

Tianyi (Tim) Niu, M.D.
593 Eddy Street, APC6
Providence, RI. 02903
Office: 401-444-8567
Email: tniu@lifespan.org

- Education:**
- 2019-2020 Spinal Oncology and Reconstructive Spine Fellowship; Lifespan Neurosurgery at Brown
Junior Attending; Lifespan Neurosurgery at Brown
- 2018-2019 Enfolded Complex Spine Fellowship; UCLA & Kaiser Los Angeles Hospital
- 2017-2018 Neurosurgery Chief Resident; University of California-Los Angeles
- 2012-2019 Neurosurgery resident; University of California-Los Angeles, Los Angeles, CA.
- 2008-2012 M.D., Medical College of Wisconsin, Milwaukee, WI.
- 2003-2007 B.S., University of Pittsburgh-University Honors College, Pittsburgh, PA.
Microbiology, Summa Cum Laude
- Grants:**
- 2015-2016 NIH NINDS R25; Mapping of the efferent and afferent network of major trunk musculature in rodent model. Niu T, Edgerton R, Lu DC
- Honors:**
- 2019 Nature Scientific Report NeuroScience top 50 Read Article of Year
- 2019 UCLA Neurosurgery Resident Teaching Award
- 2018 Kuntz Scholar Award, AANS/CNS Spine Section
- 2016 Kuntz Scholar Award, AANS/CNS Spine Section
- 2010 Top 5 poster in 2010 MCW Resident & Fellow Poster fair (5/>200)
- 2010 Admissions Committee—Student interviewer; Medical College of Wisconsin
- 2008-2012 Lubar Scholarship, Medical College of Wisconsin, Milwaukee, WI
- 2007 Phi Beta Kappa, University of Pittsburgh, Pittsburgh, PA
- 2005 Brackenridge Research Fellowship, University of Pittsburgh, Pittsburgh, PA
- Research:**
- 2015-2019 Percutaneous magnetic stimulation in Spinal Cord Injured Patients; *Role* = IRB protocol design, chart review, data collection, data analysis, manuscript writing; UCLA, Dr. Daniel Lu
- 2009-2012 Comparisons of Different endovascular treatments of cerebral arteriovenous malformations; *Role* = IRB protocol design, chart review, data collection, data analysis, manuscript writing; Medical College of Wisconsin, Dr. Osama Zaidat
- 2004-2008 Protein-DNA interactions using restriction endonucleases as models; *Role* = bench experiments, data collection, data analysis, presentation; University of Pittsburgh, Dr. Linda Jen-Jacobson
- 2003-2004 Adolescent Sleep and Violence study; *Role* = data collection and analysis; University of Pittsburgh, Dr. Matthews and Owens
- Peer-Reviewed Publications:**
1. Tucker A, Smith A, Gonzalez N, Yew A, **Niu T**. Surgical Management of a Spinal Pial Arteriovenous Fistula in an Infant. Manuscript in process
 2. **Niu T**, Elshikhali A, McBride DQ. Vancomycin Powder Induced Sterile Seroma after Anterior Cervical Discectomy and Fusion. Manuscript Submitted.
 3. Diaz-Aguilar D, **Niu T**, Terterov S, Scharnweber R, Tucker A, Brara H, Merna C, Wang S, Rahman S. Involution of a chordoma following corticosteroid administration. Manuscript submitted.
 4. **Niu T**, Hoffman H, Archie M, Yew A, Chen DC, Lu DC. Endoscopic Assisted Direct Lateral Interbody

- Fusion. Manuscript submitted.
5. Tucker A, Choi E, Vespa P, Jahan R, Gonzalez N, Nagasawa D, **Niu T**, Ooi Y and Blanco M. Endovascular Treatment of A Ruptured Intracranial Mycotic Aneurysm in A Patient with Tricuspid Infective Endocarditis. Manuscript accepted.
 6. Attiah M, **Niu T**, Gaonkar B, Beckett J, Macyszyn L. Nature Aging of the Spinal Parameters. Manuscript accepted JNS Spine.
 7. Denis DJ, Champagne PO, Hoffman H, **Niu T**, Lu DC. Catheter-based Minimally Invasive Evacuation of Extensive Spinal Epidural Abscess: A Technical Report. *Cureus*. 2019 May 13;11(5):e4649. doi: 10.7759/cureus.4649.
 8. Denis DJ, **Niu T**, Champagne PO, Lu DC. Laminoplasty for Cervical Spinal Cord Stimulator Implantation in Patients With Cervical Spondylosis and Fusion: A Technical Note. *Ochsner J*. 2019 Spring;19(1):38-42. doi: 10.31486/toj.18.0096.
 9. Attiah M, Tucker AM, Perez-Rosendahl M, **Niu T**, Nagasawa DT, Kodrat E, Martin NA, Nelson S. Epithelioid Osteoblastoma of the Temporal Bone: A Case Report. *World Neurosurg*. 2019 Mar;123:378-382. doi: 10.1016/j.wneu.2018.11.209. Epub 2018 Dec 3.
 10. **Niu T**, Bennett C, Modaber M, Keller T, Leiter JC and Lu DC. A Proof-of-Concept Study of Transcutaneous Magnetic Spinal Cord Stimulation for Neurogenic Bladder. *Sci Rep*. 2018 Aug 22;8(1):12549. doi: 10.1038/s41598-018-30232-z.
 11. Ausman J, Liebeskind D, Gonzalez N, Saver J, Martin N, Villabianca P, Vespa P, Duckweiler G, Jahan R, **Niu T**, Salaman N, Yoo B, Tatashima S, Blanco M and Starkman S. A Review of the Diagnosis and Management of Vertebral Basilar (Posterior) Circulation Disease. *Surg Neurol Int*. 2018 May 24;9:106. doi: 10.4103/sni.sni_373_17. eCollection 2018. Review.
 12. Lagman C, Nagasawa DT, Azzam D, Sheppard JP, Chen CHJ, Ong V, Nguyen T, Prashant GN, **Niu T**, Tucker AM, Kim W, Kaldas FM, Pouratian N, Busuttill RW, Yang I. Survival Outcomes After Intracranial Hemorrhage in Liver Disease. *Oper Neurosurg (Hagerstown)*. 2019 Feb 1;16(2):138-146. doi: 10.1093/ons/opy096.
 13. Diaz-Aguilar D, Niu T, Terterov S, Scharnweber R, Tucker A, Woodard J, Brara H, Merna C, Shah H, Wang S, Rahman S. Neurenteric cyst of the conus medullaris. *Surg Neurol Int*. 2018 Feb 14;9:33. doi:10.4103/sni.sni_315_17.
 14. Legman C, Nagasawa D, Azzam D, Sheppard JP, Chen CHJ, Ong V, Nguyen T, Prashant GN, **Niu T**, Tucker AT, Kim W, Kaldas FM, Pouratian N, Busuttill RW, Yang I. End-Stage Liver Disease in Patients with Intracranial Hemorrhage is associated with Increased Mortality: A Cohort Study. *World Neurosurg*. 2018 Feb 13. pii: S1878-8750(18)30295-X. doi: 10.1016/j.wneu.2018.02.025.
 15. Terterov S, Diaz-Aguilar D, Scharnweber R, Tucker A, **Niu T**, Woodard J, Brara H, Poh M, Merna C, Wang S, Rahman S. Surgical Nuances of Partial Sacrectomy for Chordoma. *Surg Neurol Int*. 2017 Nov 20;8:277. doi: 10.4103/sni.sni_230_17. eCollection 2017.
 16. **Niu T**, Tucker A, Nagasawa D, Bergsneider M. Solitary Aggregatibacter aphrophilus Tectal Abscess in an Immunocompetent Patient. *Surg Neurol Int*. 2017 Oct 24;8:257. doi: 10.4103/sni.sni_211_17. eCollection 2017.
 17. **Niu T**, Hoffman H, Lu DC. Cervical artificial disc extrusion after a paragliding accident. *Surg Neurol Int*. 2017 Jul 7;8:138. doi: 10.4103/sni.sni_386_15. eCollection 2017.
 18. Hoffman H, Choi A, Chang V, Kimball J, Virani R, Kim B, **Niu T**, Lu DC. Aquaporin expression in herniated human lumbar intervertebral discs. *Global Spine J*. 2017 Apr;7(2):133-140. doi: 10.1177/2192568217694007. Epub 2017 May 1.
 19. Bui T, Nagasawa D, Lagman C, Jacky Chen C, Chung L, Voth B, Beckett J, Tucker A, **Niu T**, Gaonkar B, Yang I, Macyszyn L. Isolated Transverse Process Fractures and Markers of Associated Injuries: The Experience at University of California, Los Angeles. *World Neurosurg*. 2017 Aug;104:82-88. doi: 10.1016/j.wneu.2017.04.137. Epub 2017 Apr 28.
 20. Hoffman H, Sierro T, **Niu T**, Sarino M, Sarrafzadeh M, McArthur D, Edgerton VR and Lu DC. Rehabilitation of hand function after spinal cord injury using a novel handgrip device: a pilot study. *J Neuroeng Rehabil*. 2017 Mar 21;14(1):22. doi: 10.1186/s12984-017-0234-1.

21. Nagasawa D, Bui T, Lagman C, Lee S, Chung L, **Niu T**, Tucker A, Gaonkar B, Yang I, Macyszyn L. Isolated Transverse Process Fractures: A Systematic Analysis. *World Neurosurg.* 2017 Apr;100:336-341. doi: 10.1016/j.wneu.2017.01.032. Epub 2017 Jan 18.
22. Tucker A, **Niu T**, Nagasawa D, Everson R, Sedighim S, Buitrago Blanco M. CT-negative, MRI GRE-positive primary motor cortex contusion causing isolated foot drop. *Surg Neurol Int.* 2016 Nov 9;7(Suppl 28):S756-S758. eCollection 2016.
23. **Niu T**, Lu D, Yew A, Lau D, Hoffman H, McArthur D, Chou D, Lu DC. Subfascial Epidural Drain Placement for Management of Intraoperative Durotomy in Spine Surgery. *Global Spine J.* 2016 Dec;6(8):780-785. Epub 2016 Apr 13.
24. **Niu T**, Alaynick WA, Lu DC. Strategies and lessons in spinal cord injury rehabilitation. *Curr Phys Med Rehabil Rep.* September 2015; 3(3):206-213, doi: 10.1007/s40141-015-0096-z
25. Lu DC, **Niu T**, Alaynick WA (2015). Molecular and Cellular Development of Spinal Cord Locomotor Circuitry. *Front. Mol. Neurosci.* 2015; 8:25. doi: 10.3389/fnmol.2015.00025
26. Bari A, **Niu T**, Langevin JP, Fried I. Limbic neuromodulation: implications for addiction, posttraumatic stress disorder, and memory. *Neurosurg Clin N Am.* 2014 Jan;25(1):137-45. doi: 10.1016/j.nec.2013.08.004. Epub 2013 Oct 10. PubMed PMID: 24262905.
27. Sapienza PJ, **Niu T**, Kurpiewski MR, Grigorescu A, Jen-Jacobson L. Thermodynamic and Structural Basis for Relaxation of Specificity in Protein-DNA Recognition. *J Mol Biol.* 2013 Sep 14. doi:pii: S0022-2836(13)00574-3. 10.1016/j.jmb.2013.09.005. [Epub ahead of print] PubMed PMID: 24041571.
28. Zaidat, O., Lazzaro, M., **Niu, T.**, Hong, S., Fitzsimmons, B., Lynch, J., Sinson, G. Multimodal Endovascular Therapy of Traumatic and Spontaneous Carotid Cavernous Fistula (CCF) using Coils, n-BCA, Onyx, and Stent graft. *J NeuroIntervent Surg* 2011; 3: 255-262
29. **Niu, T.**, Kalia, J., Zaidat, O. Rare vascular complication of percutaneous balloon compression of trigeminal neuralgia treated endovascularly. *J NeuroIntervent Surg* 2010;2:147-149
30. Kalia, J., **Niu, T.**, Zaidat, O. The use of a covered stent graft for obliteration of high-flow carotid cavernous fistula presenting with life-threatening epistaxis. *J NeuroIntervent Surg* 2009;1:142-145

Book Chapters:

1. **Niu, T.**, Holly, LT. Spinal orthotics. *Skeletal trauma*, 6th edition.
2. Tucker, AM., **Niu, T.**, Nagasawa, D., Holly, LT. Timing of surgical intervention. *Cervical myelopathy*, 3rd edition.

Oral Presentation:

1. Attiah, M., Alkhalid, Y., Ahn, CS., Vilaroman, D., Gaonkar, BK., **Niu, T.**, Beckett, JS., Macyszyn, L. Natural History of the Aging Spine: A Cross-Sectional Analysis of Spino-Pelvic Parameters in the Asymptomatic Population. Award Oral Presentation; Joint sections on disorders of the spine and peripheral nerves 2018 annual meeting; Orlando, FL., March 15, 2018
2. **Niu, T.**, Au Yong, N., Freyvert, Y., Lu, DC., Alam, M., Garcia-Alias, G., Jin, B., Keyes, J., Zhong, H., Roy, RR., Gerasimenko, Y., Edgerton, R. Electrical neuromodulation of the cervical spinal cord facilitates forelimb skilled function recovery in spinal cord injured rats. Award Oral Presentation; Joint sections on disorders of the spine and peripheral nerves 2018 annual meeting; Orlando, FL., March 15, 2018
3. **Niu, T.**, Lu, DC., Freyvert, Y., Au Yong, N., Hoffman, H. Rehabilitation of hand function after spinal cord injury using a novel handgrip device: a pilot study. Oral Presentation; Joint sections on disorders of the spine and peripheral nerves 2018 annual meeting; Orlando, FL., March 16, 2018
4. **Niu, T.**, Hoffman, H., Modaber, M., Lu, DC. Postoperative CSF Leak Rates with Subfascial Epidural Drain Placement after Intentional Durotomy in Spine Surgery; Oral Presentation; Joint Section on Disorders of the Spine and Peripheral Nerves 2016 Annual Meeting; Orlando, FL., March 19, 2016

5. **Niu, T.**, Hoffman, H., Modaber, M., Lu, DC. Aquaporin-1 Expression in Herniated Human Lumbar Intervertebral Discs; *Award Oral presentation*; Joint Section on Disorders of the Spine and Peripheral Nerves 2016 Annual Meeting; Orlando, FL., March 17, 2016

Presentations:

1. **Niu, T.**, Hoffman, H., Lu, DC. Rehabilitation of Hand Function After Spinal Cord Injury Using a Novel Handgrip Device: A Prospective Cohort Study; Congress of Neurological Surgeons 2016 Annual Meeting; San Diego, CA., Sep 24-28, 2016. Abstract # 1184
2. Archie, Ma., Archie, Me., Anderson, L., **Niu, T.**, Lu, D., Lawrence, P., Chen, D. Balloon-Assisted Endoscopic Retroperitoneal (BAER) Exposure for Direct Lateral Interbody Fusion: A Novel Spine Exposure Technique; Society for Vascular Surgery 2016 Annual Meeting; Washington DC., June 8-June 11, 2016
3. **Niu, T.**, Nagasawa, D., Tucker, A., Bergsneider, M. Isolated Intracranial Abscess in Cerebral Peduncle Resulting in Obstructive Hydrocephalus; Association of American Neurological Surgeons 2016 Annual Meeting; Chicago, IL., April 30-May 4, 2016
4. Smith, A., Gonzalez, N., Yew, A., **Niu, T.** Surgical Management of a Spinal Pial Arteriovenous Fistula in an Infant; Association of American Neurological Surgeons 2016 Annual Meeting; Chicago, IL., April 30-May 4, 2016
5. **Niu, T.**, Lu, DC. Recovery of Bladder Function after Spinal Cord Injury; Poster Presentation; National Institute of Health NINDS R25 Grantee meeting; Bethesda, MD., March 19, 2016
6. **Niu, T.**, Edgerton, VR., Lu, DC. Mapping of Efferent and Afferent Networks of Major Trunk Musculature in a Rodent model., National Institute of Health NINDS R25 meeting; Bethesda, MD., June 19-20, 2015
7. **Niu, T.** Dural Arteriovenous Fistula-a case presentation; Neurosurgery Grand Round; UCLA, Los Angeles, CA., September 28, 2013
8. **Niu, T.** Rare case of Partial Trisomy 6 girl presenting with Moyamoya disease, a review of Moyamoya Disease; Neurosurgery Grand Round; Cleveland Clinic, Cleveland, OH., August 17, 2011
9. **Niu, T.**, Kalia, J., Hong, S., Fitzsimmons, B., Lynch, J., Sinson, G., Zaidat, O. Multimodal Endovascular Therapy of Traumatic and Spontaneous Carotid Cavernous Fistula; SVIN & ASN annual meeting; San Francisco, CA., January 14-17, 2010
10. **Niu, T.**, Kalia, J., Lynch, J., Fitzsimmons, B., Kaufman, B., Lew, S., Zaidat, O. Endovascular Embolization Using ONYX, N-BCA And Coils As The Curative Treatment In Pediatric And Neonatal Patients With Intracranial Arteriovenous Malformations; Medical College of Wisconsin 2010 Resident & Fellow poster fair; Milwaukee, WI., March 18, 2010
11. **Niu, T.** Jen-Jacobson, L. Flanking sequences dramatically modulate complementarity at the interface between EcoRV endonuclease and its cognate DNA site; Brackenridge fellowship presentation; Pittsburgh & Johnstown, PA., July 23, 2005

Reviewer:

Surgical Neurology International
World Neurosurgery

Licenses:

California Medical License
Rhode Island Medical License
ABNS Primary Examination. Pass

Languages:

Mandarin Chinese (native), Shanghainese (native)

Professional

North American Spine Society—2015-present

Organizations: Spine Section; AANS/CNS—2015-present
Cerebrovascular section; AANS/CNS—2012-present
Congress of Neurological Surgeons—2010-present
American Association of Neurological Surgeons—2009-present

Personal Interests: Watching Football, Playing basketball, Cooking and Traveling