



JOHNS HOPKINS
M E D I C I N E

CURRICULUM VITAE
GEORGE A. RICAURTE, M. D., PH. D.

CURRENT APPOINTMENTS

Department of Neurology
Johns Hopkins University School of Medicine
Johns Hopkins Bayview Medical Center

PERSONAL DATA

Office Address: 5501 Hopkins Bayview Circle
Department of Neurology
Johns Hopkins Bayview Medical Center
Baltimore, MD 21224
Tel: (410) 550-0993
Fax: (410) 550-2005
E-mail: Ricaurte@jhmi.edu

EDUCATION

1971-1974	B. S.	Georgetown University
1974-1981	M. D.	Northwestern University Medical School
1976-1979	Ph. D.	University of Chicago (Pharmacology)
1981-1983	Fellow	University of Chicago (Pathobiology)

CLINICAL TRAINING

1983 - 1984	Intern	Northwestern University Medical Center
1984 - 1987	Resident	Stanford University Medical Center
1987 - 1988	Fellow	Parkinson's Institute

PROFESSIONAL EXPERIENCE

1988 - present	Department of Neurology Johns Hopkins Bayview Medical Center Johns Hopkins University School of Medicine
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RESEARCH ACTIVITIES

Publications

Peer-reviewed original research articles:

1. Ricaurte GA, Schuster CR, Seiden LS: Long-term effects of repeated methylamphetamine administration on dopamine and serotonin neurons in the rat brain: A regional study. *Brain Res* 193: 153-160, 1980.
2. Wagner GC, Ricaurte GA, Johanson CE, Schuster CR, Seiden LS: Amphetamine induces depletion of dopamine and loss of dopamine uptake sites in the caudate. *Neurology* 30: 547-550, 1980.
3. Wagner GC, Ricaurte GA, Seiden LS, Schuster CR, Miller RJ, Westley J: Long-lasting depletion of striatal dopamine and loss of dopamine uptake sites following repeated administration of methamphetamine. *Brain Res* 181: 151-160, 1980.
4. Ricaurte GA, Guillery RW, Seiden LS, Schuster CR, Moore RY: Dopamine nerve terminal degeneration produced by high doses of methylamphetamine in the rat brain. *Brain Res* 235: 93-103, 1982.
5. Wagner GC, Preston KL, Ricaurte GA, Schuster CR, Seiden LS: Neurochemical similarities between d,l-cathinone and d-amphetamine. *Drug and Alcohol Depend* 9 (4): 279-284, 1982.
6. Finnegan, KT, Ricaurte, GA, Seiden,LS, Schuster, CR: Altered sensitivity to d-methylamphetamine, apomorphine, and haloperidol in rhesus monkeys depleted of caudate dopamine by repeated administration of d-methylamphetamine. *Psychopharmacology* 77: 43-52, 1982.
7. Ricaurte GA, Seiden LS, Schuster CR: Increased dopamine metabolism in the rat neostriatum after toxic doses of methylamphetamine. *Neuropharmacology* 22: 1383-1388, 1983.
8. Ricaurte GA, Fuller RW, Perry KW, Seiden LS, Schuster CR: Fluoxetine increases long-lasting neostriatal dopamine depletion after administration of d-methamphetamine and d-amphetamine. *Neuropharmacology* 22: 1165-1169, 1983.
9. Ricaurte GA, Guillery RW, Seiden LS, Schuster CR: Nerve terminal degeneration after a single injection of d-amphetamine in iprindole-treated rats: Relation to selective long-lasting dopamine depletion. *Brain Res* 291: 378-382, 1984.
10. Ricaurte GA, Bryan G, Strauss L, Seiden LS, Schuster CR: Hallucinogenic amphetamine selectively destroys brain serotonin nerve terminals. *Science* 229: 986-988, 1985.

11. Ricaurte GA, Seiden LS, Schuster CR: Further evidence that amphetamines produce long-lasting dopamine neurochemical deficits by destroying dopamine nerve fibers. *Brain Res* 303: 359-364, 1984.
12. Ricaurte GA, Langston JW, DeLanney LE, Irwin I, Brooks JD: Dopamine uptake blockers protect against the dopamine depleting effect of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) in the mouse striatum. *Neuroscience Lett* 59: 259-264, 1985.
13. Peroutka SJ, DeLanney LE, Irwin I, Ison P, Ricaurte G, Schlegel J, Langston JW: 1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)-induced dopamine D-2 receptor hypersensitivity in the mouse is transient. *Res Commun Chem Path Pharm* 48 (2): 163-171, 1985.
14. Ricaurte GA, Langston JW, DeLanney LE, Irwin I, Peroutka SJ, Forno LS: Fate of nigrostriatal neurons in young mature mice given 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP): A neurochemical and morphological reassessment. *Brain Res* 376: 117-124, 1986.
15. Forno LS, Langston JW, DeLanney LE, Irwin I, Ricaurte GA: Locus ceruleus lesions and eosinophilic inclusions in MPTP-treated monkeys. *Ann Neurol* 20 (4): 449-455, 1986.
16. Waxman SG, Ricaurte GA, Tucker SB: Thalamic hemorrhage with neglect and memory disorder. *J Neurol Sci* 75: 105-112, 1986.
17. Ricaurte GA, DeLanney LE, Irwin I, Langston JW: Older dopaminergic neurons do not recover from the effects of MPTP. *Neuropharmacology* 26 (1): 97-99, 1987.
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19. Weinrich M, Ricaurte GA, Kowall J, Weinstein SL, Lane B: Subcortical aphasia revisited. *Aphasiology* 1 (2): 119-126, 1987.
20. Wang SS, Ricaurte GA, Peroutka SJ: 3,4-Methylenedioxymethamphetamine (MDMA) interactions with brain membranes and glass fiber filter paper. *Eur J Pharmacol* 138: 439-443, 1987.
21. Ricaurte GA, Finnegan KF, Nichols DE, DeLanney LE, Irwin I, Langston JW: 3,4-Methylenedioxyethylamphetamine (MDE), a novel analogue of MDMA, produces long-lasting depletion of serotonin in the rat brain. *Eur J Pharmacol* 137: 265-268, 1987.
22. Finnegan KT, Irwin I, DeLanney LE, Ricaurte GA, Langston JW: 1,2,3,6-Tetrahydro-1-methyl-4-(methylpyrrol-2-yl)pyridine: Studies on the mechanism of action of MPTP. *J Pharmacol Exp Ther* 242 (3): 1144-1151, 1987.

23. Finnegan KT, Ricaurte GA, Ritchie LD, Irwin I, Peroutka SJ, Langston JW: Orally administered MDMA causes a long-term depletion of serotonin in rat brain. *Brain Res* 447: 141-144, 1988.
24. Ricaurte GA, DeLanney LE, Finnegan KT, Irwin I, Langston JW: The dopamine-depleting effect of 6-hydroxydopamine does not increase with aging. *Brain Res* 438: 395-398, 1988.
25. Irwin I, Ricaurte GA, DeLanney LE, Langston JW: The sensitivity of nigrostriatal dopamine neurons to MPP⁺ does not increase with age. *Neuroscience Lett* 87: 51-56, 1988.
26. Ricaurte GA, Forno LS, Wilson MA, DeLanney LE, Irwin I, Molliver ME, Langston JW: (±)3,4-Methylenedioxymethamphetamine (MDMA) selectively damages central serotonergic neurons in nonhuman primates. *JAMA* 260 (1): 51-55, 1988.
27. Ricaurte GA, DeLanney LE, Irwin I, Langston JW: Toxic effects of MDMA on central serotonergic neurons in the primate: Importance of route and frequency of drug administration. *Brain Res* 446: 165-168, 1988.
28. Ricaurte GA, DeLanney LE, Wiener SG, Irwin I, Langston JW: 5-Hydroxyindoleacetic acid in cerebrospinal fluid reflects serotonergic damage induced by 3,4-methylenedioxymethamphetamine in CNS of nonhuman primates. *Brain Res* 474: 359-363, 1988.
29. Wilson MA, Ricaurte GA, Molliver ME: Distinct morphologic classes of serotonergic axons in primates exhibit differential vulnerability to the psychotropic drug 3,4-methylenedioxymethamphetamine. *Neuroscience* 28 (1): 121-137, 1989.
30. Woolverton WL, Ricaurte GA, Forno LS, Seiden LS: Long-term effects of chronic methamphetamine administration in rhesus monkeys. *Brain Res* 486: 73-78, 1989.
31. Finnegan KT, DeLanney LE, Irwin I, Ricaurte GA, Langston JW: The amine-depleting effects of 5,7-dihydroxytryptamine (5,7-DHT) in C57BL/6 mice do not increase with age. *Brain Res* 496: 251-256, 1989.
32. Ricaurte GA, DeLanney LE, Irwin I, Langston JW: Evaluation of the neurotoxic potential of *N,N*-dimethylamphetamine: An illicit analog of methamphetamine. *Brain Res* 490: 301-306, 1989.
33. Price LH, Ricaurte GA, Krystal JH, Heninger GR: Neuroendocrine and mood responses to intravenous L-Tryptophan in 3,4-methylenedioxymethamphetamine (MDMA) users. *Arch Gen Psychiatry* 46: 20-22, 1989.

34. Witkin JM, Ricaurte GA, Katz JL: Behavioral effects of N-methylamphetamine and N,N-dimethylamphetamine (N,N-DMA) in rats and squirrel monkeys. *J Pharmacol Exp Ther* 253 (2): 466-474, 1990.
35. Simon LT, Ricaurte GA, Forno LS: Chronic idiopathic ataxic neuropathy: Neuropathology of a case. *Acta Neuropathologica* 79:104-107, 1989.
36. Katz JL, Ricaurte GA, Witkin JM: Reinforcing effects of enantiomers of N,N-dimethylamphetamine in squirrel monkeys. *Psychopharmacology* 107: 315-318, 1992.
37. Segal IS, Walton JK, Irwin I, DeLanney LE, Ricaurte GA, Langston JW, Maze M: Modulating role of dopamine on anesthetic requirements. *Eur J Pharmacol* 186: 9-15, 1990.
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39. Scheffel U, Ricaurte GA: Paroxetine as an *in vivo* indicator of MDMA neurotoxicity: A presynaptic serotonergic PET ligand? *Brain Res* 527: 89-95, 1990.
40. McCann UD, Ricaurte GA: Major metabolites of (\pm)3,4-methylenedioxyamphetamine (MDA) do not mediate its toxic effects on brain serotonin neurons. *Brain Res* 545: 279-282, 1991.
41. Dornan WA, Katz JL, Ricaurte GA: Effects of repeated administration of MDMA on the expression of sexual behavior in the male rat. *Pharmacol Biochem and Behav* 39: 813-816, 1991.
42. McCann UD, Ricaurte GA: Lasting neuropsychiatric sequelae of (\pm)methylenedioxy-methamphetamine ("Ecstasy") in recreational users. *J Clin Psychopharm* 11 (5): 302-305, 1991.
43. Ricaurte GA, Molliver ME, Martello MB, Katz JL, Wilson MA, Martello AL: Dexfenfluramine neurotoxicity in brains of nonhuman primates. *Lancet* 338: 1487-1488, 1991.
44. Zhao Z, Castagnoli N, Ricaurte GA, Steele T, Martello MB: Synthesis and neurotoxicological evaluation of putative metabolites of the serotonergic neurotoxin, 2-(methylamino)-1-[3,4-(methylenedioxy)phenyl]propane [(methylenedioxy)methamphetamine]. *Chem Res Toxicol* 5 (1): 89-94, 1992.
45. Krystal JH, Price LH, Opsahl C, Ricaurte GA, Heninger GR: Chronic 3,4-methylenedioxymethamphetamine (MDMA) use: Effects on mood and neuropsychological function? *Amer J Drug Alcohol Abuse* 18 (3): 331-341, 1992.

46. Ricaurte GA, Molliver ME, Martello MB, Katz JL, Wilson MA, Martello AL: Dexfenfluramine and Neurotoxicity: Reply (letter). *Lancet* 339: 360-361, 1992.
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48. Shaya EK, Scheffel U, Dannals RF, Ricaurte GA, Carroll FI, Wagner HN Jr., Kuhar MJ, Wong DF: *In vivo* imaging of dopamine reuptake sites in the primate brain using single photon emission computed tomography (SPECT) and iodine-123 labeled RTI-55. *Synapse* 10: 169-172, 1992.
49. Scheffel U, Dannals RF, Cline EJ, Ricaurte GA, Carroll FI, Abraham P, Lewin AH, Kuhar MJ: [$^{123/125}$ I]RTI-55, an *in vivo* label for the serotonin transporter. *Synapse* 11: 134-139, 1992.
50. Scheffel U, Lever JR, Stathis M, Ricaurte GA: Repeated administration of MDMA causes transient down-regulation of 5-HT₂ receptors. *Neuropharmacology* 31: 881-893, 1992.
51. Scanzello CR, Hatzidimitriou G, Martello AL, Katz JL, Ricaurte GA: Serotonergic recovery after (\pm)3,4-(Methylenedioxy) methamphetamine injury: Observations in rats. *J Pharmacol Exp Ther* 264: 1484-1491, 1993.
52. McCann UD, Ricaurte GA: MDMA ("Ecstasy") and panic disorder: Induction by a single dose. *Biol Psychiatry* 32(10): 950-953, 1992.
53. Suehiro M, Scheffel U, Dannals RF, Ravert HT, Ricaurte GA, Wagner HN: A PET radiotracer for studying serotonin uptake sites:[11 C]McN-5652Z. *J Nuclear Medicine* 34(1): 120-127, 1993.
54. McCann UD, Ricaurte GA: Reinforcing subjective effects of (\pm 3,4)-methylenedioxy-methamphetamine ("Ecstasy") may be separable from its neurotoxic actions: Clinical evidence. *J Clin Psychopharmacol* 13(3): 214-217, 1993.
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57. Allen RP, McCann UD, Ricaurte GA: Persistent effects of (\pm) 3,4-methylenedioxymethamphetamine (MDMA, "Ecstasy") on human sleep. *Sleep* 16(6): 560-564, 1993.
58. Ricaurte GA, Markowska AL, Wenk GL, Hatzidimitriou G, Wlos J, Olton DS: 3,4-Methylenedioxymethamphetamine, serotonin, and memory. *J Pharmacol Exp Ther* 266(2): 1097-1105, 1993.
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63. Szabo Z, Kao PF, Scheffel U, Suehiro M, Mathews WB, Ravert HT, Musachio JL, Marenco S, Kim SE, Ricaurte GA, Wong DF, Wagner HN, Dannals RF: Positron emission tomography imaging of serotonin transporters in the human brain using [11 C](+)-McN5652. *Synapse* 20: 37-43, 1995.
64. McCann UD and Ricaurte GA: On the neurotoxicity of MDMA and related amphetamine derivatives. [Letter] *J Clin Psychopharmacol* 15(4): 295-296, 1995.
65. Fischer CA, Hatzidimitriou G, Wlos J, Katz JL, Ricaurte GA: Reorganization of ascending 5-HT axon projections in animals previously exposed to the recreational drug (\pm)3,4-methylenedioxymethamphetamine (MDMA, "Ecstasy"). *J Neuroscience* 15(8): 5476-5485, 1995.
66. McCann UD, Yuan J, Ricaurte GA: Fenfluramine's appetite suppression and serotonin neurotoxicity are separable. *Eur J Pharmacol* 283: R5-R7, 1995.
67. Jorens PG, Heytens L, Demey HE, Andries S, Ricaurte GA, Bossaert L, Schepens PJC: Acute poisoning with amphetamines (MDEA) and heroin: antagonistic effects between the two drugs. *Intensive Care Med* 22: 456-459, 1996.
68. Sparago M, Wlos J, Yuan J, Hatzidimitriou G, Tolliver J, Dal Cason TA, Katz J, Ricaurte GA: Neurotoxic and pharmacologic studies on enantiomers of the N-methylated

- analog of cathinone (methcathinone): A new drug of abuse. *J Pharmacol Exp Ther* 279(2): 1043-1052, 1996.
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 71. Yuan J, McCann UD, Ricaurte GA: Methylphenidate and brain dopamine neurotoxicity. *Brain Res* 767: 172-175, 1997.
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116. Taffe MA, Davis SA, Yuan J, Schroeder R, Hatzidimitriou G, Parsons LH, Ricaurte GA, Gold LH. Cognitive performance of MDMA-treated rhesus monkeys: sensitivity to serotonergic challenge. *Neuropsychopharmacology.* 27(6):993-1005, 2002.
117. Ricaurte GA, Yuan J, Hatzidimitriou G, Cord BJ, McCann UD. Response to O'Shea and Colado: the MDMA neurotoxicity profile might provide clues to mechanisms. *Trends Pharmacol Sci.* 24(6):275, 2003.
118. Ricaurte GA, Yuan J, Hatzidimitriou G, Cord BJ, McCann UD. Retraction. *Science* 301(5639):1479, 2003.
119. Kerenyi L, Ricaurte GA, Schretlen DJ, McCann U, Varga J, Mathews WB, Ravert HT, Dannals RF, Hilton J, Wong DF, Szabo Z. Positron emission tomography of striatal serotonin transporters in Parkinson disease. *Arch Neurol.* 60(9):1223-9, 2003.
120. Xie T, Tong L, McCann U, Yuan J, Becker K, Mehan A, Cheadle C, Donovan D, Ricaurte G. Identification and characterization of metallothionein-I and -II as neuroprotective genes against (±)3,4-methylenedioxymethamphetamine (MDMA, "Ecstasy")-induced dopaminergic neurotoxicity in mice. *J. Neuroscience*, 24(32):7043-50, 2004
121. Ricaurte GA. MDMA- and p-chlorophenylalanine-induced reduction in 5-HT concentrations: effects on serotonin transporter densities. Brendon P. Boot, Annis O. Mehan, Una D. McCann, George A. Ricaurte [Eur. J. Pharmacol. 453 (2002) 239-244]. *Eur J Pharmacol* 5;489(1-2):1, 2004.
122. Fantegrossi WE, Woolverton WL, Kilbourn M, Sherman P, Yuan J, Hatzidimitriou G, Ricaurte GA, Woods JH, Winger G. Behavioral and neurochemical consequences of long-term intravenous self-administration of MDMA and its enantiomers by rhesus monkeys. *Neuropsychopharmacology* 29(7): 1270-1281, 2004.
123. McCann UD, Ricaurte GA. (Invited) Amphetamine neurotoxicity: accomplishments and remaining challenges. *Neurosci Biobehav Rev.* 27(8):821-6, 2004.
124. Ricaurte GA and McCann UD: Recognition and management of complications of new drugs of abuse. *Lancet* 365:2137-2145.

125. McCann U, Szabo Z, Seckin E, Rosenblatt P, Mathews W, Ravert H, Dannals R, Ricaurte G. Quantitative PET studies of the serotonin transporter in MDMA users and controls using [¹¹C]McN5652 and [¹¹C]DASB, *Neuropsychopharmacology*, 30(9):1741-50, 2005.
126. Mehan A, Hatzidimitriou G, Yuan J, Lee T, McCann U, Ricaurte G. Pharmacokinetic profile of single and repeated oral doses of MDMA in squirrel monkeys: Relationship to lasting effects on brain serotonin neurons. *Neuropsychopharmacology* ;31(2):339-50, 2006.
127. Mehan-Mayne A, Yuan J, Hatzidimitriou G, Xie T, Mayne A, McCann UD, Ricaurte GA. Amphetamine treatment similar to that used in the treatment of adult ADHD damages dopaminergic nerve endings in the striatum of adult non-human primates. *J Pharmacol Exp Ther*. 315:91-8, 2005.
128. Ricaurte GA, Mehan AO, Yuan J, Hatzidimitriou G, Xie T, Mayne AH, McCann UD. amphetamine treatment similar to that used in the treatment of adult attention-deficit/hyperactivity disorder damages dopaminergic nerve endings in the striatum of adult nonhuman primates. *J Pharmacol Exp Ther*. 315(1):91-8, 2005.
129. Yuan J, Hatzidimitriou G, Suthar P, Mueller M, McCann U, Ricaurte G. Relationship between temperature, dopaminergic neurotoxicity and plasma drug concentrations in methamphetamine-treated squirrel monkeys. *J Pharmacol Exp Ther*. 2005 Nov 17; [Epub ahead of print]
130. Xie T, Tong L, McLane MW, Hatzidimitriou G, Yuan J, McCann U, Ricaurte G. Loss of serotonin transporter protein after MDMA and other ring-substituted amphetamines. *Neuropsychopharmacology*. 2006 Jan 25; [Epub ahead of print]

Review articles:

1. Langston JW, Irwin I, Ricaurte GA: Neurotoxins, parkinsonism and Parkinson's disease. *Pharmacol Ther* 32: 19-49, 1987.
2. Dannals RF, Scheffel U, Suehiro M, Ricaurte G: Radioligand development for studying serotonin uptake sites with positron emission tomography, *Medicinal Chemistry Research*, 228-244, 1994.
3. Seiden LS, Sabol KE, Ricaurte GA: Amphetamine: Effects on catecholamine systems and behavior. *Ann Rev Pharmacol Toxicol* 33: 639-677, 1993.

4. McCann UD, Ricaurte GA: Strategies for detecting subclinical monoamine depletions in humans. *NIDA Research Monogr* 136: 53-62, 1993.
5. Steele T, McCann U, Ricaurte G: 3,4-Methylenedioxymethamphetamine (MDMA, "Ecstasy"): Pharmacology and toxicology in animals and humans. *Br J Addiction* 89: 539-551, 1994.
6. McCann U, Slate S, Ricaurte G: Adverse reactions with 3,4-methylenedioxymethamphetamine (MDMA, "Ecstasy"). *Drug Safety* 15: 107-115, 1996.
7. McCann UD, Lowe KA, Ricaurte GA: Long-lasting effects of recreational drugs of abuse on the central nervous system. *The Neuroscientist* 3(6): 399-411, 1997.
8. Ricaurte GA and McCann UD: Neuropathology of cocaine abuse. *In: Current Opinion in Psychiatry*, 12(3): 277-280, 1999.
9. McCann UD and Ricaurte GA: Drug abuse and dependence: Hazards and consequences of heroin, cocaine and amphetamines. *In: Current Opinion in Psychiatry*, 13(3): 321-325, 2000.
10. McCann UD, Ricaurte GA. Amphetamine neurotoxicity: accomplishments and remaining challenges. *Neurosci Biobehav Rev.* 27(8):821-6, 2004.

Book Chapters

1. Langston JW, DeLanney LE, Irwin I, Ricaurte GA: MPTP-induced parkinsonism in humans: A review of the syndrome and observations relating to the phenomenon of tardive toxicity. *In: MPTP: A Neurotoxin Producing a Parkinsonian Syndrome*, Markey SP, Castagnoli Jr. N, Kopin IJ, Trevor AT (eds). Academic Press, NY, p. 9, 1986.
2. Ricaurte GA, Langston JW: Neurological complications of substance abuse. *In: Neurology and General Medicine*, Aminoff MJ (ed). Churchill Livingstone, NY, pp. 549-557, 1989.
3. Seiden LS, Ricaurte GA: Neurotoxicity of methamphetamine and related drugs. *In: Psychopharmacology - A Generation of Progress*, Meltzer HY (ed). Raven Press, NY, pp. 359-366, 1987.
4. Ricaurte GA: Studies of MDMA-induced neurotoxicity in nonhuman primates: A basis for evaluating long-term effects in humans. *In: Pharmacology and Toxicology of Amphetamines and related designer drugs*, Asghar K and DeSouza E (eds). *NIDA Research Monogr* 94: 306-322, 1989.
5. Ricaurte GA: Amphetamine Analogues. *"Designer Drugs" - World Health Organization*, pp. 55-85, 1991.

6. Ricaurte GA, McCann UD: Neurotoxic amphetamine analogues: Effects in monkeys and implications for humans. *Ann NY Acad Sci* 648: 371-382, 1992.
7. Ricaurte, GA: Hallucinogens: What do they do? *In: Proceedings of the Symposium on Hallucinogens, LSD and Raves*, pp. 20-23, November, 1993.
8. Ricaurte GA, McCann UD: Clinical management of opiate overdose and dependence. *In: Current Therapy in Neurologic Disease*, Johnson RT and Griffin JW (eds), Mosby Year Book, St. Louis, MO, pp.302-304, 1993.
9. Scheffel U, Dannals RF, Suehiro M, Ricaurte GA, Carroll FI, Kuhar MJ, Wagner HN: Development of PET/SPECT ligands for the serotonin transporter. *NIDA Res Monogr* 138: 111-30, 1994.
10. McCann UD, Ricaurte GA: Use and abuse of ring-substituted amphetamines. *In: Amphetamine and its Analogs: Neuropsychopharmacology, Toxicology and Abuse*, Cho A and Segal D (eds), Academic Press, New York, pp. 371-381, 1994.
11. Ricaurte GA, Sabol KE, Seiden LS: Functional consequences of toxic amphetamine analog exposure. *In: Amphetamine and its Analogs: Neuropsychopharmacology, Toxicology and Abuse*, Cho A and Segal D (eds), Academic Press, New York, pp. 297-309, 1994.
12. Ricaurte GA, Langston JW: Neurological complications of drugs of abuse. *In: Neurology and General Medicine*, Aminoff MJ (ed), Churchill Livingstone, NY, (Revision/Update of #4), pp. 631-640, 1995.
13. Ricaurte GA: Pharmacology and toxicology of amphetamines, MDMA and other psychostimulants. *In: Amphetamine-type Stimulants: A Report from the WHO Meeting on Amphetamines, MDMA and other Psychostimulants*, 1996.
14. Ricaurte GA: Effects of substituted amphetamines on the brain. *In: Proceedings of the Nordic Seminar*, Lindman A and Askestad M, (eds), pp. 17-26, 1997.
16. Scheffel U and Ricaurte G: Detection of MDMA neurotoxicity by positron emission tomography. *In: Ecstasy Today and in the Future. Sucht Zeitschrift fur Wissenschaft und Praxis ISSN 0939-5911*, Kovar K, Muszynski I, Burmester J, (eds), pp. 44-49, 1997.
17. Lew R, Malberg JE, Ricaurte GA, Seiden LS: Evidence for and mechanism of action of neurotoxicity of amphetamine related compounds. *In: Highly Selective Neurotoxins: Basic and Clinical Applications*, Kostrzewa RM, (ed), Humana Press Inc., Totowa, pp. 235-268, 1997.
18. McCann U, Mertl M, Ricaurte G: Methylenedioxymethamphetamine (MDMA, "Ecstasy"). *In: Handbook of Substance Abuse: Neurobehavioral Pharmacology*, Tarter R, Ammerman R and Ott P (eds), Plenum Press, New York, pp. 567-577, 1998.

19. Wong DF, Ricaurte GA, Grunder G, Rothman R, Naidu S, Singer H, Harris J, Yokoi F, Villemagne V, Szymanski S, Gjedde A, Kuhar M: Dopamine transporter changes in neuropsychiatric disorders. *In: Catecholamines Bridging Basic Science with Clinical Medicine*, Goldstein D, Eisenhofer G, McCarty R (eds), Academic Press, New York, pp. 219-223, 1998.
20. McCann UD, Langston JW, Ricaurte GA: Neurological complications of drugs of abuse. *In: Neurology and General Medicine*, Aminoff MJ (ed), Churchill Livingstone, N Y, (Revision/Update), 2001.
21. McCann UD, Szabo Z, Ricaurte GA: Neuroimaging of MDMA-induced neurotoxicity. *In: Handbook of Neurotoxicology, Vol. 2*, Massaro Edward J (ed), Humana Press Inc., Totowa, NJ, 2001.
22. Abraham, H, McCann U, Ricaurte G: Psychedelic Drugs. *In: Neuropsychopharmacology - A Fifth Generation of Progress*, Davis K, Charney D, Coyle J and Nemeroff C (eds). Lippincott Williams & Wilkins, Baltimore, pp. 1545-1556, 2002.
23. McCann UD, Ricaurte GA: Imaging Studies of MDMA-induced Neurotoxicity, *Monografía Drogas Recreativas Adicciones Vol: 15, Suppl. 2 p. 111-120, 2003.*
24. Ricaurte GA and McCann UD. Overdose and withdrawal in drug abuse. *In: Current Therapy in Neurologic Disease, 7th Ed.* (Johnson, Griffin, McArthur/, eds), 2005.

Editorials (Invited)

1. Hamid Ghodse, Ricaurte GA: Hepatitis C: Bad News for Substance Misusers. (Invited Editorial) *In: Current Opinion in Psychiatry*, 13(3): 281-283, 2000.
2. Hamid Ghodse, Ricaurte GA: Substance Misuse. (Invited Editorial) *In: Current Opinion in Psychiatry*, 14(3): 163-166, 2001.
3. McCann UD, Ricaurte GA, Molliver ME: (Invited Commentary) MDMA (“Ecstasy”) and serotonin neurotoxicity: New findings raise more questions. *Arch Gen Psychiatry* 58(10): 07-908.
4. Ricaurte GA and McCann UD: (Invited Commentary) Assessing long-term effects of MDMA (Ecstasy). *Lancet* 358:1831-1832, 2001.

EXTRAMURAL SPONSORSHIP

Current Support

Title: MDMA Neurotoxicity in the Primate

Dates: 2-1-90 to 12-31-07
Sponsor: NIH/NIDA
Identification #: 2 RO1 DA05707
Role: Principal Investigator

Title: MDMA Neurotoxicity in Humans
Dates: 3-1-92 to 2-28-07
Sponsor: NIH/NIDA
Identification #: 2 RO1 DA05938
Role: Principal Investigator

Title: Methamphetamine Neurotoxicity in Nonhuman Primates
Dates: 10-01-01 to 9-30-06
Sponsor: NIH/NIDA
Identification #: 1 RO1 DA13946
Percent Effort: 15%
Role: Principal Investigator

Title: ADHD Treatment and Amphetamine Neurotoxicity
Dates: 4-01-05 to 3-31-10
Sponsor: NIH/NICHHD
Identification #: 1 R01 HD050202-01
Current Year Direct Costs: \$336,163
Role: Principal Investigator

Title: Studies of Substituted Amphetamine Neurotoxicity
Dates: 12-1-04 to 1-30-09
Sponsor: NIH/NIDA
Identification #: 1 K05 DA017964-01
Role: Principal Investigator

Previous Grants

Title: Gene Expression and Methamphetamine Neurotoxicity
Dates: 9-29-00 to 6-30-05
Sponsor: NIH/NIDA
Identification #: 1 RO1 DA13790
Current Year Direct Costs: No cost extension
Role: Principal Investigator

Title: Safety Assessment of Fenfluramine and Phentermine in Humans
Dates: 7-1-97 to 7-31-04

Sponsor: NIH/NIDA
Identification #: 1 RO1 DA11226
Current Year Direct Costs: No cost extension
Role: Principal Investigator

Title: PET Studies of Methamphetamine Neurotoxicity in Humans
Dates: 8-1-98 to 8-31-05
Sponsor: NIH/NIDA
Identification #: 1 RO1 DA09487
Current Year Direct Costs: No cost extension
Role: Principal Investigator

Title: Studies of Substituted Amphetamine Neurotoxicity
Dates: 3-1-94 to 2-28-05
Sponsor: NIH/NIDA
Identification #: KO2 DA00206
Role: Principal Investigator

Title: PET Imaging of Dopamine Neurotoxicity With [¹¹C]WIN-35,428
Sponsor: NIH/NIDA
Identification #: 1RO1DA19487
Dates: 10-1-94 to 9-30-99
Role: Principal Investigator

Title: Studies on N-Methylated Analogs of MDMA and Fenfluramine
Dates: 7-1-90 to 6-30-94
Sponsor: NIH/NIDA
Identification #: 1 R01 DA06275
Role: Principal Investigator

Title: The Serotonin transporter in Parkinson's disease:
Dates: 12-1-97 to 11-30-01
Sponsor: NIH/NIA
Identification #: 1RO1AG14400
Role: Co-Investigator

Title: Detecting 5HT Neurotoxicity with PET: Development of a Ligand
Sponsor: NIH/NIDA
Identification #: 1-RO1-DA06309
Dates: 7-1-89 to 6-30-94
Role: Co-Investigator

Title: PET Imaging Serotonin Neurotoxicity With [¹¹C]McN-5652

Sponsor: NIH/NIDA

Identification #: 1R01DA10217

Dates: 9-30-95 to 8-31-98

Role: Principal Investigator

Title: Aging, Regeneration and MPTP

Sponsor: Retirement Research Foundation

Dates 1990-91

Role: Principal Investigator

EDUCATIONAL ACTIVITIES

Teaching

Neurology In-patient Service, Johns Hopkins Bayview Medical Center (3 mos/yr) 1987-1992,
Attending

Neurology In-patient Service, Johns Hopkins Bayview Medical Center (2 mos/yr) 1993-1994,
Attending

Neurology Consult Service, Johns Hopkins Bayview Medical Center (1 mo/yr) 1993-present,
Attending.

Neurology In-patient Service, Johns Hopkins Bayview Med. Center (1 mo/yr) 1994-present, Attending.
Residents' Neurology Clinic, Johns Hopkins Bayview Medical Center (weekly) 1990-1992, Attending.

Mentoring

Predoctoral

Mary Martello, MS 1989-1991

Anne Martello, MS 1989-1991

John Schaka, BS 1990-1991

Carl Fischer, BS 1991-1993

Alison Ridenour, BS 1990-1992

David Sullivan, 1991-1992

Jennifer Wlos 1992-1993

Merryl Sparago 1993-1995

Gretchen Stover 1995-1996

Brian Callahan, BS 1995-2000

Saejeong Kim, BS 1998-2000

Elizabeth Tsai 1999-2001

Branden J. Cord 1999-2002

Brendon Boot 2002-2003

Concha Maldonado 2004-present
Melanie Mueller 2005-present

Postdoctoral

Thomas Steele 1990-1992
Jie Yuan 1992-1996
Victor Villemagne 1997-1998
Tao Xie 1999-2002
Robert Westphalen 1997-1998
Liesbeth Reneman 2000-2001
Annis Mehan 2002-2004
Andrew Mayne 2002-2004

Thesis Committee Participation

Mary Ann Wilson, PhD, Department of Neurosciences, Johns Hopkins
Seth Axelrad, Department of Neurosciences, Johns Hopkins
Liesbeth Reneman, MD, PhD, Department of Nuclear Medicine, University
of Amsterdam

Editorial Activities

Editorial Board, J Pharmacol Exp Therapeutics (JPET) 1993-1999
Editorial Board, Neurotoxicity Research, 2000 - present
Editorial Board, Synapse, 2001- present
Editorial Board, Journal of Neuroscience, 2001 - present
Co-editor, Current Opinion in Psychiatry/Substance Abuse Issues 2000 and 2001

Ad Hoc Journal Peer Review Activities:

Science, Lancet, New England Journal of Medicine, Annals of Neurology, The Medical
Letter, Journal of the American Medical Association, Journal of Neurochemistry,
Addiction, Brain Research, Journal of Neurological Sciences, Neurodegeneration,
Synapse, Drug and Alcohol Dependence, Neurotoxicology, Neuropsychopharmacology,
Experimental and Clinical Psychopharmacology, Neuroscience Letters, Biological
Psychiatry, Life Sciences, Archives of Psychiatry, European Journal of Pharmacology,
Molecular Neurobiology, Molecular and Chemical Neuropathology, Behavioral Brain
Research, Neurobiology of Disease, Journal of Neurotoxicology, Neurotoxicity Research,
Neuropharmacology, Movement Disorders.

CLINICAL ACTIVITIES

Certification and Licensure

Diplomate National Board of Medical Examiners
Certification, American Board of Psychiatry and Neurology (#48353)
Medical License, State of California
Medical License, State of Maryland

Service Responsibilities

Neurology In-patient Service, JHBMC, Attending Physician, 3 mos/yr, 1987-1992.
Neurology In-patient Service, JHBMC, Attending Physician, 2 mos/yr 1993-1994.
Neurology Consult Service, JHBMC, Attending Physician, 1 mo/yr, 1993-present.
Neurology In-patient Service, JHBMC, Attending Physician, 1 mo/yr, 1994-present.
Residents' Neurology Clinic, JHBMC, Attending Physician, weekly, 1990-1992.
Movement Disorders Clinic, JHBMC, Attending Physician, weekly, 1993-present.
General Neurology Clinic, Odenton-Meade Health Center (bi-weekly), 1995-1999.
General Neurology Clinic, JHBMC, Attending Physician, 2000.

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Committees

Infection Control Committee	1990-1991
Clinical Laboratories Committee	1992-1993
ARC/NIDA Clinical Safety Committee	1993-1997

Professional Societies - Membership

AAAS	1988 - present.
Society for Neurosciences	1987 - present.
American Academy of Neurology	1988 - present.
New York Academy of Sciences	1992 - present.
American College of Neuropsychopharmacology	1995 - present.
Collegium Internationale Neuro- Psychopharmacologicum (CINP)	1998 - present
CPDD	1998-present

Professional Societies - Committees

American College of Neuropsychopharmacology, Animal Care, 2001 - present.

Session Chair

Society for Neurosciences, Drug Abuse (Amphetamines) - Nov, 1994

Advisory Committees, Review Groups:

National Institute on Drug Abuse (NIDA)
Drug Abuse Biomedical Research Review Committee
Pharmacology I Study Section
Permanent Member, 1990 - 1992.

National Institute of Mental Health (NIMH)
Behavioral Sciences Research Review Committee
Permanent Member, 1990 - 1993.

National Institute on Drug Abuse (NIDA)
Drug Abuse Biomedical Research Review Committee
Pharmacology II Study Section
Permanent Member, 1994 - 1998.

Scientific Advisory Board, Member
PET Scan Shared Instrumentation Grant
The Johns Hopkins University, 1999

The Wellcome Trust, London, UK
Ad Hoc Reviewer, Expert Advisory Panel, 1999.

National Institutes of Health
Brain Disorders and Clinical Neuroscience-6
Permanent Member, 1998 - 2004.

Health Research Council of New Zealand
Ad hoc Reviewer, Biomedical Assessing Committee III

Consultant Appointments

Food and Drug Administration (FDA)
Center for Drug Evaluation and Research, 1990 - present.

World Health Organization (WHO)
Drug Abuse Advisory Committee, 1990 - 1991.

FDA Food Advisory Committee
Special Working Group, 1995.

FDA Advisory Committee &
Special Working Group Meeting on Food Products
Containing Ephedrine Alkaloids, 1996.

World Health Organization (WHO)
Programme on Substance Abuse, 1996.

St. George's Hospital Medical School
Department of Addictive Behaviour & Psychological Medicine
International Educational Advisory Board, 1999.

Medical Advisory Board
ABC TV news programs and online publications, 2000.

RECOGNITION

Awards:

- NSF Summer Science Program Scholar, 1974.
- Insurance Medical Scientist Training Program Scholar, 1975-1981.
- Research Scientist Development Award (KO2), 1994-1999.
- Independent Scientist Development Award (KO2), 1999-2004.
- Senior Scientist Award (KO5), 2005-2010.

Invited Lectures:

- International Biomedical Research Conference on Drug Abuse, "*Amphetamine Neurotoxicity: Basic and Clinical Aspects*," Sea Island, Georgia, USA, 1992.
- National Advisory Council on Drug Abuse, "*Neurotoxicity of MDMA and Related Drugs*," Washington, D.C., 1992.
- International Meeting on Strategies for Studying CNS Active Compounds: Models, Screens and Clinical Syndromes, "*Substituted Phenethylamine Neurotoxicity in Animals and Humans*," Madrid, Spain, 1992.
- National Institute on Drug Abuse Symposium on Medical and Health Consequences of Drug Abuse, "*MDMA: Effects in Animals and Humans*," Washington, D. C., 1994.
- International Conference on Drug Abuse Research, Prevention and Treatment, "*Adverse Effects of MDMA: Basic and Clinical Studies*," Hassela, Sweden, 1996.
- National Consensus Meeting on the Use, Abuse, and Sequelae of Abuse of Methamphetamine with Implications for Prevention, Treatment and Research, "*Nervous System Toxicity of Methamphetamine*," San Juan, Puerto, Rico, 1996.
- Rainbow International Meeting Against Drugs. "*Neurotoxicity of MDMA and Related Drugs*". San Patrignano, Italy, 1996. "*Neurobiology of MDMA and Related Compounds*," Bologna, Italy, 1996.
- World Health Organization (WHO) Meeting on Amphetamines, MDMA & Other Psychostimulants. "*Pharmacology and Toxicology of Amphetamines, MDMA and Other Psychostimulants*," Geneva, Switzerland, 1996.
- National Institute on Drug Abuse, Regional Symposium on Methamphetamine Abuse, Treatment and Prevention. "*Toxicology of Methamphetamine*," San Francisco, California, 1996.
- European Cities Against Drugs, Conference on Drugs and the Brain, Hulst, "*MDMA (Ecstasy) and its Neurotoxic Properties*," The Netherlands, 1997.
- Universidad Internacional Menendez Pelagro, Drogas de Sintesis: Nuevos Patrones de Ocio y Consumo en los Jovenes. "*Neurobiologia Comparada de MDMA*" y "*Aspectos Toxicologicos y Funcionales del Exstasis en Humanos*," Santander, España, 1997.
- National Institutes of Health, National Institute on Aging Gerontology Research Center, Johns Hopkins University Division of Geriatric Medicine and Gerontology, Clinical, Social and Scientific Foundations of Geriatric Medicine. "*Appetite Suppressants, Obesity, and Brain Serotonin Neurotoxicity*," Baltimore, Maryland, 1997.
- National Institutes of Health, Combined Clinical Staff Conference on (±)3,4 Methylendioxyamphetamine (MDMA, 'Ecstasy')-Induced Brain Serotonin Neurotoxicity: Preclinical and Clinical Studies. "*MDMA-Induced Serotonergic Neurotoxicity: Preclinical Data*," Bethesda, Maryland, 1997.

- National Institute on Drug Abuse, NEURON Seminar Series, *“Neurotoxic Effects of Methamphetamine on Brain Dopamine Systems,”* Rockville, Maryland, 1997.
- Royal College of Pathologists, Toxicology and Pathology of Designer Drugs. *“Animal and Human Studies of the Neurotoxicity of Designer Drugs,”* London, England, 1998.
- Centro Brasileiro de Informaçoes sobre Drogas Psicotrópicas (Cebrid). *“Neurotoxicidade dos Anoréticos,”* Sao Paulo, Brazil, 1998.
- Wayne State University School of Medicine, Chairman’s Grand Rounds. *“Substituted Amphetamine Neurotoxicity: An Update,”* Detroit, Michigan, 1998.
- East Tennessee State University, Grass Traveling Scientist Program. *“Substituted Amphetamine Neurotoxicity–Focus on MDMA (‘Ecstasy’)”* and *“Substituted Amphetamine Neurotoxicity–Focus on Methamphetamine,”* Johnson City, Tennessee, 1998.
- The Novartis Foundation, Ecstasy (MDMA): A Human Neurotoxin? *“Human Research on MDMA Neurotoxicity (I) - Neurochemical and Neuroanatomica Indices; PET Scan Findings,”* London, England, 1998.
- UCLA School of Medicine, Brain Mapping Addiction Neurobiology Conference. *“PET Studies of Baboons and Humans Previously Exposed to Substituted Amphetamines,”* Los Angeles, California, 1999.
- ASPET Neurotox Meeting, *“Detecting MDMA Neurotoxicity with PET,”* Washington, D.C., 1999.
- Pennsylvania State University, Neuroscience Seminar Series. *“Substituted Amphetamine Neurotoxicity: Focus on MDMA and Fenfluramine,”* State College, Pennsylvania, 1999.
- Johns Hopkins University School of Medicine, Neuroscience Seminar Series. *“Neurotoxicity of Amphetamine Analogs,”* Baltimore, Maryland, 1999.
- University of Padova, Ecstasy: neurobiology and behavioural toxicity. *“Animal Research on MDMA Neurotoxicity,”* Padova, Italy, 1999.
- Universite Rene Descartes (Paris V), Ecstasy: mechanism of action and pathology Symposium. *“Effects of Ecstasy in Humans Studied by Neuroimagerie,”* Paris, France, 1999.
- XXXVII European Congress of Toxicology, EUROTOX ‘99. *“Toxicodynamics and Long-term Toxicity,”* Oslo, Norway, 1999.
- Gordon Research Conference participant, Catecholamines. Oxford, England, 1999.
- Texas A&M University, Neuroscience Seminar. *“Neurotoxic Potential of Ring-substituted Amphetamines,”* College Station, Texas, 1999.
- International Meeting on Neurotoxicology, Degeneration and Protection in Brain Disease States, *“Amphetamine Derivatives in Neurodegeneration,”* Mojácar, Spain, 1999.
- Congreso Nacional de Psiquiatría. *“Alteraciones Cerebrales por Uso/Abuso de Estimulantes,”* Oviedo, Spain, 1999.
- First International Conference on Substance Use and Health Related Issues, *“Studies of MDMA (‘Ecstasy’) Neurotoxicity in Animals: Implications for Humans,”* The Netherlands, Amsterdam, 1999.
- National Institute on Drug Abuse (NIDA) , Raves, Risks, Research: Update on Club Drugs, *“Neurotoxicity of Club Drugs,”* Washington, D.C., 1999.
- American College of Neuropsychopharmacology Annual Meeting, *“Methamphetamine Neurotoxicity: From Animals to Humans”* Study Section, Acapulco, Mexico, 1999.
- National Institute on Drug Abuse (NIDA), Division of Treatment Research & Development. *“Methamphetamine Addiction Treatment Think Tank,”* Rockville, Maryland, 2000.

- Johns Hopkins University Continuing Education Conference, "Molecular Imaging: Improve Your Practice Now". "*Substance Abuse*," Baltimore, Maryland, 2000.
- Johns Hopkins University School of Medicine, Neurology Grand Rounds, "*Neurotoxicity of MDMA and Other Substituted Amphetamines*," Baltimore, Maryland, 2000.
- U.S.-East Europe Regional Meeting on Methamphetamine and Ecstasy Abuse Research, "*Neurobiology of Drug Effects: Methamphetamine and Ecstasy*" and "*Neurotoxicity*," Budapest, Hungary, 2000.
- World Congress on Medicine and Health - Medicine Meets Millennium, "*Clinical and Neurobiological Findings in MDMA ('Ecstasy') and Amphetamine-type Stimulants*," Hannover, Germany, 2000.
- Department of Health and Human Services Meeting on Safety of Dietary Supplements Containing Ephedrine Alkaloids. "*Panel Discussion of the Adverse Event Reports*," Washington, DC, 2000.
- NIDA/ZON/NWO (NL) Binational Conference on Drug Abuse, Addiction Research, and Innovation, "*Discussion by Experts*," The Hague, The Netherlands, 2000.
- European Conference: Drug Dependency in Europe: New Challenges-New Stakes. "*Experimental and Clinical Neurotoxicity of MDMA*," Paris, France, 2000.
- Thirty-fourth Annual Winter Conference on Brain Research. Panel participant, "*Exactly How is Dopamine Involved in Methamphetamine Neurotoxicity*" and "*The price of 'Ecstasy': The Functional Consequences of MDMA Neurotoxicity*," Steamboat Springs, Colorado, 2001.
- Johns Hopkins University School of Medicine Graduate Program in Pathobiology. "*Regulation of Cells and Tissues by Environmental Factors: Substances of Abuse*," Baltimore, Maryland, 2001.
- International Meeting on Neuroscientific Advances in Drug Abuse. "*Experimental Studies on 3,4-Methylenedioxymethamphetamine (MDMA, 'Ecstasy') and Its Potential to Damage Brain Serotonin Neurons*," Madrid, Spain, 2001.
- The State of Ecstasy: The Medicine, Science and Culture of MDMA. "*The Science of MDMA*," San Francisco, California, 2001.
- University of Pennsylvania Conference. "*Imaging Studies of MDMA Neurotoxicity*," Philadelphia, Pennsylvania, 2001.
- Johns Hopkins University Voyage and Discovery Lecture Series. "*The Recreational Drug Known as 'Ecstasy': Its Toxic Effects on the Nervous System*," Baltimore, Maryland, 2001.
- Johns Hopkins University, Child and Adolescent Psychiatry Division Conference. "*Abuse Liability and Neurotoxicity of MDMA and Related Drugs*," Baltimore, Maryland, 2001.
- US State Department, Office of National Drug Control Policy. US panelist in Digital Video Conference with Capetown, South Africa. "*Pharmacological effects of Ecstasy*," Washington, D. C., 2001.
- College of Drug Dependence (CPDD). "*Exposure to methamphetamine and MDMA ('Ecstasy') may have neurotoxic effects on serotonergic and dopaminergic nerve terminals*," Scottsdale, Arizona, 2001.
- MDMA/Ecstasy Research: Advances, Challenges, and Future. Directions. "*MDMA-induced Neurotoxicity: Preclinical studies*," Bethesda, Maryland, 2001.
- United States Senate. "*Panel on Ecstasy*." (Preparation for The Ecstasy Prevention Act of 2001, by invitation of Senator Bob Graham), Washington, D. C., 2001.
- US-Netherlands Workshop on Bi-National Research Collaboration on Drug Abuse and Drug Addiction. "*MDMA (Ecstasy) Neurotoxicity: Research gaps and areas for potential international collaboration*". Cumberland, Maryland, 2001.

University of Colorado Health Sciences, Grand Rounds Presentation, “*Amphetamine Neurotoxicity: Mechanisms and Neuropsychiatric Disease Liability*,” Denver, Colorado, 2001.

University of Amsterdam, Symposium Presentation, “*Advanced imaging and amphetamine neurotoxicity: Past contributions and future challenges*”. Amsterdam, The Netherlands, 2001.

University of Texas at Austin, Toxicology Seminar Series, “*Neurotoxicity of MDMA - Recent Developments*”. Austin, Texas, 2002.

Thirty-fifth Annual Winter Conference on Brain Research. Town Meeting Keynote Speaker, “*Club Drugs/Drugs of Abuse*”. Snowmass, Colorado, 2002.

University of Utah Finnegan Memorial Lecture (Grand Rounds), “*The Dark Side of Ecstasy: Serotonin Neurotoxicity*”. Salt Lake City, Utah, 2002.

Johns Hopkins University School of Medicine Graduate Program in Pathobiology. “*Regulation of Cells and Tissues by Environmental Factors: Substances of Abuse*,” Baltimore, Maryland, 2002.

Czech Neuropsychopharmacological Society & British Association for Psychopharmacology Workshop: Psychopharmacology of Cannabis and Ecstasy. “*Neurotoxicology of Ecstasy (MDMA): Recent developments*”. Brno, The Czech Republic, 2002.

Annual Meeting of American Psychiatric Association, Club Drug Symposium Panel Member. “*Studies on Ecstasy and the Brain*”. Philadelphia, Pennsylvania, 2002.

University of California, San Diego and The Scripps Research Institute: “Neurotoxicity of Methamphetamine” Symposium. “*Methamphetamine Neurotoxicity: An Update*” . La Jolla, California, 2002.

Nordic Specialist Conference on Amphetamine-Type Stimulants. “*Amphetamine-Type Stimulants – Harms and Effects on the Users*”. Oslo, Norway, 2002.

Fifth Iuphar Satellite Meeting on Serotonin. “Clinical and Experimental Studies on MDMA (ecstasy)”. Acapulco, Mexico, 2002.

University of Mississippi, Grand Rounds. “*MDMA (“Ecstasy”) Neurotoxicity: An Update*”. Jackson, Mississippi, 2002.

Primer Congreso del Instituto Nacional de Investigación y Formación sobre Drogas”. “*MDMA (ecstasy) Neurotoxicity: Recent Developments*”. Madrid, Spain, 2002.

8th International Meeting on Psychoactive Drugs. “*Ring-substituted amphetamines*”. San Patrignano, Italy, 2002.

International Workshop on Violence, Mind, and the Brain. “*Drug Abuse - Effects on the Brain and Violence*”. Valencia, Spain, 2002.

Foundations and Innovations in the Neuroscience of Addiction, “*Amphetamine Neurotoxicity: Accomplishments and Remaining Challenges*”, May 14-15, NIH, 2003.

Seminar, Department of Neurosciences, University of Cincinnati, Neurotoxic Potential of Amphetamine-Type Stimulants, 2003

Grand Rounds, Hospital Clinic of Barcelona, “*Long-term Effects of Amphetamine MDMA*,” Barcelona, Spain June 12, 2003.

XV Congreso Nacional de la Sociedad Española de Medicina de Urgencias y Emergencias (SEMES), “*Toxicidad Crónica por Extasis*,” Valencia, Spain, Junio 13, 2003.