

Ethan Glenn Sherman

4302 NE 17th Terrace
Gainesville, FL 32609
(352) 514-6711

ethansherman@gmail.com | www.ethansherman.com

OBJECTIVE: Seeking a position as a biomedical engineer at a medical technology company where I can utilize my research and educational skills.

EDUCATION

- | | | |
|-------------|---|-----------------|
| August 2009 | UNIVERSITY OF FLORIDA
<i>Ph.D. in Biomedical Engineering</i> | Gainesville, FL |
| | <ul style="list-style-type: none">• Dissertation Title : “Development of a Biocompatible and Dissolvable Tympanostomy Tube”• Advisor: Dr. Roger Tran-Son-Tay | |
| August 2005 | UNIVERSITY OF FLORIDA
<i>Master of Engineering in Mechanical Engineering</i> | Gainesville, FL |
| | <ul style="list-style-type: none">• Thesis Title : “An Ear Flow Chamber for Studying Tympanostomy Tube Occlusion”• Advisor : Dr. Roger Tran-Son-Tay | |
| May 2002 | UNIVERSITY OF FLORIDA
<i>Bachelor of Science in Engineering Science</i>
<i>Minor in Biomechanics</i> | Gainesville, FL |

WORK EXPERIENCE

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|-----------|---|-----------------|
| 2005-2009 | UNIVERSITY OF FLORIDA
<i>Graduate Research Assistant,</i>
<i>Cellular Mechanics and Biorheology Lab</i> | Gainesville, FL |
| | <ul style="list-style-type: none">• Design and fabrication of biocompatible and dissolvable calcium alginate tympanostomy tubes• Responsible for daily activities in the cellular mechanics and biorheology lab• Advisor: Dr. Roger Tran-Son-Tay, Dr. Patrick Antonelli | |
| 2004 | RTI BIOLOGICS
<i>Internship, Research and Development</i> | Alachua, FL |
| | <ul style="list-style-type: none">• Mechanical tests of human tissue samples• Design and fabrication of a mechanical testing apparatus | |

- 2002-2005 UNIVERSITY OF FLORIDA Gainesville, FL
*Graduate Research Assistant,
Cellular Mechanics and Biorheology Lab*
- Design and fabrication of an ear flow chamber for studying tympanostomy tube occlusion
 - Design of a Labview data acquisition system
 - Advisor: Dr. Roger Tran-Son-Tay, Dr. Patrick Antonelli
- 2001-2002 UNIVERSITY OF FLORIDA Gainesville, FL
*Undergraduate Research Assistant,
Cellular Mechanics and Biorheology Lab*
- Characterization of synovial fluid by micro-rheometer to measure viscosity alteration after exercise treatment
 - Advisor : Dr. Roger Tran-Son-Tay

RESERCH EXPERIENCE

IN-VIVO EXPERIMENTATION

- Use of Zebrafish as a screen for ototoxicity
- Fluorescent measurement of hair cell viability

MECHANICAL TESTING

- Tensile testing (Custom built testing apparatus)
- Compression testing (Custom built compression testing apparatus)
- Pressure measurement
- Data acquisition (DAQ, LabView)

CELLULAR MECHANICS

- Cell culture (white blood cells, epithelial cells)
- Proficient with cellular manipulation systems (micropipette, parallel plate flow chamber)
- Biomechanical studies of cells (viscosity, deformation)

DESIGN/FABRICATION

- Design, fabrication, testing of a novel biocompatible and dissolvable calcium alginate tympanostomy tube
- Design, fabrication, testing of an ear chamber for studying tympanostomy tube occlusions
- Design, fabrication, testing of a flow chamber for studying cellular adhesion on a Dacron surface
- Design, fabrication, testing of a flow chamber for studying the development of aneurysm
- Design, fabrication of a centrifugal test for study of growth and detachment of cells

- Design, fabrication of a PDMS device for studying cell deformation
- Design, fabrication of a testing chamber for simulating microgravity

BIOMATERIALS

- Design and fabrication of biocompatible devices
- Studies with multiple biomaterials (PDMS, alginate, T2, polyvinyl alcohol)

TECHNICAL SKILLS

ANALYTICAL EQUIPMENT

Data acquisition (DAQ), Pressure transducers, Instron Tension/Compression testing, custom mechanical testing devices, precision machining (mill, lathe, band saw), micropipette technique, optical microscopy, fluorescent microscopy

LABORATORY TECHNIQUES

Hydrogel manufacture and manipulation, Zebrafish fluorescent staining, IACUC (Institutional Animal Care and Use Committee), Mechanical testing, Cell culture, Cell manipulation (micropipette), Microfluidics, Sterile techniques

COMPUTER SOFTWARE

Solid Works, LabView, HTML, PHP, MySQL, CSS, Microsoft Office, Open Office, The GIMP, Minitab, Photoshop

TEACHING EXPERIENCE

SPICE PROGRAM (GK-12 NSF Program) (2006-2008)

- Science Partners in Inquiry Based Collaborative Education (SPICE)
- Lecture and developed labs related to middle school science curriculum.
- NSF Fellowship: Bi-weekly instruction at Howard Bishop Middle School, Gainesville, FL

TEACHING ASSISTANT

- EGM 1002: Introduction to Engineering (2004-2005, Spring 2009)
 - Lecturing and demonstrations
- EGM 2511: Engineering Mechanics, Statics (Summer 2005)
 - Private tutor for a transfer student with a learning disability.
- EGM 2511: Engineering Mechanics, Statics (2002-2004)
 - Lecture, tutoring, homework, exam grading
- EGM 3311: Introduction to Engineering Analysis, (2003)
 - Tutoring, homework, exam grading

RESEARCH MENTOR

- Lab Manager (2007-present)
 - Cellular Mechanics and Biorheology Lab
 - Training incoming graduate and undergraduate students
- Undergraduate Research Students (2004-2009)
 - Cellular Mechanics and Biorheology Lab
 - Mentored seven undergraduate and graduate students over the course of five years
 - Mentored high-school students for summer internships and science fair

PROFESSIONAL AFFILIATIONS

Member of the Biomedical Engineering Society (2005-2009)
Biomedical Engineering Society, UF chapter (Treasurer) (2001-2002)

AWARDS

- GK-12 NSF Fellowship (SPICE) (2006-2008)
- Graduate Student Council Travel Award (2008)
- BMES Student Travel Award (2008)
- Presidents List (2005)
- Tarr and/or Schwartz Family Foundation Scholarship (2005)
- University of Florida Research Assistant (2002-2004)
- UF Undergraduate Research and Design Competition. Second place (2002)

PUBLICATIONS

1. Ethan Glenn Sherman, Patrick J. Antonelli, Roger Tran-Son-Tay
In-vitro testing of tympanostomy tube occlusion. Otolaryngology Head and Neck Surgery. 2009 In-press.

PRESENTATIONS (ORAL AND POSTER)

1. Jonathan Rishall, Ethan G. Sherman, Edith M. Sampson, Patrick J. Antonelli
Impact of Tympanostomy Tube Design on Rate of Occlusion. AAO-HNS Annual Meeting, October 4–7, 2009, San Diego, CA.
2. Ethan Glenn Sherman, Patrick J. Antonelli, Roger Tran-Son-Tay
Development of a biocompatible and dissolvable tympanostomy tube.
2008 BMES Annual Fall Meeting, St. Louis, MO.
3. Ethan Glenn Sherman, What SPICE has done for me. Reitz Union, NSF Fellows Day. Fall 2007, University of Florida.

4. Ethan Glenn Sherman, Biomedical Engineering: Bridging the gap. East Hall and CoE Division of Student Affairs Monthly Program Series. Spring 2006, University of Florida.
5. Ethan Glenn Sherman, Patrick J. Antonelli, Roger Tran-Son-Tay, An ear flow chamber for studying tympanostomy tube occlusions. 2005 BMES Annual Fall Meeting, Baltimore, MD.

REFERENCES

Dr. Roger Tran-Son-Tay
Professor of Mechanical and Aerospace Engineering
University of Florida
216 MAE-A
Gainesville, FL 32611
(352) 275-2661
rtst@ufl.edu

Dr. Patrick Antonelli
Professor & Chair Department of Otolaryngology
University of Florida
M228 MSB
Gainesville, FL 32611
(352) 273-5199
patrick.antonelli@ent.ufl.edu

Dr. Doug Levey
Professor of Biology
University of Florida
622 CRR
Gainesville, FL 32611
(352) 514-6670
dlevey@ufl.edu

Dr. Malisa Sarntinoranont
Professor of Mechanical and Aerospace Engineering
University of Florida
212 MAE-A
Gainesville, FL 32611
(352) 392-8404
msarnt@ufl.edu