SAMEER B. SHAH, PH.D.
CURRICULUM VITAE

Previous Applicable Employment

8/2006 - 8/2011	University of Maryland	College Park, MD	Assistant Professor, Department of Bioengineering (tenure-track) Faculty Member, Neuroscience and Cognitive Science (NACS) Graduate Program, Maryland NanoCenter, and Biological Sciences Graduate Program
9/2011 – 12/2014	University of Maryland	College Park, MD	Affiliate Faculty, Fischell Department of Bioengineering
8/2011 – 7/2016	University of California, San Diego	La Jolla, CA	Assistant Professor in Residence, Department of Orthopaedic Surgery Affiliate Faculty, Department of Bioengineering
11/2015 – Present	VA San Diego Healthcare System	San Diego, CA	Research Biomedical Engineer GS-14 (GS-level updated)
7/2016 – Present	University of California, San Diego	La Jolla, CA	Associate Professor (Ladder-Rank), Department of Orthopaedic Surgery Affiliate Faculty, Department of Bioengineering

Education

Massachusetts Institute of Technology	1993-1997	Cambridge, MA	Mechanical Engineering (major) Biomedical Engineering (minor)	S.B.	1997
University of California, San Diego	1997-2002	La Jolla, CA	Bioengineering	M.S. Ph.D.	1999, 2002
University of California, San Diego	2002-2006	La Jolla, CA	Neurobiology	Postdoc	N/A

Honors and Awards

1993 – 1994	Tennessee Congressional Merit Scholarship, Massachusetts Institute of Technology
1996 – 1997	Pi Tau Sigma Honor Society for Mechanical Engineering, Massachusetts Institute of Technology
1997 – 1998	Office of Graduate Students and Research (OGSR) Fellowship, University of California, San Diego
1998 – 2001	National Science Foundation (NSF) Graduate Student Fellowship, University of California, San Diego
2000	Excellent TA of the Year (selected by undergraduate students and faculty), University of California, San Diego
2001	Runner-up for ASB Journal of Biomechanics Award, University of California, San Diego (August)
2004 – 2006	NIH Kirschstein-NRSA Postdoctoral Fellowship, University of California, San Diego
2009	Alzheimer's Association New Investigator Award
2009 – 2010	General Research Board Summer Award, University of Maryland Graduate School
2010 – 2011	Advising Excellence Award (Best Advisor), Fischell Department of Bioengineering, University of Maryland, College Park
2012	Outstanding Gemstone Mentor Award, Gemstone Scholars Program, University of Maryland, College Park
2012	Academic Senate Travel Award, UCSD
2013	Selected to and Completed UCSD National Center of Leadership in Academic Medicine Professional Development Program
2014	Academic Senate Travel Award

2014	Outstanding Mentor Nominee, UCSD Faculty Mentor Program
2015	Academic Senate Travel Award
2015	Research Highlighted by Congressionally Directed Medical Research Program http://cdmrp.army.mil/prorp/research_highlights/15shah_highlight.shtml
2016 – 2017	Appreciation for Excellent Mentoring, UCSD Bioengineering Senior Design
2017	Academic Senate Travel Award
2017 – 2018	Appreciation for Excellent Mentoring, UCSD Bioengineering Senior Design
2019	Academic Senate Travel Award
2020	Research on Nerve Regeneration Selected to Armed Forces Institute of Regenerative Medicine (AFIRM3) **NEW**
2020	Selected to participate in IGE MedTech Entrepreneurial Accelerator Program
2020	1st place in IGE MedTech Entrepreneurial Accelerator Program Pitch Contest

Contracts and Grants

Active Grants:

Mechanisms underlying amyloidogenic outcomes following injury of human iPSC-derived neurons	Department of Defense (CDMRP/PRARP)	$788,488	07/01/2019-06/30/2022	Role: Principal Investigator
Treatment of Severe Nerve Injury by Nerve Lengthening and End-to-End Repair	Department of Defense (CDMRP/DMRDP)	$4,465,058	09/30/2020 – 09/29/2025	Role: Principal Investigator
Quantitative Medical Imaging Approaches to Diagnosing Neuromuscular Injury and Tracking Repair	Department of Defense (CDMRP/DMRDP)	$1,500,000	09/30/2020 – 09/29/2024	Role: Principal Investigator
Merit: Medical Imaging of Nerve Degeneration and Regeneration	Department of Veterans Affairs	$1,200,000	07/01/2020 – 06/30/2024	Role: Principal Investigator
Pathways underlying recovery of injured urethral sphincter and a novel regenerative biomaterial intervention	National Institutes of Health (NIDDK)	$3,278,251	04/01/2021 – 03/31/2026	Role: Co-Investigator (PI: Alperin/Christman)
Efficacy of Nerve Transfers in SCI Using Quantitative Neurophysiology	Department of Defense (CDMRP/SCIRP)	$1,784,086	09/30/2021 – 09/29/2024	Role: Co-Investigator (PI: Brown)

Closed Grants:

Impact of Carpal Tunnel Syndrome and Diabetes on Nerve Structure	American Foundation for Surgery of the Hand	$100,000	02/1/2017-1/31/2019	Role: Principal Investigator
SPiRE: Imaging Strategies To Improve Diagnosis and Treatment of Entrapment Neuropathy (5I21RX002367-02)	Department of Veterans Affairs	$200,000	10/01/2017-09/30/2019	Role: Principal Investigator
Functional Outcomes after Mixed Motor and Sensory Nerve Cryoablation	Epimed	$55,000	1/1/2018-8/31/2018	Role: Co-Investigator (PI: Ilfeld/Gabriel)
Mechanical Determinants of Axonal Transport and Amyloid Processing	Alzheimer's Association	$80,000	08/01/2009 – 07/31/2012	Role: Principal Investigator
Axonal transport and protein synthesis during neuronal outgrowth	National Science Foundation	$297,757	08/01/2009 – 07/31/2013	Role: Principal Investigator

Intermediate Filaments & Costamere Structure & Function	National Institutes of Health	$758,231	09/01/2009 - 08/31/2011	Role: Co-Investigator (PI: Bloch)
Mechanical Loading for Peripheral Nerve Stabilization and Regeneration	Department of Defense (CDMRP)	$150,000	09/15/2010 - 03/14/2013	Role: Principal Investigator
Mechanical Influences on the Identity and Organization of Peripheral Neurons Differentiated from hESC-derived Neural Rosettes	State of Maryland/TEDCO	$229,896	06/30/2010- 06/29/2012	Role: Principal Investigator
NSF/FDA Scholar-in-Residence at FDA: Neuromechanical outcomes from next generation peripheral nerve implants	National Science Foundation	$119,989	09/01/2010 – 08/31/2013	Role: Principal Investigator
Influence of Local Cytoskeletal Plasticity on Neuronal Cell Mechanics	National Science Foundation	$300,000	09/01/2011 - 08/31/2014	Role: Principal Investigator
Deciphering the Role of Annulus Fibrosus Cells in Neuronal Ingrowth into Collagen Matrices	North American Spine Society	$50,000	10/31/2013- 10/30/2014	Role: Principal Investigator
Non-invasive assessment of neuromechanical outcomes from next generation peripheral nerve implants	National Science Foundation	$127,150	08/01/2015- 07/31/2016	Role: Principal Investigator
Novel Modular Nerve Lengthening Device for Peripheral Nerve Regeneration (5I01RX001471-04)	Veterans Affairs	$1,100,000	10/01/2015- 09/30/2019	Role: Principal Investigator
Mouse and Human Models for Investigating Influences of Tau on Progression of Alzheimer's Disease Following Traumatic Neuronal Injury	Department of Defense (CDMRP)	$582,222	10/01/2015- 09/30/2018	Role: Principal Investigator

External Professional Activities

Proposal Reviewing Activities

National Science Foundation
Alzheimer's Association
Department of Veterans Affairs
Department of National Institutes of Health
American Society for Peripheral Nerve

Editorial and Reviewing Activities for Journals (many)

Invited Presentations.

1. SB Shah. (2007) Axonal Traffic, Traffic Jams, and Neurodegeneration. Program in Neuroscience and Cognitive Science (NACS). University of Maryland. College Park, MD.
2. SB Shah. (2007) Structural and Functional Roles of Desmin in Skeletal Muscle Biomechanics and Signaling. Program in Muscle Biology. University of Maryland School of Medicine. Baltimore, MD.
3. SB Shah. (2008) Neuronal Traffic Jams and Neurodegeneration. Departments of Mechanical and Electrical Engineering. University of Delaware. Newark, DE.
4. SB Shah. (2009) Mechanical loading of the Peripheral Nervous System: Implications for Surgery and Regeneration. United States Food and Drug Administration. Silver Spring, MD.
5. SB Shah. (2009) Oxidative Stress and the Collapse of Neuronal Highways. National Centre for Biological Sciences. Tata Institute of Fundamental Research. Bangalore, India.
6. SB Shah. (2009) Oxidative Stress and the Collapse of Neuronal Highways. Department of Biology. Indian Institute of Science Education and Research. Pune, India.
7. SB Shah (2010). Peripheral Neuromechanics: Implications for Injury and Repair. Center for Biomedical Engineering

and Technology. University of Maryland, Baltimore, MD.
8. SB Shah. (2010) Cytoskeletal Plasticity: Implications for Neurodegeneration. Department of Neurology. Johns Hopkins University School of Medicine, Baltimore, MD.
9. SB Shah. (2010) Cytoskeletal Plasticity: Implications for Neural Injury and Repair. Center for Brain Injury. University of Pennsylvania, Philadelphia, PA.
10. SB Shah. (2011) Plasticity of the Neuronal Cytoskeleton in Development and Disease. Department of Biology. Howard University, Washington, DC.
11. SB Shah. (2011) Plasticity of the Neuronal Cytoskeleton in Development and Disease. Department of Biology. Catholic University, Washington, DC.
12. SB Shah. (2011) Cytoskeletal plasticity in neurons subject to mechanical loading. College of Medicine, Drexel University, Philadelphia, PA.
13. SB Shah. (2011) Cytoskeletal plasticity in neurons subject to mechanical loading. Department of Physics, Georgetown University, Washington, DC.
14. SB Shah. (2011) Peripheral Nerve Structure and Biomechanics: Implications for Function, Regeneration and Repair. Department of Orthopaedic Surgery Grand Rounds (Dr. Wayne Akeson Visiting Professorship Inauguration), UCSD Medical Center, San Diego, CA.
15. SB Shah. (2014) Part I: Skeletal Muscle Structure and Architecture. Riverside County OREF Educational Symposium, Orange, CA.
16. SB Shah. (2014) Part II: Skeletal Muscle Physiology and Movement. Riverside County OREF Educational Symposium, Orange, CA.
17. SB Shah. (2016) Peripheral Nerve Structure and Biomechanics: Implications for Injury and Repair. ASEAN Visiting Fellows Research Symposium, UCSD, San Diego, CA.
18. SB Shah. (2021) Clinical applications for Peripheral Nerve Biomechanics. Boston Reconstructive Neurosurgery Course, Boston, MA.
19. SB Shah. (2021) Medical Imaging of Peripheral Nerves. Boston Reconstructive Neurosurgery Course, Boston, MA.

Professional Service and Committee Memberships
IEEE Engineering in Medicine and Biology Society
Orthopaedic Research Society
International Scientific Advisory Board Member for FNUSA/ICRC in Brno, Czech Republic
American Society for Peripheral Nerve
Plastic Surgery Foundation

Significant Contributions to Outreach and Diversity

Director, UMCP Fischell Department of Bioengineering Undergraduate Honors Program

Biosciences Day Judge, University of Maryland, College Park

Mentor, UCSD Faculty Mentor Program

Moderator, UCSD Summer Research Conference

Mentor, McNair Scholars Program

Mentor, High School Student Training in Aging Research

Moderator/Judge, UCSD Postdoc Research Symposium

Partnership with Dr. Carlos Luna Lopez (Cal State San Marcos) on developing an undergraduate research and professional development program for under-represented minorities in science and engineering.

Mentor: BExt SHIP Internship program

Member, Equity, Diversity, and Inclusion Committee, UCSD Department of Orthopaedic Surgery

Mentor, Guided Engineering Apprenticeship in Research (GEAR)

UCSD Presentations.

2010 SB Shah. Peripheral Neuromechanics: Implications for Injury and Repair. Department of Orthopaedic Surgery, University of California, San Diego, La Jolla, CA.

2011 SB Shah. Neuromechanics and Axonal Transport: Implications for Peripheral Nerve Regeneration. Department of Bioengineering, University of California, San Diego, La Jolla, CA.

2012 SB Shah. Peripheral Nerve Structure and Biomechanics: Implications for Function, Regeneration and Repair. Department of Orthopaedic Surgery Grand Rounds, UCSD Medical Center, San Diego, CA

2014 SB Shah. Neuromechanics, Injury, and Disease. Department of Medicine, Division of Rheumatology, Allergy, and Immunology, University of California, San Diego, La Jolla, CA.

2014 SB Shah. Neuromechanics - implications for peripheral nerve injury and repair. Department of Orthopaedic Surgery Grand Rounds, UCSD Medical Center, San Diego, CA

2015 SB Shah. Peripheral nerve structure and function in the context of orthopaedic surgery. Department of Orthopaedic Surgery Grand Rounds, UCSD Medical Center, San Diego, CA.

2015 SB Shah. Influence of paraneurial adhesions on nerve kinematics. Department of Orthopaedic Surgery Grand Rounds, UCSD Medical Center, San Diego, CA.

2017 SB Shah. Adaptation of Peripheral Nerves to Mechanical Loading Following Injury or Repair. Department of Orthopaedic Surgery Grand Rounds, UCSD Medical Center, San Diego, CA.

2018 SB Shah. Peripheral Nerve Biomechanics - Implications for Function and Repair. Department of Plastic Surgery Grand Rounds, UCSD Medical Center, San Diego, CA.

2018 SB Shah. Nerve Biomechanics - Implications for Function and Repair. Department of Orthopaedic Surgery Grand Rounds, UCSD Medical Center, San Diego, CA.

2018 SB Shah. Peripheral Nerve Regeneration. Urologic Research Collaboration, UCSD Medical Center, La Jolla, CA.

2020 SB Shah. Nerve Biomechanics: Injury, Disease, and Repair. Physiological Science Seminar, UCSD Medical Center, La Jolla, CA.

2021 SB Shah. Translational Efforts in Peripheral Nerve Injury and Repair. Department of Orthopaedic Surgery Grand Rounds, UCSD Medical Center, La Jolla, CA.

Student Instructional Activities

Undergraduate and High School Research. *(Home Department or Institution of Student Indicated in Parentheses; most recent post-training position indicated if known)*

1998 – 2000	Kimberly Jordan (Biology), University of California, San Diego
1999	Jennifer Glassman (Bioengineering), University of California, San Diego
2001	Heather Ross (Spelman University), University of California, San Diego
2001 – 2002	Suzy Carr (Bioengineering), University of California, San Diego
2001 – 2002	Alexander Teeter (Bioengineering), University of California, San Diego
2005	Sidd Viswanathan (Bioengineering), University of California, San Diego
2007	Afrouz Azari (Electrical Engineering), University of Maryland (Scientist, Applied Photonics Lab, U. Maryland)
2007	Sandeep Pulugurtha (Bioinformatics – University of Maryland, Baltimore County), University of Maryland, College Park (Management Consultant, Deloitte Consulting LLP)
2007	Katherine Speichinger (NSF REU – University of Missouri), University of Maryland, College Park (PhD graduate student, University of Missouri)
2007 – 2008	Brett Antlfinger-Norton (Bioengineering), University of Maryland, College Park (Engineer, Orbital ATK)
2007 – 2008	Andrew Iwamaye (Bioresources Engineering), University of Maryland, College Park (Employed at US Patent Office)
2007 – 2008	Cecilia Kye (Mechanical Engineering), University of Maryland, College Park (Medical School, Virgina Tech)
2007 – 2009	Gunja Dave (Bioengineering), University of Maryland, College Park (Ph.D., U. Maryland and Employed at US Food and Drug Administration)
2008	Alexander Orkin (Bioresources Engineering), University of Maryland, College Park
2008	Gage Matthews (NSF REU – St. Olaf College), University of Maryland, College Park (Learning Collaborative Coordinator, Ambit Network, University of Minnesota)
2008 – 2009	Himali Fernando (Bioengineering), University of Maryland, College Park (Biomedical Engineer, Department of Veterans Affairs)
2008 – 2010	Jennifer Lei (Bioengineering), University of Maryland, College Park (Ph.D., Georgia Tech, Biomedical Engineer, MiMedx)
2008 – 2010	Nii Mante (Bioengineering), University of Maryland, College Park (PhD graduate student, University of Southern California)
2008 – 2009	Shaza Abnouf (Bioengineering), University of Maryland, College Park (PhD graduate student, University of Houston)
2009	Sophia Rizvi (Biology/Neurophysiology), University of Maryland, College Park (Human Genome Sciences, Inc.)
2009 – 2011	Kelliann Wachrathit (Bioengineering), University of Maryland, College Park (US Food and Drug Administration)
2009 – 2011	Olatunji Godo (Materials Science), University of Maryland, College Park (Graduate Student, George Mason University)
2009 – 2012	Mentor to 13 students on University of Maryland Gemstone Team researching the development of

	vaccine refrigeration technology for underdeveloped countries
2009 – 2011	Bao Nguyen (Bioengineering), University of Maryland, College Park (PhD, University of Maryland)
2010	Robin Wilson (NSF REU – Case Western), University of Maryland, College Park (PhD Graduate Student, Stanford University)
2010	Ajay Kannan (Blair High School), University of Maryland, College Park (Medical Student, Duke University)
2010 – 2011	Jimmie Wu (Bioengineering), University of Maryland, College Park (PhD Graduate Student, Rensselaer Polytechnic Institute)
2010 – 2011	Hassan Moustafa (Bioengineering), University of Maryland, College Park (Controls Engineer, Lonza)
2010 – 2011	Sina Shahamatdar (Blair High School), University of Maryland, College Park (Medical Student, Johns Hopkins University)
2010 – 2011	Walter Beller-Morales (Bioengineering), University of Maryland, College Park (JD Candidate, Yeshiva University)
2010 – 2011	Vijay Baharani (Bioengineering) , University of Maryland, College Park
2010 – 2011	Mariya Sitnova (Bioengineering), University of Maryland, College Park (Master of Industrial Design, Rhode Island School of Design; User Experience Designer at Ecovent)
2010 – 2011	Miranda Hagen (Bioengineering), University of Maryland, College Park
2010 – 2011	Tapan Patel (Roosevelt High School), University of Maryland, College Park
2010 – 2011	Ohene Ofusu (Roosevelt High School), University of Maryland, College Park
2011	Victoria Stefanelli (Bioengineering), University of Maryland, College Park
2012	Uziel Mendez (NSF REU – Michigan Tech), University of California, San Diego (Ph.D. Graduate Student, University of Michigan)
2013	Kelsey Maddey (NSF REU – Arizona), University of California, San Diego (Senior Sales Engineer, Perfecto Mobile)
2013 – 2015	Armando Gallegos (Physiology/Neuroscience), University of California, San Diego
2013 – 2016	Armando Delgado (Physiology/Neuroscience), University of California, San Diego (Undergraduate, UCSD)
2014	Felicia Soehartano (Bioengineering), University of California, San Diego (Engineer, suitX)
2014	Vivian Wu (Human Biology), University of California, San Diego
2014 – 2015	Dean Tan (Biochemistry and Cell Biology), University of California, San Diego
2014 – 2015	Beverly Yu (Bioengineering), University of California, San Diego
2014 – 2015	Mai Tran (Biochemistry and Cell Biology), University of California, San Diego
2014 – 2016	Elisabeth Orozco (Neuroscience), University of San Diego (Research Scientist, UCSD)
2014 – 2017	Jaemyoung Sung (Biochemistry and Cell Biology), University of California, San Diego
2014 – 2017	Rushil Patel (Biochemistry and Cell Biology), University of California, San Diego
2015 – 2017	Kilian Burke (Neuroscience), University of California, San Diego
2015 – 2018	Sahej Randhwa (Bioengineering), University of California, San Diego
2016	Nichola Hillis (Bioengineering), University of California, San Diego
2016	Aritouch Vongkavivathanakul (Human Biology), University of California, San Diego
2016 – 2018	Ishaq Muhammad (La Jolla Country Day High School), University of California, San Diego
2017 – 2018	Xiaonon Xing (Bioengineering), University of California, San Diego
2017 – 2019	Neha Chhugani (Bioengineering), University of California, San Diego
2017 – 2019	Adarsh Kadoor (Physiology), University of California, San Diego
2017 – 2019	Stephanie Adachi (Cell Biology), University of California, San Diego
2017 – 2019	Brogan Nicolds (Bioengineering), University of California, San Diego
2018 – 2019	Achilles Kanaris (Biology), University of California, San Diego
2018 – 2019	Rishi Gupta (Human Biology), University of California, San Diego
2018 – 2019	Cameron Haghshenas (Biology), University of California, San Diego
2020 – 2021	Nevil Patel (Biology), University of California, San Diego
2020 – 2021	Carmelina Azar (Biology), University of California, San Diego
2020 – 2021	Dafina Sopi (Bioengineering), University of California, San Diego
2020 – 2021	Trisha Ahuja (Bioengineering), University of California, San Diego

Master's Students/Postbac Research.

2006	Franklin R. Bueno, Master of Science, University of Maryland. Mr. Bueno was a visiting graduate student in SBS's laboratory. (PhD Graduate Student, LSU)
2007 – 2009	Christina R. Kyrtsos, Master of Science, University of Maryland Ms. Kyrtsos performed two years of post-M.S. research in SBS's laboratory. (Medical Student, Michigan)
2008 – 2010	Sebila Kratovac, University of Maryland. Ms. Kratovac performed one year of research in SBS's laboratory.
2009 – 2010	Joseph Bender, Master of Science, Johns Hopkins University Mr. Bender completed his M.S. research in SBS's laboratory and graduated in May 2010. (PhD Graduate Student, Johns Hopkins University)
2011 – 2013	Stephen Restaino, University of Maryland/USFDA Mr. Restaino is a graduate student at the University of

Maryland who completed one year of research in SBS's laboratory at the FDA. (PhD Graduate Student, Univeristy of Maryland)

2012 – 2013 Justin Papreck, M.S., UCSD Mr. Papreck was a postbac research scientist in SBS's laboratory at UCSD. (Test prep and academic tutor, Hammer Prep)

2013 Ruben Mora, B.S., UCSD Mr. Mora was a postbac summer research intern who had completed one year of medical school. (Medical Student, UCSD)

2014 Arman Sobhani, B.S., UCLA Mr. Sobhani was a postbac summer research intern who had completed one year of medical school. (Medical Student, SUNY)

2014 – 2015 Michael Skinner, M.S., UCSD Mr. Skinner received his M.S. in Bioengineering in Spring 2015.

2014 – 2016 Yash Khandwala, B.S., UCSD Mr. Khandwala was a postbac research intern who has completed two years of medical school. (Medical Student, UCSD)

2014 – 2016 Steven Horton, M.S., UCSD Mr. Horton received his M.S. in Biology in Spring 2016

2014 – 2016 Vincent Hussey, M.S., UCSD Mr. Hussey received his M.S. in Biology in Spring 2016.

2015 – 2016 Meera Reghunathan, B.S., UCSD Ms. Reghunathan was a postbac research intern.

2015 – 2016 Alexandra Balcer, M.S., Cal Poly (San Luis Obispo)/UCSD () Ms. Balcer was a Master's Student in the Cal Poly/CIRM Internship Program who received her M.S. in Summer 2016.

2015 – 2016 Lillia Cherkasskiy, B.S., UCSD Ms. Cherkasskiy was a postbac research intern who has completed one year of medical school.

2015 – 2016 Meaghan Sullivan, M.S., UCSD Ms. Sullivan received her M.S. in Bioengineering in Spring 2016.

2016 – Present Elisabeth Orozco (Neuroscience), University of San Diego Ms. Orozco is a postbac research scientist in SBS's laboratory at UCSD.

2016 – 2017 Bhavik Patel, B.S., UCSD. Mr. Patel was a postbac research intern at UCSD medical school.

2017 – 2018 Jaemyoung Sung (Biology), M.S., UCSD. Mr. Sung received his M.S. in Biology in Spring 2018.

2018 – 2019 Albert Chen (Bioengineering), M.S., UCSD. Mr. Chen received his M.S. in Bioengineering in Spring 2019.

2018 – 2019 Stephanie Adachi (Biology), University of San Diego Ms. Adachi served as a postbac research scientist in SBS's laboratory at UCSD.

2018 – 2019 Ghassan Farah, B.S., UCSD. Mr. Farah was a postbac research intern at UCSD medical school.

2019 – 2020 Neha Chhugani, M.S., UCSD Ms. Chhugani received her M.S. in Bioengineering in Fall 2020.

2019 – 2021 Roman Chaar, B.S., UCSD Mr. Chaar will receive his M.S. in Bioengineering in Summer 2021.

Doctoral Rotation Students.

2006 Hyunchul Kim (Bioengineering), University of Maryland, College Park

2007 Joshua Chetta (Bioengineering), University of Maryland, College Park

2007 Christina Kyrtsos (Bioengineering), University of Maryland, College Park

2007 Irene Bacalocostantis (Bioengineering), University of Maryland, College Park

2007 Jeremiah Wierwille (Bioengineering), University of Maryland, College Park

2008 Dean Berlin (Bioengineering), University of Maryland, College Park

2008 Emily Coates (Bioengineering), University of Maryland, College Park

2008 Michael Lai (Bioengineering), University of Maryland, College Park

2008 Julianne Twomey (Bioengineering), University of Maryland, College Park

2009 Janet Hsu (Bioengineering), University of Maryland, College Park

2009 Gunja Dave (Bioengineering), University of Maryland, College Park

2009 James Love (Bioengineering), University of Maryland, College Park

2010 Steven Graff (Bioengineering), University of Maryland, College Park

2010 Kimberly Konston (Bioengineering), University of Maryland, College Park

2016 Yara Seif (Bioengineering), UCSD

2016 Holly Howarth (Bioengineering), UCSD

2021 Yuanshan Wu (Bioengineering), UCSD

Doctoral Students.

2006 – 2011 Joshua Chetta, Doctor of Philosophy Candidate, Bioengineering, University of Maryland, College Park. Dr. Chetta graduated with a Ph.D. in Spring 2011. (National Institutes of Health, US Food and Drug Administration)

2009 – 2014 Gunja Dave Pathak, Doctor of Philosophy Candidate, Bioengineering, University of Maryland, College Park. Dr. Pathak graduated with a Ph.D. in Spring 2014. (US Food and Drug Administration)

2009 – 2014 James Love, Doctor of Philosophy Candidate, Bioengineering, University of Maryland, College Park. Dr. Love graduated with a Ph.D. in Summer 2014. (Product Manager, CTK Biotech)

2011 – 2015 Brian Bober, Doctor of Philosophy Candidate, Bioengineering, UCSD. Dr. Bober graduated with a Ph.D. in Summer 2015. (Scientist, DexCom)

2016 – 2020 Holly Howarth, Doctor of Philosophy Candidate, Bioengineering, UCSD. Dr. Howarth graduated with a Ph.D. in Winter 2020. (Scientist, TriLink)

2021 – 2020 Yuanshan Wu, Doctor of Philosophy Candidate, Bioengineering, UCSD.

Postdoctoral.

2007 – 2008	Dr. Kouroush Sadegh Zadeh, Postdoctoral Trainee, University of Maryland, College Park. (Assistant Professor of Biomedical Engineering, Tehran University, Iran)
2010 – 2013	Dr. Tom Chuang, Postdoctoral Trainee, UMCP/UCSD. (Scientist, Modern Meadows)
2011 – 2014	Dr. Erkinay Abliz, Postdoctoral Trainee, University of Maryland, College Park/USFDA (US Food and Drug Administration)
2013 – 2014	Dr. Kenneth Vaz, Resident, Department of Orthopaedic Surgery, UCSD (Resident, UCSD)
2013 – 2014	Dr. Kyeongsik Ryu, Visiting Scholar (Department of Neurosurgery, Catholic University, Korea), Department of Orthopaedic Surgery, UCSD (Professor, Catholic University, Korea)
2014 – 2015	Dr. Ian Foran, Resident, Department of Orthopaedic Surgery, UCSD (Resident, UCSD)
2015 – 2017	Dr. Shawn O'Connor, Postdoctoral Trainee, UCSD. (Assistant Professor, San Diego State University – Fall 2016)
2015 – 2021	Dr. Rodrigo Chaves, Postdoctoral Trainee, UCSD (joint with Dr. L. Goldstein).
2015 – 2016	Dr. Jakub Sikora-Klak, Resident, Department of Orthopaedic Surgery, UCSD (Resident, UCSD)
2015 – 2017	Dr. Turki Alaziz, Visiting Scholar (MBBS, King Khalid University, Saudi Arabia), Department of Orthopaedic Surgery, UCSD
2016	Dr. Naveed Nabizadeh, Visiting Scholar (MBBS, Mashhad University of Medical Sciences, Mashhad, Iran), Department of Orthopaedic Surgery, UCSD
2016 – 2018	Dr. Carlos Luna, Postdoctoral Trainee, UCSD
2017	Dr. Shujuan Fan, Postdoctoral Trainee, UCSD (joint with Dr. J. Du)
2017 – 2018	Dr. Kara Sarrel, Resident, Department of Orthopaedic Surgery, UCSD
2017 – 2019	Dr. Rayeheh Salem, Visiting Scholar (MD, Mashhad, Iran), Department of Orthopaedic Surgery, UCSD
2018 – 2019	Dr. Michal Byra, Postdoctoral Trainee, UCSD (joint with Dr. E. Chang)
2020 – Present	Dr. Saeed Jerban, Postdoctoral Trainee, UCSD (joint with Dr. E. Chang and Dr. J. Du)
2021 – Present	Dr. Victor Barrere, Postdoctoral Trainee, UCSD (joint with Dr. E. Chang and Dr. M. Andre)

Thesis and Student Advisory Committees.

2007	Agusta Vigfusdottir, M.S. defense (Chair: Dr. Adam Hsieh), Fischell Department of Bioengineering, University of Maryland, College Park.
2007	Brendan Casey, Ph.D. proposal (Chair: Dr. Peter Kofinas), Fischell Department of Bioengineering, University of Maryland, College Park.
2007	Martha Betz, Ph.D. proposal (Chair: Dr. John Fisher), Fischell Department of Bioengineering, University of Maryland, College Park.
2008	Leann Matta, Ph.D. proposal (Chair: Dr. Helim Aranda-Espinoza), Fischell Department of Bioengineering, University of Maryland, College Park.
2008	Kristen Lin, Ph.D. advisory (Chair: Dr. Hey-Kyoung Lee), Program in Neuroscience and Cognitive Science, University of Maryland, College Park.
2009	Anshu Rastogi, Ph.D. proposal (Chair: Dr. Adam Hsieh), Fischell Department of Bioengineering, University of Maryland, College Park.
2009	Martha Betz, Ph.D. defense (Chair: Dr. John Fisher), Fischell Department of Bioengineering, University of Maryland, College Park.
2009	Erin Falco, Ph.D. defense (Chair: Dr. John Fisher), Fischell Department of Bioengineering, University of Maryland, College Park.
2009	Kaiwen He, Ph.D. defense (Chair: Dr. Hey-Kyoung Lee), Program in Neuroscience and Cognitive Science, University of Maryland, College Park.
2009	Joshua Chetta, Ph.D. proposal (Chair: Dr. Sameer Shah), Fischell Department of Bioengineering, University of Maryland, College Park.
2010	David Hwang, Ph.D. proposal (Chair: Dr. Adam Hsieh), Fischell Department of Bioengineering, University of Maryland, College Park.
2010	Trent Bradberry, Ph.D. defense (Chair: Dr. Jose Contreras-Vidal), Kinesiology, University of Maryland, College Park.
2010	Leann Matta, Ph.D. defense (Chair: Dr. Helim Aranda-Espinoza), Fischell Department of Bioengineering, University of Maryland, College Park.
2010	Dulciana Chen, M.S. defense (Chair: Felipe Aguel, William Bentley), Fischell Department of Bioengineering, University of Maryland, College Park.
2010	Emily Coates, Ph.D. proposal (Chair: Dr. John Fisher), Fischell Department of Bioengineering, University of Maryland, College Park.
2010	Brendan Casey, Ph.D. defense (Chair: Dr. Peter Kofinas), Fischell Department of Bioengineering, University of Maryland, College Park.
2010	Janet Hsu, Ph.D. proposal (Chair: Dr. Silvia Muro), Fischell Department of Bioengineering, University of Maryland, College Park.
2011	Jason Papademitriou, Ph.D. proposal (Chair: Dr. Silvia Muro), Fischell Department of Bioengineering, University

of Maryland, College Park.
2015 Eugene Sato, Ph.D. defense (Chair: Dr. Samuel Ward), Department of Bioengineering, UCSD
2015 Edward Ronan, Ph.D. proposal (Chair: Dr. Alexander Groisman), Department of Physics, UCSD
2017 Melissa Hernandez, Ph.D. proposal (Chair: Dr. Karen Christman), Department of Bioengineering, UCSD
2018 Edward Ronan, Ph.D. defense (Chair: Dr. Alexander Groisman), Department of Physics, UCSD
2019 Pamela Duran, Ph.D. proposal (Chair: Dr. Karen Christman/Dr. Marianna Alperin), Department of Bioengineering, UCSD
2019 Melissa Hernandez, Ph.D. defense (Chair: Dr. Karen Christman), Department of Bioengineering, UCSD
2020 Julia Kudyashev, Ph.D. proposal (Chair: Dr. Ester Kwon), Department of Bioengineering, UCSD
2020 Ismael Munoz, Ph.D. proposal (Chair: Dr. Robert Sah), Department of Bioengineering, UCSD
2021 Katherine North, M.S. defense (Chair: Dr. Ester Kwon), Department of Bioengineering, UCSD
2021 Ismael Munoz, Ph.D. defense (Chair: Dr. Robert Sah), Department of Bioengineering, UCSD

Student and Trainee Awards.
2007 Spring ASPIRE Award (Dave), University of Maryland, College Park.
2007 Summer ASPIRE Award (Dave), University of Maryland, College Park.
2007 Fall ASPIRE Award (Dave), University of Maryland, College Park.
2007 Fall ASPIRE Award (Antlfinger-Norton), University of Maryland, College Park.
2007 Fall ASPIRE Award (Iwamaye), University of Maryland, College Park.
2007 Fall ASPIRE Award (Kye), University of Maryland, College Park.
2008 Spring ASPIRE Award (Dave), University of Maryland, College Park.
2008 Spring ASPIRE Award (Antlfinger-Norton), University of Maryland, College Park.
2008 Summer ASPIRE Award (Dave), University of Maryland, College Park.
2008 Summer LSAMP Award (Abnouf), University of Maryland, College Park.
2008 Fall LSAMP Award (Abnouf), University of Maryland, College Park.
2008 – 2009 Future Faculty Fellowship (Kyrtsos), University of Maryland, College Park.
2008 – 2010 Medical Device Fellowship (Kratovac), United States Food and Drug Administration and University of Maryland, College Park.
2009 Spring LSAMP Award (Abnouf), University of Maryland, College Park.
2009 Fall LSAMP Award (Godo), University of Maryland, College Park.
2009 – 2010 Oak Ridge Institute for Science Education Fellowship (Kratovac), United States Food and Drug Administration and University of Maryland, College Park.
2010 Spring LSAMP Award (Godo), University of Maryland, College Park.
2010 Spring ASPIRE Award (Nguyen), University of Maryland, College Park.
2010 Spring L-3 Communications Research Scholarship Award (Godo), University of Maryland, College Park.
2010 Summer ASPIRE Award (Nguyen), University of Maryland, College Park.
2010 Fall ASPIRE Award (Nguyen), University of Maryland, College Park.
2010 Fall LSAMP Award (Godo), University of Maryland, College Park.
2010 NSF Graduate Fellowship (Kratovac), University of Maryland, College Park.
2011 NSF Graduate Fellowship (Dave), University of Maryland, College Park.
2012 NSF Graduate Fellowship (Godo), University of Maryland, College Park.
2013 NIH Summer Research Training Program Award (Mora), UCSD.
2014 OREF Resident Research Project Grant (Vaz), UCSD.
2014 NIH Summer Research Training Program Award (Khandwala), UCSD.
2015 McNair Scholarship (Delgado), UCSD.
2016 NIH Summer Research Training Program Award (Patel), UCSD.
2017 California Orthopaedic Association Annual Meeting Best Basic Science Paper (Foran), UCSD.
2018 UCSD Graduate Students Association Travel Award (Howarth), UCSD.
2018 NIH Summer Research Training Program Award (Farah), UCSD.

Courses Taught, University of California, San Diego.
2012 Spring Neuromuscular Physiology (BENG 233, Lead Instructor: R. Lieber).
2013 Spring Musculoskeletal Health, Injury, and Disease (BENG 232, Lead Instructor: R. Sah and S. Varghese).
2015 Spring Musculoskeletal Health, Injury, and Disease (BENG 232, Lead Instructor: R. Sah and S. Varghese).
2015Winter/Spring Mentor for Fundamental Principles of Mechanical Design I-II (“Nerve Gripper” Team) (MAE156A-B, Lead Instructor: N. Delson).
2015 – 2016 Various Research for Credit (ORTHO/BENG/BISP 199 (UCSD)) courses (mentees are above)
2016 – 2017 Mentor for Bioengineering Senior Design (“Nerve Stretch Actuation” Team) (BENG 187A/B/C, Lead Instructor P. Cabrales).
2016 – 2017 Various Research for Credit (ORTHO/BENG/BISP 199 (UCSD)) courses (mentees are listed above)
2017 Spring Neuromuscular Physiology and Biomechanics (BENG 233).
2017 Spring Musculoskeletal Health, Injury, and Disease (BENG 232, Lead Instructor: R. Sah).
2017 – 2018 Mentor for Bioengineering Senior Design (“Bifurcated Nerve Graft” Team) (BENG 187A/B/C, Lead Instructor P. Cabrales).

2018 Spring	Mentor for Mechanical and Aerospace Engineering Senior Design Team (MAE 156A/B/C),
2018 Spring	Musculoskeletal Health, Injury, and Disease (BENG 232, Lead Instructor: R. Sah).
2018 – 2019	Mentor for Bioengineering Senior Design ("Ultrasound-Regulated Microbubbles" Team) (BENG 187A/B/C, Lead Instructor P. Cabrales).
2019 Winter/Spring	Mentor for Mechanical and Aerospace Engineering Senior Design Team (MAE 156A/B/C).
2019 Winter	Introduction to Bioengineering (BENG 1, Lead Instructor: P. Chen).
2019 Spring	Neuromuscular Physiology and Biomechanics (BENG 233).
2019 Spring	Musculoskeletal Health, Injury, and Disease (BENG 232, Lead Instructor: R. Sah).
2019 – 2020	Mentor for Bioengineering Senior Design ("NewGait Rehab Device Testing and Design" Team) (BENG 187A/B/C, Lead Instructor B. Wheeler).
2020 Spring	Neuromuscular Physiology and Biomechanics (BENG 233).
2020 - 2021	Mentor for Mechanical and Aerospace Engineering Senior Design Team (MAE 156A/B/C).
2021 Spring	Neuromuscular Physiology and Biomechanics (BENG 233).

Course or Curriculum Development, Teaching Leadership

1. Developed the content for the course "Neuromuscular Physiology and Biomechanics (BENG 233)" and taught the course at UCSD (2017).
2. Developed the content for the course "Neuromuscular Physiology and Biomechanics (BENG 233)" and taught the course at UCSD (2019 - Present).
3. Attendee to Invitation-only "Workshop on the Role of Centers for Teaching and Learning in Engineering Education," Arlington, VA.
4. Developed the course "Quantitative Cell Physiology" and taught it for the first time on the University of Maryland, College Park campus.
5. Assisted in the continued refinement of the undergraduate curriculum for the Fischell Department of Bioengineering as part of the Undergraduate Program Committee.
6. Developed the content for the course "Biology for Engineers" and taught the course on the University of Maryland, College Park campus. This course is currently being adopted as a Keystone course for the Clark School of Engineering.
7. Developed the content for the course "Electrophysiology of the Cell" and taught the course on the University of Maryland, College Park campus.
8. Initiated and served as director of the research-based Fischell Department of Bioengineering Undergraduate Honors Program (2010-2011).

Courses Taught, University of Maryland, College Park.

(University of Maryland, College Park)

2007 Spring	Quantitative Cell Physiology (BIOE489Q/689Q).
2007 Fall	Electrophysiology of the Cell (BIOE603).
2008 Spring	Quantitative Cell Physiology (BIOE489Q/689Q).
2008 Fall	Biology for Engineers (BIOE120).
2009 Spring	Electrophysiology of the Cell (BIOE603).
2009 Fall	Biology for Engineers (BIOE120).
2009 Fall	Gemstone Team Sophomore Project Seminar I (GEMS296).
2010 Spring	Gemstone Team Sophomore Project Seminar II (GEMS297).
2010 Spring	Bioengineering Seminar Series (BIOE608).
2010 Spring	Laboratory Rotations II (BIOE606).
2010 Fall	Biology for Engineers (BIOE120).
2010 Fall	Gemstone Team Junior Project Seminar I (GEMS396).
2010 Fall	Bioengineering Seminar Series (BIOE608).
2011 Spring	Gemstone Team Junior Project Seminar II (GEMS397).
2011 Spring	Bioengineering Seminar Series (BIOE608).
2011 Spring	Quantitative Cell Physiology (BIOE450/689Q).
2011 Fall	Gemstone Team Senior Project Seminar I (GEMS 496).
2012 Spring	Gemstone Team Senior Project Seminar II (GEMS 497).

Academic Advising, Undergraduate (University of Maryland, College Park)

2006 – 2011	Academic Advisor to 38 undergraduates in the Fischell Department of Bioengineering.
2007 – 2010	Inventis Program Mentor to 5 undergraduates in the Clark School of Engineering.
2010 – 2011	Keystone Mentor for 4 undergraduates on academic probation in the Clark School of Engineering.

Original Peer-Reviewed Research Articles

Corresponding/Senior Author; $Graduate or Undergraduate Student Trainee; Role on secondary authorships are italicized.

1. M Sam, **SB Shah**, J Fridén, DJ Milner, Y Capetenaki, RL Lieber. (2000) Desmin knockout muscles generate lower stress and are less vulnerable to injury compared to wild-type muscles. American Journal of Physiology. 279: C1116-C1122. *(SB Shah performed essential mechanics and signal processing analysis to assess muscle function.)*
2. **SB Shah**, D Peters, KA Jordan, Y Capetenaki, DJ Milner, RL Lieber. (2001) Sarcomere number regulation maintained after immobilization in desmin-null mouse skeletal muscle. Journal of Experimental Biology. 204: 1703-1710.
3. **SB Shah**, F Su, KA Jordan, DJ Milner, J Fridén, Y Capetenaki, RL Lieber. (2002) Evidence for increased myofibrillar mobility in desmin-null mouse skeletal muscle. Journal of Experimental Biology 205: 321-5.
4. **SB Shah** and RL Lieber. (2003) Simultaneous imaging and functional assessment of cytoskeletal protein connections in passively loaded single muscle cells. Journal of Histochemistry and Cytochemistry. 51(1): 19-29.
5. ML Garcia, CS Lobsiger, **SB Shah**, TJ Deerinick, J Crum, D Young, CM Ward, TO Crawford, T Gotow, MH Ellisman, NA Calcutt, DW Cleveland. (2003) NF-M is an essential target for the myelin-directed 'outside in' signaling cascade that mediates radial axonal growth. Journal of Cell Biology. 163(5):1011-20. *(SB Shah performed essential image processing analysis to quantify neurofilament organization.)*
6. **SB Shah**, J Davis, N Weisleder, I Kostavassili, AD McCulloch, E Ralston , Y Capetanaki, RL Lieber. (2004) Structural and functional roles of desmin in passively loaded skeletal muscle fibers. Biophysical Journal. 86(5):2993-3008.
7. DA Robinson, SN Bremner, K Sethi, **SB Shah**, SR Sirsi, GJ Lutz. (2005) In vivo expression of myosin essential light chain using plasmid expression vectors in regenerating frog skeletal muscle. Gene Therapy. 12(4):347-57. *(SB Shah performed essential image processing analysis to assess localization of transgenic proteins.)*
8. M Haghnia, V Cavalli, **SB Shah**, K Schimmelpfeng, R Brusch, G Yang, C Herrera, A Pilling, LSB Goldstein. (2007) Dynactin is required for coordinated bidirectional motility, but not for dynein membrane attachment. Molecular Biology of the Cell. 18(6): 2081-2089. *(SB Shah performed essential image processing and data analysis to quantify axonal transport phenotypes.)*
9. ML Garcia, K Yamanaka, J Fujimoto, V Garcia, SB Shah, J Crum, T Gotow, Y Uchiyama, M Ellisman, N Calcutt, DW Cleveland. (2009) Neurofilament KSP phosphorylation is not required for myelin-dependent radial axonal growth. Journal of Neuroscience. 29(5): 1277-1284. *(SB Shah performed essential image processing analysis to quantify neurofilament organization.)*
10. **SB Shah**, R Nolan, E Davis, GB Stokin, I Niesman, LSB Goldstein. (2009) Examination of potential mechanisms of amyloid-induced defects in neuronal transport, Neurobiology of Disease. 36(1): 11-25.
11. K Sadegh-Zadeh, **SB Shah***. (2010) Mathematical Modeling and parameter estimation of axonal cargo transport. J Comput Neurosci. 28(3): 495-507.
12. J Chetta[$], C Kye[$], **SB Shah***. (2010) Cytoskeletal dynamics in response to tensile loading of mammalian axons. Cytoskeleton. 67(10): 650-665.
13. EE Falco, MO Wang, JA Thompson, JM Chetta[$], DM Yoon, EZ Li, MM Kulkarni, **SB Shah**, A Pandit, JS Roth, JP Fisher*. (2011) Porous EH and EH-PEG Scaffolds as Gene Delivery Vehicles to Skeletal Muscle. Pharmaceutical Research. 28(6): 1306-1316. *(SB Shah performed essential data analysis evaluate transgene protein synthesis in cultured muscle cells.)*
14. J Chetta[$], **SB Shah***. (2011) A novel algorithm to generate kymographs from dynamic axons for the quantitative analysis of axonal transport. Journal of Neuroscience Methods. 199(2):230-40.
15. C Vande Velde, KK McDonald, Y Boukhedimi, M McAlonis-Downes, CS Lobsiger, SB Hadj, A Zandona, JP Julien, **SB Shah**, and DW Cleveland. (2011) Misfolded SOD1 Associated With Motor Neuron Mitochondria Alters Mitochondrial Shape and Distribution Prior to Clinical Onset. PLOS One. 6(7):e22031.
16. **SB Shah***, JM Love[$], A O'Neill, R Lovering and RJ Bloch (2011) Influences of desmin and keratin 19 on passive biomechanical properties of mouse skeletal muscle. Journal of Biomedicine and Biotechnology. 2012:704061. PMCID: PMC3263816.
17. SJP Pratt, MW Lawlor, **SB Shah**, RM Lovering (2011) An in vivo rodent model of contraction-induced injury in the quadriceps muscle. Injury. 43(6):788-93. *(SB Shah performed essential data and statistical analysis to examine neuromuscular junction morphology following injury.)*
18. GF Reis, G Yang, L Szpankowski, C Weaver, **SB Shah**, JT Robinson, TS Hays, G Danuser, LS Goldstein (2012) Molecular motor function in axonal transport in vivo probed by genetic and computational analysis in Drosophila. Molecular Biology of the Cell. 23(9):1700-14. *(SB Shah performed essential image processing and data analysis to quantify axonal transport phenotypes, and helped develop quantitative metrics for evaluating axonal transport function.)*
19. BB Nguyen[$], J Chetta[$], and **SB Shah*** (2012). A novel technology for simultaneous tensile loading and high-

resolution imaging of cells. Cellular and Molecular Bioengineering. 5(4): 450-462.

20. DM Barry, W Stevenson, BG Bober[$], PJ Wiese, JM Dale, GS Barry, Byers NS, JD Strope, R Chang, DJ Schulz, **SB Shah**, NA Calcutt, Y Gebremichael, ML Garcia (2012). Expansion of neurofilament medium C terminus increases axonal diameter independent of increases in conduction velocity or myelin thickness. J Neurosci. 32(18):6209-19. PubMed PMID: 22553027; PubMed Central PMCID: PMC3363292.
21. JM Love[$], GK Pathak[$], J Chetta[$], and **SB Shah***. (2012) Correlated movement of plasma membrane in cells of the peripheral nervous system. Cellular and Molecular Bioengineering. 5(4): 504-513.
22. T-H Chuang, RE Wilson[$], JP Fisher, and **SB Shah***. (2013) A novel internal fixator device for peripheral nerve regeneration. Tissue Engineering C. 19(6): 427-37. doi:10.1089/ten.tec.2012.0021.(Research/Methods)
23. SJP Pratt, **SB Shah**, CW Ward, MP Inacio, JP Stains, and RM Lovering. (2013) Effects of in vivo injury on the neuromuscular junction in healthy and dystrophic muscles. J Physiol. 591(Pt 2):559-70. doi: 10.1113/jphysiol.2012.241679. *(SB Shah performed essential image analysis and statistical analysis to examine neuromuscular junction morphology following injury.)*
24. RM Lovering, **SB Shah**, SJP Pratt, W Gong, Y Chen. (2013) Architecture of healthy and dystrophic muscles detected by optical coherence tomography. Muscle and Nerve. 47: 588-590. doi: 10.1002/mus.23711. *(SB Shah performed essential image analysis to examine muscle architecture in wild-type and mdx mice, from images captured using OCT.)*
25. JM Love[$], T-H Chuang, RL Lieber, **SB Shah***. (2013) Nerve strain correlates with structural changes quantified by Fourier analysis. Muscle and Nerve. 48: 433–435. doi: 10.1002/mus.23809.
26. GK Pathak[$], JM Love[$], J Chetta[$], **SB Shah***. (2013) A comparative quantitative assessment of axonal and dendritic mRNA transport in maturing hippocampal neurons. PLoS One. 8(7): e65917. doi: 10.1371/journal.pone.0065917.
27. C Luna, L Detrick, **SB Shah**, AH Cohen, H Aranda-Espinoza. (2013) Mechanical properties of the Lamprey spinal cord: Uniaxial loading and physiological strain. J Biomech. 46:2194-2200. *(SB Shah helped design biomechanics and immunohistochemistry experiments, and assisted with image analysis and interpretation of data.)*
28. LJ Tuttle, OT Nguyen, MS Cook, M Alperin, **SB Shah**, SR Ward, RL Lieber. (2013) Architectural Design of the Pelvic Floor is Consistent with Muscle Functional Subspecialization. International Urogynecology Journal. 25(2):205-12. doi: 10.1007/s00192-013-2189-5. *(SB Shah developed theoretical model used to describe pressure in pelvic floor.)*
29. SM Restaino[$], E Abliz, K Wachrathit[$], V Krauthamer, **SB Shah***. (2014) Biomechanical and Functional Variation in Rat Sciatic Nerve Following Cuff Electrode Implantation. J NeuroEng Rehab. 11(1): 73. doi:10.1186/1743-0003-11-73.
30. GK Pathak[$], H Aranda-Espinoza, **SB Shah***. (2014) Mouse hippocampal explant culture system to study isolated axons. J Neurosci Meth. 232:157-64. doi: 10.1016/j.jneumeth.2014.05.018.
31. SJP Pratt, **SB Shah**, CW Ward, JP Kerr, JP Stains, RM Lovering. (2015) Recovery of altered neuromuscular junction morphology and muscle function in mdx mice after injury. Cell Mol Life Sci. 72(1):153-64. doi: 10.1007/s00018-014-1663-7. *(SB Shah performed essential data and statistical analysis to examine neuromuscular junction morphology following injury.)*
32. RL Lieber, M Palmisano, S Bremner, T Hornberger, G Meyer, AA Domenighetti, **SB Shah**, B Kiss, M Kellermayer, AF Ryan. (2015) Muscle intermediate filaments form a stress-transmitting and stress signaling network in muscle. J Cell Sci. 128(2):219-24. doi: 10.1242/jcs.142463.
33. H Kim, TW Caspar, **SB Shah**, AH Hsieh. (2015) Effects of pro-inflammatory cytokines on axonal outgrowth from adult rat lumbar dorsal root ganglia using a novel 3-D culture system. The Spine Journal. Mar 20. pii: S1529-9430(15)00269-7. doi: 10.1016/j.spinee.2015.03.017. *(SB Shah helped design 3D neuronal culture experiments, and assisted with strategies to quantify neuronal pathfinding in 3D.)*
34. BG Bober[$], JM Love[$], M Sitnova[$], S Shahamatdar[$], A Kannan[$], **SB Shah***. (2015) Actin regulates the morphological response of neuronal cells to changes in their osmotic environment. Cytoskeleton 72(4):193-206. doi: 10.1002/cm.21219.
35. J Chetta[$], JM Love[$], BG Bober, **SB Shah***. (2015) Bidirectional actin transport is influenced by microtubule and actin integrity. Cell Mol Life Sci. 2015 Nov;72(21):4205-20. PubMed PMID: 26043972.
36. MA Mahan, KM Vaz, D Weingarten, JM Brown, **SB Shah***. (2015) Altered ulnar nerve kinematic behavior in a cadaver model of entrapment. Neurosurgery. 76(6):747-55. doi: 10.1227/NEU.0705.
37. JM Love[$], **SB Shah***. (2015) Ribosomal trafficking is reduced in Schwann cells following induction of myelination. Frontiers in Cellular Neuroscience. 9:306. doi: 10.3389/fncel.2015.00306.
38. BG Bober[$], E Gutierrez, S. Plaxe, A Groisman, **SB Shah***. (2015) Combinatorial influences of paclitaxel and strain on axonal transport. Experimental Neurology. 271:358-367. doi: 10.1016/j.expneurol.2015.06.023.
39. BG Bober[$], **SB Shah***. (2015) Paclitaxel Alters Sensory Nerve Biomechanical Properties. Journal of Biomechanics. Oct 15;48(13):3559-67. doi: 10.1016/j.jbiomech.2015.07.020.
40. SJ Pratt, AP Valencia, GK Le, **SB Shah** and RM Lovering (2015). Pre- and postsynaptic changes in the

neuromuscular junction in dystrophic mice. Frontiers in Physiology. 6:252. doi: 10.3389/fphys.2015.00252. *(SB Shah performed essential image analysis and statistical analysis to examine neuromuscular junction morphology following injury.)*

41. I Foran, KM Vaz, J Sikora-Klak, SR Ward, ER Hentzen, **SB Shah***. (2016) Regional Ulnar Nerve Strain Following Decompression and Anterior Subcutaneous Transposition in Patients with Cubital Tunnel Syndrome. *J Hand Surg Am.* 2016 Oct;41(10):e343-e350. doi: 10.1016/j.jhsa.2016.07.095. PubMed PMID: 27527251. **[updated]**
42. O Godo[$], K Gaskell, GK Pathak[$], CR Kyrtsos[$], SH Ehrman, **SB Shah***. (2016) Fluorescent Iron Nanoparticles are Candidates for Multimodal Microscopy of Neuronal Transport. *AIMS Bioengineering,* 2016, 3(3): 362-378. doi: 10.3934/bioeng.2016.3.362.
43. GK Pathak[$], H Ornstein[$], H Aranda-Espinoza, AJ Karlsson, **SB Shah***. (2016) Biphasic increase of retrograde injury signaling complex-related genes in central axons. *Neural Plast.* 2016; 2016:3572506. PubMed PMID: 27847648.
44. SR Iyer, **SB Shah**, AP Valencia, MF Schneider, EO Hernandez-Ochoa, JP Stains, SS Blemker, RM Lovering (2016). Altered nuclear dynamics in MDX myofibers. *J Appl Physiol.* 122(3):470-481. doi: 10.1152/japplphysiol.00857.2016. Epub 2016 Dec 15. PubMed PMID: 27979987; PubMed Central PMCID: PMC5401960.
45. JM Love[$], BG Bober[$], E Orozco, AT White, SN Bremner, S Schenk, **SB Shah*** (2017). Tensile loading induces local protein synthesis in rat sciatic nerve through mTOR-dependent pathways. Journal of Neurophysiology. 2017, 117(5):2075-2084. doi: 10.1152/jn.00257.2016. PMID: 28250148
46. P Imperadore, **SB Shah**, HP Makarenkova, and G Fiorito (2017). Nerve degeneration and regeneration in the cephalopod mollusc Octopus vulgaris: the case of the pallial nerve. Sci Rep. 20;7:46564. doi: 10.1038/srep46564. PubMed PMID: 28425503; PubMed Central PMCID: PMC5397853.
47. Horton SM[$], Luna Lopez C, Blevins E, Howarth H[$], Weisberg J[$], Shestopalov VI, Makarenkova HP, **Shah SB**. Pannexin 1 Modulates Axonal Growth in Mouse Peripheral Nerves. Front Cell Neurosci. 2017 Nov 22;11:365. doi: 10.3389/fncel.2017.00365. eCollection 2017. PubMed PMID: 29213230; PubMed Central PMCID: PMC5702652.
48. Shahidi B, **Shah SB**, Esparza M, Head BP, Ward SR. Skeletal Muscle Atrophy and Degeneration in a Mouse Model of Traumatic Brain Injury. J Neurotrauma. 2017 Nov 3. doi: 10.1089/neu.2017.5172. [Epub ahead of print] PubMed PMID: 28895461. (Role: Data analysis/interpretation, manuscript writing)
49. IM Foran, V Hussey[$], RA Patel[$], J Sung[$], **SB Shah**. Native paraneurial tissue and paraneurial adhesions alter nerve strain distribution in rat sciatic nerves. J Hand Surg Eur Vol. 2017 Jan 1:1753193417734433. doi: 10.1177/1753193417734433. [Epub ahead of print] PubMed PMID: 29022773.
50. S-J Fan, J Wong, X Cheng, Y-J Ma, EY Chang, J Du, **SB Shah**. Feasibility of Quantitative Ultrashort Echo Time (UTE)-Based Methods for Magnetic Resonance Imaging of Peripheral Nerve. NMR Biomed. 2018 Sep;31(9):e3948. doi: 10.1002/nbm.3948. Epub 2018 Jul 16. PubMed PMID: 30011103; PubMed Central PMCID: PMC6310234.
51. AM Kordahi, KL Sarrel, **SB Shah**, EY Chang. Flexor carpi radialis brevis: case report of a symptomatic tear. Skeletal Radiol. 2018 Dec;47(12):1705-1708. doi: 10.1007/s00256-018-2971-z. Epub 2018 May 18. PubMed PMID: 29777260. (Role: Data analysis/interpretation, manuscript writing)
52. Byra M, Wan L, Wong JH, Du J, **Shah SB**, Andre MP, Chang EY. Quantitative Ultrasound and B-Mode Image Texture Features Correlate with Collagen and Myelin Content in Human Ulnar Nerve Fascicles. Ultrasound Med Biol. 2019 Jul;45(7):1830-1840. doi: 10.1016/j.ultrasmedbio.2019.02.019. (Role: Experimental design, Data analysis/interpretation, manuscript writing)
53. VR Sheth, P Duran, J Wong, **S Shah**, J Du, KL Christman, EY Chang, M Alperin. Multimodal imaging assessment and histologic correlation of the female rat pelvic floor muscles' anatomy. J Anat. 2019 Apr;234(4):543-550. doi: 10.1111/joa.12943. Epub 2019 Feb 10. PubMed PMID: 30740685; PubMed Central PMCID: PMC6422690. (Role: Experimental design, Data analysis/interpretation, manuscript writing)
54. J Sung[$], J Sikora-Klak, SY Adachi, E Orozco, **SB Shah**. Decoupled epineurial and axonal deformation in mouse median and ulnar nerves. Muscle Nerve. 2019 May;59(5):619-628. doi: 10.1002/mus.26437. Epub 2019 Feb 21. PubMed PMID: 30697763.
55. HM Howarth[$], T Alaziz, B Nicolds[$], S O'Connor, **SB Shah**. Redistribution of nerve strain enables end-to-end repair under tension without inhibiting nerve regeneration. Neural Regen Res. 2019 Jul;14(7):1280-1288. doi: 10.4103/1673-5374.251338. PubMed PMID: 30804260; PubMed Central PMCID: PMC6425842.
56. SR Iyer, **SB Shah**, CW Ward, JP Stains, EE Spangenburg, ES Folker, RM Lovering. Differential YAP nuclear signaling in healthy and dystrophic skeletal muscle. Am J Physiol Cell Physiol. 2019 Jul 1;317(1):C48-C57. doi:10.1152/ajpcell.00432.2018. Epub 2019 Apr 17. PubMed PMID: 30995108. *(Role: Experimental design, Data analysis/interpretation, manuscript writing)*
57. HM Howarth[$], A Kadoor[$], R Salem, B Nicolds[$], S Adachi[$], A Kanaris[$], RM Lovering, JM Brown, **SB Shah***. Nerve lengthening and subsequent end-to-end repair yield more favourable outcomes compared with autograft repair of rat sciatic nerve defects. J Tissue Eng Regen Med. 2019 Dec;13(12):2266-2278. doi: 10.1002/term.2980. Epub 2019 Nov 26. PubMed PMID: 31670904. **NEW**

58. SR Iyer, S Xu, **SB Shah**, RM Lovering. Muscle phenotype of a rat model of Duchenne muscular dystrophy. Muscle Nerve. 2020 Dec;62(6):757-761. doi: 10.1002/mus.27061. Epub 2020 Sep 22. PubMed PMID: 32918339; PubMed Central PMCID: PMC7944521. *(Role: Experimental design, Data analysis/interpretation, manuscript writing)* **NEW**
59. R Gupta, JP Chan, J Uong, WA Palispis, DJ Wright, **SB Shah**, SR Ward, TQ Lee, O Steward. Human motor endplate remodeling after traumatic nerve injury. J Neurosurg. 2020 Sep 18;:1-8. doi: 10.3171/2020.8.JNS201461. [Epub ahead of print] PubMed PMID: 32947259. *(Role: Data analysis/interpretation, manuscript writing)* **NEW**
60. **SB Shah**, S Bremner, M Esparza, S Dorn, E Orozco, C Haghshenas[$], BM Ilfeld, RA Gabriel, S Ward. Does cryoneurolysis result in persistent motor deficits? A controlled study using a rat peroneal nerve injury model. Reg Anesth Pain Med. 2020 Apr;45(4):287-292. doi: 10.1136/rapm-2019-101141. Epub 2020 Jan 29. PubMed PMID: 32001625. **NEW**
61. HM Howarth[$], E Orozco, RM Lovering, **SB Shah***. A comparative assessment of lengthening followed by end-to-end repair and isograft repair of chronically injured peripheral nerves. Exp Neurol. 2020 Sep;331:113328. doi: 10.1016/j.expneurol.2020.113328. Epub 2020 Apr 22. PubMed PMID: 32333909. **NEW**
62. M Byra, E Hentzen, J Du, M Andre, EY Chang, **S Shah***. Assessing the Performance of Morphologic and Echogenic Features in Median Nerve Ultrasound for Carpal Tunnel Syndrome Diagnosis. J Ultrasound Med. 2020 Jun;39(6):1165-1174. doi: 10.1002/jum.15201. Epub 2019 Dec 23. PubMed PMID: 31868248. **NEW**
63. M Byra, M Wu, X Zhang, H Jang, YJ Ma, EY Chang, **S Shah**, J Du. Knee menisci segmentation and relaxometry of 3D ultrashort echo time cones MR imaging using attention U-Net with transfer learning. Magn Reson Med. 2020 Mar;83(3):1109-1122. doi: 10.1002/mrm.27969. Epub 2019 Sep 19. PubMed PMID: 31535731; PubMed Central PMCID: PMC6879791. *(Role: Data analysis/interpretation, manuscript writing)* **NEW**
64. JP Chan, J Clune, **SB Shah**, SR Ward, JD Kocsis, T Mozaffar, O Steward, R Gupta. Examination of the human motor endplate after brachial plexus injury with two-photon microscopy. Muscle Nerve. 2020 Mar;61(3):390-395. doi: 10.1002/mus.26778. Epub 2019 Dec 24. PubMed PMID: 31820462. *(Role: Data analysis/interpretation, manuscript writing)* **NEW**
65. LA Burnett, M Cook, **S Shah**, M Michelle Wong, DM Kado, M Alperin. Age-associated changes in the mechanical properties of human cadaveric pelvic floor muscles. J Biomech. 2020 Jan 2;98:109436. doi: 10.1016/j.jbiomech.2019.109436. Epub 2019 Oct 31. PubMed PMID: 31708240; PubMed Central PMCID: PMC6956987. *(Role: Data analysis/interpretation, manuscript writing)* **NEW**
66. RS Gupta[$], D Berrellez[$], N Chhugani[$], C Luna Lopez, A Maldonado, **SB Shah***. Effects of paclitaxel on the viscoelastic properties of mouse sensory nerves. J Biomech. 2021 Jan 22;115:110125. doi: 10.1016/j.jbiomech.2020.110125. Epub 2020 Nov 12. PMID: 33257008. **NEW**
67. E Orozco, K Masuda, **SB Shah***. A guide to reducing adverse outcomes in rabbit models of sciatic nerve injury. Laboratory Animal Research. 2021. https://doi.org/10.1186/s42826-021-00085-1. (in press) **NEW**

Review and Invited Articles

1. RL Lieber, **SB Shah**, J Fridén. (2002) Cytoskeleton disruption after eccentric contraction-induced muscle injury (peer reviewed review). Clinical Orthopaedics and Related Research. 403 Suppl: S90-9. *(SB Shah performed experiments supporting review topic, and helped write and edit the review.)*
2. FR Bueno[$], **SB Shah***. (2008) Implications of Tensile Loading for the Tissue Engineering of Nerves (peer reviewed review). Tissue Eng Part B Rev. 14(3): 219-233.
3. KM Vaz, JM Brown, **SB Shah***.(2014) Peripheral nerve lengthening as a regenerative strategy (peer reviewed review). Neural Regen Res. 9(16):1498-501. doi: 10.4103/1673-5374.139471.
4. D Bachasson, A Singh, **SB Shah**, JG Lane, SR Ward. (2015) The role of the peripheral and central nervous systems in rotator cuff disease. J Shoulder Elbow Surg. 24(8):1322-35. doi: 10.1016/j.jse.2015.04.004. *(SB Shah helped write and edit peripheral nerve-related aspects of the review.)*
5. ML Pearn, IR Niesman, J Egawa, A Sawada, A Almenar-Queralt, **SB Shah**, JL Duckworth, BP Head. (2016) Pathophysiology associated with traumatic brain injury: current treatments and potential novel therapeutics. Cell Mol Neurobiol. 2017 May;37(4):571-585. doi: 10.1007/s10571-016-0400-1. Epub 2016 Jul 6. Review. PMID: 27383839.
6. **SB Shah**. (2017) Invited Dispatch. Tissue Biomechanics: Whales Have Some Nerve. Current Biology. 2017 Mar 6;27(5):R177-R179. doi: 10.1016/j.cub.2017.01.054. PMID:28267970.
7. HP Makarenkova, **SB Shah**, VI Shestopalov. The two faces of pannexins: new roles in inflammation and repair. J Inflamm Res. 2018 Jun 21;11:273-288. doi: 10.2147/JIR.S128401. eCollection 2018. Review. PubMed PMID: 29950881; PubMed Central PMCID: PMC6016592. *(Role: Synthesis of supporting literature, Review manuscript writing)*
8. S Bazarek, JM Brown, **SB Shah***. Clinical Potential of Tension-Lengthening Following Nerve Repair. Neural Regeneration Research. 2021 (In press). **NEW**

I. Books and Book Chapters (Peer Reviewed; *Corresponding/Senior author)

1. **SB Shah**, G Yang, G Danuser, LSB Goldstein* (2007). Axonal transport: imaging and modeling of a neuronal process. Controlled Nanoscale Motion in Biological and Artificial Systems (Lecture Notes in Physics), Springer-Verlag. 711: 65-84.
2. **SB Shah***. (2013) Chapter 17: Bioinspired Design of Peripheral Nerve Devices. Handbook of Biomimetics and Bioinspiration, World Scientific Publishing Co, Pte, Ltd. Volume 9(2): 419-442. (ISBN-10: 9814354929, ISBN-13: 978-9814354929)
3. **SB Shah***, BG Bober[$], J Chetta[$]. (2014) Axonal Transport and Neuromechanics. Molecular and Cellular Biomechanics, Ed. BE Layton, Pan Stanford Publishing.
4. SJ Pratt SJP, Iyer SR, **Shah SB**, Lovering RM. Imaging Analysis of the Neuromuscular Junction in Dystrophic Muscle. Methods Mol Biol. 2018;1687:57-72. doi: 10.1007/978-1-4939-7374-3_5. PubMed PMID: 29067656.)

Refereed Presentations. (Speaker for Platform Talk*)**

1. J Fridén, SB Shah, M Sam, Y Capetenaki, DJ Milner, and RL Lieber (1999) Z-disk streaming does not necessarily accompany muscle injury after eccentric contractions. ACSM Annual Meeting, Seattle, WA.
2. SB Shah, D Peters, Y Capetenaki, D Milner, RL Lieber (1999) Adaptation of wild type and desmin-null skeletal muscle in response to immobilization. Orthopedics Research Conf., San Diego, CA
3. M Sam, RL Lieber, J Fridén, SB Shah, D Milner, Y Capetenaki (2000) Less muscle injury in animals lacking desmin intermediate filaments. ORS Annual Meeting, Orlando, FL.
4. SB Shah, D Peters, Y Capetenaki, D Milner, R Lieber (2000) Adaptation of wild type and desmin-null skeletal muscle in response to immobilization. Experimental Biology Annual Meeting, San Diego, CA.
5. SB Shah, Fridén J, Capetenaki Y, Lieber RL (2001) Analysis of mechanical interactions and their functional roles in mammalian skeletal muscle. UCSD Bioengineering Graduate Research Review, San Diego, CA.
6. SB Shah, J Fridén, DJ Milner, Y Capetenaki, RL Lieber (2001) Structural and functional roles of desmin in mouse skeletal muscle under conditions of passive loading. American Society of Biomechanics Annual Meeting, San Diego, CA.
7. SB Shah, J Fridén, DJ Milner, Y Capetenaki, RL Lieber (2002) Structural and functional roles of desmin in mouse skeletal muscle during passive loading. Biophysical Society Annual Meeting, Boston, MA.
8. SB Shah, J Fridén, DJ Milner, Y Capetenaki, RL Lieber (2003) Structural and functional roles of desmin in mouse skeletal muscle during passive loading. Experimental Biology Annual Meeting, San Diego, CA.
9. SB Shah, J Fridén, DJ Milner, Y Capetenaki, RL Lieber (2004) Structural and functional roles of desmin in mouse skeletal muscle during passive deformation. New Directions in Biology and Disease of Skeletal Muscle Meeting, San Diego, CA.
10. SB Shah, LSB Goldstein (2004) Accumulation dynamics in mouse neuroblastoma neurites. Biophysical Society Annual Meeting, Baltimore, MD.
11. SB Shah#, G Yang#, RG Brusch, LSB Goldstein, G Danuser (2005) Reliable Tracking of Dense Antiparallel Vesicle Movement in Drosophila Segmental Nerve Axons. Biophysical Society Annual Meeting, Long Beach, CA. (#contributed equally to this work)
12. SB Shah, LSB Goldstein (2005) Oxidative and mechanical influences on accumulation development in neurons. Biophysical Society Annual Meeting, Long Beach, CA.
13. G Yang#, SB Shah#, G Reis#, G Danuser, LSB Goldstein (2005) Spatial and Temporal Dynamics of Vesicle Transport in Drosophila Segmental Nerve Axons Revealed by Particle Tracking. The American Society for Cell Biology Annual Meeting, San Francisco, CA. (#contributed equally to this work)
14. SB Shah, LSB Goldstein (2005) Evidence for Amyloid Induced Transport Defects Initiated by Mechanical Blockage within Neuronal Processes. The American Society for Cell Biology Annual Meeting, San Francisco, CA.
15. G Reis#, G Yang#, SB Shah#, L Szpankowski, G Danuser, LSB Goldstein (2006) In vivo Motor Protein Interaction Revealed in Spatial and Temporal Dynamics of Vesicle Transport in Drosophila Segmental Nerve Axons. The American Society for Cell Biology (ACSB) Annual Meeting, San Diego, CA. (#contributed equally to this work)
16. L Matta, SB Shah, K Sengupta, H Aranda-Espinoza (2007) Initial spreading of endothelial cells. Biophysical Society Annual Meeting, Baltimore, MD.
17. CR Kyrtsos, K Huang, S Ehrman, SB Shah (2007) Imaging Axonal Transport with Iron Nanoparticles. 47th Annual Meeting of the American Society for Cell Biology, Washington, DC.
18. CR Kyrtsos*, SB Shah (2008) Osmotic influences on neuronal function and morphology. BMES Annual Fall Meeting, St. Louis, MO.
19. CR Kyrtsos, SB Shah (2008) Modeling β amyloid clearance in Alzheimer's disease (Poster). SIAM Conference on the Life Sciences, Montreal, Quebec, Canada.

20. J Chetta*, SB Shah (2008) Mechanical Loading Of Neurons Results In Cyoskeletal Reorganization. BMES Annual Fall Meeting, St. Louis, MO.
21. J Chetta*, SB Shah (2008) Uniaxial Loading Of Neurons Results In Cyoskeletal Reorganization. 52nd Annual Meeting of the Biophysical Society and 16th IUPAB International Biophysics Congress, Long Beach, CA.
22. G Dave, SB Shah (2008) Oxidative Stress results in defective neuronal transport following cytoskeletal destabilization. 48th Annual Meeting of the American Society for Cell Biology, San Francisco, CA.
23. S Kratovac, SB Shah (2009) Quantitative study of the rat sciatic nerve morphology along its length. Society for Neuroscience Annual Meeting, Chicago, IL.
24. K McDonald, Y Boukdehimi, S Bel Hadj, M Downes, JP Julien, SB Shah, DW Cleveland, C Vande Velde (2009) Mitochondrial axonal transport defects in adult SOD1 animals revealed with a novel Hb9-mitoEGFP transgenic mouse. Society for Neuroscience Annual Meeting, Chicago, IL.
25. J Chetta, SB Shah (2009) Increased heterogeneity in the cytoskeleton of stretched axons. American Society for Cell Biology Annual Meeting, San Diego, CA.
26. J Chetta, SB Shah (2010) Cytoskeletal deformation in response to tensile loading. Biophysical Society Annual Meeting, San Francisco, CA.
27. J Chetta*, SB Shah (2010) Dynamic actin densities in the axon of sensory neurons. BMES Annual Fall Meeting, Austin, TX.
28. SB Shah, S Kratovac (2010) Physiological Distributions Of Neuronal Strain In Peripheral Nerves. BMES Annual Fall Meeting, Austin, TX.
29. R Wilson, JP Fisher, SB Shah (2010) Peripheral Nerve Regeneration Using a Tension-inducing Scaffold. BMES Annual Fall Meeting, Austin, TX.
30. J Chetta, SB Shah (2010) Actin Mobility in the Axons of Sensory Neurons. American Society for Cell Biology Annual Meeting, Philadelphia, PA.
31. G Pathak, JM Love, J Chetta, SB Shah (2011) mRNA Transport in the Projections of Maturing Hippocampal Neurons. Biophysical Society Annual Meeting, Baltimore, MD. Biophysical Journal. 100(3) pp. 601a.
32. JM Love, G Pathak, J Chetta, SB Shah (2011) Lipid Trafficking in Neurons and Schwann Cells. Biophysical Society Annual Meeting, Baltimore, MD.Biophysical Journal. 100(3) pp. 601a.
33. J Chetta, SB Shah (2011) PDMS Thin Films Used to Image Stretch Induced Changes in Axonal Cytoskeletal Dynamics. Biophysical Society Annual Meeting, Baltimore, MD. Biophysical Journal. 100(3) pp. 443a.
34. C Luna, JM Love, SB Shah, H Aranda-Espinoza (2011) Mitochondrial Trafficking on Axons as a Function of Substrate Stiffness. Biophysical Society Annual Meeting, Baltimore, MD. Biophysical Journal. 100(3) pp. 97a.
35. G Pathak, SB Shah (2012) Explant Model For The Study of Neuronal Injury Processes. American Society for Cell Biology Annual Meeting, San Francisco, CA.
36. JM Love, SB Shah (2012) Ribosomal transport in Schwann cells: a role for myelination in peripheral nervous system regeneration American Society for Cell Biology Annual Meeting, San Francisco, CA.
37. J Chetta, SB Shah (2012) Mobile Actin Densities in the Axons of Rat Sensory Neurons. American Society for Cell Biology Annual Meeting, San Francisco, CA.
38. T-H Chuang*, R Wilson, JP Fisher, SB Shah (2012) A novel internal fixator device for peripheral nerve regeneration. Second Annual Symposium on Regenerative Rehabilitation, Pittsburgh, PA.
39. T-H Chuang, R Wilson, JP Fisher, SB Shah (2013) A novel internal fixator device for peripheral nerve regeneration. Orthopaedic Research Society Annual Meeting, San Antonio, TX.
40. JM Love, S Schenk, SB Shah (2013) mTOR activation levels increase in nerves in response to applied strain. Society for Neuroscience Annual Meeting, San Diego, CA.
41. GK Pathak, SB Shah (2013) Retrograde injury signaling in a mouse hippocampal explant model of axon injury. Society for Neuroscience Annual Meeting, San Diego, CA.
42. B Bober, E Gutierrez, SB Shah (2013) The effects of paclitaxel treatment on axonal transport. Society for Neuroscience Annual Meeting, San Diego, CA.
43. H Kim, TW Caspar, SB Shah, and AH Hsieh (2013) Effect of Pro-Inflammatory Cytokines on the Axonal Outgrowth from Adult Rat Dorsal Root Ganglia In Vitro. BMES Annual Fall Meeting, Seattle, WA.
44. KE Maddy, R Mora, T-H Chuang, JR Papreck, and SB Shah (2013) A Practical Decellularization Method used to Engineer a Novel Detergent-free, Acellular Graft that Promotes Optimal Nerve Regeneration in a Rat Model. BMES Annual Fall Meeting, Seattle, WA.
45. SB Shah*, JR Papreck, MA Mahan, D Weingarten, JM Brown (2014) Amplification of Regional Human Ulnar Nerve Deformation by Tethering. American Society for Peripheral Nerve Annual Meeting, Kauai, HI.
46. PF Felisaz, S Statum, J Du, EY Chang, JM Brown, SB Shah, CB Chung, NM Szeverenyi, and GM Bydder (2014) Demonstration of the collagenous components of peripheral nerve with short and ultrashort TE (UTE) pulse sequences. International Society for Magnetic Resonance in Medicine Annual Meeting, Milan, Italy.

47. KM Vaz, MA Mahan, K Ryu, JM Papreck, A Patel, JM Brown, SB Shah (2014). Amplification Of Regional Differences In Ulnar Nerve Kinematics By Nerve Tethering. Orthopaedic Research Society Annual Meeting, New Orleans, LA.
48. B Bober, E Gutierrez, SB Shah (2014). Effects of Paclitaxel on Sensory Nerve Structure and Function. World Congress on Biomechanics, Boston, MA.
49. H Kim*, SB Shah, AH Hsieh (2015). Annulus Fibrosus Cells and IL-1beta Independently Regulate 3d Axonal Outgrowth From The Cultured Dorsal Root Ganglions (DRG). Orthopaedic Research Society Annual Meeting, Las Vegas, NV.
50. SB Shah, KM Vaz, I Foran, JM Love, T-H Chuang (2015). Structural and Biological Response of Peripheral Nerves to Tensile Mechanical Loading. Orthopaedic Research Society Annual Meeting, Las Vegas, NV
51. IM Foran*, KM Vaz, ER Hentzen, SB Shah. (2015). Regional Ulnar Nerve Kinematics: Simple Decompression versus Anterior Subcutaneous Transposition in Cubital Tunnel Syndrome. American Society for Surgery of the Hand (ASSH) Annual Meeting, Seattle, WA.
52. IM Foran, V Hussey, R Patel, J Sung, SB Shah (2016). Normal and abnormal paraneurial tissues create strain gradients in rat sciatic nerves. American Society for Peripheral Nerve (ASPN) Annual Meeting, Scottsdale, AZ.
53. IM Foran*, KM Vaz, ER Hentzen, SB Shah. Regional Ulnar Nerve Strain Following Simple Decompression and Anterior Transposition in Cubital Tunnel Syndrome (2016). American Association of Orthopaedic Surgeons (AAOS) Annual Meeting, Orlando, FL. (accepted)
54. IM Foran*, V Hussey, R Patel, J Sung, SB Shah (2016). Normal And Abnormal Paraneurial Tissues Create Strain Gradients In Rat Sciatic Nerves. Orthopaedic Research Society Annual Meeting, Orlando, FL.
55. IM Foran, KM Vaz, SR Ward, ER Hentzen, SB Shah. Ulnar Nerve Strain Following Decompression and Anterior Transposition in Patients with Cubital Tunnel Syndrome (2016). Orthopaedic Research Society Annual Meeting, Orlando, FL.
56. PF Felisaz, S Statum, J Du, EY Chang, JM Brown, SB Shah, CB Chung, NM Szeverenyi, and GM Bydder (2016). MRI of Peripheral Nerve: MT of Short T2 Components, Susceptibility and Diffusion Weighting of Collagen Components. International Society for Magnetic Resonance in Medicine Annual Meeting, Singapore.
57. Y Ma, S Fan, J Wong, JM Brown, R Mandeville, EY Chang, G Bydder, J Du, SB Shah* (2017) UTE-MRI Strategies for Imaging Peripheral Nerve Injury, ASPN. American Society for Peripheral Nerve Annual Meeting, Waikoloa, HI.
58. T Alaziz, RA Abrams, SB Shah (2017) Redistribution Of Strain In End-to-end Nerve Repairs Under Tension, Orthopaedic Research Society Annual Meeting, San Diego, CA.
59. IM Foran*, KM Vaz, J Sikora-Klak, SR Ward, ER Hentzen, SB Shah. (2017) Regional Ulnar Nerve Strain Following Decompression and Anterior Subcutaneous Transposition in Patients With Cubital Tunnel Syndrome, California Orthopaedic Association Annual Meeting, Carlsbad, CA.

60. HM Howarth, A Kadoor, R Salem, E Orozco, M Esparza, SB Shah. (2018) Lengthening as a novel method for peripheral nerve regeneration, Orthopaedic Research Society Annual Meeting, New Orleans, LA.
61. LA Burnett, SB Shah, E Orozco (Blevins), V Rajesh, M Alperin. (2018) Hormone Receptor Expression in Pelvic Floor Muscles. American Urogynecologic Society (*AUGS*) Annual Meeting, Chicago, IL.
62. HM Howarth, A Kadoor, R Salem, E Orozco, M Esparza, SB Shah*. (2019) ID# 27317: Nerve Lengthening as a Strategy for Nerve Repair. American Society for Peripheral Nerve Annual Meeting, Palm Desert CA.
63. HM Howarth, E Orozco, A Kadoor, M Esparza, R Salem, K Masuda, J Brown, SB Shah*. (2019) TechConnect World Innovation Conference and Expo, Boston, MA.
64. HM Howarth*, A Kadoor, R Salem, A Kanaris, E Orozco, S Adachi, SB Shah. (2019) Biomedical Engineering Society Annual Meeting, Philadelphia, PA.
65. M Andre*, M Byra, J Wong, SB Shah, A Han, W O'Brien, J Du, EY Chang. (2019) High frequency quantitative ultrasound and B-mode analysis for characterization of peripheral nerves including carpal tunnel syndrome. Acoustic Society of America Annual Meeting, San Diego, CA. **UPDATED**
66. E Orozco, S Adachi, HP Makarenkova, SB Shah. (2019) Influence of pannexin1 knockout on peripheral nerve regeneration. Society for Neuroscience Annual Meeting, Chicago, IL. **NEW**
67. M Byra, J Wong, E Hentzen, EY Chang, M Andre, J Du, SB Shah. (2020) Ultrasound Approaches to Nerve Imaging. American Society for Peripheral Nerve Annual Meeting, Fort Lauderdale, FL. **NEW**

Refereed Conference Proceedings

1. T-H Chuang, R Wilson, JP Fisher, SB Shah* (2012) A novel internal fixator device for peripheral nerve regeneration. 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, California, USA. (Previously A.IV.1)

Popular Works

1. Quoted in “The Scientist” magazine, February 21, 2017. Waviness Protects Nerves When Whale Mouths Stretch. *http://www.the-scientist.com/?articles.view/articleNo/48562/title/-Waviness--Protects-Nerves-When-Whale-Mouths-Stretch/*

Intellectual Properties and Entrepreneurship

1. SD2015-326 - SOFT TISSUE GRIPPING DEVICE (Attorney Docket Number 22000.13P; Provisional Patent filed on June 11, 2015 by UCSD Tech Transfer Office) (Previously B.III.1).
2. ID 2015-069 GCL 6850 - Nerve Lengthening Device (Invention Disclosure Submitted on January 1, 2015, and VA asserted an ownership right to the Invention on May 18, 2015) (Previously B.III.2)
3. SD2019-297 - Actuation for Soft Tissue Lengthening (Invention Disclosure Submitted on 3/20/2019)
4. United States Patent US20160361064A1 – System and Method for Soft Tissue Gripping. Inventors: Sameer B. Shah, Johnathan L. Le, Daniel Moskowitz, Fabian Ramirez, Aileen Tran, Nathan Delson. Current Assignee: University of California; US Government; US Department of Veterans Office of General Counsel (OGC)
5. SD2021-346 - Intraoperative Measurement of Tissue Mechanical Properties (Invention Disclosure Submitted on 3/17/2021)
6. We incorporated a company, Neuretix, based on nerve lengthening technology.

Selected publications marked with an [*] can be found at the following link:
https://www.ncbi.nlm.nih.gov/myncbi/1VatbR-wfutk9/bibliography/public/