

**Curriculum Vitae
Diana Martinez, M.D.**

Date of CV preparation: September 1, 2016

Personal Data:

Name: Diana Martinez, MD

Birthplace: Wichita Falls, Texas

Citizenship: United States Citizen

Academic and Hospital Appointments

All titles held in the Department of Psychiatry, Columbia University College of Physicians and Surgeons:

7/2013-present Associate Professor of Psychiatry at the Columbia University
Medical Center
7/2007-6/2013 Associate Professor of Clinical Psychiatry
7/2004-6/2007 Assistant Professor of Clinical Psychiatry
7/2001-6/2004 Irving Assistant Professor of Clinical Psychiatry
7/2000-6/2001 Assistant Professor of Clinical Psychiatry

Education

5/1990-5/1994 MD Cornell University Medical College
5/1984-5/1987 BA St. John's College, Major: Philosophy

Traineeship

5/1995-5/1998 Residency in Psychiatry, Cornell University Medical Center/New York
Hospital, New York, NY
5/1994-5/1995 Internship in Psychiatry, Cornell University Medical Center/New York
Hospital, New York, NY

Licensure and Board Certification

2010-2020 Recertification, American Board of Psychiatry and Neurology
2000 Diplomate, American Board of Psychiatry and Neurology
1998 Licensed in the State of New York

Honors and Awards

2003 Bristol Meyers Squibb Travel Award to the American College of
Neuropsychopharmacology
2001 Florence Irving Assistant Professorship
1998 Research Colloquium for Junior Investigators, American Psychiatric Association
1996-1998 APA - Mead Johnson Fellowship

- 1995 American Psychiatric Association/PMRTP travel award to the annual meeting
 1994 Anthony Seth Werner Prize for excellence in the study of infectious diseases.
 Cornell University Medical College
 1987 Thomas J. Watson Award for scientific independent study abroad.

Professional Organizations and Academic Service

- present Co-director Imaging Core Pilot Award Program, Irving Institute for
 Clinical and Translational Research
 present Journal Reviewer, Biological Psychiatry, Molecular Psychiatry, Drug and
 Alcohol Dependence, Frontiers in Psychiatry
 present Search Committee for Director of the Columbia University Medical
 Center Morton Kreitchman PET center
 present Co-director Irving Institute for Clinical and Translational Research
 Imaging Pilot Award Program
 2016-present Board of Scientific Counselors, National Institute on Drug Abuse
 2015-present Member, NOIT (Neurology, Ophthalmology, and Imaging Technology),
 NIH study section committee
 2015-present Editorial Board Member, Neuropsychopharmacology
 2013-present Subcommittee Chair, Institutional Review Board/NYSPI
 2012-present Ad-hoc reviewer: Special Emphasis Panels
 2007-present National Hispanic Science Network, steering member
 2007-present Member, Institutional Review Board/NYSPI

Fellowship and Grant Support

Present Support

- 2016-2018 Principal Investigator, National Institute on Alcohol Abuse and Alcoholism Grant
 Award (R21 AA023879) “A Pilot Study of Deep Brain Stimulation for Alcohol
 Dependence”
 2009-2017 Principal Investigator, National Institute On Drug Abuse Grant Award (1 R01
 DA027777, “Imaging the Neurobiology of a Behavioral Treatment for Cocaine
 Dependence”.
 2009-2019 Principal Investigator, National Institute On Drug Abuse Independent Scientist
 Award (K02 DA026525) “Using PET to Image the Neurochemistry of
 Addiction”.

Past Support

- 2012-2015 Co-Investigator, National Institute On Drug Abuse Grant Award (R21 DA034920)
 “Imaging the Effect of Deep rTMS on Brain Activity in Chronic Cannabis Use”
 (Principal Investigator Nina Urban)
 2012-2015 Principal Investigator, National Institute On Drug Abuse Grant Award (R21

- DA034433) “Imaging the Effect of rTMS on Brain Activity in Cocaine Abusers”.
- 2010-2015 Principal Investigator, National Institute on Alcohol Abuse and Alcoholism Grant Award (R01 AA 017648) “Imaging the Neurochemistry of Binge Drinking in College-aged Young Adults”
- 2010-2015 Principal Investigator, National Institute On Drug Abuse Grant Award (R01 DA027777) “Imaging the Neurochemistry of Negative Reinforcement in Cocaine Abuse”
- 2009-2011 Co-Investigator, National Institute On Drug Abuse Grant Award (1 RC2 DA028847-01), “Adenovirus-based Anti-Cocaine Vaccine” (Principal Investigator Ronald Crystal, Weill Medical College of Cornell University).
- 2009-2013 Co-Investigator, National Institute On Mental Health (R01 MH079397), “Translational Research on Eating Disorders: Reward Systems” (Principal Investigator Timothy Walsh).
- 2009-2011 Principal Investigator, National Institute On Drug Abuse Grant Award (1 RC1 DA028033, “PET imaging of the mGluR5 receptor in cocaine abuse”.
- 1995-2012 Co-Investigator, National Institute On Drug Abuse Grant Award (R01 DA004130-13), “Anorectic Drugs: Abuse and Behavioral Mechanisms of Action” (Principal Investigator Richard Foltin).
- 2005-2015 Co-Investigator, National Institute On Drug Abuse Grant Award (PA50 DA 09236), “Novel Medication Approaches for Substance Abuse” (Principal Investigator Herbert D. Kleber), Principal Investigator of Project 2 “Mesolimbic DA D1/D2 Receptors and Response to Cocaine”.
- 2005-2010 Principal Investigator, National Institute On Drug Abuse Grant Award (1 R01 DA016788), “PET imaging of Mesolimbic Dopamine in Heroin Dependence”.
- 2005-2007 Principal Investigator, National Institute On Drug Abuse Grant Award (1 R21 DA016183, “Kappa receptor selective PET ligands”.
- 2001-2004 Principal Investigator, Irving Scholar Award, Columbia University, “PET Imaging of the Mu Opioid Receptor and Dopamine Function in Alcoholism”.
- 2000-2005 Principal Investigator, Mentored Patient-oriented Career Development Award (NIDA) “Imaging Mesolimbic DA Receptors in Cocaine Abuse”.
- 2000-2002 Principal Investigator, NARSAD Young Investigator Award “Use of a novel PET radiotracer, [11C]NPA, to measure D2 high affinity sites in schizophrenia”.

Educational Contributions**Direct teaching/Percepting/Supervising**

- 2000-present Presentation of an annual lecture to the psychiatric residents of the New York Presbyterian Hospital in the course “Psychopharmacology & Neuroscience”. The lecture is part of a course designed to teach third year residents the neuroscience and treatment of addiction.
- 2015-present Presentation of annual lecture in to pharmacology students in the course ‘System Pharamcology’. The lecture is designed to teach pharmacology student the neurobiology of addiction and related psychiatric disorders.
- 2002 Preceptor for a course in psychiatric disorders for medical students on a weekly basis. The medical students were required to interview patients and develop a case formulation for each patient in class under my supervision.
- 1998-2000 Supervision of second and third year residents from the Creedmoor Psychiatric Center on a weekly basis. The supervision included case presentations in a group setting, observing the resident’s patient interviews, and reviewing written reports.

Advising and Mentorship

- 2000-2012 Mentoring of Psychiatry residents who have opted into the research option. Responsibilities included monthly seminars to assess the progress made in developing a research plan and mentorship.
- 2000-present Mentoring of fellows in the Department of Psychiatry in PET imaging methods and the combination of imaging and clinical outcomes.
- 2005-present Mentoring of fellows in the Division on Substance Use Disorders in translational research, imaging, and device development.
- 2010-present Mentor for the National Hispanic Science Network, focusing on graduate students and post graduates interested in pursuing a career in addiction neuroscience.
- 2012-present Mentor for the Columbia University Medprep program, which recruits minority undergraduate student interested in pursuing a degree in medicine.

Publications**2017**

61. Trifilieff P, Ducrocq F, van der Veldt S, **Martinez D**. Blunted Dopamine Transmission in Addiction: Potential Mechanisms and Implications for Behavior. *Semin Nucl Med*. 2017 Jan;47(1):64-74.
Note: My contribution to this publication was to serve as the senior author on a review of imaging in addiction and the behavioral associated with the alterations in neurochemistry.

2016

60. Salling MC, **Martinez D**. Brain Stimulation in Addiction. *Neuropsychopharmacology*. 2016 Nov;41(12):2798-2809.

Note: My contribution to this publication was to review the previous research using brain stimulation for addiction.

59. Cooper ZD, Johnson KW, Pavlicova M, Glass A, Vosburg SK, Sullivan MA, Manubay JM, **Martinez D**, Jones JD, Saccone PA, Comer SD. The effects of ibudilast, a glial activation inhibitor, on opioid withdrawal symptoms in opioid-dependent volunteers. *Addict Biol.* 2016 Jul;21(4):895-903.

Note: My contribution to this publication was to review the scientific rationale for the study and to serve as the physician monitoring the subjects.

2015

58. Horga G, Maia TV, Marsh R, Hao X, Xu D, Duan Y, Tau GZ, Graniello B, Wang Z, Kangarlu A, **Martinez D**, Packard MG, Peterson BS. Changes in corticostriatal connectivity during reinforcement learning in humans. *Hum Brain Mapp.* 2015 Feb;36(2):793-803.

Note: My contribution to this publication was subject recruitment and obtaining the fMRI scans in collaboration with this imaging group.

57. Broft A, Slifstein M, Osborne J, Kothari P, Morim S, Shingleton R, Kenney L, Vallabhajosula S, Attia E, **Martinez D**, Timothy Walsh B. Striatal dopamine type 2 receptor availability in anorexia nervosa. *Psychiatry Res.* 2015 Sep 30;233(3):380-7.

Note: My contribution to this publication was the mentoring and supervision of Dr. Broft for each aspect of the PET imaging used in this study.

56. *Chavkin C, **Martinez D**. Kappa Antagonist JDTC in Phase 1 Clinical Trial. *Neuropsychopharmacology.* 2015 Aug;40(9):2057-8.

Note: My contribution to this publication was the review and synthesis of the human safety data obtained with JDTC.

2014

55. *Trifilieff P, **Martinez D**. Blunted dopamine release as a biomarker for vulnerability for substance use disorders. *Biol Psychiatry.* 2014 Jul 1;76(1):4-5.

Note: My contribution to this publication was the mentoring of Dr. Trifilieff in human studies and review of the PET literature.

54. Luo SX, **Martinez D**, Carpenter KM, Slifstein M, Nunes EV. Multimodal predictive modeling of individual treatment outcome in cocaine dependence with combined neuroimaging and behavioral predictors. *Drug Alcohol Depend.* 2014 Jul 10.

Note: My contribution to this publication was the mentoring and supervision of Dr. Luo for each aspect of the PET imaging used in this study.

53. Tau GZ, Marsh R, Wang Z, Torres-Sanchez T, Graniello B, Hao X, Xu D, Packard MG, Duan Y, Kangarlu A, Martinez D, Peterson BS. Neural correlates of

reward-based spatial learning in persons with cocaine dependence. *Neuropsychopharmacology*. 2014 Feb;39(3):545-55.

Note: My contribution to this publication was subject recruitment, obtaining the fMRI scans, and mentoring of Dr. Tau with respect to imaging in addiction.

2013

52. ***Martinez D**, Slifstein M, Nabulsi N, Grassetti A, Urban NB, Perez A, Liu F, Lin SF, Ropchan J, Mao X, Kegeles LS, Shungu DC, Carson RE, Huang Y. Imaging Glutamate Homeostasis in Cocaine Addiction with the Metabotropic Glutamate Receptor 5 Positron Emission Tomography Radiotracer [¹¹C]ABP688 and Magnetic Resonance Spectroscopy. *Biol Psychiatry*. 2013 Sep 11.
Citations: 12
Impact Factor: 11.2
This imaging paper used Positron Emission Tomography (PET) to image the metabotropic glutamate receptor type 5 and glutamate signaling with Magnetic Resonance Spectroscopy. The results showed that cocaine dependence is associated with a reduction in mGluR5 binding but no change in glutamate imaging.
Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.
51. *Trifilieff P, **Martinez D**. Imaging addiction: D2 receptors and dopamine signaling in the striatum as biomarkers for impulsivity. *Neuropharmacology*. 2013 Jul 10.
Note: My contribution to this publication was the mentoring of Dr. Trifilieff in human studies and review the PET literature.
50. Comer SD, Mogali S, Saccone PA, Askalsky P, **Martinez D**, Walker EA, Jones JD, Vosburg SK, Cooper ZD, Roux P, Sullivan MA, Manubay JM, Rubin E, Pines A, Berkower EL, Haney M, Foltin RW. Effects of acute oral naltrexone on the subjective and physiological effects of oral d-amphetamine and smoked cocaine in cocaine abusers. *Neuropsychopharmacology*. 2013 Nov;38(12):2427-38.
Note: My contribution to this publication was to review the scientific rationale for the study and to serve as the physician monitoring the subjects.
49. Trifilieff P, Feng B, Urizar E, Winiger V, Ward RD, Taylor KM, **Martinez D**, Moore H, Balsam PD, Simpson EH, Javitch JA. Increasing dopamine D2 receptor expression in the adult nucleus accumbens enhances motivation. *Mol Psychiatry*. 2013 Sep;18(9):1025-33.
Note: My contribution to this publication was to review the human data and relevance of the results of this rodent study.
48. Maoz A, Hicks MJ, Vallabhjousula S, Synan M, Kothari PJ, Dyke JP, Ballon DJ, Kaminsky SM, De BP, Rosenberg JB, **Martinez D**, Koob GF, Janda KD, Crystal

RG. Adenovirus capsid-based anti-cocaine vaccine prevents cocaine from binding to the nonhuman primate CNS dopamine transporter. *Neuropsychopharmacology*. 2013 Oct;38(11):2170-8.

Note: My contribution to this publication was to provide the scientific rationale for the imaging study, supervise the parameters for scan acquisition and data analysis.

47. *Trifilieff P, **Martinez D**. Kappa-opioid receptor signaling in the striatum as a potential modulator of dopamine transmission in cocaine dependence. *Front Psychiatry*. 2013;4:4.

Note: My contribution to this publication was the mentoring of Dr, Trifilieff in human studies and to review the PET literature.

46. Bough KJ, Amur S, Lao G, Hemby SE, Tannu NS, Kampman KM, Schmitz JM, **Martinez D**, Merchant KM, Green C, Sharma J, Dougherty AH, Moeller FG. Biomarkers for the Development of New Medications for Cocaine Dependence. *Neuropsychopharmacology*. 2013 Aug 27.

Note: My contribution to this publication was to review the PET literature and it's relevance to treatment development.

2012

45. Narendran R, Lopresti BJ, **Martinez D**, Mason NS, Himes M, May MA, Daley DC, Price JC, Mathis CA, Frankle WG. In vivo evidence for low striatal vesicular monoamine transporter 2 (VMAT2) availability in cocaine abusers. *Am J Psychiatry*. 2012 Jan;169(1):55-63

Note: My contribution to this publication was mentoring of Dr. Narendran with respect to imaging in addiction and assisting with the PET scan parameters.

44. Broft A, Shingleton R, Kaufman J, Liu F, Kumar D, Slifstein M, Abi-Dargham A, Schebendach J, Van Heertum R, Attia E, **Martinez D**, Walsh BT. Striatal dopamine in bulimia nervosa: A PET imaging study. *Int J Eat Disord*. 2012 Feb 13.

Note: My contribution to this publication was the mentoring and supervision of Dr. Broft for each aspect of the PET imaging used in this study.

43. ***Martinez D**, Saccone PA, Liu F, Slifstein M, Orlowska D, Grassetti A, Cook S, Broft A, Van Heertum R, Comer SD. Deficits in dopamine D(2) receptors and presynaptic dopamine in heroin dependence: commonalities and differences with other types of addiction. *Biol Psychiatry*. 2012 1;71(3):192-8.

Citations: 23

Impact Factor: 11.2

This paper used Positron Emission Tomography (PET) to image dopamine transmission in heroin dependence. The results showed that heroin addiction, like addiction to other drugs of abuse, is associated with low D2/3 receptor binding and low pre-synaptic dopamine.

Dr. Martinez is the first author and served as the Principal Investigator of the

grant and the study.

42. Liu F, Majo VJ, Prabhakaran J, Castrillion J, Mann JJ, **Martinez D**, Kumar JS. Radiosynthesis of [(11)C]BBAC and [(11)C]BBPC as potential PET tracers for orexin2 receptors. *Bioorg Med Chem Lett*. 2012 Mar 15;22(6):2172-4.
Note: My contribution to this publication was the mentoring and supervision of Dr. Liu in the PET imaging used in this publication.

2011

41. Broft AI, Berner LA, **Martinez D**, Walsh BT. Bulimia nervosa and evidence for striatal dopamine dysregulation: a conceptual review. *Physiol Behav*. 2011 Jul 25;104(1):122-7.
Note: My contribution to this publication was the mentoring and supervision of Dr. Broft for each aspect of the PET imaging used in this study.
40. ***Martinez D**, Carpenter KM, Liu F, Slifstein M, Broft A, Friedman AC, Kumar D, Van Heertum R, Kleber HD, Nunes E. Imaging dopamine transmission in cocaine dependence: link between neurochemistry and response to treatment. *Am J Psychiatry*. 2011 Jun;168(6):634-41.
Citations: 106
Impact Factor: 11.2
This imaging paper used Positron Emission Tomography (PET) to image dopamine D2 receptors in subjects where social status and social support were measured. A correlation was seen between social status and dopamine D(2/3) receptors, where volunteers with the higher status had higher values for [(11)C]raclopride BP. A similar correlation was seen with the perceived social support. The results of this study support the hypothesis that social status and social support is correlated with D(2/3) receptor binding.
Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.
39. Narendran R, **Martinez D**, Mason NS, Lopresti BJ, Himes ML, Chen CM, May MA, Price JC, Mathis CA, Frankle WG. Imaging of dopamine D(2/3) agonist binding in cocaine dependence: a [(11) C]NPA positron emission tomography study. *Synapse*. 2011 Dec;65(12):1344-9.
Note: My contribution to this publication was mentoring of Dr. Narendran with respect to imaging in addiction and assisting with the PET scan parameters.

2010

38. Urban NB, Kegeles LS, Slifstein M, Xu X, **Martinez D**, Sakr E, Castillo F, Moadel T, O'Malley SS, Krystal JH, Abi-Dargham A. Sex differences in striatal dopamine release in young adults after oral alcohol challenge: a positron emission tomography imaging study with [¹¹C]raclopride. *Biol Psychiatry*. 2010 Oct 15;68(8):689-96.

Note: My contribution to this publication was to advise and assist with the selection of the study population and imaging methods.

37. ***Martinez D**, Orlowska D, Narendran R, Slifstein M, Liu F, Kumar D, Broft A, Van Heertum R, Kleber HD. Dopamine type 2/3 receptor availability in the striatum and social status in human volunteers. *Biol Psychiatry*. 2010 Feb 1;67(3):275-8.
Citations: 73
Impact Factor: 12.3
This imaging paper used Positron Emission Tomography (PET) to dopamine transmission in treatment seeking cocaine abusers. The results showed that both of these outcome measures were reduced in the volunteers who failed to respond to treatment compared to those who experienced a positive treatment response. These findings provide insight into the neurochemistry of treatment response and show that low dopamine transmission is associated with treatment failure. Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.
36. ***Martinez D**, Narendran R. Imaging neurotransmitter release by drugs of abuse. *Curr Top Behav Neurosci*. 2010;3:219-45.
Note: My contribution to this publication was mentoring of Dr. Narendran with respect to imaging in addiction and PET scanning in drug dependence.
35. Marsh R, Hao X, Xu D, Wang Z, Duan Y, Liu J, Kangarlu A, **Martinez D**, Garcia F, Tau GZ, Yu S, Packard MG, Peterson BS. A virtual reality-based fMRI study of reward-based spatial learning. *Neuropsychologia*. 2010 Aug;48(10):2912-21.
Note: My contribution to this publication was subject recruitment and obtaining the fMRI scans in collaboration with this imaging group.
34. Narendran R, Mason NS, Laymon CM, Lopresti BJ, Velasquez ND, May MA, Kendro S, **Martinez D**, Mathis CA, Frankle WG. A comparative evaluation of the dopamine D(2/3) agonist radiotracer [¹¹C](-)-N-propyl-norapomorphine and antagonist [¹¹C]raclopride to measure amphetamine-induced dopamine release in the human striatum. *J Pharmacol Exp Ther*. 2010 May;333(2):533-9.
Note: My contribution to this publication was mentoring of Dr. Narendran with respect to imaging in addiction and assisting with the PET scan parameters.
- 2009**
33. ***Martinez D**, Slifstein M, Narendran R, Foltin RW, Broft A, Hwang DR, Perez A, Abi-Dargham A, Fischman MW, Kleber HD, Laruelle M. Dopamine D1 Receptors in Cocaine Dependence Measured with PET and the Choice to Self-Administer Cocaine. *Neuropsychopharmacology*. 2009 Jun;34(7):1774-82.
Citations: 21
Impact Factor: 6.4
This imaging paper used Positron Emission Tomography (PET) to quantify

dopamine type 1 receptor binding in cocaine dependence. The results showed that there was no difference in D1 receptor availability between subjects with cocaine use disorder and controls. The results did show that D1 receptor binding correlated with the choice to self-administer cocaine.

Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.

32. Schneier FR, Abi-Dargham A, **Martinez D**, Slifstein M, Hwang DR, Liebowitz MR, Laruelle M. Dopamine transporters, D(2) receptors, and dopamine release in generalized social anxiety disorder. *Depress Anxiety*. 2009;26(5):411-8.
Note: My contribution to this publication was to advise on study design and PET imaging methods.
31. ***Martinez D**, Slifstein M, Gil R, Hwang DR, Huang Y, Perez A, Frankle WG, Laruelle M, Krystal JK, Abi-Dargham A. Positron emission tomography imaging of the serotonin transporter and 5-HT(1A) receptor in alcohol dependence. *Biol Psychiatry*. 2009 Jan 15;65(2):175-80.
Citations: 11
Impact Factor: 12.3
This imaging paper used Positron Emission Tomography (PET) to quantify serotonin type 1A receptor and serotonin transporter binding in alcohol dependence. The results showed that there was no difference in serotonin 1A receptor availability or the serotonin transporter density between subject groups. Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.
30. ***Martinez D**, Greene K, Broft A, Kumar D, Liu F, Narendran R, Slifstein M, Van Heertum R, Kleber HD. Lower Level of Endogenous Dopamine in Patients With Cocaine Dependence: Findings From PET Imaging of D2/D3 Receptors Following Acute Dopamine Depletion. *Am J Psychiatry*. 2009 Oct;166:1170-7.
Citations: 55
Impact Factor: 12.3
This imaging paper used Positron Emission Tomography (PET) to assess the levels of endogenous dopamine that occupy the dopamine type 2 receptor at baseline in cocaine dependence. The results showed that cocaine use disorder was associated with lower levels of endogenous dopamine, indicating that previous studies underestimate the between group difference. This paper is frequently cited to address a potential confounder in PET imaging papers, since it shows that the confounder does not negate previous imaging studies. Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.

2008

29. ***Martinez D**, Kim JH, Krystal J, Abi-Dargham A. Imaging the neurochemistry of

alcohol and substance abuse. *Neuroimaging Clin N Am.* 2008 Nov;17(4):539-55.

Citations: 26

Impact Factor: 1.5

This review paper includes a summary of the imaging research in addiction and the behavioral correlates of the neurochemistry of addiction.

Dr. Martinez is the first author of this review paper.

28. Schneier FR, **Martinez D**, Abi-Dargham A, Zea-Ponce Y, Simpson HB, Liebowitz MR, Laruelle M. Striatal dopamine D(2) receptor availability in OCD with and without comorbid social anxiety disorder: preliminary findings. *Depress Anxiety.* 2008;25(1):1-7.
Note: My contribution to this publication was to advise on study design and PET imaging methods.
27. *Narendran R, **Martinez D**. Cocaine abuse and sensitization of striatal dopamine transmission: A critical review of the preclinical and clinical imaging literature. *Synapse.* 2008 Aug 21;62(11):851-869.
Note: My contribution to this publication was to review, with Dr. Narendran, the imaging finding is addiction with respect to the animal models of drug use.

2007

26. Narendran R, Slifstein M, Hwang DR, Hwang Y, Scher E, Reeder S, **Martinez D**, Laruelle M. Amphetamine-induced dopamine release: duration of action as assessed with the D2/3 receptor agonist radiotracer (-)-N-[(11)C]propyl-norapomorphine ([11C]NPA) in an anesthetized nonhuman primate. *Synapse.* 2007 Feb;61(2):106-9.
Note: My contribution to this publication was mentoring of Dr. Narendran in the imaging of non-human primates and striatal dopamine signaling.
25. ***Martinez D**, Narendran R, Foltin RW, Slifstein M, Hwang DR, Broft A, Huang Y, Cooper TB, Fischman MW, Kleber HD, Laruelle M. Amphetamine-induced dopamine release: markedly blunted in cocaine dependence and predictive of the choice to self-administer cocaine. *Am J Psychiatry.* 2007 Apr;164(4):622-9.
Citations: 121
Impact Factor: 12.3
This imaging paper used Positron Emission Tomography (PET) to characterize pre- and postsynaptic dopamine function in recently detoxified cocaine-dependent subjects. Cocaine dependence was associated with a marked reduction in amphetamine-induced dopamine release in each of the functional sub-regions of the striatum. Blunted dopamine transmission in the ventral striatum was predictive of the choice for cocaine over money. Cocaine dependence is associated with impairment of dopamine function, and this impairment appears to play a critical role in relapse.
Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.

24. ***Martinez D**, Kim JH, Krystal J, Abi-Dargham A. Imaging the neurochemistry of alcohol and substance abuse. *Neuroimaging Clin N Am.* 2007 Nov;17(4):539-55.
Citations: 26
Impact Factor: 1.5
This review paper includes a summary of the imaging research in addiction and the behavioral correlates of the neurochemistry of addiction.
Dr. Martinez is the first author of this review paper.

2006

23. Slifstein M, Hwang DR, **Martinez D**, Ekelund J, Huang Y, Hackett E, Abi-Dargham A, Laruelle M. Biodistribution and radiation dosimetry of the dopamine D2 ligand 11C-raclopride determined from human whole-body PET. *J Nucl Med.* 2006 Feb;47(2):313-9.
Note: My contribution to this publication was to advise on study design, subject selection, and PET imaging methods.
22. Trujillo KA, Castañeda E, **Martínez D**, González G. Biological research on drug abuse and addiction in Hispanics: current status and future directions. *Drug Alcohol Depend.* 2006 Sep;84 Suppl 1:S17-28.
Note: My contribution to review the state of imaging in addiction in specific ethnic populations.

2005

21. Narendran R, Frankle WG, Keefe R, Gil R, **Martinez D**, Slifstein M, Kegeles L, LS, Talbot PS, Huang Y, Hwang DR, Khenissi L, Cooper TB, Laruelle M, Abi-Dargham A. Altered prefrontal dopaminergic function in chronic recreational ketamine users. *Am J Psychiatry.* 2005 Dec;162(12):2352-9.
Note: My contribution to this publication was to mentor Dr. Narendran in the imaging of addiction and PET methods.
20. * **Martinez D**, Gil R, Slifstein M, Hwang DR, Huang Y, Perez A, Kegeles L, Talbot P, Evans S, Krystal J, Laruelle M, Abi-Dargham A. Alcohol dependence is associated with blunted dopamine transmission in the ventral striatum. *Biological Psychiatry.* 2005 Nov 15; 58(10):779-86.
Citations: 101
Impact Factor: 11.2
This imaging paper used Positron Emission Tomography (PET) to characterize striatal dopamine function in detoxified alcohol dependent subjects. Alcohol dependence was associated with a decrease in dopamine D2 receptors and blunted amphetamine-induced dopamine release in the ventral striatum. This study showed that alcohol dependence was associated with a decrease in D2 receptors in each striatal subdivision, whereas amphetamine-induced dopamine release was reduced in the limbic striatum only.

Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.

19. Narendran R, Hwang DR, Slifstein M, Hwang Y, Huang Y, Ekelund J, Guillin O, Scher E, **Martinez D**, Laruelle M. Measurement of the proportion of D2 receptors configured in state of high affinity for agonists in vivo: a positron emission tomography study using [11C]N-propyl-norapomorphine and [11C]raclopride in baboons. *J Pharmacol Exp Ther.* 2005 Oct;315(1):80-90.
Note: My contribution to this publication was mentoring of Dr. Narendran in the imaging of non-human primates and striatal dopamine signaling.

18. Kent JM, Coplan JD, Mawlawi O, Martinez JM, Browne ST, Slifstein M, **Martinez D**, Abi-Dargham A, Laruelle M, Gorman JM. Prediction of panic response to a respiratory stimulant by reduced orbitofrontal cerebral blood flow in panic disorder. *Am J Psychiatry.* 2005 Jul;162(7):1379-81.
Note: My contribution to this publication was to advise on study design and to assist with the acquisition of the PET imaging.

17. Talbot PS, Narendran R, Butelman ER, Huang Y, Ngo K, Slifstein M, **Martinez D**, Laruelle M, Hwang DR. 11C-GR103545, a radiotracer for imaging kappa-opioid receptors in vivo with PET: synthesis and evaluation in baboons. *J Nucl Med.* 2005 Mar;46(3):484-94.
Note: My contribution to this publication was to advise on study design, including the relevance of kappa receptor imaging, and to assist with the acquisition of the PET imaging.

2004

16. ***Martinez D**, Broft A, Foltin RW, Slifstein M, Hwang DR, Huang Y, Perez A, Frankle WG, Cooper T, Kleber HD, Fischman MW, Laruelle M. Cocaine dependence and D2 receptor availability in the functional subdivisions of the striatum: relationship with cocaine-seeking behavior. *Neuropsychopharmacology.* 2004 Jun;29(6):1190-202.
Citations: 86
Impact Factor: 6.4
This imaging paper used Positron Emission Tomography (PET) to quantify dopamine D2 receptor levels in the striatum and to correlate this with cocaine seeking behavior. The results showed that cocaine abuse was associated with a decrease in D2 receptor binding. The results also showed that D2 binding was not associated with drug seeking behavior, contrary to expectation.
Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.

15. Narendran R, Hwang DR, Slifstein M, Talbot PS, Erritzoe D, Huang Y, Cooper TB, **Martinez D**, Kegeles LS, Abi-Dargham A, Laruelle M. In vivo

vulnerability to competition by endogenous dopamine: Comparison of the D2 receptor agonist radiotracer (-)-N-[11C]propyl-norapomorphine ([11C]NPA) with the D2 receptor antagonist radiotracer [11C]-raclopride. *Synapse*. 2004; Jun 1;52(3):188-208.

Note: My contribution to this publication was mentoring of Dr. Narendran in the imaging of non-human primates and striatal dopamine signaling.

14. Hwang DR, Narendran R, Huang Y, Slifstein M, Talbot PS, Sudo Y, Van Berckel BN, Kegeles LS, **Martinez D**, Laruelle M. Quantitative analysis of (-)-N-(11)C-propyl-norapomorphine in vivo binding in nonhuman primates. *J Nucl Med*. 2004; 45(2):338-46.

Note: My contribution to this publication was to assist with the acquisition of PET scans in non-human primates and writing of the manuscript.

2003

13. ***Martinez D**, Slifstein M, Broft A, Mawlawi O, Hwang DR, Huang Y, Cooper T, Kegeles L, Zarahn E, Abi-Dargham A, Haber SN, Laruelle M. Imaging human mesolimbic dopamine transmission with positron emission tomography. Part II: amphetamine-induced dopamine release in the functional subdivisions of the striatum. *J Cereb Blood Flow Metab*. 2003 Mar 23(3):285-300.

Citations: 174

Impact Factor: 5.9

This is an imaging methodology paper that established the criteria for determining the striatal subregions for Positron Emission Tomography (PET) data analysis. These criteria have now become standard in the PET literature. Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.

12. Abi-Dargham A, Kegeles LS, **Martinez D**, Innis RB, Laruelle M. Dopamine mediation of positive reinforcing effects of amphetamine in stimulant naive healthy volunteers: results from a large cohort. *Eur Neuropsychopharmacology*. 2003; 13(6):459-68.

Note: My contribution to this publication was to assist with subject selection, PET scan acquisition, and data analysis.

2002

11. Abi-Dargham A, Mawlawi O, Lombardo I, Gil R, **Martinez D**, Huang Y, Hwang DR, Keilp J, Kochan L, Van Heertum R, Gorman JM, Laruelle M. Prefrontal dopamine D1 receptors and working memory in schizophrenia. *J Neurosci*. 2002 May 1;22(9):3708-1.

Note: My contribution to this publication was to assist with the PET scan acquisition and data analysis.

10. Kegeles LS, **Martinez D**, Kochan LD, Hwang DR, Huang Y, Mawlawi O, Suckow RF, Van Heertum RL, Laruelle M. NMDA antagonist effects on striatal

dopamine release: positron emission tomography studies in humans. *Synapse*. 2002 Jan;43(1):19-29.

Note: My contribution to this publication was to assist with subject selection, PET scan acquisition, and data analysis.

2001

9. Mawlawi O, **Martinez D**, Slifstein M, Broft A, Chatterjee R, Hwang DR, Huang Y, Simpson N, Ngo K, Van Heertum R, Laruelle M. Imaging human mesolimbic dopamine transmission with positron emission tomography: I. Accuracy and precision of D(2) receptor parameter measurements in the ventral striatum. *J Cereb Blood Flow Metab*. 2001 Sep;21(9):1034-57.
Note: My contribution to this publication was to perform the subject selection, PET scan acquisition, data analysis, and manuscript preparation.
8. ***Martinez D**, Broft A, Laruelle M. Imaging neurochemical endophenotypes: promises and pitfalls. *Pharmacogenomics*. 2001 Aug;2(3):223-37.
Citations: 5
Impact Factor: 4.3
This review paper discussed the issues surrounding the use of imaging to determine receptor expression with respect to genotype.
Dr. Martinez is the first author of this review paper.
7. ***Martinez D**, Gelernter J, Abi-Dargham A, van Dyck CH, Kegeles L, Innis R, Laruelle M. The variable number of tandem repeats polymorphism of the dopamine transporter gene is not associated with significant change in dopamine transporter phenotype in humans. *Neuropsychopharmacology*, 2001 May;24(5):553-60.
Citations: 35
Impact Factor: 6.4
This imaging paper used Positron Emission Tomography (PET) to quantify the dopamine transporter with a specific genotype in healthy controls. No correlation was found
Dr. Martinez is the first author and served as the Principal Investigator of the grant and the study.
6. ***Martinez D**, Hwang DR, Mawlawi O, Kent J, Simpson N, Parsey RV, Hashimoto T, Slifstein M, Huang Y, Shinn A, Van Heertum R, Abi-Dargham A, Caltabiano S, Malizia A, Cowley H, Mann JJ, Laruelle M. Differential occupancy of somatodendritic and postsynaptic 5-HT_{1A} receptors by pindolol: a dose occupancy study with [¹¹C]WAY 100635 and Positron Emission Tomography in humans. *Neuropsychopharmacology*, 2001 Mar;24(3):209-29.
Citations: 16
Impact Factor: 6.4
This imaging paper used Positron Emission Tomography (PET) to quantify the

serotonin 1A receptor and differences in receptor occupancy. The results showed that pre- and post-synaptic receptors showed a differential occupancy following antagonist administration.

Dr. Martinez is the first author and served as the Principal Investigator of the study.

2000

5. ***Martinez D**, Broft A, Laruelle M. Pindolol augmentation of antidepressant treatment: recent contributions from brain imaging studies. *Biological Psychiatry*, 48(8):844-853, 2000.
Citations: 3
Impact Factor: 11.2
This review paper discussed the issues regarding the use of pindolol to augment depression treatment, using imaging as a rationale for this treatment approach. Dr. Martinez is the first author of this review paper.
4. ***Martinez D**, Mawlawi O, Hwang DR, Kent J, Simpson N, Parsey RV, Hashimoto T, Slifstein M, Huang Y, Van Heertum R, Abi-Dargham A, Caltabiano S, Malizia A, Cowley H, Mann JJ, Laruelle M. Positron Emission Tomography study of pindolol occupancy of 5-HT_{1A} receptors in humans: preliminary analyses. *Nuclear Medicine and Biology*, 27(5):523-7, 2000.
Citations: 3
Impact Factor: 2.4
This manuscript presented a preliminary analysis of the PET imaging study investigating the occupancy of pindolol at the serotonin 1A receptor. Dr. Martinez is the first author and served as the Principal Investigator of the study.
3. Abi-Dargham A, **Martinez D**, Mawlawi O, Simpson N, Hwang D, Slifstein M, Pidcock J, Guo NN, Lombardo I, Van Heertum R, Foged C, Halldin C, Mann JJ, Laruelle M. Measurement of Striatal and Extrastriatal dopamine D₁ receptor binding potential with [¹¹C] in humans: validation and reproducibility. *J. of Cer. Blood Flow and Met*, 20(2):225-43, 2000.
Note: My contribution to this publication was to recruit subjects, obtain the PET scans, and learn the data analysis for PET.
2. Blumberg H, Stern E, **Martinez D**, de Asis J, McBride A, White T, Kemperman I, Isenberg N, Emmerich S, Epstein J, Dhawan V, Eidelberg D, Kocsis J, Silbersweig D. Increased anterior cingulate activity in bipolar mania. *Biological Psychiatry* Dec 1; 48(11):1045-52, 2000.
Note: My contribution to this publication was to assist with the recruitment and scanning of subjects

1999

1. Blumberg H, Stern E, Ricketts S, **Martinez D**, de Asis J, McBride A, White T,

Kemperman I, Isenberg N, Emmerich S, Epstein J, Dhawan V, Eidelberg D, Kocsis J, Silbersweig D. Rostral and orbital prefrontal dysfunction in the manic state of bipolar disorder. *American Journal of Psychiatry*, 156(12):1986-8, 1999. *Note: My contribution to this publication was to assist with the recruitment and scanning of subjects.*

Book Chapters

P. Trifilieff and D. **Martinez** in “The Effects of Drug Abuse on the Human Nervous System” Chapter entitled “Cocaine: Mechanism and Effects in the Human Brain.” M. Kuhar and B. Madras Eds, 2014 Neuroscience.net

A. Broft and D. **Martinez** in the Substance Abuse and Dependence chapter of “Molecular Imaging in the Neurosciences” Gerhard Gründer ed, Springer, Philadelphia, PA 2011, chapter 13.

D. Martinez and R. Narendran, in Imaging Neurotransmitter Release by Drugs of Abuse in “Current Topics in Behavioral Neurosciences” J. Staley and D. Self, ed, Springer, Berlin Heidelberg, 2010, Chapter 8.

M. Laruelle, **D. Martinez**, P. S. Talbot, A. Abi-Dargham, Chapter 19: Molecular Imaging in Psychiatric Disorders, in “Positron Emission Tomography: Basic Science and Clinical Practice”, D.L. Bailey, D. Townsend, P. Valk and M. Maisey, Springer-Verlag London Ltd, UK, 2003, pp399-419.

M. Laruelle, P. Talbot, **D. Martinez**, A. Abi-Dargham, Psychiatric Disorders, in “Principles and Practice of Positron Emission Tomography”, R.W. Wahl, ed, Lippincott Williams and Wilkins, Baltimore, MD, 2002, pp 298-319.

Invited and/or Peer-Selected Presentations

Selected from 2010 on from over 50 presentations

Selected Regional

2013 American Academy of Addiction Psychiatry (AAAP) regional meeting, New York, NY
“The Will to Power: Dopamine Predicts Emergence from Cocaine Addiction”

2013 Yale University, Department of Psychiatry Grand Rounds New Haven, CT “Dopamine and Addiction: using PET to explore the neurobiology of substance abuse”

2012 New York Society of Addiction Medicine Conference New York, NY “Does imaging demonstrate dopaminergic abnormalities in substance abuse?”

Selected National

2016 Society of Biological Psychiatry Annual Meeting, Atlanta GA "Using PET imaging to explore the neurobiology of addiction and relapse"

2015 Annual Meeting of the American College of Neuropsychopharmacology Hollywood, FL
“PET Imaging of the Kappa Opioid Receptor/Dynorphin System in Cocaine Abuse”

2015 Conference on the Therapeutic Potential of Kappa Opioids in Pain and Addiction
Chapel Hill, NC “Imaging the kappa receptor/dynorphin system in cocaine abuse”

2014 Annual Meeting of the American College of Neuropsychopharmacology, Phoenix AZ
“Using PET Imaging to Predict Individual Treatment Response in Cocaine Dependence”

2013 International Symposium on Functional Neuroreceptor Mapping Baltimore MD “PET
imaging of the metabotropic glutamate receptor type 5 in cocaine abuse”

2013 Louisiana State University Grand Rounds “Addiction and the human brain: PET
imaging of Neuroreceptor Systems”

2013 Conference on the Therapeutic Potential of Kappa Opioids in Pain and Addiction
Boston MA “Imaging kappa receptors in cocaine abuse “

2012 National Hispanic Science Network Annual Meeting September San Diego, CA
“Pharmacotherapies For Addiction: Status Update, Strategies & Challenges”

2012 10th International Catecholamine Symposium (XICS), Asilomar CA “Imaging
neurochemical transmission in substance abuse: commonalities and differences across
addictions”

2011 International Narcotics Research Conference, Hollywood FL “Development and clinical
use of a PET radioligand for the kappa receptor”

2011 Society for Biological Psychiatry Annual Meeting San Francisco, CA “Use of PET
imaging in treatment development”

2011 American Psychiatric Association Annual Meeting “Imaging dopamine transmission in
cocaine dependence: neurochemistry predicts response to treatment”

2010 National Hispanic Science Network International Conference New Orleans, LA “The
use of imaging to choose treatment strategies for cocaine dependence”

Selected International

2016 Center for Neurobiology, Linkoping University, Neuroretreat Sundbyholms Slott,
Sweden “Imaging the function of the human reward system with PET”

2016 European College of Neuropsychopharmacology, Vienna, Austria “Using PET to
Characterize the Kappa opioid System in Cocaine Use Disorders”

2015 International Conference on Quantification of Brain Function with PET Vancouver Canada “Beyond a single target: Multi-modal & neural pathway imaging”

2014 European College of Neuropsychopharmacology Annual Meeting Berlin Imaging the kappa receptor/dynorphin system in cocaine abuse

2013 Centre for Addiction and Mental Health University of Toronto, Seminar for the Department of Psychiatry “Dopamine and Addiction: using PET to explore the neurobiology of substance abuse”

2013 McGill University Seminar for the Department of Psychiatry “Dopamine and Addiction: using PET to explore the neurobiology of substance abuse”

2013 Congress on Dopamine May Alghero Italy “Dopamine and Addiction: imaging and the neurobiology of substance abuse”

2013 University of Bordeaux, Grand Rounds Department of Neuroscience “Dopamine and Addiction: using PET to explore the neurobiology of cocaine dependence”

2013 Imperial College Department of Neuroimaging, Institute of Psychiatry, Psychology, and Neuroscience, King's College London UK

2012 European College of Neuropsychopharmacology Annual Meeting Vienna Austria “Imaging neurochemical transmission in substance abuse: commonalities and differences across addictions”

2012 The Federation of European Neuroscience Societies Florence Italy “Dopamine and Addiction: using PET to explore the neurobiology of substance abuse”

2011 International Brain Research Organization Florence Italy “Imaging the human dopamine system in addiction”