

Melissa A. Grunlan, Ph.D.

Curriculum Vitae

Texas A&M University
Department of Biomedical Engineering
5030 Emerging Technologies Building; 3120 TAMU
College Station, Texas 77843-3120
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EDUCATION

- August 2001-
August 2004 **Ph.D., Chemistry**
UNIVERSITY OF SOUTHERN CALIFORNIA (Los Angeles, CA)
Advisor: Prof. William P. Weber
Dissertation Title: Crosslinked Siloxanes: Preparation and Properties
- August 1995-
May 1997 **M.S., Polymers and Coatings**
NORTH DAKOTA STATE UNIVERSITY (Fargo, ND)
Advisor: Prof. J. Edward Glass
Thesis Title: Carbohydrate Polymers in Coatings
- August 1991-
August 1995 **B.S., Chemistry**
NORTH DAKOTA STATE UNIVERSITY (Fargo, ND)

ACADEMIC RESEARCH & PROFESSIONAL EXPERIENCE (post-graduate school)

- September 1, 2017
- present **Full Professor**
TEXAS A&M UNIVERSITY (College Station, TX)
Dept. of Biomedical Engineering
Dept. of Materials Science & Engineering (courtesy)
Dept. of Chemistry (courtesy)
- September 1, 2011-
August 31, 2017 **Associate Professor** (with tenure)
TEXAS A&M UNIVERSITY (College Station, TX)
Dept. of Biomedical Engineering
Dept. of Materials Science & Engineering (courtesy)
- August 15, 2005-
August 31, 2011 **Assistant Professor**
TEXAS A&M UNIVERSITY (College Station, TX)
Dept. of Biomedical Engineering
Dept. of Materials Science & Engineering (courtesy)
- October 2013 -
Present **Director of Undergraduate of Programs**
TEXAS A&M UNIVERSITY (College Station, TX)
Dept. of Biomedical Engineering
- Sept.15, 2004-
August 12, 2005 **Post-doctoral Research Associate**
TEXAS A&M UNIVERSITY (College Station, TX)
Dept. of Chemistry
Advisor: Prof. David E. Bergbreiter
Polymer-supported catalysts

INDUSTRIAL RESEARCH & PROFESSIONAL EXPERIENCE:

June 1997-
August 2001 **Senior Chemist**
H.B. FULLER COMPANY (St. Paul, MN)
Latex emulsion polymers

ACADEMIC RESEARCH & PROFESSIONAL EXPERIENCE (other)

January 2002-
August 2004 **Research Assistant** (Ph.D. Thesis Research)
UNIVERSITY OF SOUTHERN CALIFORNIA (Los Angeles, CA)
Dept. of Chemistry (with Prof. William P. Weber)
Synthesis and characterization of silicon-containing polymers & coatings

January 1996-
May 1997 **Research Assistant** (M.S. Thesis Research)
NORTH DAKOTA STATE UNIVERSITY (Fargo, ND)
Dept. of Polymers & Coatings (with Prof. J. Edward Glass)
Synthesis and coating rheology of cellulose-based associative thickeners

August 1993 to
December 1994 **Undergraduate Research Assistant** (Undergraduate Research)
NORTH DAKOTA STATE UNIVERSITY (Fargo, ND)
Dept. of Chemistry (with Prof. Mukund P. Sibi)
Synthesis of chiral liquid crystalline mesogens and natural products

June 1993 to
August 1993 Undergraduate Research Assistant (Undergraduate Research)
NORTH DAKOTA STATE UNIVERSITY (Fargo, ND)
Dept. of Chemistry (with Prof. Stephen Castellino)
Synthesis of aluminum cations in chelated structures.

MAJOR FUNDED RESEARCH PROJECTS:

CURRENT:

“Transformative and Affordable Medical Technologies and Systems: Toward Improved Diabetes Health for Underserved Populations”

The Kleberg Foundation

PI: G. Côté

Co-PI's: M. Grunlan, E. Flores, F. Sasangohar, M. Lawley, R. Guitierrez-Osuna

1/1/2018 – 12/31/2021

Total costs: \$957,789

“Development of Silicone-based Materials and Useful Components using Additive Manufacturing”

Los Alamos National Lab (LANL)

PI: M. Grunlan

11/1/2017 – 9/31/2018

Total costs: \$125,000

Engineering Research Center for Precise Advanced Technologies and Health Systems for Underserved Populations (PATHS-UP)

NSF – EEC-1648451

PI: G. Coté (TAMU),

Co-PI's: M. Grunlan, M. Lawley, B. Haridas, A. Vedlitz, K. Maitland, R. Jafari, J. Jo, R. Guitierrez-Osuna, L. Hudson, N. Deutz (TAMU); A. Sabharwal (Rice); J. Ramella-Roman (FIU); Aydogan Ozcan (UCLA)

10/1/2017 – 9/30/2022

Total costs (awarded to date): \$3.5M

“Bioactive, ‘Self-fitting’ Shape Memory Polymer (SMP) Scaffolds to Treat Cranial Bone Defects”

National Institute of Health (NIH) - 1R01DE025886-01A1

PI: M. Grunlan

Co-Is: W.B. Saunders (TAMU), R. Pool, Jr. (TAMU), M. Moreno (TAMU), M.S. Hahn (RPI)

2/1/2017 – 1/31/2021

Total costs: \$1,906,953

“Evaluating and Comparing the Regenerative Potential of Different Stem/Multiprogenitor Cell Types Seeded on a Novel Shape Memory Polymer Scaffold for Craniomaxillofacial Critical Size Bone Defects”

Naval Medical Logistics Command (NAVY) and Naval Medical Research and Development - San Antonio (NMRC-SA)

PI: Lt. Col. W. Lien, Co-PI: CDR F. Sheppard (NAMRU-SA), Assoc. Investigators: CAPT J. Stahl, A. Burdette (NAMRU-SA), Consultant: M. Grunlan

9/30/2016 – 9/30/2019

Total costs: \$2,140,150

“Pre-clinical Bone Scaffold Study”

Industrial Sponsor

PIs: M. Grunlan, Co-PI: W.B. Saunders (TAMU Vet School)

1/1/2016 - 12/31/2017

Total costs: \$44,830

“A Self-Cleaning Membrane to Extend the Lifetime of an Implanted Glucose Biosensor”

National Institute of Health (NIH) - 1R01DK095101-01A1

PI: M. Grunlan

Co-Is: G. Coté (TAMU), F. Clubb, Jr. (TAMU)

9/30/2012 - 8/31/2018

Total costs: \$1,532,310

COMPLETED:

“Development of Silicone-based Materials and Useful Components using Additive Manufacturing”

Los Alamos National Lab (LANL)

PI: M. Grunlan

10/1/2016 – 9/31/2017

Total costs: \$125,000

“Development of Silicone-based Materials and Useful Components using Additive Manufacturing”

Los Alamos National Lab (LANL)

PI: M. Grunlan
1/1/2016 – 9/31/2016
Total costs: \$150,000

“Regenerative Osteochondral Plugs (ROPs) for the Treatment of Osteochondral Defects in Dogs”

American Kennel Club
PIs: W.B. Saunders (TAMU Vet School) and M. Grunlan
1/1/2013 - 12/31/2016
Total costs: \$120,872

“Mucoadhesive Spray”

Industrial Sponsor
PI: M. Grunlan
12/1/2014 - 3/30/2016
Total costs: \$100,000

“Hybrid Inorganic-Organic Hydrogel Scaffolds for Osteochondral Regeneration”

National Institute of Health (NIH) - 1R03EB015202
PIs: M. Grunlan and M. Hahn (RPI)
4/1/2012 - 3/31/2014
Total costs: \$141,599

Industrial Sponsor

PI: M. Grunlan
8/1/2013-7/31/2014
Total costs: \$100,000

“Micropatterned Thermoresponsive Nanocomposite Hydrogel Surfaces with Self-Cleaning Behavior”

National Science Foundation (NSF) 854462
PI: M. Grunlan
Co-PIs: A. Han (TAMU), M. Hahn (TAMU, RPI)
9/1/2009 - 8/31/2013
Total costs: \$300,000

“Self-Cleaning Sensor Membranes to Improve Glucose Monitoring In Vivo”

National Institute of Health - 1R21DK082930-01
PI: M. Grunlan
Co-PIs: G. Coté (TAMU), M. Pishko (TAMU)
7/17/2009 - 6/30/2012
Total costs: \$385,748

“Novel Star-PDMS/PEO Hydrogel Scaffolds with Tunable Properties for Tissue Engineered Vascular Grafts (TEVGs)”

National Institute of Health - 1R21HL089964-01
PIs: M. Grunlan and M. Hahn (TAMU)
7/1/2008 – 6/30/2011
Total costs: \$376,837

PATENTS:

Corresponding author⁺ || Advised post-doc[#] || Advised graduate student* ||
Co-advised graduate student^(*) || Advised UG student**

Patents:

4. "Amphiphilic Siloxane Materials to Reduce Adhesion Events in Medical, Marine and Industrial Applications," **Melissa A. Grunlan**, Ranjini Murthy*. US Utility Application filed; **10/16/2016**.
3. "Implant-based Repair of Osteochondral Articular Defects," **Melissa A. Grunlan**, William B. Saunders, Mariah S. Hahn. PCT Application filed; **9/3/2016**.
2. "Self-Cleaning Membranes for Medical Devices," **Melissa A. Grunlan**, Gerard L. Coté, Alexander A. Abraham^(*), Ruochong Fei*. PCT Application filed; **1/26/2016**.
1. "Shape Memory Polymer Scaffolds for Tissue Defects," **Melissa A. Grunlan**, Dawei Zhang*, Cody A. Schoener*, William B. Saunders. US 9,925,297 B2; issued **3/24/2018**.

PEER-REVIEWED JOURNAL PUBLICATIONS:

Corresponding author⁺ || Advised post-doc[#] || Advised graduate student* ||
Co-advised graduate student^(*) || Advised UG student**

54. Zouaghi, S.; Barry, M.E.**; Bellayer, S.; Lyskawa, J.; André, C.; Delaplace, G.; **Grunlan, M.A.**⁺; Jimenez, M.⁺ "Antifouling amphiphilic silicone coatings for dairy fouling mitigation on stainless steel," in review.
53. Gharat, T.P.; Diaz-Rodriguez, P.; Erndt-Marino, J.D.; Jimenez Vergara, A.C.; Munoz Pinto, D.J.; Beardon, R.N.; Huggins, S.S.; **Grunlan, M.**; Saunders, W.B.; Hahn, M.S.⁺ "A canine in vitro model for evaluation of marrow-derived mesenchymal stromal cell-based bone scaffolds," *J. Biomed. Mater. Res. Part A*, **2018**, *accepted*.
52. Woodard, L.N.*; Kmetz, K.T.**; Roth, A.A.**; Page, V.M.**; **Grunlan, M.A.**⁺ "Porous poly(ϵ -caprolactone)-poly(L-lactic acid) semi-interpenetrating networks as superior, defect-specific scaffolds with potential for cranial bone defect repair," *Biomacromolecules*, **2017**, *18*, 4075-4083.
51. Means, A.K.*; Ehrhardt, D.A.**; Whitney, L.V.**; **Grunlan, M.A.**⁺ "Thermoresponsive double network hydrogels with exceptional mechanical properties," *Macromol. Rapid Comm.*, **2017**, *38*, 1700351-1700357.
50. Ngo, B.K.D.*; **Grunlan, M.A.**⁺ "Protein resistant polymeric biomaterials," *ACS Macro Lett.*, **2017**, *6*, 992-1000.
49. Hawkins, M.L.[#]; Schott, S.S.**; Grigoryan, B.**; Rufin, M.A.*; Ngo, B.K.D.*; Vanderwal, L.; Stafslie, S.J.; **Grunlan, M.A.**⁺ "Anti-protein and anti-bacterial behavior of amphiphilic silicones," *Polym. Chem.*, **2017**, *8*, 5239-5251.
48. Gacasan, E.G.**; Sehnert, R.M.**; Ehrhardt, D.A.**; **Grunlan, M.A.**⁺ "Templated, macroporous PEG-DA hydrogels as tissue engineering scaffolds," *Macromol. Mater. Eng.*, **2017**, *302*, 16000512 – 16000518.
47. Rufin, M.A.*; Ngo, B.K.D.*; Barry, M.E.**; Page, V.M.**; Hawkins, M.L.[#]; Stafslie, S.J.; **Grunlan, M.A.**⁺ "Antifouling silicones based on surface-modifying additive (SMA) amphiphiles," *Green Mater.*, **2017**, *5*, 4-13.

46. Woodard, L.N.*; Page, V.M.**; Kmetz, K.T.**; **Grunlan, M.A.**⁺ "PCL-PLLA semi-IPN shape memory polymers (SMPs): Degradation and mechanical properties," *Macromol. Rapid Comm.*, **2016**, *37*, 1972-1977.
45. Rufin, M.A.*; Barry, M.E.**; Adair, P.A.**; Hawkins, M.L.[#]; Raymond, J.E.; **Grunlan, M.A.**⁺ "Protein resistance efficacy of PEO-silane amphiphiles: Dependence on PEO-segment length and concentration in silicone," *Acta Biomaterialia*, **2016**, *41*, 247-252.
44. Fei, R.*; Means, A.K.*; Abraham, A.A.(*)[#]; Locke, A.K.; Coté, G.L.; **Grunlan, M.A.**⁺ "Self-cleaning, thermoresponsive P(NIPAAm-co-AMPS) double network membranes for implanted glucose biosensors," *Macromol. Mater. Eng.*, **2016**, *301*, 935-943.
43. Faÿ, F.; Hawkins, M.L.[#]; Réhel, K.; **Grunlan, M.A.**⁺; Linossier, I.⁺ "Non-toxic, anti-fouling silicones with variable PEO-silane amphiphiles content," *Green Mater.*, **2016**, *4*, 53-62.
42. Erndt-Marino, J.D.; Munoz-Pinto, D.J.; Samavedi, S.; Jimenez-Vergara, A.C.; Woodard, L.*; Zhang, D.*; **Grunlan, M.A.**⁺; Hahn, M.S.⁺ "Evaluation of the osteoinductive capacity of polydopamine-coated poly(ϵ -caprolactone) diacrylate shape memory foams," *ACS Biomater. Sci. Eng.*, **2015**, *1*, 1220-1230.
41. Nail, L.N.*; Zhang, D.*; Reinhardt, J.L.**; **Grunlan, M.A.**⁺ "Fabrication of a bioactive, PCL-based 'self-fitting' shape memory polymer scaffold," *J. of Visualized Experiments (JOVE)*, **2015**, *104*, e52981.
40. Rufin, M.A.*; Gruetzner, J.A.**; Hurly, M.J.**; Hawkins, M.L.[#]; Raymond, E.S.; Raymond, J.E.; **Grunlan, M.A.**⁺ "Enhancing the protein resistance of silicone via surface-restructuring PEO-silane amphiphiles with variable PEO length," *J. Mater. Chem. B*, **2015**, *3*, 2816-2825.
39. Yu, Y.-J.; Infanger, S.; **Grunlan, M.A.**⁺; Maitland, D.J.⁺ "Silicone membranes to inhibit water uptake into thermoset polyurethane shape-memory polymer conductive composites," *J. Appl. Polym. Sci.* **2015**, *132*, 41226-41234.
38. Zhang, D.*; George, O.J.**; Petersen, K.M.**; Jimenez-Vergara, A.C.; Hahn, M.S. **Grunlan, M.A.**⁺ "A bioactive "self-fitting" shape memory polymer (SMP) scaffold with potential to treat craniomaxillofacial (CMF) bone defects," *Acta Biomaterialia*, **2014**, *10*, 4597-4605.
37. Fei, R.*; Hou, H.; Munoz-Pinto, D.; Han, A.; Hahn, M.S.; **Grunlan, M.A.**⁺ "Thermoresponsive double network micropillared hydrogels for cell release," *Macromol. Biosci.*; **2014**, *14*, 1346-1352.
36. Hawkins, M.L.[#]; Rufin, M.A.*; Raymond, J.E.⁺; **Grunlan, M.A.**⁺ "Direct observation of the nanocomplex reorganization of antifouling silicones containing a highly mobile PEO-silane amphiphile," *J. Mater. Chem. Part B*, **2014**, *2*, 5689-5697.
35. Hawkins, M.L.[#]; Fav, F.; E. Cheverau; Linossier, I.⁺; **Grunlan, M.A.**⁺ "Bacteria and diatom resistance of silicone modified with PEO-silane amphiphiles," *Biofouling*, **2014**, *30*, 247-258.
34. Abraham, A.A.(*)[#]; Fei, R.*; Coté, G.L.; **Grunlan, M.A.**⁺ "A self-cleaning membrane to extend the lifetime of an implanted glucose biosensor," *ACS Appl. Mater. & Interfaces*, **2013**, *5*, 12832-12838.
33. Bailey, B.M.*; Nail, L.N.**; **Grunlan, M.A.**⁺ "Continuous gradient scaffolds for rapid screening of cell-material interactions and interfacial tissue engineering," *Acta Biomaterialia*, **2013**, *9*, 8254-8261.
32. Fei, R.*; George, J.T.**; Means, A.K.**; **Grunlan, M.A.**⁺ "Ultra strong thermoresponsive hydrogels," *Soft Matter*, **2013**, *9*, 2912-2919.
31. Zhang, D.*; Petersen, K.M.*; **Grunlan, M.A.**⁺ "PDMS-PCL shape memory polymer (SMP) foams," *ACS Appl. Mater. & Interfaces*, **2012**, *5*, 186-191.

30. Bailey, B.M.*; Fei, R.*; Munoz-Pinto, D.; Hahn, M.S.; **Grunlan, M.A.**⁺ "PDMS_{star}-PEG hydrogels prepared via solvent-induced phase separation (SIPS) and their potential utility as tissue engineering scaffolds," *Acta Biomaterialia*, **2012**, *8*, 4324-4333.
29. Munoz-Pinto, D.; Grigoryan, B.; Long, J.; **Grunlan, M.A.**; Hahn, M.S.⁺ "An approach for assessing hydrogel hydrophobicity," *J. Biomed. Mater. Res. Part A*, **2012**, *100*, 2855-2860.
28. Hawkins, M.L.*; **Grunlan, M.A.**⁺ "Protein resistance of silicones prepared with a PEO-silane amphiphile," *J. Mater. Chem.* **2012**, *22*, 19540-19546.
27. Munoz-Pinto, D.; Jimenez-Vergara, A.; Hou, Y.*; Hayenga, H.N., **Grunlan, M.A.**; Hahn, M.S.⁺ "Osteogenic potential of poly(ethylene glycol)-poly(dimethylsiloxane) hybrid hydrogels," *Tissue Eng. Part A* **2012**, *18*, 1710-1719.
26. Zhang, D.*; Burkes, W.L.**; Schoener, C.A.*; **Grunlan, M.A.**⁺ "Porous inorganic-organic shape memory polymers," *Polymer* **2012**, *53*, 2935-2941.
25. Fei, R.*; George, J.T.**; Park, J.**; **Grunlan, M.A.**⁺ "Thermoresponsive nanocomposite double network hydrogels," *Soft Matter* **2012**, *8*, 481-487. *Top 10 Most-Read Soft Matter Articles in Nov. 2011.*
24. Bailey, B.M.*; Hui, V.**; Fei, R.*; **Grunlan, M.A.**⁺ "Tuning PEG-DA hydrogel properties via solvent-induced phase separation (SIPS)," *J. Mater. Chem.* **2011**, *21*, 18776-18782.
23. Hou, Y.*; Fei, R.*; Burkes, J.C.**; Lee, S.D.**; Munoz-Pinto, D.; Hahn, M.S.; **Grunlan, M.A.**⁺ "Thermoresponsive nanocomposite hydrogels: Transparency, rapid deswelling and cell release," *J. Biomat. Tissue Eng.* **2011**, *1*, 93-100.
22. Zhang, D.*; Giese, M.L.**; Prukop, S.L.**; **Grunlan, M.A.**⁺ "Polycaprolactone-based shape memory polymers with variable polydimethylsiloxane soft segments," *J. Polym. Sci., Part A: Polym. Chem.*, **2011**, *49*, 754-761.
21. Murthy, R.*; Bailey, B.M.*; Valentin-Rodriguez, C.; Ivanisevic, A.; **Grunlan, M.A.**⁺ "Amphiphilic silicones prepared with branched PEO-silanes with siloxane tethers," *J. Polym. Sci., Part A: Polym. Chem.*, **2010**, *48*, 4108-4119.
20. Hou, H.; Hou, Y.*; **Grunlan, M.A.**; Munoz-Pinto, D.J.; Hahn, M.S.; Han, A.⁺ "Micropatterning of poly(*N*-isopropylacrylamide) PNIPAAm hydrogels: Effects of thermosensitivity and cell release behavior," *Sensors and Material*, **2010**, *22*, 109-120.
19. Gant, R.^(*); Abraham, A.^(*); Hou, Y.*; **Grunlan, M.A.**⁺; Coté, G.L. "Design of a self-cleaning thermoresponsive nanocomposite hydrogel membrane for implantable biosensors," *Acta Biomaterialia*, **2010**, *6*, 2903-2910.
18. Munoz-Pinto, D.J.; McMahan, R.E.; Kanzelberger, M.A.; Jimenez-Vergara, A.C.; **Grunlan, M.A.**; Hahn, M.S.⁺ "Inorganic-organic hybrid scaffolds for osteochondral regeneration," *J. Biomed. Mater. Res. Part A*, **2010**, *94*, 112-121.
17. Hou, Y.*; Schoener, C.A.*; Regan, K.R.**; Munoz-Pinto, D.; Hahn, M.S.; **Grunlan, M.A.**⁺ "Photo-crosslinked PDMS_{star}-PEG hydrogels: Synthesis, characterization, and potential application for tissue engineering scaffolds," *Biomacromolecules* **2010**, *11*, 648-656.
16. Schoener, C.A.*; Weyand, C.B.**; Murthy, R.M.*; **Grunlan, M.A.**⁺ "Shape memory polymers with silicon-containing segments," *J. Mater. Chem.* **2010**, *20*, 1787-1793.

15. Hou, H.; Kim, W.; **Grunlan, M.**; Han, A.⁺ "A thermoresponsive hydrogel poly(*N*-isopropylacrylamide) micropatterning method using microfluidics techniques," *J. Micromech. Microeng.* **2009**, *19*, 127001-127007.
14. Gant, R.^(*); Hou, Y.*; **Grunlan, M.A.**, Coté, G.L.⁺ "Development of a self-cleaning sensor membrane for implantable biosensors," *J. Biomed. Mater. Res.* **2009**, *90A*, 695-701
13. Pierce, L.M.⁺; **Grunlan, M.A.**; Hou Y.*; Baumann, S.S.; Kuehl, T.J.; Muir, T.W. "Biomechanical properties of synthetic and biologic graft materials following long-term implantation in the rabbit abdomen and vagina," *Am. J. Obstet. Gynecol.* **2009**, *200*, 549.e1-e8.
12. Murthy, R.*; Shell, C.E.**; **Grunlan, M.A.**⁺ "The influence of poly(ethylene oxide) grafting via siloxane tethers on protein adsorption" *Biomaterials* **2009**, *30*, 2433-2439.
11. Hahn, M.S.⁺; Liao, H; Munoz-Pinto, D.; Xin, Q.; Hou, Y.*; **Grunlan, M.A.**; "Influence of hydrogel mechanical properties and mesh size on vocal fold fibroblast extracellular matrix production," *Acta Biomaterialia* **2008**, *4*, 1161-1171.
10. Hou, Y.*; Matthews, A.R.**; Smitherman, A.M.**; Bulick, A.S.; Hahn, M.S.; Hou, H.; Han, A.; **Grunlan, M.A.**⁺ "Thermoresponsive nanocomposite hydrogels with cell-releasing behavior," *Biomaterials* **2008**, *29*, 3175-3184.
9. Murthy, R.*; Cox, C.D.**; Hahn, M.S.; **Grunlan, M.A.**⁺ "Protein-resistant silicones: Incorporation of poly(ethylene oxide) via siloxane tethers," *Biomacromolecules*, **2007**, *8*, 3244-3252.
8. **Grunlan, M.A.**; Regan, K.R.; Bergbreiter, D.E.⁺ "Liquid/liquid separation of polysiloxane-supported catalysts," *Chem. Comm.* **2006**, 1715-1717. *Selected as HOT TOPIC article.*
7. **Grunlan, M.A.**; Lee, N.S.; Mansfeld, F.; Kus, E.; Finlay, J.A.; Callow, J.A.; Callow, M.E.; Weber, W.P. "Minimally adhesive polymer surfaces (MAPS) prepared from star oligosiloxanes and star oligofluorosiloxanes," *J. Poly. Sci., Part A: Polym. Chem.* **2006**, *44*, 2551-2566.
6. Kus, E.; **Grunlan, M.A.**; Weber, W.P.; Mansfeld, F.⁺ "Evaluation of nontoxic polymer coatings with potential biofoul release properties using EIS," *J. Electrochem. Soc.* **2005**, *152*, B236-B243.
5. **Grunlan, M.A.**; Lee, N.S.; Weber, W.P.⁺ "Crosslinking of 1,9-bis-[glycidylxypropyl]penta-(1'H,1'H,2'H,2'H-perfluoroalkylmethylsiloxane)s with α,ω -diaminoalkanes: The cure behavior and film properties," *J. Appl. Poly. Sci.* **2004**, *94*, 203-210.
4. **Grunlan, M.A.**; Lee, N.S.; Cai, G.; Gädda, T.; Mabry, J.M.; Mansfeld, F.; Kus, E.; Wendt, D.E.; Kowalke, G.L.; Finlay, J.A.; Callow, J.A.; Callow, M.E.; Weber, W.P.⁺ "Synthesis of α,ω -bis epoxy oligo(1'H,1'H,2'H,2'H-perfluoroalkyl siloxane)s and properties of their photo-acid cross-linked films," *Chem. of Mater.* **2004**, *16*, 2433-2441.
3. **Grunlan, M.A.**; Lee, N.S.; Weber, W.P.⁺ "Synthesis of 1,9-bis[glycidylxypropyl]penta-(1'H,1'H,2'H,2'H-perfluoroalkylmethylsiloxane)s and their copolymerization with piperazine," *Polymer* **2004**, *45*, 2517-2523.
2. **Grunlan, M.A.**; Mabry, J.M.; Weber, W.P.⁺ "Synthesis of fluorinated copoly(carbosiloxane)s by Pt-catalyzed hydrosilylation copolymerization," *Polymer* **2003**, *44*, 981-987.
1. Grunlan, J.C.; Ma, Y.; **Grunlan, M.A.**; Francis, L.F.⁺ "Monodisperse latex with variable glass transition temperature and particle size for use as matrix starting material for conductive polymer composites," *Polymer* **2001**, *42*, 6913-6921.

BOOK CHAPTERS:

Corresponding author⁺ || Advised post-doc[#] || Advised graduate student* ||
Co-advised graduate student^(*) || Advised UG student**

4. Rufin, M.A.*; **Grunlan, M.A.**⁺ “Surface-Grafted Polymer Coatings: Preparation, Characterization, and Antifouling Behavior,” in Functional Polymer Coatings: Principles, Methods, and Applications, First Edition. Wu, L.; Baghdachi, J., Eds. John Wiley & Sons, Inc., **2015**, pp. 218-238.
3. **Grunlan, M.A.**; Lee, N.S.; Finlay, J.A.; Callow, J.A.; Callow, M.E.; Weber, W.P.⁺ “Fluorinated Copoly(carbosiloxane): Synthesis, Copolymerization, and Cross-Linked Networks,” in Science and Technology of Silicones and Silicone-Modified Materials, ACS Symposium Series 964, Clarson, S.J.; Fitzgerald, J.J.; Owen, M.J.; Smith, S.D.; Van Dyke, M.E., Eds., Amer. Chem. Soc., Washington, D.C., **2007**, pp. 37-48.
2. Kus, E.; **Grunlan, M.**; Weber, W.P.; Anderson, N.; Webber, C.; Stenger-Smith, J.D.; Zarras, P.; Mansfeld, F.⁺ “Evaluation of the Protective Properties of Novel Chromate-Free Polymer Coatings Using Electrochemical Impedance Spectroscopy,” in New Developments in Coatings Technology, ACS Symposium Series 962, Zarras, P.; Benicewicz, B.C.; Wood, T.; Richey, B., Eds., Amer. Chem. Soc., Washington, D.C., **2007**, pp. 297-322.
1. **Grunlan, M.A.**; Xing, L.; Glass, J.E. “Waterborne Coatings with an Emphasis on Synthetic Aspects: An Overview,” in Technology for Waterborne Coatings, ACS Symposium Series 663, Glass, J.E., Ed., Amer. Chem. Soc., Washington, D.C., **1997**, pp. 1-26.

PRESENTATIONS (by M. Grunlan):

111. “Degradable, ‘Self-fitting’ shape memory polymer scaffolds for cranial bone defect repair,” presented at the **Society for Biomaterials (SFB) National Meeting**, Atlanta, GA, United States, April 12, 2018. [talk]
110. “Double network hydrogels with high stiffness and ultra-high strength,” presented at the 255th **American Chemical Society (ACS) National Meeting**, New Orleans, LA, United States, March 21, 2018. [talk]
109. “Self-fitting shape memory polymer (SMP) scaffolds based on PCL-PLLA semi-IPNs with unique degradation behavior,” presented at **Milan Polymer Days**, Milan, Italy, February 14-16, 2018. [talk - INVITED]
108. “Biomaterials designed to heal bone tissue,” presented as the **Ethel-Ashworth-Tsutsui Memorial Lecture**, February 8, 2018. [talk - INVITED]
107. “Shape memory polymer scaffolds based on PCL-PLLA semi-IPNs,” presented at the **Polymers & Nanotechnology Workshop**, San Diego, CA, United States, December 17-20, 2017. [talk - INVITED]
106. “Broad spectrum anti-biofouling behavior of non-toxic amphiphilic silicones,” presented at the **Frontiers in Green Materials Symposium**, London, United Kingdom, December 11, 2017. [poster]
105. “Self-cleaning membranes to control biofouling on implanted glucose biosensors,” presented at the **Tsinghua-US Polymer Symposium**, Tsinghua University, Dept. of Chemistry, Beijing, China, October 16, 2017. [talk - INVITED]

104. "Self-cleaning membranes to control biofouling on implanted glucose biosensors," presented at the **Joint Symposium on Frontiers in Polymer Science and Engineering with the Chinese Chemical Society Polymer Division (CCS-PD)**, Chengdu, China, October 13, 2017. [talk - [INVITED](#)]
103. "Self-fitting shape memory polymers (SMP) scaffolds based on PCL-PLLA semi-IPNs," presented at the **3rd Functional Polymeric Materials**," Rome, Italy, June 14-19, 2017. [talk - [INVITED](#)]
102. "Self-fitting shape memory polymers (SMP) scaffolds to treat craniomaxillofacial (CMF) bone defects," presented at the **6th Int'l Conference on Tissue Engineering in conjunction with the 3rd Int'l Conference on Regenerative Biomedical Materials**, Heraklion, Crete, Greece, June 14-19, 2017. [talk]
101. "Self-fitting shape memory polymers (SMP) scaffolds to treat craniomaxillofacial (CMF) bone defects," presented at **Biomaterials Day Meeting**, Austin, TX, United States, June 2, 2017. [talk - [INVITED](#)]
100. "Amphiphilic silicones to control biofouling," presented at the **University of South Brittany – Morbihan**, France, June 1, 2017. [talk - [INVITED](#)]
99. "Self-fitting" shape memory polymer (SMP) scaffolds based on PCL-PLLA semi-IPN shape memory polymers (SMPs)," presented at the 253rd **American Chemical Society (ACS) National Meeting**, San Francisco, CA, United States, April 2, 2017. [talk - [INVITED](#)]
98. "Self-fitting" shape memory polymer (SMP) scaffolds to treat craniomaxillofacial (CMF) bone defects," presented to the **Dept. of Biomedical Engineering, Case Western Reserve University**, Cleveland, OH, USA, February 20, 2017. [talk – [INVITED](#)]
97. "Amphiphilic silicones to control biofouling," presented at the **Frontiers in Green Materials** symposium, London, United Kingdom, December 12, 2016. [talk - [INVITED](#)]
96. "Amphiphilic silicones to control marine and medical biofouling," presented at the 252nd **American Chemical Society (ACS) National Meeting**, Philadelphia, PA, United States, August 22, 2016. [talk - [INVITED](#)]
95. "A bioactive 'self-fitting' shape memory polymer (SMP) scaffold to treat craniomaxillofacial (CMF) bone defects," presented at the 252nd **American Chemical Society (ACS) National Meeting**, Philadelphia, PA, United States, August 22, 2016. [talk - [INVITED](#)]
94. "Amphiphilic silicones to control biological adhesion," presented at **Los Alamos National Lab (LANL)**, Los Alamos, NM, United States, August 17, 2016. [talk - [INVITED](#)]
93. "Amphiphilic silicones to control biological adhesion," presented at the **5th Zing Polymer Chemistry Conference**, Dublin, Ireland, August 7, 2016. [talk - [INVITED](#)]
92. "Hydrogel design and cell/materials interactions," presented at the **NSF Workshop on Biomaterials for NSF DMR MIP Program**, Washington, DC, United States, August 2-3, 2016. [talk - [INVITED](#)]
91. "Thermoresponsive Nanocomposite hydrogels as self-cleaning membranes for implanted glucose biosensor," presented at the **Polymer Composites and High Performance Materials Workshop**, Santa Rosa, CA, United States, July 26, 2016. [talk - [INVITED](#)]
90. "Custom silicones with high thermal and radiation stability for direct ink write and hydrostatic LOPP additive manufacturing," presented at the **43rd Polymeric Materials Adhesives and Composites Conference (polyMAC) (Unclassified)**, National Security Campus (NSC), Kansas City, United States, June 15, 2016. [talk - [INVITED](#)]

89. "A bioactive 'self-fitting' shape memory polymer (SMP) to treat craniomaxillofacial (CMF) bone defects," presented at the **CIMTEC 2016 Conference**, Perugia, Italy, May 24, 2016 [talk - [INVITED](#)]
88. "Amphiphilic silicones to control biological adhesion," presented to the **Society of Plastic Engineers (SPE) Annual Technical Conference (ANTEC)**, Indianapolis, IN, United States, May 24, 2016. [talk - [INVITED](#)]
87. "Amphiphilic silicones to control biological adhesion," presented to the National Graduate School of Engineering Chemistry of Lille (École Nationale Supérieure de Chimie, ENSCL), **University of Lille Nord de France**, Lille, France, May 3, 2016. [talk - [INVITED](#)]
86. "Amphiphilic silicones to reduce biological adhesion," presented at the **Polymer Technology Industrial Consortium (PTIC) Meeting**, Texas A&M University, College Station, TX, United States; April 8, 2016. [talk - [INVITED](#)]
85. "Anti-fouling amphiphilic silicones: Efficacy against marine biofouling," presented at the 251st **American Chemical Society (ACS) National Meeting**, San Diego, CA, United States, March 13-17, 2016. [talk - [INVITED](#)]
84. "Anti-fouling silicones prepared with PEO-silane amphiphiles," presented at the 251st **American Chemical Society (ACS) National Meeting**, San Diego, CA, United States, March 13-17, 2016. [talk - [INVITED](#)]
83. "Thermoresponsive hydrogels as self-cleaning membranes for implanted glucose biosensors," presented at the 251st **American Chemical Society (ACS) National Meeting**, San Diego, CA, United States, March 13-17, 2016. [talk - [INVITED](#)]
82. "Silicon-containing hydrogels and shape memory polymers for tissue regeneration," presented to the Dept. of Chemical Engineering, **University of Puerto Rico Mayagüez**, March 3, 2016 [talk - [INVITED](#)]
81. "Amphiphilic silicones with resistance to biological adhesion," presented to the Dept. of Materials Science & Engineering, **Johns Hopkins University**, February 24, 2016 [talk - [INVITED](#)]
80. "Amphiphilic silicones with resistance to biological adhesion," presented to the Dept. of Chemistry, **University of Southern California**, January 28, 2016 [talk - [INVITED](#)]
79. "Thermally-driven, self-cleaning membranes: Extending the lifetime of an implanted glucose biosensor," **Pacifichem**, Honolulu, HI, United States, December 15 – 20, 2015. [talk]
78. "Self-cleaning, ultra-strong membranes for implanted glucose biosensors" presented at the Fall 2015 **Material Research Society (MRS) National Meeting**, Boston, MA, United States, November 29 – December 4, 2015. [talk]
77. "Thermoresponsive hydrogels as self-cleaning membranes for implanted glucose biosensors" presented to the College of Engineering, Mathematics & Physical Science, **University of Exeter**, Exeter, United Kingdom, November 11, 2015. [talk-[INVITED](#)]
76. "Silicon-containing hydrogels and shape memory polymers for tissue regeneration," presented to the Dept. of Materials, **Imperial College London**, London, United Kingdom, November 6, 2015. [talk-[INVITED](#)]
75. "Polymeric biomaterials for next generation medical devices and tissue engineering scaffolds," presented at the **National Institute of Materials Science and Engineering (NIMS)**, Tsukuba, Japan, September 16, 2015. [talk-[INVITED](#)]

74. "Antifouling marine and medical technology," presented at the 250th **American Chemical Society (ACS) National Meeting**, Boston, MA, United States, August 16-20, 2015. [talk – [INVITED](#)]
73. "Antifouling silicones prepared with PEO-silane amphiphiles: Impact of structure and concentration," presented at the 250th **American Chemical Society (ACS) National Meeting**, Boston, MA, United States, August 16-20, 2015. [talk – [INVITED](#)]
72. "Overcoming the poor ability of PEO to reduce protein adsorption onto silicone," presented at the **Gordon Research Conference (GRC) on Polymers** – Mount Holyoke, MA, United States, June 15, 2015. [talk – [INVITED](#)]
71. "PEO-silane amphiphiles to decrease biofouling on silicones," presented at the **University of South Brittany** – Morbihan, France, June 1, 2015. [talk – [INVITED](#)]
70. "PEO-silane amphiphiles to reduce biological adhesion," presented at the *Dept. of Materials Engineering, Technion Israel Institute of Technology* – Haifa, Israel, May 3, 2015. [talk – [INVITED](#)]
69. "PEO-silane amphiphiles to reduce biological adhesion," presented at the *Dept. of Chemical Engineering, Ben-Gurion University of the Negev* – Beer Sheeva, Israel, April 28, 2015. [talk – [INVITED](#)]
68. "Silicon-containing hydrogels and shape memory polymers for tissue regeneration," presented at the *Dept. of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign* – Champaign, IL, United States, April 21, 2015. [talk – [INVITED](#)]
67. "Self-cleaning membranes for implanted glucose biosensors," presented at the **Deformation, Yield and Fracture of Polymers (DYFP2015)**, Kerkade, Netherlands, March 29 – April 2, 2015. [talk – [INVITED](#)]
66. "Silicon-containing hydrogels and shape memory polymers for tissue regeneration," presented at the 248th **American Chemical Society (ACS) National Meeting**, Denver, CO, United States, March 22-26, 2015. [talk – [INVITED](#)]
65. "Self-cleaning membranes for implanted glucose biosensors," presented at the **Silicon-Containing Polymers and Composites Meeting 2014**, San Diego, CA, United States, December 14-17, 2014. [talk – [INVITED](#)]
64. "PEO-silane amphiphiles to decrease biofouling on silicones," presented at the 4th **Zing Polymer Chemistry**, Cancun, Mexico; December 10 – 13, 2014. [talk – [INVITED](#)]
63. "Reducing biofouling on silicones with PEG-silane amphiphile additives: Marine and medical applications," presented at the **Silicone Elastomers World Summit 2014**, Vienna, Austria, December 3-4, 2014. [talk – [INVITED](#)]
62. "Silicon-containing hydrogels and shape memory polymers for tissue regeneration," presented to the *Department of Materials Engineering, Purdue University*, Lafayette, IN, United States; October 10, 2014. [talk - [INVITED](#)]
61. "A self-fitting shape memory polymer (SMP) scaffold with potential to treat craniomaxillofacial (CMF) bone defects," presented at the 248th **American Chemical Society (ACS) National Meeting**, San Francisco, CA, United States, August 10-14, 2014. [talk – [INVITED](#)]
60. "Inorganic-organic hydrogel scaffolds for osteochondral tissue engineering," presented at the Spring 2014 **Material Research Society (MRS) National Meeting**, San Francisco, CA, United States, April 21-25, 2014. [talk]

59. "Silicon-containing hydrogels and shape memory polymers for tissue regeneration," presented to the *Dept. of Bioengineering, Imperial College London*; November 28, 2013. [talk - [INVITED](#)]
58. "Nanocomposite self-cleaning membranes for implanted glucose biosensor," presented at the **Composites at Lake Louise Meeting**, Lake Louise, Alberta, Canada; November 5, 2013. [talk - [INVITED](#)]
57. "Silicones with hydrophilicity and resistance to fouling," presented at the **Polymer Technology Industrial Consortium (PTIC) Meeting**, Texas A&M University, College Station, TX, United States; October 25, 2013. [talk - [INVITED](#)]
56. "Silicon-containing hydrogels and shape memory polymers for tissue regeneration," presented to the School of Polymers and High Performance Materials, **University of Southern Mississippi**, Hattiesburg, MS, United States; October 2, 2013. [talk - [INVITED](#)]
55. "Silicon-containing hydrogels and shape memory polymers for tissue regeneration," presented to the Dept. of Chemistry and Chemical Biology, **McMaster University**, Hamilton, Ontario, Canada; September 12, 2013. [talk - [INVITED](#)]
54. "Nanocomplex anti-fouling coatings based on PEO-silane amphiphiles," presented at the **MRS-Singapore ICMAT Conference**, Singapore; June 30 - July 5, 2013 [talk - [INVITED](#)].
53. "Self-cleaning membranes for implanted glucose biosensors," presented at the **MRS-Singapore ICMAT Conference**, Singapore; June 30 - July 5, 2013 [talk].
52. "Self-cleaning membranes for implanted glucose biosensors," presented at the **European Polymer Conference**, Pisa, Italy; June 16-21, 2013 [talk].
51. "Anti-fouling behavior of coatings based on PEO-silane amphiphiles," presented at the 2013 **Gordon Research Conference (GRC) on Polymers**, Mount Holyoke College, South Hadley, MA, United States; June 9-14, 2013 [poster].
50. "Nanocomplex anti-fouling coatings," presented at the **Society of Plastics Engineers (SPE) ANTEC® Meeting**, Cincinnati, OH, United States; April 21-25, 2013 [talk - [INVITED](#)].
49. "High strength thermoresponsive double network," presented at the 245th **American Chemical Society (ACS) National Meeting**, New Orleans, LA, United States; April 7-11, 2013 [talk].
48. "Gradient PDMS_{star}-PEG hydrogel scaffolds for osteochondral tissue engineering," presented at the 245th **American Chemical Society (ACS) National Meeting**, New Orleans, LA, United States; April 7-11, 2013 [talk].
47. "Self-cleaning membranes for implanted glucose biosensors," presented to the *Department of Chemistry and Biochemistry, Cal Poly San Luis Obispo*, San Luis Obispo, CA; United States, April 4, 2013 [talk - [INVITED](#)].
46. "Nanocomplex anti-fouling coatings based on PEO-silane amphiphiles," presented at the **ACS Silicon-Containing Polymer Conference**; San Diego, CA, United States; December 9-12, 2012. [talk]
45. "Medical and marine anti-fouling coatings prepared with amphiphilic PEG-silanes," presented at the **Zing Polymer Chemistry Conference**, Xcaret, Mexico; November 12-16, 2012. [talk - [INVITED](#)]
44. "PDMS_{star}-PEG hybrid scaffolds for bone tissue engineering," presented at the **65th OMICS Group Conference** – International Conference on Tissue Science and Engineering, Chicago, IL, United States; October 1-3, 2012. [talk - [INVITED](#)]

43. "Anti-fouling medical and marine coatings prepared with amphiphilic PEG-silanes," presented at the PMSE Young Investigator Symposium, 244rd **American Chemical Society (ACS) National Meeting**, Philadelphia, PA, United States; August 19-23, 2012. [talk - INVITED]
42. "Anti-fouling coatings prepared with PEG-silane amphiphiles – Medical and marine applications," presented at **3M**; Maple Grove, MN, United States; April 15, 2012. [talk-INVITED]
41. "Nanocomposite hydrogels," presented at **2012 IPRIME (Industrial Partnership for Research in Interfacial and Materials Engineering)**; Minneapolis, MN, United States; May 30, 2012. [talk-INVITED]
40. "Anti-fouling coatings for medical and marine applications," presented at the **American Coatings Conference**, Indianapolis, IN, United States, May 7-9, 2012. [talk - INVITED]
39. "Silicon-containing polymeric biomaterials," presented to **Southwest Research Institute**, San Antonio, TX, United States, April 20, 2012. [talk - INVITED]
38. "Self-cleaning membranes for implanted glucose biosensors," presented to the Dept. of Chemistry, **University of Minnesota**, Minneapolis, MN, United States, April 12, 2012. [talk - INVITED]
37. "Porous inorganic-organic PDMS-PCL shape memory polymers," presented at the 243rd **American Chemical Society (ACS) National Meeting**, San Diego, CA, United States, March 25-29, 2012. [talk]
36. "Anti-fouling coatings prepared with PEG-silane amphiphiles – Marine and medical applications," presented at the 243rd **American Chemical Society (ACS) National Meeting**, San Diego, CA, United States, March 25-29, 2012. [talk]
35. "Anti-fouling coatings prepared with PEG-silane amphiphiles – Marine and medical applications," presented at the **Smart Coatings Symposium**; Orlando, FL, United States; February 22-24, 2012. [talk-INVITED]
34. "Anti-fouling coatings prepared with amphiphilic PEG-silanes containing siloxane tethers," presented at the 242nd **American Chemical Society (ACS) National Meeting**, Denver, CO, United States, August 28-September 1, 2011. [talk-INVITED]
33. "PDMS_{star}-PEG hydrogels as tissue engineering scaffolds," presented at the **4th International Conference on Tissue Engineering**, Chania, Crete, Greece, May 31 – June 5 2011. [talk]
32. "Inorganic-organic shape memory polymers for bone defects," presented at the **Summer Forum on Materials and Nanotechnology**, North Dakota State University (NDSU), Fargo, ND, United States, June 9, 2011. [talk-INVITED]
31. "Self-cleaning sensor membranes based on thermoresponsive nanocomposite hydrogels," presented at the Fall 2010 **Material Research Society (MRS) National Meeting**, Boston, MA, United States, November 29 – December 3, 2010. [talk]
30. "Thermoresponsive nanocomposite hydrogels as self-cleaning membranes for glucose biosensors," presented at the **Zing Polymer Chemistry Conference**, Puerto Morelos, Mexico, November 19-22, 2010. [talk]
29. "Thermoresponsive nanocomposite hydrogels as self-cleaning membranes for glucose biosensors," presented at the **National Biomedical Engineering Society (BMES) Meeting**, Austin, TX, United States, October 7-9, 2010. [talk]

28. "Amphiphilic silicones with enhanced blood compatibility," presented at the **15th International Society of Coatings Science and Technology Meeting**, Minneapolis, MN, United States, September 13-15, 2010. [talk-INVITED]
27. "Photo-crosslinked PDMS_{star}-PEG hydrogels: Fabrication and use as tissue engineering scaffolds," presented at the 239th **American Chemical Society (ACS) National Meeting**, Washington, D.C, United States, March 21-25, 2010. [talk]
26. "Enhancing the blood-compatibility of PEO-modified biomaterials," presented to the *Dept. of Chemistry, University of Houston*, Houston, TX, United States, March 20, 2010. [talk - INVITED]
25. "Enhancing the blood compatibility of PEG: Introducing siloxane tethers," by **Grunlan, M.A.** Presented at the **Society for Biomaterials (SFB) Day at Texas A&M University Meeting**, College Station, TX, United States, February 22, 2010. [talk]
24. "Photo-crosslinked PEO-PDMS_{star} hydrogels: Synthesis, characterization, and potential application for tissue engineering," presented at the **Material Research Society (MRS) National Meeting**, Boston, MA, United States, December 1-5, 2009. [talk]
23. "Shape memory polymers with Si-containing segments," presented to the *Dept. of Coatings and Polymeric Materials, North Dakota State University*, Fargo, ND, United States, October 23, 2009. [talk - INVITED]
22. "Si-Containing polymeric biomaterials: From controlling biological adhesion to shape memory polymers," presented to the *Dept. of Polymer Science and Engineering, University of Massachusetts - Amherst*, Amherst, MA, United States, September 18, 2009. [talk-INVITED]
21. "Photocurable Si-containing shape memory polymer," presented at the 237th **American Chemical Society (ACS) National Meeting**, Washington, D.C, United States, August 16-21, 2009. [talk-INVITED]
20. "Enhancing the blood-compatibility of PEO-modified biomaterials," presented at the **American Chemical Society (ACS) 6th Annual Polymers in Medicine and Biology**, Santa Rosa, CA, United States, June 14-17, 2009. [talk-INVITED]
19. "Si-Containing blood compatible coatings and hydrogel scaffolds: Going beyond PEO," presented at the **National Institute of Standards and Technology (NIST)**, Gaithersburg, MD, United States, May 1, 2009. [talk-INVITED]
18. "Thermoresponsive nanocomposite hydrogels with cell-releasing behavior," presented at the 237th **American Chemical Society (ACS) National Meeting**, Salt Lake City, UT, United States, March 22-25, 2009. [talk]
17. "Enhancing the blood-compatibility of PEO-modified biomaterials," presented to the *Dept. of Chemistry, University of Texas - Dallas*, Dallas, TX, United States, March 20, 2009 [talk - INVITED].
16. "Grafting of PEO via siloxane tethers for improved blood protein resistance," presented at the **Gordon Research Conference (GRC) on Macromolecular Materials**, Ventura, CA, United States, January 11-16, 2009. [poster]
15. "Development of a self-cleaning membrane for implantable glucose biosensors," presented at the **Material Research Society (MRS) National Meeting**, Boston, MA, United States, December 1-5, 2008. [talk]
14. "Protein-resistant biomaterials: grafting of PEO via flexible siloxane tethers," presented at the 236th **American Chemical Society (ACS) National Meeting**, Philadelphia, PA, United States, August 17-21, 2008. [talk]

13. "Design and characterization of inorganic-organic biomaterials," presented at the **NaTex (Texas and Southwest section of the North American Thermal Analysis Society) Meeting**, Dallas, TX, United States, May 13th, 2008. [talk-INVITED]
12. "Protein-resistant silicones: grafting of poly(ethylene oxide) via siloxane tethers," presented at the **Biomedical Engineering Society (BMES) National Meeting**, Hollywood, CA, United States, Sept. 28, 2007. [poster]
11. "Inorganic-organic hydrogel scaffolds based on polydimethylsiloxane and poly(ethylene oxide)," presented at the **Biomedical Engineering Society (BMES) National Meeting**, Hollywood, CA, United States, Sept. 28, 2007. [poster]
10. "Inorganic-organic hydrogels with tunable properties," presented at the 232nd **American Chemical Society (ACS) National Meeting**, Boston, MA, United States, August 19-23, 2007. [talk]
9. "Non-adhesive polymer surfaces from novel amphiphilic block copolymers," presented at the 62nd **Southwest Regional Meeting of the American Chemical Society (ACS)**, Houston, TX, United States, October 19-22, 2006. [talk-INVITED]
8. "Regioselective synthesis of crosslinkable α -(EtO)₃Si-oligosiloxane-*block*-oligo(oxyethylene)s," presented at the 232nd **American Chemical Society (ACS) National Meeting**, San Francisco, CA, United States, Sept. 10-14, 2006. [talk]
7. "Liquid/liquid separation of polysiloxane-supported catalysts," presented at the 38th **Central Regional Meeting of the American Chemical Society (ACS)**, Frankenmuth, MI, United States, May 16-20, 2006. [talk]
6. "Minimally adhesive siloxane and fluorosiloxanes surfaces," presented at the 38th **Central Regional Meeting of the American Chemical Society (ACS)**, Frankenmuth, MI, United States, May 16-20, 2006. [talk]
5. "Hybrid networks generated from star polysiloxanes/linear PDMS: Preparation of minimally adhesive polymer surfaces," presented at the 229th **American Chemical Society (ACS) National Meeting**, San Diego, CA, United States, March 13-17, 2005. [talk]
4. "Synthesis of 1,9-bis[Glycidyoxypropyl]penta-(1H',1H',2H',2H')-perfluoroalkylmethylsiloxane)s and their copolymerization with piperazine," presented at the 227th **American Chemical Society (ACS) National Meeting**, Anaheim, CA, United States, March 28-April 1, 2004. [poster]
3. "Crosslinking of α,ω -(epoxy)fluorosiloxanes with α,ω -diaminoalkanes: Cure behavior and properties," presented at the 227th **American Chemical Society (ACS) National Meeting**, Anaheim, CA, United States, March 28-April 1, 2004. [talk]
2. "Preparation of copoly[methyldimethylphosphonopropylsiloxane/dimethylsiloxane] by Arbuzov reaction and its properties," presented at the 226th **American Chemical Society (ACS) National Meeting**, New York, NY, United States, September 7-11, 2003. [poster]
1. "Synthesis of fluoroalkylsiloxane copolymers by Pt-catalyzed hydrosilylation polymerization," presented at the 224th **American Chemical Society (ACS) National Meeting**, Boston, MA, United States, August 18-22, 2002. [poster]

CONFERENCE PROCEEDINGS (not peer-reviewed):

Corresponding author⁺ || Advised post-doc[#] || Advised graduate student* ||
Co-advised graduate student^(*) || Advised UG student**

(Note: ACS Divisions no longer required or accepted pre-prints after ~2012)

35. **Grunlan, M.A.⁺**; Hawkins, M.L.*; Rufin, M.A.*; Murthy, R.; Linossier, I. "Anti-fouling medical and marine coatings prepared with amphiphilic PEG-silanes," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2012**, *107*, 6.
34. Bailey, B.M.*; Fei, R.*; **Grunlan, M.A.⁺** "PDMS_{star}-PEG hydrogel scaffolds prepared via solvent-induced phase separation," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2012**, *107*, 24.
33. Zhang, D.*; Petersen, K.M.**; **Grunlan, M.A.⁺** "PCL-based shape memory polymer foams with variable PDMS segment lengths," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2012**, *107*, 72.
33. Fei, R.*; George, J.T.**; Mean, A.K.**; **Grunlan, M.A.⁺** "Ultra strong, thermoresponsive double-network hydrogels," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2012**, *107*, 230.
32. George, J.T.**; Fei, R.*; Park, J.**; **Grunlan, M.A.⁺** "Thermoresponsive double network hydrogels with improved mechanical properties," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2012**, *53*(1), 705.
31. Rufin, M.A.*; Hawkins, M.L.*; Hahn, M.S.; Jayaraman, A.; **Grunlan, M.A.⁺** "Amphiphilic PEG-silane to prevent thrombosis on polycarbonate-polyurethane (PCU)," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2012**, *53*(1), 508.
30. Hawkins, M.L.*; Rufin, M.*; Murthy, R.*; Linossier, I.; **Grunlan, M.A.⁺** "Enhancing the anti-fouling properties of silicones," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2012**, *53*(1), 507.
29. Zhang, D.*; Burkes, W.L.**; Schoener, C.A.*; **Grunlan, M.A.⁺** "Porous inorganic-organic PDMS-PCL shape memory polymers," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2012**, *53*(1), 483.
28. Hawkins, M.L.*; Rufin, M.*; Murthy, R.*; Linossier, I.; **Grunlan, M.A.⁺** "Anti-fouling coatings prepared with amphiphilic PEG-silanes," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2012**, *53*(1), 480.
27. Bailey, B.M.*; Hou, Y.*; **Grunlan, M.A.⁺** "Tailoring the properties of PDMS-PEG hydrogel scaffolds," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2012**, *53*(1), 54.
26. Giese, M.L.*; Rufin, M.*; Murthy, R.*; Linossier, I.; **Grunlan, M.A.⁺** "Anti-fouling coatings prepared with amphiphilic PEG-silanes containing siloxane tethers," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2011**, *52*(2), 1029.
25. Zhang, D.*; Burkes, W.L.**; Schoener, C.A.*; **Grunlan, M.A.⁺** "Porous inorganic-organic shape memory polymers," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2011**, *105*, 1115.
24. Bailey, B.M.*; Hou, Y.*; **Grunlan, M.A.⁺** "Photo-crosslinked PDMS_{star}-PEG hydrogels: Fabrication and use as tissue engineering scaffolds," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2010**, *51*, 18-19.
23. Murthy, R.*; Bailey, B.M.*; Valentin-Rodriguez, C.; Ivanisevic, A.; **Grunlan, M.A.⁺** "Amphiphilic silicones prepared with branched PEO-silanes with siloxane tethers," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2010**, *51*, 45-46.

22. Munoz-Pinto, D.J.; Schoener, C.*; Hou, Y.*; **Grunlan, M.A.**; Hahn, M.S.⁺ "PDMS_{star}-PEG hydrogels for directed mesenchymal stem cell differentiation," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2010**, *51*, 76-77.
21. Fei, R.*; George, J.T.**; **Grunlan, M.A.**⁺ "Thermoresponsive nanocomposite double network hydrogels," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2010**, *51*, 415-416.
20. Zhang, D.*; Prukop, S.L.**; Giese, M.L.**; **Grunlan, M.A.**⁺ "Shape memory polymers with PDMS soft segments," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2010**, *51*, 614-615.
19. Bailey, B.M.*; Hou, Y.*; **Grunlan, M.A.**⁺ "Photo-crosslinked PDMS_{star}-PEG hydrogels: Fabrication and use as tissue engineering scaffolds," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2010**, *51*, 84-85.
18. Schoener, C.A.*; Charanya, T.**; Weyand, C.B.**; **Grunlan, M.A.**⁺ "Photocurable Si-containing shape memory polymer," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2009**, *50*, 843-844.
17. Bailey, B.M.**; Murthy, R.*; **Grunlan, M.A.**⁺ "Protein resistant silicones prepared with branched PEO-silanes," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2009**, *50(1)*, 535-536.
16. Murthy, R.*; Shell, C.E.**; Bailey, B.M.**; **Grunlan, M.A.**⁺ "Grafting of linear and branched PEO via siloxane tethers for enhanced protein resistance," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2009**, *50(1)*, 43-44.
15. Hou, Y.*; Burkes, J.C.**; Lee, S.D.**; Bullick, A.S.; Hahn, M.S.; **Grunlan, M.A.**⁺ "Thermoresponsive nanocomposite hydrogels with cell-releasing behavior," *POLY Preprints* (Amer. Chem. Soc., Div. Chem.), **2009**, *50 (1)*, 21-22.
14. Murthy, R.*; Shell, C.**; **Grunlan, M.A.**⁺ "Protein-resistant biomaterials: Grafting of PEO via flexible siloxane tethers," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2008**, *99*, 174-175.
13. Murthy, R.*; Cox, C.D.**; Hahn, M.S.; **Grunlan, M.A.**⁺ "Enhancing the protein-resistance of silicones," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2008**, *99*, 522-524.
12. Xin, Q.; Bulick, A.; Schoener, C.*; Munoz, D.; Hou, Y.*; **Grunlan, M.A.**; Hahn, M.S.⁺ "Modulating smooth muscle cell response with tunable inorganic-organic hydrogels," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2008**, *98*, 328.
11. Hou, Y.*; Regan, K.R.**; Schoener, C.A.**; Hahn, M.S.; **Grunlan, M.A.**⁺ "Inorganic-organic hydrogels with tunable properties," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2007**, *48(2)*, 900-901.
10. Regan, K.R.**; Hou, Y.*; Hahn, M.S.; Huimin, L.; **Grunlan, M.A.**⁺ "Tunable hydrogels prepared from star PDMS and linear PEO," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2007**, *96*, 730-731.
9. Murthy, R.*; **Grunlan, M.A.**⁺ "Regioselective synthesis of crosslinkable α -(EtO)₃-Si-oligodimethylsiloxane-*block*-oligo(oxyethylene)s," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2006**, *47(2)*, 1189-1190.
8. Regan, K.R.; **Grunlan, M.A.**; Bergbreiter, D.E.⁺ "Polysiloxanes as inorganic soluble polymer supports in synthesis," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2006**, *47 (1)*, 596-597.
7. **Grunlan, M.A.**; Lee, N.S.; Weber, W.P.⁺ "Hybrid networks generated from star polysiloxanes/linear PDMS: Preparation of minimally adhesive polymer surfaces," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2005**, *46 (1)*, 407-408.

6. **Grunlan, M.A.;** Lee, N.S.; Weber, W.P.⁺ "Crosslinking of α,ω -(epoxy)fluorosiloxanes with α,ω -diaminoalkanes: Cure behavior and properties," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2004**, *45* (1), 581-582.
5. **Grunlan, M.A.;** Lee, N.S.; Weber, W.P.⁺ "Synthesis of 1,9-bis[Glycidyoxypropyl]penta-(1H',1H',2H',2H'-perfluoroalkylmethylsiloxane)s and their copolymerization with piperazine," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2004**, *45*(1), 712-713.
4. **Grunlan, M.A.;** Weber, W.P.⁺ "Preparation of copoly[methyldimethylphosphonopropylsiloxane/dimethylsiloxane] by Arbuzov reaction and its properties," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **2003**, *89*, 470-471.
3. **Grunlan, M.A.;** Mabry, J.M.; Weber, W.P.⁺ "Synthesis of fluoroalkylsiloxane copolymers by Pt-catalyzed hydrosilylation polymerization," *POLY Preprints* (Amer. Chem. Soc., Div. Poly. Chem.), **2002**, *43* (2), 1079-1080.
2. **Grunlan, M.A.**⁺ "Advances in latex modification of urea formaldehyde resins," Conference Proceedings - International Nonwovens Technical Conference, Baltimore, MD, United States, Sept. 5-7, **2001**; pp. 573-580.
1. **Grunlan, M.A.;** Glass, J.E.⁺ "Influence of spacer length on the rheology of HMHEC coatings rheology," *PMSE Preprints* (Amer. Chem. Soc., Div. Poly. Mater. Sci. Eng.), **1997**, *76*, 120-121.

COURSES TAUGHT:

BMEN 343: Introduction to Biomaterials

BMEN 482/682: Polymeric Biomaterials (new course; introduced Spring 2006)

BMEN 345: Biomaterials Laboratory (new course; introduced Fall 2012)

RESEARCH ADVISING:

CURRENT STUDENTS AND POST-DOCS (all as sole chair):

1. **Jakkrit Suriboot:** Post-doctoral fellow; 6/2016 – present
8. **Guillaume Gillet:** Visiting Ph.D. student, U. of Southern Brittany (France); 3/2018 – present.
7. **Felipe Beltran:** Ph.D. student, Materials Science and Engineering; 1/2017 - present
6. **Ping Gong:** Ph.D. student; Biomedical Engineering; 8/2016 - present
5. **Michael Frassisca:** Ph.D. student; Biomedical Engineering; 8/2016 - present
4. **Michaela Pfau:** Ph.D. student; Biomedical Engineering; 8/2016 - present
3. **Lindsay Nail Woodard:** Ph.D. student; Biomedical Engineering; 7/2013 – present
2. **Anna Kristen Means:** Ph.D. student; Materials Science and Engineering; 8/2014 – present
1. **Bryan Ngo:** Ph.D. student; Biomedical Engineering; 8/2015 – present

7. **Christopher Houk:** undergraduate, Biomedical Engineering; 4/2018 - present
6. **Bradley Schott:** undergraduate, Biomedical Engineering; 8/2017 - present
5. **Sarah Jones:** undergraduate, Biomedical Engineering; 8/2017 - present
4. **Abigail Roth:** undergraduate, Biomedical Engineering; 1/2017 - present
3. **Kelly McKinzey:** undergraduate, Biomedical Engineering; 1/2017 – present
2. **Kendrick Lim:** undergraduate, Biomedical Engineering; 8/2016 – 12/2016; 7/2017 - present
1. **Courtney Shrode:** undergraduate, Biomedical Engineering; 8/2016 - present

FORMER POST-DOCS AND STUDENTS:

As Sole Chair – Post-doc

1. **Melissa Giese Hawkins:** Post-doctoral fellow; 1/2015 – 5/2016

As Sole Chair - (Ph.D. Students)

7. **Marc Rufin:** Ph.D.; Biomedical Engineering (12/2015). Currently – R&D Design Engineer at Medtronic (Minneapolis, MN).
6. **Melissa Giese Hawkins:** Ph.D.; Biomedical Engineering (12/2013).
5. **Ruochong Fei:** Ph.D.; Biomedical Engineering (12/2013). Currently - Application Engineer at Hermes-Microvision (San Jose, CA).
4. **Brennan Bailey:** Ph.D.; Materials Science and Engineering (08/2013). Post-doctoral research associate at École Polytechnique Fédérale de Lausanne (EPFL); Switzerland, (Prof. Veronique Michaud). Currently - Medical writer at nspm.ltd (Luzern, Switzerland).
3. **Dawei Zhang:** Ph.D.; Materials Science and Engineering (5/2013). Currently - Assistant Professor; University of Science & Technology (Beijing, China).
2. **Yaping Hou:** Ph.D.; Materials Science and Engineering; (12/2009). Post-doc with Prof. Mariah Hahn (Dept. of Chemical Engineering, TAMU), post-doc with Prof. Min Lee (College of Dentistry, UCLA). Currently – Business development manager, North America at Ziamen Sinopeg Biotech, Inc. (San Francisco, CA).
1. **Ranjini Murthy:** Ph.D.; Materials Science and Engineering (5/2009). Currently - Business Development Manager, Wacker Chemical Corporation (Allentown, PA).

As Sole Chair - (M.S. Students)

1. **Cody A. Schoener:** M.S.; Biomedical Engineering (08/2009) – Ph.D. in Chemical Engineering at University of Texas – Austin; Chair - Prof. Nicholas Peppas. Currently - Senior Engineer, The Dow Chemical Company (Midland, TX).

As Co-Chair – (Ph.D. Students)

2. **Alexander Abraham:** Ph.D.; Biomedical Engineering; (8/2015) – Currently - Clinical Chemistry Technical Product Development Engineer, Abbott Laboratories (Dallas, TX).
1. **Rebecca Gant:** Ph.D.; Biomedical Engineering; (5/2009) – Currently - Scientist, PROFUSA, Inc. (Houston, TX).

Advisor – (B.S. Students)

50. **Andrea Brunal:** undergraduate, Biomedical Engineering; 8/2016 – 7/2017
49. **Lauren Whitney:** undergraduate, Biomedical Engineering; 6/2015 – 7/2017
48. **Mikayla Barry:** undergraduate, Biomedical Engineering; 6/2014 – 7/2017
47. **Vanessa Page:** undergraduate, Biomedical Engineering; 6/2015 – 5/2015; 8/2016 – 6/2017
46. **Mallory Taylor:** undergraduate, Biomedical Engineering; 1/2017 – 5/2017
47. **Bristin Rusenbeck:** undergraduate, Biomedical Engineering; 5/2015 – 6/2017
46. **Kevin Kmetz:** undergraduate, Biomedical Engineering; 1/2016 – 5/2015; 8/2016 – 5/2017
45. **Luke Oaks:** B.S. Biomedical Engineering (5/2016); 1/2015 – 5/2016
44. **Daniel Ehrhardt:** B.S. Biomedical Engineering (5/2016); 1/2015 – 5/2016
43. **Rebecca Sehnert:** B.S. Biomedical Engineering (5/2016); 06/2013 – 5/2016
42. **Erica Gacasan:** B.S. Biomedical Engineering (5/2016); 01/2013 – 5/2016
41. **Abigail Advincula:** undergraduate, Biomed. Eng. (Case Western Reserve U.); 5/2015 – 8/2015
40. **Tyler Nichols:** undergraduate: Biomedical Engineering; 1/2015 – 5/2015
39. **Ala Yaser Tobeh:** B.S. Biomedical Engineering (5/2015); 1/2014 – 5/2015
38. **Paige Adair:** B.S. Biomedical Engineering (5/2015); 1/2014 – 5/2015
37. **Alexandra Herrick:** B.S. Biomedical Engineering (5/2015); 1/2014 – 5/2015
36. **Jessica Reinhard:** B.S. Biomedical Engineering (5/2015); 1/2014 – 12/2014
35. **Hanna Glidewell:** B.S. Biomedical Engineering (5/2014); 1/2014 – 5/2014
34. **Robert Hunt:** undergraduate, Biomedical Engineering; 08/2013-12/2013; 8/2014 - 12/2014
33. **Berkay Basagaoglu:** undergraduate, Biomedical Engineering; 6/2013-5/2014
32. **Matthew Hurly:** B.S. Biomedical Engineering (5/2014); 1/2013-5/2014
31. **Samantha Schott:** B.S. Biomedical Engineering (5/2015); 1/2013-5/2014
30. **Olivia George:** B.S. Biomedical Engineering (5/2015); 8/2012-5/2014
29. **Daniel Callahan:** B.S. Biomedical Engineering (5/2014); 8/2013-12/2013
28. **Ryan Ng:** B.S. Chemical Engineering (5/2014; UC Santa Barbara); 7/2013-8/2013
27. **Dedeepya Puvvada:** B.S. Biomedical Engineering (5/2014); 1/2013-5/2013
26. **Alex Quante:** B.S. Biomedical Engineering (5/2014); 1/2013-5/2013
25. **Bagrat Grigoryan:** B.S. Biomedical Engineering (5/2013); 8/2012-5/2013
24. **John Gruetzner:** B.S. Biomedical Engineering (5/2013); 1/2012-5/2013
23. **A. Kristen Means:** B.S. Biomedical Engineering (5/2014); 8/2011-5/2014
22. **Lindsay Nail:** B.S. Biomedical Engineering (5/2013); 8/2011-5/2013
21. **Keri Petersen:** B.S. Biomedical Engineering (5/2013); 8/2011-5/2013
20. **Julie Strobe:** B.S. Bioengineering Engineering (5/2012; University of Missouri); 5/2011-8/2011
19. **William Burkes:** B.S. Biomedical Engineering (5/2012); 8/2010-05/2011
18. **Jeehyun Park:** B.S. Biomedical Engineering (5/2011); 5/2010-5/2011
17. **Jason George:** B.S. Biomedical Engineering (5/2012); 8/2009-5/2012
16. **Vivian Hui:** B.S. Biomedical Engineering (5/2011); 8/2009-12/2010
15. **Rachel Unruh:** B.S. Biomedical Engineering (Baylor University) (5/2011); 6/2010-8/2010
14. **Stacy Prukop:** B.S. Biomedical Engineering (5/2010); 6/2009-5/2010
13. **Melissa Giese:** B.S. Biomedical Engineering (5/2010); 1/2009 – 5/2010
12. **Chris Weyand:** Biomedical Engineering (5/2010); 1/2009 – 12/2009
11. **Shin Duk Lee:** B.S. Biomedical Engineering (5/2009); 8/2008 – 5/2009
10. **Tauseef Charanya:** B.S. Biomedical Engineering (5/2010); 8/2008 – 5/2009
9. **Brennan Bailey:** B.S. Biomedical Engineering (5/2009); 1/2008 – 5/2009
8. **Jonathan Burkes:** B.S. Biomedical Engineering (5/2010); 1/2008 – 5/2009
7. **Christopher Perry:** B.S. Biomedical Engineering (5/2009); 1/2008 – 5/2008
6. **Cody Schoener:** B.S. Biomedical Engineering (5/2008); 1/2008 – 05/2008

5. **Courtney Shell:** B.S. Biomedical Engineering (5/2010); 5/2007-5/2008
4. **Ashley Smitherman:** B.S. Biomedical Engineering (12/2007); 1/2007 – 12/2007
3. **Casey Cox:** B.S. Biomedical Engineering (05/2007); 6/2006 – 12/2006
2. **Andrew Matthews:** B.S. Biomedical Engineering (5/2008); 5/2006-8/2006
1. **Katherine Regan:** B.S. Chemistry (05/2007); 01/2006-12/2006

Notable distinctions of advised UG students: “(#)” = total number of students

- NSF GRFP: **(4)**: Mikayla Barry, Erica Gacasan, Lindsay (Nail) Woodard and Kristen Means.
- Beckman Scholars Program **(1)**: Mikayla Barry
- Goldwater Scholars Program **(1)**: Erica Gacasan
- Astronaut Scholarship Foundation Program scholarship **(1)**: Mikayla Barry
- TAMU USRG Program **(12)**: Abigail Advincula, Rebecca Sehnert, Erica Gacasan, Ryan Ng, Lindsay Nail, Julie Strobe, Rachel Unruh, Stacy Prukop, Brennan Bailey, Jonathan Burkes, Courtney Shell and Andrew Matthews
- TAMU LSAMP Program **(6)**: Lindsay Nail, Keri Petersen, Jeehyun Park, Melissa (Giese) Hawkins, Brennan Bailey, Ashley Smitherman
- TAMU ROE Program **(3)**: Lindsay Nail, John Gruetzner, Olivia George
- TAMU Aggie Scholars **(3)**: Erica Gacasan, Rebecca Sehnert, Berkay Basagaoglu
- Undergraduate Research Theses Programs:
 - TAMU Undergraduate Research Scholars (UGRS) Program **(6)**: Courtney Shrode, Abigail Roth, Rebecca Sehnert, Mikayla Barry, Erica Gacasan, Olivia George
 - TAMU Undergraduate Research Fellows Program **(1)**: Jason George
- Presented work at national-level conference **(7)**
- Co-authored peer-reviewed journal article (in press or accepted) **(31)**
- TAMU Undergraduate Research Ambassadors **(2)**: Erica Gacasan, Mikayla Barry

SIGNIFICANT SERVICE ACTIVITIES:

Deputy Director, NSF ERC “PATHS-UP”, October 1, 2017 – present.

Member (representing Engineering), Texas A&M University Council of Principal Investigators (CPI), 2017 – present. Member of the Executive Committee of CPI.

Director of the Undergraduate Program, Dept. of Biomedical Engineering, TAMU, October 2013 – September 2017.

Member, CoE/CoS *ad hoc* Committee on Engineering Curriculum Introductory Courses (August 2016 – June 2017)

Reviewer for National Science Foundation (NSF), National Institute of Health (NIH) and US-Israel Binational Science Foundation (BSF).

“Chair” American Chemical Society (ACS) Polym. Mater. Sci. and Eng. Division (2018).

“Chair-Elect” American Chemical Society (ACS) Polym. Mater. Sci. and Eng. Division (2017).

“Vice Chair, Program Chair” American Chemical Society (ACS) Polym. Mater. Sci. and Eng. Division (2016).

“Secretary” American Chemical Society (ACS) Polym. Mater. Sci. and Eng. Division (2014, 2015).

“Member-at-Large” American Chemical Society (ACS) Polym. Mater. Sci. and Eng. Division (2013 - 2014).

Editorial advisory board member: International Journal of Polymeric Materials (Taylor and Francis) [2014 – present].

Editorial board member, Journal of Biomaterials and Tissue Engineering (American Scientific Publishers [2011-present]).

Symposia Co-Organizer for National-level Meetings: **(1)** “Biomaterials for Regenerative Engineering,” Materials Research Society (MRS) National Meeting, Boston, MA, United States, Nov. 29 – Dec. 4, 2015, **(2)** “Polymeric Biomaterials” American Chemical Society (ACS) National Meeting, Denver, CO, United States, March 22-26, 2015, **(3)** “Polymeric Biomaterials” American Chemical Society (ACS) National Meeting, Philadelphia, PA, United States, August 19-23, 2012, and **(4)** “Bioactive Polymer and Polymer Surfaces” American Chemical Society (ACS) National Meeting, Boston, MA, United States, August 22-26, 2010.

Co-Organizer for Local-level Meetings: Co-organizer of annual “Society for Biomaterials: Biomaterials Day at (Texas A&M University, Rice University, University of Texas at Austin and University of Texas at San Antonio),” – Annual conference (2010 - 2016) [rotating between universities].

Chair, Faculty Search Committee; Department of Biomedical Engineering, TAMU (Fall 2015 – Spring 2016; Fall 2016 – Spring 2017).

Member, Faculty Search Committee; Department of Biomedical Engineering, TAMU (Fall 2017 - present).

Member, Department Head Search Committee; Department of Biomedical Engineering, TAMU (Fall 2014 – Spring 2015; Fall 2017 - present).

Member, Facilities Committee; Department of Biomedical Engineering, TAMU (2011- 2017).

Member, Research Committee; Department of Biomedical Engineering, TAMU (Fall 2017 - present).

Member, Promotion and Tenure Committee; Department of Biomedical Engineering, TAMU (Fall 2017 - present).

Member, Honors and Undergraduate Research Advisory Committee (HURAC) [reporting committee to the TAMU Faculty Senate to advise on standards and policies related to Honors and Undergraduate Research at TAMU], (2015 – 2017).

SELECTED AWARDS, HONORS & DISTINCTIONS:

Fellow, American Institute for Medical and Biological Engineering (AIMBE) (Inducted 2018)

Engineering Outstanding Contributions Award (William O. and Montine P. Head Memorial Research Fund) – (Texas A&M University, College of Eng.; 2018)

Guest Professor (University of South Brittany, Lorient, France; May 15-19, 2017)

Presidential Impact Fellow (Inaugural Class) (Texas A&M University; 2017-2019)

Dean of Engineering Excellence Award – Assoc. Prof. Level (Texas A&M University; 2016-2017)

Royal Academy of Engineering Distinguished Visiting Fellowship (Imperial College London; November 2015)

Short-term Visiting Scientist Fellowship (National Institute for Materials Science; Tsukuba, Japan; September 2015)

Association of Former Students Distinguished University Level Award in Teaching (Texas A&M University; 2015-2016)

Association of Former Students Distinguished College Level Award in Teaching (Texas A&M University, College of Eng.; 2009-2010 and 2015-2016)

Texas A&M Engineering Experiment Station (TEES) Faculty Fellow – (Texas A&M University, College of Eng.; 2013-2014)

British Petroleum (BP) Teaching Excellence Award – (Texas A&M University, College of Eng.; 2012-2013)

Herbert H. Richardson Faculty Fellow Award – (Texas A&M University, College of Engineering; 2010-2011)

Doctoral Research Award (University of Southern California, College of Letters, Arts & Sciences; 2005)

SOCIETY MEMBERSHIPS:

American Chemical Society (ACS), [1997-present]: *POLY and PMSE divisions*

Materials Research Society (MRS), [2007-present]

Society for Biomaterials (SFB), [2009-present]

Biomedical Engineering Society (BMES), [2010-present]