

Uzma Samadani, MD, PhD, FACS, FAANS

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**US Neurosurgery Associates
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Academic Rank

Associate Professor in the Department of Bioinformatics and Computational Biology (Adjunct),
 University of Minnesota School of Engineering
 Graduate Faculty in Neurosciences, University of Minnesota School of Medicine

Education

Degree	Institution	Date Degree Granted
BA	University of Wisconsin Molecular Biology and English Literature	May 1991
PhD	University of Illinois Molecular Biology and Biochemistry [Advisor: Dr. Robert H Costa]	May 1997
MD	University of Illinois Medicine	May 1999

Licenses, Certifications, and Certificates

Minnesota State Medical License:
 New York State Medical License:
 Pennsylvania Medical License:
 American Board of Neurological Surgeons Certification: obtained 5/21/2010; renewed 12/31/2020;
 enrolled in ongoing Maintenance of Certification

Positions/Employment**Academic Appointments:**

Associate Professor	Department of Bioinformatics and Computational Biology, University of Minnesota	2016- present
Research Faculty	Graduate Program in Neurosciences	2017- present
Associate Professor	Department of Neurosurgery, University of Minnesota	2015-2019

Assistant Professor	Department of Physiology and Neuroscience, New York University	2013-2015
Co-Director	Steven and Alexandra Cohen Center for Veteran Post-Traumatic Stress and Traumatic Brain Injury	2013-2015
Assistant Professor (Clinical)	Department of Psychiatry, New York University	2013-2015
Faculty Research Scientist	New York University School of Medicine	2013-2015
Assistant Professor (Clinical)	Department of Neurosurgery, New York University School of Medicine	2007-2015

Hospital Appointments:

Attending Neurosurgeon	Minneapolis VA Medical Center	2015-present
Staff Neurosurgeon	North Memorial and Maple Grove	2022-present
Staff Neurosurgeon	Fairview Hospitals	2022-present
Staff Neurosurgeon	Centracare Hospital	2019-2021
Attending Neurosurgeon	Hennepin County Medical Center	2015-2019
Chief Neurosurgeon	New York Harbor Health Care System Manhattan Veterans Administration Hospital	2010-2015
Attending Physician, Surgery	New York Harbor Health Care System Manhattan Veterans Administration Hospital	2007-2015
Attending Physician, Neurosurgery	Bellevue Hospital	2013-2015

Internships and Residencies:

Chief Resident, Neurosurgery	Hospital of the University of Pennsylvania	2005-2006
Resident Physician, Neurosurgery	Hospital of the University of Pennsylvania	2000-2005
Intern Physician, Surgery	Hospital of the University of Pennsylvania	1999-2000

Clinical and Research Fellowships:

William P. Van Wagenen Fellow	Department of Neurosurgery, University Hospital of the University of Göttingen, Germany	2006-2007
Complex Spine Fellowship, with Paul Marcotte, MD, FRCS(C)	Department of Neurosurgery, Hospital of the University of Pennsylvania	2003-2004

Corporate:

Nov 2021-present	President	US Neurosurgery Associates
Aug 2013-present	Founder	Oclogica (technology company developing eye-tracking neurodiagnostics)
Jan 2018-present	Scientific Advisor	Revelis Capital Group

Membership and Roles in Professional Organizations:

Member	CNS Foundation Board	2022-Present
Member	Permanent Council, G4 Alliance	2021-Present
Chair	ThinkFirst Foundation	2019-2021
Board Member	ThinkFirst Foundation	2015-present
Chair-Elect	ThinkFirst Foundation	2018-2019
Member	National Neurotrauma Society	2014-present
Executive Committee	Section on Trauma and Critical Care AANS/CNS	2012-present
Fellow	American College of Surgeons	2011-present
Fellow	American Association of Neurological Surgeons	2010-present
Executive Committee	Women in Neurosurgery	2012-present
Chair	National Neurotrauma Society Scientific Program Committee for AANS/CNS Trauma and Critical Care Section	2014-2017
Member	Scientific Program Committee Congress of Neurologic Surgeons	2015-2016
Board Member	American Association of Neurosurgical Surgeons	2015-2016
Chair	Women in Neurosurgery, Joint Section of the AANS/CNS	2015-2016

President-Elect	Women in Neurosurgery, Joint Section of the AANS/CNS	2014-2015
Member	Association of Research in Vision and Ophthalmology	2013-2014
Treasurer	Women in Neurosurgery	2012-2013
Associate	American College of Surgeons	2007-2011
Associate Fellow	American Association of Neurological Surgeons	2008-2010

HONORS AND AWARDS FOR RESEARCH/CREATIVE WORK, TEACHING, PUBLIC ENGAGEMENT, AND SERVICE

Most Creative People in Business, Fast Company Magazine	2020
Most Frequently Downloaded Paper, Journal of Neurotrauma	2019
Editors Choice "Papers of the Year" Journal of Neurosurgery	2018
"Top Doctors" Minnesota Monthly	2018-9
"Top Doctors" Minneapolis St. Paul Magazine	2016-9
Wayland Academy Alumni Achievement Award	2018-9
Women's Health Leadership TRUST Forum Courageous Woman in Healthcare	2018
Women's Health Leadership TRUST Forum Nominee	2017
TedMed Plenary Speaker	2014
MidAtlantic BioAngels First Pitch Life Sciences Event "Best in Show"	2013
Innovate HealthTech NYC 15K Prize	2013
NYU Venture Technology Competition Grand Prize	2013
NYU MBAWorld Stern School Champion	2013
William P. Van Wagenen Fellowship	2006
Bertram S. Richardson Fellowship	1999
University of Illinois Medical Student Research Forum First Place Award	1996

Barnes Research Fellowship in Molecular Medicine	1994
University of Illinois Molecular Biology Retreat First Place Poster Award	1994
<i>Phi Beta Kappa</i>	1991
Center for Biology Education Research Fellowship	1990
University of Wisconsin Academic Excellence Award for Outstanding Research	1990
University of Wisconsin Medical Scholars Program Research Grant	1989

RESEARCH, SCHOLARSHIP, AND CREATIVE WORK

Grants and Contracts

Current Grants

Principal Investigator
 Minnesota Office of Higher Education
 Improving Functional Outcomes Through Optimization of Surgical Subdural Hematoma Evacuation Technique
 August 2019-August 2024
 \$547,000

Principal Investigator
 Minnesota Office of Higher Education
 Biomarker Classification of Acute Brain Injury Pathophysiology
 August 2018-August 2023
 \$430,000

CoPrincipal Investigator (with David Darrow, MD MPH)
 Minnesota Office of Higher Education
 Enhancing Rehabilitation with Neuromodulation for Veterans with Spinal Cord Injury
 March 2016-June 2022
 \$330,000

Past Grants

Principal Investigator
 Minnesota Office of Higher Education
 Vagus Nerve Stimulation to Augment Recovery from Traumatic Brain Injury
 March 2016-June 2019
 \$300,000

Site Principal Investigator
 National Institutes of Health
 TRACK-TBI
 January 2017-June 2019

Site Principal Investigator

National Institutes of Health
Traumatic Brain Injury Endpoints Development
June 2017-June 2019

Co-Principal Investigator (with David Darrow, MD MPH)
Minnesota Office of Higher Education
Epidural Stimulation for Spinal Cord Injury
February 2016 – July 2017
\$125,000

Co-Principal Investigator (with Molly Hubbard MD)
Integra Foundation
Effects of Brain Tissue Oxygenation on Eye Tracking
February 2017 – June 2019
\$12,500

Principal Investigator
Abbot Diagnostic Laboratories
Development of a Multi-Modality Classification Scheme for Traumatic Brain Injury
December 2015 – December 2017
\$950,000

Principal Investigator
US Department of Veterans Affairs
Cerebral Atrophy, Anticoagulants, and the Risk for Chronic Subdural Hematoma
January 2014 – December 2017
\$650,000

CoInvestigator
National Institutes of Health
Hyperbaric Oxygen Brain Injury Treatment Trial (U01)
September 2017-June 2019

Coinvestigator
Principal Investigator: Chad Richardson, MD
Minnesota Office of Higher Education
Development of a Multi-Modality Classification Scheme for Traumatic Brain Injury
February 2016 – July 2018
\$125,000

Co-Principal Investigator (with David Darrow, MD MPH)
Minnesota Office of Higher Education
Epidural Stimulation for Spinal Cord Injury
February 2016 – July 2017
\$125,000

Co-Principal Investigator (with Molly Hubbard MD)
Integra Foundation
Effects of Brain Tissue Oxygenation on Eye Tracking
February 2017 -
\$12,500

Co-Investigator

Principal Investigator: Charles Marmar
Steven and Alexandra Cohen Foundation
Biomarkers for Post-Traumatic Stress and Traumatic Brain Injury
October 2012 – July 2015
\$27,000,000

Principal Investigator

National Space Biomedical Research Institute Space Medical and Related Technologies
Commercialization Assistance Program
Eye Tracking to Detect Elevated Intracranial Pressure
July 2014 – July 2015
\$250,000

Principal Investigator

Applied Research Support Fund
Eye Movement Tracking as an Outcome Measure for Concussion
September 2013 – September 2014
\$70,000

Principal Investigator

US Department of Veterans Affairs
Vagus Nerve Stimulation to Augment Recovery from Traumatic Brain Injury
October 2010 – March 2014
\$200,000

Principal Investigator

American Association of Neurological Surgeons – Neurosurgery Research and Education
Foundation/American College of Surgeons
Career Development Award
July 2007 – June 2009
\$80,000

Principal Investigator

William P. Van Wagenen Fellowship
July 2006 – July 2007
\$85,000

Principal Investigator

Barnes Research Fellowship in Molecular Medicine
1994 – 1997
\$120,000

Mentee Student Grants:

Student: Rebecca Martin (2018)
Rockswold Health Scholars Program

- This program is a clinical- and research-based research program at Hennepin County Medical Center that provides hands-on learning opportunities for students currently enrolled at St. Olaf College.

Student: Lensa Ali (2018)

Emerging Researchers in Science, Technology, Engineering and Mathematics

- Organized by the American Association for Advancement of Science This program is a clinical- and research-based research program at Hennepin County Medical Center that provides hands-on learning opportunities for students currently enrolled at St. Olaf College.

Student: Zaineb Farah (2017)

College of Liberal Arts Internship Scholarship

University of Minnesota

- This program allows current students to conduct research at clinical sites, including the Brain Injury Research Lab at Hennepin County Medical Center.

Student: Niels Ryden (2017)

Rockswold Health Scholars Program

- This program is a clinical- and research-based research program at Hennepin County Medical Center that provides hands-on learning opportunities for students currently enrolled at St. Olaf College.

Student: Jessica Flores (2016)

American Heart Association: Minnesota Heart Research Grant 2016 Scholarship in

Cardiovascular Disease and Stroke

- This nationally competitive grant is awarded to medical students to create opportunities to explore cardiovascular research and its neurologic consequences.

Student: Jack Goldstein (2016)

Rockswold Health Scholars Program

- This program is a clinical- and research-based research program at Hennepin County Medical Center that provides hands-on learning opportunities for students currently enrolled at St. Olaf College.

Student: Michael Peters (2016)

Summer Fellowship Program Johns Hopkins Medicine

- This program allowed current students to conduct research at clinical sites, including the Brian Injury Research Lab at Hennepin County Medical Center.

Shaun Rodgers (neurosurgery resident)

Thrasher Research Fund

Ocular Motility Assessment to Detect Hydrocephalus or Shunt Malfunction

July 2013 – July 2014

\$25,000

Saurab Faruque, NYU undergraduate student

Deans Undergraduate Research Fund Grant

January 2015 – July 2015

Je Yeong Sone, NYU undergraduate student

Deans Undergraduate Research Fund grant

October 2014 – July 2015

David Balsler, NYU medical student
 American Academy of Neurology Medical Student Research Grant
 American Heart Association Stroke Medical Student Summer Research Fellowship
 June 2012 – July 2014

Nathan Han, NYU medical student
 AO Carolyn Kuckein Summer Research Fellowship
 September 2013 – July 2015

Chen Shi, NYU medical student
 AO Carolyn Kuckein Summer Research Fellowship
 October 2011 – July 2015

Neil Mendhiratta, NYU medical student
 American Academy of Neurology Medical Student Summer Research Grant
 November 2011 – July 2015

Matheus Mendes, Brazilian medical student
 Awarded Institute for International Education Scientific Mobility Program Research Grant
 June 2014 – August 2014

Arthur Camargo, Brazilian medical student
 Institute for International Education Scientific Mobility Program Research Grant
 June 2014 – August 2014

Jonathan Latzman, NYU medical student (now in radiology residency)
 American Association of Neurological Surgeons Research Grant
 American Academy of Neurology Medical Student Research Grant
 October 2008 – September 2010

PUBLICATIONS

*Books or Monographs**

1. Bin Zahid A, **Samadani U**. Chapter 114: Traumatic brain injury and subdural hematoma. In: *Oxford Textbook of Geriatric Medicine, 3rd Edition* (Ed: M Finbarr). [2017] Oxford University Press.
2. Han B, **Samadani U**. Neurosurgical advances in trauma management. In: *Technological Advances in Surgery, Trauma, and Critical Care* (Ed: C Latifi). [2015] Dusseldorf: Springer.
3. Han B, **Samadani U**. Subdural hematoma. *Neurosurgery Knowledge Update* (Eds. M Stippler, C Lu). [2015] Stuttgart: Thieme.
4. Marcotte PJ, A Freese, **U Samadani**. Spinal cord injury. In: *Critical Care* (Eds: PN Lancken, CW Hanson). [2012] New York: Elsevier.
5. Halpern CH, **Samadani U**, Litt B, Jaggi JL, Baltuch GH. Deep brain stimulation for epilepsy. In: *Neuromodulation* (Eds: ES Krames, PH Peckham, A Rezai A). [2009] New York: Elsevier.

6. Halpern CH, **Samadani U**, Baltuch GH, Deep brain stimulation for epilepsy. In: *Operative Techniques in Epilepsy Surgery* (Eds: GH Baltuch, JG Villemure). [2009] New York: Springer. p. 164-172.
7. **Samadani U**. Vagus nerve stimulation. In: *Operative Techniques in Epilepsy Surgery*. (Eds: GH Baltuch, JG Villemure). [2009] New York: Springer. p. 149-157.
8. **Samadani U**, Rohde V, A review of stereotaxy and lysis for intracranial hemorrhage. In: *Reviews in Neurosurgery* (Eds: H Bertalanffy). [2009] Dusseldorf: Springer Verlag. 32(1):15-22.
9. **Samadani U**, Danish SF, Jaggi J, Figueiroa S, GH Baltuch. Surgical technique for leksell frame-based deep brain stimulation of the subthalamic nucleus. In: *Deep Brain Stimulation for Parkinson's Disease* (Eds: GH Baltuch, M Stern). [2007] Boca Raton: Taylor and Francis Group. p. 71-82.
10. **Samadani U**, Baltuch GH, Anterior thalamic nucleus stimulation for epilepsy. In: *Operative Neuromodulation, Acta Neurochirurgica Supplement* (Eds: B Simpson, E Krames, D Sakas). [2007] New York: SpringerWien. 97(1).
11. **Samadani U**, Freese A, Marcotte PJ. Intensive care implications of spinal cord injury. In: *The Intensive Care Unit Manual* (Eds: PN Lancken, CW Hanson). [2006] New York: Elsevier.
12. Won EK, Ellamushi HE, **Samadani U**, Baltuch GH. Essential tremor: patient selection/technique/surgical results. In: *Surgical Management of Movement Disorders*. Eds: (GH Baltuch, M Stern). [2005] Boca Raton: Taylor and Francis Group. p. 111-22.
13. Won EK, **Samadani U**, Baltuch GH. Multiple sclerosis, post-stroke and post-traumatic tremor: patient selection and surgical results. In: *Surgical Management of Movement Disorders* (Eds: GH Baltuch, M Stern). [2005] Boca Raton: Taylor and Francis Group. p. 123-34.
14. **Samadani U**, Lesutis-Fitzhenry M, Marcotte PJ, Zimmer. Spine BAK/BP cages for anterior lumbar fusion. In: *Surgical Techniques in Spinal Instrumentation* (Eds: Kim DH, AR Vaccaro, RG Fessler). [2005] Stuttgart: Thieme. P. 232-239.
15. Huang JH, **Samadani U**, Zager EL. Peripheral nerve tumors: Case studies for illustration and discussion. In: *Neurosurgery Clinics of North America* (Eds: EL Zager, JH Huang). [2004] New York: Elsevier. 15(2): 241-249.
16. **Samadani U**. (Associate contributing author Amin C, Bhushan V, Tao L). [] Jump Start MCAT. Lippincott Williams & Wilkins.

Scientific Articles and Letters Appearing in Peer-Refereed Journals

1. Mansour NM, Pino IP, Freeman D, Carrabre K, Venkatesh S, Darrow D, **Samadani U**, Parr AM. Advances in Epidural Spinal Cord Stimulation to Restore Function after Spinal Cord Injury: History and Systematic Review *J Neurotrauma* 2022 May 11. doi: 10.1089/neu.2022.0007. Online ahead of print

2. Johnson RA, Cramer SW, Dusenbery K, Samadani U .Resection of disseminated recurrent myxopapillary ependymoma with more than 4-year follow-up: operative nuance for prolonged prone position. Illustrative case *J Neurosurgery Case Lessons*. s 3(15): CASE2235, 2022 DOI: 10.3171/CASE2235
3. Zuckerman S., Yengo-Khan, Tang et al. Sport-related structural brain injury and return to play: systematic review and expert insights. *Neurosurgery* 2021 May 13;88(6):E495-E504. doi: 10.1093/neuros/nyab041
4. Mahan, M., Rafter, D., Truwit, C., Oswood, M., **Samadani, U.** Evaluation of diffusion measurements reveals radial diffusivity indicative of microstructural damage following acute, mild traumatic brain injury. *Magnetic Resonance Imaging*, 2021 April 77:137-147. doi: 10.1016/j.mri.2020.12.012. Epub 2020 Dec 25
5. Rafter D, Vasdev R, Hurrelbrink D, Gormley M, Chettupally T, Shen FX, **Samadani U**, Litigation risks despite guideline adherence for acute spinal cord injury; time is spine. *Neurosurgical Focus* 2020 Nov 49 (5) E17
6. Mahan M, Rafter D, Casey H, Engelking M, Abdallah T, Truwit C, Oswood M, **Samadani U**, tbiExtractor: A framework for extracting traumatic brain injury common data elements from radiology reports. *PLoS One* 2020 Jul 1;15(7)
7. PenaPino I, Hoover C, Venkatesh S, Ahmadi A, Sturtevant D, Patrick N, Freeman D, Parr A, **Samadani U**, Balsler D, Krassioukov A, Phillips A, Netoff TI, Darrow D; Longterm Spinal Cord Stimulation After Chronic Complete Spinal Cord Injury Enables Volitional Movement in the Absence of Stimulation. *Frontiers Syst Neuroscience* 2020 June 30; 14:35
8. Koller M, Rafter D, Shok G, Murphy S, Kihei S, **Samadani U**; A retrospective descriptive study of cranioplasty failure rates and contributing factors in novel 3D printed calcium phosphate implants compared to traditional materials *3D Print Med* 2020 June 17;6(1):14
9. Mahan M, Samadani U; Lessons from the failure of diffusion tensor imaging to differentiate concussed from non concussed NFL players. *J Neurosurgery* 2019 Sep 6;1-4
10. Toninato J, Healy T, **Samadani U**, Christianson E; Injury Rates in Tacklebar Football. *Orthopedic Journal of Sports Medicine* 2019 Oct 9;7(10)
11. Darrow D, Lee-Norris A, Larson A, **Samadani U**, Netoff TI., Discrepancy between internal and external intracranial pressure transducers: quantification of an old source of error in EVDs? *World Neurosurg* 2019 Aug 5. pii: S1878-8750(19)32129-1. [Epub ahead of print]
12. Mahan MY, Thorpe M, Ahmadi A, Abdallah T, Casey H, Sturtevant D, Judge-Yoakam S, Hoover C, Rafter D, Miner MJ, Richardson C, **Samadani U** GFAP Outperforms S100B and UCH-L1 as Predictor for Positive Head CT in Trauma Subjects. *World Neurosurg*. 2019 Apr 30 [Epub ahead of print]
13. Darrow D, Balsler DY, Netoff T, Krassioukov AV, Phillips AA, Parr AM, **Samadani U.**, Epidural Spinal Cord Stimulation facilitates immediate restoration of dormant motor and autonomic supraspinal pathways after chronic neurologically complete spinal cord injury. *J Neurotrauma*. 2019 Jan 22

14. Wu, A.G., **Samadani, U.**, Slusher, T.M., Zhang, L., Kiragu, A.W., 23.4% Hypertonic saline and intracranial pressure in severe traumatic brain injury among children: A 10-Year retrospective analysis. *Pediatric Critical Care Medicine* 2019 Jan 18. 2019
15. Bin Zahid A, Lockyer J, Podolak O, Dammavalam VM, Hubbard ME, Grady M, Nance M, Scheiman M, **Samadani U**, Masters CL. Eye tracking as a biomarker for concussion in children *Clin J Sport Med.* 2020
16. Toninato J, Casey H, Uppal M, Abdallah T, Bergman T, Eckner J, **Samadani U**. Traumatic brain injury reduction in athletes by neck strengthening (TRAIN). *Contemp Clin Trials Commun.* 2018 Jun 21;11:102-106.
17. Wills, J., Feldman Hall. O., **NYU Prospec Collaboration**, Meager, M., Bavel, JJ Dissociable contributions of the prefrontal cortex in group-based cooperation *Soc Cogn Affect Neurosci* 2018 Apr 1;13(4):349-356.
18. Sone JY, Courtney-Kay Lamb S, Techar K, Dammavalam V, Uppal M, Williams C, Bergman T, Tupper D, Ort P, **Samadani U**. High prevalence of prior contact sports play and concussion among orthopedic and neurosurgical department chairs. *J Neurosurg Pediatr.* 2018 Jul;22(1):1-8.
19. Bin Zahid A, Balser D, Thomas R, Mahan MY, Hubbard ME, **Samadani U**. Increase in brain atrophy after subdural hematoma to rates greater than associated with dementia. *J Neurosurg.* 2018 Mar 2:1-9.
20. **Samadani U**, Affana CK. Oxygen therapy in suspected acute myocardial infarction. *N Engl J Med.* 2018 Jan 11;378(2):200-1.
21. Daly S, Thorpe M, Rockswold S, Hubbard M, Bergman T, **Samadani U**, Rockswold G. Hyperbaric Oxygen Therapy in the Treatment of Acute Severe Traumatic Brain Injury: A Systematic Review. *J Neurotrauma.* 2018 Feb 15;35(4):623-629
22. Kolecki R, Dammavalam V, Bin Zahid A, Hubbard M, Choudhry O, Reyes M, Han B, Wang T, Papas PV, Adem A, North E, Gilbertson DT, Kondziolka D, Huang JH, Huang PH, Samadani U. Elevated intracranial pressure causes reversible eye tracking changes detected while viewing a film clip. *J Neurosurg.* 2018 Mar;128(3):811-818.
23. Bin Zahid A, Hubbard ME, Dammavalam VM, Balser DY, Pierre G, Kim A, Kolecki R, Mehmood T, Wall SP, Frangos SG, Huang PP, Tupper DE, Barr W, **Samadani U**. Assessment of acute head injury in an emergency department population using Sport Concussion Assessment Tool – 3rd Edition. *Applied Neuropsychology: Adult.* 2016 [Epub ahead of print].
24. **Samadani U**, Hubbard M. Diagnosing traumatic encephalopathy syndrome, *JAMA Neurology.* 2016;73(11):1373-1374.
25. **Samadani U**. Physicians and youth tackle football. *New England Journal of Medicine.* 2016;374:2097-2098.
26. Sone JY, Kondziolka D, Huang JH, **Samadani U**. Helmet efficacy against concussion and traumatic brain injury: a review. *Journal of Neurosurgery.* 2016 [Epub ahead of print].

27. Renfrow JJ, Rodriguez A, Liu A, Pilitsis J, **Samadani U**, Ganju A, Germano I, Benzil D, Quintero-Wolfe S. Positive trends in neurosurgery enrollment and attrition: analysis of the 2000-2009 female neurosurgery resident cohort. *Journal of Neurosurgery*. 2016;124(3):834-839.
28. Bin Zahid A, Mikheev A, Srivatsa N, Babb J, **Samadani U**, Rusinek H. Accelerated brain atrophy on serial computed tomography: potential marker of the progression of Alzheimer's disease. *Journal of Computer Assisted Tomography*. 2016;40(5):827-832.
29. Bin Zahid A, Mikheev A, Yang AI, **Samadani U**, Rusinek H. Calculation of brain atrophy using computed tomography and a new atrophy measurement tool. 2016. Proc. SPIE 9413, Medical Imaging 2015: Image Processing, 94132S
30. **Samadani U**, Ritlop R, Reyes M, Nehrbass E, Li M, Lamm E, Schneider J, Shimunov D, Sava M, Kolecki R, Burris P, Altomare L, Mehmood T, Smith T, Huang JH, McStay C, Todd SR, Qian M, Kondziolka D, Wall S, Huang P. Eye tracking detects disconjugate eye movements associated with structural traumatic brain injury and concussion. *Journal of Neurotrauma*. 2015;32(8):548-556.
31. **Samadani U**. A new tool for monitoring brain function: eye tracking goes beyond assessing attention to measuring central nervous system physiology, *Neural Regeneration Research*. 2015;10(8):1231-1233.
32. Balser D, Farooq S, Mehmood T, Reyes M, **Samadani U**. Actual and projected incidences of chronic subdural hemorrhage in United States Veterans Administration and civilian populations. *Journal of Neurosurgery*. 2015;123(5):1209-1015.
33. **Samadani U**, Farooq S, Ritlop R, Warren F, Reyes M, Lamm E, Alex A, Nehrbass E, Kolecki R, Jureller M, Schneider J, Chen A, Shi C, Mendhiratta N, Huang JH, Qian M, Kwak R, Mikheev A, Rusinek H, George A, Fergus R, Kondziolka D, Huang P, Smith T. Detection of third and sixth cranial nerve palsies with a novel method for eye tracking while watching a short film clip. *Journal of Neurosurgery*. 2015;122(3):707-720.
34. Lynch G, Nieto K, Puthenveetil S, Reyes M, Jureller M, Huang JH, Grady MS, Harris OA, Ganju A, Germano I, Pilitsis J, Pannullo S, Benzil D, Abosch A, **Samadani U**. Attrition rates in neurosurgery residency: analysis of 1361 consecutive residents matched from 1990 to 1999. *Journal of Neurosurgery*. 2015;122(2):240-249.
35. Shi C, Flanagan SR, **Samadani U**. Vagus nerve stimulation to augment recovery from severe traumatic brain injury impeding consciousness: a prospective pilot clinical trial. *Neurological Research*. 2013;35(3):263-76.
36. Balser D, Rodgers SD, Johnson CB, Shi C, Tabak E, **Samadani U**. Evolving management of symptomatic chronic subdural hematoma: experience of a single institution and review of the literature. *Neurological Research*. 2013;35(3):233-242.
37. Rodgers S, Marscalchi B, Grobelny B, Smith M, **Samadani U**. Revision surgery after interbody fusion with rhBMP-2: a cautionary tale for spine surgeons. *Journal of Neurosurgery: Spine*. 2013;18(6):582-587.
38. Keric N, Maier GS, **Samadani U**, Kallenberg K, Dechent P, Brueck W, Heuer J, Rohde V. Tissue plasminogen activator-induced delayed edema in experimental porcine intracranial hemorrhage:

- reduction with plasminogen activator inhibitor-1 administration. *Translational Stroke Research*. 2012;3(Suppl 1):88-93.
39. Tong J, Liu W, Wang X, Han X, Hyrien O, **Samadani U**, Smith D, Giger R, Huang JH. Inhibition of Nogo-66 receptor 1 enhances recovery of cognitive function after traumatic brain injury in mice. *Journal of Neurotrauma*. 2012;30(4):247-258.
 40. Yang I, Balser DS, Mikheev A, Offen S, Huang JH, Babb J, Rusinek H, **Samadani U**. Cerebral atrophy is associated with development of chronic subdural hematoma. *Brain Injury*. 2012;26(13-14):1731-1736.
 41. Tong J, Latzman JM, Rauch J, Zagzag DS, Huang JH, **Samadani U**. Sonic hedgehog agonist fails to induce neural stem cell precursors in a porcine model of experimental intracranial hemorrhage. *Acta Neurochirurgica Suppl*. 2011;111:151-154.
 42. Han X, Tong J, Zhang J, Farahvar A, Wang E, Yang J, **Samadani U**, Smith D, Huang JH. Imipramine treatment improves cognitive outcome associated with enhanced hippocampal neurogenesis following traumatic brain injury in mice. *Neurotrauma*. 2011;(6):995-1007.
 43. Bollo RJ, Zagzag D, **Samadani U**. Synchronous choroid plexus papilloma of the fourth ventricle and ependymoma of the filum terminale: case report. *Neurosurgery*. 2010;67(5):E1454-1459.
 44. Foxx K, Kwak R, Latzman J, **Samadani U**. A retrospective analysis of pedicle screws in contact with great vessels. *Journal of Neurosurgery: Spine*. 2010;13(3):403-406.
 45. Bollo RJ, Williams S, Peskin C, **Samadani U**. When the air hits your brain: cerebral autoregulation of brain oxygenation during aerobic exercise allows transient hyperoxygenation. *Neurosurgery*. 2010;67(2):507-509.
 46. Latzman JM, Kong L, Liu C, **Samadani U**. Administration of human recombinant Bone Morphogenetic Protein Two for spine fusion may be associated with transient postoperative renal insufficiency. *Spine*. 2010;135(7):231-237.
 47. Rohde V, Uzma N, Rohde I, **Samadani U**. Anticoagulant-associated intracerebral hemorrhage: microsurgery versus fibrinolytic therapy. *Clinical Neurology and Neurosurgery*. 2009;111(6):518-522.
 48. Rohde V, Uzma N, Thiex R, **Samadani U**. Management of delayed edema formation after fibrinolytic therapy for intracerebral hematomas: preliminary experimental data. *Acta Neurochirurgica Suppl*. 2008;(105):101-104.
 49. Moshel YA, Hernandez EI, Kong L, Liu C, **Samadani U**. Acute renal insufficiency, supraventricular tachycardia and confusion after recombinant human bone morphogenetic protein two for lumbosacral spine fusion. *Journal of Neurosurgery: Spine*. 2008;(8):589-593.
 50. Halpern CH, **Samadani U**, Litt B, Jaggi JL, Baltuch GH. Deep brain stimulation for epilepsy. *Neurotherapeutics*. 2008;5(1):59-67.
 51. Rohde V, **Samadani U**. Intracerebral hematoma lysis. *Journal of Neurosurgery*. 2007;107(1):246-247.

52. **Samadani U**, Judkins AR, Akpalu A, Aronica E, Crino PB. Differential cellular gene expression in ganglioglioma. *Epilepsia*. 2007;48(4):646-653.
53. **Samadani U**, Stein S, Moonis G, Sonnad S, Bonura P, Judy KD. Stereotactic biopsy of brainstem masses: decision analysis and literature review. *Surgical Neurology*. 2006;66(5): 484-490.
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Non-refereed Journal Articles, Editorials, Essays, or Book Chapters

1. Mahal, M, and **Samadani U**. The Chronic Effects of Neurotrauma: Is It Not As Simple as CTE? *Metrodoctors*. Nov 2018
2. Bin Zahid A, Balser D, and **Samadani U**. Cerebral Atrophy and the Risks for Chronic Subdural Hematoma. *Minnesota Physician*. Aug 2017
3. Flores J, **Samadani U**. Traumatic brain injury as a risk factor for dementia. *Metro doctors: the journal of the Twin Cities Medical Society*. Nov/Dec 2016.
4. Daly S, **Samadani U**. When will a clinical trial for traumatic brain injury finally succeed? *AANS Neurosurgeon Newsletter*. Fall 2016.
5. Hubbard M, **Samadani U**. Studying brain injury: a launching point to discovery. *Minnesota Physician*. September 2016.
6. **Samadani U**. Neurosurgeon's breakthroughs with eye tracking adds insight to concussion understanding. *Neurosurgery Blog*. October 2016.
7. **Samadani U**. Adding insight to brain injury. *Emergency Physician Monthly*. Available at: <http://www.epmonthly.com/www.epmonthly.com/features/current-features/new-eye-tracking-technology-adds-insight-to-brain-injuries/>.
8. **Samadani U**. WINS: Not just for women. *Women in Neurosurgery Newsletter*. 2013. Available at: http://www.neurosurgerywins.org/news/newsletter/wins_spring2013.pdf.
9. **Samadani U**, Kolecki R. The misnomer and muddled miasma of mild brain injury. *Neurotrauma and Critical Care News, The AANS and CNS Section on Neurotrauma*. Fall 2013. Available at: <http://www.aans.org/Eblast/Neurotrauma/2013%20Fall%20Newsletter%20Trauma.pdf>.

Patents

Provisional Patent Pending – 62/622,481 System Methods and Kits for Detection of Blast Brain Injury, Its Severity, Distance from Blast Epicenter and Classification Relative to the Larger Spectrum of Concussion submitted 1/26/2018; Utility Patent Pending, submitted 1/29/2019

Provisional Patent Pending – 62/488,452 System, Method and Computer Accessible Medium for the use of augmented reality for surgical navigation submitted 6/20/16; Utility Patent Pending, submitted 5/16/2017

Provisional Patent Pending – 62/369,848 – Methods and Kits for Assessing Neurological Function and Localizing Neurological Lesions, submitted 08/02/2016.

Provisional Patent Pending – 62/255,011 – Method For Predicting Convergence Disorders Caused By Concussion Or Other Neuropathology, submitted 11/13/2015.

Provisional Patent Pending – 62/182,132 – System, Method and Computer Accessible Medium for the Determination of Accelerated Brain Atrophy and Radiodensity Using Serial Computed Tomography, submitted June 19, 2015, Utility Patent Pending, submitted 06/20/2016.

Provisional Patent Pending – 62/106,125 – Methods and Kits for Detecting Alcohol Consumption and Intoxications, submitted 1/12/2015.

Provisional Patent Pending – 62/048,067 – Methods and Kits for Assessing and Diagnosing Attention Deficit Hyperactivity Disorder, Chronic Traumatic Encephalopathy and Schizophrenia Spectrum Disorders, submitted 10/24/2014.

Provisional Patent Pending – 62/065,057 – Methods and Kits for Assessing and Diagnosing Internuclear Ophthalmoplegia, submitted 10/17/2014.

Provisional Patent Pending – 62/032,769 – Methods and Kits for Diagnosing, Assessing or Quantitating Drug Use, Drug Abuse, and Narcosis, submitted 8/4/2014.

Utility Patent Pending – PCT/US14/42645 – Methods and Kits for Assessing Neurological and Ophthalmic Function and Localizing Neurological Lesions, submitted 6/17/2014.

Provisional Patent Pending – 61/929,238 - Methods and Kits for Assessing and Quantitating Structural and Nonstructural Traumatic Brain Injury, submitted 1/20/2014

Provisional Patent Pending – 61/881,014 – Methods and Kits for Assessing Conjugacy and Disconjugacy of Gaze and Strabismus, submitted 9/23/2013

Provisional Patent Pending – 61/835,927 – Methods and Kits for Assessing Neurological Function and Localizing Neurological Lesions, submitted 6/17/2013

Utility Patent Pending – PCT/US13/33672 – Methods and Kits for Assessing Central Nervous System Integrity, submitted 3/26/2013

Provisional Patent Pending – 61/710213 – Methods and Kits for Assessing Central Nervous System Integrity, submitted 10/5/2012

Provisional Patent Pending – 61/615463 – Methods and Kits for Diagnosing Elevated Intracranial Pressure, submitted 3/26/2012

Investigational Device Exemptions

“GammaCore” Number G130171 – filed with Food and Drug Administration on 7/29/13, conditionally approved 8/29/13, approved 10/17/13.

“Neurocybernetic Prosthesis” Number G100054 – filed with Food and Drug Administration on 3/19/10, approved 9/24/2010.

Food and Drug Administration Authorizations

“Eyebox” - *De novo* marketing authorization approved on December 26, 2018 for “Aid in the diagnosis of concussion”

“Eyebox” - 510K marketing authorization approved September 25, 2020 for “Aid in the diagnosis in the concussion”

“Eyebox” - 510K marketing authorization approved December 24, 2021 for “Aid in the diagnosis in the concussion”

Presentations, Posters, and Exhibits

Invited Presentations at Professional Meetings, Conferences and Other Venues

1. Samadani, U., Concussion Alliance: The Imperative Need for an Objective Measure of Brain Injury Dec 2021, Expert Speaker
2. Samadani, U., Lab meeting of Dr. David Howell, University of Colorado, Eye Tracking as a Diagnostic for Concussion, Nov 2021, Speaker
3. Samadani, U., Surgery ICC: Grand Rounds, The Future of Brain Injury – Are We Ready for the Robots? Minneapolis, Nov 2021, Keynote Speaker
4. Samadani, U., Congress of Neurological Surgeons, Cerebral Trauma State of the Art, Austin TX, Oct 2021, Plenary Speaker
5. Samadani, U., Congress of Neurological Surgeons, Brain Death is Controversial, Austin, TX, Oct 2021, Plenary Speaker
6. Samadani, U., Congress of Neurological Surgeons, ThinkFirst Conference, What Every Neurosurgeon Needs to Know About the Neurological Impact of COVID19, Austin, TX, Oct 2021, Keynote Speaker
7. Samadani, U., Congress of Neurological Surgeons, Spine is Time, Austin, TX, Oct 2021, Plenary Speaker
8. Samadani, U., Wisconsin Worker’s Compensation Forum, Objective Measures for Brain Injury, Milwaukee, WI, Oct 2021, Keynote Speaker
9. Samadani, U., Integra Lunch Symposium, Congress of Neurological Surgeons, Advanced Monitoring of Cerebral Neurotrauma, Austin, TX, Oct 2021, Keynote Speaker
10. Samadani, U., Unite to Fight Paralysis, Epidural Stimulation for Spinal Cord Injury: Are We Ready for Non-Research Deployment? Oct 2021, Plenary Speaker

11. Samadani, U., University of Illinois-Chicago, Medical Scientist Training Program, Beyond Brain Surgery: The Neurosurgeon As Entrepreneur, Chicago, IL, Oct 2021, Keynote Speaker
12. Samadani, U. American Association of Neurological Surgery, Neurosurgery in Press: Middle Meningeal Artery Embolization for Chronic Subdural Hematoma, Sept 2021, Plenary Speaker
13. Samadani, U., American Association of Neurological Surgeons, Cerebral Trauma State of the Art, Sept 2021, Plenary Speaker
14. Samadani, U., ThinkFirst Foundation at the American Association of Neurological Surgeons, Reducing Inequity in Neurotrauma, Sept 2021, Plenary Speaker
15. Samadani, U., Mayo Clinic Jacksonville, Florida, Grand Rounds, Beyond Brain Surgery: The Neurosurgeon As Entrepreneur, Sept 2021, Keynote Speaker
16. Samadani, U., Texas Association of Neurological Surgeons, The Neurosurgeon as Entrepreneur, From Start-up Through the Valley of Death and Onwards, Austin TX, Aug 2021, Keynote Speaker
17. Samadani, U., Texas Association of Neurological Surgeons, Neurotrauma in the Future: Are We Ready for the Robots? Austin TX, Aug 2021, Keynote Speaker
18. Samadani, U., Wyoming High School Coaches Association, What Every Coach Needs to Understand About Brain Injury, Casper, WY, July 2021, Keynote Speaker
19. Samadani, U., National Neurotrauma Symposium, AANS-CNS Section, Brain Death is Controversial, July 2021, Plenary Speaker
20. Samadani, U., National Neurotrauma Symposium, AANS-CNS Section, Brain Injury Prevention and Equity in Neurotrauma – the Role of ThinkFirst, July 2021, Plenary Speaker
21. Samadani, U., J Aron Allen Legacy Foundation, Research in the UMN/VA Neurotrauma Lab: An Update, Minneapolis, MN, July 2021, Keynote Speaker
22. Samadani, U., Talk Polymath – PolyPlexus, DARPA, Eye Tracking as a Diagnostic for Concussion, July 2021, Podcast Speaker
23. Samadani, U., Concussion Alliance, Creating Equity for Brain Injury Treatment, July 2021, Expert Speaker
24. Samadani, U., Islamic Medical Association of North America, Should We Let Children Play Contact Sports, June 2021, Podcast Speaker
25. Samadani, U., National Institutes of Health, Post-Traumatic Epilepsy, June 2021, Moderator
26. Samadani, U., American Bar Association, Spring 2021, Workers Compensation Seminar, Objective Measures for Brain Injury, May 2021, Plenary Speaker
27. Samadani, U., Congress of Neurological Surgery Webinar, Should Kids Play Contact Sports? April 2021, Podcast Speaker

28. Samadani, U., On Beyond the Glasgow Coma Scale Score - What's Next in Classification of Brain Injury? Nov 2020, Keynote speaker
29. Samadani, U., The Future of Brain Injury Diagnosis and Treatment: The Robots Are Coming, Bell Museum, Oct 2020 (online), Keynote speaker
30. Samadani, U., Is the Clock Ticking on Delayed Management of Acute Spinal Cord Injury? Winter Clinics in Neurosurgery February 2020, Snowmass Colorado, Plenary speaker
31. Samadani, U., A Physiologic Approach to Concussion Treatment; Big10 - Ivy Concussion Conference, (online) July 2020, Plenary speaker
32. Samadani U., The Incidence of Post Traumatic Epilepsy After TBI, American Association of Neurological Surgeons, August 2020, Discussant
33. Samadani, U., Automated Eye Tracking for Assessment of Brain Injury; Eye CAN 2020, Association of Technical Personnel in Ophthalmology (online) Oct 2020, Plenary speaker
34. Samadani, U., Epidural Spinal Cord Stimulation in Chronic Complete Spinal Cord Injury, North American Spine Society (online) Oct 2020, Plenary speaker
35. Samadani, U., Bioinformatics and Computational Biology, August 2019, Minneapolis, Minnesota, Plenary speaker
36. Samadani, U., National Neurotrauma Symposium, July 2019, Pittsburgh, Pennsylvania, Plenary speaker
37. Samadani, U., NCAA-DoD Care Consortium, April 2019, Madison, Wisconsin, Plenary speaker
38. Samadani U. American Association of Neuroscience Nurses, March 2019, Denver, Colorado, Plenary speaker.
39. Samadani U., Winter Clinics in Neurosurgery, February 2019, Snowmass, Colorado, Plenary speaker.
40. Samadani U., Integra Workshop, February 2019, Tucson, Arizona, Plenary Speaker
41. Samadani U. Northwell Health, January 13, 2019, New York. Keynote speaker.
42. Samadani U. Northwell Neurosurgery Grand Rounds, January 12, 2019
43. Samadani U. Google Health Care Scholars Conference, November 6-7, 2018, Mountain View, California. Plenary speaker.
44. Samadani U. The Citizens Foundation, October 13, 2018, Chicago, Illinois. Keynote speaker.
45. Samadani U. Tria Health Care Conference, October 26, 2018, St. Paul, Minnesota. Keynote speaker.
46. Samadani U. Congress of Neurological Surgeons, October 6-10, 2018, Houston, Texas. Symposium.

47. Samadani U. National Workers Compensation Defense Network, September 27, 2018, Minneapolis, Minnesota. Keynote speaker.
48. Samadani U. Minnesota State Workers Compensation Conference, September 18, 2018, Minneapolis, Minnesota. Keynote speaker.
49. Samadani U. International Neurotrauma Society, August 10-14, 2018, Toronto, Canada, Plenary speaker.
50. Samadani U. Neuroscience Continuing Legal Education, July 19, 2018, Minneapolis, Minnesota. Keynote speaker.
51. Samadani U. Play Smart Play Safe NFL Conference, June 26, 2018, New York, New York.
52. Samadani, U., Google Inc. June 8 2018, Mountain View, California. Invited speaker.
53. Samadani U. Louisiana High School Coaches Association, June 5, 2018, Baton Rouge, Louisiana. Keynote speaker.
54. Samadani, U., Traumatic Brain Injury Conference, May 16, 2018, Bethesda, Maryland. Plenary speaker.
55. Samadani, U. American Association of Neurological Surgeons, April 28-May 1, 2018, New Orleans, Louisiana. Symposium.
56. Samadani, U., Continuing Legal Education, April 27, 2018, Minneapolis, Minnesota. Plenary speaker.
57. Samadani, U., University of Kentucky, April 20, 2018, Louisville, Kentucky. Invited speaker.
58. Samadani, U. University of Minnesota Neurosurgery, March 16, 2018, Minneapolis, Minnesota. Invited speaker.
59. Samadani, U., American Association of University Women, March 5, 2018. Minneapolis, Minnesota. Keynote speaker.
60. Samadani, U., Winter Clinics in Neurosurgery, February 23, 2018. Snowmass, Colorado. Plenary speaker.
61. Samadani, U., SportCon, February 1, 2018. Minneapolis, MN. Symposium.
62. Samadani, U., Minnesota State Spinal Cord and Traumatic Brain Injury Research Symposium, January 31, 2018. Minneapolis, MN. Organizer and Speaker.
63. Samadani, U., Mitchell Hamline School of Law, January 19, 2018, Plenary speaker.
64. Samadani, U., Continuing Legal Education: Chronic Traumatic Encephalopathy, November 15, 2017, Chicago, IL. Plenary speaker.

65. Samadani, U., Minnesota Academy of Medicine, November 7, 2017, St. Paul MN, Keynote speaker.
66. Samadani, U., Children's Orthopedic Trauma Summit, October 26, 2017, Minneapolis, MN. Plenary speaker.
67. Samadani, U., Neuroscience and the Law, October 26, 2017, Minneapolis, MN. Plenary speaker.
68. Samadani, U., Radiological Society of Chicago, October 16, 2017. Chicago, IL. Keynote speaker.
69. Samadani, U., Congress of Neurological Surgery, October 7-11, 2017, Boston, MA. Symposium.
70. Samadani, U., Second International Conference on Pediatric Acquired Brain Injury, September 20-23, Rome, Italy. Symposium.
71. Samadani, U. Texas High School Coaches Association, July 24, 2017, San Antonio, TX. Plenary speaker.
72. Samadani, U., Peyton Society, July 22, 2017, Minneapolis, MN. Plenary speaker.
73. Samadani, U., Big 10 Ivy Academic Alliance, July 19, 2017. Rosemont, IL Plenary speaker.
74. Samadani, U., National Neurotrauma Society, July 7-12, 2017. Snowbird, Utah. Plenary speaker.
75. Samadani, U., American Association of Neurological Surgeons, April 22-26, 2017, Boston, MA. Symposium.
76. Samadani U., Congressionally Directed Medical Device Research Programs, Non-invasive Neuro-assessment Device Day; December 7, 2016; Bethesda, MD. Symposium.
77. Samadani U., Golden Seeds; December 5, 2016; New York, NY. Symposium.
78. Samadani U., Traumatic Brain Injury Workmen's Compensation Seminar; December 2, 2016; Minneapolis, MN. Keynote.
79. Samadani U., Vizient Executive Directors Meeting; October 27, 2016; Nashville, TN. Keynote.
80. Samadani U., CNE Neuroengineering Seminar; October 20, 2016; Minneapolis, MN. Keynote.
81. Samadani U., National Institutes of Neurologic Diseases Pediatric Concussion Workshop; October 14, 2016; Bethesda, MD. Symposium.
82. Samadani U., Traumatic Brain Injury Continuing Legal Education Seminar; October 12, 2016; New York, NY. Keynote.
83. Samadani U., Should Children Play Football? Congress of Neurological Surgeons Annual Meeting; September 25, 2016; San Diego, CA. Symposium.
84. Samadani U., Care Across the Continuum Conference; September 20, 2016; Minneapolis, MN. Keynote.

85. Samadani U., White House Briefing on Concussion and Its Chronic Consequences; September 13, 2016; Washington, DC. Panel.
86. Samadani U., 27th Annual EMS Medical Director's Conference; September 10, 2016; Alexandria, MN. Keynote.
87. Samadani U., Congressional Staff Briefing on Concussion; August 25, 2016; Washington, DC. Panel.
88. Samadani U., 39th Annual APPNA Summer Convention; August 5, 2016; Washington, DC. Keynote.
89. Samadani U., National Intrepid Center of Excellence – Walter Reed/Dept of Defense Lecture; August 4, 2016; Bethesda, MD. Keynote.
90. Samadani U., Food and Drug Administration invited lecture; August 3, 2016; Silver Springs, MD. Keynote.
91. Samadani U., 84th Annual Texas High School Coaches Association; July 18, 2016; San Antonio, TX. Symposium.
92. Samadani U. Neuroscience Seminar. University of Minnesota; July 13, 2017; Minneapolis, MN. Keynote.
93. Samadani U., Will We Ever Have a TBI Trial That Succeeds? National Neurotrauma Symposium; June 26, 2016; Lexington, KY. Symposium.
94. Samadani U., Stillwater Parents Meeting on Football; June 23, 2016; Stillwater, MN. Keynote.
95. Samadani U., Abbott Advisory Meeting on Brain Injury; June 14, 2016; Chicago, IL. Panel.
96. Samadani U., Hitchcock Society Talk, Hennepin County Medical Center, Emergency Department Seminar; June 7, 2016; Minneapolis, MN. Keynote.
97. Samadani U., Hennepin County Medical Center, Emergency Department Seminar; May 19, 2016; Minneapolis, MN. Symposium.
98. Samadani U., Emergency Medical Services Banquet; May 17, 2017; Litchfield, MN. Keynote.
99. Samadani U., Eye Tracking to Diagnose Adult and Pediatric Concussion. 2016 TBI Conference; May 11-12, 2016; Arlington, VA. Keynote.
100. Samadani U., Traumatic Brain Injury Update. 84th Annual American Association of Neurological Surgeons Scientific Meeting; May 1, 2016; Chicago, IL. Symposium.
101. Samadani U., BioInformatics Seminar Series. University of Minnesota; April 28, 2016; Minneapolis, MN. Keynote.
102. Samadani U., Distinguished Lecture in Neuroscience, University of St Thomas; April 22, 2016; St Paul, MN. Keynote.

103. Samadani U., Eye Tracking as a Biomarker for Concussion in Adult and Pediatric Patients. IMANA Relief Conference; April 16, 2016; Chicago, IL. Keynote
104. Samadani U., Hennepin County Medical Center Trauma Talk; April 15, 2016; Minneapolis, MN. Keynote.
105. Samadani U., Improved Diagnostics for Improved Classification of Brain Injury. Minnesota Brain Injury Alliance, 31st Annual Conference for Professionals in Brain Injury; April 14, 2016; Minneapolis, MN. Symposium.
106. Samadani U., Robotics in Neurosurgery. Design of Medical Devices Conference; April 13, 2016; Minneapolis, MN. Keynote.
107. Samadani U., Minnesota Football Coaches Association; April 1, 2016; St. Louis Park, MN. Keynote.
108. Samadani U., Center for Clinical Movement Science Colloquium Series. University of Minnesota; March 21, 2017; Minneapolis, MN. Keynote.
109. Samadani U., Eye Tracking to Assess the Physiologic Impact of Elevated Intracranial Pressure. National Space and Biomedical Research Institute; February 26, 2016; Houston, TX. Symposium.
110. Samadani U., Neurology Grand Rounds. University of Minneapolis; February 5, 2016; Minneapolis, MN. Keynote.
111. Samadani U., Eye Tracking as a Biomarker for Traumatic Brain Injury. Cohen Veteran Biosciences Investigator Meeting; January 29, 2016; New York, NY. Panel.
112. Samadani U., Why Is Concussion So Difficult to Define and Diagnose? Duluth Arrowhead Emergency Medical Services Conference; January 23, 2016; Duluth, MN. Keynote.
113. Samadani U., Will Eye Tracking Change the Way We Diagnose and Define Concussion? Licht Lecture, University of Minnesota; January 7, 2015; Minneapolis, MN. Keynote.
114. Samadani U., Will Eye Tracking Change the Way We Diagnose and Define Concussion? Rehabilitation and Neurosciences Grand Rounds, Hennepin County Medical Center; November 5, 2015; Minneapolis, MN. Keynote.
115. Samadani U., Eye Tracking Adds Insight to Injury for Concussion and TBI. Veterans Affairs New York Harbor HealthCare System Research Day; May 20, 2015; New York, NY. Keynote.
116. Samadani U., Eye Tracking as a Biomarker for Concussion. Concussion CME, Children's Hospital of Philadelphia; May 9, 2015; Philadelphia, PA. Symposium.
117. Samadani U., Eye Tracking as a Biomarker for Concussive and Structural Brain Injury. 12th Annual North American Brain Injury Society Conference; May 1, 2015; San Antonio, TX. Symposium.

118. Samadani U., Diagnosing and Defining Concussion: Why the Bashed Brain Befuddles the Brainiacs. BraiNY, Brain Health Awareness Week; March 11, 2015; New York, NY. Keynote.
119. Samadani U., Eye Tracking as a Biomarker for Concussion. Cedars-Sinai Neurosurgery Conference; March 5, 2015; Los Angeles, CA. Keynote.
120. Samadani U., Department of Neurosurgery Grand Rounds, University of Minnesota; December 12, 2014; Minneapolis, MN. Keynote.
121. Samadani U. Founding a Company out of Academic Medicine. NYU Startup Bootcamp – Plenary Panel; November 4, 2014; New York, NY. Panel.
122. Samadani U. Eye Tracking as a Biomarker for Concussion. NYU Department of Rehabilitation Medicine; October 22, 2014; New York, NY. Keynote.
123. Samadani U. Congress of Neurological Surgeons: Panel Discussion – Navigating a Neurosurgical Career – Always a Question of Balance; October 20, 2014; Boston, MA. Panel.
124. Samadani U. Eye Tracking to Detect and Quantitate the Impact of Concussion. Lenox Hill Hospital North Shore LIJ Neurology Grand Rounds; September 23, 2014; New York, NY. Keynote.
125. Samadani U. Will Eye Tracking Change the Way We Diagnose (And Define) Brain Injury? TEDMED Plenary Talk; September 10, 2014; Washington, DC. Keynote.
126. Samadani U. Will Eye Tracking Change the Way We Diagnose (And Define) Brain Injury? Edelman Invited Lecture (A TedMed Preview Event); August 11, 2014; New York, NY. Keynote.
127. Samadani U. Detecting Concussion with Eye Tracking. Women in Ophthalmology Summer Symposium; August 9, 2014; Leesburg, VA Symposium.
128. Samadani U. What Eye Movements Tell Us About Brain Injury. CampNeuro for High School Students Lecture; August 4, 2014; New York, NY. Symposium.
129. Samadani U. Eye Tracking as Biomarker for Brain Injury. National Neurotrauma Society Meeting; June 29, 2014; San Francisco, CA. Symposium.
130. Samadani U. Attrition Rates in Neurosurgery Residency; Analysis of 1361 Consecutively Matched Residents. 82nd American Association of Neurological Surgeons Annual Scientific Meeting; April 8, 2014; San Francisco, CA. Symposium.
131. Samadani U. Eye Movement Tracking Detects Subclinical Disconjugate Gaze in Structural and Concussive Brain Injury. 82nd American Association of Neurological Surgeons Annual Scientific Meeting; April 7, 2014; San Francisco, CA. Symposium.
132. Samadani U. Eye Tracking as a Biomarker for Brain Injury. NYU Concussion Center; February 12, 2014; New York, NY. Symposium.
133. Samadani U. Eye Movement Tracking as a Biomarker for Structural Brain Injury and Concussion. Weill-Cornell Medical Center, Department of Neurosurgery Grand Rounds; February 10, 2014; New York, NY. Keynote.

134. Samadani U. MidAtlantic BioAngels First Pitch Life Sciences Event “Oculogica”. December 4, 2013; New York, NY. Keynote.
135. Samadani U. Neurological Assessment via Eye Tracking. New York City Emerging Technologies Summit, Memorial Sloan Kettering Cancer Center; November 6, 2013; New York, NY. Keynote.
136. Samadani U. Eye Movement Tracking as a Biomarker for Brain Injury. New York University Dept of Psychiatry Research Seminar; November 4, 2013; New York, NY. Keynote.
137. Samadani U. Eye Movement Tracking to Detect Disconjugate Gaze and Concussion. Hospital of the University of Pennsylvania Visiting Professor Grand Rounds; October 24, 2013; Philadelphia, PA. Keynote.
138. Samadani U. Eye Movement Tracking in the Neurosurgical Patient. Johns Hopkins University Department of Neurology/David Zee Research Seminar; September 26, 2013; Baltimore, MD. Keynote.
139. Samadani U. Eye Movement Tracking in the Neurosurgical Patient. University of Utah, Salt Lake City Grand Rounds; February 27, 2013; Salt Lake City, UT. Keynote.
140. Samadani U. Eye Movement Tracking in the Neurosurgical Patient. Mount Sinai Department of Neurology Grand Rounds; December 5, 2012; New York, NY. Keynote.
141. Samadani U. Eye Movement Tracking in the Neurologically Impaired Patient. Courant Institute of Mathematical Sciences; October 19, 2012; New York, NY. Keynote.
142. Samadani U. Eye Movement Tracking in the Neurologically Impaired Patient. New York University Department of Neurosurgery Grand Rounds; October 12, 2012; New York, NY. Keynote.
143. Samadani U. Eye Movement Tracking in the Neurologically Impaired Patient. Mount Sinai Department of Neurosurgery Grand Rounds; September 19, 2012; New York, NY. Keynote.
144. Samadani U. Traumatic Brain and Spinal Cord Injury. VASRD Improvement Forum: Neurological Conditions and Convulsive Disorders; January 17, 2012; New York, NY. Keynote.
145. Samadani U. Intracranial Hemorrhage from Subdural to Subcortical: Susceptibility and the Search for Solutions. University of Minnesota Department of Neurosurgery Grand Rounds; November 11, 2011; Minneapolis, MN. Keynote.
146. Samadani U. Correction of Coronal Imbalance/Segmental Scoliosis with XLIF Versus Other Types of Interbody Fusion. Society of Lateral Access Surgeons; September 10, 2011; Paramus, NJ. Symposium.
147. Samadani U. Stimulating the Brain to Improve Consciousness after Brain Injury. New York Harbor Health Care System, Research Day; May 17, 2011; New York, NY. Keynote.
148. Samadani U. Chronic Subdural Hematoma Treatment with SEPS Costs Less than Burr Holes. American Association of Neurological Surgeons Annual Meeting; April 2011; Denver, CO. Symposium.

149. Samadani U. Vagus Nerve Stimulation to Augment Recovery from Minimally Conscious and Persistently Vegetative States after Traumatic Brain Injury. Cognitive Neuroscience Seminar Series NYU; January 4, 2011; New York, NY. Keynote.
150. Samadani U. The Sad and Unfortunate Saga of the Intracerebral Hematoma. Department of Neurosurgery Grand Rounds, New York University; November 17, 2010; New York, NY. Keynote.
151. Samadani U. Minimally Invasive Management of Deep Brain Hemorrhage and the Molecular Prodding of Endogenous Stem Cells: Progress and Prorogation. Department of Neurosurgery Grand Rounds, New York Medical College; January 21, 2010; New York, NY. Keynote.
152. Samadani U. Intracranial Hemorrhage, Fibrinolytic Therapy, and Delayed Edema: From Bad to Worse; New York University Neuroscience Retreat; September 17, 2009; New York, NY. Keynote.
153. Samadani U. Translational Research Eye for the Neurosurgical Guy. Department of Neurosurgery Grand Rounds, New York University; April 25, 2008; New York, NY. Keynote.
154. Samadani U. Neurosurgery in Goettingen, Germany; The Pig's Tale. Department of Neurosurgery Grand Rounds, New York University; January 18, 2008; New York, NY. Keynote.
155. Samadani U. Lysis, aspiration and small molecule therapy in a porcine model of basal ganglia hemorrhage. Klinikum Goettingen; August 2006; Goettingen, Germany. Keynote.
156. Samadani U. Glia gone wild: Single cell microdissection from ganglioglioma reveals neurons have more homogenous gene expression than glial cells. Pennsylvania Neurosurgical Society; July 2005; Hershey, PA. Keynote.
157. Samadani U. Analysis of gene expression from microdissected ganglioglioma neurons and glial cells. Department of Neurosurgery Grand Rounds, Hospital of the University of Pennsylvania; May 2005; Philadelphia, PA. Keynote.
158. Samadani U. Glia gone wild: Single cell microdissection from ganglioglioma reveals neurons have more homogenous gene expression than glial cells. University of Colorado Health Sciences Center Neurosurgery in the Rockies; February 2005; Vail, CO. Keynote.
159. Samadani U. 149th Commencement Address. Wayland Academy; May 2004; Beaver Dam, Wisconsin. Keynote.
160. Samadani U. To biopsy or not to biopsy: decision analysis in the management of brainstem lesions. Department of Neurosurgery Grand Rounds, Hospital of the University of Pennsylvania; December 2003; Philadelphia, Pennsylvania. Keynote.
161. Samadani U. Stereotactic brainstem biopsy is indicated for diagnosis of a diversity of brainstem pathology. American Society of Stereotactic and Functional Neurosurgery Quadrennial Meeting; May 2003; New York, NY. Symposium.
162. Samadani U. Cloning and characterization of Hepatocyte Nuclear Factor Six. University of Louvain Medical School and International Institute of Cellular and Molecular Pathology, Hormone and Metabolic Research Unit; March 1997; Brussels, Belgium. Keynote.

163. Samadani U. Regulation of transthyretin and hepatocyte nuclear factor three beta gene expression in the liver. University of Illinois Chicago Thesis Defense; January 1997; Chicago, IL. Keynote.
164. Samadani U. Characterization of the novel transcription factor HNF-6. National Medical Student Research Forum; April 1996; Galveston, TX. Symposium.
165. Samadani U. Cytokine regulation of the HNF-3 beta promoter. University of Illinois Chicago MD/Ph.D Seminar Series; April 1994; Chicago, IL. Symposium.

Contributed Papers Presented at Professional Meetings and Conferences

Abstracts and Posters

1. Venkatesh, S., Bravo, M, Schaaf, T., Samadani, U. Participants in Clinical Trials for Brain Injury Are Not Representative of the Injured Population, Congress of Neurological Surgeons, Oct 16-18 2021, Austin, TX.
2. Saleem, S., Darrow, D., Netoff, T.I., Tzeng, Y, **Samadani, U.**, Krassioukov, A.V., Phillips, A.A. Improvement of cerebral autoregulation and autonomic cardiac control in humans with spinal cord injury: after epidural electrical stimulation. Experimental Biology, 2019, April 6-9, Orlando, FL.
3. Rafter, D., Thorpe, M., Jaris, D. Mahan, M., Chettupally, T., Prasad, K., **Samadani, U.** Thoracoabdominal Crush Injury Causes Increased Intracranial Pressure Resulting in Traumatic Brain Injury Detectable with Eye Tracking Technology and Blood Based Biomarkers. Congress of Neurological Surgeons 2018, Oct 6-10, Houston, TX.
4. Abdallah, T., Mahan, MY, Casey, H., Oswald, M., Truwit, C., Richardson, C., **Samadani, U.**, Differences in diffusion properties of white matter tracts in patients with acute traumatic brain injury. International Neurotrauma Society, Aug 10-13, 2018 Toronto, Canada.
5. Khan, A., Sturtevant, D., Edgupanti, R., Venkatesh, S., Thorpe, M., Ahmadiya, A., Rafter, D. **Samadani, U.** The Physiological Impact of ICP and CPP on Cranial Nerve Function as Demonstrated with Eye Tracking Technology. International Neurotrauma Society, Aug 10-13, 2018. Toronto, Canada.
6. Khan, A., Hubbard, M., Kroll, R., Bergman, T., **Samadani, U.** Vagus Nerve Stimulation to Treat Moderate Brain Injury. International Neurotrauma Society, Aug 10-13, 2018. Toronto, Canada.
7. Darrow, D., Lee-Norris, L., **Samadani, U.**, Netoff, T., An Improved Metric for Detecting Cerebrovascular Autoregulation: Performance and Comparison of the Granger Ratio against PRx. International Neurotrauma Society, Aug 10-13, 2018. Toronto, Canada.
8. Lee-Norris, A., **Samadani, U.**, Netoff, T., Darrow, D., Comparative Analysis of Continuous and Intermittent Intraventricular Pressure Monitoring. International Neurotrauma Society, Aug 10-13, 2018. Toronto, Canada.

9. Mahan, M., Venkatesh, S., Thorpe, M., Abdallah, T., Casey, H., Ahmadi, A., Oswood, M., Truwit, C., Richardson, C., **Samadani, U.**, Characterizing Spatial Attributes of Structural Networks in Acute Traumatic Brain Injury. BICB Bioinformatics Symposium at University of Minnesota, Aug 17, 2018, Minneapolis, Minnesota.
10. Toninato, J., Mahan, M., **Samadani, U.** Validation of Natural Language Processing Algorithm for the Analysis of CT Reports. BICB Bioinformatics Symposium at University of Minnesota, Aug 17, 2018, Minneapolis, Minnesota.
11. Smith, C., Mahan, M., Venkatesh, S., Thorpe, M., Abdallah, T., Casey, H., Ahmadi, A., Oswood, M., Truwit, C., Richardson, C., **Samadani, U.**, Describing Diffusion Properties in Mild to Moderate Traumatic Brain Injury Using Voxelwise Tract-Based Spatial Statistics. BICB Bioinformatics Symposium at University of Minnesota, Aug 17, 2018, Minneapolis, Minnesota.
12. Mahan, M., Venkatesh, S., Thorpe, M., Abdallah, T., Casey, H., Ahmadi, A., Oswood, M., Truwit, C., Richardson, C., **Samadani, U.**, Characterizing Spatial Attributes of Structural Networks in Acute Traumatic Brain Injury 27th Annual Computational Neuroscience Meeting CNS2018, July 13-18-2018. Seattle, Washington.
13. Darrow, D., Balser, D., Parr, A., **Samadani, U.** Immediate Restoration of Voluntary Movement with Epidural Spinal Cord Stimulation in Two Patients with Paraplegia. International Neurotrauma Society, American Association of Neurological Surgeons 2018, 2018 April 30; New Orleans, LA.
14. Bin Zahid, A., Thorpe, M., Smith, C., Hoover, C., Warren, E., Edpuganti, R., Venkatesh, S., Sturtevant, D., Ahmadi, A., Newgaard, O., Balser, D.Y., Kroll, R., **Samadani, U.** Automated Eye Tracking For Detection of Blast Brain Injury After a Natural Gas Explosion. American Association of Neurological Surgeons 2018, 2018 April 30; New Orleans, LA.
15. Casey, H and Abdallah, T., **Samadani, U.** Prospective Treatment of Traumatic Brain Injuries by Vagus Nerve Stimulation. Minnesota Brain Injury Alliance, 2018, April 12, St. Paul, MN.
16. Chettupally, T., Prasad, K., Sindhu, G., **Samadani, U.** Brain Injury Caused by Body Trauma: An Unrecognized Impact, Minnesota Brain Injury Alliance, 2018, April 12, St. Paul, MN.
17. Hubbard, M.E., Bin Zahid, A., Meyer, G., Vonderhaar, K., Balser, D., Darrow, D., Kleeberger, A., Burri, D., Dammavalam, V., Venkatesh, S., Tupper, D., Rockswold S., Bergman, T., Rockswold, G., **Samadani, U.** Long term outcomes in pediatric patients with severe traumatic brain injury: A 30 year follow up study. 46th Annual AANS/CNS Section on Pediatric Neurological Surgery Meeting, 2017 Nov 28; Houston, TX.
18. Hubbard M.E., Bin Zahid A., Meyer G., Vonderhaar K., Balser D., Kleeberger A., Burri D., Dammavalam V., Venkatesh S., Tupper D., Rockswold S., Bergman T., Rockswold G., **Samadani U.** GCS does not predict cognitive outcome 30 years after severe traumatic brain injury. Congress of Neurological Surgeons 2017, 2017 Oct 7; Boston, MA.
19. Bin Zahid A., Mahan M., Hubbard M., Burri D., Tupper D., Bergman T., **Samadani U.** The Demographics and Impact of Brain Injury in a Functioning Community Population. Second International Conference on Paediatric Acquired Brain Injury, 2017 Sep 20; Rome, Italy.

20. Bin Zahid A., Balsler D., Ahmadi A., Kroll R., Hubbard M.E., **Samadani U.** Posterior placement of twist drill helps drain subdural hematoma. Peyton Society, 2017 July 22; Minneapolis, MN.
21. Bin Zahid A., Mahan M.Y., Hubbard M.E., Edpuganti R., Venkatesh S., Tupper D., Bergman T., **Samadani U.** Demographics of Brain Injury in a Minnesota Community. Peyton Society, 2017 July 22; Minneapolis, MN.
22. Mahan M., Hubbard M., Chrastek M., Burri D., Thorpe M., Techar K., Kleeberger A., Warren E., Balsler D., Bin Zahid A., Bergman T., Tupper D., Datwyler S., Rogers J., Marino J., McQuiston B, **Samadani U.** How Well Can a Blood Test Predict a Positive Head CT in Trauma Patients? National Neurotrauma Society, 2017 Jul 17; Snowbird, UT.
23. Meyer G., Hubbard M., Vonderhaar K., Rockswold S., Roskwold G., Tupper D., Gilbertson D., Sexter A., Matlon T., Bin Zahid A., Balsler D., Galicich W., Bergman T., **Samadani U.** Headache Prevalence 30 Years After Severe Traumatic Brain Injury. International Brain Injury Association 12th World Congress on Brain Injury, 2017 Mar 29; New Orleans, LA, USA.
24. Vonderhaar K., Hubbard M., Meyer G., Rockswold S., Roskwold G., Tupper D., Gilbertson D., Sexter A., Matlon T., Bin Zahid A., Dammavalam V., Venkatesh S., Balsler D., Galicich W., Bergman T., **Samadani U.** 30 Year Outcomes after Severe Traumatic Brain Injury in a Pediatric Population. International Brain Injury Association 12th World Congress on Brain Injury, 2017 Mar 29; New Orleans, LA, USA.
25. Bin Zahid A, Hubbard M, Balsler D, **Samadani U.** Optimal Bedside Drain Placement for Subdural Hematoma Evacuation. Minnesota State Neurosurgeons; October 7, 2016; St. Paul, MN.
26. **Samadani U.**, Bin Zahid A, Lockyer J, Dammavalam V, Grady M, Nancy M, Scheiman M, Master CL. Eye-tracking Biomarker for Concussion in the Pediatric Population. Fifth International Consensus Conference on Concussion in Sport; October 27, 2016; Berlin, Germany.
27. Dammavalam V, Kolecki R, Reid C, Bin Zahid A, Hubbard M, Wang T, Papas V, Sone JY, Usherenko A, Adem A, Altomare L, **Samadani U.** Effects of Blood Alcohol Content on Eye Movement Tracking and SCAT3. Cape Cod Symposium on Addictive Disorders, 2016 Sep 8; Hyannis, MA.
28. Bin Zahid A, Baser D, Mikheev A, Thomas R, Rusinek H, **Samadani U.** Brain Atrophy in Chronic Subdural Patients is Higher Than Controls but Lower Than in Alzheimer's. Minneapolis Veteran Affairs Medical Center Research Day; May 23, 2016; Minneapolis, MN.
29. Balsler D, Bin Zahid A, Bayatpour S, **Samadani U.** A Large Cohort Study on the Risk of Chronic Subdural Hematoma From the Long-Term Use of Antiaggregation or Anticoagulant Agents. Minneapolis Veteran Affairs Medical Center research day; May 23, 2016; Minneapolis, MN.
30. Master CL, Zahid AB, Lockyer J, Houseknecht E, Dammavalam V, Grady M, Nance M, **Samadani U.** Eye Tracking as a Biomarker for Concussion in Pediatric Patients; Med Sci Sports Exerc; May 2016; Philadelphia, PA.
31. Han B, Mehmood T, Li M, Tran R, Schneider J, Kolecki R, Reyes M, Ritlop R, Lamm E, Qian M, Rodgers S, Weiner H, Harter D, Wisoff J, Huang P, **Samadani U.** Eye-Movement Tracking in Shunted Hydrocephalus and Suspected Shunt Malfunction, American Association of Neurological Surgeons; April 2015; Washington, DC.

32. Pierre G, Kim AK, Kolecki R, Reyes M, Wall SP, Frangos SG, Huang P, **Samadani U**. A Comparison Of Sport Concussion Assessment Tool 3 (SCAT3) Normative Data In Novel Patient Populations: Non-athlete Controls And Acute Trauma Patients Society Academic Emergency Medicine Regional Meeting; February 28, 2015; Washington, DC, Washington, DC, and the National Society Academic Emergency Medicine Meeting; May 12-15, 2015; San Diego, CA.
33. Samadani U, Li M, Qian M, Laska E, Ritlop R, Kolecki R, Reyes M, Altomare L, Sone J, Adem A, Huang P, Kondziolka D, Wall S, Frangos S, Marmar C. Sensitivity and Specificity of an Eye Movement Tracking Biomarker for Concussion. Fifth Annual Conference on Traumatic Brain Injury; April 15-6, 2015; Washington, DC.
34. Kim AK, Kolecki R, Reyes M, Ritlop R, Wall SP, Frangos SP, Huang P, **Samadani U**. Employing Sport Concussion Assessment Tool 3 and Eye Tracking To Evaluate the Protective Effect of Helmets Against Concussion. Society Academic Emergency Medicine Regional Meeting; February 28, 2015; Washington, DC.
35. Bin Zahid A, Mikheev A, Yang AI, **Samadani U**, Rusinek H. Calculation of Brain Atrophy Using Computed Tomography and a New Atrophy Measurement Tool. SPIE: International Society for Optics and Photonics; February 2015; Orlando, FL.
36. Kolecki R, Ritlop R, Reyes M, **Samadani U**. Eye Tracking Detects Ocular Dysmotility Due to Elevated Intracranial Pressure. National Space and Biomedical Research Group; January 2015; Galveston, TX.
37. Alex A, Chen A, Warren F, Ritlop R, Reyes M, Nehrbass E, Lamm E, Kolecki R, Huang P, Smith RT, **Samadani U**. A Novel Algorithm for Eye Movement Tracking While Watching a Music Video Enables Detection of Cranial Nerve III and VI Palsies. Association of Researchers in Vision and Ophthalmology; May 2014; Orlando, FL.
38. **Samadani U**, Ciddi D, Chen A, Lamm E, Ritlop R, Reyes M, Nehrbass E, Alex A, Kolecki R, Jureller M, Fergus R, Qian M, Warren F, Huang P, Smith RT. Eye Movement Conjugacy While Watching a Video Reveals Greater Vertical than Horizontal Disconjugacy in Human Subjects. Association for Research in Vision and Ophthalmology; May 2014; Orlando, FL.
39. Rodgers SD, Marascalchi BJ, Strom RS, **Samadani U**, Riina H, Babu R, Frempong-Boadu AK, Sen C, Zagzag DG. Meningeal Melanocytoma: A Series of 5 Cases With Review of Pathology and Management. Society for Neuro-Oncology; November 2012; Washington, DC.
40. Yang A, Balsler DS, Mikheev A, Offen S, Rusinek H, **Samadani U**. Volumetric Analysis of Computed Tomograph (CT) Scans Demonstrates Cerebral Atrophy is an Independent Risk Factor for Chronic Subdural Hematoma. American Association of Neurological Surgeons Annual Meeting; April 2012; Miami, FL.
41. Foxx K, Roan JP, Kwak RC, **Samadani, U**. Posteriorly Placed Expandable Interbody Cages Restore Disc Height with Less Subsidence than Hollow, Packable Cages. American Association of Neurological Surgeons Annual Meeting; April 2011; Denver, CO.
42. Latzman JM, Tong J, Rauch J, Vecchione D, Zagzag D, Huang JH, **Samadani, U**. Sonic Hedgehog Agonist Fails to Induce Neural Stem Cell Precursors in the Subventricular Zone After Experimental Intracranial Hemorrhage. Third International Conference on Intracerebral Hemorrhage; March 2010; Palm Springs, California.

43. Williams SC, Foxx K, Bollo RJ, Latzman JM, **Samadani U**. Posterior Interbody Fusion with Distractable Cages: Pearls and Pitfalls. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, 26th Annual Meeting; February 2010; Orlando, Florida.
44. Latzman JM, Rauch J, Vecchione D, Zagzag D, **Samadani U**. Cortical neurogenesis in response to experimental hemorrhage in a porcine model. American College of Surgeons 95th Annual Clinical Congress; October 2009; Chicago, IL.
45. **Samadani U**. Intracranial Hemorrhage, Fibrinolytic Therapy, and Delayed Edema: From Bad to Worse. New York University School of Medicine Neuroscience Retreat; September 2009; New Paltz, New York.
46. Keric N, **Samadani U**, Meier G, Kallenberg K, Dechent P, Brueck W, Rohde V. Plasminogen Activator Inhibitor-One Decreases Tissue Plasminogen Activator-Induced Delayed Edema in an Experimental Porcine Intracranial Hemorrhage Model. Deutsche Gesellschaft fur Neurochirurgie 60 Jahrestagung Joint Meeting mit Benelux-Landern und Bulgarien; May 2009; Muenster, Germany.
47. Anderer EG, Latzman J, Frempong-Boadu AK, **Samadani U**. The Clinical Importance of Radiographic Bony Fusion in Instrumented Lumbar Arthrodesis. AANS Annual Meeting; May 2009; San Diego, CA.
48. Anderer EG, Kang MM, Moshel YA, **Samadani U**, Frempong-Boadu AK. The Influence of Lordosis in Anterior Cervical Fusions on Adjacent Segment Disease. CNS Annual Meeting; 2008; Orlando, FL.
49. **Samadani U**, Judkins AR, Aronica E, Crino PB. Analysis of Neuronal Gene Expression in Gangliogliomas: Lessons Learned at the Tumor's Edge. American Epilepsy Society; December 2004; New Orleans, LA.
50. **Samadani U**, Umemura A, Colcher A, Zager EL, Baltuch GH. Thalamic Deep Brain Stimulation Effectively Suppresses Tremor After Excision of a Brainstem Vascular Malformation. Congress of Neurological Surgeons Annual Meeting; September 2002; Philadelphia, PA.
51. **Samadani U**, Huang JH, Baranov D, Zager EL, Grady MS. Complications of Intraoperative Lumbar Cerebrospinal Fluid drainage. Congress of Neurological Surgeons Annual Meeting; September 2002; Philadelphia, PA.
52. **Samadani U**, Bonura P, Judy KD. Brainstem Lesion Biopsy: Indications and Outcomes. The University of Pennsylvania Eunice and Irving Leopold Annual Cancer Center Scientific Symposium and Retreat; March 2002; Philadelphia, PA.
53. **Samadani U**, Bonura P, Judy KD. Brainstem Lesion Biopsy: A Clinical Experience. American Association of Neurological Surgeons Annual Meeting; April 2002; Chicago, IL.
54. **Samadani U**, Rausa F, Costa RH. Hepatocyte Nuclear Factor Six Regulates Liver Gene Expression. Cold Spring Harbor Laboratories Meeting entitled "Regulation of Liver Gene Expression in Health and Disease"; April 1997; Cold Spring Harbor, NY.
55. **Samadani U**, Costa RH. Hepatocyte Nuclear Factor Six (HNF-6) is a Novel Liver Enriched Factor Regulating the HNF-3 Beta and Transthyretin Promoters. American Association for Cancer Research Special Conference entitled "Cancer Susceptibility Genes and Molecular Carcinogenesis"; February 1996; Keystone, CA.
56. **Samadani U**, Qian X, Costa RH. Cytokine Regulation of Hepatocyte Nuclear Factor Three Beta is Mediated by the C/EBP Family and IRF-1. American Association for Cancer Research

Special Conference entitled “Transcriptional Control of Cell Growth and Differentiation”; October 1994; Chatham, MA.

57. **Samadani U**, Porcella A, Costa RH. Cytokine Regulation of Liver Transcription Factor HNF-3 Beta is Mediated by Members of the C/EBP Family and IRF-1. Cytokines in Disease and Therapy; March 1994; Newport Beach, California.

Other Key Activities and Accomplishments

IRBs (as Principal Investigator Only)

Minnesota VA Medical Center:

Cerebral Atrophy, Anticoagulants and the Risk for Chronic Subdural Hematoma

Improving Functional Outcomes Through Optimization of Surgical Subdural Hematoma Evacuation Technique (VA Central IRB)

Hennepin County Medical Center:

Eye Movement Tracking as a Marker of Neurologic Integrity, HSR #15-4011

Long-Term Outcome of Traumatic Brain Injury, HSR #15-4082

Minnesota Healthy Brain Initiative, HSR #16-4185

Traumatic Brain Injury Classification and Outcome Assessment, HSR #15-4079

Vagus Nerve Stimulation to Treat Mild to Moderate Traumatic Brain Injury, HSR #16-4171

New York Harbor Health Care System:

Retrospective Review of Cranial Hemorrhage Surgery Outcomes ID: 01212

Retrospective Review of Spine Surgery Outcomes ID: 01219

Vagus Nerve Stimulation to Augment Recovery from Traumatic Brain Injury ID: 01142

Eye Movement Tracking as a Marker of Neurologic Integrity ID: 01251

Attrition Rates in Neurosurgery ID: 01359

New York University School of Medicine:

Vagus Nerve Stimulation to Augment Recovery from Traumatic Brain Injury 10-02375

Eye Movement Tracking as a Marker of Neurologic Integrity 12-03559

PTSD Risk Factors in Injured Subjects 13-00465

Vagus Nerve Stimulation to Augment Recovery from Traumatic Brain Injury 13-01112

TEACHING AND CURRICULUM DEVELOPMENT

National Organizations

Global Neurosurgery, practical course for medical students, 2021

Congress of Neurological Surgeons, practical course on traumatic brain injury, 2016-2019

American Association of Neurological Surgeons, practical course on traumatic brain injury 2016-2019

Women in Neurosurgery Retreat, organizer, 2017

University of Minnesota

Minnesota State Traumatic Brain and Spinal Cord Injury Research Symposium, organizer,
Jan 2018

New York University

NYU Medicine Residency	lecture on spine surgery	1 hour/mont h	2008 - 2011
NYU Neurosciences	lecture on brain injury	1 hour/sem ster	2009 - 2012
NYU Medical School Neurology	lecture on brain injury	1 hour/mont h	2007 - 2011

University of Illinois

Dental School Biochemistry	teaching assistant	5 hrs/week x 6 months	1994
Med School Nutrition	teaching assistant	6 hrs/week x 6 months	1995
Med School Nutrition	teaching assistant	6 hrs/week x 6 months	1996
Med School Neuroanatomy	teaching assistant	6 hrs/week x 3 months	1999

ADVISING AND MENTORING

Undergraduate Student Activities

Undergraduate advising

Ayan Hassan, University of Minnesota, Biology major, 2016
Caitlin Raasch, St. Olaf graduate, 2016
Drake Burri, U of M Morris graduate, BA Biology, 2016
Melinda Peter, South Dakota State University, BS Electrical Engineering, 2016
Jack Goldstein, St. Olaf graduate, 2016
Maxwell Thorpe, St. Olaf graduate, BA Biology, Pre-med, 2016
Alec Friswold, Northwestern University, neuroscience major, 2016
Matt Tran, University of Minnesota, Biology major – sports medicine, 2016
Shamso Jama, University of Minnesota, Biology major, 2016
Zaineb Farah, University of Minnesota, Neuroscience major, 2017
Joshua Bayer, University of Minnesota, Neuroscience major, 2018
Tabitha Chettupally, University of Minnesota, Neuroscience major, 2018
Radhika Edgupanti, University of Minnesota, Neuroscience major, 2018
Paymon Rafian, University of Minnesota, Neuroscience major, 2018

Graduate Student Activities

Graduate students advised

Marcela Bravo, MS, Dept of Bioinformatics and Computational Biology, University of Minnesota. Capstone Project: Publication of Clinical Trials for Traumatic Brain Injury, Dec 2019

Samuel Naden, MS Dept of Computer Science (joint with Rui Kuang, PhD), University of Minnesota, Capstone Project: Cerebral Atrophy and Anticoagulant Use as Risk Factors for Subdural Hematoma, May 2020

Margaret Mahan, PhD, Dept of Bioinformatics and Computational Biology, University of Minnesota,
Thesis: April 19, 2019 - Uncovering Microstructural Disturbances, Disrupted Microarchitecture, and Altered Network Topology in Traumatic Brain Injury

Joseph Toninato, MS, Dept of Bioinformatics and Computational Biology, University of Minnesota, December 2018

Zhuliu Liu, PhD, Dept of Computer Science, University of Minnesota (PhD), May 2021

Sharada Sridhar Kadaba, in progress, Dept of Computer Science, University of Minnesota (PhD)

Tianci Song, in progress, Dept of Computer Science, University of Minnesota (PhD)

Scarlett Cheong, in progress, Dept of Bioinformatics and Computational Biology (MS)

Professional Student Activities***Medical students advised***

Michael Koller, University of Minnesota medical student, 2020

Mark Gormley, University of Minnesota medical student, 2019

Ranveer Vasdev, University of Minnesota medical student, 2019

Brett Sterk, University of Minnesota medical student, 2019

Jessica Flores, University of Minnesota medical student, 2016

Pablo Leitzman, University of Minnesota medical student, 2016

Post-doctoral Fellows Supervised

Abdullah Bin Zahid MD, July 2015-June 2018; now in neurology at Univ Florida in Gainesville

David Balser MD, July 2015-June 2018; rehabilitation residency at Univ of Minnesota in Minneapolis, now in fellowship at Cleveland Clinic

Residents Supervised in a Research Capacity

Molly Hubbard – neurosurgery resident, U Minn Department of Neurosurgery, Aug 2015 – June 2017

-winner of David Piegras award for work performed in lab

David Darrow - neurosurgery resident, U Minn Department of Neurosurgery, Aug 2015 – present

-winner of AANS Stereotactic and Functional Award for work performed in lab

Adam Khan - neurosurgery resident, U Minn Department of Neurosurgery, Aug 2017 – Aug 2018

Residents Supervised in a Clinical Capacity

University of Minnesota

Ciro Vasquez

Zoe Zhang

Paramita Das

Catherine Miller

Joshua Lim

Molly Hubbard

David Darrow

Coridon Quinn

Adam Khan

Jack Leschke

David Freeman

Samuel Cramer

Lauren Sands (Albers)

Bryan Ladd

New York University

Robert Bollo

Yaron Moshel

Robert Elliot

David Foreshaw

Donato Pacione

Luigi Bassani

Benjamin Rubin

Shaun Rodgers

John Engler

Kwasi Boah

Russell Strom

Irene Kim

Yevgenia Shekhtman

Omar Tanweer

Bartosz Grobelny

Carolina Benjamin

Andrew Brunswick

Osamah Choudhry

New York University

Undergraduate Student Activities

Undergraduate advising

Lindsey Altomare, Columbia undergraduate student, October 2013-2015

Agnes Chen, pre-medical student (now in medical school), September 2013-July 2015

Neha Srivatsa, NYU undergraduate student, May 2014-July 2015

Radek Kolecki, pre-medical student, August 2013-July 2015

Julia Schneider, NYU undergraduate student, January 2013-July 2015

Rebecca Tran, University of Rochester undergraduate student, May 2013-July 2015

Sameer Farooq, BU BS/MD program student, June 2012-2015

David Shimunov, pre-medical student, August 2013-May 2014

Elena Nehrbass, Baruch College BS student (now in medical school), September 2012-July 2014

Jeffrey Roan, post-baccalaureate fellowship (now in medical school), June 2010-September 2010

Kristina Techar, University of Notre Dame undergraduate, BS Science

Undergraduate research projects

Saurab Faruque, NYU undergraduate student, January 2015-July 2015

Je Yeong Sone, NYU undergraduate student, October 2014-July 2019

Graduate Student Activities

Graduate students advised

Elizabeth Lamm, Courant Institute, Computer Science MS candidate, September 2013-July 2015

Dileep Ciddi, Courant Institute, Computer Science MS candidate, September 2013-July 2015

Professional Student Activities

Medical students advised

David Balsler, NYU medical student, graduated 2015; now in PMR residency

Nathan Han, NYU medical student September 2013-July 2015

Andrew Il Yang, NYU medical student, March 2011-July 2015

Chen Shi, NYU medical student, October 2011-July 2015

Neil Mendhiratta, NYU medical student, November 2011-July 2015

Matheus Mendes, Brazilian medical student, June-August 2014

Arthur Camargo, Brazilian medical student, June-August 2014

Anastasia Alex, University of Toronto medical student, June 2013-April 2014

Michael Jureller, Sackler School of Medicine, NYU Tel Aviv, June 2013-August 2013

Tracy Ma, NYU medical student (now in neurosurgery residency), August 2011-September 2013

Kenneth Foxx – NYU medical student June 2009 – May 2012; now a practicing neurosurgeon

Jonathan Latzman, NYU medical student (now in radiology residency), October 2008-September 2010

Judah Rauch, NYU medical student (now in medicine residency), October 2007-March 2009
 David Vecchione, NYU medical student (now in orthopedic surgery residency), October 2007-March 2008
 Moritz Zeretske, Klinikum Goettingen, medical student research, July 2006-July 2007
 Gerrit Meier, Klinikum Goettingen, medical student research thesis, July 2006-July 2007

Post-doctoral Fellows Supervised

Talha Mehmood, foreign medical graduate, researcher, NYU Dept of Neurosurgery, January 2014-July 2015

Abdullah Bin Zahid, foreign medical graduate, researcher, VA New York Harbor HCS, June 2014-July 2015; matched in Neurology and Univ of Florida, Gainesville

Residents Supervised in a Research Capacity

Shaun Rodgers, neurosurgery resident, NYU Department of Neurosurgery, December 2011-July 2015

Omar Tanweer, neurosurgery resident, NYU Department of Neurosurgery, June 2014-July 2015

Amie Kim, emergency medicine resident, NYU Dept of Emergency Medicine, June 2014-July 2015

Andrew Brunswick, neurosurgery resident, NYU Department of Neurosurgery, October 2014-July 2015

Other Mentoring Activities

Anisha Jain, Bronx High School student, June 2014-July 2015

- Participating in Intel Science Fair

Gabrielle Lynch, high school student, September 2011-July 2013

- Won NYC Science and Engineering Fair third place prize; participated in Intel Science Fair; now at Cornell University

Comments from Advisees and Employees

- “Your commitment to your work and research is inspiring and has impacted the lives of so many, including me” Niels Ryden (Rockswold scholar 2017).
- “I learned so much more than I ever thought I would [this past month]” Lisa Jerden, undergraduate volunteer.
- “Thank you for being an amazing female role model – it’s great to be able to look up to a talented surgeon like you” Madi Sinclair, undergraduate summer volunteer.
- “You’ve been a great leader and teacher to learn/work for” Dylan Sturtevant, research assistant.
- “You’re truly an inspiration to me. I have learned so much from my time with you not only about surgery and medicine but who I want to become in the future” Kiera Sundeen, high school student.
- “We had an amazing summer and we learned so much..thank you for sparking our new knowledge” Addie, high school student and summer researcher.
- “The work you are doing is groundbreaking and I was really happy to learn about it” James Williams, high school student and summer researcher.
- “I am truly grateful for this opportunity...It has been the most challenging but also most rewarding job I’ve ever had ... Thanks for all that you do and for being our fearless leader each day” Beki Kroll, research coordinator.
- “Thank you for the opportunity to be a part of your lab this summer. I loved every second of my experience and learned more than I ever thought possible in such a short time. Most importantly I

learned an extraordinary amount about myself and what I want for my future.” Senait Judge-Youkum, summer research volunteer.

- “I can’t tell you how amazing you are...thank you for being such an inspiration.” Clementine Affana, MD volunteer.
- “Thank you for your willing dedication to educating the next generation of doctors.” Sarah Becker, summer research volunteer.
- “Thank you very much for allowing me the opportunity to work in the lab this summer. I learned a lot about research and medicine. I really enjoyed the people in the lab as well. Thank you for making my summer memorable and enjoyable.” Keenan Ashby, summer volunteer.
- “The opportunity for students to learn from you and experience HCMC is extraordinarily impactful on their career discernment.” Grace Ward and Mary Wahl, St. Olaf College
- “Thank you for your part in my journey” Margaret Mahan, Univ of Minnesota Bioinformatics Graduate Student
- “Working in your lab has been the highlight of my undergrad career, and I am so grateful for this opportunity. The kindness and helpfulness of you and the BIRL staff is sincerely appreciated, and what makes it such a great experience coming here.. I feel honored everytime I am able to tell someone I get to work in your lab. Thank you for creating this wonderful opportunity... and all the patience you show us....I can’t wait to be back.” Olivia Newgaard, undergraduate researcher.
- “Thank you so much for a great summer...I really feel like I learned a lot about how both a research lab and a hospital functions and it got me even more excited to go into medicine. I am grateful to have had this opportunity!” Danny Jaris, summer volunteer.
- “Working at the BIRL was one of the most influential experiences I have had in pursuing my future career.” Jack Goldstein, (Rockswold scholar 2016)
- “This past summer taught me more about working the medical field than any textbook or classroom could ever do. I got to see some of the most fascinating cases, meet some of the most hard-working and fun people and better understand brain injury.” Kendall Otto, summer volunteer
- “Volunteering at the BIRL has been the experience of a lifetime...” Zoya Siddiqui
- “I really enjoyed being part of the close knit high functioning team lead by Dr. Uzma Samadani...” Drake Burri, researcher

SERVICE AND PUBLIC OUTREACH

Service to the Discipline/Profession/Interdisciplinary Area(s)

Service to the Profession

Examiner	American Board of Neurological Surgery	May, Oct 2021
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Editorships/Journal Reviewer Experience

Reviewer	<i>Journal of Neurotrauma</i>	2020-present
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Reviewer	<i>Journal of Neurosurgery</i>	2015-present
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Ad hoc reviewer	<i>Brain Stimulation</i>	2014-present
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Ad hoc reviewer	<i>Expert Opinion on Drug Safety</i>	2014-present
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Ad hoc reviewer	<i>Clinical Neurology and Neurosurgery</i>	2012-present
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Ad hoc reviewer	<i>Epilepsy Research and Treatment</i>	2011-present
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Ad hoc reviewer	<i>BMC Neurology</i>	2010-present
Reviewer	<i>Spine</i>	2010-present
Ad hoc reviewer	<i>American Journal of Clinical Neurology</i>	2008-present
Ad hoc reviewer	<i>Journal of Neurological Surgery</i>	2007-present

Principal Clinical and Hospital Service Responsibilities

Attending Physician in Neurosurgery, Minnesota VA Medical Center	2015-present
Staff Neurosurgeon, Centracare, St Cloud	2019-2021
Attending Physician in Neurosurgery, Bellevue Hospital	2013-2015
Attending Physician in Neurosurgery, Manhattan VA Medical Center	2007-2015

Committee Memberships

Medical Advisory Committee, California Youth Football Alliance	2019-present
Minnesota State SCI and TBI Advisory Committee	2015-present
Abbott Scientific Advisory Committee	2015-2017
American Board of Neurosurgery Written Examination Committee	2015
Professional Standards Peer Review Committee, West Roxbury, MA	2011
VASQIP External Site Peer Review Committee, Richmond, VA	2011
CSP 583 Xstop vs Laminectomy Clinical Trial Organization Committee	2010
Barrow Neurologic Institute Extramural Grant Review Committee	2010
Neurosurgery Surgical Advisory Board Northeast Representative for the Veterans Administration	2009-2013

Review Panels for External Funding Agencies and Foundations

MITACS Accelerate Research	2022
University of Nebraska Center for Brain, Biology and Behavior	2021
Thrasher Research Foundation	2021
Brain Canada 2020 Turnbull-Tator Award	2021
Congressionally Directed Medical Research Program	2020
Dept of Defense Study Section	2019
Brain Health and Injury Study Section for VA Merit Grant Review	2019
PSI Foundation,	2017, 2019
The Netherlands Health Organization for Research and Development grant review board	2012, 2015
National Institutes of Health, Special Study Section	2016, 2020
Neurobiology C – Study Section for VA Merit Grant Review	2013-2017

Service To The University/College/Department

University of Minnesota

Search Committee for Hennepin County Medical Center Surgical Chair, Member	2016
<i>New York University</i>	
New York Harbor Health Care Research and Development Committee, Member	2011
<i>University of Illinois</i>	
MD, PhD candidate selection committee, Member	1994

Public and Other Service

J Aron Allen Foundation, Sports Injury Prevention	2019-present
Organized and Served as Scientific Program Chair for Women in Neurosurgery Retreat, Snowbird, Utah	2017
VA Rehabilitation Research and Development CDA Study Section	2015-2016
Think First Brain Injury Prevention Board Member	2015-present
Food and Drug Administration Network of Experts Panel Member	2016
Contributor of Questions for American Board Neurological Surgery Examination	2014
Van Wagenen Colloquium, Miami FL	2012

Podcasts and Social Media:

Concussion Talk	2022
The Madeline and Becca Podcast (celebrating inspirational women)	2020
CornNation.com Jon Johnson Podcast (regarding football and brain injury).	2020