

## CURRICULUM VITAE

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Born: May 13, 1966  
Freeport, NY

### **EDUCATION:**

1988: B.A., Psychology  
University of California, Berkeley

1989: M.A., Behavioral Neuroscience Program  
Department of Psychology  
University of California, Los Angeles

1993: Ph.D., Behavioral Neuroscience Program  
Department of Psychology  
University of California, Los Angeles

### **POSITIONS HELD:**

2011-: Acting Chairperson, Department of Translational Science and Molecular  
Medicine, Michigan State University, College of Human Medicine

2009-2011: Professor (with tenure) and Director, Div. of Translational Science and  
Molecular Medicine, Michigan State University, College of Human  
Medicine

2009-2011: Volunteer Professor, Dept. of Psychiatry, University of Cincinnati, College  
of Medicine

2006-9: Director, Division of Neuropharmacology, Dept. of Psychiatry, University of  
Cincinnati, College of Medicine

2004-9: Professor (with tenure), Department of Psychiatry, Division of  
Developmental Neuroscience, University of Cincinnati

2002-2004: Associate Professor (with tenure), Departments of Neurological Sciences  
and Pharmacology, Rush Medical College of Rush University

- 1997-2004: Associate Director, NIA Funded Post-Doctoral Training Program in Age-Related Neurodegenerative Diseases, Rush Medical College of Rush University
- 1998-2001: Director, Liquid Chromatography Unit, Rush Pharmacology Analytical Laboratory Services, a sub-contractor for Rush Labs.
- 1997-2002: Assistant Professor, Department of Pharmacology, Rush Medical College of Rush University, Chicago, Illinois
- 1996-2002: Assistant Professor, Departments of Pediatrics, Rush Medical College of Rush University, Chicago Illinois.
- 1996-2002: Assistant Professor, Department of Neurological Sciences, Rush Medical College of Rush University, Chicago Illinois.
- 1994-5: Instructor, Department of Neurological Sciences, Rush Medical College of Rush University, Chicago Illinois.
- 1993-5: Post-doctoral Fellow in the Center for Disorders of Respiratory Control in Infancy and Childhood at Rush-Presbyterian-St. Luke's Medical Center, Chicago. Investigating physiologic and neurochemical consequences of prenatal cocaine exposure.
- 1991-1993: Graduate student research under the supervision of Dr. Richard Olsen, Dept. of Pharmacology University of California, Los Angeles. Examining the long-term receptor alterations induced by continuous cocaine administration.
- Graduate student research under the supervision of Dr. Michael S. Fanselow, Dept. of Psychology, UCLA. Persisting alterations in fear-conditioning in animals exposed to continuous cocaine administrations.
- 1991: Summer graduate student research with Dr. Ronald E. See, Washington State University. Effects of continuous cocaine administration on monoamine function in striatum via microdialysis.
- 1988-1991: Graduate student research under the supervision of Dr. Gaylord D. Ellison, Dept. of Psychology, University of California, Los Angeles. The long-term behavioral and biochemical effects of chronic cocaine administration.

### **TEACHING EXPERIENCE:**

- 2007-2009: Unit Lecturer  
Fundamentals of Neuroscience II

Neuroscience Graduate Program  
University of Cincinnati

- 2006-2009: Course Director  
Current Topics in Neuroscience (Journal Club)  
Neuroscience Graduate Program  
University of Cincinnati
- 2003-2004: Course Co-Director  
The Biochemical Basis of Neuropharmacology  
Department of Neurological Sciences  
Rush University, Chicago
- 2000-2002: Course Director  
Clinical Research Program: Tools for Research  
Department of Pharmacology  
Rush University, Chicago
- 1999-2000: Short Course--Pharmacologic Bases of Drugs of Abuse  
Rush Medical College  
Department of Neurosurgery  
Department of Psychiatry
- 1996-2000: Rush Medical College  
Graduate Course-Alternative curriculum for medical students:  
Clinical Neurology (80 contact hrs/year)
- 1996-2000: Course Director  
Rush University - Department of Neurological Sciences  
Academic/Research Seminar Series in the Neurosciences
- 1994-5: Post-Doctoral Teaching Fellow  
Rush Medical College (2 years)  
Graduate Course-Alternative curriculum for medical students:  
Clinical Neurology
- 1992: Graduate Teaching Fellow (3 quarters)  
University of California, Los Angeles  
Upper Division Physiological Psychology
- 1990-1991: Graduate Teaching Associate (4 quarters)  
University of California, Los Angeles  
Lower Division-Introduction to Psychobiology
- 1989-1990: Graduate Teaching Assistant (6 quarters)  
University of California, Los Angeles

Physiological Psychology Laboratory  
Research Methodology and Neuroanatomy.

**GRANTS & AWARDS:**

**Current Funded Awards:**

Co-PIs: Jeff MacKeigan, Caryl Sortwell (Lipton Co-I)  
Funding Period: 7/1/2011 – 6/30/2013  
Orphan Drug Development Grant  
Michael J Fox Foundation

**Fasudil as a Novel Therapeutic for the Treatment of Parkinson's Disease**

\$943,684 TDC

Description: This project will examine the ability of oral fasudil administration to provide neuroprotection from 6-OHDA and alpha-synuclein overexpression as well as examine any possible interactions with L-dopa.

PI: Timothy J. Collier  
P50 Morris K. Udall Center for Excellence (Lipton-Core Director)  
Funding Period 8-1-09 to 5-31-14  
NIH/NINDS  
\$5,000,000 TDC

**Ageing and Parkinson's Disease: Models of Therapeutics and Neurologic Comorbidity**

**Prior Awards:**

PI: Jack W. Lipton  
Funding Period: 05/01/05-09/30/11  
NIDA (NIH) R01 DA017399

**Neurochemical Sequelae of Prenatal MDMA**

DC Annual Amount: \$200,000

Description: Examining the long-term central nervous system changes from prenatal MDMA administration with an emphasis on long-term changes in histology, neurochemistry and growth factors

PI: Kim B. Seroogy (Lipton Co-I)  
Funding Period 5-1-08 to 6-30-12  
NIH/NINDS R01 NS060114

**Stress-Induced Depression and Parkinsonian Symptomology**

DC Annual Amount: \$250,000

Description: This research will investigate whether having depression worsens motor symptoms and hastens brain cell death in a rodent model of PD.

PI: Caryl Sortwell (Lipton Co-PI)  
Funding Period: 5/1/2007-4/30/2012

NINDS (NIH) R01

**Pleiotrophin as a Neuroprotectant in PD**

DC Annual Amount: \$200,000

Description: The proposal will examine the effects of pleiotrophin delivered via viral transfer to act as a neuroprotectant in an animal model of PD.

PI: Caryl Sortwell (Lipton Co-I)

Funding Period: 5/1/2005-4/30/2007

Michael J Fox Foundation

**Gene Transfer of Pleiotrophin to Aged Parkinsonian Rats**

DC Annual Amount: \$97,499.60

Description: This proposal will examine the viability of gene transfer of the trophic factor pleiotrophin in the striatal 6-OHDA lesion model of parkinsonism in aged rats subjects.

PI: Prasad Gabbita (Lipton Co-I)

Funding Period: 2/1/2007 – 1/31/2009

Michael J Fox Foundation / P2D Inc.

**Small Molecule TNF- $\alpha$  inhibitors as PD neuroprotectant drugs**

DC Annual Amount: \$75,000

Description: The University of Cincinnati will be responsible for the 6-OHDA rat model, unbiased stereology of SN Thir neurons and DA biochemical measures needed for this application submitted by P2D Inc. to MJFF. P2D's proposal aims to identify a drug candidate to treat Parkinson's Disease from their library of tumor necrosis factor alpha (TNF- $\alpha$ ) inhibiting compounds.

PI: Kathy Steece-Collier (Lipton Co-I)

Funding Period: 1/1/2007-12/31/2008

Michael J. Fox Foundation

**Aberrant striatal morphology: Impact on therapeutic efficacy in Parkinson's disease.**

DC Annual Amount \$75,000

Description: Examining the impact of nimodipine on preserving neuronal spines of striatum after 6-OHDA lesions in rats.

PI: Jack W. Lipton

Funding Period: 7/01/06-5/31/09

NIDA (NIH)

R21 DA019261

**Prenatal MDMA-Induced Changes in Axonal Guidance Cues**

DC Annual Amount: \$150,000

Description: Examining the development of prenatal MDMA-induced changes in ephrin-b2, netrin-1 and slit protein and corresponding mRNA expression using in vivo and in vitro modeling.

P.I. Jack W. Lipton

George & Elizabeth Wile Fund-Endowed Gift

University of Cincinnati Foundation

**Discretionary funds for pilot experiments in Parkinson's Disease Therapeutics**

DC Annual Amount: \$100,000

Description: Initial gift from a donor who is interested in fostering experiments focused on developing novel therapeutics for PD.

Agency: NINDS (Lipton Co-PI)

Award: R21

P.I.: Carvey \$393,000

Title: **Prenatal LPS-Induced Changes in Gene Expression**

Description: Examination of LPS induced changes in cytokine gene expression both in vivo and in vitro.

Project Period: 7/01/03-6/30/05

Award: RO1 NS42125

P.I.: Collier

Cumulative Amount: \$1,750,460

Title: **Neural Progenitor Cell Grafts for Parkinson's Disease**

Description: This proposal will examine utilizing cytokine-converted DA precursor cells as a tissue source for transplantation for Parkinson's disease.

Project Period: 08/01/01-07/31/05

Agency: NIDA

Award: R01 DA05446

P.I. Lipton

Cumulative Amount \$1,172,550

Title: **Oxidant Stress and Cocaine-Induced Brain Injury In utero**

Description: Examining the long-term central nervous system changes from prenatal cocaine administration with an emphasis of how cocaine increases oxidative stress in the brain during pregnancy.

Project Period : 04/01/00-03/31/05

Agency: NIA

Award: R21 NS/ES43603

P.I.: Sortwell (Lipton Co-I)

Cumulative Amount: \$385,000

Title: **Angiogenic Enhance of Dopamine Neuron Grafts**

Description: This proposal evaluates the efficacy of gene transfer of vascular endothelial growth factor (VEGF) to dopamine neurons to promote their survival and functionality after grafting.

Project Period: 05/01/02-04/30/04

Agency: NIAID

Award: R01 AI051619

Cumulative Amount:\$1,424,650

P.I.: William Hendey (Lipton Co-I)

Title: **Role of PMN in Neutrophil Adhesion**

Description: Examining the mechanisms of inflammation and adhesion in a lung model of inflammation

Project Period: 01/01/03-12/31/07

Agency: NINDS

Award: R01 NS43290

P.I.: Kordower (Lipton Co-I)

Cumulative Amount: \$1,784,090

Title: **Dyskinesias in Lenti-GDNF Treated PD Monkeys**

Description: To determine whether lenti-GDNF mediated gene therapy can prevent or diminish dyskinesias primed by levodopa therapy prior to GDNF therapy

Project Period: 04/01/02-03/31/07

DOD Research Grant Award

Grant USAMRMC 00267027

Cumulative Amount: \$450,000

P.I.: Carvey (Lipton, Co-PI)

Title: **TNF-alpha/IL1-beta induced dopamine cell loss: A potential model for the pathogenesis of Parkinson's Disease**

AIBS Neurotoxin Exposure Treatment Research Program

Agency: NIEHS (NIH)

Grant 1R21-NS40806-01

P.I.: Zaooung Ling (Lipton, Co-PI)

Cumulative Amount: \$435,000

Title: **LPS exposure as a potential etiology for Parkinson's Disease**

### **Postdoctoral Awards:**

1995-8: NIDA National Research Service Award (Postdoctoral Fellowship)

*"In utero cocaine: Effects on dopamine and respiration"*

Grant 1F32-DA 07965-01A1

National Institute on Drug Abuse

Bethesda, MD

\$98,600

1996: NIDA Director's Travel Award to the College on Problems of Drug Dependence  
San Juan, Puerto Rico

1994: Biomedical Research Support Grant. University Committee on Research. Rush  
University

### **Predocctoral Awards:**

1992-3: NIDA National Research Service Award (Predocctoral Fellowship)

*"Persisting neurochemical changes from continuous cocaine"*

Grant #1F31-DA 05446

National Institute of Drug Abuse  
Bethesda, MD

Ursula Mandel Fellowship  
*For research allied with the medical field*  
University of California, Los Angeles

1991: Sigma Xi Grant-in-aid of Research  
*"The role of dopamine in the production of long-term alterations in brain biochemistry induced by continuous cocaine"*  
Sigma Xi Scientific Research Society  
Research Triangle Park, NC

1988: UCLA University Fellowship  
University of California, Los Angeles

### **ACADEMIC & COMMUNITY SERVICE:**

#### **Post-Doctoral Fellows Trained:**

Ewa Borys, M.D., 2002-2003, Currently Assistant Professor, Department of Pathology and Laboratory Medicine, University of California, Davis, Davis CA.

Lin Pei, M.D., 2005-2007, Currently Assistant Professor, Center for the Neurobiology of Stress, Division of Life Sciences, University of Toronto at Scarborough, Ontario, Canada.

#### **Graduate Students Trained:**

James B. Koprach, 2001-2005, Rush University Medical Center, Neuroscience Graduate Program. Currently: Assistant Professor, Toronto Western Research Institute.

Valerie Thompson, 2006-2010, University of Cincinnati, Graduate Program in Neuroscience. Currently, AAAS fellow at the National Institutes of Health.

#### **Academic Service:**

Outreach Scholarship Community Partnership Awards Committee,  
Michigan State University (2012-present)  
Institute for Engineering and Health Faculty Search Committee, Michigan  
State University (2012)  
Vice Chair, Reappointment Promotion and Tenure Committee, College of  
Human Medicine, Michigan State University (2010-2012)  
College Advisor Committee, College of Human Medicine, Michigan State  
University (2010-2012)



External Program Advisory Committee Member, NINDS Specialized Neuroscience Research Program, Meharry Medical College, Nashville, TN (2008-2010)  
Elected Chair of the University Faculty Grievance Committee, University of Cincinnati (2006-2007)  
Elected Vice-Chair of the University Faculty Grievance Committee, University of Cincinnati (2006-2007)  
Elected as Chairman of the Neuroscience Curriculum Evaluation Committee (2006-present)  
Elected Vice-Chair of the University Faculty Grievance Committee, University of Cincinnati (2006-2007)  
Appointed Extern Assessor: Promotions and Tenure, Univ. College of Dublin, Ireland (2006-)  
Elected to Faculty Council, Rush Medical College, (2003-5).

Appointed to the University Information Services Committee (2000-2002).  
Appointed to the Purchasing Reform Committee (1999-2001).  
Appointed to the Committee on Educational Appraisal, Rush Medical College (1999- 2001).  
Appointed to the Public Affairs Committee-Neurobehavioral Teratology Society (2000) Appointed to the Medical School Curriculum Committee, Rush Medical College (1999-2000).  
Appointed to the Advisory Committee, Department of Pharmacology (1998-present)  
Appointed to the Research Committee, Department of Neurological Sciences (1998-present)  
Appointed to the Faculty Council of Rush Medical College, Rush Medical College, Chicago, IL (1996)  
Appointed to the Institutional Animal Care and Use Committee, Rush Medical College, Chicago, IL (1994-1996)

**Community Service:**

Chair of the Local School Council for Volta Elementary School, Chicago Public Schools (2003-4).  
Elected to the Local School Council for Volta Elementary School, CPS (2001-3).  
Percy Julian Day, Special Lecturer, Oak Park River Forest High School (2000).  
District Science Fair Judge, Chicago Public School District (1999-present).

**JOURNAL REVIEWER:**

Journal of Neuroscience  
Neuropsychopharmacology  
Int. J. for Dev. Neurobiology  
Neurotoxicology and Teratology  
Movement Disorders

Neuroreport  
Neuropharmacology  
European Journal of Neuroscience  
Experimental Neurology  
Clinical Neuropharmacology

Pharmacology, Biochemistry & Behavior  
Brain Research  
Journal of Neurochemistry  
Neurotoxicology

Journal of Pharmacy Practice  
Developmental Brain Research  
Journal of Comparative Neurology  
Physiology and Behavior

**GRANT REVIEW EXPERIENCE:**

Review Committee Chair, NIH, NIA, SBIR ZAG1 ZIJ-1 (M1), Translational Research in Aging (2012)

Ad hoc Reviewer, NIH, NINDS, NSD-C (2007-present)

Review Committee Chair, NIH, NINDS, ZNS1 SRB-B NIH Blueprint-Biomarkers of Neurodegeneration, 2007

Ad hoc Reviewer, NIH, CSR, ZRG1, SCOR: Sex And Gender Factors Affecting Women's Health, 2007

Ad hoc Reviewer, NIH, CSR, CNNT (2001-2007)

Ad hoc Reviewer, NIH, CSR, BDCN-F(2001-2002).

Ad hoc Reviewer, NIH, CSR, DBD (2004, 2008, 2010)

Reviewer, Burroughs-Wellcome Research Fund (1998)

**ASSOCIATIONS:**

American Society for Neural Transplantation and Repair

Society for Neuroscience

International Brain Research Organization

Neurobehavioral Teratology Society

New York Academy of Sciences

Sigma Xi

Society for Neuroscience

**INTERESTS AND SKILLS:**

Research Interests: Development of experimental therapeutics for Parkinson's Disease, etiology of Parkinson's Disease. Investigating the long-term central nervous system changes (prenatal and postnatal) produced by drugs of abuse. Fetal dopamine neuron development.

Skills: *In vivo* microdialysis, ELISA, LC/MS, HPLC (electrochemical, fluorescence and ultraviolet), western blot, Real Time RT-PCR, Taqman Low-Density PCR Arrays, direct tissue autoradiography, homogenate receptor binding, neuronal cell culture, stereotaxic surgery, electrode implantation, colorimetric assays, immunohistochemistry, unbiased stereology.

## **PUBLICATIONS**

### **Research Papers (Peer Reviewed):**

1. Patterson TA, Lipton JR, Bennett EL, Rosenzweig MR. Cholinergic receptor antagonists impair formation of intermediate-term memory in the chick. *Behav Neural Biol* 1990;54(1):63-74.
2. Lipton J, Zeigler S, Wilkins J, Ellison G. A silicone pellet for continuous cocaine: comparison with continuous amphetamine. *Pharmacol Biochem Behav* 1991;38(4):927-30.
3. Zeigler S, Lipton J, Toga A, Ellison G. Continuous cocaine administration produces persisting changes in brain neurochemistry and behavior. *Brain Res* 1991;552(1):27-35.
4. Lipton JW, Ellison GD. Continuous cocaine induces persisting changes in behavioral responsivity to both scopolamine and diazepam. *Neuropsychopharmacology* 1992;7(2):143-8.
5. Lipton JW, Olsen RW, Ellison GD. Length of continuous cocaine exposure determines the persistence of muscarinic and benzodiazepine receptor alterations. *Brain Res* 1995;676(2):378-85.
6. Lipton JW, Davidson TL, Carvey PM, Weese-Mayer DE. Prenatal cocaine: effect on hypoxic ventilatory responsiveness in neonatal rats. *Respir Physiol* 1996;106(2):161-9.
7. Lipton JW, Yuengsrigul A, Ling ZD, Weese-Mayer DE, Carvey PM. Prenatal cocaine exposure and postnatal hypoxia independently decrease carotid body dopamine in neonatal rats. *Neurotoxicol Teratol* 1996;18(3):283-7.
8. Pappert EJ, Tangney CC, Goetz CG, Ling ZD, Lipton JW, Stebbins GT, Carvey PM. Alpha-tocopherol in the ventricular cerebrospinal fluid of Parkinson's disease patients: dose-response study and correlations with plasma levels. *Neurology* 1996;47(4):1037-42.
9. Pappert EJ, Buhriend C, Lipton JW, Carvey PM, Stebbins GT, Goetz CG. Levodopa stability in solution: time course, environmental effects, and practical recommendations for clinical use. *Mov Disord* 1996;11(1):24-6.
10. Weese-Mayer DE, Silvestri JM, Kenny AS, Ilbawi MN, Hauptman SA, Lipton JW, Talonen PP, Garcia HG, Watt JW, Exner G, Baer GA, Elefteriades JA, Peruzzi WT, Alex CG, Harlid R, Vincken W, Davis GM, Decramer M, Kuenzle C, Saeterhaug A, Schober JG. Diaphragm pacing with a quadripolar phrenic nerve electrode: an international study. *Pacing Clin Electrophysiol* 1996;19(9):1311-9.
11. Pappert EJ, Lipton JW, Goetz CG, Ling ZD, Stebbins GT, Carvey PM. The stability of carbidopa in solution. *Mov Disord* 1997;12(4):608-10.
12. Ling ZD, Potter ED, Lipton JW, Carvey PM. Differentiation of mesencephalic progenitor cells into dopaminergic neurons by cytokines. *Exp Neurol* 1998;149(2):411-23.

13. Lipton JW, Robie HC, Ling Z, Weese-Mayer DE, Carvey PM. The magnitude of brain dopamine depletion from prenatal cocaine exposure is a function of uterine position. *Neurotoxicol Teratol* 1998;20(4):373-82.
14. Lipton JW, Robie HS, Ling Z, Weese-Mayer DE, Carvey PM. Uterine position determines the extent of dopamine reduction after chronic prenatal cocaine exposure. *Ann N Y Acad Sci* 1998;844:314-23.
15. Lipton JW, Ling Z, Vu TQ, Robie HC, Mangan KP, Weese-Mayer DE, Carvey PM. Prenatal cocaine exposure reduces glial cell line-derived neurotrophic factor (GDNF) in the striatum and the carotid body of the rat: implications for DA neurodevelopment. *Brain Res Dev Brain Res* 1999;118(1-2):231-5.
16. Ling ZD, Collier TJ, Sortwell CE, Lipton JW, Vu TQ, Robie HC, Carvey PM. Striatal trophic activity is reduced in the aged rat brain. *Brain Res* 2000;856(1-2):301-9.
17. Vu TQ, Ling ZD, Ma SY, Robie HC, Tong CW, Chen EY, Lipton JW, Carvey PM. Pramipexole attenuates the dopaminergic cell loss induced by intraventricular 6-hydroxydopamine. *J Neural Transm* 2000;107(2):159-76.
18. McGuire SO, Ling ZD, Lipton JW, Sortwell CE, Collier TJ, Carvey PM. Tumor necrosis factor alpha is toxic to embryonic mesencephalic dopamine neurons. *Exp Neurol* 2001;169(2):219-30.
19. Gayle DA, Ling Z, Tong C, Landers T, Lipton JW, Carvey PM. Lipopolysaccharide (LPS)-induced dopamine cell loss in culture: roles of tumor necrosis factor-alpha, interleukin-1beta, and nitric oxide. *Brain Res Dev Brain Res* 2002;133(1):27-35.
20. Ling Z, Gayle DA, Ma SY, Lipton JW, Tong CW, Hong JS, Carvey PM. In utero bacterial endotoxin exposure causes loss of tyrosine hydroxylase neurons in the postnatal rat midbrain. *Mov Disord* 2002;17(1):116-24.
21. Lipton JW, Vu TQ, Ling Z, Gyawali S, Mayer JR, Carvey PM. Prenatal cocaine exposure induces an attenuation of uterine blood flow in the rat. *Neurotoxicol Teratol* 2002;24(2):143-8.
22. Lipton JW, Gyawali S, Borys ED, Koprach JB, Ptaszny M, McGuire SO. Prenatal cocaine administration increases glutathione and alpha-tocopherol oxidation in fetal rat brain. *Brain Res Dev Brain Res* 2003;147(1-2):77-84.
23. Koprach JB, Campbell NG, Lipton JW. Neonatal 3,4-methylenedioxymethamphetamine (ecstasy) alters dopamine and serotonin neurochemistry and increases brain-derived neurotrophic factor in the forebrain and brainstem of the rat. *Brain Res Dev Brain Res* 2003;147(1-2):177-82.
24. Koprach JB, Chen EY, Kanaan NM, Campbell NG, Kordower JH, Lipton JW. Prenatal 3,4-methylenedioxymethamphetamine (ecstasy) alters exploratory behavior, reduces

monoamine metabolism, and increases forebrain tyrosine hydroxylase fiber density of juvenile rats. *Neurotoxicol Teratol* 2003;25(5):509-17.

25. Carvey PM, Chang Q, Lipton JW, Ling Z. Prenatal exposure to the bacteriotxin lipopolysaccharide leads to long-term losses of dopamine neurons in offspring: a potential, new model of Parkinson's disease. *Front Biosci* 2003;8:s826-s837.
26. Ling Z, Chang QA, Tong CW, Leurgans SE, Lipton JW, Carvey PM. Rotenone potentiates dopamine neuron loss in animals exposed to lipopolysaccharide prenatally. *Exp Neurol* 2004;190(2):373-83.
27. Ling ZD, Chang Q, Lipton JW, Tong CW, Landers TM, Carvey PM. Combined toxicity of prenatal bacterial endotoxin exposure and postnatal 6-hydroxydopamine in the adult rat midbrain. *Neuroscience* 2004;124(3):619-28.
28. Carvey PM, Chen EY, Lipton JW, Tong CW, Chang QA, Ling ZD. Intra-parenchymal injection of tumor necrosis factor-alpha and interleukin 1-beta produces dopamine neuron loss in the rat. *J Neural Transm* 2005;112(5):601-12.
29. He B, Counts SE, Perez SE, Hohmann JG, Koprach JB, Lipton JW, Steiner RA, Crawley JN, Mufson EJ. Ectopic galanin expression and normal galanin receptor 2 and galanin receptor 3 mRNA levels in the forebrain of galanin transgenic mice. *Neuroscience* 2005;133(2):371-80.
30. Perez SE, Lazarov O, Koprach JB, Chen EY, Rodriguez-Menendez V, Lipton JW, Sisodia SS, Mufson EJ. Nigrostriatal dysfunction in familial Alzheimer's disease-linked APP<sup>swe</sup>/PS1<sup>DeltaE9</sup> transgenic mice. *J Neurosci* 2005;25(44):10220-9.
31. Ling Z, Zhu Y, Tong C, Snyder JA, Lipton JW, Carvey PM. Progressive dopamine neuron loss following supra-nigral lipopolysaccharide (LPS) infusion into rats exposed to LPS prenatally. *Exp Neurol* 2006;199(2):499-512.
32. Williams MT, Herring NR, Schaefer TL, Skelton MR, Campbell NG, Lipton JW, McCrea AE, Vorhees CV. Alterations in body temperature, corticosterone, and behavior following the administration of 5-methoxy-diisopropyltryptamine ('foxy') to adult rats: a new drug of abuse. *Neuropsychopharmacology* 2007;32(6):1404-20.
33. Collier TJ, Lipton J, Daley BF, Palfi S, Chu Y, Sortwell C, Bakay RA, Sladek JR, Jr., Kordower JH. Aging-related changes in the nigrostriatal dopamine system and the response to MPTP in nonhuman primates: diminished compensatory mechanisms as a prelude to parkinsonism. *Neurobiol Dis* 2007;26(1):56-65.
34. Davis JF, Tracy AL, Schurdak JD, Tschop MH, Lipton JW, Clegg DJ, Benoit SC. Exposure to elevated levels of dietary fat attenuates psychostimulant reward and mesolimbic dopamine turnover in the rat. *Behav Neurosci* 2008;122(6):1257-63.
35. McNamara RK, Sullivan J, Richtand NM, Jandacek R, Rider T, Tso P, Campbell N, Lipton J. Omega-3 fatty acid deficiency augments amphetamine-induced behavioral sensitization

in adult DBA/2J mice: relationship with ventral striatum dopamine concentrations. *Synapse* 2008;62(10):725-35.

36. Bhide NS, Lipton JW, Cunningham JI, Yamamoto BK, Gudelsky GA. Repeated exposure to MDMA provides neuroprotection against subsequent MDMA-induced serotonin depletion in brain. *Brain Res* 2009;1286:32-41.
37. Ling Z, Zhu Y, Tong CW, Snyder JA, Lipton JW, Carvey PM. Prenatal lipopolysaccharide does not accelerate progressive dopamine neuron loss in the rat as a result of normal aging. *Exp Neurol* 2009;216(2):312-20.
38. McNamara RK, Able J, Liu Y, Jandacek R, Rider T, Tso P, Lipton JW. Omega-3 fatty acid deficiency during perinatal development increases serotonin turnover in the prefrontal cortex and decreases midbrain tryptophan hydroxylase-2 expression in adult female rats: dissociation from estrogenic effects. *J Psychiatr Res* 2009;43(6):656-63.
39. Thompson VB, Heiman J, Chambers JB, Benoit SC, Buesing WR, Norman MK, Norman AB, Lipton JW. Long-term behavioral consequences of prenatal MDMA exposure. *Physiol Behav* 2009;96(4-5):593-601.
40. Davis JF, Choi DL, Schurdak JD, Fitzgerald MF, Clegg DJ, Lipton JW, Figlewicz DP, Benoit SC. Leptin Regulates Energy Balance and Motivation Through Action at Distinct Neural Circuits. *Biol Psychiatry* 2010.
41. Deleidi M, Hallett PJ, Koprach JB, Chung CY, Isacson O. The Toll-like receptor-3 agonist polyinosinic:polycytidylic acid triggers nigrostriatal dopaminergic degeneration. *J Neurosci* 2010;30(48):16091-101.
42. McNamara RK, Jandacek R, Rider T, Tso P, Cole-Strauss A, Lipton JW. Omega-3 fatty acid deficiency increases constitutive pro-inflammatory cytokine production in rats: Relationship with central serotonin turnover. *Prostaglandins Leukot Essent Fatty Acids* 2010.
43. Spieles-Engemann AL, Behbehani MM, Collier TJ, Wohlgenant SL, Steece-Collier K, Paumier K, Daley BF, Gombash S, Madhavan L, Mandybur GT, Lipton JW, Terpstra BT, Sortwell CE. Stimulation of the rat subthalamic nucleus is neuroprotective following significant nigral dopamine neuron loss. *Neurobiol Dis* 2010;39(1):105-15.
44. Davis JF, Choi DL, Shurdak JD, Krause EG, Fitzgerald MF, Lipton JW, Sakai RR, Benoit SC. Central melanocortins modulate mesocorticolimbic activity and food seeking behavior in the rat. *Physiol Behav* 2011;102(5):491-5.
45. Davis JF, Choi DL, Schurdak JD, Fitzgerald MF, Clegg DJ, Lipton JW, Figlewicz DP, Benoit SC. Leptin regulates energy balance and motivation through action at distinct neural circuits. *Biol Psychiatry* 2011;69(7):668-74.
46. Gombash SE, Lipton JW, Collier TJ, Madhavan L, Steece-Collier K, Cole-Strauss A, Terpstra BT, Spieles-Engemann AL, Daley BF, Wohlgenant SL, Thompson VB,

Manfredsson FP, Mandel RJ, Sortwell CE. Striatal Pleiotrophin Overexpression Provides Functional and Morphological Neuroprotection in the 6-Hydroxydopamine Model. *Mol Ther* 2011.

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50. McNamara RK, Jandacek R, Rider T, Tso P, Cole-Strauss A, Lipton JW. Differential effects of antipsychotic medications on polyunsaturated fatty acid biosynthesis in rats: Relationship with liver delta6-desaturase expression. *Schizophr Res* 2011;129(1):57-65.
51. Spieles-Engemann AL, Steece-Collier K, Behbehani MM, Collier TJ, Wohlgenant SL, Kemp CJ, Cole-Strauss A, Levine ND, Gombash SE, Thompson VB, Lipton JW, Sortwell CE. Subthalamic Nucleus Stimulation Increases Brain Derived Neurotrophic Factor in the Nigrostriatal System and Primary Motor Cortex. *J Parkinsons Dis* 2011;1(1):123-36.
52. Thompson VB, Koprach JB, Chen EY, Kordower JH, Terpstra BT, Lipton JW. Prenatal exposure to MDMA alters noradrenergic neurodevelopment in the rat. *Neurotoxicol Teratol* 2012;34(1):206-13.
53. Choi DL, Davis JF, Magrisso IJ, Fitzgerald ME, Lipton JW, Benoit SC. Orexin signaling in the paraventricular thalamic nucleus modulates mesolimbic dopamine and hedonic feeding in the rat. *Neuroscience* 2012;210:243-8.

#### Book Chapters:

Carvey, P.M., Z.D. Ling, D.A. Gayle, and J.W. Lipton. Prenatal Lipopolysaccharide as a new potential animal model of Parkinson's disease. In: *Catecholamine Research: From Molecular Insights to Clinical Medicine*. P. Nabeshima Ed., Kluwer Academic/Plenum Publishers, New York, 2002.

Lipton, J.W., Robie, H.S., Ling, Z.D., Weese-Mayer, D.E., Carvey, P.M.: 1998. Uterine Position Determines the Extent of Dopamine Reduction after Chronic Prenatal Cocaine Exposure. In: *Annals of the New York Academy of Sciences*. The

Neurochemistry of Drugs of Abuse: Cocaine, Ibogaine, and Substituted Amphetamines. S.F. Ali (ed.), New York Academy of Sciences, N.Y., Vol. 844:314-323.

*Invited Speaking Engagements:*

MichBio Expo, Moderator and Presenter, NCATS-CAN, Opportunities for Accelerating Drug Development, East Lansing, MI (2012)

Saint Mary's Foundation Board of Trustees Meeting, Grand Rapids, MI. Research Update, Bridging Neuroscience Research between the College of Human Medicine and Saint Mary's Hospital (2012)

Saginaw State, Midland Hospital, Midland, MI Udall Center Community Outreach: Update on Parkinson's Disease Research Programs in Michigan (2012)

Parkinson's Association of West Michigan, Grand Rapids, MI. Udall Center Community Outreach: Update on Parkinson's Disease Research Programs in Michigan (2010)

Doran Foundation Annual Lecture, Cascade, MI. Research Update, Potential Etiology and Experimental Therapeutics for Parkinsons Disease (2010)

Northwestern Michigan College, Traverse City, MI Udall Center Community Outreach: Update on Parkinson's Disease Research Programs in Michigan (2010)

Munson Medical Center, Traverse City, MI Grand Rounds, Statewide Initiatives in PD Research. (2010)

Northern Michigan University, Marquette, MI. Udall Center Community Outreach: Update on Parkinson's Disease Research Programs in Michigan (2009)

Marquette General Hospital, Marquette, MI. Grand Rounds, Prenatal MDMA and Parkinson's Disease. (2009)

Lansing Parkinson's Disease Support Group, Lansing, MI. Udall Center Community Outreach: Update on Parkinson's Disease Research Programs in Michigan (2009)

Kennedy Center, Vanderbilt University Medical Center, Mechanisms and Consequences of Embryonic Exposure to MDMA ( April 2007)

University of Cincinnati, Mini-Medical College Speaker Series, The to A-Z of Drugs of Abuse (September 2006)

Neurobehavioral Teratology Society, Tucson Arizona, Developmental Sequelae of Prenatal MDMA Exposure in the Rat (June 2006)

University of Cincinnati, Dept. of Neurology. Title: Mechanisms and Consequences of



Prenatal MDMA Exposure (April, 2004)

Harvard/McLean Hospital. Title: Prenatal MDMA Exposure and its Consequences on the Developing Neonate (January, 2004)

Chicago Chapter for the Society for Neuroscience: Prenatal Cocaine Exposure and its Consequences of Organ Blood Flow and Oxidative Stress. (February 2002)

University of Pittsburgh/Children's Hospital of Pittsburgh. Title: Mechanisms and consequences of *in utero* cocaine exposure on fetal and neonatal rats (September 2000)

Percy Julian Day, Oak Park/River Forest High School. Title: Consequences of cocaine-exposure on rat neurodevelopment: Methodologic considerations (May 2000).

Rush University, Chicago, IL. Pharmacology Works-in-Progress Title: Cocaine-induced Teratology and Uterine Position. (August 1998)

Society for Pediatric Research, Washington DC, Title: Hypoxia and cocaine synergistically reduce dopamine in the carotid body. (May 1997)

Rush University, Chicago, IL. Pediatric Grand Rounds Title: The Consequences of Prenatal Cocaine Exposure. (October, 1996)

Rush University, Chicago, IL. Neurological Sciences Lecture Series. Title: Persisting physiological and behavioral alterations produced by exposure to continuous cocaine. (July, 1993)

University of California, Los Angeles. Title: Long-Term benzodiazepine receptor alteration are dependent upon the duration of cocaine pre-exposure. (May, 1992)

Washington State University. Title: Long-term alterations in biochemistry and behavior from continuous cocaine administration: Implications for a model of stimulant psychosis (July 15, 1991).

*Selected Presentations at Scientific Meetings (from over 100):*

1. V.B. Thompson, C.E. Sortwell, T.J. Collier, K. Steece-Collier & J.W. Lipton. The role of target-derived factors in MDMA-mediated stimulation of dopamine neuron process extension. Society for Neuroscience Abstracts, 2009.
2. V.B. Thompson, C.E. Sortwell, T.J. Collier, K. Steece-Collier & J.W. Lipton. Time course of MDMA-mediated increase in DAT expression in primary mesencephalic cultures. Transmembrane

Transporters in Health and Disease, 2009.

3. V.B. Thompson, C.E. Sortwell, T.J. Collier, K. Steece-Collier & J.W. Lipton. Target tissue is required for MDMA-mediated increases in DA neuron process extension in vitro: The potential role of transgelin-3. American Society for Neural Transplant and Repair Abstracts, 2009.
4. S.E. Gombash, A. Cole-Strauss, J.W. Lipton, T.J. Collier, K. Steece-Collier, B.T. Terpstra, A.L. Spieles-Engemann, B.F. Daley, S.L. Wohlgenant, V.B. Thompson, R.J. Mandel, F. Manfredsson, & C.E. Sortwell. Determination of peak developmental levels of pleiotrophin for optimized gene transfer therapy and in Parkinsonian animal models. American Society for Neural Transplant and Repair Abstracts, 2009.
5. A.L. Spieles-Engemann, M.M. Behbehani, T.J. Collier, K. Steece-Collier, S. L. Wohlgenant, V.B. Thompson, J.W. Lipton, & C.E. Sortwell. Deep Brain Stimulation of the Rodent Subthalamic Nucleus Upregulates Striatal and Pallidal BDNF. American Society for Neural Transplant and Repair Abstracts, 2009.
6. A.L. Spieles-Engemann, M.M. Behbehani, T.J. Collier, K. Steece-Collier, S. L. Wohlgenant, V.B. Thompson, J.W. Lipton, G.T. Mandybur, B.T. Terpstra and C.E. Sortwell. STN DBS Halts Dopamine Neuron Degeneration and Upregulates Striatal BDNF. 15th Quadrennial meeting of the World Society for Stereotactic and Functional Neurosurgery meeting, 2009.
7. A.L. Spieles-Engemann, M.M. Behbehani, T.J. Collier, K. Steece-Collier, S. L. Wohlgenant, V.B. Thompson, J.W. Lipton, & C.E. Sortwell. Deep Brain Stimulation of the Subthalamic Nucleus in a Rodent Model: Effects on Trophic Factors. 13th International Congress of Parkinson's Disease and Movement Disorders 2009.
8. V.B. Thompson, J. Koprach, E.Y. Chen, B. Terpstra, K. Lynch & J. Lipton. Evidence for increased noradrenergic innervation of the prefrontal cortex and hippocampus in the rat following prenatal exposure to MDMA. Society for Neuroscience Abstracts, 2008.
9. J.W. Lipton, L. Pei, V.B. Thompson, E.Y. Chen, A. Yu, K. Steece-Collier. Prenatal MDMA alters monoamine neurochemistry and increases

midbrain DA neurons in young (P35) rats. Society for Neuroscience Abstracts, 2008.

10. V.B. Thompson, J.B. Koprach, K. Steece-Collier, L. Pei, V.P. Young, A. Yu, J.W. Lipton. Prenatal exposure to MDMA results in persistent changes to developing monoamine systems. International Symposium on Drugs of Abuse Abstracts, 2008.
11. V. B. Thompson, S. Benoit, A.B. Norman, K. Lynch, J. Heiman, B. Chambers, M.K. Norman, W.R. Buesing & J.W. Lipton. Prenatal exposure to MDMA results in lasting behavioral changes in the rat. Society for Neuroscience Abstracts, 2007.
12. B.T. Terpstra, J.W. Lipton, K.L. Paumier, N.D. Levine, K.A. Lynch, V.B. Thompson, S.L. Wohlgenant & C.E. Sortwell. The small molecule inosine protects mesencephalic dopamine neurons from a Parkinsonian insult in vitro. Society for Neuroscience Abstracts, 2007.
13. V.B. Thompson, E.G. Tolod, K.R. Lynch, C.E. Sortwell, T.J. Collier & J.W. Lipton. MDMA (ecstasy) increases the growth, survival and expression of the SLC6A3 gene in primary mesencephalic cultures via binding to the dopamine transporter. American Society for Neural Transplant and Repair Abstracts, 2007.
14. C.E. Sortwell, J.W. Lipton, V.B. Thompson, B.T. Terpstra, J. O'Malley, K. Steece-Collier, S.M. Wohlgenant, B.F. Daley, R.J. Mandel & T.J. Collier. Pleiotrophin gene transfer provides neuroprotection for nigrostriatal dopamine neurons. American Society for Neural Transplant and Repair Abstracts, 2007.
15. J.W. Lipton, T.J. Collier, E. Tolod, V.B., Thompson, N.G. Campbell, K.L. Paumier & C.E. Sortwell. MDMA (Ecstasy) enhances dopamine cell survival and neurite outgrowth in vitro. Society for Neuroscience Abstracts, 2006.
16. McNamara, R. K., Sullivan, J., Richtand, N. M., Campbell, N. and Lipton, J.W. Omega-3 fatty acid deficiency increases dopamine concentrations in the nucleus accumbens and augments amphetamine-induced sensitization in DBA/2J mice. Biological Psychiatry 59: S242, 2006.

17. T.J. Collier; J.W. Lipton; B.F. Daley; S. Palfi; Y. Chu; C.E. Sortwell; J.R. Sladek; and J.H. Kordower .Diminished neural compensatory mechanisms during aging as a prelude to parkinsonism. Society for Neuroscience Abstracts, 2006.
18. K.L. Paumier; C.E. Sortwell; T.J. Collier; E.G. Tolod; N.G. Campbell; and J.W. Lipton. MDMA (Ecstasy) enhances dopamine cell survival and neurite outgrowth in vitro. Society for Neuroscience Abstracts, 2006.
19. J.W. Lipton; J.B. Koprach; E.Y. Chen; N.M. Kanaan; J.H. Kordower; and N.G. Campbell Prenatal MDMA-induced increases in mesocortical DA axon density in the prefrontal cortex: evidence for target-derived collateral sprouting. Society for Neuroscience Abstracts, 2005.
20. Z. Ling; Y. Zhu; C. Tong; J.A. Snyder; V. Gottmukkala; P. Sagi; J.W. Lipton; and P.M.Carvey Progressive dopamine (DA) neuron loss in the prenatal lipopolysaccharide rat model of Parkinson's Disease. Society for Neuroscience Abstracts, 2005.
21. J.W. Lipton; N.G. Campbell; and J.B.Koprach; A single subcutaneous injection of MDMA to pregnant rat dams results in significant fetal exposure: A pharmacokinetic analysis. Society for Neuroscience Abstracts, 2004.
22. J.B.Koprach; C.Chung; L.Lin; O.Isacson; E.Chen; N.G.Campbell; N.M.Kanaan; J.H.Kordower; J.W.Lipton. Increases in dopamine fiber density from prenatal MDMA exposure are associated with altered expression of axonal guidance cues.Society for Neuroscience Abstracts, 2004.
23. J.B.Koprach; N. G. Campbell; and J.W. Lipton. Increases in brain-derived neurotrophic factor and alterations in monoamine neurochemistry in the forebrain following neonatal exposure to MDMA. Society for Neuroscience Abstracts, 2003.
24. J.B.Koprach; E.Y. Chen; N.M. Kanaan; N. G. Campbell; J.H. Kordower and J.W. Lipton. Juvenile rats prenatally exposed to MDMA show alterations in exploratory behavior, reductions in monoamine metabolism, and increases in forebrain tyrosine hydroxylase fiber density. Society for Neuroscience Abstracts, 2003.

25. J.B.Koprach; N.M. Kanaan; N. G. Campbell; and J.W. Lipton. Prenatal  $\pm$ MDMA exposure reduces striatal and NAc monoamine metabolism and increases locomotor activity in P21 rats. NBTS Abstracts, ##, 2003.
26. J.B.Koprach; N. G. Campbell; N.M. Kanaan; and J.W. Lipton. Prenatal  $\pm$ MDMA exposure alters neurodevelopment in striatum, nucleus accumbens and frontal cortex and increases locomotor activity in P21 rats. ASNTR Abstracts, *Experimental Neurology*, 181, 2003, 96.
27. J.B.Koprach; S.Gyawali; J.W.Lipton. Chronic perinatal MDMA exposure in rats reduces both serotonin and dopamine in the frontal cortex but not in the brainstem. Society for Neuroscience Abstracts, 809.14, 2002.
28. S.Gyawali; J.B.Koprach; J.W.Lipton. Differential effects of prenatal cocaine and benzoylecgonine exposure on fetal monoamines. Society for Neuroscience Abstracts, 289.8, 2002.
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31. T.J. Collier; B.F. Daley; S.G.Gyawali; Lipton, J.W.; E.Y. Chen; Z.D. Ling; P.M. Carvey; C.E. Sortwell; S.O. McGuire; A. Fletcher-Turner; D.M. Yurek; L. Leventhal; M.E. Emborg; B.C. Blanchard; K. Steece-Collier; S. Palfi; J.R. Sladek; J.H. Kordower. The impact of aging on the therapeutic environment: the features of parkinsonism in adult and aged MPTP-treated monkeys. American Society for Neural Transplantation and Research, 2002.
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35. S.Gyawali; Z.D.Ling; D.A.Gayle; M.Ptaszny; M.D.Camargo; P.M.Carvey; J.W.Lipton. Prenatal cocaine exposure promotes glutathione oxidation and increases tnf -  $\alpha$  production in near - term fetal rat brain. Society for Neuroscience Abstracts, 27,978.19, 2001.
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Soc. Neurosci. Abstr. 21:706, 1995.

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