Curriculum Vitae

Vinay Parikh, Ph.D.

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Education and Postdoctoral Training

2004-2009	**Post-doc**, Systems and Behavioral/Cognitive Neuroscience (Advisor: Prof. Martin Sarter), University of Michigan, Ann Arbor, MI
2003-2004	**Post-doc**, Systems and Behavioral/Cognitive Neuroscience (Advisors: Prof. Martin Sarter & John P. Bruno), Ohio State University, Columbus, OH
2001-2003	**Post-doc**, Neurochemistry/Psychopharmacology (Advisors: Prof. Sahebarao P. Mahadik & Alvin V. Terry), Medical College of Georgia, Augusta University, Augusta, GA
1999	**Ph.D.**, Life Sciences/Pharmacology (Advisor: Prof. Manjeet Singh) Punjabi University, Patiala, India
1994	**M. Pharm.**, Pharmacology Gujarat University, Ahmedabad, India
1992	**B. Pharm.**, Pharmaceutical Sciences Dr. Harisingh Gour University, Sagar, India

Additional Training and Coursework

ISMRM Workshop on MR Spectroscopy (Mass General Brigham, Harvard Medical School), Advanced Data Analytics (Temple University); Python for Data Analysis (IBM); Advanced Coursework on Electrochemical Measurements in Biological Systems (University of Kentucky); National Workshop on Mathematical Modeling of Pharmacokinetic Data (AICTE, India)

Other Credentials

2020	**M.B.A.**, (Concentration: Innovation and Strategic Management) Fox School of Business, Temple University, Philadelphia, PA

Research Interests

Behavioral/Cognitive Neuroscience, Psychopharmacology, Neuromodulatory Systems, Circuit Plasticity, Attention, Executive Functions, Aging, Cognition Therapeutics

Professional Appointments

2022-present	Director, Neuroscience Program (College of Liberal Arts), Temple University, Philadelphia, PA (administrative appointment)

2021-2022	Interim Director, Neuroscience Program (College of Liberal Arts), Temple University, Philadelphia, PA (administrative appointment)
2016-present	Associate Professor with tenure, Department of Psychology and Neuroscience, Temple University, Philadelphia, PA
2016-present	Associate Professor, Center for Substance Abuse Research, Lewis Katz School of Medicine, Temple University, Philadelphia, PA
2016-2019	Director, Neuroscience Program (College of Liberal Arts), Temple University, Philadelphia, PA (administrative appointment)
2009-2016	Assistant Professor, Department of Psychology and Neuroscience Program, Temple University, Philadelphia, PA
2005-2009	Senior Research Scientist, Department of Psychology, University of Michigan, Ann Arbor, MI
1998-2001	Group Leader – New Drug Discovery Program, Sun Pharmaceutical Industries Ltd., Vadodara, India

RESEARCH

Publications in Peer-Reviewed Journals (*co-author students supervised by Parikh)

1) Kniffin A*, Targum M*, Patel A*, Bangasser DA, Parikh V. Alterations in hippocampal cholinergic dynamics following CRF infusions into the medial septum of male and female rats. **Neurochemistry International**, 2024; 176: 105739.

2) Duggan MR*, Steinberg Z*, Peterson T*, Francois T-J*, Parikh V. Cognitive trajectories in longitudinally trained 3xTg-AD mice. **Physiology and Behavior**, 2024; 275: 114435.

3) Knox D, Parikh V. Basal forebrain cholinergic systems as circuits through which traumatic stress disrupts emotional memory regulation. **Neuroscience and Biobehavioral Reviews**, 2024; 159: 105569.

4) Kniffin A*, Bangasser DA, Parikh V. Septohippocampal cholinergic system at the intersection of stress and cognition: New insights and translational implications. **European Journal of Neuroscience** 2024; 59: 2155-2180.

5) Andalib S, Divani AA, Ayata C, Baig S, Arsava EM, Topcuoglu MA, Cacere EL, Parikh V, Desai MJ, Majid A, Girolami S, Napoli MD. Vagus nerve stimulation in ischemic stroke. **Current Neurology and Neuroscience Reports** 2023; 23: 947-962.

6) Carmon H, Haley EC*, Parikh V, Tronson NC, Sarter, M. Neuro-immune modulation of cholinergic signaling in an addiction vulnerability trait. **eNeuro** 2023; 10: ENEURO.0023-23.2023 1–16.

7) Khan MM, Parikh V. Prospects for neurotrophic factor-based early intervention in schizophrenia: Lessons learned from the effects of antipsychotic drugs on cognition, neurogenesis and neurotrophic factors. **CNS and Neurological Disorders – Drug Targets** 2023; 22: 289-303.

8) Eck SR, Kokras N, Wicks B, Baltimas P, Hall A, Bendegem N, Salvatore M, Cohen S, Bergmann J, Ceretti A, Parikh V, Dalla C, Bangasser DA. Corticotropin releasing factor in the nucleus basalis of Meynert impairs attentional performance and reduces levels of glutamate and taurine in male and female rats. **Neuropharmacology** 2022; 221: 109280.

9) Duggan MR*, Lu A*, Foster TC, Wimmer ME, Parikh V. Exosomes in age-related cognitive decline: Mechanistic insights and improving outcomes. **Frontiers in Aging Neuroscience** 2022; 14: 834775.

10) Donovan E, Avila C, Klausner S, Parikh V, Fenollar-Ferrer C, Blakely RD, Sarter M. Disrupted choline clearance and sustained acetylcholine release in vivo by a common choline transporter coding variant associated with poor attentional control in humans. **The Journal of Neuroscience** 2022; 42: 3426-3444.

11) Duggan MR*, Joshi S*, Strupp J*, Parikh V. Chemogenetic inhibition of prefrontal projection neurons constrains top-down control of attention in young but not aged rats. **Brain Structure and Function** 2021; 226: 2357-2373.

12) Yegla B*, Joshi S, Strupp J*, Parikh V. Dynamic interplay of frontoparietal cholinergic innervation and cortical reorganization in the regulation of attentional capacities in aging. **Neurobiology of Aging** 2021; 105: 186-198.

13) Duggan MR*, Parikh V. Microglia and modifiable life factors: Potential contributions to cognitive resilience in aging. **Behavioral Brain Research** 2021; 405: 113207.

14) Bongiovanni A, Peer K, Carpenter RE, Ellis AS, Duggan MR*, Parikh V, Wimmer ME. Aging reduces the sensitivity to the reinforcing efficacy of morphine. **Neurobiology of Aging** 2021; 97: 28-32.

15) Duggan MR*, Ahooyi TM, Parikh V, Khalili K. Neuromodulation of BAG co-chaperones by HIV-1 viral proteins and H2O2: Implications for HIV-associated neurological disorders. **Cell Death Discovery** 2021; 7: 60.

16) Goldberg LR, Zeid D, Kutlu MG, Cole RD*, Lallai V, Sebastian A, Albert I, Fowler C, Parikh V, Gould TJ. Paternal nicotine enhances fear memory, reduced nicotine self-administration and alters hippocampal genetic and neural function in subsequent generations. **Addiction Biology** 2021; 26: e12859.

17) Chawla PA, Parikh V. Alzheimer's disease: The unwanted companion of the elderly. **CNS and Neurological Disorders – Drug Targets** 2020; 19: 646-647.

18) Eck S, Xu S-J, Telenson A, Duggan MR*, Cole RD*, Wicks B, Bergmann J, Lefebo H, Shore M, Shepard K, Akins M, Parikh V, Heller EA, Bangasser DA. Stress regulation of sustained attention and the cholinergic attention system. **Biological Psychiatry** 2020; 88: 566-575.

19) Cole RD*, Zimmerman M*, Kutlu MG*, Matchanova A*, Gould TJ, Parikh V. Cognitive rigidity and BDNF-mediated frontostriatal glutamate neuroadaptations during spontaneous nicotine withdrawal. **Neuropsychopharmacology** 2020; 45: 866-876.

20) Duggan MR*, Joshi S, Tan Y, Slifker M, Ross EA, Wimmer M, Parikh V. Transcriptomic changes in the prefrontal cortex of rats as a function of age and cognitive engagement. **Neurobiology of Learning and Memory** 2019; 163: 10735.

21) Wickens MM, Deutschmann AU, McGrath AG, Parikh V, Briand LA. Glutamate receptor interacting proteins act within the prefrontal cortex to blunt cocaine seeking. **Neuropharmacology** 2019; 157: 107672.

22) Koshy Cherian A, Tronson NC, Parikh V, Blakely RD, Sarter M. Repetitive mild concussion in mice with a vulnerable cholinergic system: lasting cholinergic attentional impairments and brain cytokine expression in CHT+/- mice. **Behavioral Neuroscience** 2019; 133: 448-459.

23) Cole RD*, Wolsh C*, Zimmerman M*, Gould TJ, Parikh V. Adolescent nicotine exposure facilitates motivated nicotine but not saccharin self-administration following adult drug re-exposure in mice. **Behavioral Brain Research** 2019; 359: 836-844.

24) Zhou L, Fisher ML, Cole RD*, Gould TJ, Parikh V, Ortinski PI, Turner JR. Neuregulin 3 signaling mediates nicotine-dependent synaptic plasticity in the orbitofrontal cortex and cognition. **Neuropsychopharmacology** 2018; 43: 1343-1354.

25) Yegla B*, Parikh V. Developmental suppression of forebrain trkA receptors and attentional capacities in aging rats: A longitudinal study. **Behavioral Brain Research** 2017; 335: 111-121.

26) Koshy Cherian A, Parikh V, Wang Q, Wu Q, Mao-Draayer Y, Blakely RD, Sarter M. Hemicholinium-3 sensitive choline transport in human T lymphocytes: Evidence for use as a proxy for brain choline transporter (CHT) capacity. **Neurochemistry International** 2017; 108: 410-416.

27) Koshy Cherian A, Kucinski A, Pitchers K, Yegla B*, Parikh V, Kim Y, Valuskova P, Gurnan S, Blakely RD, Lindsley CW, Sarter M. Unresponsive choline transporter as a trait neuromarker and a causal mediator of bottom-up attentional biases. **The Journal of Neuroscience** 2017; 37: 2947-2959.

28) Wicks B, Waxler DE, White K, Duncan N, Bergmann J, Cole RD*, Parikh V, Bangasser DA. Method for testing sustained attention in touchscreen operant chambers in rats. **Journal of Neuroscience Methods** 2017; 277: 30-37.

29) Sarter M, Lustig C, Berry AS, Gritton H, Howe WM, Parikh V. What do phasic cholinergic signals do ? **Neurobiology of Learning and Memory** 2016; 130: 131-141.

30) Parikh V, Naughton SX*, Yegla B*, Guzman D*. Impact of partial dopamine depletion on cognitive flexibility in BDNF heterozygous mice. **Psychopharmacology** 2016; 233: 1361-1375.

31) Parikh V, Kutlu MG*, Gould TJ. nAChR dysfunction as a common substrate for schizophrenia and comorbid nicotine addiction. **Schizophrenia Research** 2016; 171: 1-15.

32) Parikh V, Cole RD*, Patel PJ*, Poole RL, Gould TJ. Disrupted cognitive control and frontostriatal BDNF imbalance during mecamylamine-precipitated nicotine withdrawal. **Neurobiology of Learning and Memory** 2016; 128: 110-116.

33) Cole RD*, Kawasumi Y, Parikh V, Bangasser DA. Corticotropin releasing factor impairs sustained attention in male and female rats. **Behavioral Brain Research** 2016; 296: 30-34.

34) Kutlu M*, Parikh V, Gould TJ. Nicotine addiction and psychiatric disorders. **International Review of Neurobiology** 2015; 124: 171-208.

35) Yegla B*, Parikh V. Rejuvenating procholinergic treatments for cognition enhancement in AD: current challenges & future prospects. **Frontiers in Systems Neuroscience** 2015; 8: 254.

36) Cole RD*, Poole RL, Guzman D*, Gould TJ, Parikh V. Contributions of β2 subunit-containing nAChRs to nicotine-induced alterations in cognitive flexibility in mice. **Psychopharmacology** 2015; 232: 1207-1217.

37) Parikh V, Bernard CS*, Naughton SX*, Yegla B*. Interactions between Aβ oligomers and presynaptic cholinergic signaling: age-dependent effects on attentional capacities. **Behavioral Brain Research** 2014; 274: 30-42.

38) Parikh V, Naughton SX*, Shi X, Kelley LK, Yegla B*, Tallarida CS, Rawls SM, Unterwald EM. Cocaine- induced neuroadaptations in the dorsal striatum: glutamate dynamics and behavioral sensitization. **Neurochemistry International** 2014; 75:54-65.

39) Yegla B*, Parikh V. Effect of sustained ProNGF blockade on attentional capacities in aged rats with compromised cholinergic system. **Neuroscience** 2014; 261: 118-132.

40) D'Amore DE*, Tracy BA*, Parikh V. Exogenous BDNF facilitates strategy shifting by modulating glutamate dynamics in the dorsal striatum. **Neuropharmacology** 2013; 75:312-323.

41) Parikh V, Howe WM, Welchko R, Naughton SX*, Han D, D'Amore DE*, Turner DL, Sarter M. Diminished trkA receptor signaling reveals cholinergic-attentional vulnerability of aging. **European Journal of Neuroscience** 2013; 37:278-293.

42) Parikh V, St. Peters M, Blakely RD, Sarter M. The presynaptic choline transporter imposes limits on sustained cortical acetylcholine release and attention. **The Journal of Neuroscience** 2013; 33:2326-2337.

43) Ortega LA*, Tracy BA*, Gould TJ, Parikh V. Effect of chronic low- and high-dose nicotine on cognitive flexibility in C57BL/6J mice. **Behavioral Brain Research** 2013; 238: 134-145.

44) Howe WM, Ji J, Parikh V, Williams S, Mocaer E, Trocme-Thibierge C, Sarter M. Enhanced shifting from endogenous to exogenous attention by selective stimulation of α4β2 nAChRs: underlying cholinergic mechanisms. **Neuropsychopharmacology** 2010; 35:1391-1401.

45) Parikh V, Ji J, Decker MW, Sarter M. Prefrontal β2 subunit-containing and α7 nAChRs differentially control glutamatergic and cholinergic signaling. **The Journal of Neuroscience** 2010; 30:3518-3530.

46) Sarter M, Parikh V, Howe MW. nAChR-agonist induced cognition enhancement: integration of cognitive and neuronal mechanisms. **Biochemical Pharmacology** 2009; 78: 658-667.

47) Sarter M, Parikh V, Howe, MW. Phasic acetylcholine and the volume transmission hypothesis: time to move on. **Nature Reviews Neuroscience** 2009; 10: 383-390.

48) Giuliano C, Parikh V, Ward JR, Chiamulera C, Sarter M. Increases in cholinergic neurotransmission measured by using choline-sensitive microelectrodes: enhanced detection by hydrolysis of acetylcholine on recording sites? **Neurochemistry International** 2008; 52: 1343-1350.

49) Parikh V, Man K, Decker MW, Sarter M. Glutamatergic contributions to nAChR agonist-evoked cholinergic transients in the prefrontal cortex. **The Journal of Neuroscience** 2008; 28: 3769-3680.

50) Parikh V, Sarter M. Cholinergic mediation of attention: the contribution of phasic versus tonic components of prefrontal cholinergic activity. **Annals of the New York Academia of Sciences** 2008; 1129: 225-235.

51) Parikh V, Kozak R, Martinez V, Sarter M. Prefrontal acetylcholine release controls cue detection on multiple time scales. **Neuron** 2007**;** 56: 141-54.

52) Sarter M, Bruno JP, Parikh V. Abnormal neurotransmitter release underlying behavior and cognitive disorders: toward concepts of dynamic and function specific dysregulation. **Neuropsychopharmacology** 2007; 32: 1452-1461.

53) Pillai A, Parikh V, Terry AV, Mahadik SP. Long term antipsychotic treatments and crossover studies in rats: differential effects of typical and atypical agents on the expression of antioxidant enzymes and membrane lipid peroxidation in rat brain. **Journal of Psychiatric Research** 2007; 41: 372-86.

54) Terry AV, Parikh V, Gearhart DA, Pillai A, Nasrallah HA, Mahadik SP. Time dependent effects of haloperidol and ziprasidone on nerve growth factor, cholinergic neurons, and spatial learning in rats. **Journal of Pharmacology and Experimental Therapeutics** 2006; 318: 709-724.

55) Parikh V, Apparsundaram S, Kozak R, Richards JB, Sarter M. Reduced expression and capacity of striatal high-affinity choline transporter in hyperdopaminergic mice. **Neuroscience** 2006; 41: 379-389.

56) Parikh V, Sarter M. Cortical choline transporter function *in vivo*: equipotent uptake of endogenous and exogenous choline and effects of cholinergic deafferentation. **Journal of Neurochemistry** 2006; 96: 488-502.

57) Hernandez CM, Gearhart DA, Parikh V, Hohnadel EJ, Davis LW, Middlemore ML, Waller JL, Terry AV. Comparison of galantamine and donepezil for effects on nerve growth factor, cholinergic markers and memory performance in aged rats. **Journal of Pharmacology and Experimental Therapeutics** 2006; 316:679-694.

58) Apparsundaram S, Martinez V, Parikh V, Kozak R, Sarter M. Increased capacity and density of choline transporters situated in synaptic membranes of the right medial prefrontal cortex of attentional task-performing rats. **The Journal of Neuroscience** 2005; 25:3851-3856.

59) Martinez V, Parikh V, Sarter M. Sensitized attentional impairments and Fos-immunoreactive cholinergic neurons in the basal forebrain following administration of escalating doses of amphetamine. **Biological Psychiatry** 2005; 57:1138-1146.

60) Sarter M, Parikh V. Choline transporters, cholinergic transmission and cognition. **Nature Reviews Neuroscience** 2005; 6:48-56.

61) Parikh V, Pomerleau F, Huettl P, Gerhardt GA, Sarter M, Bruno JP. Rapid assessment of in vivo cholinergic transmission by amperometric detection of changes in extracellular choline levels. **European Journal of Neuroscience** 2004; 20: 1545-1554.

62) Parikh V, Khan MM, Mahadik SP. Differential regulation of nerve growth factor and choline acetyltransferase expression with antipsychotics in rat cortex and nucleus basalis. **Journal of Psychiatric Research** 2004; 38: 521-529.

63) Parikh V, Khan MM, Mahadik SP. Olanzapine counteracts modulatory effects of haloperidol on BDNF and TrkB receptors in rat hippocampus. **Neuroscience Letters** 2004; 356: 135-139.

64) Parikh V, Terry AV, Khan MM, Mahadik SP. Modulation of nerve growth factor and choline acetyltransferase expression in rat hippocampus after chronic exposure with haloperidol, risperidone and olanzapine. **Psychopharmacology** 2004; 172:365-374.

65) Evans DR, Parikh VV, Khan MM, Coussons C, Buckley PF, Mahadik SP. Red blood cell membrane essential fatty acid metabolism in early psychotic patients following antipsychotic drug treatment. **Prostaglandins Leukotrienes Essential Fatty Acids** 2003; 69: 393-399.

66) Khan MM, Parikh VV, Mahadik SP. Antipsychotic drugs differentially modulate apolipoprotein D in rat brain. **Journal of Neurochemistry** 2003; 86:1089-1100.

67) Terry AV, Hill WD, Parikh V, Waller JL, Evans DR, Mahadik SP. Differential effects of haloperidol, risperidone and clozapine exposure on cholinergic markers and spatial learning performance in rats. **Neuropsychopharmacology** 2003; 28:300-309.

68) Parikh V, Evans DR, Khan MM, Mahadik SP. Nerve growth factor levels in never-medicated first-episode psychotic patients and medicated chronic schizophrenic patients. **Schizophrenia Research** 2003; 60:117-123.

69) Parikh V, Khan MM, Mahadik SP. Differential effects of antipsychotics on expression of antioxidant enzymes and membrane lipid peroxidation in rat brain. **Journal of Psychiatric Research** 2003; 37:43-51.

70) Terry AV, Hill WD, Parikh V, Evans DR, Waller JL, Mahadik SP. Differential effects of chronic haloperidol and olanzapine exposure on brain cholinergic markers and spatial learning in rats. **Psychopharmacology** 2002; 164: 360-368.

71) Khan MM, Evans DR, Gunna V, Scheffer RE, Parikh VV, Mahadik SP. Reduced erythrocyte membrane essential fatty acids and increased lipid peroxides in schizophrenia at the never-medicated first-episode of psychosis and after years of treatment with antipsychotics. **Schizophrenia Research** 2002; 58: 1-10.

72) Mahadik SP, Khan MM, Evans DR, Parikh VV. Elevated plasma level of apolipoprotein D in schizophrenia and its treatment and outcome. **Schizophrenia Research** 2002; 58: 55-62.

73) Doshi U, Salat P, Parikh V. Cytokines in asthma: Current trends and future prospects. **Indian Journal of Pharmacology** 2002; 34: 16-25.

74) Parikh V, Singh M. Possible role of nitric oxide release and mast cells in endotoxin-induced cardioprotection. **Pharmacological Research** 2001; 43: 39-45.

75) Salat P, Parikh V. Motilin receptor agonists as novel gastrointestinal prokinetic agents. **Indian Journal of Pharmacology** 1999; 31(5): 333-9.

76) Parikh V, Singh M. Possible role of adrenergic component and cardiac mast cell degranulation in preconditioning induced cardioprotection. **Pharmacological Research** 1999; 40: 129-37.

77) Parikh V, Singh M. Possible role of cardiac mast cell degranulation in norepinephrine induced preconditioning **Methods and Findings in Experimental and Clinical Pharmacology** 1999; 27(4): 269-74.

78) Parikh V, Singh M. Possible role of cardiac mast cell degranulation and NO release in ischaemic preconditioned isolated rat heart. **Molecular and Cellular Biochemistry** 1999; 199: 1-6.

79) Parikh V, Singh M. Cardiac mast cell stabilization and cardioprotective effect of ischemic preconditioning in isolated rat heart. **Journal of Cardiovascular Pharmacology** 1998; 31: 779-785.

80) Parikh V, Singh M. Resident cardiac mast cells and cardioprotective of ischaemic preconditioning in isolated rat heart. **Journal of Cardiovascular Pharmacology** 1997; 30:149-156.

81) Kaur H, Parikh V, Sharma A, Singh M. Effect of amiloride a Na^+/H^+ exchange inhibitor on cardioprotective effect of ischemic preconditioning: Possible involvement of resident cardiac mast cells. **Pharmacological Research** 1997; 36: 95-102.

82) Singh M, Parikh V, Sharma A. Fundamentals and future prospects of gene therapy. **Drugs of the Future** 1997; 22: 995-1003.

83) Sharma A, Parikh V, Singh M. Pharmacological basis and drug therapy of Alzheimer's disease. **Indian Journal of Experimental Biology** 1997; 35: 1146-1155.

84) Parikh V, Shivprakash, Patel RB, Gandhi TP, Santani DD. Effect of aspirin on single and multiple dose pharmacokinetics of ciprofloxacin in rabbits. **Indian Journal of Pharmacology** 1996; 28: 25-28.

85) Shah DA, Usgaonkar RS, Pradhan RR, Parikh V. ISO-9000 and its applicability to pharmaceuticals - A pharmacist's perception. **Eastern Pharmacist** 1994 (May): 33-39.

Research in Progress:

86) Williams M*, Patel N, Fleischel E, Wimmer ME, Ward SJ, Parikh V. Beta-Caryophylline, a CB2-selective phytocannabinoid differentially modulates attention and inhibitory control in low-performing and high-performing mice. In preparation.

87) Parikh V, Kniffin A*, Bavley C, Targum M*, Severino J, Flowers J, Bangasser DA, Wimmer ME. Chronic variable stress and neuroadaptive acetylcholinesterase regulation. In preparation.

88) Cole RD*, Wolsh C*, Harrington E*, Parikh V. Scavenging endogenous BDNF activity in the dorsal striatum prevents nicotine withdrawal-related cognitive flexibility deficits in mice. In preparation.

89) Harrington E*, Steinberg Z*, Parikh V. Adolescent nicotine exposure in mice impairs cognitive flexibility in adulthood. In preparation.

Published Books and Chapters (*co-author students supervised by Parikh)

1. Parikh V, Bangasser DA. Cholinergic signaling modes and cognitive control of attention. In: **Current Topics in Behavioral Neuroscience** (Shoaib M and Wallace T, eds), 2020, 45, pp 71-87, Berlin, Heidelberg, Springer.

2. Cole RD*, Parikh V. Nicotine dependence in schizophrenia: contributions of nicotinic acetylcholine receptors. In: **Neuroscience of Nicotine** (Preedy V, ed), 2019, pp 135-143, Amsterdam, Netherlands, Elsevier.

3. Parikh V, Sarter M. Regulation and functions of forebrain cholinergic systems: new insights based on rapid detection of choline spikes using enzyme-based biosensors. In: **Microelectrode Biosensors** (Dale N, Marinesco S, eds), 2013, Neuromethods: Springer Protocols Vol 80, pp 257-273, Humana Press Inc., New York.

4. Sarter M, Parikh V, Howe MW, Gritton H, Paolone G, Lee TM. Multiple time scales and variable spaces: synaptic neurotransmission in vivo. In: **Monitoring Molecules in Neuroscience**. (Michotte Y, Westerink, B, Sarre G, eds), 2010, PP 7-9, Brussels, Belgium: Vrije Universiteit Brussel.

5. Parikh V, Sarter M. Cognitive decline in laboratory animals: models, measures, and validity. In: **Encyclopedia of Behavioral Neuroscience** (Koob G, Thompson RF, LeMoal M, eds), 2010, Vol 1, pp 294-301, Amsterdam, Netherlands: Elsevier.

6. Sarter M, Howe WM, Parikh, V. Cholinergic transients mediating signal detection and processing mode shifts. In: **Monitoring Molecules in Neuroscience** (Phillips, PE, Sandberg, SG, Ahn, S, Phillips A, eds) 2008, pp 312-315, Vancouver, Canada: University of British Columbia Institute of Mental Health.

7. Sarter M, Bruno JP, Parikh V, Martinez V, Kozak R, Richards JB. Forebrain dopaminergic-cholinergic interactions, attentional effort, psychostimulant addiction and schizophrenia. In: **Neurotransmitter interactions and cognitive function** (Levin ED, Butcher L, Decker M, eds) 2006, pp 65-85, Boston, MA: Birkhäuser.

8. Bruno JP, Sarter M, Gash C, Parikh V. Choline- and acetylcholine-sensitive microelectrodes and cholinergic transmission. In: **Encyclopedia of sensors** (Grimes GA, Dickey E, eds) Vol 2, 2006, pp 177-192, Stevenson Ranch, CA: American Scientific Publishers.

9. Mahadik SP, Parikh VV, Khan MM. The role of oxidative stress in modulating the membrane and phospholipid function in schizophrenia. In: **Phospholipid spectrum disorders in psychiatry and neurology** (Peet M, Glen I, Horrobin DF, eds) Second Edition, 2003, pp 277-288, Carnforth: Marius Press.

10. Mahadik SP, Khan MM, Parikh V. Effect of antipsychotics drugs on rat brain and on essential fatty acids in the erythrocytes of schizophrenic patients: Implications and outcome. In: **Phospholipid spectrum disorders in psychiatry and neurology** (Peet M, Glen I, Horrobin DF, eds) Second Edition, 2003, pp 289-298, Carnforth: Marius Press.

Edited Books

1. Chawla PA, Lowenberg R, Dua K, Parikh V, Chawla V (eds). **Novel drug delivery systems in the management of CNS disorders**. 2024, Elsevier.

Scientific Presentations/Published Abstracts (*co-author students supervised by Parikh)

1. Parikh V, Harrington E, Steinberg ZR, Gaisinsky J, Meissler J, Eisenstein, TK. Developmental nicotine exposure and cognitive vulnerability: Is the immune system involved? **35th CINP World Congress of Neuropsychopharmacology** 2024; Tokyo, Japan.

2. Graham M*, Usher L*, Laliwala Y*, Patel D*, Dolan S*, Dressler C, Wimmer ME, Bangasser DA, Parikh V, Sex Differences in the Impact of Early Life Adversity on Spatial Memory and Hippocampal Cholinergic Signaling in Rats. **Neuropsychopharmacology Abstracts** 2023; 48 (Suppl): 316-317.

3. Carmon H, Parikh V, Haley E*, Tronson NC, Sarter M. Neuroimmune states contribute to cholinergic dysfunction in sign-tracking rats. **Society for Neuroscience Meeting,** 2023; 52: PSTR563.05.

4. Dressler C, Dunham B, Jiwanji M, Parikh V, Fried MT, Abdus-Saboor I, Wimmer M. Using a novel pain scale to assess morphine-derived antinociception in young and aged rats. **Society for Neuroscience Meeting,** 2023; 52: PSTR544.14.

5. Parikh V, Kniffin A*, Bavley C, Targum M*, Severino J, Flowers J, Bangasser DA, Wimmer ME. Neuroadaptive AChE regulation in stress and cognitive aging. **34th CINP World Congress of Neuropsychopharmacology** 2023; Montreal, Canada.

6. Parikh V, Kniffin A*, Bavley C, Targum M*, Severino J, Flowers J, Bangasser DA, Wimmer ME. Neuroadaptive acetylcholinesterase regulation in stress and cognitive aging. **Neuropsychopharmacology Abstracts** 2022; 47 (Suppl): 75.

7. Carmon H, Parikh V, Haley E*, Tronson NC, Sarter M. Vulnerable for addiction-like behavior: Disrupted cholinergic signaling and exaggerated (neuro)immune response in sign-tracking rats. **Society for Neuroscience Meeting,** 2022; 51: 233.01.

8. Klausner S, Donovan E, Avila C, Parikh V, Fenoller-Ferrer C, Blakely RD, Sarter M. Disrupted choline clearance and sustained acetylcholine release in vivo by a common choline transporter coding variant associated with poor attentional control in humans. **Society for Neuroscience Meeting,** 2022; 51: 233.04.

9. Kniffin A*, Bavley C, Targum M*, Severino J, Flowers J, Bangasser DA, Wimmer ME, Parikh V. Brain acetylcholinesterase regulation and age-related changes in cognition. **Society for Neuroscience Meeting,** 2022; 51:663.07.

10. Kniffin A*, Targum M*, Bangasser DA, Parikh V. CRF infusion into the medial septum modulates hippocampal cholinergic transmission in male and female rats. **Annual Meeting of the Organization for the Study of Sex Differences,** 2022; Marina Del Ray, CA.

11. Parikh V, Williams M*, Patel N, Fleischel E, Wimmer ME, Ward SJ. Beta-Caryophylline, a CB2-selective phytocannabinoid differentially modulates attention and inhibitory control in young and aged mice. **Neuropsychopharmacology Abstracts** 2021; 46 (Suppl): 13-14.

12. Kniffin A*, Targum M*, Bangasser DA, Parikh V. CRF infusion into the medial septum modulates hippocampal cholinergic transmission in rats. **Society for Neuroscience Meeting,** 2021; 50: 613.02.

13. Carmon H, Parikh V, Haley E*, Tronson NC, Sarter M. Vulnerable for addiction-like behavior: Disrupted cholinergic signaling and exaggerated (neuro)immune response in sign-tracking rats. **Society for Neuroscience Meeting,** 2021; 50: 772.02.

14. Donovan E, Avila C, Parikh V, Fenollar-Ferrer C, Blakely RD, Sarter M. Disrupted neuronal choline clearance in vivo by a choline transporter variant associated with poor attentional control in humans. **Society for Neuroscience Meeting,** 2021; 50: 773.08.

15. Kniffin A*, Targum M*, Bangasser DA, Parikh V. The effect of CRF infusion into the medial septum modulates hippocampal cholinergic transmission in rats. **Philadelphia Chapter Society for Neuroscience** 2021; Philadelphia, PA.

16. Parikh V, Asci I*, Haley E. Altered Frontoparietal Beta Coherence Dynamics in Visual Discrimination as an Early Biomarker to Predict Alzheimer's Disease. **Neuropsychopharmacology Abstracts** 2020; 45 (Suppl 1): 465-466.

17. Parikh V, Jacob Strupp*. Frontoparietal network alteration as a possible biomarker to predict Alzheimer's disease. **Neuropsychopharmacology** 2019; 44 (Suppl): 465-466.

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Invited Talks/Presentations, Colloquia and Seminars

- Leveraging the concept of cognitive reserve to advance cognition therapeutics for age-related neurodegenerative conditions. Invited Talk (Virtual): International Conference on Challenges and Advancements in the Treatment of Neurological Disorders, Birla Institute of Technology, India (2025).

- Advancing cognition therapies of age-related cognitive disorders – A cognitive reserve perspective. Distinguished Seminar Session: International Conference on Molecular and Experimental Pharmacology Interface in Drug Discovery, National Institute of Pharmaceutical Education and Research(NIPER), Guwahati, India (2024).

- Advancing cognition therapies of age-related cognitive disorders – A cognitive reserve perspective. Amity Institute of Pharmacy, Noida, India (2024).

- Advancing cognition therapies of age-related cognitive disorders – A cognitive reserve perspective. Session: Distinguished Lecture Series (Translational Advances in Neuropharmacotherapy), International Pharmacology Conference and 54th Annual Conference of Indian Pharmacological Society IPC – IPSCON, All India Institute of Medical Sciences, New Delhi, India (2024).

- Developmental nicotine exposure and cognitive vulnerability: Is the immune system involved? Session: Short Communications - Addiction Disorders – Preclinical, 35th CINP World Congress of Neuropsychopharmacology, Tokyo, Japan (2024).

- Dissecting AChE regulation in stress and cognitive aging: From biomarker to therapeutic target, Plenary Session (Virtual): NextGen Therapeutics: Multidisciplinary Research Approaches for Drug Development and Delivery (Theme: Translational Medicine), 7th Nirma Institute of Pharmacy International Conference (NiPiCON), India (2024).
- Accelerating the development of cognition therapeutics for age-related neurodegenerative disorders through predictive biomarkers. Temple University School of Pharmacy, Philadelphia, PA (2023).
- Reimagining neuroscience drug development using a digital companion strategy. Session: Redefining pharmaceutical innovation from benchside to bedside, Annual SAPA-GP Conference, King of Prussia, PA (2022).
- Accelerating the development of cognition therapeutics for age-related neurodegenerative disorders through predictive biomarkers, Plenary Session: Emerging opportunities and challenges in pharmacology and pharmaceutical Sciences for drug discovery and healthcare innovations, NiPiCON-IPS Conference, India (2022).
- Neural underpinnings of resilience and vulnerability in cognitive aging. International Expert Lecture, Nirma University, Ahmedabad, India (2021).

- Neurochemical circuit mechanisms underlying cognitive inflexibility in nicotine dependence. 27th Annual International Behavioral Neuroscience Society Meeting, Boca Raton, FL (2018).

- Neurobiological underpinnings of cognitive resilience and vulnerability in aging and pathological aging. Annual American Federation for Aging Research Meeting, Santa Barbara, CA (2018)

- Neurobiological underpinnings of cognitive resilience and vulnerability in aging and pathological aging. Annual American Federation for Aging Research Meeting, Santa Barbara, CA (2017)

- Cognitive inflexibility during nicotine withdrawal: possible links to frontostriatal BDNF signaling. 50th Annual Winter Conference on Brain Research, Panel: Emerging insights into the cellular and cognitive substrates of nicotine addiction, Big Sky, MT (2017)

- Emerging insights into the cellular and behavioral substrates of nicotine dependence. All India Institute of Medical Sciences, New Delhi, India (2017)

- Emerging insights into the Cellular and Behavioral Substrates of Nicotine Dependence. Delhi Pharmaceutical Sciences and Research University, New Delhi, India (2017)

- Neural mechanisms of cognitive resilience and vulnerability in aging and pathological aging. Annual American Federation for Aging Research Meeting, Santa Barbara, CA (2016)

- Neural mechanisms of vulnerability and resilience in cognitive aging. Iowa State University, Ames, IA (2015)

- Understanding resilience to age-related decline in cognitive capacities: a systems neuroscience approach. Annual New Investigator Award in AD Meeting, Santa Barbara, CA (2015)

- Altered cognitive control following chronic nicotine exposure: receptor mechanisms and beyond. Center for Neurobiology and Behavior, University of Pennsylvania, Philadelphia, PA (2014)

- Disrupted cognitive control during nicotine withdrawal: possible links to BDNF imbalance in the frontostriatal circuits. 53rd ACNP Meeting, Phoenix, AZ (2014).

- Aging cholinergic system and attention: trophic regulation and compensatory changes. Department of Psychology, Villanova University, Villanova, PA (2014)

- Striatal BDNF modulation of flexible cognitive control. 47th Winter Conference on Brain Research, Panel: BDNF modulation of neural circuits and behavior: new insights and translational implications, Steamboat Springs, CO (2014)

- Trophic regulation of aging cholinergic system and cognition. Department of Psychology, University of Delaware, Newark, DE (2013)

- ProNGF blockade partially rescues attentional deficits in trkA-silenced aged rats. American Federation for Aging Research Annual Meeting, Santa Barbara, CA (2012)

- Striatal BDNF and flexible cognitive control: implications for psychiatric disorders. University of Pennsylvania School of Medicine, Stress Neurobiology Seminar Series, Philadelphia, PA (2012)

- Forebrain trkA receptor silencing reveal functional vulnerability of the aging cholinergic system. American Federation for Aging Research Annual Meeting, Santa Barbara, CA (2011)

- Regulation and cognitive functions of phasic cholinergic transmission. Winter Conference of Brain Research, Panel: Hitchhiker's guide to the phasic brain: sub-second measures of glutamate and acetylcholine neurotransmission, Keystone, CO, (2011)

- Cholinergic-glutamatergic interactions in space and time: new insights and functional implications. Center for Substance Abuse Research, Temple University School of Medicine, Philadelphia, PA (2010)

- Molecular basis of cholinergic mediation of attention: focus on CHTs. Neuroscience Colloquium; Temple University, Philadelphia, PA, (2009)

- A model of cognitive dysfunction: constrained demands on cholinergic transmission and attentional capacities in CHT+/- mice. 40th American Society for Neurochemistry Meeting, Session: Aging and Neurodegenerative Disorders, Charleston, SC (2009)

- Brain circuits mediating attention: focus on prefrontal cholinergic transients and nicotinic receptors. School of Medicine and Biomedical Sciences, SUNY, Buffalo, NY (2009)

- Glutamatergic contributions to nicotinic modulation of phasic cholinergic transients and attention: implications for neuropsychiatric disorders. Department of Psychiatry, University of Alabama School of Medicine, Birmingham, AL (2008)

- Multiple cholinergic signaling modes and cue detection: implications for psychiatric disorders. Department of Psychiatry, Yale University School of Medicine, CT (2008)

- New approaches toward the preclinical screening of cognition enhancers: Modulation of cognition-evoked alterations in synaptic transmission. 26th Annual CINP Meeting, Interactive Scientific Symposium: Preclinical detection and characterization of cognition enhancers: New targets, research approaches and challenges, Munich, Germany (2008).

- Multiple cholinergic signaling modes and cue detection: implications for psychiatric disorders. Department of Pharmacology, University of Tennessee College of Medicine, Memphis, TN (2008)

- Dual modes of cortical cholinergic transmission for signal detection and attention. Medical University of South Carolina, Charleston, SC (2008)

- Phasic and tonic modes of cortical cholinergic transmission and cognition: new insights and translational implications. University of Georgia, Athens, GA (2008)

- Phasic and tonic cholinergic signaling modes and attention. Department of Psychology University of Colorado, Boulder, CO (2008).

- Phasic and tonic modes of cortical cholinergic transmission and cognition: new insights and translational implications. Department of Pharmacology and Toxicology, University of Texas Medical Branch, Galveston, TX (2008)

- Prefrontal acetylcholine operates on multiple time scales to control cue detection. Department of Physiology and Pharmacology, Saint Louis University School of Medicine, St. Louis, MO (2007)

- Neurochemical mediation of attention: contributions of phasic and tonic increases in prefrontal cholinergic activity. Department of Psychiatry, Maryland School of Medicine, Baltimore, MD, (2007)

- Prefrontal acetylcholine operates on multiple time scales to control cue detection. University of Missouri, Kansas City, MO (2007)

- Prefrontal acetylcholine operates on multiple time scales to control cue detection. Department of Pharmacology and Toxicology, School of Pharmacy, University of Kansas, Lawrence, KS, (2007).

- Dysregulated choline transporter function in hyperdopaminergic mice. 25th Annual CINP Meeting, Chicago, IL (2006).

- Regulation and function of cortical high-affinity choline transporters measured in vivo using choline-sensitive microelectrodes. 39th Annual Winter Conference of Brain Research, Steamboat Springs, CO (2006)

- New insights into the regulation of cholinergic transmission based on real-time detection of choline spikes. Society for Neuroscience Meeting, Minisymposium: New insights into the cellular regulation and cognitive functions of forebrain cholinergic neurotransmission, Washington, DC, (2005)

- Choline transporters, cholinergic transmission and cognition. Biopsychology Colloquium, University of Michigan, Ann Arbor, MI (2005)

- Modulation of brain nerve growth factor and choline-acetyl transferase expression by chronic exposure to haloperidol, risperidone and olanzapine in rats. International Congress of Schizophrenia Research, Colorado Springs, CO (2003)

- Atypical antipsychotics and neuroprotection. Department of Psychology, Ohio State University, Columbus, OH (2003)

- Differential modulation of growth factors by antipsychotic exposure in rat brain. Institute of Molecular Medicine and Genetics, Medical College of Georgia, Augusta, GA (2003)

- Neuropharmacology of ionotropic and metabotropic glutamate receptors. Department of Pharmaceutical Sciences, MS University, Baroda, India (2000)

Funding/Grant Support (current and previous)

1) NSF (#1929829) Bangasser (PI), Parikh (Co-PI) 03/01/20-03/31/26
Sex differences in corticotropin releasing factor regulation of the septohippocampal memory circuit

Total Cost: $1,000,000

2) NIDA P30 Core Center Pilot Grant (CSAR) Parikh (PI) 07/01/22-06/30/23
Early life adversity and hippocampal cholinergic function during nicotine withdrawal.
Direct Cost: $18,000

3) NIH (R01DA045063-01) Sarter (PI), Parikh (Subcontract PI) 09/15/18-06/30/23
Addiction liability, poor attentional control, and cholinergic deficiency.
Total Cost: $1,943,192

4) NIH Suppl (3R01AT010778-02S1) Ward (PI), Parikh (Co-I) 09/01/20-08/31/21
Analgesic efficacy of single and combined minor cannabinoids and terpenes (Alzheimer's-focused administrative supplement)
Total Cost: $396,250

5) NIH (1R21AG046580-01) Parikh (PI) 09/01/15-05/31/18
Cholinergic overload and resilience to attentional capacities in aging.
Total Cost: $420,600

6) NIH (1R03DA037421-01) Parikh (PI) 03/15/15-02/28/18
Cognitive control and corticostriatal BDNF signaling during nicotine withdrawal.
Total Cost: $156,000

7) NIH (1R01MH086530-01) Sarter (PI), Parikh (Subcontract PI) 07/09/2010-02/28/2016
Choline transporter capacity limits motivated behavior in mice, rats, and humans.
Total Cost: $1,952,132

8) Brain and Behavior Research Foundation Parikh (PI) 07/15/2011-07/14/2014
Functional interactions between BDNF and glutamatergic signaling in fronto-striatal circuits.
Total Cost: $57,899

9) PA Department of Health (#4100050909) Parikh (PI) 01/01/2011-12/31/2013
Role of dorsostriatal glutamatergic signaling in the regulation of cocaine-induced synaptic and behavioral plasticity.
Total Cost: $76,000

10) American Federation for Aging Research Parikh (PI) 07/01/2010-06/30/2012
Interactions between trkA signaling and APP processing in aging: impact on forebrain cholinergic circuits and cognition.
Total Cost: $69,178

11) NIH (1R03AG029592-01) Parikh (PI) 09/01/2008-08/31/2011
Cholinergic and cognitive decline in response to trkA knockdown using RNAi
Total Cost: $131,326

12) NIH (1RO1MH080332-01) Sarter (PI), Parikh (Co-I) 07/01/2007-06/30/2012
Nicotinic regulation of cortical ACh release and behavioral function.
Total Cost: $1,333,946

13) NIH (1R21MH080426) Sarter (PI), Parikh (Co-I) 09/01/2007-08/31/2009
In vivo screening of cholinergic cognition enhancers
Total Cost: $408,120

Honors/Awards

2025 Faculty Senate Service Award, Temple University
2021 College of Liberal Arts Research Award, Temple University
2021 Inducted into Beta Gamma Sigma
2020 Dean's Certificate of Excellence, Fox School of Business
2016 Elected as Associate Member, American College of Neuropsychopharmacology
2016 Illustrious Alumnus Award, Dr Harisingh Gour University
2014 Young Investigator Travel Fellowship, American College of Neuropsychopharmacology
2011 NARSAD Young Investigator Award
2010 New Investigator Award for Alzheimer's Disease, American Federation for Aging Research
2008 Research Faculty Recognition Award, University of Michigan
2006 Rafaelson Young Investigator Award, International College of Neuropsychopharmacology
2006 Travel Award, Winter Conference on Brain Research, Steamboat Springs, CO
2003 Young Investigator Award, International Congress of Schizophrenia Research
1997 Young Scientist Award (Medical and Veterinary Sciences), Indian Science Congress Association
1996 Achari Award, Indian Pharmacological Society
1995 Senior Research Fellowship Award and Contingency Grant, Council of Scientific and Industrial Research, India
1994 Jindal Award, Indian Pharmacological Society (Gujarat Branch)
1994 G.P. Nair Award, Indian Drugs Manufacturer's Association
1993 First Prize in B.V. Patel Essay Competition, presented at Indian Pharmaceutical Congress
1992 Junior Research Fellowship, University Grants Commission, India
1992 *Summa cum laude* and Gold Medalist, Dr. Harisingh Gour University, India

TEACHING

Courses Taught (2009-present)

Cellular Neuroscience (NSCI 2122)
Collaborative Research in Psychology I & II (PSY 3791 & 3891)
Independent Study in Neuroscience I & II (NSCI 4281 & 4282)
Collaborative Research in Neuroscience I & II (NSCI 4291 & 4292)
Directed Research (NSCI 9991)
Neurobiology of Learning and Memory (PSY 3566)
Neurochemistry (NSCI 5002)
Psychopharmacology (PSY 3561)
Readings in Neuroscience (NSCI 9381)
Techniques in Neuroscience (NSCI 3087)
Topical Seminar in Cognitive Psychology (PSY 8310)
Writing-Intensive Capstone in Neuroscience (NSCI 4187)

Former undergraduate advisees selected (2009 – onwards)

2023-2024: Hiroko Hida, B.S.
2023-2024: Dhriti Patel, B.S. (Potential, Inc.)
2020-2023: Anne Lu, B.S. (University of Maryland School of Medicine)
2022-2023: Rylee Usher, B.S. (Penn Medicine)
2021-2023: Yash Laliwala, B.S. (Oak Street Health)
2021-2023: Aryan Patel, B.S.
2021-2023: Kena Patel, B.S. (Penn Medicine)
2020-2022: Nolan Hamilton, B.S. (Children's Hospital of Philadelphia)
2020-2022: Miranda Targum, B.S. (NIDA IRTA Program)
2019-2021: Evan Haley, B.S. (University of California, Davis)
2019-2021: Patrick Kenney, B.S. (Occupational Therapy, Salus University)
2018-2019: Kevin Cordova, B.S. (George Washington University)
2017-2019: Tara Peterson, B.S. (Novartis Institute for Biomedical Research)
2017-2019: Tara-Jade Francois, B.S. (Temple University)
2017-2019: Jane Gaisinsky, B.S. (University of Pennsylvania School of Medicine)
2017-2018: Meghna Bhattacharya , B.S.(Cooper Medical School of Rowan University)
2016-2018: Zoe Steinberg, B.S. (University of Pennsylvania School of Medicine)
2015-2017: Cassandra Wolsh, B.S. (University of Texas at San Antonio)
2014-2017: Matty Zimmerman, B.S. (Thomas Jefferson University)
2014-2016: Asal Matchanova, B.A. (University of Houston)
2014-2016: Jasmine Forde , B.S. (University of Pennsylvania)
2014-2016: Roslyn DeVassey , B.S.
2014-2016: Jennifer Ann Francesconi , B.A. (Rutgers University)
2013-2014: Patrick Osuagwu , B.A. (University of the Sciences, Philadelphia)
2013-2014: Adnan Mookhtiyar, B.S. (University of Miami School of Medicine)
2013-2014: Aubrey Kelbaugh (Temple University)
2012-2014: Purav Patel, B.S. (University of Wisconsin)
2012-2013: Cameron Pollock, M.Ph. (Maryland Department of Health)
2011-2013: Dawn Guzman, B.S. (University of Texas at Austin)
2010-2013: Sean Naughton, B.S. (Georgia Regents University)
2011-2012: Rashi Magan, B.S. (First Hospital Commonwealth Health)
2011-2012: Avery Zucco, Ph.D. (Wistar Institute)
2010-2012: Carcha Bernard, B.S., PA-C (Licensed Medical Professional)
2009-2012: Kevin Taylor , B.S. (Tegra Analytics)
2010-2012: Brittany Tracy, B.S.
2010-2011: Khushali Parikh, B.A.
2009-2010: Cheryl Rehmann, B.A.

Former Master's/doctoral students, post-doc fellows and research staff supervised (2009–onwards)

2022-2024: Morgan Graham, M.S. (University of Pennsylvania)
2021-2023: Nishi Patel, M.S. (Penn Medicine)
2020-2022: Mariah Williams, M.S. (UT Anderson Cancer Center)
2016-2021: Michael R. Duggan, Ph.D. (National Institute on Aging)

2018-2020: Irem Asci, M.S. (Temple University, College of Engineering)
2016-2018: Jacon Strupp , M.S. (Bilateral Tech, Inc.)
2016-2018: Evelynn Harrington, M.S. (University of South Carolina School of Medicine)
2015-2017: Surbhi Joshi, B.S. (Regenosine, Inc.)
2012-2017: Robert D. Cole, Ph.D. (Medical University of South Carolina)
2015-2016: Munir Gunes Kutlu, Ph.D. (Vanderbilt University School of Medicine)
2011-2016: Brittney Yegla , Ph.D.(Supernus Pharmaceuticals Inc)
2011-2012: Leonardo Ortega, Ph.D. (Universidad Autónoma de Bucaramanga, Colombia)
2009-2012: Drew D'Amore, M.A. (The College of New Jersey)

Students Awards (selected)

Morgan Graham (graduate)
- Best Poster Award, Annual Neuroscience Research Day (2024)

Aryan Patel (undergraduate)
- Liberal Arts Undergraduate Research Award (2023)

Alyssa Kniffin (graduate)
- Best Poster Award, Organization of the Study of Sex Differences Meeting (2022)

Miranda Targum (undergraduate)
- Liberal Arts Undergraduate Research Award (2021)

Nishi Patel (undergraduate)
- Axon Conference, Nu Rho Psi - Rutgers University (2022)

Evan Haley (undergraduate)
- Temple University Creative Arts and Research Grant (2020)

Michael Duggan (graduate)
- Travel Scholarship from NIA, Workshop on Research Definitions for Reserve and Resilience in Cognitive Aging and Dementia (2019)

Evelynn Harrington (graduate)
- 2nd Prize for Best Poster, Philadelphia Chapter for the Society for Neuroscience (2018)

Robert D. Cole (graduate)
- Travel Fellowship, Winter Conference on Brain Research (2017)
- Temple University Dissertation Completion Grant (2017)
- American Psychological Association Dissertation Research Award (2016)
- Graduate Travel Award, International Behavioral Neuroscience Society (2016)
- Thomas E. Shipley Jr. Research Prize in Psychology (2016)

Brittney Yegla (graduate)
- Temple University Dissertation Completion Grant (2016)

Evan Haley (undergraduate)
- Temple University Creative Arts, Research, and Scholarship Award (2020)

Tara Peterson (undergraduate)
- Temple University Creative Arts and Research Travel Award (2019)

Tara-Jade Francois (undergraduate)
- Liberal Arts Undergraduate Research Award (2018)

Zoe Steinberg (undergraduate)
- Liberal Arts Undergraduate Research Award (2017)

Matty Zimmerman (undergraduate)
- Best Poster Award, Thomas Jefferson University Sigma Xi Research Day (2017)
- Temple University Creative Arts and Research Scholarship Project Grant (2017)

- Temple University Creative Arts and Research Travel Award (2013)

Jasmine Forde (undergraduate)
- Diamond Research Scholarship (2016)
- Psychology Department Service Recognition Award (2016)

Jennifer Ann Francesconi (undergraduate)
- Temple University Creative Arts and Research Scholarship Project Grant (2014)
- Psi Chi Undergraduate Research Grant

Purav (Jay) Patel (undergraduate)
- Temple University Creative Arts and Research Travel Award (2013)

Sean X. Naughton (undergraduate)
- Temple University Creative Arts and Research Scholarship Project Grant (2014)
- Temple University Creative Arts and Research Travel Award (2013)

Doctoral Committee Service

Department of Psychology

Mia Y. Roberts, Preliminary Examination Committee
Thesis: TBD

Joanna Gabiela Severino Perez, Preliminary Examination Committee
Thesis: TBD

Melissa Knouse, B.A., Dissertation Examination Committee
Thesis: Sex differences in synaptic plasticity within the reward system: the role of PKMζ and implications for opioid use disorder; awarded 2023.

Andre Toussant, B.A., Dissertation Examination Committee
Thesis: Delineating the mechanisms underlying addiction vulnerability using multigenerational rodent models; awarded 2022.

Hannah Mayberry, B.S., Dissertation Examination Committee
Thesis: Defining behavioral and transcriptomic signatures associated with opioid craving in male and female rats; awarded 2022.

Jamileyn Samper, B.A., Dissertation Committee Member
Thesis: Understanding the determinants of the irrelevant sound effect: An analysis of task, task features, sound variability, and strategy use; awarded 2021.

Evie Ordones-Sanchez, B.A., Dissertation Examination Committee
Thesis: The effects of early life stress on impulsivity and risky decision-making in male and female rats; awarded 2021.

Anna McGrath, B.A., Dissertation Examination Committee
Thesis: Post-weaning social isolation alters addiction like behaviors and synaptic plasticity in the nucleus accumbens and prefrontal cortex: Role of sex and neuroimmune signaling; awarded 2021

Samantha Eck, B.A., Dissertation Examination Committee
Thesis: Impact of early life adversity on reproductive behaviors and the sexually dimorphic nucleus of the preoptic area; awarded 2021

Michael Duggan, Ph.D., Dissertation Advisory Chair
Thesis: The role of HIV proteins in mediating neuronal mechanisms implicated in age-related cognitive dysfunction; awarded 2020

Megan Wickens, B.A., Dissertation Committee Member
Thesis: Deletion of glutamate receptor trafficking proteins in the medial prefrontal cortex and their sex-specific effects on cocaine addiction; awarded 2020

Chicora Oliver, Ph.D., Dissertation Examination Committee Chair
Thesis: Chemokine modulation of MDPV-induced behavior and neuroplasticity; awarded 2018
Kim Wierselis, Ph.D., Dissertation Committee Member
Thesis: Corticotropin release factor in the medial septum and its effects on cognition; awarded 2018
Kylie Hower, Ph.D., Dissertation Committee Member
Thesis: Hippocampal representations of targeted memory reactivation and reactivated temporal Sequences; awarded 2017
Gail Rosenbaum, Ph.D., Dissertation Committee Member
Thesis: The influences of information acquisition and heightened arousal on adolescent risk; awarded 2017
Robert D. Cole, Ph.D., Dissertation Advisory Chair
Thesis: Nicotine withdrawal and deficits in cognitive flexibility: Possible ties to aberrations in frontostriatal BDNF signaling, awarded 2017
Brittney Yegla, Ph.D., Dissertation Advisory Chair
Thesis: The forebrain cholinergic system and age-related decline in and compensation of attentional capacities; awarded 2016
David Conner, Ph.D., Dissertation Committee Member
Thesis: Acute nicotine-dependent alterations in associative learning interfere with backwards trace conditioned safety; awarded 2016
Erica Holliday, Ph.D., Dissertation Committee Member
Thesis: Storm, stress and nicotine: Exploring the interactive effects of adolescent stress and adolescent nicotine on the development of long term nicotine effects, awarded 2015.
Rachel Poole, Ph.D., Dissertation Examination Committee Chair
Thesis: An examination of the effects of chronic caffeine and withdrawal from chronic caffeine on fear conditioning in pre-adolescent, adolescent and adult C57BL/6J mice; awarded 2014.
Prescott Leach, Ph.D. Dissertation Committee Member
Thesis: Nicotine modulation of thyroid hormone signaling and its contribution to cognition; awarded 2013
Derek Wilkinson, Ph.D., Dissertation Committee Member
Thesis: Examination of tolerance to the cognitive enhancing effect of nicotine on contextual conditioning; awarded 2012
John Kennard, Ph.D., Dissertation Examination Committee Chair
Thesis: Age sensitivity of the Barnes Maze and the Morris Water Maze: Associations with cerebellar cortical Purkinje neurons; awarded 2012
Michael Tobia, Ph.D., Dissertation Examination Committee Co-Chair
Thesis: The effects of concurrent timed-interval finger tapping on trace eyeblink conditioning in college students; awarded 2010
Justin Kenney, Ph.D., Dissertation Committee Member
Thesis: Nicotine and learning interact to alter transcription factor activity at the c-jun N-terminal kinase 1 gene promotor in the hippocampus; awarded 2010

Biomedical Science Graduate Program, Lewis Katz School of Medicine

Mary E. Curtis, B.S., Dissertation Examination Committee
Thesis: The functional role of the retromer complex in the pathogenesis of Alzheimer's disease in Down Syndrome, awarded 2021
Yash B. Joshi, Ph.D., Dissertation Committee Member

Thesis: The role of 5-lipoxygenase in the stress-mediated exacerbation of the Alzheimer's disease phenotype, awarded 2015

Phillip F. Giannopoulos, Ph.D., Dissertation Committee Member

Thesis: The role of 5-lipoxygenase in the development of tau-neuropathology and behavioral phenotype, awarded 2015

SERVICE

Service to the Profession

Editorial/Advising/Reviewing Activities

Associate Editor:

2018 - present: Frontiers in Integrative Neuroscience

Guest Co-Editor:

2023: Frontiers in Aging (Research Topic: Aging in Cellular Membranes)
2020: CNS and Neurological Disorders – Drug Targets (special issue)

Editorial Board Member

2010 – present: European Journal of Neuroscience
2014 – 2016: Annals of Neuroscience and Psychology
2008 – 2018: Frontiers in Integrative Neuroscience

Ad hoc Journal Reviewer:

Aging, Analytical Chemistry, Behavioral Brain Research, Biological Psychiatry, BMC Neuroscience, Brain Research, Brain Research Bulletin, Brain Structure and Function, British Journal of Pharmacology, Cerebral Cortex, Experimental and Clinical Psychopharmacology, European Journal of Neuroscience, European Neuropsychopharmacology, Frontiers in Neuroscience, Journal of Biological Chemistry, Journal of Neuroscience, Journal of Neuroscience Methods, Journal of Neuroscience Research, Journal of Physiology (Paris), Life Sciences, Molecular Psychiatry, Naunyn-Schmeideberg's Archives of Pharmacology, Neurobiology of Aging, Neurobiology of Stress, Neurochemistry International, Neurochemical Research, Neuropharmacology, Neuropsychologia, Neuropsychopharmacology, Neuroscience, Nicotine and Tobacco Research, Pharmacological Research, Pharmacology Biochemistry and Behavior, PLoS One, Prostaglandins Leukotrienes & Essential Fatty Acids, Psychiatry Research, Psychopharmacology, Science, Synapse, Translational Psychiatry

Book Reviewer:

2024: Cognitive Neuroscience, W. W. Norton and Company
2023: Introduction to Behavioral Neuroscience, OpenStax

2017: Neurobiology of Learning and Memory, Oxford University Press
2014: Learning and Memory: From Molecules to Behavior, Worth Publishers

Scientific Advising and Grant Reviewing Activities:

2025: Member, NIH Special Emphasis Panel, ZAG1 ZIJ-3 (M1)
2025: Member, European Science Foundation
2024: Florida Department of Health Alzheimer's Disease Research Program
2024: Member, NIH Fellowships, Behavioral Neuroscience – F02A
2024: Member, NASA Postdoctoral Program Review Panel
2023: Member, NIH Special Emphasis Panel, ZRG1 ICN-A
2023: Member, NIH Special Emphasis Panel, ZES VSM-S (PD)
2022: Member, European Science Foundation
2022: Member, NIH Special Emphasis Panel, ZRG1 BDCN-Q (55) R
2022: Human Frontiers Science Program
2021: Member, NIH Special Emphasis Panel, ZRG1 BDCN-Q (55) R
2020: Member, NIH Special Emphasis Panel, ZRG1 BBBP-T-02-M
2019: Member, NIH Study Section, ZAT1 AJT (12)
2019: CUNY Research Foundation Program
2016: Member, NIH Special Emphasis Panel, ZRG1 IFCN-T-02-M
2015: Member, NIH Special Emphasis Panel, ZRG1-IFCN-T-02-M
2015: Biotechnology and Biological Sciences Research Council (UK)
2013-2014: Michael J. Fox Foundation
2011-2014: Alzheimer's Association International Research Grant Program
2009- 2011: Netherlands Organization for Scientific Research

Other Professional Service

2024-present	International Advisory Committee, International Pharmacology Conference
2024-present	Adjunct Professor, Nirma University Institute of Pharmaceutical Sciences, India
2023	Scientific Advisory Committee, NCIC (Recent Advances in Nanotechnology: Drug Discovery and Therapeutics), Nirma University, India
2022	Judge, Early Career Award (Behavioral & Cognitive Neuroscience), APA
2019-2021	Member, Education and Training Committee, ACNP
2021	Member, URM Peer Mentor Review Committee, ACNP
2021	Poster Session Judge, Annual Philadelphia Chapter SFN Meeting, Philadelphia, PA
2020	Co-Moderator, Roundtable Discussion – How to get your paper published, ACNP Meeting
2018	Symposium Chair, IBNS Meeting, Boca Raton, FL
2018	Poster Session Judge, Annual IBNS Meeting, Boca Raton, FL
2017	Chair, Scientific Panel, Winter Conference on Brain Research, Big Sky, MT
2017	International Doctoral Thesis Examiner (Vishnu Thakare: Nirma University, India)
2017	International Doctoral Thesis Examiner (P Rajamalar: Bharathiyar University, India)
2016-2018	Faculty Advisor, Cure Alliance for Mental Illness (Temple Chapter)

2014	Chair, Scientific Panel, Winter Conference on Brain Research, Steamboat Springs, CO
2014	Advisory Committee (New Horizons in Pharmacy and Pharmacology, Indian Pharmacological Society, North Zone Meeting)
2014	Doctoral Dissertation External Examiner (Kevin Snyder: University of Pennsylvania)
2012-2013	Doctoral Dissertation External Examiner (Nizam Ali Khan: Gautam Buddha Technical University, India)
2008	Chair, Interactive Scientific Symposium, 26th CINP Meeting, Munich, Germany
2000	Member, Local Organizing Committee, International Symposium on Molecular Biology, Allergy and Immunology, Vadodara, India
1996	Member, Local Organizing Committee, Indian Science Congress Association, Patiala, India
1995	Member, Local Organizing Committee, Indian Pharmacological Society, Patiala, India

Service to the University

2023-2024	Member, Neuroscience Working Group, Temple University
2017-2024	Member, Institutional Animal Care and Use Committee (IACUC), Temple University
2019-2022	Member, Pre-professional Health Evaluation Committee, Temple University

Service to the College

2023-present	Member, Research and Service Awards Committee, College of Liberal Arts
2022-present	Member, Budget Priorities Committee, College of Liberal Arts
2022-2024	Member, Merit Committee Tenure-Track, College of Liberal Arts
2020-2021	Member, Research and Service Awards Committee, College of Liberal Arts

Service to the Department

2023-present	Member, Executive Committee, Department of Psychology
2022-present	Chair, Undergraduate Neuroscience Committee, Department of Psychology
2024-2025	Co-Chair, Neuroscience and Psychology Instructional Faculty Search Committee, Department of Psychology
2021-2022	Member, Faculty Awards Committee, Department of Psychology
2020-2022	Member, Space Committee, Department of Psychology
2019-2022	Member, Undergraduate Neuroscience Committee, Department of Psychology
2020-2021	Member, SWOT Working Group, Department of Psychology
2019-2020	Member, Faculty Search Committee, Clinical Area, Department of Psychology
2014-2020	Member, Students Award Committee, Department of Psychology
2017-2019	Member, Operations Committee, Department of Psychology
2016-2019	Member, Graduate Committee, Department of Psychology
2016-2017	Chair, Neuroscience Planning Committee, Department of Psychology
2016-2017	Chair, Neuroscience Instructional Faculty Search Committee, Department of Psychology
2014-2016	Member, Search Committee, Behavioral Neuroscience faculty position, Department of Psychology

2010-2015 Faculty Mentor, Minority Access to Research Career Program, Temple University
2012-2015 Member, Alumni Committee, Department of Psychology
2011-2014 Member, Diversity Committee, Department of Psychology
2011-2013 Member, Undergraduate Committee, Department of Psychology
2010-2011 Member, Colloquium Committee, Department of Psychology

Professional Memberships

2008 – Present: Member, Molecular and Cellular Cognition Society
2006 – Present: Member, American Society for Neurochemistry
2006 – Present: Member, International College of Neuropsychopharmacology (CINP)
2005 – Present: Member, International Behavioral Neuroscience Society
2004 – Present: Member, Society for Neuroscience
2017 – 2023: Associate Member, American College of Neuropsychopharmacology (ACNP)
1995 – 1998: Member, Indian Pharmacological Society
1996 – 1997: Member, Indian Science Congress Association

Research Highlights/Media Coverage (selected)

- Recognized as a world expert in Acetylcholine by *Expertscape* (June 2019) http://www.expertscape.com/au/acetylcholine/Parikh%2C+V
- Research highlighted on the cover page of Neuroscience (March 2014 issue) http://www.sciencedirect.com/science/journal/03064522/261
- Ground breaking research featured in G*lobal Medical Discovery* [ISSN 1929-8536] (February 2013) https://globalmedicaldiscovery.com/key-scientific-articles/diminished-trka-receptor-signaling-reveals-cholinergic-attentional-vulnerability-of-aging/
- Interview on pathbreaking research in aging; EJN blog (February, 2013) http://www.ejnnews.org/tag/vinay-parikh
- Paying attention with the latest technology; commentary by Parastu Hashemi and R. Mark Wightman in Neuron (Cell Press), 2007 http://www.cell.com/neuron/abstract/S0896-6273(07)00721-0