

## Personal Data

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## Current Appointments

- 2016-present Lead Investigator, Lieber Institute for Brain Development, Johns Hopkins Medical Campus, Baltimore, Maryland
- 2016-present Head, Education and Training Programs, Lieber Institute for Brain Development, Johns Hopkins Medical Campus, Baltimore, Maryland
- 2018-present Associate Professor, Department of Psychiatry and Behavioral Sciences, Johns Hopkins School of Medicine, Baltimore, Maryland
- 2018-present Associate Professor, Department of Neuroscience, Johns Hopkins School of Medicine, Baltimore, Maryland

## Education and Training

- 1999 B.A., International Affairs (Concentrations in Russian Studies and Economics), George Washington University, Washington, District of Columbia
- 2006 PhD, Neuroscience, University of California, Los Angeles (UCLA), Los Angeles, California
- 2001-2006 Graduate Student Researcher, Departments of Departments of Psychiatry and Medical & Molecular Pharmacology, UCLA (Advisor: Yi Sun, PhD), Los Angeles, California
- 2006-2012 Postdoctoral Fellow, Mood and Anxiety Disorders Program (Advisor: Husseini Manji, MD) and Genes Cognition and Psychosis Program (Bai Lu, PhD), National Institute of Mental Health (NIMH) Intramural Program, Bethesda, Maryland

## Professional Experience

- 1997-1998 Intern, Division of Sprite Promotions, The Coca-Cola Company, Moscow, Russia
- 2000 Research Assistant, Department of Pharmacology, George Washington University (Sutherland Lab), Washington, District of Columbia
- 2000-2001 Research Technician, Department of Genetics, Rutgers University (Rongo Lab), Piscataway, New Jersey
- 2001 Research Assistant, Department of Psychiatry, University of Pennsylvania (Lenox Lab), Philadelphia, Pennsylvania
- 2001-2006 Graduate Student Researcher, Departments of Departments of Psychiatry and Medical & Molecular Pharmacology, UCLA (Sun lab), Los Angeles, California
- 2006-2012 Postdoctoral Fellow, Mood and Anxiety Disorders Program (Manji lab) and Genes Cognition and Psychosis Program (Lu lab), National Institute of Mental Health (NIMH) Intramural Program, Bethesda, Maryland
- 2012-2013 Instructor, Department of Psychiatry and Behavioral Sciences, Johns Hopkins School of Medicine, Baltimore, Maryland
- 2012-2016 Investigator, Lieber Institute for Brain Development, Johns Hopkins Medical Campus, Baltimore, Maryland
- 2013-2018 Assistant Professor, Department of Psychiatry and Behavioral Sciences, Johns Hopkins School of Medicine, Baltimore, Maryland
- 2013-2018 Assistant Professor, Department of Neuroscience, Johns Hopkins School of Medicine, Baltimore, Maryland
- 2016-present Lead Investigator, Lieber Institute for Brain Development, Johns Hopkins Medical Campus, Baltimore, Maryland
- 2018-present Associate Professor, Department of Psychiatry and Behavioral Sciences, Johns Hopkins School of Medicine, Baltimore, Maryland

2018-present Associate Professor, Department of Neuroscience, Johns Hopkins School of Medicine, Baltimore, Maryland

## PUBLICATIONS:

### Original Research

1. Ge W, **Martinowich K**, Wu X, He F, Miyamoto A, Fan G, Weinmaster G, Sun YE, "Notch signaling promotes astroglialogenesis via direct CSL-mediated glial gene activation", *Journal of Neuroscience Research*, 69(6), 848-860, September 2002. Role: data collection, analysis, manuscript writing.
2. **Martinowich K**, Hattori D, Wu H, Fouse S, He F, Hu Y, Fan G, Sun YE, "DNA methylation-related chromatin remodeling in activity-dependent BDNF gene regulation", *Science*, 302(5646):890-893, October 2003. Role: data collection, analysis, manuscript writing.
3. Glodowski DR\*, Wright T\*, **Martinowich K\***, Chang HC, Beach D, Rongo C, "Distinct LIN-10 domains are required for its neuronal function, its epithelial function, and its synaptic localization", *Molecular Biology of the Cell*, 16(3), 1417-1426, March 2005. **\*equal contribution**.
4. He F, Ge W, **Martinowich K**, Becker-Catania S, Coskun V, Zhu W, Wu H, Castro D, Guillemont F, Fan G, De Vellis J and Sun YE, "A positive autoregulatory loop of Jak-STAT signaling controls the onset of astroglialogenesis", *Nature Neuroscience*, 8(5), 616-625, May 2005. Role: data collection and analysis.
5. Fan G, **Martinowich K**, Chin MH, He F, Fouse SD, Hutnick L, Hattori D, Ge W, Shen Y, Wu H, ten-Hoeve J, Shuai K, Sun YE, "DNA methylation controls the timing of astroglialogenesis through regulation of JAK-STAT signaling", *Development*, 132(15): 3345-3346, August 2005. Role: data collection, analysis, manuscript writing.
6. Ge W, He F, Kim KJ, Blanche B, Coskun V, Nguyen L, Wu X, Zhao J, Heng JI, **Martinowich K**, Tao J, Wu H, Castro D, Sobeih MM, Corfas G, Gleeson JG, Greenberg ME, Guillemot F, Sun YE, "Coupling of cell migration with neurogenesis by proneural bHLH factors", *PNAS*, 103(5):1319-1324, January 2006. Role: data collection and analysis.
7. Tao JT, Hu K, Chang Q, Wu H, Sherman NE, **Martinowich K**, Klose RJ, Schanen C, Jaenisch R, Wang W, Sun YE, "Phosphorylation of MeCP2 at Serine 80 Regulates Its Chromatin Association and Neurological Function", *PNAS*, 106(12):4882-4887, March 2009. Role: data collection and analysis.
8. Sakata K, Woo N, **Martinowich K**, Greene JS, Schloesser RJ, Shen L, Lu B, "Critical role of promoter-IV-driven BDNF transcription in GABAergic transmission and synaptic plasticity in the prefrontal cortex", *PNAS*, 106(14): 5942-5947, April 2009. Role: data collection, analysis, manuscript writing.
9. Schloesser RJ, Manji HK, **Martinowich K**, "Suppression of adult neurogenesis leads to an increased hypothalamo-pituitary-adrenal axis response", *NeuroReport*, 20(6):553-557, April 2009.
10. Schloesser RJ, Lehmann M, **Martinowich K**, Manji HK, Herkenham M, "Environmental enrichment requires adult neurogenesis to facilitate the recovery from psychosocial stress", *Molecular Psychiatry*, 15(12):1152-63, December 2010. Role: data collection, analysis, manuscript writing.
11. Fritsch B, Reis J, **Martinowich K**, Schambra HM, Ji Y, Cohen LG, Lu B, "Direct current stimulation promotes BDNF-dependent synaptic plasticity: potential implications for motor learning", *Neuron*, 66(2):198-204, April 2010. Role: data collection, analysis, manuscript writing.
12. **Martinowich K**, Schloesser RJ, Jimenez DV, Weinberger DR, Lu B, "Activity-dependent brain-derived neurotrophic factor expression regulates corticostatin-interneurons and sleep behavior", *Molecular Brain*, 4(11), March 2011.
13. Lu Y, Ji Y, Ganesan S, Schloesser RJ, **Martinowich K**, Sun M, Mei F, Chao M, Lu B, "TrkB as a potential synaptic tag and behavioral tag", *Journal of Neuroscience*, 31(33):11762-71, August 2011. Role: data collection and analysis.
14. Guilloux JP, Douillard-Guilloux G, Kota R, Wang X, Gardier A, **Martinowich K**, Tseng GC, Lewis DA, Sibille E, "Molecular evidence for BDNF- and GABA-related dysfunctions in the amygdala of female subjects with major depression", *Molecular Psychiatry*, 17(11):1130-42, November 2012. Role: data collection and analysis.

15. **Martinowich K**, Schloesser RJ, Lu Y, Jimenez DV, Paredes D, Greene JS, Greig NH, Manji HK, Lu B, "Roles of p75<sup>NTR</sup>, long-term depression and cholinergic transmission in anxiety and acute stress coping", *Biological Psychiatry*, 71(1):75-83, January 2012.
16. **Martinowich K**, Cardinale KM, Schloesser RJ, Hsu M, Greig NH, Manji HK, "Acetylcholinesterase inhibition ameliorates deficits in motivational drive", *Behavioral and Brain Functions*, 8:15, March 2012.
17. Tripp A, Oh H, Guilloux JP, **Martinowich K**, Lewis DA, Sibille E, "BDNF signaling and subgenual anterior cingulate cortex dysfunction in major depression", *American Journal of Psychiatry*, 169(11):1194-202, November 2012. Role: data collection and analysis.
18. Lehmann ML, Brachman RA, **Martinowich K**, Schloesser RJ, Herkenham M, "Glucocorticoids Orchestrate Divergent Effects on Mood through Adult Neurogenesis", *Journal of Neuroscience*, 33(7):2961-72, February 2013. Role: data collection and analysis.
19. Han JC, Thurm A, Golden Williams C, Joseph LA, Zein WM, Brooks BP, Butman JA, Brady SA, Fuhr SR, Hicks MD, Huey AE, Hanish AE, Danley KM, Raygada MJ, Rennert OM, **Martinowich K**, Sharp SJ, Tsao JW, Swedo SE, "Association of brain-derived neurotrophic factor (BDNF) haploinsufficiency with lower adaptive behavior and reduced cognitive functioning in WAGR/11p13 deletion syndrome", *Cortex*, 49(10):2700-10, November 2013. Role: data collection and analysis.
20. Sakata K, **Martinowich K**, Woo NH, Schloesser RJ, Jimenez DV, Ji Y, Shen L, Lu B, "Role of activity-dependent BDNF expression in hippocampal-prefrontal cortical regulation of behavioral perseverance", *PNAS*, 110(37):15103-8, September 2013. Role: data collection, analysis, manuscript writing.
21. Schloesser RJ, Jimenez DV, Hardy NF, Paredes D, Catlow BJ, Manji HK, McKay RD, **Martinowich K**, "Atrophy of pyramidal neurons and increased stress-induced glutamate levels in CA3 following chronic suppression of adult neurogenesis", *Brain Structure Function*, 219(3):1139-48, May 2014.
22. Mastwal S, Ye Y, Ren M, Jimenez DV, **Martinowich K**, Gerfen CR, Wang KH, "Phasic dopamine neuron activity elicits unique mesofrontal plasticity in adolescence", *Journal of Neuroscience*, 34(29):9484-96, July 2014. Role: collaborator-data collection and analysis.
23. Gao M, Maynard KR, Chokshi V, Song L, Jacobs C, Wang H, Tran T, **Martinowich K**, Lee HK, "Rebound potentiation of inhibition in juvenile visual cortex requires vision-induced BDNF expression", *Journal of Neuroscience*, 34(32):10770-9, August 2014. Role: collaborator-data collection and analysis.
24. Schloesser RJ, Orvoen S, Jimenez DV, Hardy NF, Maynard KR, Sukumar M, Manji HK, Gardier AM, David DJ, **Martinowich K**, "Antidepressant-like effects of electroconvulsive seizures require adult neurogenesis in a neuroendocrine model of depression", *Brain Stimulation*, 8(5):862-7, September 2015.
25. Mou Z, Hyde TM, Lipska BK, **Martinowich K**, Wei P, Ong CJ, Hunter LA, Palaguachi GI, Morgun E, Teng R, Lai C, Condarco TA, Demidowich AP, Krause AJ, Marshall LJ, Haack K, Voruganti VS, Cole SA, Butte NF, Comuzzie AG, Nalls MA, Zonderman AB, Singleton AB, Evans MK, Martin B, Maudsley S, Tsao JW, Kleinman JE, Yanovski JA, Han JC, "Human obesity Associated with an intronic SNP in the brain-derived neurotrophic factor locus", *Cell Reports*, 13(6):1073-80, November 2015. Role: collaborator-data collection and analysis.
26. Yuan Q, Yang F, Xiao Y, Tan S, Husain N, Ren M, Hu Z, **Martinowich K**, Ng JS, Kim PJ, Han W, Nagata KO, Weinberger DR, Je HS, "Regulation of brain-derived neurotrophic factor exocytosis and gamma-aminobutyric acidergic interneuron synapse by the schizophrenia susceptibility gene dysbindin-1", *Biological Psychiatry*, 80(4):312-22, August 2016. Role: collaborator-data collection and analysis.
27. Maynard KR, Hill JL, Calcaterra NE, Palko ME, Kardian A, Paredes D, Sukumar M, Adler BD, Jimenez DV, Schloesser RJ, Tessarollo L, Lu B, **Martinowich K**, "Functional role of BDNF production from unique promoters in aggression and serotonin signaling", *Neuropsychopharmacology*, 41(8):1943-55, July 2016.
28. Hill JL, Hardy NF, Jimenez DV, Maynard KR, Kardian AS, Pollock CJ, Schloesser RJ, **Martinowich K**, "Loss of promoter IV-driven BDNF expression impacts oscillatory activity during sleep, sensory information processing and fear regulation", *Translational Psychiatry*, 6(8):e873, August 2016.

29. Maynard KR, Hobbs JW, Sukumar M, Kardian AS, Jimenez DV, Schloesser RJ, **Martinowich K**, "Bdnf mRNA splice variants differentially impact CA1 and CA3 dendrite complexity and spine morphology in the hippocampus", *Brain, Structure & Function*, 222(7):3295-3307, April 2018.
30. Chang AD, Vaidya PV, Retzbach, EP, Chung SJ, Kim U, Baselice K, Maynard KR, Stepanian A, Staley M, Xiao L, Blouin A, Han S, Lee J, Worley PF, Tamashiro KL, Hempstead BL, **Martinowich K**, Ann Wilson M, Baraban JM, Reti I, "Narp Mediates Antidepressant-Like Effects of Electroconvulsive Seizures", *Neuropsychopharmacology*, 43(5):1088-1098, April 2018. Role: collaborator-data collection and analysis.
31. Kolata S, Nakao K, Jeevakumar V, Farmer-Alroth E, Fujita Y, Bartley A, Jian Z, Rompala G, Sorge R, Jimenez DV, **Martinowich K**, Mateo Y, Hashimoto K, Dobrunz L, Nakazawa K, "Neuropsychiatric phenotypes produced by GABA reduction in mouse cortex and hippocampus", *Neuropsychopharmacology*, 43(6):1445-1456, May 2018. Role: collaborator-data collection and analysis.
32. Maynard KR, Hobbs JW, Rajpurohit SK, **Martinowich K**, "Electroconvulsive seizures influence dendritic spine morphology and BDNF expression in a neuroendocrine model of depression.", *Brain Stimulation*, 11(4):856-859, July 2018.
33. Maynard KR, Hobbs JW, Phan BN, Gupta A, Rajpurohit SK, Williams C, Rajpurohit N, Shin J, Jaffe AE, **Martinowich K**. "BDNF-TrkB signaling in oxytocin neurons contributes to maternal behavior", *ELife*, 7:e33676, September 2018.
34. McAllan L, Maynard KR, Kardian AS, Stayton AS, Fox SL, Stephenson EJ, Kinney CE, Alshibli NK, Gomes CK, Pierre JF, Puchowicz MA, Bridges D, **Martinowich K**, Han JC, "Disruption of brain-derived neurotrophic factor production from individual promoters generates distinct body composition phenotypes in mice", *American Journal of Physiology-Endocrinology and Metabolism*, 315(6):471-483, October 2018.
35. Hill JL, Jimenez DV, Mai Y, Ren M, Hallock HL, Maynard KR, Chen HY, Hardy NF, Schloesser RJ, Maher BJ, Yang F, **Martinowich K**, "Cortistatin-expressing interneurons require TrkB signaling to suppress neural hyperexcitability", *Brain Structure & Function*, 224(1):471-483, January 2019.
36. Hallock HL, Quillian HM, Mai Y, Maynard KR, Hill JL, Martinowich K, "Manipulation of a genetically and spatially defined sub-population of BDNF-expressing neurons potentiates learned fear and decreases hippocampal-prefrontal synchrony in mice", *Neuropsychopharmacology*, 44(13):2239-2246, December 2019.
37. Maynard KR, Kardian AS, Hill JL, Mai Y, Barry BK, Hallock HL, Jaffe AE, **Martinowich K**, "TrkB Signaling Influences Gene Expression in Cortistatin-Expressing Interneurons", *eNeuro*, 7(1), February 2020.
38. Burke EE, Chenoweth JG, Shin JH, Collado-Torres L, Kim SK, Micali N, Wang Y, Colantuoni C, Straub RE, Hoepfner DJ, Chen HY, Sellers A, Shibbani K, Hamersky GR, Diaz Bustamante M, Phan BN, Ulrich WS, Valencia C, Jaishankar A, Price AJ, Rajpurohit A, Semick SA, Bürli RW, Barrow JC, Hiler DJ, Page SC, **Martinowich K**, Hyde TM, Kleinman JE, Berman KF, Apud JA, Cross AJ, Brandon NJ, Weinberger DR, Maher BJ, McKay RDG, Jaffe AE, "Dissecting transcriptomic signatures of neuronal differentiation and maturation using iPSCs", *Nature Communications*, 11(1):462, January 2020. Role: collaborator-data collection and analysis supervision.
39. Jaffe AE, Hoepfner DJ, Saito T, Blanpain L, Ukaigwe J, Burke EE, Collado-Torres L, Tao R, Tajinda K, Maynard KR, Tran MN, **Martinowich K**, Deep-Soboslay A, Shin JH, Kleinman JE, Weinberger DR, Matsumoto M, Hyde TM, "Profiling gene expression in the human dentate gyrus cell layer reveals insights into schizophrenia and its genetic risk", *Nature Neuroscience*, 23(4):510-519, April 2020. Role: collaborator-data collection and analysis supervision.
40. Maynard KR, Tippianni M, Takahashi Y, Phan BN, Hyde TM, Jaffe AE, **Martinowich K**, "dotdotdot: an automated platform to quantify multiplex single molecule fluorescent in situ hybridization (smFISH) images in complex tissues", *Nucleic Acids Research*, 48(11):e66, June 2020.
41. Hallock HL, Quillian HM, Maynard KR, Mai Y, Chen HY, Hamersky GR, Shin JH, Maher BJ, Jaffe AE, **Martinowich K**, "Molecularly Defined Hippocampal Inputs Regulate Population Dynamics in the Prelimbic Cortex to Suppress Context Fear Memory Retrieval", *Biological Psychiatry*, 88(7):554-565, October 2020.

42. Sosina OA, Tran MN, Maynard KR, Tao R, Taub MA, **Martinowich K**, Semick SA, Weinberger DR, Quach BC, Hyde TM, Hancock DB, Kleinman JE, Leek JT, Jaffe AE, “Strategies for cellular deconvolution in human brain RNA sequencing data”, *F1000Research*, August 2021.
43. Tran MN\*, Maynard KR\*, Spangler A, Collado-Torres L, Sadashivaiah V, Tippieni M, Barry BK, Hancock DB, Hicks SC, Kleinman JE, Hyde TM, **Martinowich K+**, Jaffe AE, “Single-nucleus transcriptome analysis reveals cell type-specific molecular signatures across reward circuitry in the human brain”, *Neuron*, 109(19):3088-3103, October 2021. **\*equal contribution, +co-corresponding author**
44. Maynard KR, Collado-Torres L, Weber L, Utyingco C, Barry BK, Williams S, Catallini J, Tran MN, Besich Z, Tippieni M, Chew J, Yin Y, Kleinman J, Hyde T, Rao N, Hicks SC, **Martinowich K+**, Jaffe AE+. “Transcriptome-scale spatial gene expression in the human dorsolateral prefrontal cortex”, *Nature Neuroscience*, 24(3):425-436, March 2021. **+co-corresponding author**
45. Paredes DA, Jalloh A, Catlow BJ, Jaishankar A, Seo S, Jimenez DV, **Martinowich K**, Diaz-Bustamante M, Hoepfner DJ, McKay RDG, “Bdnf deficiency in the neonatal hippocampus contributes to global DNA hypomethylation and adult behavioral changes”, *Brain Research*, 1754:147254, March 2021.
46. Takahashi Y, Maynard KR, Tippieni M, Jaffe AE, **Martinowich K**, Kleinman JE, Weinberger DR, Hyde TM, “Single molecule in situ hybridization reveals distinct localization of schizophrenia risk-related transcripts SNX19 and AS3MT in human brain”, *Molecular Psychiatry*, 26(7):3536-3547, July 2021.
47. Tippieni M, Divecha HR, Catallini JL, Kwon SH, Weber LM, Spangler A, Jaffe AE, Hicks SC, **Martinowich K**, Collado-Torres L, Page SC+, Maynard KR+. “VistoSeg: processing utilities for high-resolution Visium/Visium-IF images for spatial transcriptomics data.”, *bioRxiv*, August 2021. +co-corresponding author
48. Pardo B, Spangler A, Weber LM, Hicks SC, Jaffe AE, **Martinowich K**, Maynard KR, Collado-Torres L. “spatialLIBD: an R/Bioconductor package to visualize spatially-resolved transcriptomics data.”, *BMC Genomics*, 23(1):434, June 2022.
49. Tippieni M, Pattie EA, Davis BA, Nguyen CV, Wang Y, Rao S, Maher BJ, **Martinowich K**, Jaffe AE, Page SC. “CaPTure: Calcium Peak Toolbox for analysis of in vitro calcium imaging data”, *BMC Neuroscience*, 23(1):71, November 2022.
50. DeBrosse AC, Li Y, Wiseman RR, Garrison S, Hallock HL, Barrow JC, Martinowich K, Carr GV. “Stimulus degradation impairs performance in a rodent continuous performance test”, *bioRxiv*, September 2021.
51. Rodriguez LA, Kim SH, Page SC, Nguyen CV, Pattie EA, Hallock HL, Valerino J, Maynard KR, Jaffe AE, **Martinowich K**, “The basolateral amygdala to lateral septum circuit is critical for regulating social novelty in mice”, *Neuropsychopharmacology*, online ahead of print November 2022.
52. Page SC\*, Rao SR\*, Farinelli F\*, Ye Z\*, Wang Y\*, Hiler DJ, Pattie EA, Nguyen CV, Tippieni M, Moses RL, Chen HY, Tran MN, Eagles NJ, Stolz JM, Catallini JL, Soudry OR, Dickinson D, Berman KF, Apud JA, Weinberger DR, **Martinowich K\***, Jaffe AE\*, Straub RE\*, Maher BJ\*, “Electrophysiological measures from human iPSC-derived neurons are associated with schizophrenia clinical status and predict individual cognitive performance”, *PNAS*, 119(3):e2109395119, January 2022. **\*equal contribution**
53. Jaffe AE, Tao R, Page SC, Maynard KR, Pattie EA, Nguyen CV, Deep-Soboslay A, Bhardwaj R, Young KA, Friedman MJ, Williamson DE, Traumatic Stress Brain Research Group, Shin JH, Hyde TM, **Martinowich K+**, Kleinman JE+, “Decoding shared versus divergent transcriptomic signatures across cortico-amygdala circuitry in PTSD and depressive disorders”, *American Journal of Psychiatry*, online ahead of print, July 2022. **+co-corresponding author**
54. Ramnauth AD\*, Maynard KR\*, Kardian AS, Phan BD, Tippieni M, Rajpurohit S, Hobbs JW, Page SC, Jaffe AE, **Martinowich K**, “Induction of *Bdnf* from promoter I following electroconvulsive seizures contributes to structural plasticity in neurons of the piriform cortex”, *Brain Stimulation*, 15(2):427-433, March-April 2022. **\*equal contribution**

55. **Martinowich K**, Das D, Sripathy SR, Mai Y, Maher BJ, “Evaluation of Na<sub>v</sub>1.8 as a therapeutic target for Pitt Hopkins Syndrome”, *Molecular Psychiatry*, online ahead of print, October 2022.
56. Weber LM\*, Divecha HR\*, Tran MN, Kwon SH, Spangler A, Montgomery KD, Tippianni M, Bharadwaj R, Kleinman JE, Page SC, Hyde TM, Collado-Torres L, Maynard KR, **Martinowich K\*+**, Hicks SC\*+, “The gene expression landscape of the human locus coeruleus revealed by single-nucleus and spatially-resolved transcriptomics”, *eLife* February 2023. **\*equal contribution, +co-corresponding author**
57. Nelson ED, Maynard KR, Nicholas KR, Tran MN, Divecha HR, Collado-Torres L, Hicks SC\*+, **Martinowich K\*+**, “Activity-regulated gene expression across cell types of the mouse hippocampus”, *bioRxiv*, November 2022. **\*equal contribution, +co-corresponding author**
58. Sriworarat C, Nguyen AB, Eagles NJ, Collado-Torres L, **Martinowich K**, Maynard KR+, Hicks SC+, “Performant web-based interactive visualization tool for spatially-resolved transcriptomics experiments”, *bioRxiv*, January 2023. **+co-corresponding author**
59. Huuki-Meyers LA, Spangler A, Eagles NJ, Montgomery KD, Kwon SH, Guo B, Grant-Peters M, Divecha HR, Tippianni M, Sriworarat C, Nguyen AB, Ravichandran P, Tran MN, Seyedian A, PsychENCODE Consortium, Hyde TM, Kleinman JE, Battle A, Page SC, Ryten M, Hicks, SC, **Martinowich K**, Collado-Torres L+, Maynard KR+, “Integrated single cell and unsupervised spatial transcriptomic analysis defines molecular anatomy of the human dorsolateral prefrontal cortex”, *bioRxiv*, February 2023. **+co-corresponding author**
60. Bach SV, Bauman AJ, Hosein D, Tuscher JJ, Ianov L, Greathouse KM, Henderson BW, Herskowitz JH, **Martinowich K**, Day JJ, “Distinct roles of Bdnf I and Bdnf IV transcript variant expression in hippocampal neurons”, *bioRxiv*, April 2023.
61. Hallock HL\*, Adiraju S\*, Miranda-Barrientos J, McInerney JM, Oh S, DeBrosse AC, Li Y, Carr GV+, **Martinowich K+**, “Electrophysiological correlates of attention in the locus coeruleus – anterior cingulate cortex circuit during the rodent continuous performance test”, *bioRxiv*, April 2023. **\*equal contribution, +co-corresponding author**
62. Kwon SH, Parthiban S\*, Tippianni M\*, Divecha HR, Eagles NJ, Lobana JS, Williams SR, Mak M, Bharadwaj R, Kleinman JE, Hyde TM, Page SC, Hicks SC+, **Martinowich K+**, Maynard KR+, Collado-Torres L+, “Influence of Alzheimer’s disease related neuropathology on local microenvironment gene expression in the human inferior temporal cortex”, *bioRxiv*, April 2023. **\*equal contribution, +co-corresponding author**

#### Review Articles [RA]

1. Sun YE, **Martinowich K**, Ge W, "Making and repairing the mammalian brain-signaling toward neurogenesis and gliogenesis", *Seminars in Cell and Developmental Biology*, 14(3), 161-168, June 2003.
2. Du J, Machado-Vierira R, Maeng S, **Martinowich K**, Manji HK, Zarate CA Jr., “Enhancing AMPA to NMDA throughput as a convergent mechanism for antidepressant action”, *Drug discovery today: Therapeutic strategies*, 3(4)519-526, December 2006.
3. **Martinowich K**, Manji HK, Lu B, "New Insights into BDNF Function in Depression and Anxiety", *Nature Neuroscience*, 10(9), 1089-1093, September 2007.
4. **Martinowich K**, Lu B, "Interaction between BDNF and serotonin: role in mood disorders", *Neuropsychopharmacology*, 33(1), 73-83, January 2008.
5. Lu B, **Martinowich K**, "Cell biology of BDNF and its relevance to schizophrenia", *Novartis Foundation Symposia*, 289, 119-129, April 2008.
6. **Martinowich K**, Schloesser RJ, Manji HK, "Bipolar Disorder: from genes to behavior pathways", *Journal of Clinical Investigation*, 119(4), 726-736, April 2009.



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8. **Martinowich K**, Jimenez DV, Zarate CA, Manji HK, “Rapid Acting Antidepressants: Moving Right Along”, *Molecular Psychiatry*, 18(8), 856-63, August 2013.
9. Hill JL, **Martinowich K**, “Activity-dependent signaling: influence on plasticity in circuits controlling fear related behavior”, *Current Opinion in Neurobiology*, 36:59-65, February 2016.
10. Song M, **Martinowich K**, Lee FS, “BDNF at the synapse: why location matters”, *Molecular Psychiatry*, 22(10):1370-1375, October 2017.
11. Maynard KR, Jaffe AE, **Martinowich K**, “Spatial transcriptomics: putting genome-wide expression on the map”, *Neuropsychopharmacology*, 45(1)232-233, January 2020.
12. Day JJ, **Martinowich K**, “Single-cell transcriptional profiling in brain reward structures”, *Neuropsychopharmacology*, online ahead of print, August 2022.

### Book Chapters, Monographs

1. **Martinowich K**, Schloesser RJ, “Adult Neurogenesis and Cognitive Function: Relevance for Disorders Associated with Human Aging”. In Lazarov O, Tesco G, eds., *Genes, Environment and Alzheimer’s Disease*. San Diego: Academic Press, 52-78, 2016.
2. Colliva A, Maynard K, **Martinowich K**, Tongiorgi E, “Detecting Single and Multiple BDNF Transcripts by In Situ Hybridization in Neuronal Cultures and Brain Sections”. In: Duarte C, Tongiorgi E (eds) *Brain-Derived Neurotrophic Factor (BDNF)*. Neuromethods, Volume 143, Humana Press, New York, NY.

### Letters, Correspondence

1. Jordan CL, **Martinowich K**, Carlezon WA, “Neuropsychopharmacology (NPP): update on relationships between online attention and citation counts”, *Neuropsychopharmacology*, 46(6):1061-1063, February 2021.
2. Hupalo S, **Martinowich K**, Carlezon WA, Jordan CJ, “Neuropsychopharmacology (NPP) 2020 report on gender balance among corresponding authors and reviewers: before and during the COVID-19 pandemic”, *Neuropsychopharmacology*, 47(5):973-975, April 2022.
3. Hupalo S, Jordan CJ, Bowen T, Mahar J, Yopez E, Kunath L, Timm S, Martinowich K, Carelzon WA, Monteggia LM, George, TP, “NPP’s approach toward improving rigor and transparency in clinical trials research”, *Neuropsychopharmacology*, ahead of print August 2022.

## FUNDING

### EXTRAMURAL Funding

#### Previous

- |           |   |
|-----------|---|
| 2004-2006 | Novel Factors in Neural Stem Cell Differentiation<br>F31NS047824<br>National Institute of Neurological Disorders and Stroke (NINDS)<br>PI: Martinowich  |
| 2004-2005 | The Role of Rett Syndrome Mutations in <i>BDNF</i> Gene Regulation<br>Predoctoral training grant<br>Medical Investigation of Neurodevelopmental Disorders (MIND) Institute<br>PI: Martinowich |

- 2008-2012      Role of proBDNF and p75<sup>NTR</sup> in Anxiety and Depression  
NARSAD Young Investigator Award  
Brain and Behavior Research Foundation  
PI: Martinowich
- 2013-2015      Interaction between TrkB signaling in interneurons and epilepsy  
Research Grant  
Epilepsy Foundation  
PI: Martinowich
- 2014-2016      Functional Role of BDNF Splice Variants in the Antidepressant Response  
NARSAD Young Investigator Award  
Brain and Behavior Research Foundation  
PI: Martinowich
- 2015-2020      Regulation of neural activity in fear circuits by promoter IV derived BDNF  
R01MH1055929  
National Institute of Mental Health  
PI: Martinowich
- 2018-2021      Epigenomic Contribution to the Antidepressant Response  
R21 MH118725  
National Institute of Mental Health  
PI: Martinowich
- 2021-2023      Neurophysiological Biomarkers in Preclinical Assays of Sustained Attention  
R56MH126233  
National Institute of Mental Health  
MPIs: Carr/Martinowich

Current

- 2020-2024      Spatial Registration of Gene Expression in the Human Brain  
U01MH122849  
National Institute of Mental Health  
PI: Martinowich
- 2020-2025      Molecular and Cellular Correlates of Plasticity in Hippocampal-Prefrontal Circuitry  
2R01MH105592  
National Institute of Mental Health  
PI: Martinowich
- 2021-2026      Laminar dissection of cortical human brain gene expression in neuropsychiatric disorders  
R01MH126393  
National Institute of Mental Health  
PI: Martinowich
- 2021-2026      Registration of spatial gene expression in key nodes of reward-related circuitry in the human brain  
R01DA053581  
National Institute on Drug Addiction  
PI: Martinowich
- 2023-2025      Molecular, cellular and physiological correlates of sustained attention in the locus coeruleus-anterior cingulate cortex circuit



## EDUCATIONAL ACTIVITIES

### Educational Focus

Mentoring trainees is a core focus and priority within my research laboratory. Since beginning graduate school and through to my current position as an independent investigator I have been very interested in education and training. I have continued a tradition of strong mentorship to undergraduate, post-baccalaureate and postdoctoral fellows within my laboratory providing hands-on training in technical skills at the bench, scientific writing and stage-specific career development. I play an active role and am a preceptor in the following four PhD training programs at Johns Hopkins for: Biochemistry, Molecular and Cellular Biology (BCMB), Department of Neuroscience, Cellular & Molecular Medicine (CMM), and Human Genetics. I was named Head, Education and Training Programs, Lieber Institute for Brain Development in 2016. In this role, I oversee all of the training and educational programs for the Lieber Institute including institutional internship programs and postdoctoral fellowships. I also act as the main liaison for the Institute with various Johns Hopkins graduate education training programs whose students may choose to pursue rotations and thesis work within the Lieber Institute.

### Mentoring

#### Pre-doctoral Advisees /Mentees

2007-2008	Kathleen Cardinale, MD, Post-baccalaureate fellow, NIMH Intramural Program, (current: Assistant Professor in Pediatric Neurology, Yale University)
2007-2008	Joshua Greene, MD, PhD, Post-baccalaureate fellow, NIMH Intramural Program, (current: Resident Physician, research track, Columbia University)
2008-2012	Nicholas Hardy, PhD, Post-baccalaureate fellow, NIMH Intramural Program and Lieber Institute Research Assistant, (current: Machine Learning Research Engineer, Synchron.)
2009-2014	Dennisse Jimenez, PhD NIMH Intramural Program Post-baccalaureate fellow and Lieber Institute Research Assistant, (current: Postdoctoral fellow, University of Pennsylvania, laboratory of Hongjun Song)
2012-2016	Mahima Sukumar, Johns Hopkins University undergraduate research assistant, (current: medical student at Quinnipiac University)
2013-present	Alisha S. Kardian, Johns Hopkins University undergraduate research assistant and Lieber Institute Research Assistant (current: PhD training program at Baylor University)
2015-2017	John W. Hobbs, Lieber Institute Research Assistant, (current: PhD training program in Biomedical Sciences at Albert Einstein College of Medicine, laboratory of Dr. Ulrich Steidl)
2015-2018	Yishan Mai, Lieber Institute Research Assistant, (current: PhD training program at Duke-NUS Medical School, laboratory of Dr. Adam Claridge-Chang)
2018-2019	Henry M. Quillian, Lieber Institute Research Assistant (current: PhD training program in Neuroscience at Yale University, laboratory of Dr. Dana Small)
2018-2020	Claudia V. Nguyen, Lieber Institute Research Assistant (current: PhD training program in Neuroscience at University of California, Los Angeles, laboratory of Dr. Aparna Bhaduri)
2018-2022	Elizabeth A. Pattie, Lieber Institute Research Associate (current: PhD training program in Neuroscience at University of Maryland)

2018-2020	Brianna K. Barry, MS; PhD Student, Biochemistry, Cellular & Molecular Biology (BCMB) training program
2018-present	Lionel A. Rodriguez, PhD Student, JHU Department of Neuroscience training program
2018-present	Anthony Ramnauth, PhD Student, JHU Department of Neuroscience training program
2019-2021	Jessica Valerino, Lieber Institute Research Assistant #51 (current: PhD training program in Neuroscience at University of Maryland School of Medicine, laboratory of Dr. Mary Kay Lobo)
2019-2022	Matt N. Tran, PhD, Johns Hopkins University Human Genetics PhD training program, (current: Postdoctoral Fellow at 23&Me)
2019-2020	Kyndall Nicholas, JHU PREP Scholar, (current: PhD student in Neuroscience at University of Pennsylvania, laboratory of Dr. Kacy Cullen)
2020-present	Erik Nelson, PhD Student, JHU Cellular & Molecular Medicine (CMM) training program
2020-present	Sang-Ho Kwon PhD Student, JHU BCMB training program
2020-2022	Nuri Smith, JHU PREP Scholar, (current: PhD student in Genetics at Emory University)
2021-present	Suhaas Adiraju, Lieber Institute Research Assistant
2022-present	Aaron Salisbury, PhD Student, JHU Department of Neuroscience training program
2022-present	Madeline Valentine, Lieber Institute Research Assistant
2022-present	Seyun Oh, Lieber Institute Research Assistant

#### Post-doctoral Advisees /Mentees

2012-2018	Kristen R. Maynard, PhD, Postdoctoral Fellow, Lieber Institute for Brain Development, (current: Investigator, Lieber Institute for Brain Development and Assistant Professor, Department of Psychiatry, Johns Hopkins University School of Medicine)
2013-2017	Julia L. Hill, PhD, Postdoctoral Fellow, Lieber Institute for Brain Development, (current: Senior Research Project Manager, Vertex Pharmaceuticals)
2016-2021	Henry L. Hallock, PhD, Postdoctoral Fellow, Lieber Institute for Brain Development, (current: Assistant Professor of Neuroscience, Lafayette College)
2017-2019	Sun-Hong Kim, PhD, Postdoctoral Fellow, Lieber Institute for Brain Development, (current: Senior Scientist, Kate Therapeutics)
2020-2021	Svitlana Bach, PhD, Postdoctoral Fellow, Lieber Institute for Brain Development, (current: Staff Scientist, Lieber Institute for Brain Development)
2022-present	Michael Totty, Lieber Institute for Brain Development, Postdoctoral Fellow, Lieber Institute

#### Thesis committees

2015-2017	Melissa Konopko, PhD student in laboratory of Bruce Krueger at University of Maryland School of Medicine (Department of Anatomy and Neurobiology)
2018-2020	Lisa Learman, PhD Student in laboratory of Paul Worley, Johns Hopkins University (CMM program)

2018-present	Jessie Weinraub-Benedict, PhD student in laboratory of David Linden, John Hopkins University (Department of Neuroscience)
2020-present	Emma Chaloux-Pinette, PhD student in laboratory of Patricia Janak, Johns Hopkins University (Department of Neuroscience)
2020-present	Xinbei Li, PhD student in laboratory of Mollie Meffert, Johns Hopkins University (Department of Biological Chemistry)
2020-present	Fulya Turker, PhD student in laboratory of Seth Margolis, Johns Hopkins University (Department of Biological Chemistry)
2021-present	Matilde Castro, PhD student in laboratory of Patricia Janak, Johns Hopkins University (Department of Neuroscience)
2021-2022	Briana Chen, PhD student in laboratory of Christine Ann Denny at Columbia University (served as external thesis committee member and thesis defense examiner)

### Educational Program Building / Leadership

2016-present	Co-director/15%, Education and Training Programs, Lieber Institute for Brain Development, Baltimore, Maryland
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## RESEARCH ACTIVITIES

### Research Focus

My graduate thesis was completed at UCLA with Dr. Yi Eve Sun, where I trained as a molecular neurobiologist, focusing on the role of epigenetics and chromatin remodeling mechanisms in activity-dependent gene transcription. I conducted postdoctoral training in the NIMH Intramural Program under the joint supervision of Dr. Bai Lu and Dr. Husseini Manji. At NIMH I gained a wide range of technical skills in cellular and systems level neurobiology, which I used to analyze mouse models of behavior. My training included transgenic and knock-out animal generation, behavioral characterization, cellular analysis of physiology and morphology as well as *in vivo* electrophysiological and neurochemical analysis in behaving animals. My early scientific career centered on understanding how the complex regulation of the *BDNF* gene contributes to brain function and plasticity. My thesis work pioneered studies to assess activity-dependent epigenetic regulation, identifying *BDNF* as the first brain target of the signaling molecule MeCP2. As a postdoctoral fellow I integrated my interests in neurotrophin regulation with a systems neuroscience approach, and focused on elucidating the impact of neurotrophin signaling in circuits that control behavior. Early work in my independent laboratory at the Lieber Institute for Brain Development (LIBD) continued this line of research using mice in which we selectively disrupted *BDNF* expression from individual promoters. In these studies, we demonstrated that “BDNF-related phenotypes” (e.g. aggression; obesity; fear extinction; reversal learning; and stress/depression susceptibility) segregate with loss of expression from distinct promoters. Current directions in our lab take a cross-species approach to study how programs of gene expression in cell-type specific neuronal populations contribute to circuit function and control of behaviors that are relevant for neuropsychiatric disorders. We use genetic manipulation and viral transgenesis in combination with molecular, cellular and systems-level techniques in animal models of behavior, and integrate these data with cell type and circuit-specific molecular profiling and spatial transcriptomic studies in the postmortem human brain.

### Research Program Building / Leadership

2016-present	Supervision for Lieber Institute Imaging Facility and Imaging Development Team
2020-present	Supervision for Lieber Institute Molecular Neuroanatomy Team

## SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

Not Applicable

## ORGANIZATIONAL ACTIVITIES

### Institutional Administrative Appointments

2013-2015	Reviewing Member, SoBran Biosciences Inc., Institutional Animal Care and Use (IACUC) committee
2017-present	Reviewing Member, SoBran Biosciences Inc., Institutional Biosafety Committee (IBC)
2020-2021	JHU Department of Neuroscience Graduate Training Program Admissions Committee
2021-present	JHU Department of Neuroscience Graduate Training Program Steering Committee
2021-2022	JHU BCMB Graduate Training Program Admissions Committee
2021-present	External Advisor, JHU Single Cell and Transcriptomics Core
2022-present	Member, JHU Department of Psychiatry and Behavioral Science Research Council
2022-2023	JHU Department of Neuroscience Graduate Training Program Admissions Committee

### Editorial Activities

2017	Guest Editor, Special Issue “Neurotrophic Factors”, International Journal of Molecular Sciences
2020-present	Senior Editor, Social Media, Neuropsychopharmacology

### Editorial Board appointments

2017-2020	Molecular Neuropsychiatry
2017-2020	Neuronal Signaling
2018-2020	Neuropsychopharmacology
2022-present	Biological Psychiatry

### Journal peer review activities

2007-present	Biological Psychiatry
2008-present	Journal of Neuroscience
2009-present	Bipolar Disorders
2009-present	Cell Research
2010-present	Progress in Neuro-Psychopharmacology & Biological Psychiatry
2010-present	International Journal of Neuropsychopharmacology
2010-present	Neuropsychopharmacology
2011-present	Neuropeptides
2011-present	Neurobiology of Disease
2012-present	Journal of Neural Transmission
2012-present	Neuroscience
2012-present	Behavioral Brain Research
2012-present	Hippocampus
2012-present	PLoS ONE
2013-present	Scientific Reports
2013-present	American Journal of Psychiatry
2013-present	Molecular Psychiatry
2014-present	Translational Psychiatry
2014-present	Brain, Structure & Function
2015-present	Genes, Brain & Behavior
2015-present	Schizophrenia Research
2015-present	PLOS Genetics
2017-present	ELife
2017-present	Nature Neuroscience
2018-present	Neuron
2019-present	Cell Reports
2019-present	Nature Communications
2021-present	Nature
2022-present	Nature Genetics
2022-present	Nature methods

### Other peer review activities

### Advisory Committees, Review Groups/Study Sections

March 2013 Reviewer, Center for Scientific Review (CSR)/National Institutes of Health (NIH), ZRG1 MDCN-P(57)  
 March 2014 Reviewer, CSR/NIH, ZRG1 MDCN-P(57)  
 March 2015 Reviewer, CSR/NIH, ZRG1 MDCN-P(57)  
 June 2015 Reviewer, NIMH Pathway to Independence K99/R00  
 February 2016 Reviewer, NIMH Pathway to Independence K99/R00  
 November 2016 Reviewer, CSR/NIH, ZRG1 MDCN-P(57)  
 March 2017 Reviewer, CSR/NIH, ZRG1 MDCN-P(57)  
 June 2017 Reviewer, CSR/NIH, ZRG1 MDCN-P(57)  
 November 2017 Reviewer, CSR/NIH, ZRG1 MDCN-P(57)  
 February 2019 Reviewer, CSR/NIH, Pathophysiological Basis of Mental Disorders and Addiction (PMDA)  
 February 2019 Reviewer, CSR/NIH, ZRG1 MDCN-P(57)  
 November 2019 Reviewer, CSR/NIH, Molecular Neuropharmacology and Signaling (MNPS)  
 February 2020 Reviewer, CSR/NIH, MNPS  
 June 2020 Reviewer, CSR/NIH, MNPS  
 October 2020 Reviewer, CSR/NIH, MNPS  
 June 2021 Reviewer, CSR/NIH, MNPS  
 June 2021 Reviewer, CSR/NIH, ZRG BCMB-U (50)R  
 2021-2025 Standing member, CSR/NIH, Molecular Cellular Neuropharmacology (MCNP)

### Professional Societies

2001-present Member, Society for Neuroscience (SfN)  
 2009-present Member, Society of Biological Psychiatry (SOBP)  
 2013-2016 Associate Member, American College of Neuropsychopharmacology (ACNP)  
 2013-2015 Member, SOBP Scientific Planning Committee  
 2014-2017 Member, ACNP Program Committee  
 2016-2021 Full Member, ACNP  
 2018-2020 Member, ACNP Training & Education Committee  
 2022-2024 Member, ACNP Membership Committee  
 2022-present Fellow, ACNP

### Conference Organizer

2014-2016 Meeting co-organizer and Program Chair, NGF International Neurotrophin Meeting, Asilomar, California, April 2016

### Session Chair

2013 ACNP annual meeting symposium, “Manipulating BDNF-TrkB signaling in brain disorders: complex regulation and novel cellular & systems level interactions as novel substrates for translational medicine”  
 2017 ACNP annual meeting symposium, “Dissecting Biological Mechanisms of Aggression: Implications for Neuropsychiatric Disease”

## RECOGNITION

### Awards, Honors

2002-04 UCLA Mental Retardation Research Center Pre-doctoral Training Grant  
 2003 National Science Foundation Pre-doctoral Fellowship Competition Honorable Mention  
 2004-06 Medical Investigation of Neurodevelopmental Disorders Institute Pre-doctoral Training Grant  
 2004 Eli-Lilly Society for Neuroscience Graduate Student Travel Award  
 2005 Samuel Eiduson Graduate Student Award, UCLA Brain Research Institute  
 2007 Novartis Foundation Bursary Award on Growth Factors and Neuropsychiatric Disorders  
 2007 American College of Neuropsychopharmacology (ACNP) Young Investigator Travel Award

- 2009-11 Richard J. Wyatt NIMH Memorial Fellowship Award
- 2009 Society of Biological Psychiatry Travel Award Fellowship
- 2010 Collegium Internationale Neuro-Psychopharmacologicum Rafaelsen Young Investigator Travel Award
- 2011 Winter Conference on Brain Research, Best Young Investigator Award
- 2013 Curing the Epilepsies 2013: Pathways Forward Conference, Early Career Investigator Travel Award

## Invited Talks

### JHMI/Regional

- 2013 “Interaction between BDNF and social environment in brain physiology and behavior”, Psychiatry Departmental Research Conference, Johns Hopkins University School of Medicine, Baltimore, Maryland
- 2015 “Activity-dependent BDNF signaling in network excitability”, Department of Anatomy and Neurobiology Seminar Series, University of Maryland, Baltimore, Maryland
- 2019 “Cell-specific expression controls the pleiotropic effects of BDNF-TrkB signaling on behavior”, Psychiatry Departmental Research Conference, Johns Hopkins University School of Medicine, Baltimore, Maryland
- 2019 “Molecular and Cellular Correlates of Fear-Related Plasticity in Hippocampal-Prefrontal Circuitry”, Department of Neuroscience, Annual Retreat, Ashburn Virginia
- 2021 “Cell-type and spatially resolved molecular signatures in human brain disorders”, Maryland Psychiatric Research Center Seminar Series (Virtual)
- 2022 “Cell-type and spatially resolved multi-omic approaches for understanding human brain disorders”, National Institute on Drug Abuse Technology Development Initiative Seminar Series, Baltimore, MD

### National

- 2004 “DNA methylation-related chromatin remodeling in activity-dependent BDNF gene regulation”, Department of Genetics, Rutgers University, Piscataway, New Jersey
- 2005 “Epigenetic gene regulation in the mammalian central nervous system and its implications in Rett Syndrome”, Neuroscience Joint Lecture Series, UCLA, Los Angeles, California
- 2007 “New Insights into BDNF function in anxiety and depression: roles for proBDNF/p75<sup>NTR</sup>”, 46<sup>th</sup> annual American College of Neuropsychopharmacology meeting, Boca Raton, Florida
- 2009 “LTD as a mechanism for coping with acute stress: role of p75<sup>NTR</sup> and cholinergic transmission”, Neurobiology Club Seminar Series, NIH Intramural Program, Bethesda, Maryland
- 2009 “Monitoring home cage behaviors as a tool for preclinical research in psychiatry”, Satellite Symposium on Animal Behavior, Society for Neuroscience meeting, Chicago, Illinois
- 2010 “Interaction between adult hippocampal neurogenesis, hypothalamic-pituitary adrenal axis regulation and mood-related behavior”, 49<sup>th</sup> annual American College of Neuropsychopharmacology meeting, Miami Beach, Florida
- 2010 “Elucidating the functional impact of alternative BDNF promoters in development and disease”, Translational Neuroscience Program Seminar Series, University of Pittsburgh, Pittsburgh, Pennsylvania
- 2012 “Functional implications of activity-dependent BDNF signaling”, Weill Cornell Neuroscience Seminar Series, New York, New York
- 2012 “Promoter-specific *Bdnf* transcription in sleep-related plasticity”, 67<sup>th</sup> annual Society of Biological Psychiatry meeting, Philadelphia, Pennsylvania
- 2012 “Towards better preclinical mouse models: integrating EEG and automated behavioral analysis”, Satellite Symposium on New Technologies in Animal Behavior Analysis, Society for Neuroscience meeting, New Orleans, Louisiana
- 2013 “Interaction between BDNF and social environment in brain physiology and behavior”, University of Delaware, Behavioral Neuroscience Group, Department of Psychology, Seminar Series, Newark, Delaware
- 2013 “Differential contribution of individual *BDNF* splice variants to brain and behavioral functions”, 52<sup>nd</sup> annual American College of Neuropsychopharmacology meeting, Hollywood, Florida
- 2015 “Regulation of fear circuit activity by BDNF signaling”, Department of Pharmacology Seminar Series, University of Texas Health Science Center, San Antonio, Texas
- 2017 “Contribution of BDNF-TrkB Signaling to sex-specific social behavior in mice”, 55<sup>th</sup> annual American College of Neuropsychopharmacology (ACNP) meeting, Palm Springs, California
- 2018 “Cell-specific expression controls the pleiotropic effects of BDNF-TrkB signaling on behavior”, Colorado University, Boulder Neuroscience Seminar Series, Boulder, Colorado



- 2019 “Molecular and Cellular Correlates of Fear-Related Plasticity in Hippocampal-Prefrontal Circuitry”, Inscopix DECODE meeting, Boston, Massachusetts
- 2019 “Complex regulation of brain-derived neurotrophic factor gene expression controls pleiotropic effects of BDNF-TrkB signaling in brain circuits that control behavior”, University of Tennessee Health Science Center, Neuroscience Institute Seminar Series, Memphis, Tennessee
- 2019 “Molecular and Cellular Correlates of Fear-Related Plasticity in Hippocampal-Prefrontal Circuitry”, University of Alabama, Department of Neurobiology Seminar Series, Birmingham, Alabama
- 2020 “Spatial Registration of Gene Expression in the Human Brain”, PsychENCODE Annual Workshop (Virtual)
- 2021 “Cell-type and spatially resolved molecular signatures in human brain disorders”, Children’s Hospital of Los Angeles/University of Southern California Seminar Series (Virtual)
- 2021 “Cell-type and spatially resolved molecular signatures in human brain disorders”, McLean/Harvard Neuroscience Seminar Series (Virtual)
- 2021 “Molecular Profiling across Reward Circuits of the Human Brain Reveals Insights into Genetic Risk for Substance Use and Neuropsychiatric Disorders”, Annual American College of Neuropsychopharmacology meeting, San Juan, Puerto Rico
- 2022 “Cell-type and spatially resolved molecular signatures in human brain disorders”, Center for Systems Neuroscience at Boston University (Virtual)
- 2022 “Cell-Type and Spatially Resolved Molecular Signatures in Human Brain Disorders”, Molecular Psychiatry Meeting, Maui, Hawaii
- 2022 “Cell-Type and Spatially Resolved Molecular Signatures in Human Brain Disorders”, Columbia University, Department of Psychiatry, New York, New York
- 2022 “Cell-Type and Spatially Resolved Molecular Signatures in Human Brain Disorders”, University of Texas Health Science Center at San Antonio, Department of Pharmacology and the Center for Biomedical Sciences, 19<sup>th</sup> Annual Mariann Blum Memorial Lectureship in the Neurosciences
- 2022 “Mapping genetic risk for complex brain disorders across the spatial topography of the human dorsolateral prefrontal cortex”, National Institute on Environmental Health Sciences Modernizing Neurotoxicology Workshop (Virtual)
- 2022 “Cell-type and spatially resolved molecular signatures in human brain disorders”, Emory University Department of Genetics Seminar Series (Virtual)
- 2022 “Molecular and Cellular Adaptations in Disease in Postmortem Tissue and Animal Models”, University of Pittsburgh Department of Psychiatry Seminar Series, Pittsburgh, PA
- 2022 “Cell-type and spatially resolved molecular signatures across reward circuits in the human brain”, Alcohol and the Nervous System Gordon Research Conference, Oxnard, CA
- 2022 “Spatial transcriptomics of human cortex and hippocampus”, OMICS Approaches to Investigate the Neurobiology of Suicide, Hosted by NY Genome Center and Columbia University (Virtual)
- 2022 “Cell-Type and Spatially Resolved Molecular Signatures in Human Brain Disorders”, Louisiana State University Health Science Center, 17<sup>th</sup> Annual Alcohol and Drug Abuse Center of Excellence (ADACE) Scientific Retreat (Keynote Speaker), New Orleans, LA
- 2023 “Cell-Type and Spatially Resolved Molecular Signatures in Human Brain Disorders”, Mt. Sinai Department of Psychiatry Ground Rounds (Virtual)
- 2023 “Cell-type and spatially-resolved multi-omic approaches for understanding human brain disorders”, Virginia Tech School of Neuroscience, Blacksburg, VA
- 2023 “Cell-type and spatially-resolved multi-omic approaches for understanding human brain disorders”, National Institute of Environmental Health Science (Virtual)
- 2023 “Cell-type and spatially-resolved multi-omic approaches for understanding human brain disorders”, University of Pennsylvania Perelman School of Medicine Department of Genetics Annual Symposium (Keynote Speaker), Philadelphia, PA
- 2023 “Regulation of social behavior by BDNF-TrkB signaling in amygdala-septal circuitry”, Neurotrophic Mechanisms in Health and Disease Gordon Research Conference, Newport, RI

#### International

- 2012 “Functional impact of *Bdnf* splice variants on circuitry, plasticity and behavior”, International NGF meeting, Wurzburg, Germany
- 2012 “Functional impact of *Bdnf* splice variants”, BRAIN Centre for Neuroscience seminar series, Trieste, Italy
- 2012 “Transcript-specific influence on divergent roles of brain-derived neurotrophic factor in epilepsy”, 4<sup>th</sup> Meeting of the BMBF Neuroscience Groups, Bonn, Germany



- 2014 “Functional roles for brain-derived neurotrophic factor splice variants”, Kick-Off Meeting-SFB 1089: Synaptic Microcircuits, Bonn, Germany
- 2014 “Differential contribution of individual *BDNF* splice variants to brain and behavioral functions”, CSHA/NGF Joint Conference on NGF and Related Neurotrophins, Suzhou, China
- 2021 “Cell-type and spatially resolved molecular signatures in human brain disorders”, Biennial Meeting of the International Society for Developmental Neuroscience (ISDN) (Virtual)
- 2023 “Cell-type and spatially resolved molecular signatures in human brain disorders”, Hotchkiss Brain Institute/University of Calgary, Calgary, Canada
- 2023 “Cell type-specific and spatially-resolved molecular signatures of PTSD across cortico-amygdala circuits in the human brain”, Amygdala Function in Emotion, Cognition and Disease Gordon Research Conference, Barcelona, Spain
- 2023 “Cell type-specific and spatially resolved transcriptomic signatures in the human locus coeruleus”, Catecholamines Gordon Research Conference, Barcelona, Spain