

CANDICE E. VAN SKIKE, PH.D.

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EDUCATION

- Ph.D.** **Baylor University**, Waco, Texas
2013 Behavioral Neuroscience
 Minor: Statistics
- M.A.** **Baylor University**, Waco, Texas
2011 Behavioral Neuroscience
- B.S.** **Missouri State University**, Springfield, Missouri
2008 Psychology (*cum laude*)
- A.S.** **Missouri Academy of Science, Mathematics, and Computing**
2006 Northwest Missouri State University, Maryville, Missouri

PROFESSIONAL APPOINTMENTS

- Oct 2015 Postdoctoral Fellow, University of Texas Health San Antonio,
– Present Department of Cellular and Integrative Physiology and the Barshop Institute for Longevity and Aging Studies
- Jan 2014 Postdoctoral Fellow, University of Kentucky,
– Sept 2015 Department of Pharmaceutical Sciences

JOURNAL ARTICLES

Hussong SA, **Van Skike CE**, Olson AB, Hart MJ, Dineley K, Ungvari Z, Perez V, Kaye R, Galvan V (*In Review*). Transcellular propagation of tau aggregates in brain microvascular endothelial cells promotes cellular senescence and blocks eNOS activation: Potential role in neurovascular dysfunction in tau transgenic mice. *Currently under review at Federation of American Societies for Experimental Biology (FASEB) Journal*.

Van Skike CE, Goodlett C, Matthews DB (*In Review*). Acute alcohol and cognition: Remembering what it causes us to forget. *Currently under review at Alcohol*.

Van Skike CE, Jahrling JB, Olson A, Sayre N, Hussong SA, Ungvari Z, Lechleiter J, Galvan V (*Epub ahead of print*). Inhibition of mTOR protects the blood-brain barrier in models of Alzheimer's disease and vascular cognitive impairment. *American Journal of Physiology – Heart and Circulatory Physiology*. <http://dx.doi.org/10.1152/ajpheart.00570.2017> ***APSselect awarded by the American Physiological Society**

Van Skike CE, Galvan V (*Epub ahead of print*). A perfect sTORM: The role of the mammalian target of rapamycin (mTOR) in cerebrovascular dysfunction of Alzheimer's disease – A Mini-Review. *Gerontology*. <http://dx.doi.org/10.1159/000485381>

Zhang S-Y, Clark NE, Freije CA, Pauwels E, Taggart A, Okada S, Mandel H, Garcia P, Ciancanelli MJ, Biran A, Lafaille FG, Tsumura M, Cobat A, Luo J, Volpi S, Zimmer B, Sakata S, Dinis A, Ohara O, Garcia Reino EJ, Dobbs K, Hasek M, Holloway SP, McCammon K, Hussong SA, DeRosa N, Lorenzo L, Hyodo M, **Van Skike CE**, Katolik A, Faria E, Halwani R, Fukuhara R, Galvan V, Damha MJ, Al-Muhsen S, Itan Y, Boeke JD, Notarangelo LD, Studer L, Kobayashi M, Diogo L, Fairbrother W, Abel L, Rosenberg B, Hart J, Etzioni

A, Casanova J-L (2018). Inborn errors of lariat metabolism in humans with viral infections of the brainstem. *Cell*, 172 (5), 952-965. <https://doi.org/10.1016/j.cell.2018.02.019>

Jahrling JB, Lin A, DeRosa N, Hussong S, **Van Skike CE**, Girotti M, Javors M, Zhao Q, Maslin LA, Asmis R, Galvan V (2018). mTOR drives cerebral blood flow and memory deficits in LDLR^{-/-} mice modeling atherosclerosis and vascular cognitive impairment. *Journal of Cerebral Blood Flow and Metabolism*, 38 (1), 58-74. <http://dx.doi.org/10.1177/0271678X17705973>

Castillo-Carranza DL, Nilson AN, **Van Skike CE**, Jahrling JB, Patel K, Garach P, Gerson JE, Sengupta U, Abisambra J, Nelson P, Troncoso J, Ungvari Z, Galvan V, Kaye R (2017). Cerebral microvascular accumulation of tau oligomers in Alzheimer's disease and related tauopathies. *Aging and Disease*, 8 (3), 257-266. <http://dx.doi.org/10.14336/AD.2017.0112>

Matthews DB, Novier A, Diaz-Granados JL, **Van Skike CE**, Ornelas L, Mittleman G (2017). Impact of adolescent alcohol use across the lifespan: long-lasting tolerance to high dose alcohol coupled with potentiated spatial memory impairments to moderate dose alcohol. *Alcohol*, 61, 33-42. <https://doi.org/10.1016/j.alcohol.2017.01.012>

Van Skike CE, Casey EM, Maggio SE, Reynolds AR, Bardo MT, Dwoskin LP, Prendergast MA, & Nixon K (2016). Critical needs in drug discovery for cessation of alcohol and nicotine polysubstance abuse. *Progress in Neuro-psychopharmacology and Biological Psychiatry*, 65, 269-287. <http://dx.doi.org/10.1016/j.pnpbp.2015.11.004>

Van Skike CE, Diaz-Granados JL, & Matthews DB (2015). Chronic intermittent ethanol exposure produces persistent anxiety in adolescent and adult rats. *Alcoholism: Clinical and Experimental Research*, 39 (2), 262-271. <http://dx.doi.org/10.1111/acer.12617>

Ornelas LC, Novier A, **Van Skike CE**, Diaz-Granados JL, & Matthews DB (2015). The effects of acute ethanol on motor impairments in adolescent, adult, and aged rats. *Alcohol*, 49 (2), 121-126. <http://dx.doi.org/10.1016/j.alcohol.2014.12.002>

Squeglia LM, Boissoneault J, **Van Skike CE**, Nixon SJ, & Matthews DB (2014). Differential effects of alcohol across the lifespan: Recent insights from adolescent, adult, and aged populations using human and animal models. *Alcoholism: Clinical and Experimental Research*, 38 (10), 2509-2516. <http://dx.doi.org/10.1111/acer.12531>

Novier A, **Van Skike CE**, Diaz-Granados JL, Mittleman G, & Matthews DB (2013). Acute alcohol produces ataxia and cognitive impairments in aged animals: a comparison between young adult and aged rats. *Alcoholism: Clinical and Experimental Research*. <http://dx.doi.org/10.1111/acer.12110>

Novier A, **Van Skike CE**, Chin VS, Diaz-Granados JL, & Matthews DB (2012) Low and moderate doses of acute ethanol do not impair spatial cognition but facilitate accelerating rotarod performance in adolescent and adult rats. *Neuroscience Letters*, 512, 38-42. <http://dx.doi.org/10.1016/j.neulet.2012.01.059>

Van Skike CE, Novier A, Diaz-Granados JL, & Matthews DB (2012). The effect of chronic intermittent ethanol exposure on spatial memory in adolescent rats: the dissociation of metabolic and cognitive tolerances. *Brain Research*, 1453, 34-39. <http://dx.doi.org/10.1016/j.brainres.2012.03.006>

Chin VS, **Van Skike CE**, Berry RB, Kirk RE, Diaz-Granados JL, & Matthews DB (2011). Effects of acute ethanol and acute allopregnanolone on spatial memory in adolescent and adult rats. *Alcohol*, 45 (5), 473-483. <http://dx.doi.org/10.1016/j.alcohol.2011.03.001>

Chin VS*, **Van Skike CE***, & Matthews DB (2010). Effects of ethanol on hippocampal function during adolescence: a look at the past and thoughts on the future. *Alcohol*, 44, 3-14. <http://dx.doi.org/10.1016/j.alcohol.2009.10.015>. *Denotes equal contribution.

Van Skike CE, Botta P, Chin VS, Tokunaga S, Silvers JM, Venard J, Diaz-Granados JL, Valenzuela CF, & Matthews DB (2010). Behavioral Effects of Ethanol in Cerebellum are Age Dependent: Potential System and Molecular Mechanisms. *Alcoholism: Clinical and Experimental Research*, 34(12), 2070-2080. <http://dx.doi.org/10.1111/j.1530-0277.2010.01303.x>

BOOK CHAPTERS

Orr ME, Valentine JM, Nie J, Liang H, **Van Skike CE**. (Submitted). Mammalian target of rapamycin at the crossroad between Alzheimer's disease and diabetes. In Y. Nakabeppu (Ed.), *Diabetes Mellitus, A risk factor for Alzheimer's Disease?* (Ch. 10). Springer Nature.

Van Skike CE, Zandy SL, Matthews DB. (2016). Substance Use in Adolescence. In P. Kumanov & A. Agarwal (Eds.), *Puberty: Physiology and Abnormalities* (Ch. 19, pp. 273-285). Switzerland: Springer International Publishing. http://dx.doi.org/10.1007/978-3-319-32122-6_19

EDITORIALS

Van Skike CE, Galvan, S. (*invited editorial in preparation*). mTOR promotes cerebrovascular dysfunction. *Aging*.

JOURNAL COVERS

Castillo-Carranza DL, Nilson AN, **Van Skike CE**, Jahrling JB, Patel K, Garach P, Gerson JE, Sengupta U, Abisambra J, Nelson P, Troncoso J, Ungvari Z, Galvan V, Kaye R. Cover of *Aging and Disease* (2017), 8 (3). Deposition of tau oligomers in cerebrovasculature of human Alzheimer's disease (AD) brains.

Van Skike CE, Galvan V. Cover of *AGE* (2016), 38 (4 & 5). *In vivo* two-photon microscopy of neurovascular amyloidosis and blood-brain barrier breakdown in a living 18 month old Tg2576 mouse modeling Alzheimer's disease. Image generated in the UTHSCSA Core Optical Imaging Facility.

AWARDS AND HONORS

2018	APSselect award from the American Physiological Society
2017	Joe H. Ward Jr. and Bettie B. Ward Award for Excellence in the Study of the Biology of Aging: Postdoctoral Fellow
2017	1 st Place Poster Presentation Award at the Barshop Symposium on Aging
2016	F1000 Outstanding Presentation Prize at the New York Academy of Sciences Symposium on "Alzheimer's Disease as a Neurovascular Inflammatory Disorder"
2016	Travel Award to attend the New York Academy of Sciences Symposium on "Alzheimer's Disease as a Neurovascular Inflammatory Disorder"
2016	American Aging Association Travel Award
2014 – 2015	Research Society on Alcoholism Junior Investigator Award
2009 – 2013	Research Society on Alcoholism Student Merit Award
2012 – 2013	Baylor Graduate School Travel Award
2006 – 2008	Dean's List, Missouri State University

GRANTS AND FELLOWSHIPS

Alzheimer's Association Research Fellowship AARF-17-504221 (Van Skike)

August 2017 – Sept 2019

Oligomeric tau-induced microvascular dysfunction in Alzheimer's disease

The major goal of this project is to determine the mechanism by which the TOR pathway drives tau-mediated cerebrovascular dysfunction using both *in vitro* and *in vivo* techniques. This will provide crucial information on TOR's mechanisms of action on tau-induced cerebrovascular dysfunction in Alzheimer's disease, which is the most common tauopathy.

Role: PI

NIA Institutional Training Grant T32-AG021890 (Musi)

October 2015 – July 2017

University of Texas Health Science Center at San Antonio
Barshop Institute for Longevity and Aging Studies

Faculty Sponsor: Dr. Veronica Galvan
Role: Trainee

NIDA Institutional Training Grant T32-DA016176 (Dwoskin)

July 2014 – September 2015
University of Kentucky
Department of Pharmaceutical Sciences
Faculty Sponsor: Dr. Kim Nixon
Role: Trainee

CONFERENCE ACTIVITY AND PARTICIPATION

Conference Presentations

Van Skike CE, Galvan V. (2016, October). Cerebrovascular mechanisms of Alzheimer's disease. Research update presented at the Barshop Symposium on Aging Conference. Bandera, TX.

Van Skike CE, Diaz-Granados JL, Matthews DB, et al. (2013, June). Behavioral, electrophysiological, and molecular differences between adolescent and adult rats in response to ethanol. Symposium presented at the National Research Society on Alcoholism. Orlando, FL.

Selected Posters

Van Skike CE, Hussong SA, Jahrling JB, DeRosa N, Hernandez SF, Reyna ME, Galvan V (2017, October). mTOR-dependent neuronal nitric oxide dysfunction underlies neurovascular coupling deficits in a model of Alzheimer's disease. Poster session presented at the Barshop Symposium on Aging, Bandera, TX.
***Received 1st Place Poster Presentation Award**

Van Skike CE, Hussong SA, Jahrling JB, DeRosa N, Hernandez SF, Reyna ME, Galvan V (2017, September). mTOR-dependent neuronal nitric oxide dysfunction underlies neurovascular coupling deficits in a model of Alzheimer's disease. Poster session presented at the San Antonio Postdoctoral Research Forum, San Antonio, TX.

Van Skike CE, Jahrling JB, Hernandez SF, DeRosa N, Galvan V (2017, April). TOR drives fibrillar amyloid- β accumulation and cerebrovascular dysfunction in mouse models of Alzheimer's disease. Poster session presented at the International Society for Cerebral Blood Flow and Metabolism's Brain and Brain PET 2017 Conference, Berlin, Germany.

Van Skike CE, Jahrling JB, Hernandez SF, DeRosa N, Galvan V (2016, December). TOR drives fibrillar amyloid- β accumulation and cerebrovascular dysfunction in the Tg2576 model of Alzheimer's disease. Poster session presented at the New York Academy of Science Conference entitled Alzheimer's Disease as a Neurovascular Inflammatory Disorder, New York, NY. ***Received F1000 Outstanding Presentation Award**

Van Skike CE, Jahrling JB, DeRosa N, Galvan V (2016, October). TOR drives cerebral amyloid angiopathy in a mouse model of Alzheimer's disease. Poster session presented at the Barshop Symposium on Aging, Bandera, TX.

Van Skike CE, Lin A-L, Burbank R, Halloran J, Cuvillier J, Hussong SA, Jahrling JB, Austad S, Fischer K, Galvan V (2016, June). A Key Role of TOR in cognitive and brain vascular aging. Poster session presented at the American Aging Association, Seattle, WA.

Van Skike CE, Wright WJ, Nixon K (2015, June). Effects of the TSPO ligand Ro5-4864 on hippocampal cell proliferation in a rat model of alcoholism. Poster session presented at Research Society on Alcoholism, San Antonio, TX.

Van Skike CE, Diaz-Granados JL, & Matthews DB (2014, June). Chronic intermittent ethanol exposure yields persistent increases in anxiety and altered receptor subunit expression in adolescent and adult male rats.

Poster session presented at Research Society on Alcoholism/International Society for Biomedical Research on Alcoholism, Bellevue, WA.

Van Skike CE, Diaz-Granados JL, & Matthews DB (2013, June). Chronic intermittent ethanol exposure yields persistent increases in anxiety and altered receptor subunit expression in adolescent and adult male rats. Poster session presented at Research Society on Alcoholism, Orlando, FL.

Van Skike CE, Novier A., Diaz-Granados JL, & Matthews DB (2012, June). Exercise does not affect Morris water maze acquisition or ethanol-induced cognitive impairments in adolescent or adult male rats. Poster session presented at Research Society on Alcoholism, San Francisco, CA.

Van Skike CE, Chin VS, Diaz-Granados JL, & Matthews DB (2011, June). Tolerance to Ethanol-Induced Spatial Memory Impairments in Adolescent Rats. Poster session presented at Research Society on Alcoholism, Atlanta, GA.

Van Skike CE, Chin VS, Diaz-Granados JL, & Matthews DB (2010, June). Adolescent Rats are Resilient to Hippocampus-Based Memory Impairments Produced by Chronic Intermittent Ethanol Exposure. Poster session presented at Research Society on Alcoholism, San Antonio, TX.

Van Skike CE & Matthews DB. (2009, June) PKC gamma expression: potential mechanism for differential ethanol sensitivity between adolescent and adult rats. Poster session presented at Research Society on Alcoholism, San Diego, CA.

DEPARTMENTAL & CAMPUS TALKS

2017 Before the onset: Cerebrovascular mechanisms of Alzheimer's disease. Symposium presented at the Barshop Institute Seminar Series, November 1, UT Health SA. ***Received the Joe and Bettie Ward Award for Excellence in the Study of the Biology of Aging**

2017 Cerebrovascular dysfunction in Alzheimer's disease. Symposium presented at the Edward J. Masoro Biology of Aging Student Day, April 14, UT Health SA.

2016 TOR drives cerebrovascular dysfunction in Alzheimer's disease. Symposium presented at the Barshop Institute Seminar Series, December 7, UT Health SA.

2016 TOR drives cerebrovascular dysfunction in Alzheimer's disease: a two-photon imaging study. Presented at the Tea and Biscuits Neuroscience Club, August 9, UT Health SA.

TEACHING EXPERIENCE

Baylor University

2009 – 2013 Behavioral Neuroscience Lab, Teacher of Record
Clinical Neuroscience Lab, Teacher of Record
Intro to Neuroscience Lab, Teacher of Record

2008 – 2009 Learning and Behavior Lab, Teaching Assistant

RESEARCH EXPERIENCE

2015 – Present **Postdoctoral Fellow - AARF-17-504221 and T32 AG021890**
University of Texas Health San Antonio
Barshop Institute for Longevity and Aging Studies
Laboratory of Veronica Galvan

2014 – 2015 **Postdoctoral Fellow - T32 DA016176**
University of Kentucky, Department of Pharmaceutical Sciences
Laboratory of Kim Nixon

2008 – 2013 **Graduate Research Assistant**

SERVICE TO PROFESSION

Ad-hoc referee

2015 – Present	Neuroscience Letters
2015 – Present	Journal of Neurochemistry
2014	The Canadian Journal of Physiology and Pharmacology
2013 – 2016	Alcoholism: Clinical and Experimental Research

DEPARTMENTAL & UNIVERSITY SERVICE

2017	Co-Coordinator, F-Troop at the Park Grant Writing Workshop, Barshop Institute at Texas Research Park, UT Health San Antonio
2017	Demonstration held for Graduate Student Recruitment, UT Health San Antonio
2017	Selection Committee for Undergraduate Travel Awards to the Barshop Symposium on Aging
2015	Coordinator, Neuroscientists Interested in Drug Abuse Discussion Series, University of Kentucky
2011-2013	Coordinator, Psychology & Neuroscience Brown Bag Discussion Series, Baylor University

COMMUNITY OUTREACH

2017	Neurobiology of substance abuse during adolescence. Invited speaker at the 7 th Annual Voelcker Biosciences Teacher Academy, February 4, UT Health SA.
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MEDIA COVERAGE

2013	“Older People May Be at Greater Risk for Alcohol Impairment than Teens, According to Baylor Study.” http://www.baylor.edu/mediacommunications/news.php?action=story&story=129121
2012	“Juveniles Build Up Physical – but Not Mental – Tolerance for Alcohol in Baylor Study.” https://www.baylor.edu/mediacommunications/news.php?action=story&story=116981

PROFESSIONAL MEMBERSHIPS

2016 – Present	American Aging Association (AGE)
2014 – 2015	Bluegrass Chapter of Society for Neuroscience
2008 – 2015	Research Society on Alcoholism (RSA)
2008 – Present	Society for Neuroscience (SfN)