

Edward W. Keefer

POSITION TITLE: Instructor

eRA COMMONS USER NAME: EDWARD1414

EDUCATION/TRAINING: (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

INSTITUTION AND LOCATION / DEGREE (if applicable) / YEAR(s) / FIELD OF STUDY

University of North Texas, Denton, TX; MS; 1998; Neuroscience

University of North Texas, Denton, TX; Ph.D.; 2001; Neuroscience

The Neurosciences Institute, San Diego, CA; 2001-2005; Postdoctoral fellow



A. Positions and Honors.

Positions and Employment

2001-2005 Postdoctoral Fellow, The Neurosciences Institute

2006-2007 Research Fellow, University of Texas Southwestern Medical Center

2007-current Instructor, UTSW Medical Center

Other Experience and Professional Memberships

1998-Present Member, Society for Neuroscience

B. Selected peer-reviewed publications (in chronological order).

1. Morefi eld, S.I., Keefer, E.W., Chapman, K.D., and Gross G.W. (2000) Drug evaluations using neuronal networks on microelectrode arrays: characteristic eff ects of cannabinoid agonists anandamide and methanandamide on cortical and spinal cultures. *Biosens Bioelectron.* 15(7-8): 383-396
2. Keefer, E.W., Boyle, N.A.J., Norton, S.J., Talesa, V., and Gross G.W. (2001) Acute toxicity screening of novel AChE inhibitors using neuronal networks on microelectrode arrays. *Neurotoxicology* 22(1): 3-12
3. Pancrazio, J.J., Keefer, E.W., Ma W., Stenger, D.A., and Gross, G.W. (2001) Neurophysiologic effects of chemical agent hydrolysis products on cortical neurons in vitro. *Neurotoxicology* 22(3): 395-400
4. Stenger, D.A., Gross, G.W., Keefer, E.W., Shaff er, K.M., Andreadis, J.D., Ma, W., and Pancrazio, J.J. (2001) Detection of physiologically active compounds using cell-based biosensors. *Trends Biotechnol.*19(8): 304-309
5. Keefer, E.W., Gramowski A., Stenger D.A., Pancrazio J.J., and Gross G.W. (2001) Characterization of acute neurotoxic eff ects of trimethylolpropane phosphate via neuronal network biosensors. *Biosens Bioelectron.*16(7-8): 513-525
6. Keefer, E.W., Gramowski A., and Gross, G.W. (2001) NMDA receptor dependent periodic oscillations in cultured spinal cord networks. *J Neurophysiol.*86(6):3030-3042
7. Look J., Stange J., Mitzner S., Schmidt R., Keefer E.W., Gross G.W. (2001) Infl uence of albumin dialysis (MARS) on neuronal network activity in vitro. *Z Gastroenterol* 39 Suppl 2:40-45
8. Mistry, S.K., Keefer, E.W., Cunningham, B.A., Edelman, G.M., and Crossin, K.L. (2002) Rat hippocampal neural progenitors generate spontaneously active neural networks. *Proc Natl Acad Sci* 99(3): 1521-162
9. Edelman, D.B., Keefer, E.W., (2005) A cultural renaissance: in vitro cell biology embraces three-dimensional context. *Exp. Neurol.* 192(1): 1-6
10. Adachi M, Keefer E.W., Jones F.S., (2005) A segment of the Mecp2 promoter is sufficient to drive expression in neurons. *Hum Mol Genet* 14(23):3709-22
11. Galvan-Garcia P, Keefer EW, Yang F, Zhang M, Fang S, Zakhidov AA, Baughman RH, and Romero MI. (2007) Robust cell migration and neuronal growth on pristine carbon nanotube sheets and yarns. *J Biomater Sci Polym Ed.* 18(10):1245-61.
12. McCoy MK, Martinez TN, Ruhn KA, Wrage PC, Keefer EW, Botterman BR, Tansey KE, and Tansey MG. (2008) Autologous transplants of Adipose-Derived Adult Stromal (ADAS) cells afford dopaminergic neuroprotection in a model of Parkinson's disease. *Exp Neurol.* 210(1):14-29.
13. Wrage PC, Tran T, To K, Keefer EW, Ruhn KA, Hong J, Hattangadi S, Treviño I, and Tansey MG. (2008) The Neuro-Glial Properties of Adipose-Derived Adult Stromal (ADAS) Cells Are Not Regulated by Notch 1 and Are Not Derived from Neural Crest Lineage. *PLoS ONE.* 3(1):e1453.
14. Keefer EW, Botterman BR, Romero MI, Rossi AF, and Gross GW. (2008) Carbon nanotube coating improves neuronal recordings. *Nat. Nano.* 3:434-439
15. Garde Kshitija, Keefer EW, Botterman BR, Galvan-Garcia, P, and Romero MI. (2009) Neurointerfacing of chronically amputated nerves. *Front. Neuroengin.*.. (in press)

C. Research Support

2001-2005 Neurosciences Research Foundation

2002-2004 Alafi Family Foundation

2007-2008 Carter-Crowley Foundation

Current NIH SBIR- 00322425 Improved neuroelectrode characteristics using nanomaterials

Current Plexon Inc. sponsored research fellowship