 3/2018

Traumatic Brain Injury and Regeneration: A Novel Therapeutic Platform for Drug Delivery
Virginia Tech Center for Drug Discovery
PI: Prof. Abby Whittington; co-PIs: Matson, Michelle Theus (Virginia Tech)
$5,000; 1/2016 – 6/2016

Thermoresponsive Peptide Dendrimers
Binational Science Foundation (2012126)
PI: Matson; Co-PI: Prof Ronit Bitton (Ben Gurion University, Israel)
$150,000; 10/2013 – 9/2015

Tapered Bottlebrush Polymers: A New Polymer Architecture
Army Research Office (W911NF-14-1-0322)
$50,000; 8/2014 – 5/2015

One-Pot Bottlebrush Polymers
Oak Ridge Associated Universities, Powe Junior Faculty Enhancement Award
$10,000; 6/2014 – 5/2015

H_2S-Releasing Micelles for Cancer Therapy
Virginia Tech Institute for Critical Technologies and Applied Science (JFC12-256)
PI: Matson; Co-PI: Prof. Carla Finkielstein (Virginia Tech)
$120,000; 7/2013 – 6/2015

As Postdoc

3D Differentiation of Mesenchymal Stem Cells in Peptide Amphiphile Matrices
National Institute of Dental and Craniofacial Research (1F32AR061955-01)
$48,000; 11/2011 – 8/2012

Development of Hyaluronic Acid-Peptide Amphiphile Nanosacs for Systemic Delivery of Drugs, Proteins, and Signals
IBNAM-Baxter Early Career Development Award in Bioengineering
$110,000; 11/2009 – 10/2011