

BIOGRAPHICAL SKETCH
DO NOT EXCEED FIVE PAGES.

NAME: Cavazos, Jose E.

eRA COMMONS USER NAME (credential, e.g., agency login): cavazosj

POSITION TITLE: Assistant Dean & Professor of Neurology, Neuroscience and Physiology

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Instituto Tecnológico de Monterrey (ITESM), Monterrey, México	M.D.	10/1987	Physician and Surgeon, (Cum Laude)
University of Wisconsin at Madison	Ph.D.	08/1993	Neuroscience
University of Wisconsin at Madison	Internship	06/1993	Internal Medicine
Duke University, Durham, NC	Residency	06/1996	Neurology
Duke University, Durham, NC	Fellowship	06/1997	Clinical Neurophysiology & Epilepsy
University of Texas at San Antonio	Graduate Certificate	08/2016	Business of Health

A. Personal Statement

I am a Clinician-Scientist-Educator in Epilepsy with substantial activity in each of these endeavors. Every week, I see Epilepsy patients, read Electroencephalograms, and participate in our Surgical Epilepsy Case management conference. With another clinical partner, I have built the largest clinical Epilepsy center in Texas with 9 clinical epileptologists, 2 epilepsy surgeons, 2 neuropsychologists, and 14 epilepsy monitoring beds. I direct our clinical neurophysiology fellowship with 3 fellows every year. Until last year, I kept an active research laboratory at the VA Medical Center, where I examined the role of hippocampal circuit plasticity as mechanism of epileptogenesis in experimental models of epilepsy. I now work with a team to understand mechanisms of post-traumatic epilepsy in a novel animal model. As a clinician-scientist, I critically evaluate clinical practice and have participated in many clinical trials including the VA Coop Study in Geriatric Epilepsy, one of only 4 Class 1 trials in Epilepsy. I recently took some of a bench hypothesis about mechanisms of action of antiepileptic drugs and evaluated how to combine medications in a 94 Million health care claim database. At the VA, I created the San Antonio Epilepsy Center of Excellence (ECoE) with the mission to advance research, education, and clinical care activities in the diagnosis and treatment of epilepsy in Veterans, and in particular, post-traumatic epilepsy. I worked with 3 talented PhD investigators in two DoD awards examining experimental post-traumatic epilepsy, and I am a co-Investigator in both awards. Given my passion for remaining a triple-threat academic physician, I couldn't pass up the opportunity of becoming the Director of the MD/PhD Program and mentoring 35-40 future clinician scientists, and have graduated 25 students with their PhD degrees including 19 with both MD and PhD degrees. For the past 6 years, I have been responsible for recruitment, admissions, curriculum, mentoring, student affairs, financials, and development in the Dean's offices of the Graduate and Medical Schools as it pertains to the MD/PhD Program. At the same time, I mentored several junior faculty members who have successfully obtained independent funding, including one becoming a NRC Senior Research Associate). For the past 3 years, I also had the opportunity of using my mentoring experience to support the development of CTSA funded KL2 Scholars at my primary institution. I am embracing this opportunity to mentor and support the career development of clinician-scientists as they develop into independently funded investigators. I recently returned full-time to my University positions to focus my efforts in these critical missions for a robust institutional clinician-scientist workforce while remaining active as an investigator, clinician and educator.

Positions and Employment

1997-2000	Assistant Professor of Neurology - University of Colorado Health Sciences Center (UCHSC)
1999-2000	Assistant Professor of Neuroscience – UCHSC, Denver, CO
2000-2008	Assistant Professor of Neurology and Pharmacology – Univ. of Texas Health Science Center at San Antonio (UTHSCSA), San Antonio, TX
2001-2016	Staff Physician (6/8th) – Audie L. Murphy Veterans Administration Hospital (ALM VAH)
2001-2010	Director of the Epilepsy Center – ALM VAH, San Antonio, TX
2001-2012	Director of Research – South Texas Comprehensive Epilepsy Center, UTHSCSA
2005-Present	Clinical Neurophysiology Fellowship Director (ACGME accredited, PGY5), UTHSCSA
2005-2012	Co-Director – South Texas Comprehensive Epilepsy Center, UTHSCSA
2006-2010	Director of the Neurodiagnostic Center – ALM VAH
2008-2011	Associate Professor (with Tenure) of Neurology, Pharmacology and Physiology – UTHSCSA
2009-Present	Co-Founder and Consultant, LGCH, Inc. (DBA: Brain Sentinel), San Antonio, TX
2010-2016	Director of the San Antonio VA Epilepsy Center of Excellence (ECoE) – ALM VAH
2011-2012	Interim Director – MD/PhD Program – UTHSCSA
2011-2015	Professor (with Tenure) of Neurology, Pharmacology and Physiology – UTHSCSA
2012-Present	Assistant Dean and Director, MD/PhD Program – SOM/GSBS – UTHSCSA
2014-2015	Acting Chief, Neurology Section, ALM VAH for 12 months acted as Chief of Neurology
2014-Present	CTSA Mentored Research Career Development (KL2) Program Director – UTHSCSA
2015-Present	Professor (with Tenure) of Neurology and Physiology – UTHSCSA

Other Experience and Professional Memberships

1995-1996	Chief Resident of Neurology - Duke University/Durham VA Hospital
1998-2006	American Epilepsy Society (AES) Student and Resident Education Committee – Member ('98), Vice-chair ('99), Chair ('00-'03), Ex-officio ('03-'06).
1998-2000	Faculty Senator – Univ. of Colorado Health Science Center
1998-2000	Finance committee – Dept. of Neurology – Univ. of Colorado Health Science Center
1999-2003	Co-Chair – TOP Scholar program at the annual meeting of the AES
2000-2010	AES – Council of Education - member ('00-'06; '08-'10)
2002-2003	Brain Disorders & Clinical Neuroscience-1(BDCN-1) NIH study section; Ad-hoc ('02), member ('03)
2003-2006	Clinical Neuroscience and Disease (CND) NIH study section – Member ('03-'06)
2005-2011	AES Technology / Webcontent committee – Chair ('06-'09), Ex-officio ('10-'11)
2006, 2013	Wellcome Trust, UK – Ad-hoc reviewer
2006-2009	CURE Foundation – Ad-hoc reviewer
2006-2012	AES International Affairs committee – Member ('06-'12)
2006-2010	Medical Research Council (Singapore) – Ad hoc reviewer
2008-2008	NINDS Fellowships Review NIH Study Section – Ad hoc reviewer
2007-2017	Latin American Education Task Force – North American Region of International League Against Epilepsy (ILAE), member (2007-2013), Chair (2013-17)
2007-2010	AES Scientific Program Committee – member ('07-'08), Vice-Chair ('09), Chair (2010)
2007-2010	AES Annual Meeting Committee – member ('07-'10)
2007-2012	AES Operation Giveback Task Force - member ('07-'12)
2007-2017	Medical School Admissions Committee – UTHSCSA
2008	Brain Disorders and Clinical Neuroscience- 3 (Member conflict) NIH Study sec. – Ad-hoc
2008, 2010	ILAE Visiting Professor – Partnering of Epilepsy Centers in the Americas
2008-2011	GME Internal Review panel – program director representative – UTHSCSA
2008-2012	NST-2 Fellowship Review NIH Study Section – Member
2009-2011	AES Council of Communication - Member
2009-2017	Editorial Board Member, Epilepsy Research (Elsevier)
2009-2010	American Academy of Neurology, Editorial board member of Science section of AAN.com
2010-2014	Finance committee member – Dept. of Neurology - UTHSCSA
2010-2017	Editorial Board Member, Epilepsy and Behavior (Elsevier)
2010	PCNS Federal Drug Administration (FDA) Advisory Panel member (Ezogabine, Phenytoin IV)
2010-2011	MD/PhD Promotions Committee Chair – UTHSCSA

2012-2014	HHMI Med Fellows Program review committee
2012-2018	Membership committee, American Clinical Neurophysiology Society (ACNS)
2013	FDA Neurological Devices Advisory Panel, voting member (Neuropace)
2013	NIH Fogarty International Brain Disorders Study Section (BDCN-N-55)
2013-2017	Elected as a Board member and Treasurer for North American Commission of ILAE ('13-'17)
2014	NIH/NIGMS T32 Special Emphasis Panel (Member Conflict MSTP)
2015-2020	Science Committee, American Academy of Neurology (AAN)
2015-2018	AES Finance Committee ('15-'17)

Honors

1987	M.D. with " <i>Mención Honorífica</i> " (Cum Laude), ITESM
1995	Honorary Fellow in Epilepsy - University of Wisconsin at Madison
1997	Junior Faculty Award – Howard Hughes Medical Institute/Univ. of Colorado SOM
1998-2001	NRSA – K-08 Award from NINDS
2009	Elected Fellow of the American Academy of Neurology (AAN)
2009	Elected Fellow of the American Neurological Association (ANA)
2009-2017	America's Top Doctors, Neurology, Castle Connolly
2010-2017	US News & World Report Top Doctors, Neurology, Epilepsy & Clinical Neurophysiology
2012-2014	Ambassador to Mexico and Latin America, American Academy of Neurology (AAN)
2013	Elected Fellow of the American Clinical Neurophysiology Society (ACNS)
2014	Honorary Fellow Mexican Chapter of the ILAE (CAMELICE)
2014	Honorary Fellow Mexican Academy of Neurology
2015	Honorary Fellow Guatemalan Society for Neurology
2016	Elected Fellow of the American Epilepsy Society (AES)

Board Certifications

Neurology (ABPN)	5/1997-12/2017 (Recertified 4/2007)
Clinical Neurophysiology (ABPN)	4/1999-12/2019 (Recertified 8/2009)
Epilepsy (ABPN)	10/2014-12/2024
Clinical Neurophysiology(ABCN)	4/1998-4/2008

Medical Licenses

US: Texas: 2000-Present; NC: 1995-2005; CO: 1997-2005
Mexico: 1987-Present

C. Contribution to Science [Out of 45 publications and 14 patents – 5396 citations by Google Scholar]

1. My early publications reflect my PhD dissertation studies on Mossy Fiber Sprouting and Hippocampal Cell Loss in experimental models of Epilepsy. The direction of the laboratory changed as I performed some control experiments that showed surprising results. I participated in the planning, execution and interpretation of these experiments aimed to explain that surprising result. I wrote the first-author publications. These series of papers are part of 12 publications where I described the physiopathology of how the mossy fiber pathway of the dentate gyrus reorganized in response to progressive deafferentation in the inner molecular layer of the dentate gyrus caused by hilar polymorphic neuronal death.
 - a. Sutula T, He XX, **Cavazos J**, Scott G. "Synaptic Reorganization in the Hippocampus Induced by Abnormal Functional Activity." *Science* 1988 Mar 4; 239(4844):1147-50. [812 citations] PMID:2449733
 - b. **Cavazos JE**, Sutula TP. "Progressive Neuronal Loss Induced by Kindling: A Possible Mechanism for Mossy Fiber Synaptic Reorganization and Hippocampal Sclerosis." *Brain Res.* 1990 Sep 10; 527(1):1-6. [354 citations] PMID:2282474
 - c. **Cavazos JE**, Golarai G, Sutula TP. "Mossy Fiber Synaptic Reorganization Induced by Kindling: Development, Progression, and Permanence." *J. Neurosci.* 1991 Sep;11(9):2795-803. [501 citations] PMID:1880549
 - d. **Cavazos JE**, Das I, Sutula TP. "Neuronal loss induced in limbic pathways by kindling: evidence for induction of hippocampal sclerosis by repeated brief seizures." *J. Neurosci.* 1994 May;14 (5 Pt 2):3106-21. [422 citations] PMID:8182460

2. The next set of publications occurred mostly during my residency and fellowship, where I contributed to several observations of clinical relevance that expanded my PhD dissertation work into a translational context. In these observations, I played a major role collecting data, executing experiments, interpreting results and writing manuscripts.
 - a. Sutula T, Cascino G, **Cavazos J**, Parada I, Ramirez L. "Hippocampal Synaptic Reorganization in Partial Complex Epilepsy: Evidence for Mossy Fiber Sprouting in Epileptic Human Temporal Lobe." *Ann. Neurol.* 1989 Sep; 26(3):321- 30. [987 citations] PMID:2508534
 - b. **Cavazos JE**, Caress JB, Chilukuri VR, Devlin T, Gray L, Hurwitz BJ. "Sumatriptan-Induced Stroke in Sagittal Sinus Thrombosis." *Lancet* 1994 Apr 30;343(8905):1105-6. [47 citations, **changed FDA label for Imitrex/Sumatriptan**] PMID:8182460
 - c. **Cavazos JE**, Bulsara K, Caress J, Osumi A, Glass JP. "Pure motor hemiplegia including the face induced by an infarct of the medullary pyramid" *Clin Neurol Neurosurg* 1996 Feb; 98(1): 21-23. PMID: 8681473
 - d. VanLandingham KE, Heinz ER, **Cavazos JE**, Lewis DV. "Magnetic Resonance Imaging Evidence of Hippocampal Injury after Prolonged Focal Febrile Convulsions." *Ann. Neurol.* 1998 Apr; 43:413-26.[439 citations–**primary inspiration for the NIH P50 FEBSTAT study**] PMID: 9546321.
3. The next set of my contributions to science came from the establishment of my research laboratory in the Audie L. Murphy VA Medical Center investigating morphological plasticity beyond the Mossy Fiber Pathway of the Dentate Gyrus utilizing anatomical and physiological techniques to understand their effect increasing excitability in experimental animal models. I was supported by K08 award and a VA Merit award as the principal investigator proposing the ideas, executing the experiments and writing the manuscripts.
 - a. **Cavazos JE**, Jones SM, Cross DJ. "Sprouting and Synaptic Reorganization in the Subiculum and CA1 Region of the Hippocampus in Acute and Chronic Models of Partial-Onset Epilepsy." *Neuroscience* 2004; 126(3):677-88. [97 citations] PMID: 15183517
 - b. **Cavazos JE**, Cross DJ. "The role of synaptic reorganization in mesial temporal lobe epilepsy." *Epilepsy Behav.* 2006 May;8(3):483-93. Epub 2006 Feb 24. [94 citations] PMID: 16500154
 - c. Cross DJ, **Cavazos JE**. "Synaptic reorganization in subiculum and CA3 after early-life status epilepticus in the kainic acid rat model. *Epilepsy Res.* 2007 Feb;73(2):156-65. Epub 2006 Oct 27. [48 citations] PMID: 17070016
 - d. Zhang K, Tolstykh GP, Sanchez RM, **Cavazos JE**. "Chronic Cellular Hyperexcitability in Elderly Epileptic Rats with Spontaneous Seizures Induced by Kainic Acid Status Epilepticus while Young Adults". *Aging Dis.* 2011 Aug; 2(4):332-8. PMID: 22396885
4. The next set of my contributions to science came from my clinical interest in the practice of clinical epilepsy in the Audie L. Murphy VA Medical Center. These included the participation in the VA Cooperative Study of treatment of Seizures in the Elderly as well as collaborations developing the Neuro-QOL tool, validating it in patients with Epilepsy and exploring other health care outcome databases as Senior investigator.
 - a. Rowan AJ, Ramsay RE, Collins JF, Pryor F, Boardman KD, Uthman BM, Spitz M, Frederick T, Towne A, Carter GS, Marks W, Felicetta J, Tomyanovich ML; VA Cooperative Study 428 Group (**Cavazos JE**, et al.). New Onset Geriatric Epilepsy: A Randomized Study of Gabapentin, Lamotrigine and Carbamazepine. *Neurology*, 2005 Jun 14;64(11):1868-73. [440 citations] PMID:15955935
 - b. Pugh MJ, Copeland LA, Zeber JE, Cramer JA, Amuan ME, **Cavazos JE**, Kazis LE. "The Impact of Epilepsy on health status among younger and older adults." *Epilepsia*, 2005 Nov; 46(11):1820-7. [89 citations] PMID:16302863
 - c. Victorson D, **Cavazos JE**, Holmes GL, Reder AT, Wojna V, Nowinski C, Miller D, Buono S, Mueller A, Moy C, Cella D. "Validity of the Neurology Quality-of-Life (Neuro-QoL) measurement system in adult epilepsy". *Epilepsy Behav.* 2014 Feb; 31:77-84. PMID: 24361767
 - d. Margolis JM, Chu BC, Wang ZJ, Copher R, **Cavazos JE**. "Effectiveness of antiepileptic drug combination therapy for partial-onset seizures based on mechanisms of action." *JAMA Neurol.* 2014 Aug; 71(8):985-93. PMID: 24911669
5. The final set of my contributions to science and clinical practice stem from my initial consulting to a start-up

company that became LGCH, Inc. (I am the “C”) aiming to develop a seizure alert utilizing surface electromyography (sEMG). After raising \$25 Million of venture capital, I own about 2% of this company. I was the PI of four clinical studies including a pivotal controlled multicenter double-blinded comparison of a sEMG detection with an algorithm as compared to video EEG determination of classic Generalized Tonic Clonic Seizures enrolling 200 patients in 11 sites. The studies have led to 14 patents and 1 manuscript from a validation study, and 1 pivotal regulatory study in peer-review that allowed the FDA clearance on 2/16/17. I practice my art to take a concept to FDA clearance in just over 8 years along with a very talented team. The clearance is for an innovating *De-Novo* class II device that has an automated diagnostic algorithm within a device for alerting and diagnosing convulsive seizures. Since 2010, the FDA has only granted 16 *De-Novo* (out-of-the box) technologies per year for all health applications, for which they need to create a new category in their classification. This is the newest technology for aiding in the identification of seizures in people with epilepsy since the 1970’s when video was added to EEG.

- a. Szabó CÁ, Morgan LC, Karkar KM, Leary LD, Lie OV, Girouard M, **Cavazos JE**. Electromyography-based seizure detector: Preliminary results comparing a generalized tonic-clonic seizure detection algorithm to video-EEG recordings. *Epilepsia*. 2015 Sep; 56(9):1432-7. PMID: 26190150

Complete List of Published Work in MyBibliography:

- <http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/45484074/>
- <https://scholar.google.ca/citations?user=mhsgjNoAAAAJ>

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

PR141246P3 J.D. Lechleiter and M. Shapiro (Co-PI’s) 07/01/15-06/30/18
DOD-CDMRP Investigator-Initiated grant 5% effort ***Novel Strategies Targeting Signaling Molecules of Neurons and Astrocytes to Prevent Acquired Epilepsies***. The major goals of this project are to investigate the potential synergistic effects of treating mice suffering TBI and preventing the development of epilepsy.
Role: Co-Investigator

NIH 5KL2TR001118 Clark et al. (PIs) 05/01/13-04/30/18

Institute for Integration of Medicine & Science: a Partnership to Improve Health

This is one of the NIH awards that are part of our Clinical Translational Science Awards (CTSA) and that aims to provide faculty support for 5 KL-2 Scholars at our institution. The grant supports 10% of my FTE providing salary support as the director of the KL-2 Program.

Completed Research Support

Veterans Administration Cavazos (PI) 10/01/14-04/30/16
San Antonio VA Epilepsy Center of Excellence
The major goal of this project is to advance research, education, and clinical care activities in the diagnosis and treatment of epilepsy, and in particular, post-traumatic epilepsy. I was the director of the local site.

NIH 1F31NS083160 - 01 Barron (PI) 06/01/13-05/30/14
Quantification of Thalamic Atrophy and Connectivity in Medial Temporal Lobe Epilepsy
Role: Co-Mentor

VA Mentored VISN Award Tolstykh (PI) 10/01/11–09/30/13
Properties of Cardiovascular Afferent Inputs During Epileptogenesis
The major goal of this project is to examine the anatomy and physiology of the Nucleus of the Tractus Solitarius in the Kainic Acid model of Temporal Lobe Epilepsy as possible dysregulation inducing SUDEP (Sudden Death in Epilepsy).
Role: Mentor

VA Merit Review Award Cavazos (PI) 04/01/08 – 09/30/12
Seizure-Induced Synaptic Reorganization in CA1 projection to Subiculum
The major goal of this project is to examine the topography of the CA1 projection to the Subiculum in the Kainic Acid model of Temporal Lobe Epilepsy.
Role: PI