Todd Landsman, E.I.T.
Ph.D. Candidate
Biomedical Engineering, Texas A&M University
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Education:

2012-present: Ph.D. Biomedical Engineering, Texas A&M University, College Station, TX (*expected June 2016*)

2006-2012: M.S. Biomedical Engineering, Cal Poly, San Luis Obispo, CA.
B.S. Mechanical Engineering, Cal Poly, San Luis Obispo, CA.

Professional Experience:

08/2013-Present Research Assistant, Biomedical Device Laboratory, Texas A&M University, College Station, TX.
Responsibilities: Research and development of novel shape memory polymer medical devices, automate polymer foam processing techniques, and design, test, and fabricate a mechanical release system for shape memory polymer embolic coils to be used in preclinical pilot studies for the treatment of intracranial aneurysms. Current responsibility is serving as the project leader of R&D and commercialization efforts of a peripheral embolization device.

08/2013-Present Engineering Manager, Shape Memory Therapeutics, Inc., College Station, TX.
Responsibilities: Manage research and development activities to help drive commercialization of peripheral embolic devices, pursue novel applications of shape memory polymer medical devices, manage all engineering interns to ensure adherence to deliverables and provide guidance in R&D efforts, and developing national grant proposals.

05/2013-07/2013 Engineering Consultant, Texas A&M Institute for Preclinical Studies, College Station, TX
Responsibilities: Design and fabrication of water-resistant electronics housing for use in preclinical research studying the effects of mild brain trauma on brain function.

01/2013-08/2013 Machinist and Shop Technician, Texas A&M University, College Station, TX.
Responsibilities: Instructing undergraduate, graduate, and postdoctoral students on the proper use of conventional machining equipment. Leading the design and fabrication of various testing and manufacturing fixtures to aid all areas of research within the Department of Biomedical Engineering.

08/2012-08/2013 Biomedical Engineering Teaching Assistantship, Texas A&M University, College Station, TX.
Responsibilities: Holding office hours each week to address student concerns about coursework, conducting one lecture per week, grading quizzes and exams, and designing test questions.

06/2011-06/2012 Masters Thesis with Abbott Vascular, Cal Poly, San Luis Obispo, CA
Thesis: *A Novel Method for Rapid Prototyping Bioresorbable Polymer Vascular Stents*
Committee: Lothar Kleiner, Abbott Vascular; Fuh-Wei Tang, Abbott Vascular; Kristen O'Halloran Cardinal, Cal Poly San Luis Obispo

01/2012-03/2012 Blood Vessel Mimics Laboratory, Cal Poly, San Luis Obispo, CA
Lab Aims: Investigate the sodding efficiency of human endothelial cells within ePTFE and PLGA scaffolds to determine the suitability of these constructs as in vitro models that adequately represent native human vasculature.

09/2010-06/2011 Raytheon University Senior Design Competition, Cal Poly, San Luis Obispo, CA
Project Aims: Design, manufacture, and evaluate a recovery system for Raytheon's Tier II Unmanned Aerial Vehicle to be entered into their nationwide senior design competition. Our team's design reduced the number of personnel required for operation from 6-10 soldiers to only 2, reduced the assembly and disassembly time by several hours, and was awarded first prize at the competition.

06/2010-09/2010 Mechanical Engineering Intern, Simms Machinery Intl., Santa Maria, CA
Responsibilities: Transcribe manual part and assembly drawings into electronic formats using AutoCAD, and aid in assembly and verification of turbomachinery.

Research:

Current Projects

- Design, analysis, optimization, and verification of a novel shape memory polymer foam peripheral embolization device for complete vessel occlusion with only one device, as well as market research and intellectual property analysis (Texas A&M University; College Station, TX)

- Implementation of a shape memory polymer foam-hydrogel composite as a space filling, antibacterial hemostatic sponge for advanced healing and rapid hemostasis (collaboration with Dr. Elizabeth Cosgriff-Hernandez, Texas A&M University; College Station, TX).

Previous Projects

- Design and manufacture of unique mechanical release system to be used in shape memory polymer embolic devices, used to treat aneurysms in the neurovasculature (Shape Memory Therapeutics, Inc.; College Station , TX).

- Investigation of the biocompatibility and cytotoxicity of polyurethane shape memory polymers used in embolic treatments of aneurysms (collaboration with Keith Hearon at Lawrence Livermore National Laboratory; Dr. Kristen O'Halloran Cardinal at Cal Poly San Luis Obispo; Dr. Duncan Maitland; Texas A&M University).

- Blood vessel mimics laboratory investigating the ability of ePTFE and PGA scaffolds to be used as vascular graft substitutes and in vitro experimentation of vascular devices (Dr. Kristen O'Halloran Cardinal, P.I.; Cal Poly San Luis Obispo).

- Investigation of a novel fabrication technique for bioabsorbable vascular stents, which results in greatly reduced manufacturing costs and enhanced fracture toughness (collaboration with Dr. Lothar Kleiner at the Bioabsorbable Solutions branch of Abbott Vascular; Kristen O'Halloran Cardinal, Advisor; Cal Poly San Luis Obispo).

Outreach and Leadership:

2013-Present Special Olympics of Texas- Currently serving as the head coach for the local Aggie Bombers Special Olympics basketball and flag football teams, as well as a partner for their unified teams. I have coached for the Special Olympics organization for 8 years total now, and I have been proud to bring the experience I gained in the organization while living in California to College Station. I am now able to recruit other Aggies to volunteer with the team, as well as train them about effective, appropriate ways to coach and train the athletes.

2012 Camp Ronald McDonald for Good Times- Volunteer counselor for a camp focused entirely on providing children with cancer and their siblings an opportunity to have fun, learn leadership skills, and be a kid without having to worry about the financial and emotional difficulties associated with cancer.

2007-2012 Special Olympics of San Luis Obispo County- Head coach for the basketball, floor hockey, and softball teams. Also actively recruited additional volunteers and coaches from the College of Engineering at California Polytechnic State University San Luis Obispo.

Awards and Certifications:

2015 Claude Scruggs Scholarship for Academic Excellence, Texas A&M University

2015	1st prize- graduate student poster competition at Student Research Week at Texas A&M University
2014	Texas A&M College of Engineering Travel Grant (received award two times)
2014	1st prize- student poster competition at BioInterface 2014 Conference in Redwood City, CA
2013	Alpha Eta Mu Beta Honor Society Inductee
2013	Ford Foundation Fellowship Honorable Mention
2012-2013	Teaching Assistantship for the Department of Biomedical Engineering
2012	Summa Cum Laude
2011	Raytheon university design competition champion
2010	Engineer-In-Training (E.I.T.) certification for the state of California
2007	Dean's List for academic achievement
2006, 2007	Ventura County Contractor's Association Ray Prueter Scholarship

Professional Memberships:

2013-Present	Alpha Eta Mu Beta Honor Society
2012-Present	Biomedical Engineering Society
2008-2012	American Society of Mechanical Engineers

Publications:

1. **Landsman TL**, Weems AC, Hassan SM, Thompson RS, Wilson TS, Maitland DJ. *Embolic Applications of Shape Memory Polyurethane Scaffolds* in Advances in Polyurethane Biomaterials, Elsevier- 2015. (Accepted)

2. Boyle AJ, **Landsman TL**, Wierzbicki MA, Nash LD, Hwang W, Miller MW, Tuzun E, Hasan SM, Maitland DJ. *In vitro and in vivo evaluation of a shape memory polymer foam-over-wire embolization device delivered in saccular aneurysm models*. Journal of Biomedical Materials Research: Part B, 2015. DOI: 10.1002/jbm.b.33489

3. Hearon K, Wierzbicki MA, Nash LD, **Landsman TL**, Laramy C, Lonnecker AT, Gibbons MC, Ur S, Cardinal KO, Wilson TS, Wooley KL, Maitland DJ. *A Processable*

Shape Memory Polymer System for Biomedical Applications. Advanced Healthcare Materials, 2015. DOI: 10.1002/adhm.201500156, PMID: 25925212

4. Rodriguez J, Hwang W, Horn J, **Landsman TL**, Boyle A, Wierzbicki MA, Hasan SM, Follmer D, Bryant J, Small W, Maitland DJ. *Design and biocompatibility of endovascular aneurysm filling devices.* Journal of Biomedical Materials Research: Part A, 2014. DOI: 10.1002/jbm.a.35271, PMCID: PMC4286540

Presentations:

03/2015	Poster Presentation, "Antibacterial Shape Memory Polymer Foam-Hydrogel Composite Wound Dressing", Student Research Week, Texas A&M University, College Station, TX.
11/2014	Recruiting Talk, "BME Graduate Programs at Texas A&M", California Polytechnic State University, San Luis Obispo, CA.
10/2014	Poster Presentation, "Antibacterial Shape Memory Polymer Foam-Hydrogel Composite Wound Dressing", BioInterface 2014, Redwood City, CA.
06/2014	Lecture, "Thermally Activated Shape Memory Polymers", CIMTEC 2014 6th Forum on New Materials, Montecatini Terme, Italy.
06/2014	Poster Presentation, "Shape Memory Polymer Foam-Hydrogel Composite Wound Dressing for Rapid Hemostasis", Biomaterials Day 2014, College Station, TX.
11/2013	Recruiting Talk, "Texas A&M Department of Biomedical Engineering Graduate Programs", California Polytechnic State University, San Luis Obispo, CA.
11/2013	Invited Lecture, "Shape Memory Polymer Medical Devices", California Polytechnic State University San Luis Obispo, San Luis Obispo, CA.

Patents:

03/2015	Hemorrhage Management System, **Todd L. Landsman**, Tyler Touchet, Elizabeth Cosgriff-Hernandez, Thomas S. Wilson, Duncan J. Maitland; Lawrence Livermore National Laboratories, Livermore, CA. (Patent Pending)
02/2014	Intravascular Medical Device Release System. **Todd L. Landsman**, Wonjun Hwang; Texas A&M University, College Station, TX. (Patent Pending)