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EDUCATION:

University of Nebraska at Lincoln Department of Psychology	Ph.D. Developmental Psychobiology	1994
University of Nebraska at Omaha Department of Psychology	M.S. Physiological Psychology	1991
Iowa State University Department of Psychology	B.S. Psychology	1989

ACADEMIC/RESEARCH APPOINTMENTS:

University of Kentucky Department of Psychology	University Research Professor	2014-present
University of Kentucky Neuroscience B.S. Program	Director	2014-present
University of Kentucky Department of Psychology	Professor	2010-2014
University of Kentucky Department of Psychology	Associate Professor	2005-2010
University of Kentucky Spinal Cord and Brain Injury Research Center	Associate Member	2005-current
University of Kentucky Department of Psychology	Assistant Professor	2002-2005
University of Kentucky Department of Psychology	Research Assistant Professor	1999-2001

University of Kentucky Department of Pharmacology;	Postdoctoral Scholar	1997-1999
Medical College of Georgia Department of Pharmacology and Toxicology; and Alzheimer's Research Center	Assistant Research Scientist	1996-1997
Medical College of Georgia Department of Pharmacology and Toxicology; Alzheimer's Research Center	Postdoctoral Fellow	1994-1996
University of Nebraska Medical Center Department of Psychiatry	Research Assistant	1991-1994
Creighton University Department of Psychology	Instructor	1992-1994
University of Nebraska at Omaha Department of Psychology	Instructor Teaching Assistant	1993-1994 1990-1991
University of Nebraska Medical Center Department of Pediatrics, Endocrine Section	Research Consultant	1991-1993

GRADUATE STUDENTS/POSTDOCTORAL FELLOWS

Meredith Saunders, B.S. (August 2018) Doctoral Dissertation: *Discovery of Natural Product Analogs Against Ethanol-Induced Cytotoxicity in Hippocampal Slice Cultures.*

Anna Reynolds, M.S. (May 2015) Doctoral Dissertation: ":*Gαq–Associated Signaling Promotes Neuroadaptation to Ethanol & Withdrawal-Associated Compromise of Neuronal Integrity in Hippocampus*".

Lynda Sharrett-Field, Ph.D (September 2013) Doctoral Dissertation: "*Characterizing Consumption, Dependence, and the role of Glucocorticoids in an Animal Model of Voluntary Ethanol Consumption"*

Jennifer Berry, Ph.D. (September 2013) Doctoral Dissertation: *"The Mesocorticolimbic Dopamine Pathway Reconstituted In Vitro: Glutamate Receptors and Corticosteroid-Methamphetamine Neurotoxicity"*.

Tracy R. Butler, Ph.D. (May 2011) Doctoral Dissertation: "*Effects of Corticosterone and Ethanol Co-Exposure on Hippocampal Toxicity: Potential Role for the NMDA NR2B subunit*"

Katherine Smith, Ph.D. (May 2009) Doctoral Dissertation: "*Novel Mechanisms of Ethanol Neurotoxicity: Dysfunction of Tubulin Polymerization and Microtubule-Associated Protein Immunoreactivity in Organotypic Hippocampal Slice Cultures*"

Rachel Self , Ph.D. (August, 2006) Doctoral Dissertation: "*Effects of HIV-1 Protein Tat & Binge Ethanol Administration on Rat Hippocampus In Vivo: NMDAr System Implications*"

Patrick Mulholland, Ph.D. (May, 2005) Doctoral Dissertation: "*Corticosterone Modulation of Ethanol- Associated Hippocampal Cytotoxicity*".

Barton Harris, Ph.D. Post-Doctoral Fellow (2003-2004).

Lincoln H. Wilkins, Jr., Ph.D. Post-Doctoral Fellow (2001-present).

RESEARCH FUNDING:

Awarded/Ongoing

NIH/DoD CDMRP (6/1/19-5/31/20) *Preclinical assessment of PT-150 for opioid disorder and PTSD*. Role: Co-Investigator for PASA consortium grant

T32AA027488 (8/1/19-7/30.15) *Interdisciplinary Training in Alcohol Research*. National Institute on Alcohol Abuse and Alcoholism. Role: Principal Investigator (MPI: M.T. Fillmore).

R25AA022823 (1/28/14-1/27/19) *Basic and Applied Summer Training in Alcohol Research*. National Institute on Alcohol Abuse and Alcoholism. Role: Principal Investigator.

T32DA07304 8/1/98-7/30/08
Research Training in Drug Abuse Behavior. National Institute on Drug Abuse. Role: Training Faculty (C.Rush)

T32DA016176 7/1/04-6/30/14
Training in Drug Abuse Related Research. National Institute on Drug Abuse. Role: Training Faculty (L. Dwoskin)

Completed

R01AA013388-04A2 (9/1/09-8/31/15)
Hippocampal neurotoxicity induced by ethanol withdrawal. National Institute on Alcohol Abuse and Alcoholism. Role: Principal Investigator.

UL1TR000117 (7/1/14-6/30/15) Drug discovery for cessation of comorbid alcohol+nicotine abuse. University of Kentucky Center for Clinical, Translational Science National Center for

Research Resources and the National Center for Advancing Translational Sciences. Role: Principal Investigator, Project 1.

2R56AA013388-04 (R56 NIH High Priority.Short-Term Project Award) 9/1/08-8/31/09
Hippocampal neurotoxicity induced by ethanol withdrawal. National Institute on Alcohol Abuse and Alcoholism. Role: Principal Investigator.

AA013561 (RO1). 2/10/04-1/31/09
Ethanol withdrawal and HIV-1 Neurotoxicity. National Institute on Alcohol Abuse and Alcoholism. Role: Principal Investigator.

ES012241 (RO1) 12/15/03-11/30/07
Cholinesterase Inhibitors, Axonal transport, and Memory. Role: Co- Investigator.
(A.V. Terry, University of Georgia).

AA018588 (F31) (9/01/09-8/31/11)
Adenosine Receptors and Ethanol Withdrawal. National Institute on Alcohol Abuse and Alcoholism. Role: Supervisor/Mentor (T. Butler).

AA015676 (F31) 3/01/05-2/28/07
HIV-1, alcohol, and corticosterone neurotoxicity.. National Research Service Award (pre-doctoral). National Institute on Alcohol Abuse and Alcoholism. Role: Supervisor/Mentor (R. Self).

AA013388 (RO1) 6/1/03-6/31/07
Ethanol withdrawal-induced hippocampal neurotoxicity. National Institute on Alcohol Abuse and Alcoholism. Role: Co-Investigator (J. Littleton, University of Kentucky).

AA014032 (R21) 8/1/03-7/31/06
Polyamines in neonatal alcohol neurotoxicity. National Institute on Alcohol Abuse and Alcoholism. Role: Co-Investigator (S. Barron, University of Kentucky).

AA015475 (R41) 9/28/04-8/31/05
Potential anti-relapse drugs: a plant genomics approach (STTR, phase 1). National Institute on Alcohol Abuse and Alcoholism. Role: Co-Investigator (J.M. Littleton)

AA014771 (F31) . 9/29/03-8/31/05
Ethanol withdrawal, stress, and polyamine neuroprotection. National Research Service Award (pre-doctoral). National Institute on Alcohol Abuse and Alcoholism. Role: Supervisor/Mentor (P. Mulholland).

1/1/01-1/31/04
Development of a novel in vitro model for the study of traumatic brain injury. Kentucky Spinal Cord and Head Injury Research Board. Role: Principal Investigator.

7/1/02-6/30/03
Tobacco alkaloids in the treatment of HIV-related brain damage. Kentucky Tobacco Research Board.Role: Principal Investigator

AA001274 (KO1) 8/1/99-6/30/02
Repeated ethanol withdrawal: neural degeneration and nicotine. Research Career Award.

National Institute of Alcohol Abuse and Alcoholism. Role:Principal Investigator

8/1/98-7/31/00
Organophosphorus Agent Pesticide Toxicity
Georgia Environmental Toxicology Consortium/Georgia Research Alliance (equipment grant). Role: Co-Investigator (Dale W.Sickles).

5/1/97-6/1/98
Effects of nicotinic receptor subtype stimulation on cognitive function and cholinergic gene expression. Biomedical Research Support Grant. Medical College of Georgia. Role: Principal Investigator

9/1/96-8/31/97
Animal testing of novel compounds for memory enhancement. Neuroscience Discovery, Abbott Laboratories. Chicago, Ill. Role: Co-Investigator (Jerry J. Buccafusco)

9/1/96-8/31/97
Evaluation of novel compounds in delayed matching-to-sample performance in aged rhesus monkeys. Salk Institute for Biotechnology and Industrial Associates. LaJolla, CA. Role: Co- Investigator (Jerry J. Buccafusco).

1994
Amphetamine-fluoxetine interactions in the mediation of feeding: role of the nucleus accumbens ($2,000.00). Nebraska Behavioral Biology Group, University of Nebraska

1991
Fluoxetine-induced akathisia in male rats ($2,500.00).Rhoden Biological Sciences Foundation. Omaha, NE.

PUBLICATIONS:

1. Yells DP, Hendricks SE, and **Prendergast MA** (1992). Lesions of the nucleus paragigantocellularis: effects on mating behavior in male rats. Brain Research, 596, 73-79.

2. Yells DP, **Prendergast MA**, Hendricks SE, and Nakamura M. (1994). Fluoxetine-induced inhibition of male rat copulatory behavior: modification by lesions of the nucleus paragigantocellularis. Pharmacology, Biochemistry, and Behavior, 49(1), 121-127.

3. Yells DP, **Prendergast MA**, Hendricks SE, and Miller ME (1995) Monoaminergic influences on temporal patterning of sexual behavior in male rats. Physiology and Behavior, 58(5), 847-852.

4. **Prendergast MA**, Gattu M, Zhang L, Buccafusco CJ, and Buccafusco JJ (1996) Identification of vesicular acetylcholine transporter mRNA in selected brain and peripheral tissues by RT-PCR. Alzheimer s Research, 2(6), 211-214.

5. **Prendergast MA**, Hendricks SE, Yells DP, and Balogh SE (1996) Conditioned taste aversion induced by fluoxetine. Physiology and Behavior, 60(1), 311-315.

6. Buccafusco JJ, **Prendergast MA**, Terry Jr. AV, and Jackson WJ (1996) Cognitive effects of nicotinic cholinergic receptor agonists in non-human primates. Drug Development Research, 38, 196-203.

7. Terry Jr. AV, Buccafusco JJ, **Prendergast MA**, Jackson WJ, Fontana DL, Wong EHF, Whiting RL, and Eglen RM (1996) The 5-HT3 receptor antagonist, RS-56812, enhances delayed matching performance in monkeys. Neuroreport, 8, 49-54.

8. **Prendergast MA**, Terry Jr. AV, Jackson WJ, Marsh KC, Decker MW, Arneric SP, and Buccafusco JJ (1997) Improvement in accuracy of delayed recall in aged and non-aged,

mature monkeys after intramuscular or transdermal administration of the CNS nicotinic receptor agonist ABT-418. Psychopharmacology, 130(3), 276-284.

9. **Prendergast MA**, Terry Jr. AV, and Buccafusco JJ (1997) Chronic, low-level exposure to diisopropylfluorophosphate causes protracted impairment of spatial navigation learning. Psychopharmacology, 129(2), 183-191.

10. **Prendergast MA**, Terry AV, Jackson WJ, and Buccafusco JJ (1997) Nitric oxide synthase inhibition impairs delayed recall in mature monkeys. Pharmacology, Biochemistry, and Behavior, 56(1), 81-87.

11. **Prendergast MA**, Buccafusco JJ, and Terry Jr. AV (1997) Nitric oxide synthase inhibition impairs spatial navigation learning and induces conditioned taste aversion. Pharmacology, Biochemistry, and Behavior, 57(1-2), 347-352.

12. Summers JB, **Prendergast MA**, Hill WD, and Buccafusco JJ (1997) Localization of ubiquitin in the plaques of five aged primates by dual-label fluorescent immunohistochemistry. Alzheimer's Research 3(1), 11-20.

13. Lin N-H, Gunn DE, Ryther KB, Garvey DS, Donnelly-Roberts DL, Decker MW, Brioni JD, Buckley MJ, Rodriques AD, Marsh KG, Anderson DJ, Buccafusco JJ, **Prendergast MA**, Sullivan JP, Williams M, Arneric SP, and Holladay MW (1997) Structure-activity studies on 2-methyl- 3-(2(s)- pyrrolidinylmethoxy)pyridine (ABT-089): an orally bioavailable 3-pyridyl ether nicotinic acetylcholine receptor ligand with cognition-enhancing properties. Journal of Medicinal Chemistry, 40, 385-390.

14. Decker MW, Bannon AW, Curzon P, Gunther KL, Brioni J, Holladay MW, Lin NH, Li Y, Daanen J, Buccafusco JJ, **Prendergast MA**, Jackson WJ, and Arneric SP (1997) ABT-089 [2-Methyl-3- (2-(s)- pyrrolidiniylmethoxy)pyridine dihydrochloride]: II. A novel cholinergic channel modulator with effects on cognitive performance in rats and monkeys. The Journal of Pharmacology and Experimental Therapeutics, 283(2), 247-258.

15. Briggs CA, Anderson DJ, Brioni JD, Buccafusco JJ, Buckley MW, Campbell JE, Decker M, Donnelly-Roberts D, Elliott RL, Gopalakrishnan M, Holladay Hui Y-H, Jackson WJ, Kim DJB, Marsh KC, Oneill A, **Prendergast MA**, Ryther KB, Sullivan JP, and Arneric SP (1997) Functional characterization of the novel nicotinic receptor ligand GTS-21 *in vivo* and *in vitro*. Pharmacology, Biochemistry, and Behavior, 57, 231-241.

16. Terry Jr. AV, Buccafusco JJ, Jackson WJ, **Prendergast MA**, Fontana DJ, Wong EHF, Bonhaus DW, Weller P, and Eglen RM (1998) Enhanced delayed matching performance in younger and older macaques administered the 5-HT4 receptor agonist, RS 17017. Psychopharmacology, 135(4), 416-422.

17. Summers JB, Hill WD, **Prendergast MA**, and Buccafusco JJ (1998) Co-localization of apolipoprotein E and beta-amyloid in plaques and cerebral blood vessels of aged non-human primates. Alzheimer's Reports, 1(2), 119-128.

18. **Prendergast MA**, Jackson WJ, Terry Jr. AV, Kille N, Arneric SP, and Buccafusco JJ (1998) Age- related differences in distractibility and response to methylphenidate in monkeys. Cerebral Cortex, 8(2), 164-172.

19. **Prendergast MA**, Jackson WJ, Terry Jr. AV, Decker MW, Arneric SP, and Buccafusco JJ (1998) Central nicotinic receptor agonists ABT-418, ABT-089, and (-)-nicotine reduce distractibility in young adult monkeys. Psychopharmacology, 136(1), 50-58.

20. **Prendergast MA**, Terry Jr. AV, and Buccafusco JJ (1998) Effects of chronic, low-level organophosphate exposure on delayed recall, discrimination, and spatial navigation in monkeys and rats. Neurotoxicology and Teratology, 20(2), 115-122.

21. **Prendergast MA** and Buccafusco JJ (1998) (-)-Nicotine increases mRNA encoding G3PDH and the vesicular acetylcholine transporter *in vivo*. Neuroreport, 9(7), 1385-1389.

22. Terry Jr. AV, Buccafusco JJ, and **Prendergast MA** (1999) . Dose-specific improvements in memory-related task performance by rats and aged monkeys administered the nicotinic- cholinergic antagonist mecamylamine. Drug Development Research, 47, 127-136.

23. Clarke MSF, **Prendergast MA**, and Terry Jr. AV (1999). Plasma membrane ordering agent PF- 68 reduces neurotransmitter uptake and release and produces learning and memory deficits in rats. Learning and Memory, 6(6), 634-649.

24. **Prendergast MA**, Harris BR, Mayer S, and Littleton JM (2000). Chronic, but not acute, nicotine exposure reduces ethanol withdrawal-induced hippocampal damage *in vitro.* Alcoholism: Clinical and Experimental Research, 24(10), 1583-1591.

25. Stone JD, Terry Jr. AV, Pauly JR, **Prendergast MA**, and Buccafusco JJ (2000). Protractive effects of chronic treatment with an acutely sub-toxic regimen of diisoproprylfluorophosphate on the expression of cholinergic receptor densities in rats. Brain Research, 882, 9-18.

26. **Prendergast MA**, Harris BR, Mayer S, Blanchard JA, Gibson DA, and Littleton JM (2000). *In vitro* effects of ethanol withdrawal and spermidine on viability of hippocampus from male and female rat. Alcoholism: Clinical and Experimental Research, 24(12), 1855-1861.

27. **Prendergast MA**, Harris BR, Mayer S, Holley RC, Pauly JR, and Littleton JM (2001). Nicotine exposure reduces *N*-methyl-D-aspartate toxicity in the hippocampus: relation to distribution of the α7 nicotinic acetylcholine receptor subunit. Medical Science Monitor, 7(6), 1153-1160.

28. **Prendergast MA**, Harris BR, Mayer S, Holley RC, Hauser KF, and Littleton JM (2001).

Chronic (-)-nicotine exposure reduces *N*-methyl-D-aspartate receptor-mediated damage in hippocampus without altering calcium accumulation or extrusion: evidence of calbindin-D 28K overexpression. Neuroscience, 102(1), 75-85.

29. Nath A, Hauser KF, Wojna V, Booze RM, Maragos W, **Prendergast M**, Cass W, and Turchan JT (2002). Molecular basis for interactions of HIV and drugs of abuse. Journal of Acquired Immune Deficiency Syndrome, 31, 62-69.

30. Mulholland PJ and **Prendergast MA** (2002). Post-insult exposure to (±)kavain potentiates *N*- methyl-D-aspartate toxicity in the developing rat hippocampus. Brain Research, 945, 106- 113.

31.

32. Mayer S, Harris BR, Gibson DA, Blanchard J, **Prendergast MA**, and Littleton JM (2002). Acamprosate has no effect on NMDA-induced toxicity but reduces toxicity induced by spermidine or by changing medium in organotypic hippocampal slice cultures from rat. Alcoholism Clinical and Experimental Research, 26(5), 655-661.

33. Mayer S, Harris BR, Gibson DA, Blanchard J, **Prendergast MA**, and Littleton JM (2002). Acamprosate, MK-801, and ifenprodil inhibit neurotoxicity and calcium entry induced by ethanol withdrawal in hippocampal slice cultures from neonatal rat. Alcoholism Clinical and Experimental Research, 26(10), 1468-1478.

34. **Prendergast MA**, Yells DP, Balogh SE, Paige SR, Hendricks SE (2002). Fluoxetine differentially suppresses sucrose solution consumption in free-fed and food-deprived rats-reversal by amantadine. Medical Science Monitor, 8(10), 385-390.

35. **Prendergast MA**, Rogers DT, Mulholland PJ, Self RL, Littleton JM, and Nath A. (2002). Neurotoxic effects of the human immunodeficiency virus type-1 transcription factor Tat require function of a polyamine-sensitive site on the *N*-methyl-D-aspartate receptor. Brain Research, 854, 300- 307.

36. **Prendergast MA**, Rogers DT, Barron S, Bardo MT, and Littleton JM (2002). Ethanol and nicotine: a pharmacologic balancing act ? Alcoholism Clinical and Experimental Research, 26(12), 1917-1918.

37. Harris BR, **Prendergast MA**, Gibson DA, Rogers DT, Blanchard JA, Holley RC, Fu M, Hart SR, Pedigo NW, and Littleton JM (2002). Acamprosate inhibits the binding and neurotoxic effects of trans-ACPD, suggesting a novel site of action at metabotropic glutamate receptors. Alcoholism Clinical and Experimental Research, 26(12), 1779-1793.

38. Terry Jr., AV, Stone JD, Buccafusco JJ, Sickles DW, Sood A, and **Prendergast MA** (2003). Repeated exposures to subthreshold doses of chlorpyrifos in rats: hippocampal damage, impaired axonal transport, and deficits in spatial learning. Journal of Pharmacology and Experimental Therapeutics, 305(1), 375-384.

39. Mulholland PJ and **Prendergast MA** (2003). Transection of intrinsic polysynaptic pathways reduces N-methyl-D-aspartate neurotoxicity in hippocampal slice cultures. Neuroscience Research, 46(3), 369-376.

40. Gibson DA, Harris BR, **Prendergast MA**, Hart SR, Blanchard JA, Holley RC, Littleton JM. (2003). Polyamines contribute to ethanol withdrawal-induced neurotoxicity in

rat hippocampal slice cultures. Alcoholism Clinical and Experimental Research, 27(7), 1099-1106.

41. Bain JN, **Prendergast MA**, Terry AV Jr, Arneric SP, Smith MA, and Buccafusco JJ (2003). Enhanced attention in rhesus monkeys as a common factor for the cognitive effects of drugs with abuse potential. Psychopharmacology, 169, 150-160.

42. Harris BR, Gibson DA, **Prendergast MA**, Blanchard JA, Holley RC, Hart SR, Scotland RL, Foster TC, Pedigo NW, and Littleton JM (2003). The neurotoxicity induced by ethanol withdrawal in mature organotypic hippocampal slices might involve cross-talk between mGluR5s and NMDARs. Alcoholism Clinical and Experimental Research, 27(11):1724-1735.

43. Mulholland PJ, Harris BR, Wilkins Jr. LH, Self RL, Blanchard II JA, Holley RC, Littleton JM, and **Prendergast MA** (2003). Opposing effects of ethanol and nicotine on hippocampal calbindin-
D 28K expression. Alcohol, 31(1-2), 1-10.

44. Kelly TH, Stoops WW, Perry AS, **Prendergast MA**, and Rush CR (2003). Clinical neuropharmacology of drugs of abuse: a methodological review. Behavioral and Cognitive Neuroscience Reviews, 2(4), 227-260.

45. Self RL, Mulholland PJ, Nath A, Harris BR, and **Prendergast MA** (2004). The Human Immunodeficiency virus type-1 transcription factor tat produces elevations in intracellular Ca2+ that require function of an N-methyl-D-aspartate receptor polyamine sensitive-site. Brain Research, 995(1), 39-45.

46. **Prendergast MA**, Harris BR, Mulholland PJ, Blanchard II JA, Gibson DA, Holley RC, and Littleton JM (2004). Hippocampal CA1 region neurodegeneration produced by ethanol withdrawal requires activation of intrinsic polysynaptic hippocampal pathways and function of *N*-methyl-D- asparate receptors. Neuroscience, 124(4): 869-877.

47. Mulholland PJ, Self RL, Harris BR, Littleton JM, and **Prendergast MA** (2004). (-)Nicotine ameliorates corticosterone's potentiation of N-methyl-D-aspartate receptor-mediated CA1 toxicity. Neuroscience, 125(3), 671-682.

48. **Prendergast MA** (2004). Do women possess a unique susceptibility to the neurotoxic effects of alcohol ? Journal of the American Medical Womens Associaton, 59(3), 225-227.

49. Mulholland PJ, Self RL, Harris BR, Littleton JM , **Prendergast MA** (2004). Choline exposure reduces potentiation of *N*-methyl-D-asparate toxicity by corticosterone in the developing hippocampus. Developmental Brain Research. 153(2), 203-211.

50. Self RL, Mulholland PJ, Harris BR, Nath A, and **Prendergast MA** (2004). Cytotoxic effects of exposure to the human immunodeficiency virus type-1 protein tat in the hippocampus are enhanced by prior ethanol treatment. Alcoholism Clinical and Experimental Research. 28(12), 1916-1024.

51. Mulholland PJ, Self RL, Harris BR, Little HJ, Littleton JM, and **Prendergast MA**

(2005). Corticosterone increases damage and cytosolic calcium accumulation associated with ethanol withdrawal in rat hippocampal slice cultures. Alcoholism Clinical and Experimental Research, 29(5), 871-881.

52. Mulholland PJ, Self RL, Stepanyan TD, Little HJ, Littleton JM, and **Prendergast MA** (2005). Thiamine deficiency in the pathogenesis of chronic ethanol-associated cerebellar damage in vitro. Neuroscience, 135(4), 1129-1139

53. Mulholland PJ, Stepanyan TD, Self RL, Hensley AK, Harris BR, Kowalski A, Littleton JM, and **Prendergast MA** (2005) Corticosterone and dexamethasone potentiate cytotoxicity associated with oxygen-glucose deprivation in organotypic cerebellar slice cultures. Neuroscience, 136, 259-267.

54. Self RL, Smith KJ, Mulholland PJ, **Prendergast MA** (2005). Ethanol exposure and withdrawal sensitizes the rat hippocampal CA1 pyramidal cell region to beta-amyloid (25-35)-induced cytotoxicity: NMDA receptor involvement. Alcoholism Clinical and Experimental Research; 29(11):2063-2069.

55. Mulholland PJ, Self RL, Hensley AK, Little HJ, Littleton JM, **Prendergast MA** (2006). A 24 h corticosterone exposure exacerbates excitotoxic insult in rat hippocampal slice cultures independently of glucocorticoid receptor activation or protein synthesis. Brain Research, 1082:165-172.

56. Wilkins Jr, LH, **Prendergast MA**, Blanchard JA, Holley RC, Chambers ER, Littleton JM (2006). Potential value of changes in cell markers in organotypic hippocampal cultures associated with chronic EtOH exposure and withdrawal: comparison with NMDA-induced changes. Alcoholism Clinical and Experimental Research, 30: 1768-1780.

57. Gearhart DA, Sickles DW, Buccafusco JJ, **Prendergast MA**, Terry AV (2007). Chlorpyrifos, chlorpyrifos oxon, and diisopropylfluorophosphate inhibit kinesin-dependent microtubule motility. Toxicology and Applied Pharmacology, 218: 20-29.

58. **Prendergast MA**, Little HJ (2007). Adolescence, glucocorticoids and alcohol. Pharmacology, Biochemistry, and Behavior, 86: 234-245.

59. **Prendergast MA**, Self RL, Smith KJ, Ghayoumi L, Mullins MM, Butler TR, Buccafusco JJ, Gearhart DA, Terry Jr AV (2007). Microtubule-associated targets in chlorpyrifos oxon hippocampal neurotoxicity. Neuroscience, 146: 330-339.

60. Buccafusco JJ, Powers JC, **Prendergast MA**, Terry Jr. AV, Jonnala RR (2007). MHP-133, a drug with multiple CNS targets: potential for enhanced cognition, neuroprotection, and analgesia. Neurochemical Research, 32:1224-1237.

61. Littleton JM, Barron S, **Prendergast MA**, Nixon SJ (2007) Smoking kills (alcoholics) ! Shouldn't we do something about it ? Alcohol and Alcoholism, 42(3): 167-173.

62. Smith KJ, Self RL, Butler TR, Mullins MM, Ghayoumi L, Holley RC, Littleton JM, **Prendergast MA** (2007). Methamphetamine exposure antagonizes *N*-methyl-D-aspartate receptor-mediated neurotoxicity in organotypic hippocampal slice cultures. Brain Research,

1157: 74-80.

63. Terry AV, Gearhart DA, Beck WD, Truan JN, **Prendergast MA**, Buccafusco JJ (2007). Chronic, intermittent exposure to chlorpyrifos in rats: Protracted effects on axonal transport, neurotrophin receptors, cholinergic markers, and information processing. Journal of Pharmacology and Experimental Therapeutics, 322(3): 1117-1128.

64. Smith KJ, Butler TR, Self RL, Braden BB, **Prendergast MA** (2008). Potentiation of *N*-methyl- D- asparate receptor-mediated neuronal injury during methamphetamine withdrawal in vitro requires co- activation of IP3 receptors. Brain Research, 1187: 67-73.

65. Barron S, Mulholland PJ, Littleton JM, **Prendergast MA** (2008). Age and gender differences in response to neonatal ethanol withdrawal and polyamine challenge in organotypic hippocampal cultures. Alcoholism Clinical and Experimental Research. 32(6), 929-936.

66. Butler TR, Smith KJ, Self RL, Braden BB, **Prendergast MA** (2008). Sex differences in neurotoxic effects of adenosine A1 receptor antagonism during ethanol withdrawal in vitro: reversal with co- exposure to an A1 receptor agonist or and NMDA receptor antagonist. Alcoholism Clinical and Experimental Research, 32(7), 1260-1270.

67. Jacquot C, Croft AP, Wang G, Mulholland PJ, **Prendergast MA**, Shaw SG, Little HJ (2008) Effects of the glucocorticoid antagonist, mifepristone on the consequences of withdrawal from long term alcohol consumption. Alcoholism Clinical and Experimental Research, 32(12), 1- 10.

68. Devaud LL and **Prendergast MA** (2009). Introduction to the special issue of alcohol and alcoholism on sex/gender differences in responses to alcohol. Alcohol ,44(6), 533-534.

69. Butler TR, Smith KJ, Berry JN, Sharrett-Field LJ, **Prendergast MA** (2009) Sex differences in caffeine neurotoxicity following chronic ethanol exposure and withdrawal. (Special Issue entitled "*Gender/sex differences in behavioral and brain responses to alcohol: intersections of basic and clinical finding."*, Guest Edited by MA Prendergast and LL Devaud), Alcohol and Alcoholism, 44(6), 567-574.

69. Self RL, Smith KJ, Butler TR, Pauly JR, **Prendergast MA** (2009). Intra-cornu ammonis 1 administration of the human immunodeficiency virus-1 transcription factor Tat exacerbates the ethanol withdrawal syndrome in rodents and activates *N*-methyl-D-aspartate glutamate receptors to produce persisting spatial learning deficits. Neuroscience, 163, 868-876.

70. Butler TR, Self RL, Smith KJ, Sharrett-Field LJ, Berry JN, Littleton JM, Pauly JR, Mulholland PJ, **Prendergast MA** (2010). Selective vulnerability of hippocampal cornu ammonis 1 pyramidal cells to excitotoxic insult is associated with the expression of polyamine-sensitive *N*-methyl-D- asparate-type glutamate receptors. Neuroscience, 165(2):525-34.

71. Smith KJ, Butler TR, **Prendergast MA** (2010). Inhibition of sigma 1 receptor reduces

N- methyl- D-aspartate induced neuronal injury in methamphetamine-exposed and -naive hippocampi. Neuroscience Letters 481(3): 144-148.

72. Rose A, Shaw S, **Prendergast MA**, Little HJ (2010). The importance of glucocorticoids in alcohol dependence and neurotoxicity. Alcoholism: Clinical and Experimental Research, 34(12): 2011-2018.

73. Butler TR, Smith KJ, Self RL, Braden BB, **Prendergast MA** (2011). Neurodegenerative effects of recombinant HIV-1 Tat(1-86) are associated with inhibition of microtubule formation and oxidative stress-related reductions in microtubule-associated protein-2(a,b). Neurochemical Research, 36(5): 819-828.

74. Butler TR and **Prendergast MA** (2012). Neuroadaptations in adenosine receptor signaling following long-term ethanol exposure and withdrawal. Alcoholism: Clinical and Experimental Research, 36(1): 4-13.

75. Stairs DJ, **Prendergast MA**, Bardo MT (2012). Environmental-induced differences in corticosterone and glucocorticoid receptor blockade of amphetamine self-administration in rats. Psychopharmacology, 218(1): 293-301.

76. **Prendergast MA** and Mulholland PJ (2012) Glucocorticoid and polyamine interactions in the plasticity of glutamatergic synapses that contribute to ethanol-associated dependence and neuronal injury. Addiction Biology, 17:209-223.

77. Rahman S and **Prendergast MA** (2012). Cholinergic receptor system as a target for treating alcohol dependence. Recent Patents on CNS Drug Discovery, 7:145-150.

78. Berry JN, Sharrett-Field LJ, Butler TR, and **Prendergast MA** (2012). Temporal dependence of cysteine protease activation following excitotoxic hippocampal injury. Neuroscience, 222:147- 58.

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BOOK CHAPTERS

1. Buccafusco JJ, Zhang LC, and **Prendergast MA** Estimation of mRNAs encoding the cholinergic muscarinic receptor and acetylcholine vesicular transport proteins involved in central cardiovascular regulation. In R. Lydic (Ed.), Molecular Regulation of Arousal States. CRC Press: Boca Raton: p. 11- 22, 1997.

2. **Prendergast MA** Assessment of Distractibility in Non-Human Primates Performing a Delayed Matching Task. In J.J. Buccafusco (Ed.), Behavioral Methods in Neuroscience.

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PRESENTATIONS:

Corticosteroid-Glutamate Interactions in Ethanol Dependence and Withdrawal . Loyola University Stritch School of Medicine, Department of Molecular Pharmacology and Therapeutics, Chicago, Ill. (2012).

Bombs, Bugs and Brains: Environmental Medicine and Pesticides. Utah Valley University, College of Social Sciences and Humanities invited lecture, Orem, Utah (2009).

Glucocrticoids and alcohol in hippocampal neurotoxicity (symposium presentation). Research Society on Alcoholism, Washington, D.C. (2008). Symposium: *The Importance of Glucocortioids and Stress in Alcoholism* (Chair/Organizer: Hilary Little).

Sex differences and similarities in response to NMDA receptor modulators during alcohol withdrawal in vitro (symposium presentation). Research Society on Alcoholism, Chicago, IL (2007). Symposium: *Why Gender Matters in Alcohol Responses: From Bench to Bedside* (Chairs/Organizers: M.A. Prendergast, L. Devaud)

Ethanol withdrawal and HIV-1 protein effects on neurotoxicity and working memory. Department of Pharmaceutical Sciences, Idaho State University, November 10, 2006.

Alcohol-corticosteroid interactions in hippocampal injury. The Pharmacology, Biochemistry and Behavior Conference Seventh Meeting, Morzine, Haute-Savoie, France: ADOLESCENCE: ALCOHOL, DRUGS AND MENTAL DISORDERS, 8-14 January 2006

Role of the NMDA receptor in alcohol and HIV-1-associated hippocampal injury. Department of Pharmacology and Toxicology, Medical College of Georgia, December 2, 2004.

NMDA receptor polyamine site modulation of ethanol withdrawal and HIV-1 neurotoxicity.

University of Cincinnati, College of Pharmacy, April 16, 2004.

Interactions of nicotinic and glutamatergic receptor systems in hippocampal viability. 8th

Annual Duke Nicotine Symposium. October 30, 2002, Raleigh-Durham, North Carolina.

Interactions of ethanol and nicotine: a pharmacologic balancing act ? NIAAA Workshop, Alcohol and Tobacco: Mechanisms and Treatment. May 6-7, 2002, Bethesda, Maryland.

Ethanol exposure and withdrawal promotes function of an NMDA receptor polyamine-sensitive site. University of Kentucky, College of Pharmacy March 19, 2002

Acamprosate as a modulator of the NMDA receptor. The 6th Campral Symposium. September 14-16, 2001, Trieste, Italy.

Ethanol withdrawal-induced neurotoxicity in the developing hippocampus. Fetal Alcohol Syndrome Study Group, The Research Society on Alcoholism. June 23, 2001, Montreal, Quebec, Canada.

New perspectives in the treatment of dependence. The Society for the Study of Addiction. November 2-3, 2000, Leeds, England. *Mechanisms of action and pharmacology of acamprosate: new insights on*

neuroprotective effects. The 5th Campral Symposium. November 16-19, 2000, Seville, Spain.

Alcohol and nicotine in psychology: from culture to cognition. Department of Psychology, University of Nebraska at Omaha, Evan Brown Memorial Lecture. May 16, 2000, Omaha, NE.

Alcohol withdrawal neurotoxicity in hippocampal cultures: can it be (a) measured, (b) kindled, and (c) prevented ? National Institute on Alcohol Abuse and Alcoholism Workshop on the Role of Kindling in Alcohol Withdrawal and Neurotoxicity. April 3-5, 2000, Bethesda, MD.

Cognitive and reproductive consequences of protracted organophosphate exposure: relevance to Gulf War Illness. Annual Conference of the American Psychological Association. August 14-19, 1997, Chicago, Ill.

Chronic, low-level organophosphate exposure: impaired cognition and related symptoms in experimental animals. Western Conference and Medical Symposium of the Rocky Mountains Gulf War Veterans Association. March 16-17, 1996, Denver, Co.

SERVICE/REVIEW ACTIVITIES:

Service Activites:
University of Kentucky Institutational Animal Care and Use Committee 2010-
Member, Research Society on Alcoholism National Membership Committee 2003-2005 Treasurer, University of Kentucky Society for Neuroscience Chapter
Membership Coordinator, University of Kentucky Society for Neuroscience Chapter (2005)

Full Member:
Research Society on Alcoholism
Society for Neuroscience
Society on Neuroimmune Pharmacology

Grant Review:

National Institute on Alcohol Abuse and Alcoholism,
ZRG1 IFCN-A (58) R - RFA OD-09-003: Challenge Grants Panel 8 - June 2009

ZAA1 CC (03) R - The Effects of Alcohol on Glial Cells (RFA-AA-09-003/004) - June 2009

Neurotoxicity and Alcohol Study Section
Regular Member: October 2010-2014.

Ad hoc reviewer
February 2009
February 2008
October 2006
February 2006
October 2005

Biomedical Research Review Subcommittee (AA1)
Ad hoc reviewer
October 2007
June 2007
February 2007
October 2006

Biomedical Research Review Subcommittee (ZAA-1) Ad hoc reviewer
May 2007

Special Emphasis Panel/Scientific Review Group 08
ZAA1 CC (03) Ad hoc reviewer
July 2008

Special Emphasis Panel/Scientific Review Group 2007/08
ZAA1 CC (15) Ad hoc reviewer
June 2007

Medical Research Council (United Kingdom) Ad hoc reviewer
September 2007