EDUCATION

University of Alabama School of Medicine **August 2019-Current**
MD Candidate, Class of 2023

Downstate Medical Center **Sept 2014 – Present**
PhD Neural and Behavioral Studies (A.B.D)
Thesis: "Gene expression changes in response to PTSD: a multi-cohort approach to discovering the biological correlates of PTSD and exploration of its relationship to HIV pathogenesis

Long Island University – Brooklyn **August 2011-December 2013**
MS in Molecular Biology
Thesis: "3D Modeling of partial D2 agonist in Parkinson Disease"
University of Victoria
Major: Neuroscience Minor: Environmental Science

RESEARCH EXPERIENCE

University of Alabama Birmingham - Pediatric Orthopaedics July 2020-present
Research assistant
Advisor: Dr. Michael Conklin, M.D & Dr. C Gilbert, M.D

- Part time (4-10 hours/week)
- Projects/Papers: Pseudosubluxation in Pediatric Proximal Humerus, Pediatric Hallux Valgus Review, Delayed Presentation of Popliteal Artery Injury after Salter Harris III Proximal Tibia Fracture, Analysis of Risk Factors for Non-Union in Pediatric Lateral Column Lengthening, ATV Open Fractures Have More Complications, Do Parents of Pediatric Orthopedic Patients Have Provider Bias?

NYU School of Dentistry Month 2017 – present
Doctoral Research Scientist,
Advisor: Dr. Bradley Aouizerat, Ph.D

- Full time (40 hours/week)
- Thesis title: "Gene expression changes in response to PTSD: a multi-cohort approach to discovering the biological correlates of PTSD and exploration of its relationship to HIV pathogenesis"

Downstate Medical Center January 2015- June 2017
Research assistant
Advisor: Dr. Bill Lytton, M.D

- Part time (4-10 hours/week)

- Developed and implement computational model to research Ischemic Stroke
- Created network models and experiment with parallelization using super computers
- Present at Society for Neuroscience, NIH, Computational Neuroscience Symposium, Computational Surgery Conference

PUBLICATIONS

1. Timothy W Torrez, BS, **Alexandra H. Seidenstein**, MS, Henry A. Debell, MD, Gerald McGwin, MD, Michael J Conklin, MD, Shawn R Gilbert, MD. Pseudosubluxation in Pediatric Proximal Humerus Fractures; **Journal of Pediatric Orthopedics**-B, 2021, PMID: 34380986, DOI:10.1097/BPB.0000000000000902

2. David B. Kurland, MD, PhD, Monica C. Mureb, DO, Albert H. Liu, MD, **Alexandra H. Seidenstein**, **MS,** Eddie Stern, and Erich G. Anderer, MD. Yoga as an adjunctive treatment for non-operative low back pain. **Journal of Neurosurgery: Spine,** 2021. (Accepted)

3. **Alexandra H. Seidenstein, MS**, Timothy W Torrez, BS, Nick Andrews, BS, David Patch, MD, Ashish Shah, MD, Micheal Conklin, MD. **Pediatric Hallux Valgus Review: Pediatrics and Child Health**, 2021, (Accepted)

4. Timothy W Torrez, BS, **Alexandra H. Seidenstein**, **MS**, Alexander Garcia, BS, Henry A. Debell, MD, Shawn Gilbert, MD, Kevin Williams, MD. Delayed Presentation of Popliteal Artery Injury after Salter Harris III Proximal Tibia Fracture: A Case Report. **Journal of Orthopaedic Case reports** (Accepted)

5. Timothy W Torrez, Nick Andrews, **Alexandra H. Seidenstein**, Shane Strom, Gerald McGwin Jr, Asish Shah, John S Doyle, Shawn R Gilbert, Michael J Conklin, MD. Analysis of Risk Factors for Non-Union in Pediatric Lateral Column Lengthening. (Revision)

6. William W. Lytton, MD., **Alexandra H. Seidenstein, MS**, Salvador Dura-Bernal, PhD. Robert A. McDougal, PhD., Felix Schurmann, PhD., Michael L. Hines, PhD. Simulation neurotechnolgoies for advancing brain research: Parallelizing large networks in NEURON. **Neural Computation**, 2016, PMID 28:2063-2090

7. **Alexandra H. Seidenstein**, **MS**, Frank C. Barone, PhD, William W. Lytton, MD,. Computer modeling of ischemic stroke. **Scholarpedia**, 2015. DOI:10.4249/scholarpedia.32015

PUBLICATIONS IN PREPARATION

1.	Implicit Bias in Orthopedics: Gender and Race	2021
2.	Complications of Pediatric Open Fractures Following ATV Accident.	2021
3.	Do Parents of Pediatric Orthopedic Patients Experience Provider Bias?	2021-2022
4.	Genetics of Behavior: A Simple Approach to Epigenetics.	2021

ORAL PRESENTATIONS

1. Do Pediatric ATV Open Fractures Have More Complications? Vince Bonner Bs, Timothy Torrez Bs, **Alexandria H. Seidenstein MS**, James Hicks MD, Shawn Gilbert MD. **Clinical Orthopaedic Society Meeting**, 2021

2. Clinical Course of Pseudosubluxation in Pediatric Proximal Humerus Fractures. Timothy W. Torrez, BS, **Alexandra H. Seidenstein, MS**, Gerald McGwin, PhD, Micheal Conklin, MD, Shawn Gilbert, MD, **Southern Orthopedic Association,** 2021.

3. Risk factors for nonunion in pediatric lateral column lengthening (Mosca) procedures. Timothy W. Torrez, BS, Nicholas Andrews, BS, **Alexandra H. Seidenstein, MS**, Jared Halstrom, BS, Shane Strom, MD, Michael Conklin, MD, John Doyle, MD, Ashish Shah, MD, **American Orthopedic Foot and Ankle Society**, 2021

CONFERENCE PRESENTATIONS

1. Risk factors for nonunion in pediatric lateral column lengthening (Mosca) procedures. Timothy W. Torrez, Bs, Nick Andrews, Bs, **Alexandra H. Seidenstein**, **MS,** Shane Strom, MD, Micheal Conklin, MD, Shawn Gilbert, MD, Asish Shah, MD, John Doyle, MD. **Alabama Orthopedic Society**, 2021

2. Radiographic Pseudosubluxation of the Shoulder in Pediatric Proximal Humerus Fractures. Timothy W. Torrez, Bs, **Alexandra H. Seidenstein, MS**, Gerald McGwin, PhD, Micheal Conklin, MD, Shawn Gilbert, MD, **Alabama Orthopedic Society**, 2021

3. Risk factors for nonunion in pediatric lateral column lengthening (Mosca) procedures. Timothy W. Torrez Bs, Nick Andrews Bs, **Alexandra H. Seidenstein, MS**, Shane Strom, MD, Micheal Conklin, MD, Shawn Gilbert, MD, Asish Shah, MD, John Doyle, MD. Accepted: **Southern Orthopedic Association**, 2021

4. Multiscale modeling of ischemic stroke with the NEURON reaction-diffusion module. Adam J. H. Newton, PhD. **Alexandra H. Seidenstein, MS**. Robert A. McDougal, PhD., William W. Lytton, MD. **Computational Neuroscience**, 2017

5. Multiscale modeling of M1 multitarget pharmacotherapy for dystonia. Collaborative Development of Data-Driven Models of Neural Systems. Samuel Neymotin, PhD, Salvador Dura-Bernal, PhD, **Alexandra H. Seidenstein**, MS, Peter Lakatos, PhD, Terence D. Sanger, PhD, William W. Lytton, MD. Howard Hughes Medical Institute, 2016

6. Multiscale modeling of M1 multitarget pharmacotherapy for dystonia. Collaborative Development of Data-Driven Models of Neural Systems. Samuel A. Neymotin, PhD, Salvador Dura-Bernal, PhD, **Alexandra H. Seidenstein, MS**, Peter Lakatos, PhD, Terence D. Sanger, PhD, William W. Lytton, MD. **Organization for Computational Neurosciences Annual Meeting**, 2016.

7. Mosaic method of multiscale modeling for ischemic stroke. **Alexandra H. Seidenstein, MS,** Samuel A. Neymotin, PhD. Frank C. Barone, PhD, Robert A. McDougal, PhD, William W. Lytton, MD. Mosaic method of multiscale modeling for ischemic stroke. **Computational Surgery, Annual Meeting**, 2016.

8. Neuronal network bump attractors augmented by calcium up-regulation of Ih in a multiscale computer model of prefrontal cortex. **Alexandra H. Seidenstein, MS**, Samuel A. Neymotin, PhD, Michael L. Hines, PhD, Robert A. McDougal, PhD, Serena, Anna S. Bulanova, PhD, William W. Lytton, MD**. Society for Neuroscience, Annual Meeting**, 2015.

ACADEMIC AWARDS

NYU Distinguished Service Award: Dedication to Invention, Innovation & Entrepreneurship 2018
Guest Speaker. Neurological Wellness Institute. "The Science behind Yoga" 2018.
https://neurologicwellnessinstitute.com/the-science-behind-yoga-and-ptsd/
Yoga and Science Conference Producer and Co-Host – NYU Tandon School of Engineering 2018
- Guest speakers and poster presentations featuring most up to date scientific research regarding the health benefits of yoga and meditation. Featuring Dr. Erich Anderer, chief of neurosurgery at NYU Langone, Dr. Stacy Hunter, director of the Cardiovascular Physiology Lab at Texas State University

LEADERSHIP EXPERIENCE

Co-President UAB School of Medicine: Orthopaedic Interest Group 2020-2021
-Lead an interest group of 220 members, host meetings, events and workshops to provide opportunities for medical students to gain exposure to orthopaedics and the faulty in the UAB Orthopaedic Department
Clinical Volunteer at Bapuji's Childrens Hospital & Shanti Project (Mysore, India) 2006 – 2009
-Overseeing daily medical care and administering treatments for orphaned infants.
-Carried out STD testing for at risk youth, and women.
-Assisted in providing medical treatment, and prosthetics to recent amputees.
President and Founder of Kids Who Care, Inc. 1996 – Present
Overseeing the organization and implementing primary goal:
-Help abused and neglected children and survivors of domestic violence.
-Implement workshops for at risk youth to prepare for secondary education
-Design and teach yoga for PTSD classes to local community outreach programs.
- www. KidsWhoCareInc.org

TEACHING & WORK EXPERIENCE

BioMolecular Program Full-Time Faculty, NYU -School of Engineering 2012-2019
-Courses Taught: Genetics, Advanced Cell, Molecular Biology, Biostatistics
-Program Advisor and Premed/PreHealth Committee Member
-Develop curriculum and labs for BMS courses, Oversee/train the Student employees (TA, work Studies)
-Committee Member for the Women and STEM initiative
Coursera Course: "Engineering Health: Yoga and Physiology" 2019
-Author and Lecturer
-https://www.coursera.org/learn/engineering-health-yoga-physiology
Scientific Advisory Board "Unovis Asset Management" Alternate protein fund 2018-present
- Facilitate meetings, and understanding of scientific research in the stem cell meat industry for investment firms.
Summer Undergraduate Research Program Director, NYU, BMS Program 2015- 2019
-Developed program that began in 2015 and has grown to include 19 students and 9 projects in 2017.
-Projects focus on fusing technology with biology for medical aids and learning tools.
Clinical Assistant, Rehabilitation Medicine Center of NY 2014- 2019
- Assisted physicians with patients, charting, and rehabilitation exercises. https://nycpain.com
Clinical Assistant, Advanced Orthopaedics of NJ 2012-2015
- Assisted physicians with patients, shadowed in OR, and helped with charting and billing.
Yoga Instructor: Ashtanga Yoga New York 2010-2014

-In addition to daily yoga courses, founded The Ashtanga Yoga Outreach Initiative, designed and taught yoga therapy classes to: Iraq War Vets in the South Bronx, Hypertensive Adults in Brooklyn, and developmentally challenged young adults on Staten Island