

## SPONSOR/CO-SPONSOR BIOGRAPHICAL SKETCH

Provide the following information for the sponsor (co-sponsor). **DO NOT EXCEED FOUR PAGES.**

NAME OF SPONSOR (CO-SPONSOR) Frye, Gerald D.		POSITION TITLE Professor of Neuroscience & Experimental Therapeutics	
eRA COMMONS USER NAME GERRY_FRYE			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Virginia Tech, Blacksburg, VA	B.S.	1973	Biology
Univ. of North Carolina at Chapel Hill, NC	Ph.D.	1977	Pharmacology
NIAAA, Postdoctoral Fellow, UNC		1979	Neuropsychopharm.

### POSITIONS

2/79-7/83	Res. Assist. Prof., Dept. of Psychiatry, Univ. of North Carolina Sch. of Med., Chapel Hill, NC
2/79-7/83	Pharmacologist, Dept. of Psychiatry, Center for Alcohol Studies, Univ. of N. Carolina Sch. of Med., Chapel Hill, NC
7/83-8/87	Assistant Professor, Dept. of Medical Pharmacol. & Toxicol., College of Medicine, Texas A&M Univ., College Station, TX
9/87-8/92	Associate Professor (tenured), Dept. of Medical Pharmacol. & Toxicol., Texas A&M University
1/93-12/96	Chair, Faculty of Neuroscience (Intercollegiate), Texas A&M University
9/92-9/99	Professor, Dept. of Medical Pharmacol. & Toxicol., Texas A&M University
9/99-11/03	Professor, Dept. of Medical Pharmacol. & Toxicol., Texas A&M Univ. Syst. Health Sci. Ctr.
12/03-12/05	Joseph H. Shelton Professor of Neurotoxicology, Dept. of Medical Pharmacol. & Toxicol., Texas A&M Univ. Syst. Health Sci. Ctr.
1/06-pres.	Joseph H. Shelton Professor of Neurotoxicology, Dept. of Neuroscience & Experimental Therapeutics, Texas A&M Univ. Syst. Health Sci. Ctr.

### HONORS & OTHER PROFESSIONAL ACTIVITIES

8/72-7/74	Predocotrinal Traineeship, Pharmacol., Univ. of N. Carolina, Chapel Hill, NC
7/74-8/76	Predocotrinal Fellowship N.C. Alcoholism Research Authority
7/77-1/79	NIAAA (AA05047) Postdoctoral Fellowship Award
9/87-8/92	NIAAA (AA00101) Research Scientist Development Award
9/90-6/94	NIAAA Study Section, Neurosci. and Behav. Subcom. (ALCB-2)
Adhoc review:	Biochem., Physiol., Med. Subcommittee ALCB-I (1990); small instrument grants (1991); Site visit Alcohol Center Grant review (1992, 1997, 1998, 2000); Member, Special Review Subcommittee of the Alcohol Biomedical Research Review Committee (SRCA/ZAAIEE, 1994, 1995, 1997, 1999); Adhoc reviewer DRG/NIH ZRG4ALTX-3 Clinical Science Study Section, (1996, 1997, 1998, 1999, 2000), Special emphasis panels ZAA1 CC 15, (2002); ZDA1 KXA-N 08, (2003, 2004); ZRG1 IFCN-A (2004, 2006); ZAA1 DD 70 (2006); ZAA1 HH 87 (2007).
Journal review:	Alcoholism Clinical & Experimental Research, Brain Research, Journal of Pharmacology & Experimental Therapeutics, British Journal of Pharmacology, Neuroscience Letters

## PROFESSIONAL SOCIETIES

American Society for Pharmacology & Experimental Therapeutics; International Society for Biomedical Research on Alcoholism; Research Society on Alcoholism; Texas A&M Chapter and Society for Neuroscience

## PUBLICATIONS (selected from 83 papers and 89 abstracts):

- Wang, H. and **Frye, G.D.** Binge-ethanol treatment alters maturation and pharmacological properties of postsynaptic GABAergic receptors in medial septum / diagonal band brain slices, SfN. Abstr. 37: in press, 2007.
- Griffith, W.H.\*, Wang, H., McDermott, A.N. Bizon, J.L. **Frye, G.D.** and Murchison, D. Changes in intracellular calcium homeostasis and synaptic transmission of basal forebrain neurons in behaviorally characterized middle-aged F344 rats, SfN. Abstr. 37: in press, 2007.
- Wang, H. and **Frye, G.D.** Binge-ethanol treatment alters the kinetic sensitivity of postsynaptic GABAergic receptors to neurosteroids in medial septum/diagonal band slices, SfN. Abstr. 36: 329.1, 2006.
- Frye, G.D.** and Wang, H. Acute ethanol treatment differentially alters GABAergic miniature postsynaptic currents in developing rat MS / DB neurons in brain slices, SfN. Abstr. 36: 329.2, 2006.
- DuBois, D.W., Trzeciakowski, J.R., Parrish, A.R., and **Frye, G.D.**, GABAergic miniature postsynaptic currents in septal neurons show differential allosteric sensitivity after binge-like ethanol exposure, Brain Res. 1089:101-115, 2006.
- Huang, L.Z., Hsiao, S.H., Trzeciakowski, J., **Frye, G.D.**, Winzer-Serhan, U.H., Chronic nicotine induces growth retardation in neonatal rat pups, Life Sciences, 78:1483-93, 2006.
- Mieckowski, A.N., Wang, H., **Frye, G.D.** and Griffith, W.H., Nicotine enhances and reduces synaptic transmission in rat basal forebrain neurons from brain slices and primary tissue culture, SfN Abstr. 35: 157.5, 2005.
- Hsiao, S.-H., DuBois, D.W., Miranda, R.C. and **Frye, G.D.**, Critically-timed binge ethanol exposure blunts GABA<sub>A</sub>R function in septal neurons developing in vivo, but not in vitro, Brain Res., 1008: 69-80, 2004.
- DuBois, D.W., Parrish, A.R., Trzeciakowski, J. and **Frye, G.D.**, 'Binge' ethanol exposure delays development of GABAergic miniature postsynaptic currents in septal neurons, Dev. Brain Res., 152:199-212, 2004.
- Mieckowski, A.N., DuBois, D.W., Griffith, W.H., and **Frye, G.D.**, Finasteride treatment of primary septal cultures partially attenuates the effects of 'binge' ethanol exposure on GABAergic miniature postsynaptic currents, SfN Abstr. 34: 913.8, 2004.
- DuBois, D.W. and **Frye, G.D.**, Prior 'binge' ethanol exposure delays postnatal development of GABAergic miniature postsynaptic currents in rat medial septum/diagonal band neurons in acutely cut brain slices, SfN Abstr. 34: 913.11, 2004.
- Hsiao, S.-H., and **Frye, G.D.**, AMPA receptors on developing medial septum/diagonal band neurons are sensitive to early postnatal binge-like ethanol exposure, Dev. Brain Res. 142: 89-99, 2003.
- Botting, S.K., **Frye, G.D.**, Pulido, M.D. and McCool, B.A., Effects of chronic alcohol ingestion on rat lateral/basolateral amygdala ligand-gated chloride channels, Ann. NY Acad. Sci. 985:479-480, 2003.
- Hsiao, S.-H. and **Frye, G.D.**, AMPA receptors on developing medial septum/diagonal band neurons are sensitive to early postnatal binge-like ethanol exposure, Dev. Brain Res. 142:89-99, 2003.
- McCool, B.A., **Frye, G.D.**, Pulido, M.D. and Botting, S.K., Effects of chronic ethanol consumption of rat GABA<sub>A</sub> and strychnine-sensitive glycine receptors expressed by lateral/basolateral amygdala neurons, Brain Res. 963: 165-177, 2003.
- Hsiao, S.-H., Parrish, A.R., Nahm, S.-S., Abbott, L.C., McCool, B.A. and **Frye, G.D.**, Effects of early postnatal ethanol intubation on GABAergic synaptic proteins, Dev. Brain Res. 138: 177-185, 2002.
- Hsiao, S.-H., Acevedo, J.L., Smith, K.R., West, J.R., and **Frye, G.D.**, Early postnatal ethanol intubation blunts GABA<sub>A</sub> receptor up-regulation and modifies 3 $\alpha$ -hydroxy-5 $\alpha$ -pregnan-20-one sensitivity in rat MS/DB neurons, Dev. Brain Res., 130:25-40, 2001.
- Frye, G.D.** and Fincher, A.S., sustained ethanol inhibition of native AMPA receptors on medial septum /diagonal band (MS/DB) neurons, Brit. J. Pharmacol., 129:87-94, 2000.

## Ongoing or Completed Projects:

NIH-NIMH (T32 MH65728) "Texas Consortium in Behavioral Neuroscience, P.I., Francisco Gonzalez-Lima, University of Texas, Austin; William Griffith, TAMU-HSC Subprogram Director; Gerald D. Frye, TAMU-HSC

Subprogram training faculty (one predoc - \$28,366 for TAMU-HSC, currently supporting an individual in William Griffith laboratory).

NIH-NIAAA (RO1AA12386) "CNS development, GABA<sub>A</sub>Rs and vulnerability to ethanol" G.D. Frye, P.I., 25% effort, William H. Griffith, Co-investigator, 5% effort; Rajesh Miranda, Co-Investigator, 5% effort; James R. West, Co-investigator, 5% effort; 3/1/99-2/28/04 total direct costs year 01-04 \$515,329 - includes a one year no cost extension.

*The goal of this study is to characterize ethanol-induced damage to GABA synaptic function in medial septum / diagonal band neurons and validate a septal neuron cell culture model as a tool to understand the mechanisms involved.*

Proposals Pending:

This proposal - NIH-NIAAA 5 R01 AA12386-05-08 A2, "CNS development, GABA<sub>A</sub>Rs and Vulnerability to Ethanol", G. Frye, P.I. 25% effort and J. Bizon Co-investigator, 10% (03/31/08-03/31/09), \$150,000 direct cost, estimated \$216,360 total cost yrs 05-08 (04/01/08-03/31/12), \$600,000 direct cost, estimated \$865,440 total cost.

*The goal of this study is to characterize ethanol-induced damage to GABA synaptic function in medial septum / diagonal band neurons and validate a septal neuron cell culture model as a tool to understand the mechanisms involved.*