

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format on for each person. (See attached sample). **DO NOT EXCEED FOUR PAGES.**

NAME		POSITION TITLE	
Edythe D. London, Ph.D.		Professor of Psychiatry & Biobehavioral Sciences, and of Molecular & Medical Pharmacology	
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
George Washington Univ., Washington D.C.	B.S.	1969	Zoology
Towson University, Towson MD	M.S.	1973	Biological Sciences
University of Maryland, Baltimore, MD	Ph.D.	1976	Pharmacology
Johns Hopkins School of Med., Baltimore, MD	Postdoctoral	1978	Psychopharmacology

A. Positions and Honors.**Positions and Employment**

1976 – 1978	NIMH postdoctoral fellow in Div. Psychopharmacology, Johns Hopkins University, School of Medicine
1979 – 1982	Gerontology Research Center, National Institute on Aging
1982 – 1999	Chief, Neuropharmacology Section (later Neuroimaging & Drug Action Section), Intramural Res. Program, NIDA
1993 – 1999	Director, Brain Imaging Center, Intramural Research Program, NIDA Associate Professor (part-time), Div. Nuclear Medicine, Johns Hopkins Medical Institutions Adjunct Professor, Dept. Pharmacology & Experimental Ther., Univ. Maryland School of Medicine
1999 – 2001	Visiting Professor, Dept. Psychiatry and Biobehavioral Sciences, Neuropsychiatric Inst., UCLA
2001 – Present	Professor, Dept. Psychiatry and Biobehavioral Sciences and Dept. of Molecular and Medical Pharmacology, David Geffen School of Medicine, UCLA

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

- Fanelli RF, Szikszay M, Jasinski DR, **London ED**. Differential effects of *mu* and *kappa* opioid analgesics on cerebral glucose utilization in the rat. *Brain Res* 1987;422:257-266.
- Weissman AD, Dam M, **London ED**. Alterations in local cerebral glucose utilization induced by phencyclidine. *Brain Res* 1987;435:29-40.
- Cascella NG, Pearlson G, Wong DF, Broussolle EPM, Nagoshi C, Margolin RA, **London ED**. Effects of substance abuse on ventricular and sulcal measures assessed by computed tomography. *Br J Psychiatry* 1991;159:217-221.
- Phillips RL, Herning R, **London ED**. Morphine effects on the spontaneous electroencephalogram in polydrug abusers: Correlations with subjective self-reports. *Neuropsychopharmacol* 1994;10:171-181.
- Walsh SL, Gilson SF, Jasinski DR, Stapleton JM, Phillips RL, Dannals RF, Schmidt J, Preston KL, Grayson R, Bigelow GE, Sullivan JT, Contoreggi C, **London ED**. Buprenorphine reduces cerebral glucose metabolism in polydrug abusers. *Neuropsychopharmacol* 1994;10:157-170.
- Phillips RL, Chen CY, Wong DF, **London ED**. An improved method to calculate metabolic rates for glucose using PET. *J Nucl Med* 1995;36:1668-1679.
- Stapleton JM, Morgan MJ, Phillips RL, Wong DF, Yung BCK, Shaya EK, Dannals RF, Liu X, Grayson RL, **London ED**. Cerebral glucose utilization in polysubstance abuse. *Neuropsychopharmacol* 1995;13:21-31.
- Grant S, **London ED**, Newlin DB, Villemagne VL, Liu X, Contoreggi C, Phillips RL, Kimes AS, Margolin A. Activation of memory circuits during cue-elicited cocaine craving. *Proc Natl Acad Sci USA* 1996;93:12040-12045.
- Phillips RL, **London ED**. Simplified calculation of MRglc using PET. *J Nucl Med* 1997;38:1334.
- Stapleton JM, Morgan MJ, Liu X, Yung BCK, Phillips RL, Wong DF, Shaya EK, Dannals RF, **London ED**. Cerebral glucose utilization is reduced in second test session. *J Cereb Blood Flow Metab* 1997;17:704-712.
- Liu X, Matochik JA, Cadet JL, **London ED**. Smaller volume of prefrontal lobe in polysubstance abusers: A magnetic resonance imaging study. *Neuropsychopharmacol* 1988;18:243-252.

12. Horti AG, Scheffel U, Koren AO, Ravert HT, Mathews WB, Musachio JL, Finley PA, **London ED**, Dannals RF. 2-[¹⁸F]Fluoro-A-85380, an *in vivo* tracer for the nicotinic acetylcholine receptors. *J Nucl Med Biol* 1998;25:599-603.
13. Bonson KR, Grant SJ, Links JM, **London ED**. Validation of an analytic method of calculating cerebral glucose metabolism using PET. *J Nucl Med* 2000;41:658-660.
14. Bartzokis G, Lu PH, Beckson M, Rapoport R, Grant S, Wiseman EJ, **London ED**. Abstinence from cocaine reduces high-risk responses on a gambling task. *Neuropsychopharmacology* 2000;22:102-103.
15. **London ED**, Ernst M, Grant S, Bonson K, Weinstein A. Orbitofrontal cortex and human drug abuse: functional imaging. *Cerebral Cortex* 2000;10:334-342.
16. Grant S, Contoreggi C, **London ED**. Drug abusers show impaired performance in a laboratory test of decision-making. *Neuropsychologia* 2000;38:1180-1187.
17. Mukhin AG, Gündisch D, Horti AG, Koren AO, Tamagnan G, Kimes AS, Chambers J, Vaupel DB, King SI, Picciotto MR, Innis RB, **London ED**. 5-Iodo-A-85380, an $\alpha 4\beta 2$ subtype-selective ligand for nicotinic acetylcholine receptors. *Mol Pharmacol* 2000;57:642-649.
18. Koren AO, Horti AG, Mukhin AG, Gündisch D, Dannals RF, **London ED**. Synthesis and initial *in vitro* characterization of 6-[¹⁸F]fluoro-3-(2(s)-azetidylmethoxy)-pyridine, a high-affinity radioligand for central nicotinic acetylcholine receptors. *J Labelled Compounds & Radiopharmaceuticals* 2000;43:413-423.
19. Ernst M, Matochik JA, Heishman SJ, Van Horn JD, Jons PH, Henningfield JE, **London ED**. Acute and chronic nicotine effects on brain activation during performance of a working memory task. *Proc Natl Acad Sci USA* 2001;98:4728-4733.
20. Mintzer MZ, Griffiths RR, Contoreggi C, Kimes AS, **London ED**, Ernst M. Effects of triazolam on brain activity during episodic memory encoding: a PET study. *Neuropsychopharmacology* 2001;25:744-756.
21. Ernst M, Bolla K, Mouratidis M, Contoreggi C, Matochik JA, Kurian V, Cadet JL, Kimes AS, **London ED**. Decision-making in a risk-taking task: A PET study. *Neuropsychopharmacology* 2001;26:682-691.
22. Bonson KR, Grant SJ, Contoreggi CS, Links JM, Metcalfe J, Weyl HL, Kurian V, Ernst M, **London ED**. Neural systems and cue-induced cocaine craving. *Neuropsychopharmacology* 2002;26:376-386.
23. Brody AL, Mandelkern MA, **London ED**, Childress AR, Lee GS, Bota RG, Ho ML, Saxena S, Baxter LR, Madsen D, Jarvik ME. Brain metabolic changes during cigarette craving. *Arch Gen Psychiatry* 2002;59:1162-1172.
24. Ernst M, Grant SJ, **London ED**, Contoreggi CS, Kimes AS, Spurgeon L. Decision-making in adolescents with behavior disorders and adults with substance abuse. *Am J Psychiatry* 2003;160: 33-40.
25. Rose JE, Behm FM, Westman EC, Mathew RJ, **London ED**, Hawk TC, Turkington TG, Coleman RE. Nicotinic influences on neural systems: PET studies in cigarette smokers. *Am J Psychiatry* 2003;60:323-33.
26. Stapleton JM, Gilson SF, Wong DF, Villemagne VL, Dannals RF, Grayson RL, Henningfield JE, **London ED**. Intravenous nicotine reduces cerebral glucose metabolism: a preliminary study. *Neuropsychopharmacology* 2003;28:765-772.
27. Vaupel DB, Tella SR, Huso DL, Mukhin AG, Baum I, **London ED**, Koren AO, Kimes AS. Pharmacology, toxicology, and radiation dosimetry evaluation of [¹²³I]5-I-A-85380, a radioligand for *in vivo* imaging of cerebral neuronal nicotinic acetylcholine receptors in humans. *Drug Dev Res* 2003;58:149-169.
28. Chefer SI, **London ED**, Koren AO, Pavlova OA, Kurian V, Kimes AS, Horti AG, Mukhin AG. Graphical analysis of 2-[¹⁸F]FA binding to nicotinic acetylcholine receptors in rhesus monkey brain. *Synapse* 2003;48: 25-34.
29. Ernst M, Kimes AS, **London ED**, Matochik JA, Eldreth D, Tata S, Contoreggi C, Leff M, Bolla K. Neural substrates of decision-making in attention-deficit hyperactivity disorder. *Am J Psychiatry* 2003;160:1061-1070.
30. Bolla KI, Eldreth DA, **London ED**, Kiehl KA, Mouratidis M, Contoreggi C, Matochik JA, Kurian V, Cadet J-L, Kimes AS, Funderburk FR, Ernst M. Orbitofrontal cortex dysfunction in abstinent cocaine abusers performing a decision-making task. *NeuroImage* 2003. (In Press)
31. Kimes AS, Horti AG, **London ED**, Chefer SI, Contoreggi C, Ernst M, Frieello P, Koren AO, Kurian V, Matochik JA, Palvolva O, Vaupel DB, Mukhin AG. Imaging human brain nicotinic acetylcholine receptors with PET: The FASEB Journal 2003. (In Press)
32. Matochik JA, Chefer SI, Lane MA, Roth GS, Mattison JA, **London ED**, Ingram DK. Age-related decline in striatal volume in rhesus monkeys: Assessment of long-term calorie restriction. *Neurobiology of Aging* 2003. (In Press)
33. Matochik JA, **London ED**, Eldreth DA, Cadet J, Bolla KI. Tissue compositions of the frontal cortex in abstinent cocaine abusers. *NeuroImage* 2003. (In Press)
34. Liu X, Koren AO, Yee S, Pechnick RN, **London ED**. Self-administration of 5-IODO-A 85380, a $\beta 2$ -selective nicotinic receptor ligand, in operantly trained rats. *NeuroReport* 2003. (In Press)

C. Research Support

Ongoing Research Support

1R01 DA14093 London (PI) 09/30/01-04/30/04

NIH/National Institute on Drug Abuse

Nicotine Withdrawal, Smoking and Cognition: An fMRI Study.

We will use functional imaging by MRI to understand the changes in attention and working memory that have been detected in smokers as a function of abstinence and satiety.

Role: PI

10RT-0091 London (PI) 07/01/01-06/30/04

University of California, Tobacco-Related Disease Research Program

Nicotine Withdrawal, Smoking and Attention: An fMRI Study.

The major goal of this project is to determine the effects of abstinence and satiety of cigarette smoking on selective attention and related brain activation.

Role: PI

02066286-001 London (PI) 02/01/02-01/31/05

Philip Morris External Research Program

Nicotine Withdrawal, Smoking and Cognition: An fMRI Study.

The major goal of this project is to determine the effects of smoking history and condition on brain function performance of the N-Back and Stroop tasks.

Role: PI

DABT6300C1003 London (PI) 06/16/00-09/30/03

U.S. Army/Office of National Drug Control Policy

PET Combined with Stereotactic Probes to Develop Therapeutic Interventions for Drug Abuse.

To develop a microPET scanner to do brain imaging research on non-human primates, which can be used to investigate issues related to addiction.

Role: PI

1 R01 DA15179 London (PI) 04/01/03-03/31/06

NIH/National Institute on Drug Abuse

Early Methamphetamine Abstinence: fMRI and Cognition (funding approved; award notice pending)

The major goal of this project is to evaluate cognitive function and the neurobiological basis of cognitive deficits in methamphetamine abusers during early abstinence.

Role: PI

P50 CA84733 O'Malley (PI) 09/30/99-08/31/04

NIH/National Cancer Institute

Tobacco Dependence and Risk Factors for Treatment Failure

The major goal of this project is to establish and maintain a trans-disciplinary tobacco use research center focused on tobacco dependence in high-risk groups.

Role: Consultant

CA-98-029 Potkin (PI) 09/30/99-09/29/04

NIH/National Institute of Drug Abuse

Human Imaging Studies of Nicotine-Dependence and Withdrawal

The major goal of this project is to determine whether nicotine-induced alteration in the prefrontal system distinguishes between low and high nicotine-dependence susceptibility.

Role: Consultant

Completed Research Support

1R21 DA13627 Cohen (PI) 06/25/01-05/31/03

Principal Investigator/Program Director (Last, First, Middle):

NIH/National Institute on Drug Abuse

Enabling Technologies in fMRI and Cigarette Smoking.

This project centers on the design of a system for the controlled delivery of cigarette smoke to subjects during functional Magnetic Resonance Imaging, and the characterization of the drug delivery and the responses of the human brain to cigarette smoke. We will look at both global and local signal changes from the smoke *per se*, and at local changes in BOLD responses to external stimuli as a function of the cigarette exposure.

Role: Collaborator

RO1 DA 11462 Bolla (PI)

04/01/98-03/30/02

NIH/National Institute on Drug Abuse

Cocaine Abuse and Limbic Prefrontal Function

The major goal of this project is to determine the magnitude and specific patterns of the neurobehavioral performance in chronic cocaine abuse and relate these to measures of regional cerebral blood flow and brain structure.

Role: Collaborator

1 Y01 DA 50038 Ling (PI)

10/01/96-09/30/01

NIH/National Institute on Drug Abuse

Medications Development Research Unit

The unit conducts clinical trials in order to find medications for treatment of drug abuse disorders.

Role: Collaborator