

BIOGRAPHICAL SKETCH

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NAME Pothos, Emmanuel, N.		POSITION TITLE Assistant Professor	
eRA COMMONS USER NAME EPOTHOS1			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
American College of Greece, Athens, GREECE	B.A.	1988	Experimental Psychology
University of Athens, Athens, GREECE	B.A.	1989	Philosophy
Princeton University, Princeton, NJ, USA	M.A.	1990	Neuroscience
Princeton University, Princeton, NJ, USA	Ph.D.	1994	Neuroscience
Columbia University, New York, NY, USA	Postdoctoral	1999	Neuroscience

A. Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

Positions and Employment

- 1985-1988 Laboratory Assistant in Experimental Psychology, The American College of Greece (Deree College)
- 1987 Laboratory Assistant in Experimental Psychology, University of Cambridge, Cambridge, United Kingdom, (Supervisor: Dr T.W. Robbins)
- 1988-1994 Ph.D. Candidate in Neuroscience and Research Associate, Princeton University, Department of Psychology
- 1994 Postdoctoral Research Scientist, Columbia University, Dept. of Neurology
- 1994-1996 (Obligatory) Military Service, Athens, Greece
- 1996-1999 Postdoctoral Research Fellow, Columbia University, Departments of Neurology and Psychiatry
- 1999-2000 Associate Research Scientist, Columbia University, Departments of Neurology and Psychiatry
- 2000-present Assistant Professor (tenure-track), Tufts University School of Medicine, Department of Pharmacology and Experimental Therapeutics and Sackler School of Graduate Biomedical Sciences
- 2005-present Member Faculty, Program in Neuroscience, Tufts University School of Medicine

Selected Honors

- First Prize Winner for the Best Master's Thesis in the State of New Jersey for 1990 by the New Jersey Psychological Association, Princeton, New Jersey, USA (1991)
- Young Investigator Award Finalist, North American Association for the Study of Obesity (NAASO), Milwaukee, WI (1993)
- NARSAD Young Investigator Award (1995-1998, 1999-2001)
- Aaron Diamond Foundation Research Fellow, New York, N.Y. (1996-2000)
- Society for the Study of Ingestive Behavior Member Travel Award, New York (1998)
- Fellow, North American Association for the Study of Obesity (1998)
- NIDA B/START Award (1999)
- Winner of the Gordon Conference on Catecholamines Travel Award, Oxford, UK (1999)
- Winner of the Conference on *In Vivo* Methods Travel Award, Stony Brook, NY (1999)
- Honorable Mention Recipient of the Daniel X. Freedman Award for Outstanding Basic Research Achievement by a NARSAD Young Investigator, New York, NY (1999)
- Walter Sonneborn Katz Investigator, National Alliance for Research on Schizophrenia and Affective Disorders (NARSAD), New York, NY (1999-2001)

Charlton Award, Tufts University School of Medicine, Boston, MA (2001)
The Medical Foundation New Investigator Award, Boston, MA (2002)
Travel Fellow, Winter Conference on Brain Research (2004)
Finalist, The Bodossaki Foundation Academic Prize in the Neurosciences (2005)

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

REVIEW CHAPTERS AND ARTICLES

Hoebel, B.G.; P. Rada; G.P. Mark; M. Parada; M. Puig de Parada; E. Pothos and L. Hernandez (1996). Hypothalamic control of accumbens dopamine: A system for feeding reinforcement. In G. Bray and D. Ryan (Eds.), Molecular and Genetic Aspects of Obesity, Louisiana State University Press, Pennington Center Nutrition Series, vol. 5, 263-280

Sulzer, D.; E.N. Pothos; B.C. Sun; S. Przedborski; T.K. Chen; A. Ewing; Y. Liu and R. Edwards (1996). Modulation of dopamine secretory vesicle quantal size. In J.L. Gonzalez-Mora, R. Borges and M. Mas (Eds.), Monitoring molecules in neuroscience-Proceedings of the 7th International Conference on *in vivo* methods. University of La Laguna Press, Santa Cruz de Tenerife, 64-65.

Pothos, E. N. and D. Sulzer (1998). Modulation of quantal dopamine release by psychostimulants. In D.S. Goldstein, G. Eisenhofer and R. McCarty (Eds.), Catecholamines: Bridging Basic Science With Clinical Medicine-Advances in Pharmacology 42, 198-202.

Pothos, E.N.; D. Sulzer; B.G. Hoebel (1998). Plasticity of quantal size in ventral midbrain dopamine neurons: possible implications for the neurochemistry of feeding and reward. Appetite 31, 405.

Sulzer, D. and E.N. Pothos (2000). Regulation of quantal size by presynaptic mechanisms. Reviews in the Neurosciences 11, 159-212.

Pothos, E.N. (2001). The effects of extreme nutritional conditions on the neurochemistry of reward and addiction. Acta Astronautica 49, 391-397.

Pothos, E.N. (2002). Regulation of dopamine quantal size in midbrain and hippocampal neurons. Behavioural Brain Research 130, 203-207.

RESEARCH ARTICLES

Pothos, E.; P. Rada; G.P. Mark and B.G. Hoebel (1991). Dopamine microdialysis in the nucleus accumbens during acute and chronic morphine, naloxone-precipitated withdrawal and clonidine treatment. Brain Research 566, 348-350.

Pothos, E.N.; I. Creese and B.G. Hoebel (1995). Restricted eating with weight loss selectively decreases extracellular dopamine in the nucleus accumbens and alters dopamine response to amphetamine, morphine and food intake. The Journal of Neuroscience 15 (10), 6640-6650.

Pothos, E.; M. Desmond and D. Sulzer (1996). L-3,4-Dihydroxyphenylalanine increases the quantal size of exocytotic dopamine release in vitro. Journal of Neurochemistry 66, 629-636.

Fon, E.; E.N. Pothos; B.C. Sun; N. Killeen; D. Sulzer and R.H. Edwards (1997). Vesicular transport regulates monoamine storage and release but is not essential for amphetamine action. Neuron 19, 1271-1283.

Hajnal, A.; E.N. Pothos; L. Lenard and B.G. Hoebel (1998). Effects of feeding and insulin on extracellular acetylcholine in the amygdala of freely moving rats. Brain Research 785, 41-48.

Pothos, E.N.; V. Davila and D. Sulzer (1998). Presynaptic recording of quanta from midbrain dopamine neurons and modulation of the quantal size. The Journal of Neuroscience 18, 4106-4118.

Pothos, E.N.; S. Przedborski; V. Davila, Y. Schmitz and D. Sulzer (1998). D₂-like dopamine autoreceptor activation reduces quantal size in PC12 cells. The Journal of Neuroscience 18, 5575-5585.

Colliver, T.L.; E.J. Hess; E.N. Pothos; D. Sulzer and A.G. Ewing (2000). Quantitative and statistical analysis of the shape of amperometric spikes recorded from two populations of cells. Journal of Neurochemistry 74, 1086-1097.

Pothos, E.N.; K.E. Larsen; D. Krantz; Y.-J. Liu; J.W. Haycock; W. Setlik; M.D. Gershon; R.H. Edwards and D. Sulzer (2000). Synaptic vesicle transporter expression regulates vesicle phenotype and quantal size. The Journal of Neuroscience 20, 7297-7306.

Pothos, E. N.; E. Mosharov; K.P. Liu; W. Setlik; M. Haburcak; Baldini, J.; H. Tamir; M. Gershon and D. Sulzer . (2002). Stimulation-dependent regulation of secretory vesicle pH, volume, and quantal size: a study in rodent and bovine neurosecretory cells and neurons. Journal of Physiology 542, 453-476.

Goldberg, M.S.; A. Pisani, M. Haburcak, T.A. Vortherms, T. Kitada, C. Costa, Y. Tong, G. Martella, A. Tscherter, A. Martins, G. Bernardi, B.L. Roth, E.N. Pothos, P. Calabresi, and J. Shen (2005). Nigrostriatal Dopaminergic Deficits and Hypokinesia Caused by Inactivation of the Familial Parkinsonism-Linked Gene *DJ-1*. Neuron 45, 489-496.

Zhong N, Kim CY, Rizzu P, Geula C, Porter DR, Pothos EN, Squitieri F, Heutink P, Xu J. (2006). DJ-1 transcriptionally up-regulates the human tyrosine hydroxylase by inhibiting the sumoylation of pyrimidine tract-binding protein-associated splicing factor. J Biol Chem 281: 20940.

Fulton S, Pissios P, Manchon RP, Stiles L, Frank L, Pothos EN, Maratos-Flier E, Flier JS. (2006). Leptin regulation of the mesoaccumbens dopamine system. Neuron 51: 811.

Kitada T, Pisani A, Porter DR, Yamaguchi H, Tscherter A, Martella G, Bonsi P, Zhang C, Pothos EN, Shen J. (2007). Impaired dopamine release and synaptic plasticity in the striatum of PINK1-deficient mice. Proc Natl Acad Sci U S A 104 (27):11441-6.

Pissios, P, Frank L, Kennedy AR, Marino FE, Liu F-F, Pothos EN, Maratos-Flier E. (2008). Dysregulation of the mesolimbic dopamine system in MCH *-/-* mice. Biological Psychiatry, in press.

Geiger BM, Behr GG, Frank L, Caldera-Siu AD, Beinfeld, MC, Kokkotou, EG, Pothos, EN (2008). Evidence for defective mesolimbic dopamine exocytosis in obesity-prone rats. FASEB Journal, in press.

Sinnayah P, Jobst EE, Rathner JA, Caldera-Siu AD, Tonelli-Lemos L, Eusterbrock AJ, Enriori PJ, Pothos EN, Grove KL and Cowley MA (2008). Feeding induced by cannabinoids is mediated independently of the melanocortin system. PLoS ONE, in press.

C. Research Support.

Active Research Support

1 R01 DK065872 Pothos (PI)

5/01/05-4/30/10

NIH/NIDDK \$200,000 (direct costs p.a.)

The Effects of Dietary Obesity on Midbrain Dopamine Systems

The objective is to identify the effects of dietary obesity on accumbens, striatal and cortical dopamine pathways and approach obesity as an addictive disorder.

Research Grant Pothos (PI)

4/1/08-3/31/11

The A.G. Leventis Foundation \$27,000

The Effects of Magnetic Excitation on Monoamine Neurotransmitter Secretion and Cell Viability in Peripheral and Central Systems

The objective is to support research on the effects of exposure to magnetic fields on biological systems.

Tufts CNR Pilot Research Award Pothos, Dunlap (PIs) 3/1/08-2/28/09

Tufts Center in Neuroscience Research \$10,000

The Effects of Magnetic Excitation on Catecholamine Neurotransmitter Release

The objective is to collect pilot results on the effects of exposure to magnetic fields on catecholamine exocytosis.

P50 NS38375 Lansbury, Shen (PIs)

8/01/05-7/31/10

NIH/ NINDS \$18,500

Familial Parkinson's Disease: Clues for Pathogenesis

The objective of this project is to assess an array of gene mutations as a model of Parkinson's Disease.

Role: Co-Investigator

1R01 DK069983 Maratos-Flier (PI)

9/01/06-8/31/11

NIH/NIDDK \$18,625

Actions of Melanin Concentrating Hormone in the Brain

The objective is to identify the effects of MCH on central dopamine systems.

Role: Co-investigator

5P01DK056116 Kahn (PI)

4/1/05-3/31/10

NIH/NIDDK \$15,773

Peripheral and Central Interactions in Energy Balance

The objective is to study the interactions of homeostatic signals with central monoamine systems in obesity.

Role: Co-investigator

Completed Research Support (selected)

Research Grant Pothos (PI)

7/01/05-2/28/07

American Parkinson's Disease Association

Deficits in Dopaminergic Neurotransmission by Inactivation of the Familial Parkinsonism-Linked Genes Parkin and DJ-1

The objective of this project is to assess the DJ-1 and parkin $-/-$ mouse as a model of Parkinson's Disease.

International Research Grant Pothos (PI)

7/01/04-6/30/06

Parkinson's Disease Foundation

The Effects of DJ-1 and Parkin Gene Deletion on Synaptic Catecholamine Neurotransmission

The objective of this project is to assess the DJ-1 and parkin $-/-$ mouse as a model of Parkinson's Disease.

New Investigator Award Pothos (PI)

12/01/02-11/30/05

The Medical Foundation

The Effects of Dietary Obesity on CNS Reward Systems

The objective of this pilot project award was to generate preliminary evidence on the effects of dietary obesity on midbrain catecholamine systems.

Young Investigator Award Pothos (PI)

7/01/99-9/30/02

National Alliance for Research on Schizophrenia and Affective Disorders (NARSAD)

The role of protein kinase A in the regulation of dopamine quantal size: implications for the antipsychotics, mechanism of action.

The objective was to study the effects of cAMP analogs on dopamine quantal size

B/START RO3 Award Pothos (PI)

7/01/99-6/30/00

NIH/NIDA

The role of the VMAT2 transporter overexpression in stimulation-dependent dopamine release and behavior.