CURRICULUM VITAE

Name and Address

Wei-Dong Yao, Ph.D.
Professor, Departments of Psychiatry and Neuroscience
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Director, Cellular Molecular Neuropsychiatry Laboratory
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Education

09/99-11/04 Postdoctoral Associate, Howard Hughes Medical Institute, Duke University Medical Center, Durham, NC
(Mentor: Marc G. Caron)

12/98-08/99 Postdoctoral Associate, Biological Sciences, University of Iowa, Iowa City, IA
(Mentor: Chun-Fang Wu)

Dec. 1998 Ph.D., Biological Sciences, University of Iowa, Iowa City, IA
(Thesis Advisor: Chun-Fang Wu)

May, 1991 M.S., Physics, Tsinghua University, Beijing, China

May, 1988 B.S., Physics, Tsinghua University, Beijing, China

Employment/Appointments

03/2017- *Full Professor with Tenure*, Departments of Psychiatry & Behavioral Sciences, of Neuroscience & Physiology, and of Neuroscience Graduate Program in the College of Graduate Studies, Upstate Medical University, State University of New York (SUNY), Syracuse, NY

12/15-02/17 *Associate Professor with Tenure*, Departments of Psychiatry & Behavioral Sciences, Neuroscience & Physiology, and Neuroscience Graduate Program of the College of Graduate Studies, SUNY-Upstate Medical University, Syracuse, NY

10/14-12/15 *Associate Professor*, Departments of Psychiatry & Behavioral Sciences, of Neuroscience & Physiology, and of Neuroscience Graduate Program of the College of Graduate Studies, SUNY-Upstate Medical University, Syracuse, NY

10/2014- *Empire Innovation Scholar*, State University of New York (SUNY)

10/2014- *Director*, Cellular Molecular Neuropsychiatry Laboratory, SUNY-Upstate Medical University, Syracuse, NY

10/14-09/16 *Visiting Associate Professor*, Department of Psychiatry, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA

12/04-09/14 *Assistant Professor of Psychiatry*, Department of Psychiatry, Harvard Medical School, Boston, MA.

12/04-09/14 *Head*, Molecular Cellular Neuroscience Laboratory, New England National Primate Research Center, Harvard University, Southborough, MA

02/07-09/14 *Adjunct graduate faculty*, Neuroscience and Behavioral Program, University of Massachusetts, Amherst, MA

09/05-09/14 *Adjunct faculty*, Neuroscience and Behavioral Program, University of Massachusetts, Amherst, MA

09/92-12/98 *Graduate Research Assistant* (Ph.D. candidate, Mentor Chun-Fang Wu), Department of Biological Sciences, University of Iowa, Iowa City, IA

1991-92 *Graduate Research Assistant (*Mentor: Nanming Zhao*)*, Department of Biological Science and Technology, National Biotechnology Laboratory, Tsinghua University, Beijing, China

1988-91 *Graduate Research Assistant*, Department of Physics, Tsinghua University, Beijing, China

Grants

Current:

08/2021-07/2022 "**CYLD in Synapse Pruning and Pathogenesis of FTD**"
NIH R56NS122351
PI: Wei-Dong Yao
$682,211 total award

09/2021-10/2023 "**Exploring the Pathogenicity of CYLD Variants in FTD**"
NIH R21NS125845
PI: Wei-Dong Yao
$ 463,750 total award

03/2015-02/2022 "**Nonproteolytic Polyubiquitin Chains at the Synapse**"
NIH R01MH106489

PI: Wei-Dong Yao
$2,187,500 total award

04/2016-12/2022 **"Prefrontal AMPA receptors in FTD Pathogenesis"**
NIH R01NS093097
PIs: Wei-Dong Yao (contact PI); Fen-Biao Gao
$2,467,211 total award

06/2019-05/2022 "**Prefrontal cellular and circuitry mechanisms in a mouse model of C9ORF72-associated frontotemporal dementia**"
NIH F31 NS108579-01A1
PI: Hannah Phillips; Sponsor: Wei-Dong Yao
$80,850 total award

11/2020-10/2023 "**Understanding CNS Excitatory/Inhibitory Balance and the Sexually Dimorphic Role of System xc-**"
NIH F32NS121010
PI: Carla Frare, Wei-Dong Yao (Co-Sponsor)
$124,355 total award

Unrestricted **Faculty Fund transferred from Harvard University**
$150,000

Completed:

09/2015-08/2020 **"**Neurodevelopmental Phenotypes in MLL Mutant Mice"
NIH R01MH104341
PI: Schahram Akbarian, Mount Sinai School of Medicine
Subcontract PI: Wei-Dong Yao, SUNY-Upstate
$ 2,127,140.00 total award
$545,923 (5 yrs) subaward to Yao, Wei-Dong

10/2014-07/2017 **SUNY Empire Innovation Program**
PI: Wei-Dong Yao (SUNY Empire Scholar)
$500,000.00 award

06/2011-03/2018 **"Dopaminergic Enabling of Synaptic Plasticity in Prefrontal Circuits"**
NIH R01DA032283
PI: Wei-Dong Yao
$1,736,000.00 total award

2015 **SUNY Upstate Department of Psychiatry Research Division Fund**
PI: Wei-Dong Yao
$10,000.00, 1 yr

2007-12 **"Molecular and Genetic Adaptations Associated with Compulsive Cocaine Intake"**
PI: Wei-Dong Yao
NIH/NIDA R01DA021420
$1,544,693 total award

2010-11 **"Confocal Microscope at NEPRC"**
PI: Wei-Dong Yao
NIH S10RR026761
$437,882 total award (direct cost)
The goal of this NCRR S10 grant proposal is to acquire a new state-of-the-art laser-scanning confocal microscope (Leica TCS SP5 AOBS 405UV Spectral Confocal Microscope) to support research at the New England Primate Research Center (NEPRC).

2008-11 **"PSD-95 in Striatal Neuronal Vulnerability"**
PI: Wei-Dong Yao
NIH R21NS057311
$417,485 total award

2007-08 **"Methamphetamine Effects via Trace Amine Associated Receptor 1"**
PI: Gregory M. Miller; Co-I: Yao
NIH R21DA022323
$417,485 total award

2007-08 **"Role of the Postsynaptic Scaffold PSD-95 in Neuroprotection"**
PI: Wei-Dong Yao
Milton Fund of Harvard University for Career Development
$35,000 total award (direct cost)

2004-07 **Harvard Medical School (new faculty start-up)**
PI: Wei-Dong Yao
$500,000.00

2004-06 **"Expression Profiling, Molecular Characterization, and Genetic Analysis of Brain Circuits Involved in Schizophrenia Using Mouse Models"**
PI: Wei-Dong Yao
NARSAD Young Investigator Award
$60,000 total award (direct cost)

2005-14 **"New England National Primate Research Center Base Grant"**
NIH P51RR00168; PI: Jeffery S. Flier; Harvard Medical School
~$120,000,000 total annual award (direct cost)

Funded Subprojects (from NIH RePORTER):

2006-09 **"**Dopamine-glutamate interaction in the postsynaptic density**"**

Project PI: Wei-Dong Yao, NIH P51RR00168-45 to -48 (Parent)
$56,786 (direct cost)

2006-09 **"**PSD-95 in striatal neuronal vulnerability**"**
Project PI: Wei-Dong Yao, NIH P51RR00168-45 to -48 (Parent)
$56,813 (direct cost)

2007-09 **"**Altered NMDA receptor-mediated transmission in PSD-95 deficient mice**"**
Project PI: Wei-Dong Yao, NIH P51RR00168-46 to -48 (Parent)
$28,820 (direct cost)

2007-11 **"**PSD-95 regulation of dopamine receptor signaling**"**
Project PI: Wei-Dong Yao, NIH P51RR00168-46 to -50 (Parent)
$60,625 (direct cost)

2008-09 **"**Hyperdopaminergic tone erodes long-term potentiation in the prefrontal cortex**"**
Project PI: Wei-Dong Yao, NIH P51RR00168-47 to -48 (Parent)
$23,535 (direct cost)

2008-11 **"**Molecular and genetic adaptations associated with compulsive cocaine intake**"**
Project PI: Wei-Dong Yao, NIH P51RR00168-47 to -50 (Parent)
$55,340 (direct cost)

2009-11 **"**RNAi-based gene silencing in nonhuman primates**"**
Project PI: Wei-Dong Yao, NIH P51RR00168-48 to -50 (Parent)
$44,526 (direct cost)

2009-11 **"**Dopaminergic modulation of synaptic plasticity in the prefrontal cortex**"**
Project PI: Wei-Dong Yao, NIH P51RR00168-48 to -50 (Parent)
$44,526 (direct cost)

2010-11 **"**Function and plasticity of prefrontal local circuits**"**
Project PI: Wei-Dong Yao
NIH P51RR00168-49 to -50 (Parent)
$31,805 (direct cost)

2010-11 **"**Novel PSD mechanisms regulating synaptic development, function, and plasticity**"**
Project PI: Wei-Dong Yao, NIH P51RR00168-49 to -50 (Parent)
$31,805 (direct cost)

Training Grants Participation

2005-14 **NIH/NINDS T32NS007490** "Predoctoral Training in Neuroscience and Behavior"
The goal of this grant is to support for an interdisciplinary predoctoral training program in Neuroscience and Behavior at the University of Massachusetts Amherst.

2010-14 **NIH/NCRR T32RR007000** "Research Training in Veterinary & Comparative Pathology"
The goal of this grant is to provide advanced training to veterinarians for careers in biomedical research at NEPRC.

Honors and Awards

2019 President's Award in Research (2019), SUNY Upstate Medical University
2017 F1000 selection, Ma et al., *PNAS*
2016 Blue Flame Award, Addgene Inc.
2014- Empire Innovation Scholar, State University of New York
2007 Harvard Milton Fund for Career Development, Harvard University
2008 Neal Alan Mysell Award, Harvard Medical School Psychiatry Research Day (as Mentor)
2007 Neal Alan Mysell Award, Harvard Medical School Psychiatry Research Day (as Mentor)
2006 Harvard Medical School nominee (1 of 2) for the Medical Foundation's Smith Family New Investigator Awards
2004-06 NARSAD Young Investigator Award
2004 Early Career Investigator Travel Award, NIH/NIDA
2004 Best poster runner-up award, *Science* magazine, Gordon Research Conference on Molecular and Cellular Neurobiology, Hong Kong
2002 Early Career Investigator Travel Award, NIH/NIDA
2001-04 HHMI postdoctoral fellowship, Duke University Medical Center
2000 Duke Bioinformatics Shared Resources Scholar, Duke University Medical Center
1998 University of Iowa College of Medicine Research Award
1995 Scholarly Presentation Award, University of Iowa
1995 Travel Award, Department of Biological Sciences, University of Iowa

Publications

Peer-Reviewed Publications

1. **Yao WD**, Wu C-F (1999). Regulation of Firing Pattern through Modulation of Non-Sh K+ Currents by Calcium/Calmodulin-Dependent Protein Kinase II in Drosophila Embryonic Neurons. ***Ann N Y Acad Sci*** 868: 450-453.

2. Renger JJ, **Yao WD**, Sokolowski MB, Wu C-F (1999). cGMP Cascade Underlying a Natural Polymorphism of Neuronal Physiology and Connectivity in Drosophila. ***J Neurosci*** 19: RC 28 (1-8).

3. **Yao WD**, Wu C-F (1999). The Auxiliary Hyperkinetic beta Subunit of K+ Channels: Regulation of Firing Properties and K+ Currents in Drosophila Neurons. ***J Neurophysiol*** 81:2472-2484.

4. **Yao WD**, Rusch J, Poo M-M, Wu C-F (2000). Spontaneous Acetylcholine Secretion from Developing Growth Cones of Drosophila Central Neurons in Culture: Effects of cAMP-Pathway Mutations. ***J Neurosci*** 20: 2626-37.

5. **Yao WD**, Wu C-F (2001). Differential Roles of cAMP and CAM Kinase Cascades on Neuronal Firing Properties Mediated by Different Sets Of K+ Channel Subunits in Drosophila Central Neurons. ***J Neurophysiol*** 85:1384-1394.

6. Kim KM, Valenzano KJ, Robinson SR, **Yao WD**, Barak LS, Caron MG (2001). Differential Regulation of the Dopamine D2 and D3 Receptors by G Protein-Coupled Receptor Kinases and Beta-Arrestins. ***J Biol Chem*** 276: 37409-14.

7. Torres GE[#], **Yao WD[#]**, Mohn AR, Quan H, Caron MG (2001). Functional Interaction between Monoamine Plasma Membrane Transporters and the PDZ Domain-Containing Protein PICK1. ***Neuron*** 30: 121-134. ([#]Co-first authors).

8. Torres GE, Carneiro A, Seamans K, Fiorentini C, Sweeney A, **Yao WD**, Caron, MG (2003). Oligomerization and Trafficking of the Human Dopamine Transporter. Mutational Analysis Identifies Critical Domains Important for the Functional Expression of the Transporter**.** ***J Biol Chem*** 278: 2731-9.

9. Cyr M, Beaulieu JM, Laakso A, Sotnikova TD, **Yao WD**, Bohn LB, Gainetdinov RR, Caron MG (2003). Sustained Elevation of Extracellular Dopamine Causes Motor Dysfunction and Selective Degeneration of Striatal GABAergic Output Neurons. ***Proc Natl Acad Sci U S A*** 100:11035-40.

10. **Yao WD**, Gainetdinov RR, Arbuckle MI, Sotnikova TD, Beaulieu JM, Cyr M, Torres GE, Grant SGN, Caron MG (2004). Identification of PSD-95 as a Regulator of Dopamine-Mediated Synaptic and Behavioral Plasticity. ***Neuron*** 41:625-638.
    -Featured Article in Neuron; News and Views in Nat Med. 2004 Apr;10(4):340-1 and Trends Neurosci. 2004 Dec;27(12):699-700.

11. Beaulieu JM, Sotnikova T, **Yao WD**, Kockeritz L, Woodgett JR, Gainetdinov RR, Caron MG. (2004). An Akt/Glycogen Synthase Kinase-3 (GSK-3) Signaling Cascade Mediates Dopamine Action in vivo. ***Proc Natl Acad Sci U S A*** 101:5099-5104.

12. Mohn AR, **Yao WD**, Caron MG (2004). Genetic and Genomic Approaches to Reward and Addiction. ***Neuropharmacology*** 47 Suppl 1:101-10.

13. Xie Z, Madras BK, Bahn ME, Chen GL, **Yao WD**, Miller GM (2007). Rhesus Monkey Trace Amine-Associated Receptor 1 Signaling: Enhancement by Monoamine Transporters and Attenuation by the D2 Autoreceptor In Vitro. ***J Pharmacol Exp Ther*** 321:116-27.

14. Rowlett JK, Platt DM, **Yao WD**, Spealman RD (2007). Modulation of Heroin and Cocaine Self-administration by Dopamine D1- and D2-like Receptor Agonists in Rhesus Monkeys. ***J Pharmacol Exp Ther*** 321:1135-43.

15. Zhang JP, Vinuela A, Neely MH, Grant SG, Miller GM, Isacson O, Caron MG, **Yao WD** (2007). Inhibition of the Dopamine D1 Receptor Signaling by PSD-95. ***J Biol Chem*** 282:15778-89.

-Selected JBC *Paper of the Week for the week of May 25 2007.*

16. **Yao WD**, Spealman RD, Zhang JP (2008). Regulatory Mechanisms of Dopaminergic Signaling in Dendritic Spines. ***Biochem Pharmacol*** 75: 2055-69.

17. Zhang JP, Xu TX, Hallett PJ, Watanabe M, Grant SGN, Isacson O **Yao WD** (2009). PSD-95 Uncouples Dopamine-Glutamate Interaction in the D1/PSD-95/NMDA Receptor Complex. ***J Neurosci*** 29: 2948-2960.

18. Abbas AI, Yadav, PN, **Yao WD**, Arbuckle MI, Grant SG, Caron MG, Roth BL (2009). PSD-95 is Essential for Hallucinogen and Atypical Antipsychotic Drug Actions at Serotonin Receptors. ***J Neurosci*** 29: 7124-7136.

19. Xu TX, Sotnikova TD, Liang C, Zhang J, Jung JU, Spealman RD, Gainetdinov RR, **Yao WD** (2009). Hyperdopaminergic Tone Erodes Prefrontal LTP via a D2 Receptor-operated Protein Phosphatase Gate. ***J Neurosci*** 29:14086-14099.

20. Xu TX, **Yao WD** (2010). D1 and D2 Dopamine Receptors in Separate Circuits Cooperate to Drive Associative Long-term Potentiation in the Prefrontal Cortex. ***Proc Natl Acad Sci U S A*** 107:16366-71.
    -Selected as one of 17 New England National Primate Research Center (NEPRC) Landmark Accomplishment in its 52 year history.

21. Xu TX, Ma Q, Spealman RD, **Yao WD** (2010). Amphetamine Modulation of Long-term Potentiation in the Prefrontal Cortex: Dose Dependency, Monoaminergic Contributions, and Paradoxical Rescue in Hyperdopaminergic Mutant. ***J Neurochem*** 115:1643-54.

22. Suzuki T, Zhang J, Miyazawa S, Liu Q, Farzan MR, **Yao WD** (2011). Association of Membrane Rafts and Postsynaptic Density: Proteomics, Biochemical, and Ultrastructural Analyses. ***J Neurochem*** 119:64-77.

23. Shulha HP, Crisci J, Reshetov D, Cheung I, Bharadwaj R, Chou HJ, Peter CJ, Houston I, **Yao WD**, Myers RH, Chen JF, Preuss TM, Rogaev E, Jensen JD, Weng Z, Akbarian S. (2012) Human-specific Histone Methylation Signatures at Transcription Start Sites in Prefrontal Neurons. ***PLoS Biol*** 10(11):e1001427.

24. Peng L, Liu H, Ruan H, Tepp WH, Stoothoff WH, Brown RH, Johnson EA, **Yao WD**, Zhang SC, and Dong M. (2013) Cytotoxicity of Botulinum Neurotoxins Reveals Essential Neuronal Plasma Membrane SNAREs. ***Nat Commun*** 4:1472.

25. Liu Q, **Yao WD**, Suzuki T. (2013) Specific Interaction of Postsynaptic Densities with Membrane Rafts Isolated from Synaptic Plasma Membranes. ***J Neurogenet***, 27:43-58. epub ahead of print Mar 25, 2013.

26. Suzuki T, **Yao WD.** (2014) Molecular and Structural Bases for Postsynaptic Signal Processing and Synaptic Plasticity: Interaction between Postsynaptic density (PSD) and Postsynaptic Membrane Rafts (PSR). ***J Neurorestoratology***, 2: 1-14.

27. **Yao WD**, Wu, CF (2014) Exploring the Genetic Underpinnings of Brain and Behavioral Disorders**.** ***J Neurogenet***, 28:1-4. Epub ahead of print Apr 1.

28. Shinday NM, Westmoreland S, **Yao WD**, Rowlett JK. (2014) Differential alteration in α3-containing GABAA receptors after long-term cocaine self-administration in rhesus monkeys. ***Drug and Alcohol Dependence***, e206.

29. Ruan H, Saur TX, **Yao WD.** (2014) Dopamine-Enabled Anti-Hebbian Timing-Dependent Plasticity in Prefrontal Circuitry. ***Front Neural Circuits*** 2014 Apr 23;8:38. doi: 10.3389/fncir.2014.00038.

30. Zhang JP, Saur TX, Duke AN, Grant SG, Platt DM, Rowlett JK, Isacson O, **Yao WD**. (2014) Motor Impairments, Striatal Cell Loss, and Altered Dopamine-Glutamate Interplay in Mice Lacking PSD-95. ***J Neurogenet***, 28:98-111. Epub ahead of print Apr 22.

31. Gascon E, Lynch K, Ruan H, Verheyden J, Sun D, Jiao J, Jakovcevksi M, Tapper, AR, Akbarian S, **Yao WD**, Gao FB. (2014) Alterations in MicroRNA-124 and AMPA Receptors Contribute to Social Behavioral Deficits in Frontotemporal Dementia. ***Nat Med*** 20:1444-51. (News and Views in *Nat Med* 20:1381-83); (Research Highlights in *Nat Rev Neurosci* 16: AOP Dec 3, 2014).

32. Jakovcevski M[&], Ruan H[&], Shen EY, Dincer A, Javidfar B, Ma Q, Peter CJ, Cheung I, Mitchell AC, Jiang Y, Pothula V, Stewart F, Ernst P, **Yao WD**[#], Akbarian S[#]. (2015) Neuronal Kmt2a/Mll1 Histone Methyltransferase is Essential for Prefrontal Synaptic Plasticity and Working Memory. ***J Neurosci***, 35:5097-108. ([&]Co-first authors; [#]**Co-corresponding authors**).

33. Hou Q, Ruan H, Gilbert J, Wang G, Ma Q, **Yao WD**, Man HY. (2015) MicroRNA miR124 is required for the expression of homeostatic synaptic plasticity. ***Nat Commun***. 2015 Dec 1;6:10045. doi: 10.1038/ncomms10045.

34. Shen EY, Jiang Y, Javidfar B,, Kassim B, Loh E, Ma Q, Mitchell AC, Pothula V, Stewart AF, Ernst P, **Yao WD**, Martin G, Shen L, Jakovcevski M, Akbarian S. (2016) Neuronal deletion of Kmt2a/Mll1 Histone Methyltransferase in Ventral Striatum is Associated with Defective Spike-Timing Dependent Striatal Synaptic Plasticity, Altered Response to Dopaminergic Drugs and Increased Anxiety. ***Neuropsychopharmacology***. Aug 31. doi: 10.1038/npp.2016.144. [Epub ahead of print].

35. Saur T, Cohen BM, Ma Q, Babb SM, Buttner EA, **Yao WD**. (2016) Acute and Chronic Effects of Clozapine on Cholinergic Transmission in Cultured Mouse Superior Cervical Ganglion Neurons. ***J Neurogenet***. 30(3-4):297-305. Epub 2016 Sep 14.

36. Saur T, Peng IF, Jiang P, Gong N, **Yao WD#**, Wu CF#, Xu TL#. (2016) K+ Channel Reorganization during Postembryonic Development: Biophysical and Genetic Analyses in Acutely Dissociated Drosophila Central Neurons. ***J Neurogenet***. 30(3-4):259-275. Epub 2016 Nov 21. (**#Co-corresponding authors**)

37. Ruan H, **Yao WD**. (2017) Cocaine Promotes Coincidence Detection and Lowers Induction Threshold during Hebbian Associative Synaptic Potentiation in Prefrontal Cortex. ***J Neurosci.*** 37(4):986-997. Epub 2016 Dec 16.

38. Vallender EJ, Goswami DB, Shinday NM, Westmoreland SV, **Yao WD#**, Rowlett JK#. (2017) Transcriptomic Profiling of the Ventral Tegmental Area and Nucleus Accumbens in Rhesus Macaques Following Long-Term Cocaine Self-Administration. ***Drug Alcohol Dependence***. 175:9-23. 2017.01.030. [Epub ahead of print]. (**#Co-senior authors**).

39. Afshari P, **Yao WD**, Middleton FA. (2017) Reduced Slc1a1 expression is associated with neuroinflammation and impaired sensorimotor gating and cognitive performance in mice: implications for schizophrenia. ***PloS One***, 2017 Sep 8;12(9):e0183854.

40. Ma Q, Ruan H, Peng L, Zhang M, Sun SC, Gack MU, **Yao WD.** (2017) Proteasome-independent Ubiquitin Machinery Controls Synaptic Efficacy and Plasticity. ***Proc Natl Acad Sci U S A.*** 2017 Sep 25. pii: 201620153. doi: 10.1073/pnas.1620153114.
-F1000Prime Recommended.
https://f1000.com/prime/731737130?bd=1 

41. Ruan H, Ueda A, Xing X, Wan X, Strub B, Mukai S, Certel K, Green D, **Yao WD**, Johnson W, Lin J, Hilliker AJ, and Wu CF (2017) Generation and Characterization of New Alleles of quiver (qvr) That Encodes an Extracellular Modulator of the Shaker Potassium Channel. ***J Neurogenet***. Nov 9:1-12. doi: 10.1080/01677063.2017.1393076. [Epub ahead of print].

42. Choi SY, Lopez-Gonzalez R, Krishnan G, Phillips HL, Li AN, Seeley WW, **Yao WD**, Almeida S, Gao FB. (2019) C9ORF72-ALS/FTD-associated poly(GR) binds Atp5a1 and compromises mitochondrial function in vivo. ***Nat Neurosci***. 22(6):851-862. doi: 10.1038/s41593-019-0397-0. Epub 2019 May 13.

43. Mei S, Ruan H, Ma Q*, **Yao WD**. (2020) The Ubiquitin-Editing Enzyme A20 Regulates Synapse Remodeling and Efficacy. ***Brain Res***. 2019 Nov 26:146569. doi: 10.1016/j.brainres.2019.146569. [Epub ahead of print].

44. Zajicek A, **Yao WD**. (2020) Remodeling without Destruction: Nonproteolytic Ubiquitin Chains in Neural Function and Brain Disorders. ***Mol. Psychiatry***. doi: 10.1038/s41380-020-0849-7.

45. Ding C, Zhang C, Kopp R, Kuney L, Meng Q, Wang L, Xia Y, Jiang Y, Dai R, Min S, **Yao WD**, Wong ML, Ruan H, Liu C, Chen C. (2020) Transcription factor POU3F2 regulates TRIM8 expression contributing to cellular functions implicated in schizophrenia. ***Mol. Psychiatry.*** 2020 Sep 14. doi: 10.1038/s41380-020-00877-2.

46. Wong ML, Arcos-Burgos M, Liu S, Licinio AW, Yu C, Chin EWM, **Yao WD**, Lu XY, Bornstein SR, Licinio J. (2020) Rare Functional Variants Associated with Antidepressant Remission in Mexican-Americans: Short title: Antidepressant remission and pharmacogenetics in Mexican-Americans. ***J Affect Disord.*** 279:491-500. doi: 10.1016/j.jad.2020.10.027.

47. Ruan H, **Yao WD.** (2021) Loss of mGluR1-LTD Following Cocaine Exposure Accumulates Ca2+-permeable AMPA Receptors and Facilitates Synaptic Potentiation in Prefrontal Cortex. ***J Neurogenet***, 2021 Jun 7;1-12. doi: 10.1080/01677063.2021.1931180. Online ahead of print.

48. Blaze J, Navickas A, Phillips HL, Heissel S, Navickas A, Plaza-Jennings A, Foo M, Katanski CD, Watkins CP, Pennington ZT, Javidfar B, Espeso-Gil S, Molina H, Cai DJ, Pan T, **Yao WD**, Goodarzi H, Haghighi F, Akbarian S. (2021) Neuronal Nsun2 deficiency produces tRNA epitranscriptomic alterations and proteomic shifts impacting synaptic signaling and behavior. ***Nat Commun***. 2021 Aug 13;12(1):4913. doi: 10.1038/s41467-021-24969-x.

49. Zhang G, Chen X, Xu W, Yao WD, Shi Y. (2022) Piezoelectric property of PZT nanofibers characterized by resonant piezo-force microscopy. ***AIP Advances***. 12, 035203 (2022); https://doi.org/10.1063/5.0081109

50. Zajicek AS, Ruan H, Dai H, Skolfield MC, Phillips HL, Burnette WJ, Javidfar B, Sun SC, Akbarian S, **Yao WD**. (2022) Cylindromatosis Drives Synapse Pruning and Weakening by Promoting Macroautophagy through Akt-mTOR Signaling. ***Mol Psychiatry*****,** in press**.**

51. Phillips HL, Dai H, Zajicek AS, Jansen-West L, Petrucelli L, Gao FB, **Yao WD**. Restoring Lost Empathy in a Rodent Model of Frontotemporal Dementia. *Submitted*.

52. Chin EWM, Ma Q, Ruan H, Chin C, Somasundaram A, ZhangC, Liu C, Lewis MD, White M, Battersby M, **Yao WD**, Licinio J, Wong ML. PHF21B is a master regulator of synaptic plasticity related-genes in the hippocampus. *Submitted*.

53. Ma Q, Ruan H, Dai H, **Yao WD**. Nucleus-enriched deubiquitinase USP48 limits synapse strength and remodeling via a NF-κB signaling pathway. *Submitted*.

54. Bauer RE Ren Z, Gschneidner P, **Yao WD** and Shi Y. An Ultra-Thin PZT Film with Integrated Electrodes by Optimized Sol-Gel Method. *Submitted*.

55. Wu XB*, Phillips HP*, Kobeissi A*, Dai H, **Yao WD**. Hypoexcitability in infralimbic cortex associated with cocaine conditioned place preference. *In preparation*. (*equal contributions).

Thesis

Yao WD. (1988; BS Thesis with Honor) Characterization of High-temperature Superconductors Using Ultrasound, X-ray, and Positron Spectrum Analysis. Tsinghua University, Beijing, China.

Yao WD. (1991; MS Thesis with Honor) Spectroscopic and Computational Approaches to Composite Material Design. M.S. Tsinghua University, Beijing, China.

Yao WD. (1998; Ph.D. Thesis) Genetic and Physiological Analyses of Membrane Electrical Activities and Transmitter Release Properties in Cultured *Drosophila* Central Neurons. Iowa City (IA): University of Iowa.

Teaching and Mentoring

Undergraduate

2016	Lecture to undergraduate students at State University of New York, College at Oneonta. (1-hr lecture)
2015	Lecture to Summer Undergraduate Research Fellowship (SURF) Program students, SUNY Upstate Medical University, Syracuse, NY (0.5-hr lecture)
2013	NEPRC Lecture for Summer Pre-Baccalaureate Students, NEPRC, Harvard Medical School, Southborough, MA (1-hr lecture)
2012	NEPRC Lecture for Summer Pre-Baccalaureate Students, NEPRC, Harvard Medical School, Southborough, MA (1-hr lecture)
2011	NEPRC Lecture for Summer Pre-Baccalaureate Students, NEPRC, Harvard Medical School, Southborough, MA (1-hr lecture)
2009	NEPRC Lecture for Summer Pre-Baccalaureate Students, NEPRC, Harvard Medical School, Southborough, MA (1-hr lecture)
1997 (Spring)	Neurophysiology (002:037), Classroom supervisor, Department of Biological Sciences, University of Iowa, Iowa City, IA (3-4 Hrs/wk for 15 weeks)
1996 (Spring)	Human Biology (002:021), Classroom and Laboratory supervisor, Department of Biological Sciences, University of Iowa, IA (3-4 Hrs/wk for 15 weeks)
1995 (Fall)	Human Biology (002: 021), Classroom and Laboratory supervisor, Department of Biological Sciences, University of Iowa, IA (3-4 Hrs/wk for 15 weeks)
1995 (Spring)	Human Biology (002: 021), Classroom and Laboratory supervisor, Department of Biological Sciences, University of Iowa, IA (3-4 Hrs/wk for 15 weeks)
1994 (Spring)	Neurophysiology (002:037), Classroom supervisor, Department of Biological Sciences, University of Iowa, IA (3-4 Hrs/wk for 15 weeks)
1991	Topics in Biotechnology, Assistant Lecturer, Department of Biological Sciences and Biotechnology, Tsinghua University, Beijing, China (3-4 Hrs/wk for 20 weeks)
1989 (Spring)	Advanced theory in semiconductors, Classroom supervisor, Department of Physics, Tsinghua University (3-4 Hrs/wk for 20 weeks)
2005-2013	Supervision and research training of pre-baccalaureate undergraduate summer students; Daily mentorship for 8-10 weeks; 1 student/summer in average and 8 students total trained. Detail list below:

Year	*Name (position during training/current position)*
2005	Stacie Wei (Summer undergraduate student, Trinity College, CT/Research Assistant, Mass General Hospital).
2006	Anica Lucas (Summer undergraduate student, Wellsley College, MA/ M.D. student, Temple University Scholl of Medicine).
2007	Stephanie Block (Summer undergraduate student, Harvard College /Psychology Ph.D. student, University of Michigan.
2009, 2010	Michael Sun (Summer undergraduate student, Harvard College/M.D. student, Dartmouth Medical School).
2011	Louis Chai (Summer undergraduate student, Brandeis University/M.D. student, UMDNJ, Rutgers).
2012	Emily Reedich (Summer undergraduate student, Boston College/Neuroscience Ph. D. student, Northwestern University).
2013	Stephanie Haddad (Summer undergraduate student, College of the Holy Cross).
2015	Nicole Coloney (SURF Program student, selected from SUNY Buffalo).
2016	Elliot Kuan (Summer intern, Amherst College/McLean Hospital, Harvard Medical School)
2021-	Courtney Conte (Undergraduate honor thesis project, Syracuse University)

Graduate/Medical School

2020	N610, Developmental Neurobiology (three 1-hr sessions, Fall 2020) SUNY-Upstate Medical University, College of Graduate Studies
2018	N610, Developmental Neurobiology (three 1-hr sessions, Fall 2018) SUNY-Upstate Medical University, College of Graduate Studies
2017	N619, Disease of the Nervous System (two 1-hr sessions, Fall 2017) SUNY-Upstate Medical University, College of Graduate Studies
2017	N610, Developmental Neurobiology (three 1-hr sessions, Fall 2017) SUNY-Upstate Medical University, College of Graduate Studies
2016	N631, Topics in Neuroscience (one session, December 6, 2016) SUNY-Upstate Medical University, College of Graduate Studies
2016	N610, Developmental Neurobiology (three 1-hr sessions, Fall 2016) SUNY-Upstate Medical University, College of Graduate Studies
2016	N601, Introduction to Neuroscience (three 1.5-hr sessions, Summer 2016) SUNY-Upstate Medical University, College of Graduate Studies
2015	N631, Topics in Neuroscience (one session, November 13, 2015) SUNY-Upstate Medical University, College of Graduate Studies
2015	N619, Disease of the Nervous System (three 1-hr sessions, Fall 2015)

SUNY-Upstate Medical University, College of Graduate Studies

2015 N610, Developmental Neurobiology (three 1-hr sessions, Fall 2015)
SUNY-Upstate Medical University, College of Graduate Studies

2015 N601, Introduction to Neuroscience (three 1.5-hr sessions, Spring/Summer 2015)
SUNY-Upstate Medical University, College of Graduate Studies

2014 N631, Topics in Neuroscience (one session, November 10, 2014)
SUNY-Upstate Medical University, College of Graduate Studies

2013 Harvard Longwood Psychiatry Grand Rounds (1-hr lecture)

2012-2014 Member of HMS Scholars in Medicine Program

2007-present Supervision of graduate students (1-4 per year); daily mentorship year round; detailed list below. Currently 4 graduate students in lab.

Year	*Name (position during training/current position)* ***(* thesis advisor or co-advisor)***
1996-1999	Brett Berke (Graduate student/Univ. of Iowa/Associate Professor, Truman State University)
1998-1999	I-Feng Peng (Graduate student, Univ of Iowa)
2004-2005	Mark Neely (M.D. student, Duke University/Radiologist, Durham Regional Hospital, NC)
2007-2013	***Nina Shinday** (PhD graduate student, NSB Graduate Program, UMass Amherst, co-mentored with Dr. James Rowlett, PhD awarded in 2013/Clinical Research Fellow, Beth Israel Deaconess Medical Center, Harvard University).
2008-2011	***Yi-Ling Lu** (PhD graduate student, NSB Graduate Program, UMass Amherst/Postdoctoral Fellow, New York State Office of Mental Health).
2011-2013	***Wei Ye** (international PhD graduate student, USTC, China; co-mentored with Dr. Guo-Qiang Bi/Chief Investigator, Center for Brain Mapping in PKU-Nanjing Joint Institute of Translational Medicine).
03/15-12/21	***Hannah L. Phillips** (Neuroscience Program graduate student, SUNY Upstate, PhD in Neuroscience expected December, 2021)
06/15-12/21	***Alexis S. Zajicek** (Neuroscience Program graduate student, SUNY Upstate, PhD in Neuroscience expected December, 2021)
03/15-05/15	Rachael Sager (Neuroscience Program graduate student, SUNY Upstate, Rotation student.)
06/15-08/18	***Dana Giannandrea** (MD/PhD Program, SUNY Upstate, PhD candidate in lab/resident)
02/15-08/16	***Shaolin Mei** (Neuroscience Program graduate student, SUNY Upstate, M.S. in Physiology awarded May 2016).
09/17-12/17	Baylee Porter (Neuroscience Program graduate student, SUNY Upstate, Rotation student)
01/19-present	***Aya Kobeissi** (Neuroscience Program graduate student, SUNY Upstate, PhD candidate in lab)

03/20-11/21 ***Mary Catherine Skolfield** (Neuroscience Program graduate student, SUNY Upstate, PhD candidate in lab/Research Assistant, Zetagen Therapeutics).

Student committee served

02/16-05/19 Jamie Patak (MD/PhD Program, SUNY Upstate)
Ph.D. qualified exam and thesis committee member.

08/16 Rachel Seager (PhD Program, SUNY Upstate)
Ph.D. qualified exam committee member.

09/16 Patrick Sweeney (PhD Program, SUNY Upstate)
Ph.D. thesis committee member.

09/16 Liam Coyne (MD/PhD Program, SUNY Upstate)
Ph.D. qualified exam.

04/18 Krysten O'Hara (PhD Program, SUNY Upstate)
Ph.D. qualified exam.

11/18 Josh Enck (PhD Program, SUNY Upstate)
Ph.D. qualified exam.

07/19 Andrew Brawner (PhD Program, SUNY Upstate)
Ph.D. qualified exam. (Chair)

Postgraduate

2005-present Supervision of post-doctoral research fellows (2-4 at any given year:

Year	*Name (position during training/current position)*
2005-2009	Jingping Zhang, PhD, MD (Postdoctoral Fellow/Instructor/Research Associate, Beth Israel Deaconess Medical Center, Harvard Medical School.
2005-2010	Taixiang Xu, PhD, MD (Postdoctoral Fellow/Postdoctoral Fellow, McLean Hospital)
2008-2020	Qi Ma, Ph.D. (Postdoctoral Fellow, Harvard Medical School/Research Scientist, SUNY Upstate)
2009-2010	Dominik Biezonski, Ph.D. (Postdoctoral Fellow, Harvard Medical School/Assistant Professor, Columbia University).
2017	Atulya Iyengar, Ph.D. Visiting Postdoctoral Fellow, Department of Biology, University of Iowa
2017-2019	Xiaobo Wu, Ph.D. (Postdoctoral Fellow, SUNY Upstate/Associate Professor, Nantong University, China).
2009-2018	Hongyu Ruan, Ph.D. (Postdoctoral Fellow, Harvard Medical School/Research Assistant Professor, SUNY Upstate).
2020-	Carla Frare, Ph.D. (Postdoctoral Fellow, Syracuse University/SUNY Upstate). Serving as co-mentor for her electrophysiology training in Lab and co-Sponsor for her NRSA F32; together with Sandra Hewett.
2022-	Hannah L. Phillips, Ph.D. (Postdoctoral Associate, SUNY Upstate).
2022-	Alexis S. Zajicek, Ph.D. (Postdoctoral Associate, SUNY Upstate).

Junior Faculty mentored

2010-14	Dr. Min Dong, Instructor then Assistant Professor, Harvard Medical School; currently Associate Professor, Boston Children's Hospital, Harvard Medical School.
2015-	Dr. Yanli Zhang-James, Research Assistant Professor, Department of Psychiatry and Behavioral Sciences, SUNY Upstate Medical University.
2016-18	Dr. Yunlei Yang, Assistant Professor, Department of Neuroscience and Physiology, SUNY Upstate Medical University.

Contributions to CME

2013 Harvard Medical School Psychiatry Grand Rounds (1-hr lecture)

Mentoring highlights.

For two years in a row (2007; 2008), postdoctoral fellows (Dr. Jingping Zhang and Taixiang Xu) in my lab under my direct mentorship claimed the Neal Alan Mysell Award, a prestigious annual award given to the top poster presentation by a postdoctoral fellow during Harvard Medical School (HMS) Psychiatry Research Day. The annual research event was attended by postdoctoral and clinical fellows from the 8 HMS Departments of Psychiatry across the entire Harvard.

Postdoctoral Fellow Dr. Qi Ma was the recipient of the Best Poster Presentation Award during the Beyond the Doctorate Research Day on March 11, 2015 at SUNY-Upstate Medical University.

Graduate student Hannah Phillips was the recipient for second place prize for her presentation at the 2016 SUNY-Upstate Graduate School's Biomedical Sciences Retreat.

Graduate student Hannah Phillips was selected to attend the prestigious Cold Spring Harbor Laboratory Summer Course on Ion Channels in Synapse and Neural Circuit Physiology, Summer, 2017 (one of 12 selected nationally).

Graduate student Hannah Phillips received the 2018 Written Research Proposal Award at the College of Graduate Studies, SUNY Upstate.

Graduate student Hannah Phillips received the 2019 Research Presentation Award – Oral Presentation, College of Graduate Studies, SUNY Upstate.

Graduate student Hannah Phillips received her NIH NRSA F31 predoctoral fellowship award in 2019.

Postdoctoral fellow Carla Frare received her NIH NRSA F32 postdoctoral fellowship award in 2020.

Invited Talks, Seminars, and Symposium Presentations (selected)

1995	Mini-symposium talk, Society for Neuroscience, San Diego, CA.
1999	Center for Learning and Memory, Department of Biology, Massachusetts Institute of Technology, Cambridge, MA. Host: Drs. Susumu Tonegawa and Guosong Liu
1999	Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD. Host: Drs. Ted and Valina Dawson
1999	Department of Cell Biology, Duke University Medical Center, Durham, NC. Host: Dr. Marc Caron
1999	HHMI, Cardiology/Neuroscience, Children's Hospital Boston, MA. Host: Dr. David Clapham
2000	Duke University Comprehensive Cancer Center, Durham, NC.
2003	Plexigen Inc., Cary, NC.
2003	TransTech Pharma Inc., High Point, NC.
2004	Stark Neurosciences Research Institute, Indiana University, Bloomington, IN. (Declined due to prior commitment)
2004	Frontiers in Addiction Biology Symposium: Genomics and Beyond, Vanderbilt University, Nashville, TN.
2004	Harvard Medical School, New England Primate Research Center, Southborough, MA.
2005	Center for Neuroregeneration, McLean Hospital, Belmont, MA.
2005	Neuroscience and Behavior Graduate Program, University of Massachusetts, Amherst, MA.
2005	Boston University/HMS-NEPRC Joint Conference on Neuroscience, Boston, MA.
2006	National Center for Research Resources Workshops, NIH, Bethesda, MD.
2006	College on Problems of Drug Dependence Meeting, Scottsdale, AZ.
2007	Cold Spring Harbor Conference on Synapses: From Molecules to Circuits to Behavior, Cold Spring Harbor, NY.
2007	Department of Biological Sciences, University of Iowa, Iowa City, IA.
2007	National Institute of Biological Sciences (NIBS), Beijing China. Host: Drs. Minmin Luo and Yi Rao
2007	Center for Learning and Memory, Tsinghua University School of Medicine, Beijing, China.
2008	National University of Singapore/Duke NUS Graduate School, Singapore
2009	Neuroscience and Behavior Graduate Program, University of Massachusetts, Amherst, MA.
2009	Department of Neurobiology, University of Pittsburgh, Pittsburgh, PA.
2010	Department of Neurobiology, University of Science and Technology of China (USTC), Hefei, China. Host: Dr. Guoqiang Bi
2010	The 2010 International Symposium on Synaptic Transmission and Plasticity, May 15-16; Hangzhou, China.
2010	Department of Neurosciences, Medical University of South Carolina, Charleston, SC.
2010	Harvard Medical School, VA Hospital, Physiology Division, West Roxbury, MA.
2010	Symposium for Chinese Neuroscientists Worldwide 2010 (SCNW 2010), August 4-10, 2010, Nanchang, China.

2010 Institute of Molecular Medicine, Peking University, Beijing, China. Host: Dr. Zhuan Zhou
2010 Irving S. and Betty Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Worcester, MA.
2011 Centennial Symposium: Frontiers in Neuroscience, Tsinghua University School of Life Sciences, Beijing, China
2012 Engineering and Technology Department, Stevens Institute of Technology, Hoboken, NJ.
2012 Neuroscience Seminar, McLean Hospital, Belmont, MA.
2012 Biochemistry and Cell Biology Dept, University of Massachusetts Amherst/THE B.R.A.I.N. (The Body Responsible for the Advancement in Neuroscience).
2012 Dept of Neurobiology and Anatomy, Boston University School of Medicine, Boston, MA.
2013 Graduate Program in Neuroscience, Institute of Molecular Medicine and Genetics, Georgia Regents University, Augusta, GA. Host: Dr. Lin Mei
2013 Dept of Biology Seminar Series, University of Iowa, Iowa City, IA.
2013 HMS Psychiatry Grand Rounds, Dept of Psychiatry, Beth Israel Deaconess Medical Center, Boston, MA.
2014 SUNY Upstate Medical University, Syracuse, NY.
2014 McLean Hospital, Belmont, MA.
2014 Featured Presentation, NEPRC, Harvard Medical School.
2014 14th Biomedical Sciences Retreat, SUNY Upstate Medical University.
2015 Developmental Exposure Alcohol Research Center (DEARC), Binghamton University.
2015 Neuro Research Day 2015, SUNY Upstate Medical University.
2016 State University of New York, College at Oneonta.
2016 Neuroscience Program, Academia Sinica, Taipei, Taiwan.
2016 Development Center for Biotechnology, Taipei, Taiwan.
2016 National Tong Hoa University, Hua Lian, Taiwan.
2016 Beijing Normal University, Beijing, China. Host: Dr. Xiaohui Zhang
2016 Xin Xiang Medical School, China.
2016 Department of Neuroscience, University of Rochester, Rochester, NY.
2017 Department of Biological Sciences, Le Moyne College, Syracuse, NY.
2017 Department of Pharmaceutical Sciences, Northeastern University, Boston, MA.
2017 Modulation of Neural Circuits & Behavior, Gordon Research Conference, invited oral presentation.
2017 Department of Molecular, Cellular, and Biomedical Sciences (MCBS), University of New Hampshire, Durham, NH.
2018 Brain Cognition and Brain Disease Institute, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China.
2018 Southern Medical University, Guangzhou, China
2018 Friday Noon Seminar Series, Marine Biological Laboratory, Woods Hole, MA. Host: Bill Green
2018 Department of Biology, Syracuse University, Syracuse, New York
2019 The 2nd International Primate Neuroscience Research Symposium: New Technologies for Primate Neuroscience Research (jointly sponsored by Broad Institute and McGovern Institute, MIT and SIAT, CAS), Shenzhen Institute of Advanced

	Technology, Chinese Academy of Sciences, Shenzhen, China, March 21-23, 2019 (Invited panelist)
2019	Symposium for Neural Plasticity and Translational Medicine, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China, March 24, 2019 (Invited Speaker and Session Chair)
2019	Big Data Application in Brain Science Symposium, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China, March 25, 2019 (Invited panelist)
2019	College of Anesthesiology, Xuzhou Medical University, Xuzhou, China.
2021	Department of Cell Biology and Neuroscience, Rutgers University, The State University of New Jersey.
2022	Department of Neuroscience and Regenerative Medicine, Augusta University.

Press Coverage

Harvard Medical School News & Research: Protein's Balancing Act May Provide Handle on Psychiatric Disease June 8, 2007.
https://hms.harvard.edu/news/proteins-balancing-act-may-provide-handle-psychiatric-disease

University of Iowa Alumni Spotlights: https://biology.uiowa.edu/alumni/spotlights/wei-dong-yao

Upstate News: Empire Innovation Scholar comes to Upstate, by way of Harvard, to unlock mysteries of the brain. August 13, 2015
https://www.upstate.edu/news/articles/2015/0813-empire-innovation-scholar-comes-to-upstate-by-way-of-harvard-to-unlock-mysteries-of-the-brain.php

Upstate Health Magazine - What's Up at Upstate: Putting heads together: Brain researchers collaborate to understand and battle dementia, addiction, schizophrenia and more. August 31, 2018
https://www.upstate.edu/whatsup/2018/0831-putting-heads-together-brain-researchers-collaborate-to-understand-and-battle-dementia-addiction-schizophrenia-and-more.php

Upstate News: Upstate grad student lands prestigious NIH fellowship to study dementia (Dr. Wei-Dong Yao Lab). December 6, 2019
https://www.upstate.edu/news/articles/2019/2019-12-06-hannahphillips.php

Upstate News: Upstate researcher awarded grant to study form of dementia. August 12, 2021
https://www.upstate.edu/news/articles/2021/2021-08-12-dementia.php

Media Center: Rep. Katko Announces Over $600K in Federal Funding for SUNY Upstate Medical University to Support Research on Dementia. August 12, 2021
https://katko.house.gov/media-center/press-releases/rep-katko-announces-over-600k-federal-funding-suny-upstate-medical

Service

Editorial Board

2013- *Associate Editor, Journal of Neurogenetics*
2013 Editor, Special Issue on Neurogenetics of Brain Diseases, *Journal of Neurogenetics*
2018 Co-Guest Editor, Special Issue on *Pharmacological Research*
2019- *Editorial Board, Pharmacological Research*
2021- *Review Editor, Frontiers in Behavioral Neuroscience*

Professional Societies

Member, Society for Neuroscience (1996-present)
Member, Sigma Xi, The Scientific Research Society (2000-present)
Member, American Physiological Society (2000-2009)
Member, American Society for Biochemistry and Molecular Biology (ASBMB) (2007-2009)
National Alliance on Mental Illness Syracuse Chapter (2016-present)

Journal Review (Ad hoc; from 1996)

Biological Psychiatry, Brain Research, Cell, Cell Research, Developmental Neurobiology, EMBO Journal, Nature, Nature Neuroscience, Neuron, Neuroscience, Neural Plasticity, Neuropsychopharmacology, PLoS One, PNAS, Science, Synapse, Journal of Neurochemistry, Journal of Neurogenetics, Journal of Neurophysiology, Journal of Neuroscience, Molecular Cellular Neuroscience, Molecular Psychiatry, Neuropsychopharmacology, Physiological Reports, Scientific Reports, Wiley-Blackwell Publishing (Book review)

Grant Review

Regular

2020-2024 Standing member, Synapses, Cytoskeleton and Trafficking (SYN)/ Neuronal Communication (NC) Study Section, National Institutes of Health (NIH). (Co-Chair, 03/2021)

Ad hoc

2020 National Institutes of Health (NIH) ZRG1 F02A (20): Behavioral Neuroscience Study Section (02/2020)
2019 National Institutes of Health (NIH) ZRG1 F02A (20): Behavioral Neuroscience Study Section (10/2019)
2019 National Institutes of Health (NIH) Synapses, Cytoskeleton and Trafficking (SYN) study section, Ad hoc Member (06/2019)
2019 National Institutes of Health (NIH) ZRG1 BDCN-Q (90) Special Emphasis Panel, Ad hoc Member (03/2019)
2019 National Institutes of Health (NIH) ZRG1 F02A (20): Behavioral Neuroscience Study Section (03/2019)
2018 National Institutes of Health (NIH) ZRG1 F02A (20): Behavioral Neuroscience Study Section (10/2018)

2018 National Institutes of Health (NIH) ZRG1 F02A (20): Behavioral Neuroscience Study Section (06/2018)
2018 National Institutes of Health (NIH) ZRG1 BDCN-Q (90) Special Emphasis Panel, Ad hoc Member
2018 National Institutes of Health (NIH) ZRG1 F02A (20) Fellowships: Behavioral Neuroscience Study Section (03/2018)
2018 French National Research Agency (ANR), Neurosciences intégratives" Committee
2017 National Institutes of Health (NIH) ZRG1 IFCN-J (57) Special Emphasis Panel, Ad hoc Member
2015 SUNY Network of Excellence, Review Panel – Brain Network
2015 SUNY Network of Excellence, Review Panel - Disorders of the Nervous System
2013 Motor Neurone Disease Association, Ad hoc Reviewer
2013 Italy Ministry of Health, Ad hoc Reviewer
2013 NEPRC Pilot Research Program for Early Career Investigators
2011 National Institutes of Health (NIH) ZRG1 IFCN-H (02) Special Emphasis Panel, Ad hoc Member
2010 Italy Ministry of Health, Ad hoc Reviewer
2010 Human Frontier Science Program, Ad hoc Reviewer
2009 A-STAR, Biomedical Research Council, Singapore, Ad hoc Reviewer
2005 National Science Foundation (NSF), Behavioral Systems Cluster, Ad hoc Reviewer
2004 National Science Foundation (NSF), Neuronal and Glial Mechanisms, Ad hoc Reviewer

Committee

2021-	Addiction EIP Faculty Search Committee, Upstate Medical University
2020	Member, Strategic Planning, Neuroscience Working Group, Upstate Medical University
2020	President's Award for Research Selection Committee, Upstate Medical University
2020-	Neurodegeneration and Aging EIP Faculty Search Committee, Upstate Medical University
2019-	Member, Faculty Appointments and Promotions committee (FAPC), Department of Psychiatry, SUNY Upstate Medical School
2018-20	Neuroscience & Physiology Dept Chair Search Committee, Co-Chair, College of Medicine, SUNY Upstate Medical School
2017-20	Dean's Advisory Committee on Diversity & Inclusion, College of Medicine, SUNY Upstate Medical School
2016-	Faculty Affairs Committee (Member), Medical College Assembly, SUNY-Upstate Medical University
2016	Faculty Judge for oral presentations, Student Research Day, College of Graduate Studies, SUNY-Upstate Medical University
2014-	Research Committee (Member), Department of Psychiatry, SUNY-Upstate Medical University
2012-14	Mouse Facility Renovation Committee, NEPRC, Harvard Medical School
2011-14	Rodent Use Steering Committee (Member), NEPRC, Harvard Medical School
2011-14	Neuroscience Seminar Series (Coordinator), Division of Neuroscience, NEPRC, Harvard Medical School

2011	Stem Cell Faculty Search Committee (Member), NEPRC, Harvard Medical School
01/09-03/11	Confocal Microscope Consortium (Chair), NEPRC, Harvard Medical School
2009-	Confocal Advisory Committee (Chair), NEPRC, Harvard Medical School
2008	Cognition Faculty Search Committee (Member), NEPRC, Harvard Medical School
1998	Faculty Search Committee (Student Member), Department of Biological Sciences, University of Iowa
1997-98	Graduate Student Steering Committee (Elected Member), Department of Biological Sciences, University of Iowa
1985-86	Student Physics Society (Vice President), Tsinghua University, Beijing, China

Biography and Major Accomplishments

Initially trained as a physicist, I received my B.S. and M.S. in Physics from Tsinghua University, China. I came to the U.S. to study neurobiology and received my Ph.D. from the University of Iowa in 1998 under the mentorship of Dr. Chun-Fang Wu, a renowned *Drosophila* neurophysiologist and geneticist. I carried out my postdoctoral training from 1999-2004 in the laboratory of Dr. Marc G. Caron, a Howard Hughes Investigator at Duke University. I was recruited as a tenure-track Assistant Professor to Harvard University in 2004 to establish, at Harvard's New England Primate Research Center (NEPRC), a Molecular Cellular Neuroscience Laboratory which I headed. In 2014, I joined SUNY Upstate Medical University, Department of Psychiatry and Behavioral Science as an Associate Professor and a SUNY Empire Scholar to head the Laboratory of Molecular Cellular Neuropsychiatry at Upstate. I was promoted to Full Professor with Tenure in 2017.

The long-term goals of my laboratory are to understand the principles that govern synaptic transmission, modulation, and plasticity in the prefrontal cortex (PFC) and how their disruptions cause PFC-related diseases, including addiction and frontotemporal dementia (FTD). An electrophysiologist by training, I primarily use brain slice whole-cell patch-clamp recording, combined with molecular, biochemical, optogenetics, chemogenetics, and behavioral approaches. We have made notable contributions in mechanisms of dopamine signaling, synaptic plasticity, and synapse remodeling. For example, I was among the first to discover that scaffolding proteins in glutamatergic synapses have a role in dopamine signaling, and helped establish PSDs in dendritic spines as a key neural substrate for psychostimulants and addiction (Yao et al., *Neuron*, 2004); we delineated a cooperative excitatory-inhibitory circuit in the PFC where dopamine gates Hebbian synaptic potentiation (Xu and Yao, *PNAS*, 2010; Ruan and Yao, *J Neurosci*, 2017); and more recently, we discovered that unconventional, nonproteolytic ubiquitination regulates synapse maintenance and remodeling, a paradigm-shifting mechanism (Ma et al., *PNAS*, 2017; Zajicek and Yao, *Mol Psychiatry*, 2020; Zajicek et al., *BioRxiv*, 2021). Finally, our ongoing work is uncovering novel neurophysiological mechanisms of prosocial deficits in FTD (Phillips et al., 2021, in submission).

My research has been continuously funded for 17 years, including 28 NIH projects and 31 subprojects for over $12M, and published in high-impact journals, such as *Neuron*, *PNAS*, *J Neurosci*, and several *Nature* journals. Some of our works have been highlighted on national and

international media, such as NBC, Reuters, and Harvard Focus (News from Harvard Medical, Dental and Public Health Schools). I received several recognitions for my research, including a NARSAD Young Investigator Award (2004), a William F. Milton Fund for Career Development at Harvard (2007), and a President's Award for Excellence and Leadership in Research at SUNY Upstate (2019). I served on numerous NIH, NSF, and international grant review panels, and recently, I was appointed a Standing Member for the NIH Synapses, Cytoskeleton and Trafficking (SYN) Study Section (2020-24), and co-chaired the March, 2021 meeting. Last but not least, as an educator, I place my top priority on mentoring students and postdocs and help them succeed, and several of my mentees won prestigious awards for their research and scientific achievements.